FUNCTIONAL SERVICING REPORT

DIPOCE (INNISFIL) INC. DEVELOPMENT

PROPOSED RESIDENTIAL DEVELOPMENT

CITY OF BARRIE

PROJECT 2017-4560 **OCTOBER 2019**

Revision	Description	Prepared		Checked	
		By	Date	By	Date
1.	Revised report based on NVCA and City Comments	M. Ventresca S.Soumik	Oct. 2019	K. Shahbikian	Oct. 2019
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SCHAEFFERS
CONSULTING ENGINEERS
6 Ronrose Drive
Concord, Ontario L4K 4R3

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1.0 Introduction

1.1 Study Objectives

This Functional Servicing Report (FSR) has been prepared in support of the DiPoce Inc. proposed residential and commercial development located within the City of Barrie. The subject site is located in the Barrie Annexed Lands, North of Salem Road, West of Essa Road, East of Country Road 27, and South of an existing residential area, as illustrated in **Figure 1-1**.

This FSR proposes a municipal servicing scheme that demonstrates the viability of stormwater management, sanitary servicing and water supply for the proposed development, with consideration for applicable municipal guidelines, policies, design criteria, and previous planning resolutions.

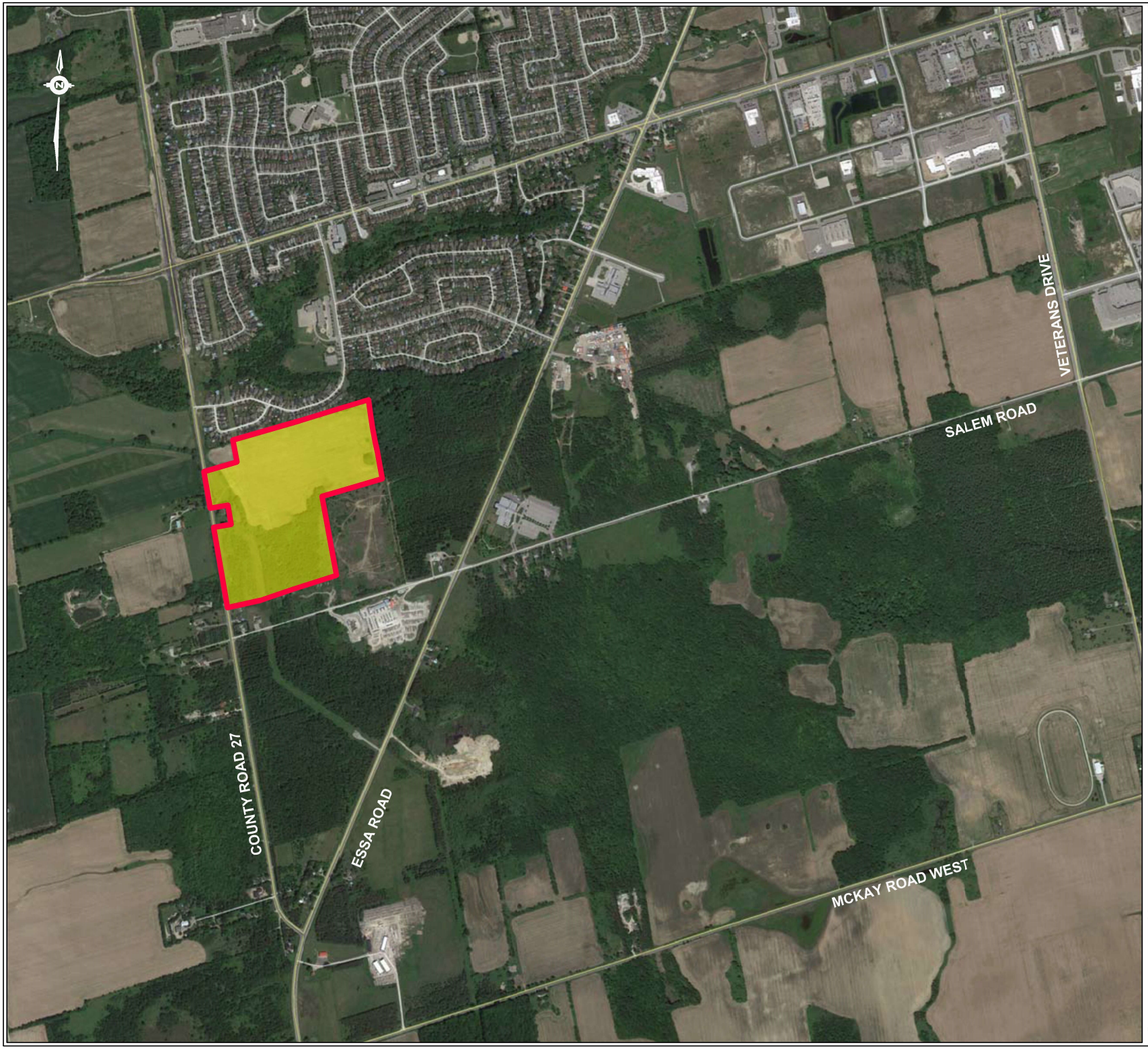
1.2 Background

The following documents were considered in preparing the proposed functional servicing strategy for the proposed development:

- *MECP Stormwater Management Planning and Design Manual* (March 2003);
- *NVCA Stormwater Technical Guide* (December 2013);
- *Geotechnical Investigation Proposed Residential Development*, County Road 27, Barrie, prepared by GeoPro Consulting Limited (January 2019);
- *Hydrogeology Study in Support of Draft Plan*, prepared by R.J. Burnside & Associates Limited (October 2019)
- *The City of Barrie Storm Drainage and Stormwater Management Policies and Design Guidelines* (December 2017);
- *The City of Barrie Sanitary Sewage Collection Policies and Design Guidelines* (October 2017);
- *The City of Barrie Water Transmission & Distribution Policies & Design Guidelines* (December 2017);
- *City of Barrie Master Plans for Wastewater Collection, Drainage and Stormwater, Water Storage and Distribution*, (all prepared by AMEC Environment and Infrastructure, October 2013);

- *City of Barrie Annexed Lands Natural Heritage Characterization Report* (Natural Resources Solutions Inc. & Dougan & Associates 2012);
- *City of Barrie Annexed Lands Natural Heritage System (NHS) Report* (NRSI 2012);
- *Subwatershed Impact Study (SIS) for Salem Annexed Lands* prepared by Schaeffers Consulting Engineers (December 2017);

Sadman Soumik



DI POCE (INNISFIL) INC.
CITY OF BARRIE

LEGEND

SUBJECT SITE

SCHAEFFERS
CONSULTING ENGINEERS
6 Ronrose Drive, Concord, Ontario L4K 4R3
Tel: (905) 738-6100 Email: general@schaeffers.com
www.schaeffers.com

FIGURE 1-1
LOCATION PLAN

2017-4560	OCTOBER 2019	SCALE: N.T.S.

1.3 Proposed Development Plan and Population

In reference to plan provided by MHBC PLANNING dated October 21, 2019, the proposed subdivision will contain townhouse units, medium density residential blocks, a school block, a park block, a commercial block and open space. **Table 1-1** below summarizes the proposed design populations. Medium density residential blocks (39-41) and commercial block (Block 42) along with the park (Block 45) and School (Block 43) will undergo a separate site plan application process. The subject site development plan is illustrated in **Figure 1-2**.

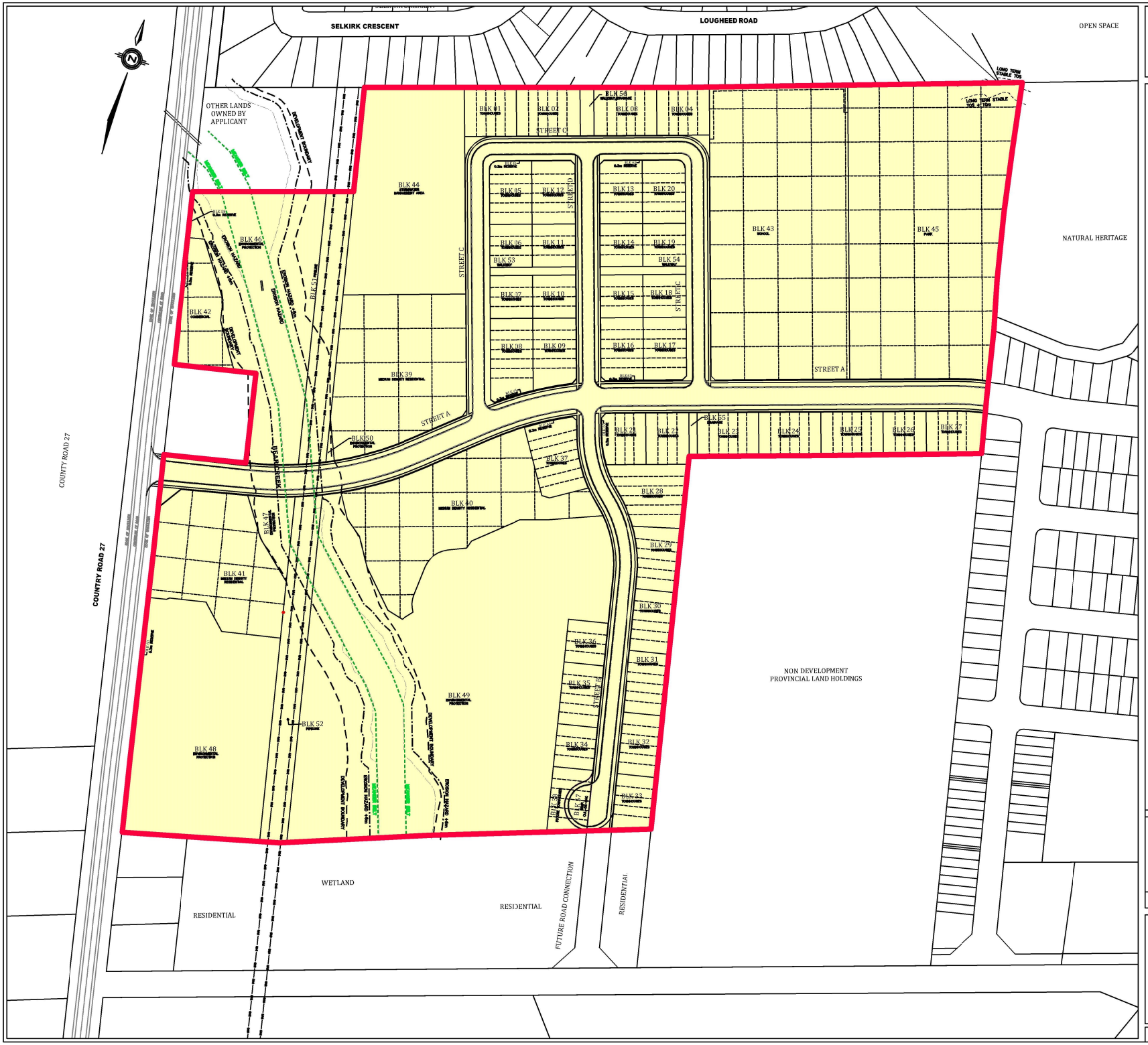
Table 1-1: Summary of Design Population

Land Use	Units	Area (ha)	Population Density	Population
Townhouse (Including Future Townhouses)	194	4.984	2.571 persons/unit	499
Medium Density Residential	136*	2.881	47 units/hectare* 2.571 persons/unit	350
Commercial	-	0.275	115 persons/hectare	32
Total				**881**

**Calculated based on 'walk-up' apartments 26-53 units/hectare @ 2.571 as suggested by the City of Barrie's Planning Department.*

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SUBJECT SITE

SCHAEFFERS
CONSULTING ENGINEERS
6 Ronrose Drive, Concord, Ontario L4K 4R3
Tel: (905) 738-6100 Email: general@schaeffers.com
www.schaeffers.com

FIGURE 1-2
DEVELOPMENT PLAN

2017-4560	OCTOBER 2019	SCALE: N.T.S.

2.0 Stormwater Management

The following sections provide details of the stormwater management (SWM) plan for the proposed site. The proposed SWM plan is in general accordance with applicable provincial and municipal guidelines, and conservation authority criteria. The SWM Plan also conforms with the "Subwatershed Impact Study (SIS) for Salem Annexed Lands" prepared by Schaeffers Consulting Engineers (December 2017).

In the SIS, the subject site east of the Bear Creek was considered to drain to the proposed SWM Pond H. Preliminary calculations for the pond sizing were completed as part of the SIS. Relevant excerpts from the SIS corresponding to the site are provided in **Appendix A** for reference.

2.1 Existing Conditions

The subject site is tributary to the existing watercourse referred to as Bear Creek. The main branch of the South Tributary of Bear Creek originates south of the Salem road and continues to flow North West across the subject site. The topography of the site is sloped towards the tributary of Bear Creek at slopes ranging from approximately 1.5% to 5%. The water course running through the site is identified as a natural heritage corridor. The pre-development drainage area is illustrated in **Figure 2-1**.

According to the Geotechnical Report prepared by GeoPro Consulting Ltd on June 01, 2018 (Refer to '**Appendix A**' for complete report), the predominant soil condition within the development limit is generally Sand to Silty Sand.

2.2 Design Criteria

Stormwater Management Design Criteria for the subject site follows the Ministry of the Environment, Conservation and Parks (MECP) Stormwater Management Planning and Design Manual dated 2003 (herein referred to as the MECP SWM Manual) for quality, quantity and erosion control.

Additional Design Criteria from the City of Barrie, the Nottawasaga Valley Conservation Authority, the Ministry of Natural Resources (MNR), and the Subwatershed Impact Study (SIS) for Salem Annexed Lands are incorporated into the design of the proposed development as discussed below.

- All storm sewers shall be designed to convey the 5-year storm event according to the Rational Formula:

Q = 2.78 CIA/1000, where

  - Q: flow rate in m^3/s
  - C: runoff coefficient (dimensionless)
  - I: rainfall intensity in mm/hr
  - A: area in ha

The rainfall intensity shall be calculated in accordance with the "*Table 3.1: Barrie WPCC IDF Curve Parameters - Adjusted to Account for Climate Change"* and the following equation:

$I = A/(t + B)^C$

  - I = the rainfall intensity (mm/hr)
  - t = the storm duration (minutes)
  - A, B, C = function of the local intensity-duration frequency (IDF) data;

- For Medium Density Residential (⅒ to ¼ acre lot) total imperviousness 35% - 60% and directly connected imperviousness 20% - 45% (Table 7.6 of City Design Guidelines);
- Curve No. (AMC II) for residential area with Soil Group AB = 81 (Table 7.4 of City of Barrie Design Guidelines);
- **Quantity Control:** Post-development release rates are controlled to pre-development flows rates for return periods 2-year through 100-year. The most conservative of the following four (4) storm types for the 2-year -100-year events will be considered as the design event:
  - 4Hr Chicago – Barrie;
  - 4Hr Chicago – MTO IDF;
  - SCS Type II-6Hr;
  - SCS Type II-12hr;
  - SCS Type II-24hr;

'Please note that the storms were derived using the City of Barrie IDF curves and adjusted for climate change.'

- **Quality Control**: Enhanced stormwater quality must be provided for the site through a treatment train approach (removal of 80% of TSS) (MECP SWM Planning and Design

Manual, Table 3.2, Page 3-10);

- **Erosion Control:**
  - 5mm runoff retention on site is required for each of the site plan blocks (except Block 39 as it will drain to the SWM Pond H and erosion control will be provided at the pond);
  - **SWM Ponds**: Erosion control targets were established from the Drainage and SWM Master Plan (DSWMMP) presented in Table 4.4.15 of the DSWMMP (provided below). The SIS concluded that the erosion control volumes and release rates presented in the DSWMMP are more conservative. Therefore, these values were used to size the SWM pond erosion criteria. It is to note that BEA1 Reach from the table below will be used to calculate cumulative unitary storage rate and unitary discharge rate for erosion control.

Table 4.4.15: End-of-Pipe Stormwater Management Requirements[1,3]

Subwatershed	Reach	Outlet Node	Cumulative Unitary Storage Rate (m^3/imp. ha)				Unitary Discharge Rate (m^3/s/ha)			
			Erosion Control	Flood Control[2]			Erosion Control	Flood Control		
				5 Yr	25 Yr	100 Yr		5 Yr	25 Yr	100 Yr
Bear Creek	BEA1	9001	410	850	1000	1300	0.0012	0.007	0.013	0.030
	BEA2	9005	440	1030	1280	1580	0.0012	0.007	0.013	0.030
Thornton Creek	THO1	9024	430	920	1070	1420	0.0011	0.007	0.013	0.025
	THO2	9017	370	860	960	1310	0.0013	0.009	0.018	0.036
Lover's Creel	LOV2	9251	400	850	1050	1300	0.0011	0.010	0.020	0.050
	LOV4	9142	400	1000	1250	1400	0.0012	0.007	0.012	0.027
	LOV6	9201	400	900	1050	1350	0.0013	0.007	0.013	0.030
	LOV8	9350	460	1060	1310	1510	0.0012	0.007	0.012	0.027
Hewitts Creek	-	9140	450	900	1050	1300	0.0006	0.007	0.013	0.030
Sandy Cove Creek	SAN2	9284	310	760	835	1235	0.0010	0.010	0.020	0.040
	SAN3	9281	320	770	845	1245	0.0011	0.010	0.020	0.040

Note: [1] Water quality: Volumetric requirements for permanent pool storage are in addition to storage provided here and are to be provided in accordance with Ministry of the Environment Enhanced Level treatment.
[2] Includes erosion control volume
[3] Volumes do not include LID

- **Volume Control:** The NVCA Guideline does not have a requirement for volumetric control. However, during the completion of the SIS study, it was agreed that the SIS lands will recommend similar volumetric control to the Lake Simcoe Region Conservation Authority (LSRCA) Guidelines to the extent possible.
- **Phosphorus Loading:** Post-development phosphorous loads must match to pre-development levels. Best efforts are required to achieve a 20% reduction from pre-development levels in phosphorous loadings.

- **Water Balance:** The subject site is located in the WHPA-Q1 and Q2 region. Best efforts to match annual post-development infiltration with pre-development volumes. Part of the site (South east corner) is located within the significant ground water recharge area.

2.3 Proposed Stormwater Management Plan

The site is proposed to have a dual drainage scheme consisting of a major and a minor system. The minor system will convey runoff from storms up to and including the 5-year event via underground sewers. Storm sewers will be designed as per City of Barrie design criteria.

This document also presents three (3) SWM pond design options. These options are referred to as Option 1, Option 2 & Option 3. Two of the options (Option 2 & Option 3) are currently being discussed with the City of Barrie and NVCA. Please note that the required volumes stated in quantity control, erosion control, quality control and volumetric control, generally remain the same for each of the proposed SWM pond options. However, it should be noted that in the below sections, the provided volumes refer to the SWM pond Option 1. **Section 2.12** outlines the provided volumes for both Option 2 and 3.

In order to achieve the quality control criteria, the subject development is proposed to have a treatment train approach. A SWM pond referred to as SWM Pond H, is proposed at the North west corner of the subject site, east of the Bear Creek. The proposed 1.25 ha SWM Pond H will provide quality, quantity and erosion control for the majority of the site. An infiltration bed is proposed in the southern component of the SWM Pond to provide volumetric control and to assist in meeting the water balance requirements along with additional quality control.

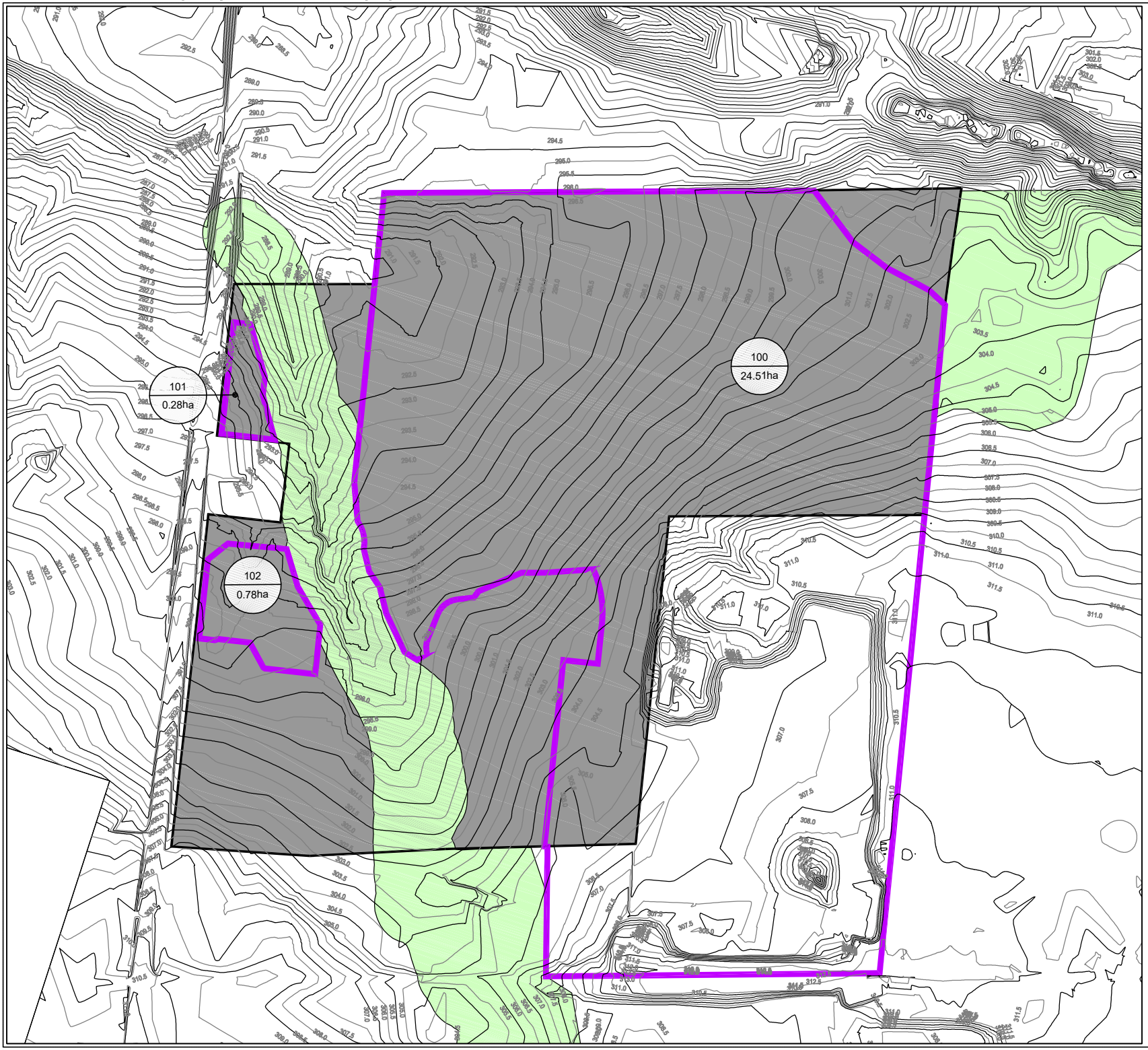
It is proposed that catchments 202-204 provide their own volume control. It is also proposed to size the infiltration bed under the SWM Pond to achieve the greater of; the infiltration quality criteria for TSS removal, the pre-post water balance, and the volumetric control criteria, each of these stipulations will be detailed further in the relevant sections below. The post-development drainage areas and proposed storm servicing is illustrated schematically in **Figure 2-2** and **Figure 2-3**.

Table 2-1 presented below summarizes the post development drainage plan for the subject site. The imperviousness calculations for each block are presented in **Appendix B** for reference.

Note that there is a discussion regarding a potential development on the "Non-Development Provincial Land Holdings" to the south-east of the subject site. The condition where these lands remain undisturbed will be referred to as the "interim condition", whilst the condition where the potential for development in this area is realized will be referred to as the "ultimate condition". It should be noted that in the "ultimate condition", this area will have its own quality/quantity/erosion/volume control and will outlet to the DiPoce lands sewer system which drains to SWM Pond H. It is to note that an area of 24.49 ha drains to the proposed SWM pond in both the interim and ultimate conditions.

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- DI POCE SITE PLAN BOUNDARY AREA
- NATURAL HERITAGE SYSTEM
- PRE DEVELOPMENT CATCHMENTS

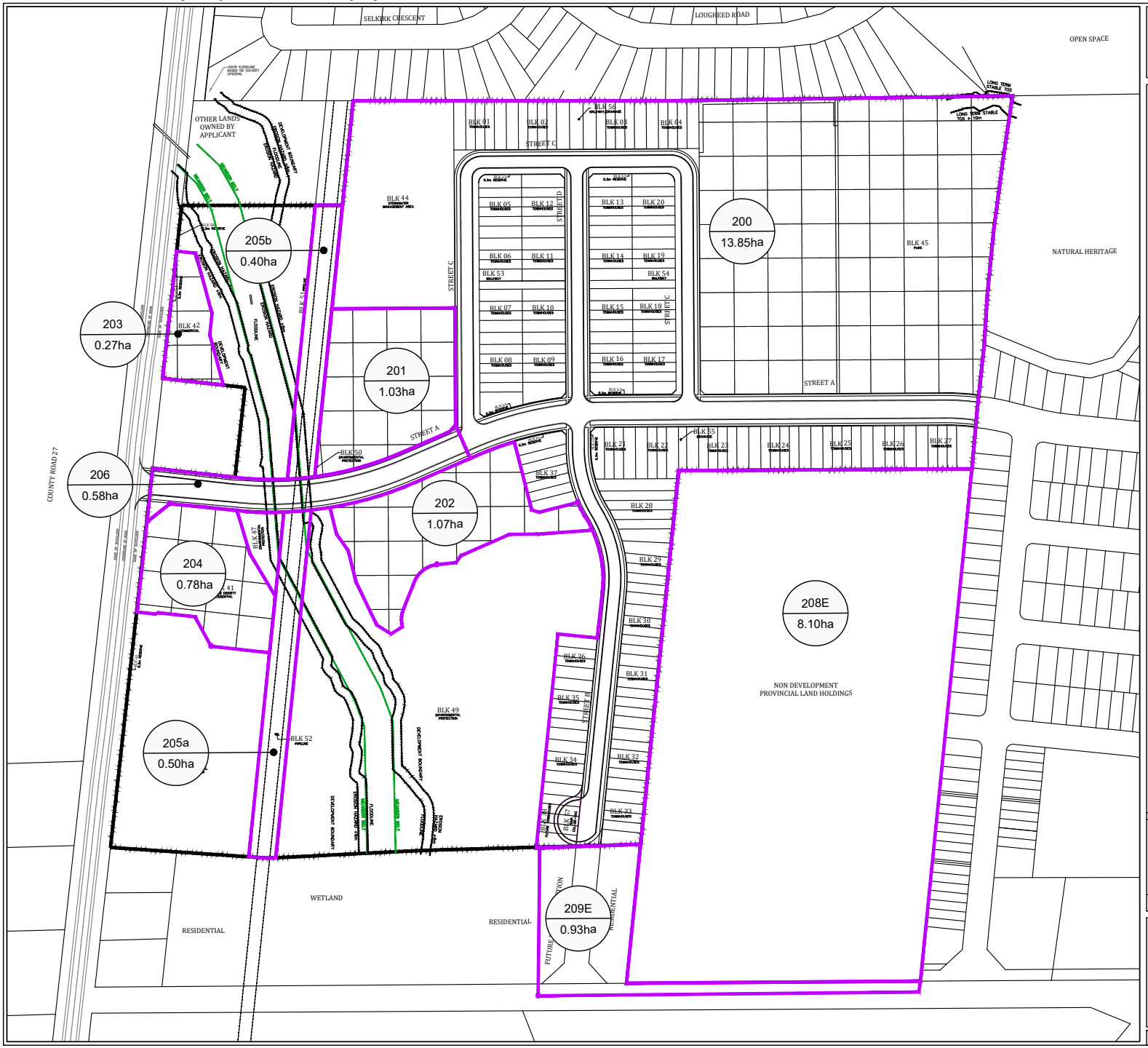
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FIGURE 2-1
PRE-DEVELOPMENT DRAINAGE AREAS

2017-4560	OCTOBER 2019	SCALE: N.T.S.

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LEGEND

DRAINAGE AREAS

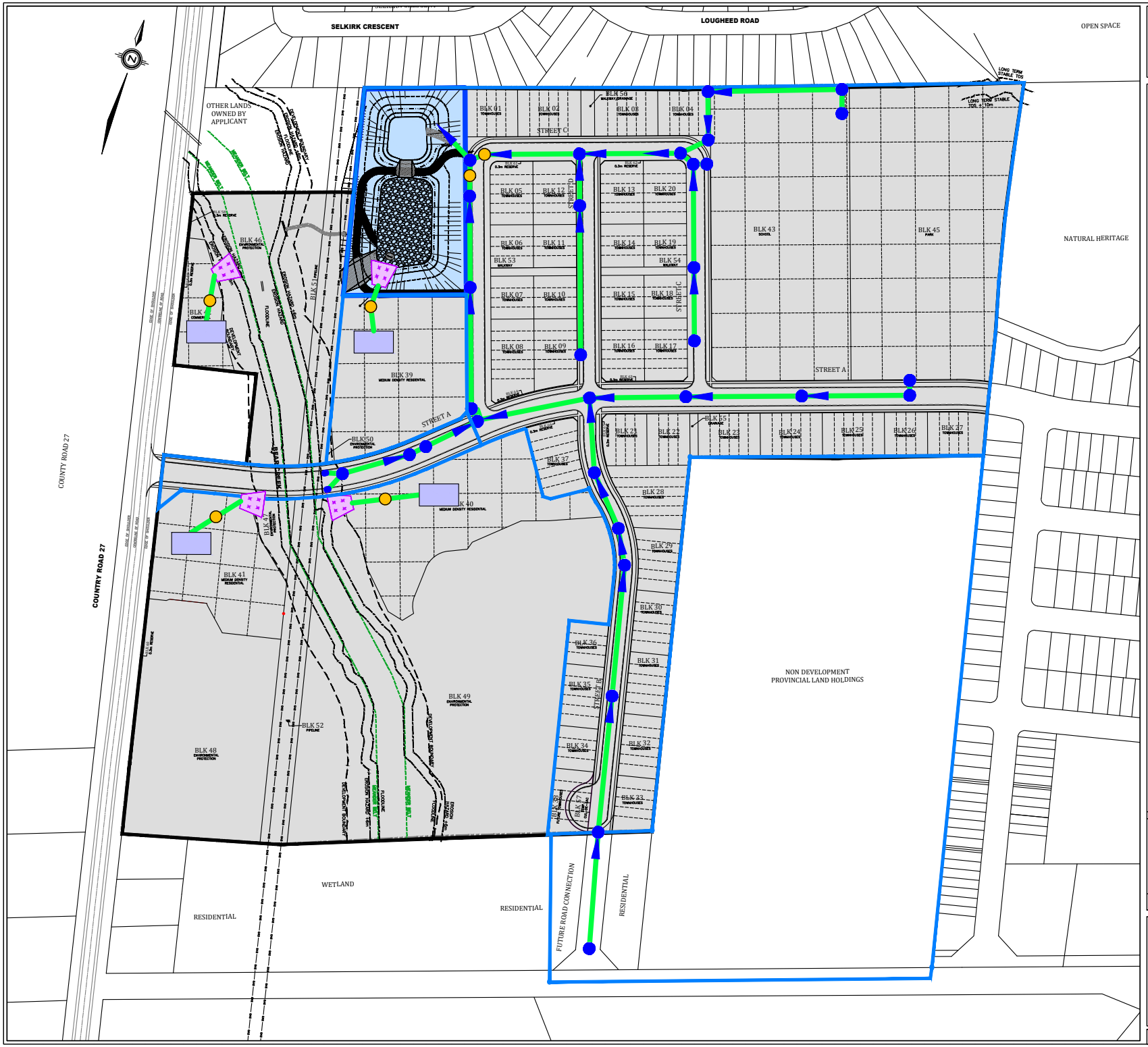
208E
8.10ha

ID
AREA IN HECTARES

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CONSULTING ENGINEERS
6 Ronrose Drive, Concord, Ontario L4K 4R3
Tel: (905) 738-6100 Email: general@schaeffers.com
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FIGURE 2-2
POST-DEVELOPMENT
DRAINAGE AREAS

2017-4560	OCTOBER 2019	SCALE: N.T.S.



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- SUBJECT SITE
- PROPOSED STORM SEWERS
- PROPOSED SWM POND
- PROPOSED SWM POND H DRAINAGE AREA
- PROPOSED HEADWALL
- PROPOSED JELLYFISH
- PROPOSED STORAGE IN SITE PLANS

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FIGURE 2-3
PROPOSED
STORM SERVICING

2017-4560	OCTOBER 2019	SCALE: N.T.S.

Table 2-1: Post- Development Catchment Area Summary

Catchment ID	Lots / Blocks	Area (ha)	Imperviousness (%)	Comment
200	01-38 43-45 53-57 ROW	13.85	58%	Area draining to the proposed SWM Pond H.
201	39	1.03	75%	Provide Quantity Control and headwall directly to the proposed SWM Pond H.
202	40	1.07	75%	Headwall directly to the Creek. Quantity, Quality and Erosion Control to be provided within the Block.
203	42	0.27	71%	Headwall directly to the Creek. Quantity, Quality and Erosion control to be provided within the Block.
204	41	0.78	75%	Headwall directly to the Creek. Quantity, Quality and Erosion control to be provided within the Block.
205a +205b	51+52	0.90	7%	TransCanada Corridor. Follows Existing Drainage Pattern. No Quantity and Quality control.
206	ROW	0.58	75%	Area Draining to the proposed SWM Pond H.
208 External	-	8.10	-	External Area Draining to the proposed SWM Pond H. At ultimate condition, this area will be serviced by its own pond and then drain to SWM Pond H.
209 External	-	0.93	50%	External Area Draining to the proposed SWM Pond H at interim condition.
Remaining Area of the subject site	Open Space – Undisturbed	6.41ha	-	Undisturbed Area. Existing drainage pattern remains, no control required.

2.4 Allowable Release Rates

Visual OTTHYMO v.5.0 (VO5) is used as the hydrologic modelling software for the subject site.

The parameters for the VO5 modelling were considered from the SIS study where preliminary sizing was completed for the proposed SWM Pond within the subject site. Parameters used in the VO5 model are presented in **Appendix B.** **Table 2-2** below presents the pre-development flows for Catchment 100 with a tributary area of 24.51 ha.

Table 2-2: Allowable Release Rates for Catchments east of the Bear Creek

Storm	24Hr SCS	12Hr SCS	6Hr SCS	4Hr Chicago-Barrie	4Hr Chicago-MTO
	Flow (m^3/s)	Flow (m^3/s)	Flow (m^3/s)	Flow (m^3/s)	Flow (m^3/s)
2 Year	0.213	0.183	0.173	0.121	0.087
5 Year	0.406	0.353	0.352	0.234	0.164
10 Year	0.560	0.489	0.497	0.327	0.225
25 Year	0.779	0.684	0.709	0.463	0.316
50 Year	0.958	0.845	0.884	0.569	0.390
100 Year	1.148	1.015	1.070	0.690	0.469

Catchment 100, a tributary area of 24.51 ha, includes the post-development catchments 200, 201, 202, 208E and 209E. The allowable release rates for Catchment areas 200+201+206+208E+209E are prorated based on their total area (24.49 ha) as they are draining to the SWM Pond H. In addition, Catchment 201 is also proposed to release a maximum of the 100-yr pre-development level with a runoff coefficient (C) of 0.25 and a time of concentration (T_c) of 19 minutes to the SWM Pond. Rational Method and IDF curves prescribed by the City of Barrie were used to set the allowable release rate from this site. Calculations indicate that Catchment 201 will require to control the 100-year release rate on-site to 112.0 L/s and provide 450 m^3 storage on-site.

The allowable release rate for Catchment 202 is prorated using the pre-development flow of Catchment 100. The allowable release rates are summarized in **Table 2-3** below.

Table 2-3: Allowable Release Rates for Catchments East of the Tributary of Bear Creek

Storm Event	Catchment 200+201+206+209E+208E (m^3/s)					Catchment 202 (m^3/s)				
	24.49 ha					1.07 ha				
	24HR SCS	12HR SCS	6HR SCS	4HR CHIC-Barrie	4HR CHIC-MTO	24HR SCS	12HR SCS	6HR SCS	4HR CHIC-Barrie	4HR CHIC-MTO
2-Year	0.204	0.175	0.166	0.116	0.083	0.009	0.008	0.007	0.005	0.004
5-Year	0.389	0.338	0.337	0.224	0.157	0.017	0.015	0.015	0.010	0.007
10-Year	0.536	0.469	0.476	0.314	0.216	0.023	0.020	0.021	0.014	0.009
25-Year	0.746	0.655	0.679	0.444	0.303	0.032	0.029	0.030	0.019	0.013
50-Year	0.917	0.810	0.847	0.545	0.374	0.040	0.035	0.037	0.024	0.016
100-Year	1.100	0.972	1.025	0.661	0.449	0.048	0.042	0.045	0.029	0.020

The allowable release rates for catchments 203 and 204 were established based on the pre-development catchments 101 and 102, respectively **(Refer to Figure 2-1)**. The parameters considered in the VO5 modelling are presented in **Appendix B** for more information. **Table 2-4** below summarizes the allowable release rates for catchments 203 and 204. **Section 2.4.1** discusses the allowable release rate of the site plans in detail.

Table 2-4: Allowable Release Rates for Catchments West of the Tributary of Bear Creek

Storm Event	Catchment 203 (m^3/s)					Catchment 204 (m^3/s)				
	0.27 ha					0.78 ha				
	24HR SCS	12HR SCS	6HR SCS	4HR CHIC-Barrie	4HR CHIC-MTO	24HR SCS	12HR SCS	6HR SCS	4HR CHIC-Barrie	4HR CHIC-MTO
2-Year	0.005	0.004	0.004	0.002	0.002	0.010	0.008	0.007	0.004	0.002
5-Year	0.010	0.009	0.009	0.005	0.003	0.021	0.017	0.017	0.009	0.006
10-Year	0.014	0.013	0.013	0.007	0.005	0.030	0.025	0.025	0.013	0.009
25-Year	0.023	0.018	0.019	0.010	0.007	0.048	0.037	0.038	0.020	0.013
50-Year	0.025	0.022	0.023	0.013	0.009	0.054	0.046	0.048	0.025	0.017
100-Year	0.031	0.027	0.029	0.016	0.011	0.065	0.056	0.059	0.031	0.021

The total allowable release rates from the subject site is presented in **Table 2-5**. These release rates were calculated using the AddHyd function of VO5. A VO5 schematic and detailed output are presented in **Appendix B**.

Table 2-5: Total Allowable Release Rate to Bear Creek

Storm Event & Storm Type	Total Allowable Relase Rate to Bear Creek (m^3/s)
2-Year-12-Hour SCS	0.074
2-Year-24-Hour SCS	0.076
2-Year-4-Hour-CHIC-Barrie	0.065
2-Year-4-Hour-CHIC-MTO	0.052
2-Year-6-Hour SCS	0.076
5-Year-12-Hour SCS	0.213
5-Year-24-Hour SCS	0.243
5-Year-4-Hour-CHIC-Barrie	0.150
5-Year-4-Hour-CHIC-MTO	0.077
5-Year-6-Hour SCS	0.224
10-Year-12-Hour SCS	0.347
10-Year-24-Hour SCS	0.417
10-Year-4-Hour-CHIC-Barrie	0.241
10-Year-4-Hour-CHIC-MTO	0.160
10-Year-6-Hour SCS	0.375
25-Year-12-Hour SCS	0.543
25-Year-24-Hour SCS	0.627
25-Year-4-Hour-CHIC-Barrie	0.398
25-Year-4-Hour-CHIC-MTO	0.250
25-Year-6-Hour SCS	0.572
50-Year-12-Hour SCS	0.699
50-Year-24-Hour SCS	0.831
50-Year-4-Hour-CHIC-Barrie	0.503
50-Year-4-Hour-CHIC-MTO	0.343
50-Year-6-Hour SCS	0.744
100-Year-12-Hour SCS	0.885
100-Year-24-Hour SCS	1.014
100-Year-4-Hour-CHIC-Barrie	0.604
100-Year-4-Hour-CHIC-MTO	0.426
100-Year-6-Hour SCS	0.933

2.4.1 Site Plan Release Rates (Catchment 202, 203 & 204)

As presented in **Table 2-4** and **Table 2-5**, the allowable release rate for the site plans are small. In order to provide a release rate that is achievable with a simple control structure at the detail design stage these site plans are assigned a release rate. These release rates are required to be maintained for all storm events. Please refer to **Table 2-6** for the assigned release rates of these site plans. The storage requirement for these site plans are discussed in **Section 2.6** in detail.

Table 2-6: Site Plans Release Rates

Catchment	Release Rate (L/s)
Catchment 202	60
Catchment 203	46
Catchment 204	75

After modelling of SWM pond and these blocks with the assigned release rates (presented in **Table 2-6**), the post-development release rates were smaller than the pre-development release rates. Please refer to **Section 2.6.3** and **Table 2-12**.

2.5 Erosion Control

Catchments 201 (Block 39), 202 (Block 40), 204 (Block 41) are proposed medium density residential areas and catchment 203 (Block 42) is a commercial area. It is proposed that catchments 202, 203 & 204 provide their own erosion control through the retention of the first 5 mm of rain from any rainfall event on-site. The erosion control for the remaining areas of the subject site will be provided at the proposed SWM Pond. Typically, it is proposed to detain the first 25 mm of rainfall for 24-48 hours within the pond to meet the erosion control criteria, however, as mentioned earlier in *Section 2.2*, erosion control targets were established as per the DSWMMP Table 4.4.15 as it presents a more conservative approach.

The erosion control volume required was calculated using the Bear Creek reach BEA1 at Outlet Node 9001 from the DSWMMP Table 4.4.15, the calculation was based on the area that drains to the SWM pond. The erosion control volume required at SWM Pond is ~ 4217 m^3 (4217.18 m^3) at an allowable peak release rate of ~ 0.0441 m^3/s (0.04408 m^3/s). Detailed calculations are attached

in **Appendix B**, for reference.

2.6 Quantity Control

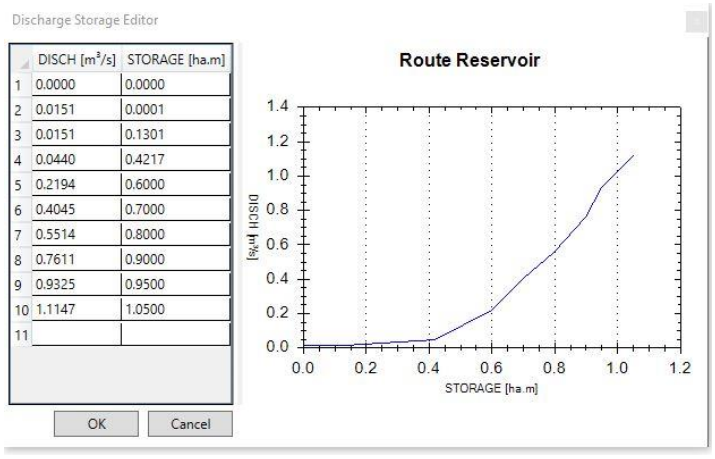
The quantity control for each catchment is provided through a combination of various best stormwater management practices (SWMPs). The following section describes the various SWMPs adapted to achieve quantity control.

2.6.1 Catchments Draining to SWM Pond H

A SWM Pond (SWM Pond H) is proposed to provide quantity control to the majority of the subject site which includes; catchments 200 + 206 + 208E+209E as well as the additional quantity control required for 201. As previously discussed, the proposed SWM pond is located on the North West corner of the subject site, east of the south tributary of Bear Creek.

The allowable release rates established in **Section 2.4** above were used to determine the required active volume to be within the proposed SWM Pond H. Since the 24-Hr SCS generates the largest volume, it was used as the design storm to estimate the volume required within the SWM Pond. However, the storage provided satisfies all storm events, as demonstrated in the VO5 model. The rating curve that was used to calculate the required storages and VO5 flow output is presented below.

Figure 2-4: Rating Curve used in VO5



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Please refer to **Appendix B** for VO5 model output. **Table 2-7** presented below summarizes the preliminary SWM Pond H design calculations in the interim condition (the external lands to the south-east undisturbed) while **Table 2-8** below summarizes the SWM Pond H design requirements in the ultimate condition (the external lands developed). The proposed SWM pond H (Option 1) is designed to provide an active storage capacity of 12,332 m^3.

Table 2-7: Interim SWM Pond H Storage Requirements - 24 hr SCS

Storm	Allowable Release Rate	VO Output	VO Required Storage
	Flow (m^3/s)	Flow (m^3/s)	Volume (m^3)
2-Year	0.204	0.063	4,410
5-Year	0.389	0.199	5,783
10-Year	0.536	0.358	6,752
25-Year	0.746	0.549	7,984
50-Year	0.917	0.734	8,872
100-Year	1.100	0.966	9,688

Table 2-8: Ultimate Condition SWM Pond H Storage Requirements - 24 hr SCS

Storm	Allowable Release Rate	VO Output	VO Required Storage
	Flow (m^3/s)	Flow (m^3/s)	Volume (m^3)
2-Year	0.204	0.067	4,452
5-Year	0.389	0.227	6,044
10-Year	0.536	0.370	6,819
25-Year	0.746	0.564	8,070
50-Year	0.917	0.750	8,947
100-Year	1.100	0.981	9,769

Table 2-7 above reveals that the ultimate condition will govern the SWM Pond H design, therefore the pond has been sized to provide quantity control for the ultimate condition, satisfying the interim as well. **Table 2-9, 2-10, 2-11, 2-12** below compare the 6-Hour SCS, 12-Hour SCS, 4-Hour Chicago generated with IDF curve of Barrie and MTO.

Table 2-9: Ultimate SWM Pond H Storage Requirements - 6 Hr SCS

Storm	6-Hr SCS Release Rate	VO Output	VO Required Storage
	Flow (m^3/s)	Flow (m^3/s)	Volume (m^3)
2-Year	0.166	0.042	4,012
5-Year	0.337	0.201	5,815
10-Year	0.476	0.339	6,645
25-Year	0.679	0.507	7,698
50-Year	0.847	0.664	8,536
100-Year	1.025	0.866	9,309

Table 2-10: Ultimate SWM Pomnd H Storage Requirements - 12 Hr SCS

Storm	12-Hr SCS Release Rate	VO Output	VO Required Storage
	Flow (m^3/s)	Flow (m^3/s)	Volume (m^3)
2-Year	0.175	0.042	4,012
5-Year	0.338	0.201	5,815
10-Year	0.469	0.339	6,645
25-Year	0.655	0.507	7,698
50-Year	0.810	0.664	8,536
100-Year	0.972	0.866	9,309

Table 2-11: Ultimate SWM Pond H Storage Requirements – 4-Hr Chicago - Barrie

Storm	4-Hr Chicago - Barrie Release Rate	VO Output	VO Required Storage
	Flow (m^3/s)	Flow (m^3/s)	Volume (m^3)
2-Year	0.116	0.039	3,664
5-Year	0.224	0.126	5,052
10-Year	0.314	0.198	5,781
25-Year	0.444	0.332	6,610
50-Year	0.545	0.431	7,178
100-Year	0.661	0.522	7,803

Table 2-12: Ultimate SWM Pond H Storage Requirements – 4-Hr Chicago - MTO

Storm	4-Hr Chicago - MTO Release Rate	VO Output	VO Required Storage
	Flow (m^3/s)	Flow (m^3/s)	Volume (m^3)
2-Year	0.083	0.034	3,224
5-Year	0.157	0.072	4,502
10-Year	0.216	0.133	5,128
25-Year	0.303	0.205	5,856
50-Year	0.374	0.278	6,316
100-Year	0.449	0.355	6,732

2.6.2 Catchments 202, 203 & 204

As discussed previously in **Section 2.4.1**, these catchments are site plans that are assigned a release rate for a feasible control structure design in the detail design stage. Based on the assigned release rates, the storage requirements were calculated in VO5 that must be provided for all storm events. The summary of storage requirements is presented in **Table 2-13.**

Table 2-13: SWM Storage Requirements for Catchments 202, 203 & 204

Catchments	Allowable Release Rate	VO Output	VO Required Storage
	Flow (m^3/s)	Flow (m^3/s)	Volume (m^3)
Catchment 202	0.060	0.060	644
Catchment 203	0.046	0.045	93
Catchment 204	0.075	0.075	396

2.6.3 Total Release Rate to Bear Creek

A comparison analysis was carried out to ensure that the total release rates to Bear Creek from the subject site meets the pre-development release rates. The analysis indicated that for all storm events (24 Hr SCS, 12 Hr SCS, 6 Hr SCS, 4-Hr Chicago-Barrie, 4-Hr Chicago-MTO) the post-development release rate is expected to be well below the pre-development release rate. **Table 2-14** presents the results of this analysis. The detailed VO5 output of this analysis is presented in **Appendix B.**

Table 2-14: Comparison between Pre-development release rates and Post-Development release rates

Storm Event	Pre-Development Release Rates	Post-Development Release Rates
2-Year-12-Hour SCS	0.187	0.074
2-Year-24-Hour SCS	0.217	0.076
2-Year-4-Hour-CHIC-Barrie	0.124	0.065
2-Year-4-Hour-CHIC-MTO	0.089	0.052
2-Year-6-Hour SCS	0.176	0.076
5-Year-12-Hour SCS	0.360	0.220
5-Year-24-Hour SCS	0.415	0.255
5-Year-4-Hour-CHIC-Barrie	0.239	0.158
5-Year-4-Hour-CHIC-MTO	0.167	0.077
5-Year-6-Hour SCS	0.360	0.232
10-Year-12-Hour SCS	0.499	0.361
10-Year-24-Hour SCS	0.572	0.431
10-Year-4-Hour-CHIC-Barrie	0.335	0.249
10-Year-4-Hour-CHIC-MTO	0.231	0.167
10-Year-6-Hour SCS	0.508	0.389
25-Year-12-Hour SCS	0.698	0.556
25-Year-24-Hour SCS	0.796	0.644
25-Year-4-Hour-CHIC-Barrie	0.474	0.412
25-Year-4-Hour-CHIC-MTO	0.323	0.264
25-Year-6-Hour SCS	0.725	0.586
50-Year-12-Hour SCS	0.862	0.717
50-Year-24-Hour SCS	0.980	0.851
50-Year-4-Hour-CHIC-Barrie	0.582	0.516
50-Year-4-Hour-CHIC-MTO	0.400	0.356
50-Year-6-Hour SCS	0.904	0.763
100-Year-12-Hour SCS	1.035	0.921
100-Year-24-Hour SCS	1.175	1.106
100-Year-4-Hour-CHIC-Barrie	0.707	0.619
100-Year-4-Hour-CHIC-MTO	0.481	0.440
100-Year-6-Hour SCS	1.094	0.992

2.7 Quality Control (Option 1)

Water quality control is to be provided for the subject site to achieve the required 80% TSS removal.

Catchments 201-204 are proposed to provide their own quality control. A combination of bioretention facilities like tree pits or infiltration chambers along with Jelly Fish units can be used to achieve treatment train and the required 80% TSS removal. Since, catchment 201 is proposed to discharge directly to the infiltration cell of the SWM Pond H via a headwall, it is proposed that the site use a Jellyfish. Jellyfish unit sizing will be provided in the detailed design stage. In addition, TSS removal can be achieved through SWM Pond infiltration at the infiltration cell of the pond. An in-depth review of the feasible LID techniques within each block is required during the site plan stage.

For the remaining parts of subdivision (15.36 ha) (public ROW, etc.) excluding the undeveloped areas, it is proposed to provide quality control via a treatment train approach – two Jellyfish units, permanent pool, and on-site infiltration techniques. The flow from the proposed townhouses, school block, park block and from the public right of way (ROW) is proposed to be treated via a treatment train approach. Two Jellyfish filter units are proposed upstream of the proposed SWM pond which are sized to provide 80% TSS removal. The flow from the storm sewers is then directed towards the forebay of the cell, which has been designed to provide 70% TSS removal in Option 1. According to the calculations presented in **Appendix B**, it is required to provide a permanent pool volume of 1,137 m^3. The required and provided permanent pool volumes are summarized in **Table 2-9.**

Please note that Option 2 & 3 of the SWM pond are sized to provide 80% TSS removal. Please refer to **Section 2.12** for detail explanation.

Table 2-15: Permanent Pool Requirements at Forebay of SWM Pond H

Level of Protection	Normal (70%)
Drainage Area (Catchment 200+206+209E)	15.36 ha
Weighted Imperviousness	58%
Total Storage Volume Requirement	114 m^3/ha
Minimum Extended Detention Storage Volume Requirement	40 m^3/ha
Permanent Pool Requirement	74 m^3/ha
Required Permanent Pool Storage Volume	1,137 m^3
Provided Permanent Pool Storage Volume	1,493 m^3

Additional quality control is provided by the proposed infiltration bed within the SWM Pond in accordance with Table 3.2 of the MECP SWM Planning & Design Manual. Therefore, the combined efficiency of the treatment train approach is greater than required 80% TSS removal. The TSS removal efficiency of SWM Pond and Jellyfish is 94% {80% + 70% - (80%*70%)}. The total TSS removed by SWM Pond, Jellyfish, Infiltration bed is 98% {94% + 70% - (94%*70%)}. The high groundwater level is at 290 m which is well below the proposed infiltration bed elevation of 292.20 m. This ensures that the infiltration bed has more than 1 m separation between the high groundwater level. **Table 2-10** summarizes the required and provided infiltration volume at the infiltration cell of the SWM Pond H. Detailed calculations area attached in **Appendix B** for reference.

Table 2-16: Infiltration Volume Summary

Level of Protection	Normal (70%)
Drainage Area (Catchment 200+201+206+209E)	16.39 ha
Weighted Imperviousness	58%
Infiltration Rate	21 m^3/ha
Required Infiltration Volume	344 m^3
Provided Infiltration Volume	1,302 m^3

2.8 Volumetric Control

The NVCA Guideline does not have a requirement for volumetric control. However, during the completion of the SIS study, it was agreed that the SIS lands will recommend similar volumetric control to the Lake Simcoe Region Conservation Authority (LSRCA) Guidelines to the extent possible.

It is to note that backyard infiltration is not possible because there is not enough depth at the back

to provide the 4.5m separation from the trench to the building envelope. Previously, City of Barrie was accepting CB Shield and Atlantis Cells for treatment and infiltration in the boulevard. However, it is understood that City of Barrie wants centralized approach for treatment and infiltration through recent submissions of other projects in City of Barrie

As discussed above, due to land use constraints, preference by the city to not have infiltration in the rights of way and limitations of decentralized infiltration/retention in any townhouse block, although desirable to provide a volumetric control for rain events of ≤25mm, it is therefore warranted to provide volume control for ≤12.5 mm events. Thus, for the subject site area, a volumetric retention volume of at least 1286 m^3 ("interim condition") (12.5mm * 42%imp * 24.49 ha * 10[{m^2/ha} / {m/mm}] = 1271.74 m^3) is required within SWM Pond H infiltration area. It is to note that the "interim condition" volume required governs the volumetric control design criteria. The required and provided volume at the infiltration cell is summarized in **Table 2-11.** Calculations are attached in **Appendix B.** Please note that the weighted imperviousness takes into account the undeveloped Catchment 208E in interim condition that is why an imperviousness of 42% is calculated and in the ultimate condition Catchment 208E will provide its own volume control. Please refer to **Appendix B** for detail calculation.

Table 2-17: Infiltration Cell Volumes

Drainage Area (Catchment 200+201+206+208E+209E)	24.49 ha
Weighted Imperviousness	42%
Required Infiltration Volume (Interim)	1,286 m^3
Required Infiltration Volume (Ultimate)	1,209 m^3
Provided Infiltration Volume	1,302 m^3

2.9 Water Balance

According to the Ontario MECP, the subject site is located in the Q1 and Q2 region. Parts of the south east of the subject site are located within the significant recharge area.

A water balance model was prepared for the site to assess the distribution of rainfall run-off and infiltration for the existing (pre-development) conditions and the post-development conditions. The Meteorological data was taken from Environment Canada-Barrie WPCC Station (1978-2006)

The water balance for the site was conducted using a mean annual precipitation of 933 mm.

Infiltration factors were based on the MECP SWM Planning and Design Manual (dated 2003).

Based on the water balance calculations presented in **Appendix A**, the pre-development infiltration is 52,053m^3/year and the post-development infiltration is 29,171m^3/year. 22,882 m^3/year of deficit is required to be infiltrated at the post-development stage.

To satisfy the water balance requirements it is proposed that Blocks 39-42, 43 and 45 provide 5mm infiltration on site. Additional infiltration is proposed within the well cell of SWM Pond H. As discussed in *Section 2.3*, the infiltration bed within the SWM Pond block is sized to provide the greater of; the quality control requirement (344 m^3), the volumetric control requirement (1285 m^3), and the water balance requirement (301 m^3). Based on the criteria stated above, the infiltration within SWM Pond H will be designed to satisfy the 12.5mm retention from the impervious area draining to the SWM Pond in accordance with the volumetric control section above (*Section 2.8*), far exceeding the water balance requirements. Note that the infiltration area within SWM Pond H has been designed to ensure a drawdown time below seventy-two (72) hours. An average infiltration rate of 55mm/hr was taken in accordance with the in-situ testing conducted by RJ Burnside Limited in October 2019 (report attached in **Appendix A**), indicating the native soils at the proposed SWM Pond location has an infiltration rate ranging from 40mm/hr to 70 mm/hr. An infiltration rate of 55mm/hr was used in the design of the infiltration cell as it was the average between the highest and lowest infiltration rate. Additionally, a factor of safety of 2.5 was considered in the design of the infiltration cell for a conservative approach.

The above infiltration measures increase the post-development infiltration volume to 81,624m^3 which is a 57% increase in infiltration from the pre-development conditions. **Table 2-12** presented below summarizes the water balance calculations presented in **Appendix B**.

Table 2-18: Water Budget – Summary Table

Characteristics	Site				
	Pre-Development	Post-Development	Change (Pre to Post)	Post-development with mitigation	Change (pre to post with mitigation)
Inputs (Volumes)					
Precipitation (m^3/year)	240901	240917	0%	240901	0.0%
Total Inputs (m^3/year)	240901	240917	0%	240901	0.0%
Outputs (Volumes)					
Precipitation surplus (m^3/year)	86755	143926	66%	143926	66%
Net Surplus (m^3/year)	86755	143926	66%	143926	66%
Total Evapotranspiration (m^3/year)	154145	96975	-37%	96975	-37%
Total Infiltration (m^3/year)	52053	29171	-44%	81624	57%
Total Runoff (m^3/year)	34702	114754	231%	62301	80%
Total Outputs (m^3/year)	240901	240901	0%	240901	0%

2.10 Phosphorus Loading

NVCA Guidelines require a maximum allowable post-development phosphorus loading of 100% pre-development loading, and best efforts to an additional 20% reduction beyond this level. However, NVCA recognizes that in some circumstances, this 20% reduction cannot be achieved and therefore, NVCA requires that the TP load at the post development stage, at least, matches with that of pre-development.

The NVCA Phosphorus Budget Tool was utilized to calculate both pre- and post-development phosphorus loading based on land use. A pre-development phosphorus load of 2.52 kg/yr and a post-development phosphorus load without BMP of 6.05 kg/yr was found. A post-development loading with BMPs was found to be 0.85 kg/yr. This indicates that the post-development loading with BMPs is 66% less than the pre-development phosphorus load. Refer to **Appendix B** for the NVCA Phosphorus Budget Tool- Development Export Summary.

A treatment train approach to reduce phosphorus is proposed in the post-development condition for Catchment area 200 and 206. This proposed treatment train was assessed for treatment efficiency while catchment area 201-204 draining to a single measure used recommended removal efficiencies provided by the NVCA Phosphorus Loading Development Tool. An overall treatment efficiency of 91% has been proposed through the application of two Jellyfish Unit filters, end-of-pipe-facility with a wet sediment forebay providing MOE Table 3.2 "Normal" quality treatment volume for wet pond as well as infiltration in the SWM pond. The treatment train Total Phosphorus (TP) removal efficiency has been calculated as follows:

- Jellyfish Units @ 50% results in [100% x (1-0.5)] = 50% TP remaining;
- SWM Pond MOE Table 3.2 "Normal" @ 55% results in [50% x (1-0.55)] = 22.5% TP remaining;
- Infiltration in SWM Pond @ 60% results in [22.5% x (1-0.60)] = 9% TP remaining.

As mentioned above the assumed phosphorus remaining after the treatment train is approximately 9% resulting in a proposed removal of 91%.

2.10.1 Jellyfish Units

Two Jellyfish Unit filters are proposed upstream of the proposed SWM pond. According to ETV Certification, filter-based units can remove up to 50% Phosphorus. These two Jellyfish units are proposed to provide 80% TSS removal and 50% phosphorus reduction.

2.10.2 Proposed SWM Pond H

As previously mentioned in Section 2.8, the proposed end-of-pipe facility provides a pond which includes a permanent pool quality volume based on MOE Table 3.2 Wet Pond Sizing for "Normal" treatment. The proposed facility provides a permanent pool excess of the volumetric sizing for a "Normal" (70%) Total Suspended Solids removal efficiency. As per NVCA: Managing New Urban Development in Phosphorus-Sensitive Watersheds (Hutchinson Environmental Sciences Ltd), 63% phosphorus removal can be achieved if a proposed facility provides a permanent pool excess of the volumetric sizing for a "Enhanced" (80%) Total Suspended Solids removal efficiency. This relationship was prorated to calculate the phosphorus removal efficiency when a wet pond of "Normal" (70%) is provided and the calculation indicates that the wet pond can provide a 55% efficiency in phosphorus removal.

2.10.3 Infiltration in Proposed SWM Pond H

An infiltration bed is proposed in the SWM pond to provide additional quality control. This infiltration bed is sized to retain 12.5 mm from the impervious areas draining to the SWM Pond (~1272m^3), greatly exceeding the MOE Table 3.2 criterion volume for TSS removal (~344m^3). As per NVCA: Managing New Urban Development in Phosphorus-Sensitive Watersheds (Hutchinson Environmental Sciences Ltd), 60% phosphorus removal can be achieved through infiltration.

2.11 Sediment Forebay Design

The sediment forebay is designed to ensure adequate sizing for the service area. The forebay length should be greater than or equal to the larger of the settling and dispersion lengths based on the MECP SWM Planning and Design Manual.

The forebay length is designed approximately to be at 39 m, which is greater than the required length of the 37 m. Detailed forebay sizing calculations are provided in **Appendix B** for reference.

2.12 SWM Pond Options (Option 2 & Option 3)

As mentioned previously in ***Section 2.3*** there are two additional SWM Pond design options; Option 2 and Option 3 designs are currently being discussed with the City of Barrie and NVCA to establish an option that best satisfies the constraints of either party. The below sections provide details of the two additional SWM pond options:

2.12.1 SWM Pond Option 2

SWM Pond Option 2 has been sized to provide an 'Enhanced' level protection (80% TSS removal). An infiltration bed is also provided within this option to meet the 12.5 mm volumetric control requirement. This infiltration bed proposed achieves an additional 60% TSS removal. As the Jellyfish units are proposed to be installed upstream of the proposed SWM pond, an overall TSS removal of 98.8% will be provided. Breakdown of calculation is provided below.

SWM Pond + Jellyfish Unit – 80% + 80% - (80%*80%) = 96%

SWM Pond + Jellyfish Unit + Infiltration Bed – 96% + 70% - (96%*70%) = 98.8%

In order to maximize the footprint area and volume provided, a retaining wall is used in this option. Please refer to **Table 2-13** for the provided volumes in this proposed SWM pond option and find the preliminary drawing of this option attached in **Appendix B** for reference.

Table 2-19: Provided Volume in SWM Pond Option 2

Component	Required Volume (m^3)	Provided Volume (m^3)
Permanent Pool ('Enhanced 80% TSS')	2,412	2,532
Active Storage	9,769	11,197
Infiltration volume (12.5 mm)	1286	1350

2.12.2 SWM Pond Option 3

SWM Pond Option 3 has been sized to provide an 'Enhanced' level protection (80% TSS removal). An infiltration bed is also provided within this option to provide 6.5 mm of volumetric control. This infiltration bed proposed achieves an additional 60% TSS removal. As the Jellyfish units are proposed to be installed upstream of the proposed SWM pond, an overall TSS removal of 98.8%. Breakdown of calculation is provided below.

SWM Pond + Jellyfish Unit – 80% + 80% - (80%*80%) = 96%

SWM Pond + Jellyfish Unit + Infiltration Bed – 96% + 70% - (96%70%) = 98.8%

Option 2 and Option 3 is that there is no retaining wall in Option 3, as a result, the available infiltration cell footprint area has been reduced due to grading constraints. Please refer to **Table 2-14** for the provided volumes in this proposed SWM pond option and note that the preliminary drawing of this option is attached in **Appendix B**.

Table 2-20: Provided Volume in SWM Pond Option 3

Component	Required Volume (m^3)	Provided Volume (m^3)
Permanent Pool ('Enhanced 80% TSS')	2,412	2,532
Active Storage	9,769	11,071
Infiltration volume (6.5 mm)	669	696

2.13 Miscellaneous

Based on the DSWMMP Table 4.4.15, the erosion control for majority of the subject site will be achieved through attenuation to a unitary rate and retention of 5 mm. Catchments 202-204 are proposed to retain the first 5 mm or rain from any rainfall event on-site to achieve erosion control. The remaining subdivision Catchment 200 + 201 + 206 + 208E + 209E will provide erosion control through the proposed SWM Pond H. In addition, 12.5 mm retention of impervious area will be also provided to meet the volumetric control target for Catchment 200+201+206+208E+209E (interim) and Catchment 200+201+206+209E (ultimate). Analysis was conducted to find the overall retention event provided through out the whole subject site. The analysis revealed that 7.39 mm overall retention will be achieved through the current design. Please note that Catchment 208 E will provide its own erosion control in the ultimate condition. Therefore, it can be inferred that the release rate for the proposed solution eliminates 7.39 mm of first rainfall of any event which increases the erosion control protection downstream. The analysis is provided in details below.

Table 2-21: Overall Retention Calculation

Catchment	**Area**		
Catchment 203	0.27	=[5mm x 0.27ha]	1.35
Catchment 204	0.78	=[5mm x 0.78ha]	3.90
Catchment 202	1.07	=[5mm x 1.07ha]	5.35
Catchment 201	1.03	=[5mm x 1.03ha]+[12.5mm x 1.03hax 0.75Imp]	14.81
Catchment 200+206+209E	15.36	=[5mm x 15.36ha]+[12.5mm x 15.36hax 0.58Imp]	111.36
Total	18.51		134.60
Overall Retention	**7.39 mm**	(134.60/18.51)	

3.0 Sanitary Servicing

The following sections demonstrate that the proposed development has been accommodated in the proposed master sanitary servicing plan. The sanitary design flow calculations have been prepared in accordance to the City of Barrie and Ministry of Environment Design Criteria.

3.1 Existing Sanitary Infrastructure

Currently, no existing sanitary infrastructure is located within the subject site boundaries. The existing residential area north of the subject site has a sanitary network. There is a proposed 375mmØ sanitary pipe to extend from east of the subject site along the proposed 'Street 'A'' to connect to the existing sanitary infrastructure on Country Road 27, north-west of a subject site to service the future Bear Creek Ridge Development. Both of these sanitary conveyance networks transport waste water to the Holly Sanitary Pumping Station.

3.2 Design Criteria

The *"City of Barrie Sanitary Sewage Collection System Policies and Design Guidelines, 2012"* identified the following key design criteria:

- Design capacity not to exceed 85% full flow capacity;
- Population to be calculated based on 2.571 as suggested by the City of Barrie's Planning Department;
- Average daily domestic flow = 225 L/cap/day (excluding extraneous flows);
- Peak domestic sewage flows are to be calculated using the following formula:

  Q_P = P x q M/86400 + IA, where;
  - Q_P = Peak domestic sewage flows (including extraneous flows in L/s)
  - P = Design population
  - q = Average daily per capita domestic flow in L/cap/day (exclusive of extraneous flows)
  - M = Peaking Factor
  - I = Peak extraneous (infiltration) flows in L/s/ha
  - A = Gross tributary area in hectares

- For the residential development the peaking factor shall be calculated based on the Harmon Formula:

  $M = 1 + 14/ (4+P^{0.5})$, where;

  - P = Population in thousands
  - M (maximum) = 4.0
  - M (minimum) = 2.0

- Infiltration allowance is 0.1 L/s/ha of gross area;
- Minimum average design flow 28m^3/day/ha shall be used for commercial areas.

3.3 Proposed Sanitary Servicing

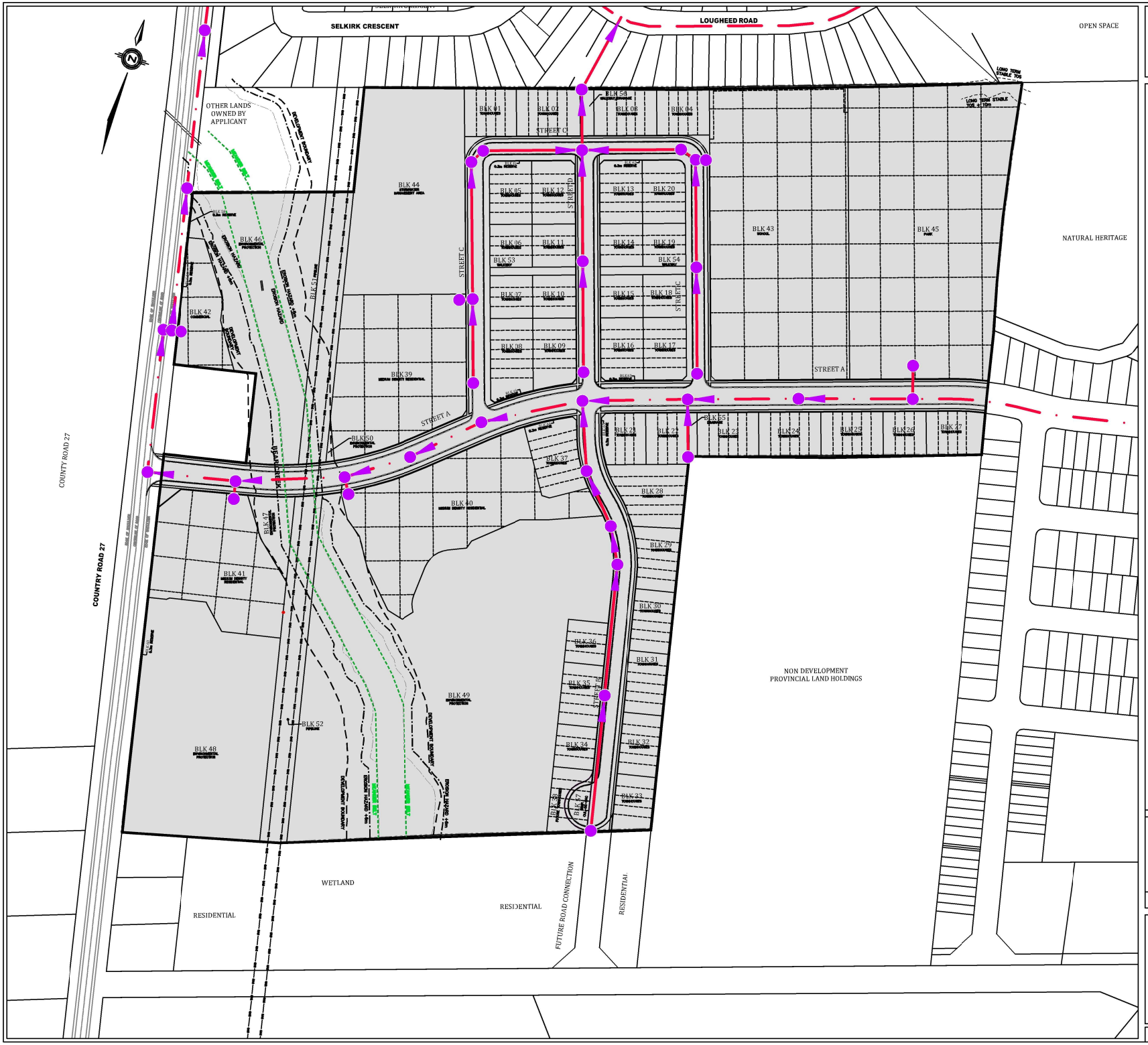
The proposed sanitary servicing plan can be seen in **Figure 3-1**. The subject site will connect proposed sanitary sewers to an existing sanitary manhole north of the subject site on Country Road 27 and to an existing manhole on Lougheed Road in the existing residential area. The sanitary sewers will convey waste to the Holly Sanitary Pumping Station, which according to the Barrie's Wastewater Collection Master Plan (WCMP), will require upgrades. The sanitary demand expected from the proposed residential and commercial development is summarized in **Table 3-1**.

Table 3-1: Sanitary Demand

Average Residential Demand (L/ s)	Residential Population (persons)	Harmon's Peaking Factor (M)*	Infiltration (L/ha/s)	Total Area (ha)	Total Peak Flow (L/s)
2.294	881	3.83	0.10	25.82	**11.47**

**Based on Equivalent Population Method, $M = 1+14(4+P/1000)^{0.5}$)*

Sadman Soumik



DI POCE (INNISFIL) INC.
CITY OF BARRIE

LEGEND

- SUBJECT SITE
- PROPOSED SANITARY SEWERS
- EXISTING SANITARY SEWERS
- PROPOSED SANITARY SEWERS BY OTHERS

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Tel: (905) 738-6100 Email: general@schaeffers.com
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FIGURE 3-1
PROPOSED SANITARY SERVICING

2017-4560	OCTOBER 2019	SCALE: N.T.S.

4.0 Municipal Water Servicing

The following sections demonstrate that the proposed water distribution plan can adequately supply potable drinking water to proposed development. The water distribution calculations have been prepared in accordance to the City of Barrie and Ministry of Environment Design Criteria.

4.1 Design Criteria

Watermains for the ultimate development shall be designed in accordance with the current City of Barrie Water Storage and Distribution Master Plan and are summarized as follows:

- The watermain size shall be determined by fire flow plus maximum day peak flow or peak hour demand, whichever is higher;
- Peaking factors determined by MECP guidelines;
- Fire flow testing is required for all development applications to establish and confirm boundary condition for the development and will provide the basis for the design proposal;
- The minimum flow for residential single family is 57 L/s, preferred 76 L/s. Site specific details were not available, therefore the minimum recommended fire flow for townhouses and medium density blocks of 150 L/s is used. Institutional and commercial fire flows are 200 L/s and 283 L/s, respectively. Fire flow needs to be delivered at the minimum of 140 kPa residual pressure;
- Minimum size of watermain is 150 mm diameter, except at the last hydrant on cul-de-sacs where the watermain can be 50 mm;
- The maximum velocity for watermains 300 mm diameter and larger, under normal operating conditions will not exceed 1.5 m/s, while during fire flow conditions, the maximum velocity will not exceed 3 m/s. In all cases, watermain diameters shall be such that a flushing velocity of 0.80 m/s can be achieved for cleaning and flushing procedures;
- Hazen-Williams formula used in computing watermain sizes with the following coefficients.

Pipe Diameter (mmØ)	Hazen-Williams Coefficient 'C'
150	100
200-300	110
350-600	120
Over 600	130

4.2 Existing Water Supply Infrastructure

The subject site is within the City of Barrie Pressure District 3 South (PD3S). There is currently no distribution system within the subject site. North of the subject site are two pump stations and the Mapleview reservoir storage facility that services the pre-annexation area.

The watermain trunks with potential to serve the subject site include;

- A 300mmØ main running on County Road 27, plugged north of the subject site at Selkirk Crescent.
- A 400mmØ main running on Essa Road.

4.3 Proposed Municipal Water Servicing

The proposed water servicing can be seen in **Figure 4-1**. The proposed 300mmØ watermain by Bear Creek Ridge Developments east of the subject site on Mabern Road will connect to the proposed 400mmØ watermain extension on Essa Road as well as the existing 300mmØ watermain on County Road 27. This proposed infrastructure will be used to service the subject site. The Salem Secondary proposed water supply network can be found in **Appendix A**. The subject site demands are summarized in **Table 4-1**. Detailed water demand breakdown is presented in **Appendix D**.

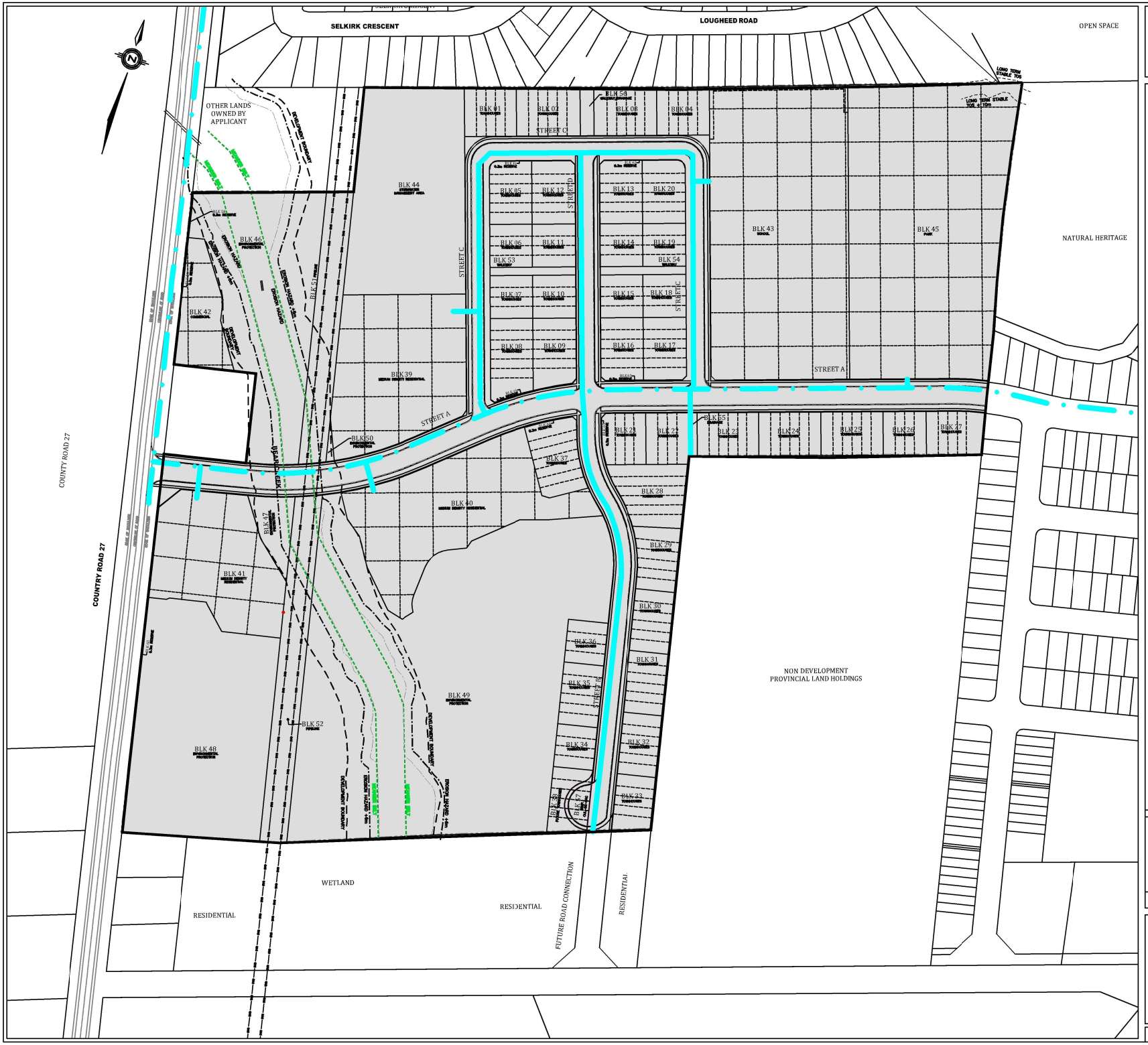
Table 4-1: Water Demands

Total Population (persons)	**Residential Average Day Demand (L/person/day)**	**Average Daily Demand (L/s)**	**Institutional Area (ha)**	**Average Institutional Flow (m^3/ha/day)**
881	225	2.61	2.20	28
Peak Hour Factor	**Peak Hour Demand (L/s)**	**Max Day Factor**	**Max Day Demand (L/s)**	**Max Day Flow + Fire Flow (L/s)**
4.13	10.79	2.75	7.18	290.18

4.4 WaterCAD Analysis

Bentley® WaterCAD® CONNECT Edition (WaterCAD) was used to construct a watermain analysis model of the proposed site and the PD3S network. This model was used to determine the sizes of the watermains and if the fire flow requirements are satisfied with the proposed water supply system. The City of Barrie Water Model 2016 Maximum Day Demand model was provided by the City and was used as the base for the WaterCAD model. The boundary conditions in the model are the maximum and initial water levels in the Mapleview 3 reservoir, 350.15 and 348.65 meters above sea level, respectively. Average day demand, Peak Hour Demand, Maximum Day + Fire Flow and Minimum Hour Demand scenarios were tested in the model. All residential demands and fire flow requirements were calculated to be satisfied. Detailed watermain sizing and the analysis results are presented in **Appendix D** for reference.

Sadman Soumik



DI POCE (INNISFIL) INC.
CITY OF BARRIE

LEGEND

- SUBJECT SITE
- PROPOSED WATERMAINS
- PROPOSED WATERMAINS BY OTHERS

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FIGURE 4-1
PROPOSED WATER SUPPLY SERVICING

2017-4560	OCTOBER 2019	SCALE: N.T.S.

5.0 SUMMARY

This Functional Servicing Report provides an overview of the proposed servicing plan for the DiPoce residential and commercial development located within the City of Barrie. This report demonstrates that stormwater, sanitary and water supply servicing are feasible and available for the proposed development. In summary, the Functional Servicing Report established the following:

Stormwater Servicing

A stormwater management pond (SWM Pond H) is proposed at the North-west corner of the subject site, east of the south tributary of Bear Creek to provide water quantity and quality, and erosion control for the majority of the site. An infiltration bed is proposed in the SWM pond to provide quality control, volumetric control and water balance requirements.

Sanitary Servicing

The subject site is proposed to be serviced by sanitary sewers which will be connected in two (2) locations, one to the sanitary sewer proposed by others along Mabern Road to be connected to the existing sanitary infrastructure on Country Road 27 north of the subject site and a second to an existing manhole on Lougheed Road in the existing residential area.

Water Supply Servicing

The site is not currently serviced with any water supply distribution system. Water supply for the subject site will be achieved via connections to the proposed 300mmØ watermain by the neighbouring eastern development on Mabern Road, which is to be connected to the proposed 400mmØ watermain extension on Essa Road, connecting it to the existing watermain on Essa Road, and the existing 300mmØ watermain on County Road 27, North-west of the subject site.

Should you have any questions or comments please do not hesitate to call the undersigned.
Respectfully Submitted,

SCHAEFFER & ASSOCIATES LTD.



Michael Ventresca, M.Eng., EIT
Water Resources Analyst

Koryun Shahbikian, LLM, M.Eng., P.Eng.
Partner

Sadman Soumik, MASc., EIT
Water Resources Analyst

APPENDIX A

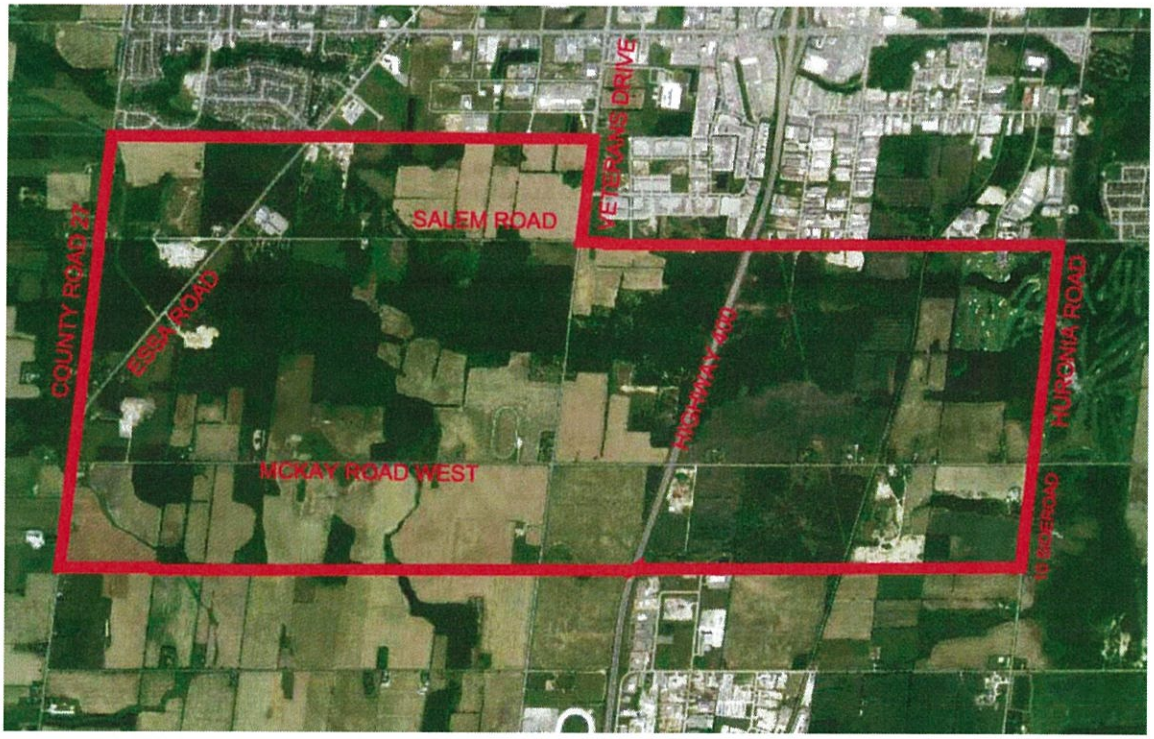
EXCERPTS FROM SIS

SUBWATERSHED IMPACT STUDY REPORT

SALEM ANNEXED LANDS

CITY OF BARRIE

PROJECT 4074 **DECEMBER 2017**



BURNSIDE

SCHAEFFERS
CONSULTING ENGINEERS

Michalski Nielsen
ASSOCIATES LIMITED

Cunningham Environmental Associates

KLM
PLANNING PARTNERS INC.

4.5 Surface Water Conditions

The study area is located within two watersheds, the LSRCA watershed and the NVCA watershed. The study area may be further divided within three subwatersheds, Thornton Creek to the south, Bear Creek to the west and Lovers Creek to the east (Figure 4.3). The watershed divide traverses the study area from north to south with the Thornton Creek and Bear Creek subwatersheds being located within the NVCA jurisdiction and the Lovers Creek subwatershed within the LSRCA jurisdiction (Figure 4.3).

4.5.1 Lovers Creek

There are two watercourses mapped within the Lovers Creek subwatershed within the study area. The main watercourse (north channel) is assumed to be the main branch of the Lovers Creek and, as noted above, originates in the central upland portion of the study area that is mapped as a wetland (Figure 4.3). From here flow is eastward towards the provincially significant Lovers Creek Swamp. The watercourse is mapped through the wetland to exit the study area at Highway 400 (Figure 4.3). Our site reconnaissance through the area indicated no defined watercourse or flow in the valley near Sideroad 5 (Veterans Drive), Figure 4.3. The second headwater drainage feature in the Lovers Creek subwatershed originates in the south east corner of the study area and drains eastward to cross under Highway 400. Flow in this drainage feature is monitored at SSF 4 (Figure 4.3). The data obtained for this location shows that during the spring thaw, melt waters accumulate in the low area in front of the culvert, however, no flow has been measured at SSF 4 during the monitoring period (Table C-5-1, Appendix C-5). After the spring thaw, the water in this location dries out. It is concluded that this headwater drainage feature is an ephemeral watercourse with a runoff conveyance function.

4.5.2 Bear Creek

The main branch of Bear Creek within the study area originates south of Salem Road from an area mapped as wetland (Figure 4.3). The Bear Creek tributary flows northwest

out of the wetland to cross Salem Road at SSF 5 where flow measurements are recorded. The branch continues to flow northwest and crosses Essa Road at SSF 6 where flow measurements are also monitored. After SSF 6, flow is in a westerly direction before the branch leaves the study area (Figure 4.3). It is noted that the wetland area that drains to Bear Creek straddles the NVCA/LSRCA watershed boundary and also appears to drain east towards Lovers Creek (Figure 4.3).

A second (western) tributary of Bear Creek originates in the northwest corner of the study area south of Salem Road near SSF 8 (Figure 4.3). From here the tributary flows in a northerly direction and exits the study area at County Road 27 where surface flow station SSF 7 is located. Flows were measured in the east and west ditches before they meet at the culvert and are reported as SSF 5 East and SSF 5 West (Table C-5-1, Appendix C-5). SSF 5 (combined) in Table C-5-1 (Appendix C-5) is a sum of the two flows. Monitoring indicates that the watercourse is intermittent with flows occurring in the spring ranging from 0.4 L/s to 6.9 L/s at SSF 5 (combined).

SSF 6 is located downstream of SSF 5 along Bear Creek at a large concrete culvert under Essa Road (Figure 4.3). Monitoring at this location recorded flows that ranged from 8.8 L/s to 1.8 L/s in the spring (April, May and June 2015). These data suggest that there may be some seasonal contributions of groundwater to sustain baseflow in this watercourse, although the station was dry in September and October 2015 (Table C-5-1, Appendix C-5). It is concluded that this drainage feature is intermittent.

Surface water monitoring station SSF 7 is located at County Road 27 along a tributary of Bear Creek (Figure 4.3). This tributary is a narrow vegetated channel that flows through agricultural fields. The tributary is located in a valley with an 18 m change of elevation from the start of the channel south of Salem Road to the monitoring station SS 7 at County Road 27 (Figure 4.3). Flows were recorded during the spring months ranging from 0.3 L/s to 9.7 L/s and the channel was dry July to October 2015 (Table C-5-1, Appendix C-5). A flow rate of 1.3 L/s was recorded in November 2015 at this station three days after a rain event. The flow data suggest that there may be some seasonal

With regard to the SWM ponds (A, B, C and M) proposed outside of the Salem limits, it should be noted that the landowner (DG Group) for that development also owns the adjacent lands located immediately south of the Study Area limits. The DG Group is directly engaged in communications with the Town of Innisfil regarding the proposed solution. Addressing the legal and planning issues is a lengthy collaborative process for all involved parties. Therefore, it will be formalized beyond the preparation of the SIS report.

Table 6.7: Summary of Proposed SWM Ponds – Lovers Creek

Parameter	Stormwater Management Facility				
	F	M	U	V	W
Drainage Area (ha)	33.99	57.85	24.69	20.72	39.02
Impervious Area (%)	60	82	90	90	90
Permanent Storage (m^3)	5,495	11,859	5,391	4,524	8,519
Extended Detention Storage (m^3)	8,600	21,000	10,300	8,650	16,300
100 Year Storm Storage (Required) (m^3)	19,900	39,000	20,500	14,300	26,800
Peak Extended Detention Flow (m^3/s)	0.061	0.104	0.044	0.037	0.070
Governing Storm	SCS 24hr	SCS 24hr	SCS 24hr	SCS 24hr	SCS 24hr
100 Year Target Release Rate (m^3/s)	0.838	1.259	0.719	0.489	0.921
Required SWM Pond Area (ha)	1.92(1)	8.25(1)	1.48(2)	1.24(2)	2.34(2)

(1) Denotes area is based on preliminary design drawing
(2) Denotes area is based on 6% of catchment area

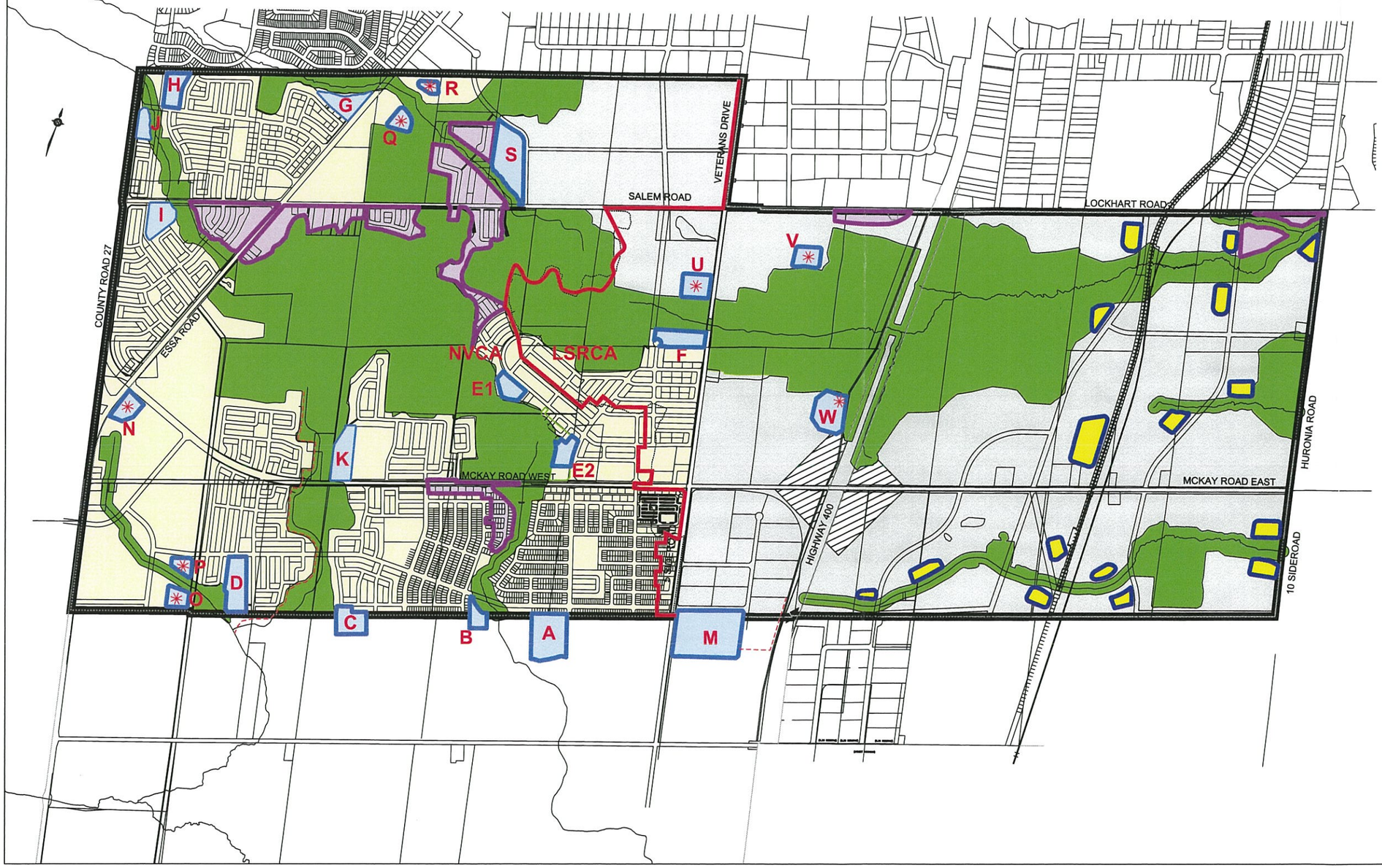
Table 6.8: Summary of Proposed SWM Ponds – Bear Creek

Parameter		Stormwater Management Facility					
	G	H	I	J	Q	R	S
Drainage Area (ha)	21.95	27.09	24.15	4.69	14.98	5.34	71.00
Impervious Area (%)	60	60	60	60	68	60	90
Permanent Storage (m^3)	3,549	4,380	3,904	758	2,701	863	15,502

Parameter		Stormwater Management Facility					
	G	H	I	J	Q	R	S
Extended Detention Storage (m^3)	5,800	6,660	6,200	1,200	4,750	1,410	29,600
100 Year Storm Storage (Required) (m^3)	12,000	11,300	14,800	2,300	9,100	2,600	60,000
Peak Extended Detention Flow (m^3/s)	0.040	0.049	0.043	0.008	0.027	0.010	0.128
Governing Storm	SCS 24hr	SCS 24hr	SCS 24hr	SCS 24hr	SCS 24hr	SCS 24hr	SCS 24hr
100 Year Target Release Rate (m^3/s)	1.017	1.188	0.437	0.357	0.776	0.403	1.984
Required SWM Block Area (ha)	1.54(1)	1.63(1)	1.62(1)	0.72(1)	0.90(2)	0.32(2)	3.12(1)

(1) Denotes area is based on preliminary design drawing
(2) Denotes area is based on 6% of catchment area

Phil Golfried



SALEM COMMUNITY DEVELOPMENT AREA
CITY OF BARRIE

LEGEND

- SECONDARY DEVELOPMENT PLAN BOUNDARY
- HIGHWAY / INTERCHANGE
- NATURAL HERITAGE SYSTEM
- RESIDENTIAL AREA (SUPPORTED BY SWM POND)
- INDUSTRIAL (SUPPORTED BY SWM POND)
- PROPOSD SWM FACILITY (PRELIMINARY DRAWINGS PROVIDED)
- POTENTIAL AREAS DRAINING TO LID
- CONCEPTUAL SWM FACILITY
- PROPOSED WATERSHED DIVIDE BOUNDARY BETWEEN NVCA & LSRCA
- CONCEPTUAL POND BLOCKS BASED ON 6% OF CATCHMENT AREA

NOTE:
SIZE AND LOCATION OF SWM PONDS TO BE CONFIRMED DURING DRAFT PLAN APPROVAL STAGE

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6 Ronrose Drive, Concord, Ontario L4K 4R3
Tel: (905) 738-6100 Email: general@schaeffers.com
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FIGURE 6.1
SWM POND & LID AREAS
SALEM SECONDARY PLAN - MASTER PLAN

2016-4074 | NOVEMBER 2017 | SCALE: N.T.S.

W:\4000s\4074 - Salem Secondary Plan\Drawings\SWM Ponds\2017-11-13-4074-SWM Pond Areas.dwg

The proposed catchment for Pond G is 21.96 ha in area and generally consists of a residential land use with a commercial block. Pond G has been sized to provide quality, quantity and erosion control.

Quantity control criteria was based on the pre-development target rates summarized in Table 6.8. Quality control is based on an Enhanced level of TSS removal (80%) as defined in the 2003 MOE Manual. The extended detention volume and release rate is based on Table 4.4.15 of the DSWMMP, which is considered conservative when compared to the MOE guidelines ($40m^3$/ha) and NVCA criteria (25 mm). It is proposed that the pond will discharge into Bear East via NHS lands. The outlet should be in general conformance with the standard detail provided in Appendix D-8. A summary of Pond G design features is provided in Table 6.8. Further details and preliminary drawings are provided in Appendix D.

6.8.9 SWM Pond H

SWM Pond H is located at the northwest corner of the subject property, adjacent the east side of Bear Creek West and south of existing residential dwellings. Pond H and its catchment area are located within the Bear Creek watershed and generally consistent with the DSWMMP. Figure 6.1 shows the location of Pond H.

The proposed catchment area is 27.10 ha in size and generally consists of a residential land use with a park block. Pond H has been sized to provide quantity control, quality control, and erosion control. Storage volumes are based on controlling post-development peak flows to pre-development levels. Quality control is based on the MOE SWMPD Manual for enhanced TSS removal. Erosion control is based on the extended detention volume and release rate requirements specified in Table 4.4.15 of the DSWMMP. Table 6.8 provides a summary of the storage requirements and additional details are provided in Appendix D, including preliminary design drawings.

The outlet for Pond H will discharge into Bear Creek West via NHS lands. The outfall should be in general conformity with standard detail provided in Appendix D.

GEOTECHNICAL INVESTIGATION

17-2099GE Revised October 31, 2019

CLIENT: Di Poce Management Limited

Re: Supplementary Geotechnical Comments
for Infiltration Bed Material of Proposed Pond
Proposed Residential Developments
County Road 27, Barrie, Ontario

Dear Sirs,

GeoPro Consulting Limited (GeoPro) was retained by Di Poce Management Limited (the Client) to conduct a geotechnical investigation for the proposed residential developments located on the east side of County Road 27, west of Essa Road and north of Salem Road, City of Barrie, Ontario. The purpose of this geotechnical investigation was to obtain information on the existing subsurface conditions by means of a limited number of boreholes and/or test pits, in-situ tests and laboratory tests of soil samples to provide required geotechnical design information. Based on GeoPro's interpretation of the data obtained, geotechnical comments and recommendations related to the project designs are provided.

This report is provided on the basis of the terms of reference presented in our approved proposal prepared based on our understanding of the project. This report has been prepared for the Client and Client's engineers. Third party use of this report without GeoPro's consent is prohibited. The limitations to the report presented in this report form an integral part of the report and they must be considered in conjunction with this report.

The field work for the geotechnical investigation was carried out on April 23 to 26, 30 and May 1, 2, 2018 during which time twenty-six (26) boreholes (Boreholes BH1 to BH26) were advanced at the site. The results of the geotechnical investigation were summarized in a report dated October 31, 2019.

GeoPro has been requested by the Client to comment on the infiltration bed material in the SWMP at the above referenced site. Based on the SWMP design information provided by the Client's engineer in the email dated at October 29, 2019, the infiltration bed is at Elevation 292.2 m. The designed water level for 12.5 mm and 25 mm daily rainfall is at Elevation 292.61 m and 293.10 m, respectively. The designed water level for 100 years storm event is at Elevation 294.5 m. Based on the geotechnical information in this area, the soils at the level of infiltration bed will generally consist of reworked soils and loose to compact sand and silt to silty sand.

Due to the gradation of the soils, the compact nature soils are unlikely to consolidate due to the minor varying seasonal water levels in the pond. However, the existing reworked soils and loose

native soils should be completely removed and replaced with engineered fill, that has the higher infiltration rate than the existing native soils.

We trust that this report provides sufficient geotechnical engineering information to meet the requirements of the terms of reference. If you have any questions regarding the contents of this report or require additional information, please do not hesitate to contact this office.

Yours Truly,

GeoPro Consulting Limited

Geotechnical - Hydrogeology - Environmental - Materials Testing – Inspection



Dylan Q. Xiao, M.A.Sc., P.Eng.
Geotechnical Group

David B. Liu, P.Eng., Principal

LIMITATIONS TO THE REPORT

This report is intended solely for the Client named. The report is prepared based on the work has been undertaken in accordance with normally accepted geotechnical engineering practices in Ontario.

The comments and recommendations given in this report are based on information determined at the limited number of the test hole and test pit locations. The boundaries between the various strata as shown on the borehole logs are based on non-continuous sampling and represent an inferred transition between the various strata and their lateral continuation rather than a precise plane of geological change. Subsurface and groundwater conditions between and beyond the test holes and test pits may differ significantly from those encountered at the test hole and test pit locations. The benchmark and elevations used in this report are primarily to establish relative elevation differences between the test hole and test pit locations and should not be used for other purposes, such as grading, excavating, planning, development, etc.

The report reflects our best judgment based on the information available to GeoPro Consulting Limited at the time of preparation. Unless otherwise agreed in writing by GeoPro Consulting Limited, it shall not be used to express or imply warranty as to any other purposes. No portion of this report shall be used as a separate entity, it is written to be read in its entirety. The information contained herein in no way reflects on the environment aspects of the project, unless otherwise stated. If there are any changes in the design features relevant to the geotechnical analyses, or if any questions arise concerning the geotechnical aspects of the codes and standards, this office should be contacted to review the design. It may then be necessary to carry out additional borings and reporting before the recommendations of this report can be relied upon. The design recommendations given in this report are applicable only to the project designed and constructed completely in accordance with the details stated in this report. Otherwise, our responsibility is limited to interpreting the subsurface information at the borehole or test pit locations.

The report is prepared with the condition that the design will be in accordance with all applicable standards and codes, regulations of authorities having jurisdiction, and good engineering practice. Further, the recommendations and opinions in this report are applicable only to the proposed project as described above. On-going liaison and communication with GeoPro during the design stage and construction phases of the project is strongly recommended to confirm that the recommendations in this report are applicable and/or correctly interpreted and implemented. Also, any queries concerning the geotechnical aspects of the proposed project shall be directed to GeoPro for further elaboration and/or clarification.

The site investigation and recommendations follow generally accepted practice for geotechnical and geo-environmental consultants in Ontario. Laboratory testing for most part follows ASTM or CSA Standards or modifications of these standards that have become standard practice in Ontario.

Should any comments and recommendations provided in this report be made on any construction related issues, they are intended only for the guidance of the designers. The number of test holes and test pits may not be sufficient to determine all the factors that may affect construction activities, methods and costs. Such as, the thickness of surficial topsoil or fill layers may vary significantly and unpredictably; the amount of the cobbles and boulders may vary significantly than what described in the report; unexpected water bearing zones/layers with various thickness and extent may be encountered in the fill and native soils. The contractors bidding on this project or undertaking the construction should, therefore, make their own interpretation of the factual information presented and make their own conclusions as to how the subsurface conditions may affect their work and determine the proper construction methods.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. GeoPro Consulting Limited accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

We accept no responsibility for any decisions made or actions taken as a result of this report unless we are specifically advised of and participate in such action, in which case our responsibility will be as agreed to at that time.

GeoPro Consulting Limited

Geotechnical-Hydrogeology-Environmental-Materials-Inspection

Geotechnical Investigation

Proposed Residential Developments

County Road 27, Barrie, Ontario

Prepared For:

Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI



GeoPro Project No.: 17-2099GE

Report Date: January 11, 2019

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Limitations to the Report

1. INTRODUCTION

GeoPro Consulting Limited (GeoPro) was retained by Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI (the Client) to conduct a geotechnical investigation for the proposed residential developments located on the east side of County Road 27, west of Essa Road and north of Salem Road, City of Barrie, Ontario.

The purpose of this geotechnical investigation was to obtain information on the existing subsurface conditions by means of a limited number of boreholes, test pits, in-situ tests and laboratory tests of soil samples to provide required geotechnical design information. Based on GeoPro's interpretation of the data obtained, geotechnical comments and recommendations related to the project designs are provided.

The report is prepared with the condition that the design will be in accordance with all applicable standards and codes, regulations of authorities having jurisdiction, and good engineering practice. Further, the recommendations and opinions in this report are applicable only to the proposed project as described above. On-going liaison and communication with GeoPro during the design stage and construction phase of the project is strongly recommended to confirm that the recommendations in this report are applicable and/or correctly interpreted and implemented. Also, any queries concerning the geotechnical aspects of the proposed project shall be directed to GeoPro for further elaboration and/or clarification.

This report is provided on the basis of the terms of reference presented in our approved proposal prepared based on our understanding of the project. If there are any changes in the design features relevant to the geotechnical analyses, or if any questions arise concerning the geotechnical aspects of the codes and standards, this office should be contacted to review the design. It may then be necessary to carry out additional borings and reporting before the recommendations of this report can be relied upon.

This report deals with geotechnical issues only. The geo-environmental (chemical) aspects of the subsurface conditions, including the consequences of possible surface and/or subsurface contamination resulting from previous activities or uses of the site and/or resulting from the introduction onto the site of materials from off-site sources were not investigated and were beyond the scope of this assignment. However, limited chemical testing was carried out on selected soil samples for excess soil disposal purposes.

The site investigation and recommendations follow generally accepted practice for geotechnical consultants in Ontario. Laboratory testing follows ASTM or CSA Standards or modifications of these standards that have become standard practice in Ontario.

This report has been prepared for the Client only. Third party use of this report without GeoPro's consent is prohibited. The limitations to the report presented in this report form an integral part of the report and they must be considered in conjunction with this report.

2. FIELD AND LABORATORY WORK

The field work for the geotechnical investigation was carried out on April 23 to 26, 30 and May 1, 2, 2018, during which time twenty-six (26) boreholes (Boreholes BH1 to BH26) were advanced at the location shown on the Borehole and Monitoring Well Location Plan, Drawing 1. The boreholes were drilled to depths from about 3.7 m and 15.3 m below the existing ground surface.

The requested borehole locations were provided by the Client. The boreholes were located and staked in the field by GeoPro according to the requested borehole location plan provided by the Client; the borehole locations in the field were adjusted according to the drill rig accessibility and the underground utility conditions. The field work for this investigation was monitored by a member of our engineering staff who logged the boreholes and cared for the recovered samples.

The boreholes were advanced using continuous flight auger and continuous split spoon equipment supplied by a drilling specialist subcontracted to GeoPro. Samples were retrieved with a 51 mm (2 inches) O.D. split-barrel (split spoon) sampler driven with a hammer weighing 624 N and dropping 760 mm (30 inches) in accordance with the Standard Penetration Test (SPT) method.

The groundwater conditions were noted in the open boreholes during drilling and immediately upon completion of drilling. Boreholes BH2 to BH6, BH8 to BH13, BH16, BH19, BH20, BH22, BH24 and BH26 were backfilled and sealed upon completion of drilling. Monitoring well (51 mm or 38 mm in diameter) was installed in each of Boreholes BH1, BH7, BH14, BH15, BH17, BH18, BH21, BH23 and BH25 to monitor long-term groundwater conditions.

All soil samples obtained during this investigation were brought to our laboratory for further examination. These soil samples will be stored for a period of three (3) months after the day of issuing draft report, after which time they will be discarded unless we are advised otherwise in writing. Geotechnical classification testing (including water content, grain size distribution and Atterberg Limits, when applicable) were carried out on selected soil samples. The results of grain size analyses of the selected soil samples are shown in Figures 1 to 5.

The approximate elevations at the as-drilled borehole locations were surveyed using a DGPS unit. The elevations at the as-drilled borehole locations were not provided by a professional surveyor and should be considered to be approximate. Contractors performing the work should confirm the elevations prior to construction. The borehole locations plotted on Borehole Location Plan Drawing 1 were based on the measurements of the site features and should be considered to be approximate.

3. SUBSURFACE CONDITIONS

Notes on sample descriptions are presented in Enclosure 1A. An explanation of terms used in the borehole logs is presented in Enclosure 1B. The subsurface conditions in all boreholes are presented on the borehole logs (Enclosure 2 to 27 inclusive). The following are the detailed descriptions of the major soil strata encountered in the boreholes.

3.1 Soil Conditions

Existing Paved Shoulder Asphalt and Granular Base/Subbase

Borehole BH16 was advanced through the existing shoulder of County Road 27. The paved shoulder asphalt thickness encountered in the borehole was about 60 mm, the pavement asphalt thickness may vary; the thicknesses of granular base/subbase materials was about 780 mm.

Topsoil

Topsoil with thicknesses ranging from 170 mm to 360 mm was encountered surficially in all boreholes with the exception of Borehole BH16.

It should be noted that the thickness of the topsoil explored at the borehole locations may not be representative for the site and should not be relied on to calculate the amount of topsoil at the site.

Fill Materials

Fill materials consisting of organic sandy silt to organic silt, sandy silt, sand and silt, silty sand and gravelly sand were encountered in Boreholes BH4 and BH16 below the topsoil or granular base/subbase, and extended to the depths ranging from about 0.6 m to 2.1 m below the existing ground surface. SPT N values ranging from 6 to 16 blows per 300 mm penetration indicated a loose to compact compactness. The in-situ moisture contents measured in the soil samples ranged from approximately 4% to 23%.

Reworked Sandy Silt, (Fine) Sand and Silt and Silty (Fine) Sand

Reworked (fine) sand and silt, sandy silt and silty (fine) sand were encountered below the topsoil in Boreholes BH1 to BH3, BH5 to BH15, BH17 to BH21, BH23 and BH24, and extended to depths ranging from about 0.6 m to 1.2 m below the existing ground surface. SPT N values ranging from 1 to 17 blows per 300 mm penetration indicated a very loose to compact compactness. The in-situ moisture contents measured in the soil samples ranged from approximately 10% to 34%.

Clayey Silt and Silty Clay

Clayey silt and silty clay deposits were encountered below the reworked soils, native sandy silt and silty sand deposits in Boreholes BH6, BH7, BH17, BH19 and BH24, and extended to depths ranging from about 0.9 m to 5.6 m below the existing ground surface. SPT N values ranging from 2 to 49 blows per 300 mm penetration indicated a very soft to hard consistency. The natural moisture content measured in the soil sample was approximately 13% to 37%.

Sand and Silt Till and Silty Sand Till

Sand and silt till and silty sand till deposits were encountered below the fine sand or within sandy silt to sand and silt deposits in Boreholes BH19 and BH26, and extended to the depths ranging from about 2.9 m to 6.6 m below the existing ground surface. Borehole BH26 was terminated in these deposits. SPT N values ranging from 17 to 57 blows per 300 mm penetration indicated a compact to very dense compactness. The natural moisture content measured in the soil samples was approximately 9%.

Sandy Silt, (Fine) Sand and Silt, Silty (Fine) Sand, (Fine) Sand, Gravelly Sand and Sand and Gravel

Sandy silt, (fine) sand and silt, silty (fine) sand, (fine) sand, gravelly sand and sand and gravel deposits were encountered below the topsoil, fill materials, reworked soils, clayey silt and silty clay deposits in all boreholes, and extended to the depths ranging from about 3.7 m to 15.3 m below the existing ground surface. Boreholes BH1 to BH25 were terminated in these deposits. SPT N values ranging from 2 to greater than 100 blows per 300 mm penetration indicated a very loose to very dense compactness. The natural moisture contents measured in the soil samples ranged from approximately 2% to 25%.

3.2 Groundwater Conditions

Groundwater condition observations were made in the boreholes during and upon completion of drilling. The groundwater condition observations are summarized in the following table:

BH No.	Depth of Drilling (mBGS)	Depth of Water encountered during Drilling (mBGS)	Water Level upon Completion of Drilling (mBGS)	Cave in Depth upon Completion of Drilling (mBGS)
BH1	6.2	4.6	N/A	3.0
BH2	6.3	N/A	dry	open
BH3	6.2	N/A	dry	open
BH4	7.7	N/A	N/A	4.1

BH5	6.4	N/A	dry	open
BH6	7.7	N/A	dry	open
BH7	15.3	N/A	N/A	N/A
BH8	7.9	N/A	dry	7.3
BH9	6.2	N/A	N/A	5.0
BH10	6.4	N/A	dry	5.9
BH11	6.4	N/A	N/A	5.2
BH12	7.8	N/A	N/A	6.3
BH13	6.2	N/A	N/A	5.4
BH14	6.3	2.3	3.7	4.0
BH15	6.4	2.1	N/A	5.5
BH16	6.6	4.6	5.5	6.0
BH17	3.7	0.8	0.2	N/A
BH18	5.9	2.3	3.5	5.3
BH19	6.4	N/A	N/A	5.3
BH20	6.3	N/A	N/A	5.6
BH21	9.3	N/A	N/A	7.9
BH22	6.2	0.3	N/A	0.6
BH23	6.2	3.1	3.7	5.9
BH24	6.5	4.6	5.2	5.8
BH25	6.6	0.3	N/A	N/A
BH26	6.6	0.6	0.7	0.7

Note: mBGS = meter below ground surface

Monitoring well construction details and the measured groundwater levels are shown in the borehole logs and also summarized in the following table.

Monitoring Well ID	Screen Interval (mBGS)	Water Level
		May 11, 2018
BH1	4.6 ~ 6.1	3.23
BH7	13.7 ~ 15.2	14.83
BH14	4.6 ~ 6.1	5.94
BH15	4.6 ~ 6.1	1.51
BH17	2.2 ~ 3.7	0.23
BH18	3.8 ~ 5.3	1.20
BH21	7.4 ~ 8.9	dry
BH23	4.6 ~ 6.1	2.20
BH25	4.6 ~ 6.1	0.48

Note: mBGS = meter below ground surface

It should be noted that the groundwater levels can vary and are subject to seasonal fluctuations in response to weather conditions.

4. DISCUSSION AND RECOMMENDATION

This report contains the findings of GeoPro's geotechnical investigation, together with the geotechnical engineering recommendations and comments. These recommendations and comments are based on factual information and are intended only for use by the design engineers. The number of boreholes and monitoring wells may not be sufficient to determine all the factors that may affect construction methods and costs. Subsurface conditions between and beyond the boreholes may differ from those encountered at the borehole locations, and conditions may become apparent during construction, which could not be detected or anticipated at the time of the site investigation. The anticipated construction conditions are also discussed, but only to the extent that they may influence design decisions. Construction methods discussed, however, express GeoPro's opinion only and are not intended to direct the contractors on how to carry out the construction. Contractors should also be aware that the data and their interpretation presented in this report may not be sufficient to assess all the factors that may have an effect on the construction.

The design drawings of the project are not available at the time of preparing this report. Once the design drawings and detail site plan are available, this report should be reviewed by GeoPro and further recommendations be provided as appropriate.

4.1 Subgrade Preparation and Engineered Fill

Proposed site grading plans are not available at this time. However, it is anticipated that cut and fill operations would be required to establish appropriate subgrade levels throughout the site. In

the areas where earth fill is required for site grading purposes, engineered fill may be utilized to support house foundations, roads, utilities, etc.

For the preparation of subgrade prior to the placement of the engineered fill, all topsoil, reworked soils and existing fill materials (up to depths ranging from about 0.6 m to 2.1 m below existing ground surface) and surficially softened native soils must be removed and the exposed subgrade proof rolled. Any soft spots revealed during proof rolling must be sub-excavated and re-engineered, and the excavation base must be inspected and approved by GeoPro prior to the placement of backfill. The extent and thickness of the existing fill materials must be inspected at the time of construction to make sure that all fill materials are removed prior to the placement of the engineered fill. Materials for the use of engineered fill must be approved by GeoPro prior to placement.

Based on the measured water contents, the majority of the reworked soils and glacial tills have water contents generally near their estimated laboratory optimum water contents for compaction. However, some of the cohesionless silty/sandy/gravelly deposits above groundwater levels are generally drier than their estimated laboratory optimum water contents for compaction. In consideration of the poorly graded and fine textured nature of these materials, some difficulties should be anticipated in using these soils for compaction. These materials will likely require some adjustments in their water content (wetting) prior to placement and compaction. On the other hand, the cohesionless silty/sandy/gravelly soils and cohesive clayey soils below the prevailing groundwater tables are expected to be generally wet of their optimum water contents for compaction and these soils will likely require some drying prior to placement.

It should be noted that due to the fine-grained nature of the soils encountered at the site, their workability is sensitive to moisture conditions and some difficulty would be expected in achieving adequate compaction. In this regard, imported materials may have to be used for engineered fill. The materials used for engineered fill must be approved by GeoPro at the source(s), prior to hauling to the site. The engineered fill consisting of approved inorganic material should be placed in maximum 300 mm loose lifts and uniformly compacted to 98% Standard Proctor Maximum Dry Density (SPMDD) throughout.

General guidelines for the preparation of the subgrade and the placement of engineered fill are presented in Appendix A. The recommended procedures for the placement of engineered fill is outlined below:

1. Prior to the site work involving engineered fill, a kick-off site meeting to discuss all aspects of the engineered fill placement must be carried out with all parties. The surveyor, contractor, design engineer and geotechnical engineer must attend the kick-off meeting. At the meeting, the construction schedule and the detailed design information in regard to the engineered fills, such as the boundary, the thickness will be determined. The contractor must provide with the construction schedule

including the source site(s) of the fill materials, which will have to be reviewed by the geotechnical engineer. The geotechnical engineer will arrange for the soil sampling at the source site(s) and carry out related laboratory testing. No soils can be hauled to the site prior to the approval by the geotechnical engineer.

2. Detailed design drawings such as grading drawings indicating the underside elevations of the engineered fill as well as the finished elevations of the engineered fill must be made available at the site meeting and be approved by the geotechnical engineer.

3. The building footprint and base of the pad, including basements, garages, etc. must be defined by offset stakes that remain in place until the footings and service connections are all constructed. Confirmation that the footings are within the pad, service lines are in place, and that the grade conforms to drawings, must be obtained by the owner in writing from the surveyor and GeoPro. Without this confirmation in writing, no responsibility for the performance of the structure can be accepted by GeoPro. Survey drawings of the pre and post fill location and elevations will also be required.

4. The subgrade area must be stripped of all topsoil, existing fill materials and reworked soils. Subgrade must be proof-rolled by a qualified engineering staff from GeoPro. Any soft/loose spots revealed by proofroll must be subexcavated and be replaced with engineered fill. The stripped native subgrade must be examined and approved by a GeoPro engineer prior to placement of engineered fill.

5. The approved engineered fill must be compacted to 98% Standard Proctor Maximum Dry Density throughout. Granular fill materials consisting well graded cohesionless sand and gravel are preferred. Engineered fill should not be placed (where it will support footings) during the winter months. Engineered fill compacted to 98% SPMDD will settle under its own weight approximately 0.25% to 0.75% of the fill height and the structural engineer must be aware of this settlement. In addition to the settlement of the fill, additional settlement due to consolidation of the underlying soils from the structural and fill loads will occur.

6. Full-time geotechnical inspection and compaction testing by GeoPro during placement of engineered fill must be required. The placement of the engineered fill must not commence or continue without the presence of the GeoPro's representative.

7. Excavations must be carried out in accordance with the Occupational Health and Safety Regulations of Ontario.

8. Surface water cannot be allowed to pond in any area of the engineered fill footprint.

9. Clear stone backfill must not be used in any portion of the engineered fill unless it is approved by GeoPro in writing.

10. Upon completion of engineered fill, the surface of the pad must be protected from disturbance from traffic, rain and frost.

11. Should the construction of the structures on the engineered fill be not carried out for a period of time, the finished engineered fill pad must be inspected and accepted by GeoPro. The location of the structure must be reconfirmed that it remains within the pad.

Engineered fill compacted to 98% of SPMDD will settle under its own weight approximately 0.25% to 0.75% of the fill thickness. The designer and the structural engineer must be aware of this settlement. For example, where the engineered fill is 5 m in thickness, the settlement of fill under its own weight is expected to be in the range of 25 mm on a non-yielding subgrade. The settlement of the engineered fill will occur with time. For engineered fill consisting of sandy silt to silty sand material, about 75% of the settlement is expected to occur within 3 months after the placement of the engineered fill; for engineered fill consisting of clayey silt to silty clay material, about 75% of the settlement is expected to occur within 3 to 6 months or longer after the placement of the engineered fill.

Engineered fill which consists of Granular B material (sand and gravel) will undergo less self-weight settlement (say about 0.25% to 0.5% of the fill thickness). In addition, the settlement of engineered Granular B fill will be completed in a shorter period of time. For engineered fill consisting of Granular B material compacted to 98% of SPMDD, a major portion (75% or higher) of the settlement due to the self-weight is expected to be completed during the construction stage before the placement of the structures.

4.2 Foundation Conditions

Footings founded on approved engineered fill, the geotechnical bearing resistance may be taken as 100 kPa at Serviceability Limit States (SLS), and a factored bearing resistance of 150 kPa at Ultimate Limit States (ULS), provided that all requirements on Appendix A are adhered to. To reduce the risk of improperly placed engineered compacted fill, full-time supervision of the construction must be considered.

The native subsoils at the site are considered to be suitable for supporting conventional shallow foundations for light residential houses with basements. A geotechnical bearing resistance of 100 kPa at Serviceability Limit States (SLS), and a factored geotechnical bearing resistance of 150 kPa at Ultimate Limit States (ULS), may be assumed for conventional shallow spread and/or strip

footings bearing in the native, undisturbed, competent subsoils below the existing fill materials or reworked soils.

Variations in the soil conditions are expected between and beyond the borehole locations, and during construction, the actual subgrade and its bearing capacity should be carefully inspected and evaluated by the geotechnical engineer from GeoPro.

In general, for any houses placed wholly or in part on engineered fill, it is recommended that the foundations be provided with nominal reinforcement using steel rebar. Once the final thicknesses and extent of engineered fill are known, the need for and design of any reinforcement can be determined on a lot-by-lot basis by the builder's structural engineer, in consultation with the geotechnical engineer.

All foundation excavations at the site should be carried out in accordance with the Occupational Health and Safety Act and Regulations for Construction Projects. The founding materials are susceptible to disturbance by construction activity especially during wet weather and care should be taken to preserve the integrity of the materials as bearing strata. Prior to pouring concrete for the footings, the foundation excavations **must** be inspected by GeoPro to confirm that the footings are founded on an undisturbed and competent bearing stratum that has been cleaned of ponded water and all disturbed, softened, loosened, organic and other deleterious material.

All footings exposed to seasonal freezing and thawing must be provided with a minimum earth cover of 1.6 meters or equivalent insulation to satisfy frost protection requirements.

Settlements induced by the recommended SLS bearing pressures will be less than 25 mm total and 19 mm differential and within the tolerable limits of construction.

Where it is necessary to place foundations at different levels, the upper foundation must be founded below an imaginary 10 horizontal to 7 vertical line drawn up from the base of the lower foundation. The lower footing must be installed first to help minimize the risk of undermining the upper footing.

It is suggested that finalized basement floor elevations should be set at least 1.0 m above the local water table. Underfloor drains and upgraded level of water-proofing would be necessary in areas of the site if basements are proposed to be located below the local groundwater table and in potentially water bearing soils. Under-floor-slab drainage may be required for basements under such conditions and these conditions should be identified in the field by GeoPro on a lot-by-lot basis. The drainage tiles consisting of 100 mm diameter perforated pipes with filter fabric, should discharge into a positive frost-free outlet, as shown on Drainage and Backfill Recommendations, Drawing 2. Exterior basement walls should be damp-proofed above the water table and water-proofed below the water table. The backfill against the footing and foundation walls should consist of free-draining, non-frost-susceptible granular or equivalent. The majority of the on-site

materials have adfreezing potential; if these soils are used to backfill against the perimeter foundation walls, a polyethylene slip-membrane should be placed below ground surface on the perimeter foundations walls. Vertical drains should be installed at the window wells and connected to the perimeter drains to reduce basement dampness. GeoPro recommends that 'dimple board' be used on all below ground surfaces.

4.3 Earth Pressures on Basement Walls

The lateral earth pressures acting on basement walls may be calculated from the following expression:

$$p = K(\gamma h + q)$$

where p = Lateral earth pressure in kPa acting at depth h

K = Earth pressure coefficient equal to 0.40 for vertical walls and horizontal backfill used for permanent construction. Water pressure must be considered, if continuous wall drains are not used.

γ = Unit weight of backfill, a value of 21 kN/m^3 may be assumed

h = Depth to point of interest in meters

q = Equivalent value of surcharge on the ground surface in kPa

The above expression assumes that the perimeter drainage system prevents the buildup of any hydrostatic pressure behind the walls.

4.4 Roads

Based on the subsurface conditions encountered at the site and the assumed traffic usage for residential local streets, the following pavement designs are recommended for the subdivision streets:

Material		**Thickness of Pavement (mm)**	
		Local	**Collector**
Hot-Mix Asphalt (OPSS 1150)	HL 3 Top Course	40	40
	HL4 or HL 8 Bottom Course	70	100 (2 lifts)
	Granular A Base	150	150

Granular Material (OPSS.MUNI 1010)	Granular B Type I Subbase	450	540
		Prepared and Approved Subgrade	

The recommended pavement structures should be considered for preliminary design purposes only. A functional design life of ten years has been used to establish the pavement recommendations. This represents the number of years to the first rehabilitation, assuming regular maintenance is carried out. If required, a more refined pavement structure design can be performed based on specific traffic data and design life requirements and will involve specific laboratory tests to determine frost susceptibility and strength characteristics of the subgrade soils, as well as specific traffic data input from the Client.

Subject to the subgrade conditions (i.e. backfill materials wet of optimum water contents being placed) and weather conditions (i.e. during wet weather), the placement of thicker granular base/sub-base layer in order to facilitate the construction may be required. The need for filter fabric/geo-grid can be evaluated during construction. Furthermore, heavy construction equipment/vehicles may cause the disturbance to the subgrade and granular base/subbase before the placement of asphalt, especially during wet weather, which should be considered during construction.

It should be noted that in some cases, even though the compaction requirements have been met, the subgrade strength in the trench backfill areas may not be adequate to support heavy construction loading, especially during wet weather or where backfill materials wet of optimum water contents have been placed. In any event, the subgrade should be proofrolled and inspected by qualified the geotechnical engineer prior to placing the Granular B subbase and additional granular material placed, as required, consistent with the prevailing weather conditions and anticipated use by construction traffic.

4.4.1 Stripping, Sub-excavation and Grading

The site should be stripped of all topsoil, and any organic or other unsuitable soils to the full depth of the pavement areas.

Following stripping, the site should be graded to the subgrade level and approved. The subgrade should then be proof-rolled by a heavily loaded truck, in the presence of the geotechnical engineer from GeoPro. Any soft spots exposed during the proofroll should be completely removed and replaced by select fill material, similar to the existing subgrade soil and approved by the geotechnical engineer. The subgrade should then be re-compacted from the surface to at least 98% of its Standard Proctor Maximum Dry Density (SPMDD). If the moisture content of the local material cannot be maintained at ±2% of the optimum moisture content, imported select material may need to be used.

The final subgrade should be cambered or shaped properly to facilitate rapid drainage and to prevent the formation of local depressions in which water could accumulate. Proper cambering which allows the water to escape towards the sides (where it can be removed by means of subdrains or ditches) should be considered for the project. Otherwise, any water trapped in the granular base and subbase materials may cause problems due to softened subgrade, and differential frost heave, etc.

Any fill materials required for re-grading the site or backfill should be free of topsoil, organic or any other unsuitable matter and must be approved by the geotechnical engineer from GeoPro. The approved fill materials should be placed in thin layers not exceeding 300 mm (uncompacted loose lift thickness) and compacted to at least 95 percent of its SPMDD. The compaction should be increased to 98 percent of the SPMDD within 1.0 m below the subgrade, or as per local municipal standards. The compaction of the new fill should be checked by frequent field density tests by GeoPro, which should satisfy the engineers and/or local municipal standards.

4.4.2 Construction

Once the subgrade has been inspected, proofrolled and approved by the geotechnical engineer from GeoPro, the granular base and subbase course materials should be placed in layers not exceeding 300 mm (uncompacted loose lift thickness) and should be compacted to at least 98% of their respective SPMDD. The construction and grading of the granular material should conform to current OPS Specifications.

The placing, spreading and rolling of the asphalt should be in accordance with OPS Specifications or, as required by the local authorities.

Frequent field density tests should be carried out by the geotechnical engineer from GeoPro on both the asphalt and granular base and sub-base materials to ensure that the required degree of compaction is achieved.

The most severe loading conditions on light-duty pavement areas and the subgrade may occur during construction. Consequently, special provisions such as restricted access lanes, half-loads during paving, etc., may be required, especially if construction is carried out during unfavorable weather.

4.4.3 Drainage

Should ditch drainage be considered, the bottom of the ditch should be at least 0.5 m lower than the underside elevation of the granular subbase. The ditch should be provided with sufficient gradient to promote the drainage.

Alternatively, installation of full-length subdrains along all roads or parking areas, should be required. The subdrains should be properly filtered to prevent the loss of (and clogging by) soil fines.

The sub-drains system should consist of 100 mm or 150 mm diameter geotextile wrapped perforated pipe, placed inside a 300 mm X 300 mm trench and surrounded on all sides by 20 mm clear stone (minimum 50 mm at the bottom side) and wrapped in filter cloth (Terrafix 270R or the equivalent approved by the engineers). The filter cloth wrap should have a minimum overlap of at least 150 mm. The pipes should be placed such that the top of the sand filter is at subgrade level and connected to catchbasins or some other permanently frost free outlet to provide positive drainage. In addition, the subgrade should be graded at a slope of minimum 3% downwards towards the subdrains to promote the drainage.

All paved surfaces should be sloped to provide satisfactory drainage towards catchbasins. The finished pavement surface and underlying subgrade should be free of depressions and should be crowned and sloped (at a crossfall of minimum 2% for the paver surface and minimum 3% for the subgrade subject to the design engineers or local design standards) to provide effective drainage. As discussed above, by means of good planning any water trapped in the granular base materials should be drained rapidly towards subdrains or other interceptors.

4.5 Site Servicing

The invert depths of the proposed site services are not available at the time of preparing the report. We have assumed that the majority of the sewer and watermain installations will require excavations between about 2 m and 4 m below the existing ground surface. The native soils and properly constructed engineered fills are considered to be suitable for supporting the pipes, provided the integrity of the base of the trench can be maintained during construction. The suitability of the existing fill materials to support the pipes, if encountered at the base of the trenches, should be further assessed during construction. This assessment will require inspection during construction by qualified geotechnical personnel from GeoPro to determine the suitability of the fill materials for supporting the pipes. It should be noted that some difficulties may be encountered in excavating the very dense/hard silty/sandy/gravelly soils and glacial tills at some locations. In addition, these native deposits and tills are inferred containing cobbles and boulders, as previously noted. Once the actual service invert depths are finalized, the following comments and recommendations should be reviewed and revised as necessary.

4.5.1 Trenching Excavation

Based on the results of this investigation, excavations (assumed up to 4 m below existing ground surface) for the site servicing will be subexcavated through fill materials, reworked soils, gravelly/sandy/silty/clayey deposits, glacial tills and/or potential engineered fill. The site servicing

pipes is anticipated to be generally be above, below or at the measured groundwater table at borehole locations.

Groundwater control during excavation within the glacial tills and stiff to hard clayey deposits can be handled, as required, by pumping from properly constructed and filtered sumps located within the excavations. Perched groundwater may be expected in the fill materials, reworked soils and native cohesionless silty/sandy/gravelly soils above the groundwater tables at various depths. Groundwater control during excavation within the fill materials, reworked soils and native silty/ sandy/gravelly soils above the groundwater tables at the site can be handled, as required, by pumping from properly constructed and filtered sumps located within the excavations. However, more significant groundwater seepage may be expected from any wet cohesionless silty/sandy/gravelly deposits or very soft to firm clayey deposits encountered at the site and wet cohesionless silty/sandy layers/zones within the tills below the prevailing groundwater tables at the time of construction. Depending upon the actual thickness and extent of the silty/sandy/gravelly deposits/layers and the finalized design pipe invert depths, some form of positive (pro-active) groundwater control or depressurization might be required to maintain the stability of the base and side slopes of the trench excavations, in addition to pumping from sumps. The groundwater level should be lowered to at least 1 m below the excavation base prior to excavating for the site services.

It should be noted that any construction dewatering or water taking in Ontario is governed by Ontario Regulation 387/04 - Water Taking and Transfer, made under the Ontario Water Resources Act (OWRA), and/or Ontario Regulation 63/16 – Registrations under Part II.2 of the Act – Water Taking, made under Environmental Protection Act. Based on these regulations, water taking of more than 400,000 L/day is subject to a Permit to Take Water (PTTW), while water taking of 50,000 L/day to 400,000 L/day is to be registered through the Environmental Activity and Sector Registry (EASR).

In this regard, it may be prudent to carry out a "public digging" (i.e. test pitting) during the tender stage, to allow prospective bidders to assess the subsurface conditions and determine the type of groundwater control required, consistent with their equipment capabilities and the actual groundwater conditions at that time. The locations of the test pits should be determined in consultation with the geotechnical engineer.

It is anticipated that the trench excavations will consist of conventional temporary open cuts with side slopes not steeper than 1H:1V. However, depending upon the construction procedures adopted by the contractor, groundwater seepage conditions and weather conditions at the time of construction, some local flattening of the slopes may be required, especially in looser/softer zones (i.e. in fills or wet silty/sandy/gravelly deposits) or where localized seepage is encountered. Care should be taken to direct surface runoff away from the open excavations and all excavations should be carried out in accordance with the Occupational Health and Safety Act and Regulations

for Construction Projects. According to OHSA, the glacial till deposits and stiff to hard clayey soils would be classified as Type 2 soils above the groundwater table and Type 3 soils below groundwater table; the fill materials, reworked soils, soft to firm clayey soils and native silty/sandy/gravelly soils would be classified as Type 3 soils above groundwater table and Type 4 soils below groundwater table and unless supported by shoring or other approved retaining method, the excavations will require minimum side slopes of 3H:1V. In addition, care must be taken during excavation to ensure that adequate support is provided for any existing structures and underground services located adjacent to the excavations.

Where the excavation side slopes must be steepened to limit the extent of the excavation, some form of temporary trench support, such as a trench box system, will be required. Where cohesionless silty/sandy/gravelly soils are present in close proximity to the proposed excavation above the invert elevations, some loss of ground should be expected for the sections of nearly vertical excavation where a trench box is used. It is anticipated that the unsupported cohesionless soils on the trench sides will relax, filling the void between the trench walls and trench box. This may lead to loss of ground. In order to minimize this effect, the gap between the trench walls and trench box should be minimized during the excavation and trench box installation. It must be emphasized that a trench liner box provides protection for construction personnel but does not provide any lateral support for the adjacent excavation walls, underground services or existing structures. In addition, steepened excavations should be left open for as short a duration as possible and completely backfilled at the end of each working day.

The excavated material should be placed well back from the edge of the excavation and stockpiling of materials adjacent to the excavation should be prohibited, to minimize surcharge loading near the excavation crest.

4.5.2 Pipe Support and Bedding

The bedding for the service pipes should be compatible with the type and class of pipe, the surrounding subsoil and anticipated loading conditions and should be designed in accordance with the standards of the local municipality or Ontario Provincial Standard Specifications (OPSS). Where granular bedding is deemed to be acceptable, it should consist of at least 150 mm of OPSS Granular A or 19 mm crusher run limestone material. The thickness of the bedding may, however, have to be increased (i.e. 300 mm to 450 mm) depending on the pipe diameter or in accordance with local standards or if wet or weak subgrade conditions are encountered, especially when the soils at the trench base level consists of wet sandy/silty deposits. From springline to 300 mm above obvert of the pipe, sand cover could be used. All bedding and cover material should be placed in 150 mm loose lifts and uniformly compacted to at least 98 percent of the material's Standard Proctor Maximum Dry Density (SPMDD).

To avoid the loss of soil fines from the subgrade, clear stone bedding material should not be used in any case for pipe bedding or to stabilize the bases.

4.5.3 Backfilling of Trenches

Based on visual and tactile examination and the measured water contents of the soil samples, the majority of the on-site existing fill materials, reworked soils and native soils above the prevailing groundwater tables and glacial till deposits will generally be at or near their estimated optimum water contents for compaction. However, the existing fill materials, reworked soils and native cohesionless soils below the prevailing groundwater tables may be wetter than their estimated optimum water contents for compaction, which should require some aeration prior to reuse as backfill materials.

The excavated materials at suitable water contents may be reused as trench backfill provided they are free of significant amounts of topsoil, organics or other deleterious material, and are placed and compacted as outlined below. It should also be noted that due to the predominantly fine-grained, silty/sandy nature of the majority of the existing fill, reworked soils and native soils, some difficulty would be expected in achieving adequate compaction, especially during wet weather.

The backfill should be placed in maximum 300 mm loose lifts at or near (±2%) their optimum moisture content and each lift should be compacted to at least 95% SPMDD. From 1 m below subgrade to subgrade elevation, the materials should be placed in maximum 300 mm loose lifts and uniformly compacted to at least 98 % SPMDD. Unsuitable materials such as organic soils, boulders, cobbles, frozen soils, etc. should not be used for backfilling. In pavement areas, the upper zone of the trench backfill within the depth of 1.6 m below the pavement surface should be non-frost susceptible materials without excessive fines and compacted to at least 98% SPMDD. The fine grained silty/sandy soils encountered at the site is potentially of high frost susceptibility, which should not be used in the upper zone of the trench backfill within the depth of 1.6 m below the pavement surface. Cobbles and boulders were encountered in the boreholes carried out at the site. Provision of removal of the cobbles and boulders shall be considered in the contract.

It should be noted that if the soils for trench backfilling were placed and compacted at wet of their optimum water content (>2%), pumping and rolling conditions may be encountered, which would require mitigative measures in order to construct roads and utilities. This might include significant extra thicknesses of granular base, base reinforcement using geogrids or importing of better quality common fill.

Alternatively, if placement water contents at the time of construction are too high, or if there is a shortage of suitable in-situ material, then an approved imported sandy material which meets the

requirements for OPSS Select Subgrade Material (SSM) could be used. It should be placed in loose lift thicknesses as indicated above and uniformly compacted to at least 95% SPMDD.

Normal post-construction settlement of the compacted trench backfill should be anticipated, with the majority of such settlement taking place within about 6 months following the completion of trench backfilling operations. This settlement may be compensated for, where necessary, by placing additional granular material prior to asphalt paving. Alternatively, if the asphalt binder course is placed shortly following the completion of trench backfilling operations in these areas, any settlement that may be reflected by subsidence of the surface of the binder asphalt should be compensated for by placing an additional thickness of binder asphalt or by padding.

5. EXCESS SOIL CHARACTERIZATION

5.1 Soil Sample Submission

In order to provide information on the chemical quality of the subsurface soils, selected soil samples were submitted to Caduceon Environmental Laboratories in Richmond Hill, Ontario ("Caduceon") for chemical analyses. Descriptions of the selected soil samples and analytical parameters are presented in the following table:

Sample ID	Soil Depth (mBGS)	Primary Soil	Analytical Parameters
BH4 SS1	0.2 – 0.6	Fill: Sand and Silt to Silty Sand	Metals and Inorganics
BH5 SS1+SS2	0.3 – 1.2	Reworked Soils: Fine Sand and Silt to Silty Fine Sand and Sand and Silt to Sandy Silt; Native: Sand and Silt	Metals and Inorganics
BH7 SS1+SS2+SS3	0.4 – 1.8	Reworked Soil: Sandy Silt to Sand and Silt; Native: Clayey Silt and Sand and Silt	Metals and Inorganics
BH10 SS4+SS5	2.3 – 3.5	Sand and Silty Sand	Metals and Inorganics
BH13 SS2+SS3	0.6 – 1.8	Sand and Silt to Sandy Silt	Metals and Inorganics
BH15 SS4+SS5	2.3 – 3.5	Sand and Silt to Silty Sand	Metals and Inorganics
BH17 SS2+SS3	0.8 – 2.1	Silty Clay and Sandy Silt	Metals and Inorganics
BH22 SS2+SS3	0.6 – 1.8	Fine Sand	Metals and Inorganics
BH24 SS1+SS2	0.3 – 1.2	Reworked soils: Fine Sand and Silt to Silty Fine Sand;	Metals and Inorganics

Sample ID	Soil Depth (mBGS)	Primary Soil	Analytical Parameters
		Native: Clayey Silt	
BH26 SS2+SS3	0.6 – 1.8	Fine Sand	Metals and Inorganics

At the time of the sampling, no obvious visual or olfactory evidence of environmental impact (i.e. staining or odours) was observed at the sampling locations.

5.2 Soil Analytical Results

A total of ten (10) soil samples were analysed for the parameters of metals and inorganics, under Ontario Regulation 153/04 ("O. Reg. 153/04") as amended. A copy of the soil analytical results is provided in the Laboratory Certificates of Analysis, attached in Appendix B.

The soil analytical results were compared with the Ontario Ministry of the Environment and Climate Change ("MOECC") "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", April 2011, Table 1: Full Depth Background Site Condition Standards for Residential/Parkland/Institutional/Industrial/Commercial/Community Property Uses ("2011 MOECC Table 1 Standards"); Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition ("2011 MOECC Table 2 Standards"), and Table 3: Full Depth Generic Site Condition Standards in a non-potable Ground Water Condition ("2011 MOECC Table 3 Standards").

Based on the comparison, exceedances of MOECC Table 1 standard were noted for Sodium Adsorption Ratio (SAR) or Metals (Molybdenum) in the tested soil samples in the Boreholes BH7 and BH17. The exceedance values detected in the soil samples are summarized in the following table.

Soil Sample ID	Parameter	Detected Value	MOECC Table 1 Standards Guideline Value	MOECC Table 2 and 3 Standards (R/P/I) Guideline Value	MOECC Table 2 and 3 Standards (I/C/C) Guideline Value
BH7 SS1+SS2+SS3	Molybdenum	3 µg/g	**2 µg/g**	6.9 µg/g	40 µg/g
BH17 SS2+SS3	SAR	3.19	**2.4**	5	12

Note: SAR = Sodium Absorption Ratio
R/P/I = Residential, Parkland and Institutional Property Use
I/C/C = Industrial, Commercial and Community Property Use
2.4 = Standard value exceeded by the analytical result
NV = No value derived

5.3 Discussion of Soil Analytical Results

Based on the analytical results, exceedances of MOECC Table 1 Standard were noted for SAR or Molybdenum in the tested soil samples. It should be noted that the sample BH17 SS2+SS3 selected for analysis was taken from the borehole located close to the roadways. The elevated SAR value in the tested soil sample may likely be attributed to the application of de-icing salt on the road. The source of the elevated Molybdenum value in the tested soil sample is unknown.

Based on the results of soil sample analysis, GeoPro would recommend the following disposal options:

1) The soils generated near Boreholes BH4, BH5, BH10, BH13, BH15, BH22, BH24 and BH26 at the tested depths with no identified exceedances can be re-used on Site or re-used at a receiving site which is not used for agricultural purposes and would accept the soils as per the test results; and
2) The soils generated at the same tested sample depth from Boreholes BH7 and BH17 can be re-used at a receiving site which is not considered as an environmentally sensitive site and would accept the soil as per the test results.

It should be noted that the results of the chemical analysis refer only to the soil sample analyzed which was obtained from specific sampling location and sampling depth, and the soil chemistry may vary between and beyond the location and depth of the sample taken. Therefore, soil materials to be used on site or transported to other sites must be inspected during excavation for indication of variance in composition or any chemical/environmental constraints. If conditions indicate significant variations, further chemical analyses should be carried out.

Please note that the level of testing outlined herein is meant to provide a broad indication of soil quality based on the limited soil samples tested. The analytical results contained in this report should not be considered a warranty with respect to the soil quality or the use of the soil for any specific purpose. Further, it must be noted that our scope of work was only limited to the review of the analytical results of the limited number of samples. The scope of work did not include any environmental evaluation or assessment of the subject site (such as a Phase I or Phase II Environmental Site Assessment).

Sites accepting fill may have requirements relating to its aesthetic, or engineering properties, in addition to its chemical quality. Some receiving sites may have specific chemical testing protocol, which may require additional tests to meet the requirements. The requirements for accepting the fill at an off-site location must be confirmed in advance. GeoPro would be pleased to assist once the receiving sites are determined and the requirements of the receiving site are available.

6. MONITORING AND TESTING

The geotechnical aspects of the final design drawings and specifications should be reviewed by GeoPro prior to tendering and construction, to confirm that the intent of this report has been met. During construction, full-time engineered fill monitoring and sufficient foundation inspections, subgrade inspections, in-situ density tests and materials testing should be carried out to confirm that the conditions exposed are consistent with those encountered in the boreholes, and to monitor conformance to the pertinent project specifications.

7. CLOSURE

We appreciate the opportunity to be of service to you and trust that this report provides sufficient geotechnical engineering information to facilitate the detail design of this project. We look forward to providing you with continuing service during the construction stage. Please do not hesitate to contact our office should you wish to discuss, in further detail, any aspects of this project.

Yours very truly,

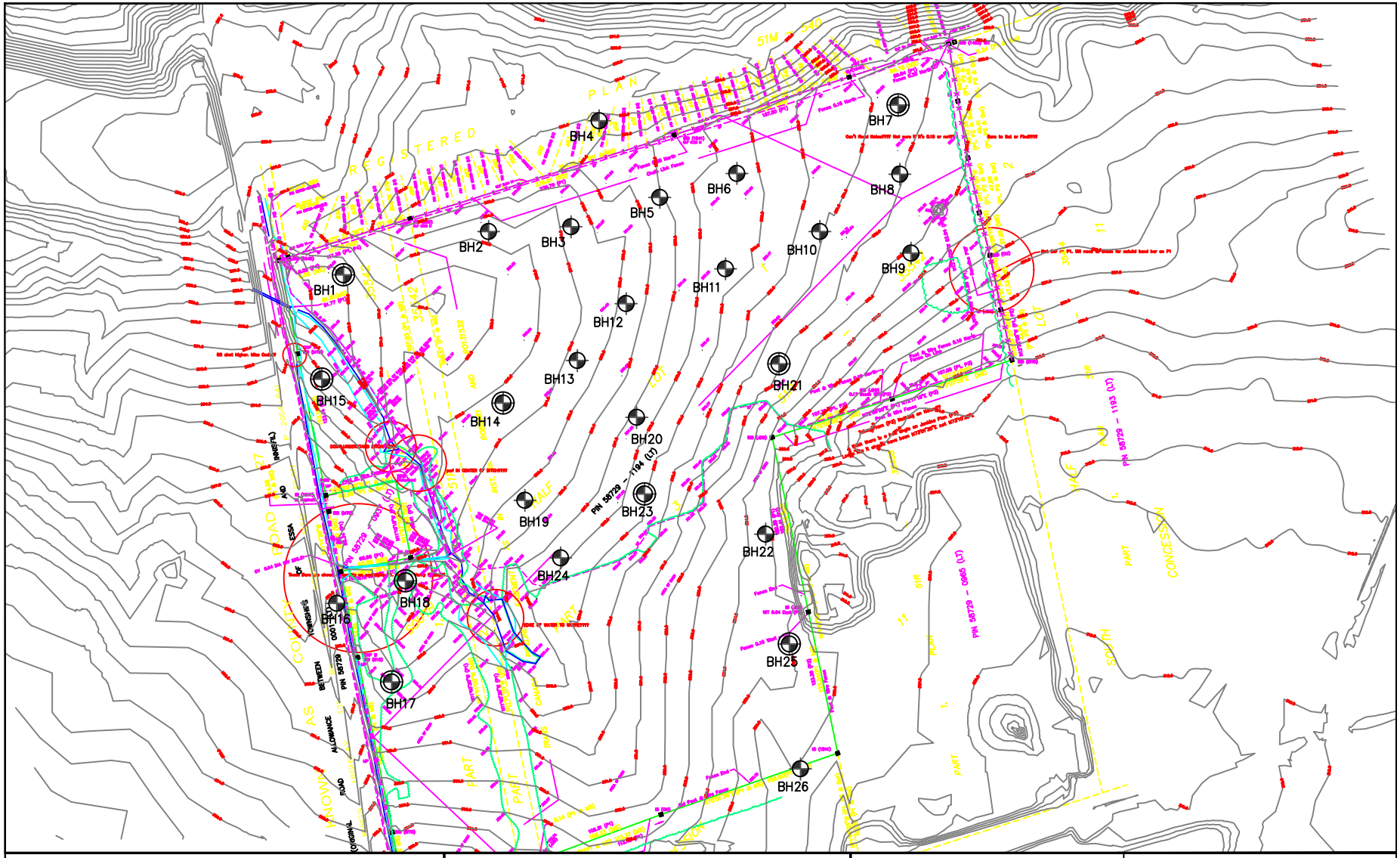
GEOPRO CONSULTING LIMITED

Dylan Q. Xiao, M.A.Sc., P.Eng.
Geotechnical Group

David B. Liu, P.Eng., Principal



DRAWINGS

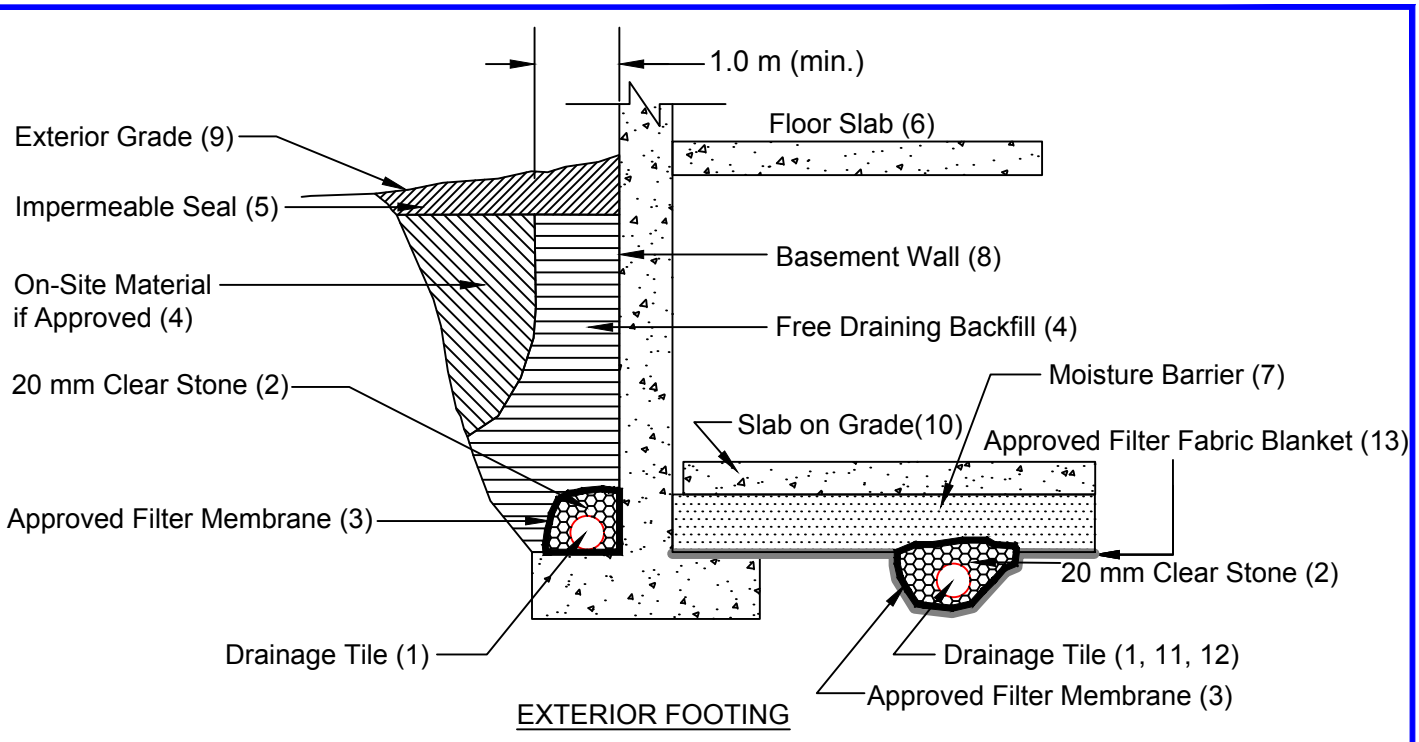


Legend:

Borehole Location

Monitoring Well

Client: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI		Project No.: 17-2099GE	Drawing No.: 1
Drawn: WF	Approved: DL	Title: Borehole Location Plan	
Date: May, 2018	Scale: N.T.S	Project: Geotechnical Investigation Proposed Residential Developments County Road 27, Barrie, Ontario	
Original Size: Letter	Rev: DX	GeoPro Consulting Limited	



EXTERIOR FOOTING

Notes

1. Drainage tile to consist of 100 mm (4") diameter weeping tile or equivalent perforated pipe leading to a positive sump or outlet.
2. 20 mm (3/4") clear stone - 150 mm (6") top and side of drain. If drain is not on footing, place100 mm (4 inches) of stone below drain .
3. Wrap the clear stone with an approved filter membrane (Terrafix 270R or equivalent).
4. Free Draining backfill - OPSS Granular B or equivalent compacted to the specified density. Do not use heavy compaction equipment within 450 mm (18") of the wall. Use hand controlled light compaction equipment within 1.8 m (6') of wall. The minimum width of the Granular 'B' backfill must be 1.0 m.
5. Impermeable backfill seal - compacted clay, clayey silt or equivalent. If original soil is free-draining, seal may be omitted. Maximum thickness of seal to be 0.5 m.
6. Do not backfill until wall is supported by basement and floor slabs or adequate bracing.
7. Moisture barrier to be at least 200 mm (8") of compacted clear 20 mm (3/4") stone or equivalent free draining material. A vapour barrier may be required for specialty floors.
8. Basement wall to be damp proofed /water proofed.
9. Exterior grade to slope away from building.
10. Slab on grade should not be structurally connected to the wall or footing.
11. Underfloor drain invert to be at least 300 mm (12") below underside of floor slab.
12. Drainage tile placed in parallel rows 6 to 8 m (20 to 25') centers one way. Place drain on 100 mm (4") clear stone with 150 mm (6") of clear stone on top and sides. Enclose stone with filter fabric as noted in (3).
13. The entire subgrade to be sealed with approved filter fabric (Terrafix 270R or equivalent) if non-cohesive (sandy) soils below ground water table encountered.
14. Do not connect the underfloor drains to perimeter drains.
15. Review the geotechnical report for specific details.

DRAINAGE AND BACKFILL RECOMMENDATIONS
Basement with Underfloor Drainage

(not to scale)

ENCLOSURES

Enclosure 1A: Notes on Sample Descriptions

1. Each soil stratum is described according to the *Modified Unified Soil Classification System*. The compactness condition of cohesionless soils (SPT) and the consistency of cohesive soils (undrained shear strength) are defined according to Canadian Foundation Engineering Manual, 4th Edition. Different soil classification systems may be used by others. Please note that a description of the soil stratums is based on visual and tactile examination of the samples augmented with field and laboratory test results, such as a grain size analysis and/or Atterberg Limits testing. Visual classification is not sufficiently accurate to provide exact grain sizing or precise differentiation between size classification systems.

2. Fill: Where fill is designated on the borehole log it is defined as indicated by the sample recovered during the boring process. The reader is cautioned that fills are heterogeneous in nature and variable in density or degree of compaction. The borehole description may therefore not be applicable as a general description of site fill materials. All fills should be expected to contain obstruction such as wood, large concrete pieces or subsurface basements, floors, tanks, etc., none of these may have been encountered in the boreholes. Since boreholes cannot accurately define the contents of the fill, test pits are recommended to provide supplementary information. Despite the use of test pits, the heterogeneous nature of fill will leave some ambiguity as to the exact composition of the fill. Most fills contain pockets, seams, or layers of organically contaminated soil. This organic material can result in the generation of methane gas and/or significant ongoing and future settlements. Fill at this site may have been monitored for the presence of methane gas and, if so, the results are given on the borehole logs. The monitoring process does not indicate the volume of gas that can be potentially generated nor does it pinpoint the source of the gas. These readings are to advise of the presence of gas only, and a detailed study is recommended for sites where any explosive gas/methane is detected. Some fill material may be contaminated by toxic/hazardous waste that renders it unacceptable for deposition in any but designated land fill sites; unless specifically stated the fill on this site has not been tested for contaminants that may be considered toxic or hazardous. This testing and a potential hazard study can be undertaken if requested. In most residential/commercial areas undergoing reconstruction, buried oil tanks are common and are generally not detected in a conventional preliminary geotechnical site investigation.

3. Till: The term till on the borehole logs indicates that the material originates from a geological process associated with glaciation. Because of this geological process the till must be considered heterogeneous in composition and as such may contain pockets and/or seams of material such as sand, gravel, silt or clay. Till often contains cobbles (60 to 200 mm) or boulders (over 200 mm). Contractors may therefore encounter cobbles and boulders during excavation, even if they are not indicated by the borings. It should be appreciated that normal sampling equipment cannot differentiate the size or type of any obstruction. Because of the horizontal and vertical variability of till, the sample description may be applicable to a very limited zone; caution is therefore essential when dealing with sensitive excavations or dewatering programs in till materials.

Enclosure 1B: Explanation of Terms Used in the Record of Boreholes

Sample Type

AS	Auger sample
BS	Block sample
CS	Chunk sample
DO	Drive open
DS	Dimension type sample
FS	Foil sample
NR	No recovery
RC	Rock core
SC	Soil core
SS	Spoon sample
SH	Shelby tube Sample
ST	Slotted tube
TO	Thin-walled, open
TP	Thin-walled, piston
WS	Wash sample

Penetration Resistance

Standard Penetration Resistance (SPT), N:

The number of blows by a 63.5 kg (140 lb) hammer dropped 760 mm (30 in) required to drive a 50 mm (2 in) drive open sampler for a distance of 300 mm (12 in).

PM – Samples advanced by manual pressure
WR – Samples advanced by weight of sampler and rod
WH – Samples advanced by static weight of hammer

Dynamic Cone Penetration Resistance, N_d:

The number of blows by a 63.5 kg (140 lb) hammer dropped 760 mm (30 in) to drive uncased a 50 mm (2 in) diameter, 60° cone attached to "A" size drill rods for a distance of 300 mm (12 in).

Piezo-Cone Penetration Test (CPT):

An electronic cone penetrometer with a 60 degree conical tip and a projected end area of 10 cm² pushed through ground at a penetration rate of 2 cm/s. Measurement of tip resistance (Q_t), porewater pressure (PWP) and friction along a sleeve are recorded electronically at 25 mm penetration intervals.

Textural Classification of Soils (ASTM D2487)

Classification	Particle Size
Boulders	> 300 mm
Cobbles	75 mm - 300 mm
Gravel	4.75 mm - 75 mm
Sand	0.075 mm – 4.75 mm
Silt	0.002 mm-0.075 mm
Clay	<0.002 mm(*)

(*) Canadian Foundation Engineering Manual (4th Edition)

Coarse Grain Soil Description (50% greater than 0.075 mm)

Terminology	Proportion
Trace	0-10%
Some	10-20%
Adjective (e.g. silty or sandy)	20-35%
And (e.g. sand and gravel)	> 35%

Soil Description

a) Cohesive Soils(*)

Consistency	Undrained Shear Strength (kPa)	SPT "N" Value
Very soft	<12	0-2
Soft	12-25	2-4
Firm	25-50	4-8
Stiff	50-100	8-15
Very stiff	100-200	15-30
Hard	>200	>30

(*) Hierarchy of Shear Strength prediction

1. Lab triaxial test
2. Field vane shear test
3. Lab. vane shear test
4. SPT "N" value
5. Pocket penetrometer

b) Cohesionless Soils

Compactness Condition (Formerly Relative Density)	SPT "N" Value
Very loose	<4
Loose	4-10
Compact	10-30
Dense	30-50
Very dense	>50

Soil Tests

w	Water content
w_p	Plastic limit
w_l	Liquid limit
C	Consolidation (oedometer) test
CID	Consolidated isotropically drained triaxial test
CIU	consolidated isotropically undrained triaxial test with porewater pressure measurement
D_R	Relative density (specific gravity, Gs)
DS	Direct shear test
ENV	Environmental/ chemical analysis
M	Sieve analysis for particle size
MH	Combined sieve and hydrometer (H) analysis
MPC	Modified proctor compaction test
SPC	Standard proctor compaction test
OC	Organic content test
U	Unconsolidated Undrained Triaxial Test
V	Field vane (LV-laboratory vane test)
γ	Unit weight

LOG OF BOREHOLE BH01

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: HR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-30

REF. NO.: 17-2099GE

ENCL. NO.: 2

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	GROUND WATER	ELEVATION
289.7						
0.0 / 289.4	**TOPSOIL:** (300 mm)					
0.3 / 289.0	**REWORKED SILTY SAND TO SAND AND SILT:** trace organics, trace rootlets, dark brown to brown, moist, loose	1	SS	4		
0.6	**SILTY SAND TO SAND AND SILT:** trace clay, trace gravel, organic stain, brown, wet, loose to compact	2	SS	8		289
1		3A	SS	18		
288.1		3B	SS			288
1.5 / 287.6	**SAND AND SILT:** trace clay, trace gravel, brown, moist to wet, compact				Bentonite	
2						
2.1 / 287.1	**SAND:** some silt, trace gravel, containing cobbles and boulders, brown, moist, dense	4A	SS	36		
2.5	---auger grinding	4B	SS			287
3	**FINE SAND TO SILTY FINE SAND:** brown, moist to wet, dense to very dense	5	SS	69 / 280 mm	286.4/May 11	
285.6	--- layers of clayey silt till					286
4.0	**SILTY SAND:** trace to some gravel, trace clay, containing cobbles and boulders, brown, wet, very dense	6	SS	50 / 100 mm	Sand	285
5	--- containing cobbles and boulders				Screen	
6						284
283.4		7	SS	50 / 140 mm	Natural pack	
6.2	**END OF BOREHOLE**					

DYNAMIC PENETRATION TEST: SPT / Cone, blows/0.3m; 20, 40, 60, 80

SHEAR STRENGTH (kPa): ● Unconfined ✕ Field Vane & Sensitivity ▲ Quick Triaxial ⊠ Penetrometer + Lab Vane; 20, 40, 60, 80

Plastic Limit (w_P) | Natural Moisture Content (w) | Liquid Limit (w_L)

WATER CONTENT (%): 10, 20, 30, 40

> >100

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR SA SI CL

Notes:
1) Water was encountered at a depth of 4.6 m below ground surface (mBGS) during drilling.
2) Borehole caved at a depth of 3.0 mBGS upon completion of drilling.
3) 51 mm dia. monitoring well was installed in borehole upon completion of drilling.

Water Level Reading

Date	W. L Depth (mBGS)
May 11, 2018	3.23

GROUNDWATER ELEVATIONS

Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ▲ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH02

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-24

REF. NO.: 17-2099GE

ENCL. NO.: 3

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION
292.7 / 0.0	**TOPSOIL:** (310 mm)				
292.4 / 0.3	**REWORKED SAND AND SILT:** trace clay, trace gravel, trace organics, trace rootlets, dark brown, moist, loose to compact	1	SS	8	
		2	SS	17	292
291.5 / 1.2	**NO SAMPLE RECOVERY:** likely sand and silt to silty sand	3	NR	30	
290.7 / 2.1	**SAND AND SILT TO SILTY SAND:** trace clay, trace gravel, layers/zones of sandy silt, containing cobbles and boulders, brown, moist, dense to very dense				291
	--- auger grinding	4	SS	49	
					290
		5	SS	39	
					289
		6	SS	62	288
287.2 / 5.6	**SAND:** trace to some silt, trace gravel, brown, moist, very dense				
286.5 / 6.3	**END OF BOREHOLE**	7	SS	50 / 150 mm	287

Note:
1) Borehole was open and dry upon completion of drilling.

DYNAMIC PENETRATION TEST: ○ SPT, ≳ Cone, blows/0.3m (20, 40, 60, 80)

SHEAR STRENGTH (kPa): ● Unconfined, ✕ Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane (20, 40, 60, 80)

Plastic Limit (w_P) — Natural Moisture Content (w) — Liquid Limit (w_L)

WATER CONTENT (%) (10, 20, 30, 40)

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
5	69	23	3

GROUNDWATER ELEVATIONS

Measurement: 1st ▽, 2nd ▼, 3rd ▼, 4th ▼

GRAPH NOTES: +³, ×³: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH03

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer | DIAMETER: 155 mm

FIELD ENGINEER: RR | DATE: 2018-04-26

SAMPLE REVIEW: DX | REF. NO.: 17-2099GE

CHECKED: DL | ENCL. NO.: 4

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION	DYNAMIC PENETRATION TEST (SPT / Cone blows/0.3m)	SHEAR STRENGTH (kPa)	WATER CONTENT (%)	UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
294.3										
0.0 / 294.1	**TOPSOIL:** (280 mm)									
0.3 / 293.7	**REWORKED SAND AND SILT:** trace clay, trace gravel, trace organics, trace rootlets, pockets of topsoil, brown, moist, loose	1	SS	4						
0.6	**SAND AND SILT:** trace to some gravel, trace clay, organic stain, containing cobbles and boulders, brown, moist to wet, loose to very dense	2	SS	10						3 41 48 8
1	---layers of sand	3	SS	50 / 150 mm	293	> >100				
292.4										
1.9	**SAND AND SILT TO SILTY SAND:** trace gravel, containing cobbles and boulders, brown, moist, very dense	4	SS	93 / 230 mm	292	> >100				
291.5										
2.8	**SAND:** some silt, trace gravel, layers of sandy silt, brown, moist, very dense	5	SS	50 / 80 mm	291	> >100				
290.4										
3.9	**GRAVELLY SAND:** some silt to silty, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense	6	SS	50 / 50 mm	290	> >100				
5										
289.0					289					
5.4	**SAND:** some silt, trace to some gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense									
6										
288.2	---auger grinding	7	SS	50 / 80 mm		> >100				
6.2	**END OF BOREHOLE**									

Note:
1) Borehole was open and dry upon completion of drilling.

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ▲ε=3%: Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH04

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: HR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-30

REF. NO.: 17-2099GE

ENCL. NO.: 5

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
295.0 / 0.0	**TOPSOIL:** (230 mm)					
294.7 / 0.2	**FILL:** sand and silt to silty sand, trace clay, trace gravel, containing red brick fragments, brown, moist, compact	1	SS	16		
294.4 / 0.6	**SILTY SAND TO SAND:** trace to some gravel, containing cobbles and boulders, brown, moist, compact to very dense	2	SS	29	294	
	--- auger grinding	3	SS	67		10 67 18 5
	--- auger grinding	4	SS	64	293	
	--- auger grinding	5	SS	50 / 50 mm	292	
291.1 / 3.9	**SILTY FINE SAND:** pockets of sandy silt, containing cobbles and boulders, brown, moist, very dense				291	
	--- auger grinding	6	SS	50 / 100 mm	290	
289.5 / 5.5	**SAND AND SILT TO SILTY SAND:** trace clay, trace gravel, containing cobbles and boulders, brown, moist, very dense					
	--- auger grinding	7	SS	50 / 130 mm	289	
	--- auger grinding					
288.0 / 6.9	**SAND:** some gravel, trace to some silt, containing cobbles and boulders, brown, moist, very dense				288	
287.2 / 7.7	**END OF BOREHOLE**	8	SS	50 / 100 mm		

Note:
1) Borehole caved at a depth of 4.1 m below ground surface (mBGS) upon completion of drilling.

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH05

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-26

REF. NO.: 17-2099GE

ENCL. NO.: 6

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION
296.3 / 0.0	**TOPSOIL:** (330 mm)				
295.9 / 0.3	**REWORKED FINE SAND AND SILT TO SILTY FINE SAND:** trace organics, trace rootlets, pockets of sandy silt, brown, moist, very loose	1	SS	3	296
295.7 / 0.6		2A	SS	4	
295.4 / 0.9	**REWORKED SAND AND SILT TO SANDY SILT:** trace to some clay, trace gravel, trace organics, trace rootlets, dark brown to brown, moist, loose	2B	SS		
295.0 / 1.2	**SAND AND SILT:** trace clay, trace gravel, containing cobbles and boulders, brown, moist, loose	3	SS	35	295
294.2 / 2.1	**SAND:** trace to some gravel, layers/zones of sandy silt, containing cobbles and boulders, brown, moist, dense	4	SS	61	294
	SILTY SAND: trace to some gravel, layers/zones of sandy silt, seams of silt, layers of sand, containing cobbles and boulders, brown, moist, very dense	5	SS	75	293
	--- auger grinding				
292.2 / 4.0	**SAND:** some gravel, trace to some silt, brown, moist, very dense				292
	--- auger grinding	6	SS	50 / 130 mm	
290.8 / 5.5	**SAND AND SILT TO SILTY SAND:** trace gravel, containing cobbles and boulders, brown, moist, very dense				291
289.9 / 6.4	**END OF BOREHOLE**	7	SS	50 / 100 mm	290

Note:
1) Borehole was open and dry upon completion of drilling.

DYNAMIC PENETRATION TEST: ○ SPT, ≳ Cone, blows/0.3m (20, 40, 60, 80)

SHEAR STRENGTH (kPa): ● Unconfined, ✕ Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane (20, 40, 60, 80)

Plastic Limit (w_P), Natural Moisture Content (w), Liquid Limit (w_L)

WATER CONTENT (%) (10, 20, 30, 40)

> >100

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR SA SI CL

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^{3}$, $\times^{3}$: Numbers refer to Sensitivity; ▲ ε_f=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH06

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-26

REF. NO.: 17-2099GE

ENCL. NO.: 7

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
298.6						
0.0 / 298.3	**TOPSOIL:** (245 mm)					
0.2	**REWORKED SAND AND SILT:** trace clay, trace gravel, trace organics, trace rootlets, dark brown to brown, moist to wet, very loose to compact	1	SS	2	298	
297.7		2A	SS	11		
0.8	**SAND AND SILT TO SILTY SAND:** trace to some clay, trace gravel, organic stain, containing cobbles and boulders, brown, moist, compact	2B	SS			
1		3	SS	11	297	2 55 32 11
296.5						
2.1	**SILTY SAND:** trace gravel, layers/zones of sand and silt, containing cobbles and boulders, brown, moist, very dense	4	SS	67	296	
3	--- auger grinding	5	SS	82		
294.5					295	
4.0	**CLAYEY SILT:** some sand to sandy, trace gravel, zones/layers of silty sand, containing cobbles and boulders, brown, moist, hard					
	--- auger grinding	6	SS	49	294	
5						
293.0					293	
5.6	**SAND TO SILTY SAND:** trace to some gravel, containing cobbles and boulders, brown, moist, very dense					
6		7	SS	50 / 130 mm		
	--- auger grinding				292	
7						
290.9		8	SS	50 / 80 mm	291	
7.7	**END OF BOREHOLE**					

Note:
1) Borehole was open and dry upon completion of drilling.

DYNAMIC PENETRATION TEST: SPT / Cone, blows/0.3m (20, 40, 60, 80)

SHEAR STRENGTH (kPa): Unconfined, Field Vane & Sensitivity, Quick Triaxial, Penetrometer, Lab Vane (20, 40, 60, 80)

WATER CONTENT (%): Plastic Limit (w_P), Natural Moisture Content (w), Liquid Limit (w_L) (10, 20, 30, 40)

UNIT WT (kN/m³)

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ε_f=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH07

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 205 mm

DATE: 2018-04-25

REF. NO.: 17-2099GE

ENCL. NO.: 8

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
301.4 / 0.0	**TOPSOIL:** (360 mm)					
301.0 / 0.4	**REWORKED SANDY SILT TO SAND AND SILT:** trace to some clay, trace gravel, trace organics, trace rootlets, layers of clayey silt, dark brown to brown, moist, loose	1	SS	5	301	
300.8 / 0.6	**CLAYEY SILT:** some sand, trace organics, brown, moist, stiff	2	SS	11		
300.2 / 1.2	**SAND AND SILT:** trace clay, trace gravel, pockets of organics, brown, moist, loose	3	SS	6	300	
299.3 / 2.1	**SILTY SAND:** trace clay, trace gravel, layers of sand, containing cobbles and boulders, brown, moist, dense	4	SS	40	299	1 63 31 5
298.5 / 2.9	**FINE SAND AND SILT TO SILTY FINE SAND:** trace gravel, layers/zones of silt, brown, moist, dense to very dense	5	SS	34	298	
	--- auger grinding ---layers of clayey silt	6	SS	85 / 260 mm	297	
295.8 / 5.6	**SILTY SAND:** trace to some gravel, layers of sand and silt, containing cobbles and boulders, brown, moist, very dense	7	SS	50 / 150 mm	296	
294.4 / 6.9	--- auger grinding **SAND:** some silt, some gravel, containing cobbles and boulders, brown, moist, very dense	8	SS	50 / 130 mm	295	15 73 12
292.9 / 8.5	**FINE SAND:** trace to some silt, trace gravel, brown, moist, very dense	9	SS	50 / 80 mm	294	
					293	
					292	

Bentonite

DYNAMIC PENETRATION TEST
○ SPT ≳ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined ✕ Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

Plastic Limit w_P — Natural Moisture Content w — Liquid Limit w_L

WATER CONTENT (%)
10 20 30 40

UNIT WT (kN/m³)

> >100

Continued Next Page

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES

$+^3$, $\times^3$: Numbers refer to Sensitivity

▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:03

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 205 mm

DATE: 2018-04-25

REF. NO.: 17-2099GE

ENCL. NO.: 8

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION
11	**FINE SAND:** trace to some silt, trace gravel, brown, moist, very dense(Continued)	10	SS	50 / 80 mm	291
289.9					290
11.5	**SAND AND SILT TO SILTY SAND:** trace gravel, containing cobbles and boulders, brown, moist, very dense	11	SS	50 / 80 mm	289
13	--- auger grinding				288
14		12	SS	50 / 50 mm	287
15					
286.1		13	SS	50 / 80 mm	
15.3	**END OF BOREHOLE**				

Note:
1) 51 mm dia. monitoring well was installed in borehole upon completion of drilling.

Water Level Reading
Date W. L Depth (mBGS)
May 11, 2018 14.83

GROUND WATER: Sand; Screen; 286.6/May 11; Natural Pack

DYNAMIC PENETRATION TEST
○ SPT ≳ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined ✕ Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

> >100 > >100 > >100 > >100

Plastic Limit w_P | Natural Moisture Content w | Liquid Limit w_L

WATER CONTENT (%)
10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ▲ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH08

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-23

REF. NO.: 17-2099GE

ENCL. NO.: 9

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
301.8					
0.0 / 301.5	**TOPSOIL:** (330 mm)	1	SS	11	
0.3 / 301.2	**REWORKED SILTY SAND:** trace gravel, trace organics, trace rootlets, pockets of organic silt, brown, moist to wet, compact				
0.6	**SILTY SAND:** trace gravel, organic stain, dark brown to brown, wet, loose to compact	2	SS	6	
		3	SS	4	
299.4		4A	SS		
2.4 / 298.9	**SAND AND SILT TO SILTY SAND:** trace clay, trace gravel, brown, moist to wet, compact	4B	SS	29	
2.9	**SAND:** trace to some silt, trace to some gravel, containing cobbles and boulders, brown, moist, compact to very dense	5	SS	43	12 65 16 7
	--- auger grinding	6	SS	97 / 260 mm	
	---zones of silty sand	7	SS	24	
294.0		8	SS	50 / 80 mm	
7.9	**END OF BOREHOLE**				

Notes:
1) Borehole was dry upon completion of drilling.
2) Borehole caved at depth of 7.3 m below ground surface (mBGS) upon completion of drilling.

DYNAMIC PENETRATION TEST: ○ SPT, ≳ Cone, blows/0.3m; 20 40 60 80

SHEAR STRENGTH (kPa): ● Unconfined, ✕ Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane; 20 40 60 80

WATER CONTENT (%): Plastic Limit (w_P), Natural Moisture Content (w), Liquid Limit (w_L); 10 20 30 40

ELEVATION: 301, 300, 299, 298, 297, 296, 295, 294

> >100

UNIT WT (kN/m³)

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES: +³, ×³: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH09

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-23

REF. NO.: 17-2099GE

ENCL. NO.: 10

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION
302.9 / 0.0	**TOPSOIL:** (330 mm)				
302.6 / 0.3	**REWORKED SILTY FINE SAND:** trace organics, trace rootlets, dark brown to brown, moist, loose	1	SS	4	
302.3 / 0.6	**SILTY SAND TO SANDY SILT:** trace organics, organic stain, brown, moist to wet, loose	2	SS	5	302
301.7 / 1.2	---zones of clayey silt **SILTY SAND:** trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, compact to very dense	3	SS	20	
		4	SS	48	301
299.7 / 3.2	**SAND AND GRAVEL:** trace silt, containing cobbles and boulders, brown, moist, very dense	5A 5B	SS SS	50 / 100 mm	300
298.9 / 4.0	**SAND AND SILT TO SILTY SAND:** trace to some gravel, containing cobbles and boulders, brown, moist, very dense	6	SS	50 / 80 mm	299
					298
296.7 / 6.2	**END OF BOREHOLE** Note: 1) Borehole caved at a depth of 5.0 m below ground surface (mBGS) upon completion of drilling.	7	SS	50 / 100 mm	297

GROUND WATER

DYNAMIC PENETRATION TEST
○ SPT ≳ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined ✕ Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

Plastic Limit w_P | Natural Moisture Content w | Liquid Limit w_L

WATER CONTENT (%)
10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
42	46	12	

GROUNDWATER ELEVATIONS

Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH10

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-23

REF. NO.: 17-2099GE

ENCL. NO.: 11

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m
300.8 / 0.0	**TOPSOIL:** (310 mm)			
300.5 / 0.3	**REWORKED SAND AND SILT TO SILTY SAND:** trace organics, trace rootlets, dark brown to brown, moist to wet, very loose	1	SS	3
0.6	**SAND AND SILT TO SILTY SAND:** trace clay, trace gravel, organic stain, dark brown to brown, moist to wet, very loose to compact	2	SS	2
299.3		3A	SS	11
1.5	**SAND AND SILT TO SILTY SAND:** trace clay, trace gravel, pockets of sand, containing cobbles and boulders, brown, moist, compact	3B	SS	
298.8 / 2.1	**SAND:** some silt, trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense	4	SS	53
297.9 / 2.9	**SILTY SAND:** trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense	5	SS	80 / 280 mm
295.5 / 5.4	**SILTY FINE SAND:** trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense	6	SS	50 / 100 mm
294.5 / 6.4	**END OF BOREHOLE**	7	SS	50 / 100 mm

Notes:
1) Borehole was dry upon completion of drilling.
2) Borehole caved at a depth of 5.9 m below ground surface (mBGS) upon completion of drilling.

DYNAMIC PENETRATION TEST: ○ SPT, ≳ Cone, blows/0.3m (20, 40, 60, 80)

SHEAR STRENGTH (kPa): ● Unconfined, ✕ Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane (20, 40, 60, 80)

Plastic Limit w_P — Natural Moisture Content w — Liquid Limit w_L

WATER CONTENT (%) (10, 20, 30, 40)

GROUND WATER

ELEVATION: 300, 299, 298, 297, 296, 295

> >100

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR SA SI CL

GROUNDWATER ELEVATIONS

Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: $+^{3}$, $\times^{3}$: Numbers refer to Sensitivity; ▲ ε_f=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH11

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-23

REF. NO.: 17-2099GE

ENCL. NO.: 12

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	GROUND WATER	ELEVATION	DYNAMIC PENETRATION TEST (SPT / Cone, blows/0.3m) / SHEAR STRENGTH (kPa) (Unconfined, Field Vane & Sensitivity, Quick Triaxial, Penetrometer, Lab Vane)	Plastic Limit / Natural Moisture Content / Liquid Limit — WATER CONTENT (%)	UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
298.9										
0.0 / 298.6	**TOPSOIL:** (310 mm)									
0.3 / 298.3	**REWORKED SAND AND SILT:** trace clay, trace organics, trace rootlets, brown, moist, very loose	1	SS	2						
0.6 / 297.8	**SAND AND SILT:** trace to some clay, trace gravel, containing cobbles and boulders, brown, moist, loose	2A	SS	9		298				
297.7		2B	SS							
1.2	**SAND:** trace to some silt, trace gravel, layers of sandy silt, brown, moist, loose	3	SS	51						4 65 24 7
	SAND AND SILT TO SILTY SAND: trace clay, trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense					297				
		4	SS	69						
						296				
		5	SS	82 / 280 mm			> >100			
						295				
294.2	--- auger grinding	6A	SS	50 / 80 mm			> >100			
4.7	**SAND:** trace to some silt, trace gravel, brown, moist, very dense	6B	SS			294				
						293				
292.5		7	SS	50 / 130 mm			> >100			
6.4	**END OF BOREHOLE**									

Note:
1) Borehole caved at a depth of 5.2 m below ground surface (mBGS) upon completion of drilling.

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ▲ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH12

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer | DIAMETER: 155 mm

FIELD ENGINEER: RR | DATE: 2018-04-23

SAMPLE REVIEW: DX | REF. NO.: 17-2099GE

CHECKED: DL | ENCL. NO.: 13

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION
295.3 / 0.0	**TOPSOIL:** (290 mm)				
295.0 / 0.3	**REWORKED SANDY SILT TO SAND AND SILT:** trace clay, trace gravel, trace organics, trace rootlets, dark brown to brown, moist, loose	1	SS	4	295
294.7 / 0.6		2A	SS	4	
1 / 294.2	**SAND AND SILT:** trace clay, trace gravel, organic stain, brown, moist to wet, loose	2B	SS		
294.1 / 1.2	**SAND AND SILT:** trace clay, trace gravel, containing cobbles and boulders, brown, moist, loose	3	SS	47	294
2 / 293.2	**SAND:** some gravel, some silt, containing cobbles and boulders, brown, moist, dense				
2.1	**SILTY SAND:** trace gravel, layers/zones of sand and silt, brown, moist, very dense	4	SS	72	293
292.4					
3 / 2.9	**SILTY FINE SAND:** seams/pockets of silt, brown, moist, very dense	5	SS	60	292
291.3					
4.0	**SAND AND SILT TO SILTY SAND:** trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense	6	SS	77 / 260 mm	291
5	--- auger grinding				
6		7	SS	50 / 140 mm	290
	--- auger grinding				289
7					
287.6	--- containing cobbles and boulders	8	SS	50 / 130 mm	288
7.8	**END OF BOREHOLE**				

Note:
1) Borehole caved at a depth of 6.3 m below ground surface (mBGS) upon completion of drilling.

GROUND WATER

DYNAMIC PENETRATION TEST
○ SPT ≳ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined ✕ Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

Plastic Limit | Natural Moisture Content | Liquid Limit
w_P | w | w_L
WATER CONTENT (%)
10 20 30 40

> >100

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
15	74	11	

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: + 3, × 3: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH13

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-24

REF. NO.: 17-2099GE

ENCL. NO.: 14

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION
294.6 / 0.0	**TOPSOIL:** (170 mm)				
294.5 / 0.2	**REWORKED SANDY SILT:** trace to some clay, trace gravel, trace organics, trace rootlets, dark brown to brown, moist, very loose	1	SS	3	
294.0 / 0.6	**SAND AND SILT TO SANDY SILT:** some clay, trace gravel, sand pockets, containing cobbles and boulders, brown, moist, compact	2	SS	11	294
		3	SS	17	293
292.6 / 2.1	**SAND AND SILT TO SILTY SAND:** trace gravel, containing cobbles and boulders, brown, moist, very dense	4	SS	64	292
291.7 / 2.9	**FINE SAND:** trace to some silt, trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense --- auger grinding	5	SS	59	291
290.6 / 4.0	**SILTY FINE SAND:** trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense	6A	SS	69	290
289.8 / 4.9	**SAND AND SILT:** trace clay, trace gravel, containing cobbles and boulders, brown, moist, very dense	6B	SS		
289.1 / 5.6	**SILTY SAND:** trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense	7	SS	50 / 140 mm	289
288.4 / 6.2	**END OF BOREHOLE**				

Note:
1) Borehole caved at a depth of 5.4 m below ground surface (mBGS) upon completion of drilling.

GROUND WATER

DYNAMIC PENETRATION TEST
○ SPT ≳ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined ✕ Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

Plastic Limit w_P | Natural Moisture Content w | Liquid Limit w_L

WATER CONTENT (%)
10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
1	39	42	18

GROUNDWATER ELEVATIONS
Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH14

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer | DIAMETER: 155 mm

FIELD ENGINEER: RR | DATE: 2018-04-24

SAMPLE REVIEW: DX | REF. NO.: 17-2099GE

CHECKED: DL | ENCL. NO.: 15

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION
293.3					
0.0 / 293.0	**TOPSOIL:** (340 mm)	1	SS	3	293
0.3 / 292.7	**REWORKED SANDY SILT TO SAND AND SILT:** trace to some clay, trace gravel, trace organics, trace rootlets, dark brown, moist, very loose	2	SS	5	
0.6 / 292.1	**SAND AND SILT:** trace to some clay, trace gravel, trace rootlets, pockets of organics, organic stain, brown, wet, loose	3	SS	14	292
1.2	**SAND AND SILT TO SILTY SAND:** trace to some clay, trace gravel, pockets of sand, containing cobbles and boulders, moist to wet, compact to very dense	4	SS	14	291
		5	SS	12	290
		6	SS	70	289
287.1		7	SS	50 / 150 mm	288
6.3	**END OF BOREHOLE**				

Bentonite

Sand

Screen

287.4/May 11

Natural pack

Notes:
1) Water was encountered at a depth of 2.3 m below ground surface (mBGS) during drilling.
2) Water was at a depth of 3.7 mBGS upon completion of drilling.
3) Borehole caved at a depth of 4.0 mBGS upon completion of drilling.
4) 51 mm dia. monitoring well was installed in borehole upon completion of drilling.

Water Level Reading

Date	W. L Depth (mBGS)
May 11, 2018	5.94

DYNAMIC PENETRATION TEST: ○ SPT, ≳ Cone, blows/0.3m; 20, 40, 60, 80

SHEAR STRENGTH (kPa): ● Unconfined, ✕ Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane; 20, 40, 60, 80

Plastic Limit (w_P) | Natural Moisture Content (w) | Liquid Limit (w_L)

WATER CONTENT (%): 10, 20, 30, 40

> >100

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR SA SI CL

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES: +³, ×³: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH15

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer | DIAMETER: 155 mm

FIELD ENGINEER: HR | DATE: 2018-04-30

SAMPLE REVIEW: DX | REF. NO.: 17-2099GE

CHECKED: DL | ENCL. NO.: 16

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION
291.3					
0.0 / 291.0	**TOPSOIL:** (330 mm)	1	SS	2	291
0.3 / 290.7	**REWORKED SAND AND SILT:** trace clay, trace gravel, trace organics, trace rootlets, dark brown, wet, very loose	2	SS	9	
0.6 / 290.1	**SAND AND SILT:** trace clay, trace gravel, organic stain, brown, wet, loose				
1.2	**SAND AND SILT TO SILTY SAND:** trace to some clay, trace gravel, layers of silty sand, pockets of sand, brown, moist to wet, loose to very dense	3	SS	7	290
		4	SS	9	289
		5	SS	11	288
		6	SS	10	287
		7	SS	50 / 100 mm	286
285.0					285
6.4	**END OF BOREHOLE**				

Notes:
1) Water was encountered at a depth of 2.1 m below ground surface (mBGS) during drilling.
2) Borehole caved at a depth of 5.5 mBGS upon completion of drilling.
3) 51 mm dia. monitoring well was installed upon completion of drilling.

Water Level Reading

Date	W. L Depth (mBGS)
May 11, 2018	1.51

GROUND WATER: 289.8/May 11

Bentonite

Sand

Screen

Natural pack

DYNAMIC PENETRATION TEST: ○ SPT, ≳ Cone, blows/0.3m; 20 40 60 80

SHEAR STRENGTH (kPa): ● Unconfined ✕ Field Vane & Sensitivity ▲ Quick Triaxial ⊠ Penetrometer + Lab Vane; 20 40 60 80

Plastic Limit (w_P) | Natural Moisture Content (w) | Liquid Limit (w_L)

WATER CONTENT (%): 10 20 30 40

> >100

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
3	56	27	14

GROUNDWATER ELEVATIONS

Measurement: 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH16

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: HR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-30

REF. NO.: 17-2099GE

ENCL. NO.: 17

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION
299.0 / 0.0	**PAVED SHOULDER ASPHALT:** (60 mm)				
298.9 / 0.1	**GRANULAR BASE/SUBBASE:** (780 mm)	1	AS		
298.1 / 0.8	**FILL:** gravelly sand, trace silt, containing rock fragments, brown, moist, compact	2	SS	15	298
297.7 / 1.2	**FILL:** organic sandy silt to organic silt, trace clay, trace gravel, dark brown, wet, loose	3A	SS	6	
297.2 / 1.8	**FILL:** sandy silt to sand and silt, trace to some clay, trace organics, brown, wet, loose	3B	SS		297
296.8 / 2.1	**SAND AND SILT:** trace clay, trace gravel, brown to grey, wet, loose to compact	4	SS	7	
		5	SS	11	296
					295
	---grey	6	SS	29	294
					293
292.4 / 6.6	**END OF BOREHOLE**	7	SS	11	

Notes:
1) Water was encountered at a depth of 4.6 m below ground surface (mBGS) during drilling.
2) Water was at a depth of 5.5 mBGS upon completion of drilling.
3) Borehole caved at a depth of 6.0 mBGS upon completion of drilling.

DYNAMIC PENETRATION TEST: ○ SPT, ≳ Cone, blows/0.3m; 20 40 60 80

SHEAR STRENGTH (kPa): ● Unconfined ✕ Field Vane & Sensitivity ▲ Quick Triaxial ⊠ Penetrometer + Lab Vane; 20 40 60 80

Plastic Limit w_P | Natural Moisture Content w | Liquid Limit w_L

WATER CONTENT (%): 10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%): GR SA SI CL

GROUNDWATER ELEVATIONS

Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: +³, ×³: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180601-DC -DX.GPJ 2018-06-01 13:00

LOG OF BOREHOLE BH17

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Split Spoon

FIELD ENGINEER: HR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 51 mm

DATE: 2018-05-02

REF. NO.: 17-2099GE

ENCL. NO.: 18

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	GROUND WATER	ELEVATION	UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
298.4								
0.0 / 298.1	**TOPSOIL:** (320 mm)				298.2/May 11			
0.3 / 297.6	**REWORKED SANDY SILT:** some clay, trace to some organics, trace rootlets, brown, wet, very loose	1	SS	1		298		
0.8 / 296.9	**SILTY CLAY:** sandy, trace gravel, trace organics, organic stain, sand pockets, brown, wet, very soft to soft	2	SS	2	Bentonite	297		1 29 27 43
1.5 / 296.3	**SANDY SILT:** some clay, trace gravel, layers/seams of clayey silt, brown, wet, loose to compact	3	SS	10				
2.1 / 295.3	**CLAYEY SILT TO SILTY CLAY:** trace to some sand, trace gravel, seams of silty sand, layers of sandy silt, brown, wet, stiff	4	SS	9	Sand / Screen	296		
3.1 / 294.7	**SAND AND SILT:** trace clay, trace gravel, containing cobbles and boulders, brown to grey, moist to wet, compact	5	SS	27		295		
3.7	**END OF BOREHOLE**							

Notes:
1) Water was encountered at a depth of 0.8 m below ground surface (mBGS) during drilling.
2) Water was at a depth of 0.2 mBGS upon completion of drilling.
3) 38 mm dia. monitoring was installed in borehole upon completion of drilling.

Water Level Reading

Date	W. L Depth (mBGS)
May 11, 2018	0.23

DYNAMIC PENETRATION TEST: ○ SPT, ≳ Cone, blows/0.3m (20, 40, 60, 80)

SHEAR STRENGTH (kPa): ● Unconfined, ✕ Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane (20, 40, 60, 80)

Plastic Limit (w_P), Natural Moisture Content (w), Liquid Limit (w_L)

WATER CONTENT (%) (10, 20, 30, 40)

GROUNDWATER ELEVATIONS

Measurement: 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: +³, ×³: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH18

PROJECT: Geotechnical Investigation for Proposed Residential Developments
CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI
PROJECT LOCATION: County Road 27, Barrie, Ontario
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
METHOD: Continuous Split Spoon
FIELD ENGINEER: RR
SAMPLE REVIEW: DX
CHECKED: DL
DIAMETER: 51 mm
DATE: 2018-05-01
REF. NO.: 17-2099GE
ENCL. NO.: 19

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	GROUND WATER	ELEVATION
296.6 / 0.0	**TOPSOIL:** (300 mm)					
296.3 / 0.3	**REWORKED SAND AND SILT:** trace clay, trace gravel, brown, moist to wet, very loose	1	SS	2		
295.8 / 0.8	**SAND AND SILT:** trace clay, trace gravel, trace rootlets, layers/seams /pockets of sand, containing cobbles and boulders, brown, moist to wet, loose to compact	2	SS	6	295.4/May 11	296
		3	SS	8	Bentonite	295
		4	SS	9		294
		5	SS	17		293
		6	SS	13	Sand / Screen	292
291.4 / 5.2	**NO SAMPLE RECOVERY:** likely silty sand	7	SS	10		
290.7 / 5.9	**END OF BOREHOLE:**	8	NR	19	Natural pack	291

Notes:
1) Water was encountered at a depth of 2.3 m below ground surface (mBGS) during drilling.
2) Water was at a depth of 3.5 mBGS upon completion of drilling.
3) Borehole caved at a depth of 5.3 mBGS upon completion.
4) 38 mm dia. monitoring was installed in borehole upon completion of drilling.

Water Level Reading
Date W. L Depth (mBGS)
May 11, 2018 1.20

DYNAMIC PENETRATION TEST
○ SPT ≳ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined ✕ Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

Plastic Limit w_P | Natural Moisture Content w | Liquid Limit w_L
WATER CONTENT (%)
10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH19

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-24

REF. NO.: 17-2099GE

ENCL. NO.: 20

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m
295.3 / 0.0	**TOPSOIL:** (290 mm)			
295.0 / 0.3	**REWORKED FINE SAND AND SILT:** trace organics, trace rootlets, pockets of organics, dark brown to brown, moist, loose	1	SS	4
294.7 / 0.6	**CLAYEY SILT:** trace to some sand, trace organics, trace rootlets, zones of silty fine sand, organic stain, dark brown to brown, moist, soft to firm	2A	SS	4
294.4 / 0.9		2B	SS	
294.1 / 1.2	**SAND AND SILT:** trace to some clay, trace gravel, brown, moist to wet, loose	3	SS	9
293.3 / 2.1	**SANDY SILT TO SAND AND SILT:** trace to some clay, trace gravel, layers of clayey silt, containing cobbles and boulders, brown, moist to wet, loose	4	SS	17
292.4 / 2.9	**SAND AND SILT TILL:** trace clay, trace gravel, layers of sand and silt, containing cobbles and boulders, brown, moist, compact	5	SS	16
	SAND AND SILT: trace clay, trace gravel, containing cobbles and boulders, brown, moist, compact to very dense			
	--- auger grinding	6	SS	87 / 260 mm
289.8 / 5.6	**SILTY SAND:** trace gravel, containing cobbles and boulders, brown, moist, very dense			
288.9 / 6.4	**END OF BOREHOLE**	7	SS	50 / 150 mm

Note:
1) Borehole caved at a depth of 5.3 m below ground surface (mBGS) upon completion of drilling.

GROUND WATER

DYNAMIC PENETRATION TEST
○ SPT ≳ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined ✕ Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

Plastic Limit w_P | Natural Moisture Content w | Liquid Limit w_L

WATER CONTENT (%)
10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

ELEVATION: 295, 294, 293, 292, 291, 290, 289

> >100

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+ 3, × 3: Numbers refer to Sensitivity
▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH20

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer | DIAMETER: 155 mm

FIELD ENGINEER: RR | DATE: 2018-04-24

SAMPLE REVIEW: DX | REF. NO.: 17-2099GE

CHECKED: DL | ENCL. NO.: 21

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION	UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
297.3							
0.0 / 297.0	**TOPSOIL:** (280 mm)						
0.3 / 296.7	**REWORKED SANDY SILT TO SAND AND SILT:** trace clay, trace gravel, trace organics, trace rootlets, dark brown to brown, moist, loose	1	SS	4	297		
0.6	**SAND AND SILT TO SILTY SAND:** trace to some clay, trace gravel, layers/pockets of sand, containing cobbles and boulders, brown, moist, compact to very dense	2	SS	14			
	---auger grinding	3	SS	64	296		
	---auger grinding	4	SS	82	295		1 59 28 12
		5	SS	93	294		
	--- auger grinding	6	SS	50 / 100 mm	293		
291.0		7	SS	50 / 150 mm	292		
6.3	**END OF BOREHOLE**						

Note:
1) Borehole caved at a depth of 5.6 m below ground surface (mBGS) upon completion of drilling.

DYNAMIC PENETRATION TEST: ○ SPT, ≳ Cone, blows/0.3m; 20 40 60 80

SHEAR STRENGTH (kPa): ● Unconfined ✕ Field Vane & Sensitivity ▲ Quick Triaxial ⊠ Penetrometer + Lab Vane; 20 40 60 80

Plastic Limit (w_P) | Natural Moisture Content (w) | Liquid Limit (w_L)

WATER CONTENT (%): 10 20 30 40

> >100

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^{3}$, $\times^{3}$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH21

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-23

REF. NO.: 17-2099GE

ENCL. NO.: 22

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION
302.0					
0.0 / 301.8	**TOPSOIL:** (240 mm)				
0.2 / 301.4	**REWORKED FINE SAND AND SILT TO SILTY FINE SAND:** trace clay, trace gravel, trace organics, trace rootlets, dark brown, wet, very loose	1	SS	2	
0.6 / 300.8	**SAND AND SILT:** trace clay, trace gravel, trace rootlets, organic stain, dark brown to brown, moist to wet, loose	2	SS	5	301
1.2	**SAND AND SILT TO SILTY SAND:** trace clay, trace gravel, pockets of sand, containing cobbles and boulders, brown, moist, very dense	3	SS	61	
		4	SS	89	300
299.1					
2.9 / 298.6	**FINE SAND:** trace to some silt, trace gravel, brown, moist, very dense	5A	SS	87 / 280 mm	299
3.5 / 298.0	**SANDY SILT:** trace clay, trace gravel, layers of silt, brown, moist, very dense	5B	SS		
4.0	**SAND AND SILT TO SILTY SAND:** trace gravel, containing cobbles and boulders, brown, moist, very dense	6	SS	50 / 100 mm	298
	--- auger grinding				297
296.5					
5.5	**SAND:** trace to some silt, trace gravel, brown, moist, very dense	7	SS	50 / 80 mm	296
295.1					
6.9	**SAND AND SILT TO SILTY SAND:** trace gravel, pockets of sand, containing cobbles and boulders, brown, moist, very dense	8	SS	50 / 50 mm	295
293.6					294
8.4	**SILTY FINE SAND:** brown, moist, very dense				
292.7		9	SS	50 / 140 mm	293
9.3	**END OF BOREHOLE**				

Notes:
1) Borehole caved at a depth of 7.9 m below ground surface (mBGS)

Bentonite

Sand

Screen

Natural pack

DYNAMIC PENETRATION TEST
○ SPT ≳ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined ✕ Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

Plastic Limit w_P | Natural Moisture Content w | Liquid Limit w_L

WATER CONTENT (%)
10 20 30 40

> >100

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

Continued Next Page

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
+3, ×3: Numbers refer to Sensitivity
▲ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH21

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-23

REF. NO.: 17-2099GE

ENCL. NO.: 22

SOIL PROFILE			SAMPLES			GROUND WATER	ELEVATION	DYNAMIC PENETRATION TEST / SHEAR STRENGTH (kPa)	Plastic Limit / Natural Moisture Content / Liquid Limit / WATER CONTENT (%)	UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
ELEV / DEPTH (m)	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS/0.3m			○ SPT, ≈ Cone, blows/0.3m; 20 40 60 80 ● Unconfined ✕ Field Vane & Sensitivity ▲ Quick Triaxial ⊠ Penetrometer + Lab Vane 20 40 60 80	w_P w w_L 10 20 30 40		GR SA SI CL
	upon completion of drilling. 2) 51 mm dia. monitoring was installed in borehole upon completion of drilling. Water Level Reading Date W. L Depth (mBGS) May 11, 2018 Dry										

GROUNDWATER ELEVATIONS

Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: $+^{3}$, $\times^{3}$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH22

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: HR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-30

REF. NO.: 17-2099GE

ENCL. NO.: 23

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m
305.1				
0.0 / 304.9	**TOPSOIL:** (230 mm)			
0.2	**FINE SAND:** trace to some silt, trace gravel, containing cobbles and boulders, brown, moist to wet, loose to dense	1	SS	8
		2	SS	40
		3	SS	36
303.0				
2.1	**SILTY FINE SAND:** brown, saturated, loose to compact	4	SS	10
302.2				
2.9	**FINE SAND:** trace to some silt, brown, saturated, compact	5	SS	15
301.1				
4.0	**SAND AND SILT:** trace to some clay, trace gravel, sand pockets, containing cobbles and boulders, brown, moist to wet, very dense	6	SS	59
299.5				
5.6	**SAND:** some silt, trace gravel, brown, wet, very dense	7	SS	50 / 100 mm
298.9				
6.2	**END OF BOREHOLE**			

Notes:
1) Water encountered at a depth of 0.3 m below ground surface (mBGS) during drilling.
2) Borehole caved at a depth of 0.6 mBGS upon completion of drilling.

DYNAMIC PENETRATION TEST: ○ SPT, ≳ Cone, blows/0.3m; 20 40 60 80

SHEAR STRENGTH (kPa): ● Unconfined ✕ Field Vane & Sensitivity ▲ Quick Triaxial ⊠ Penetrometer + Lab Vane; 20 40 60 80

Plastic Limit w_P | Natural Moisture Content w | Liquid Limit w_L

WATER CONTENT (%): 10 20 30 40

ELEVATION: 305 304 303 302 301 300 299

> >100

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR SA SI CL

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES: +³, ×³: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH23

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer | DIAMETER: 155 mm

FIELD ENGINEER: RR | DATE: 2018-04-24

SAMPLE REVIEW: DX | REF. NO.: 17-2099GE

CHECKED: DL | ENCL. NO.: 24

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m
299.2				
0.0 / 298.9	**TOPSOIL:** (240 mm)	1A	SS	4
0.2 / 298.7	**REWORKED FINE SAND AND SILT:** trace organics, trace rootlets, dark brown, moist, loose	1B	SS	
0.6 / 298.6	**REWORKED SANDY SILT:** some clay, trace gravel, trace organics, trace rootlets, dark brown to brown, moist, loose	2	SS	4
1.2 / 298.0	**SANDY SILT:** some clay, trace organics, trace rootlets, organic stain, layers of sand, dark brown to brown, moist, loose	3	SS	17
2.1 / 297.1	**SAND AND SILT:** trace clay, trace gravel, organic stain, brown, moist to wet, compact			
	SAND AND SILT TO SILTY SAND: trace to some clay, trace gravel, sand pockets, containing cobbles and boulders, brown, moist to wet, dense to very dense	4	SS	44
		5	SS	53
	---auger grinding	6	SS	50 / 150 mm
5.5 / 293.7	**FINE SAND AND SILT TO SILTY FINE SAND:** trace gravel, containing cobbles and boulders, brown, wet, very dense	7	SS	50 / 120 mm
6.2 / 293.0	**END OF BOREHOLE**			

Notes:
1) Water encountered at a depth of 3.1 m below ground surface (mBGS) during drilling.
2) Water was at a depth of 3.7 mBGS upon completion of drilling.
3) Borehole caved at a depth of 5.9 mBGS upon completion of drilling.
4) 51 mm dia. monitoring was installed in borehole upon completion of drilling.

Water Level Reading

Date	W. L Depth (mBGS)
May 11, 2018	2.20

Bentonite

297.0/May 11/17

Sand

Screen

Natural pack

ELEVATION: 299, 298, 297, 296, 295, 294, 293

DYNAMIC PENETRATION TEST
○ SPT ≳ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined ✕ Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

Plastic Limit (w_P) | Natural Moisture Content (w) | Liquid Limit (w_L)

WATER CONTENT (%)
10 20 30 40

> >100 (SPT)

> >100 (Cone)

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
4	64	21	11

GROUNDWATER ELEVATIONS

Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: +³, ×³: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH24

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: HR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-24

REF. NO.: 17-2099GE

ENCL. NO.: 25

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION
297.5 / 0.0	**TOPSOIL:** (280 mm)				
297.2 / 0.3	**REWORKED FINE SAND AND SILT TO SILTY FINE SAND:** trace organics, trace rootlets, dark brown to brown, moist, loose	1	SS	5	
296.8 / 0.6	**CLAYEY SILT:** some sand to sandy, trace organics, trace rootlets, organic stain, dark brown to brown, moist, firm	2	SS	6	
296.2 / 1.2	**SAND AND SILT:** trace clay, trace gravel, organic stain, brown, wet, loose	3	SS	9	
295.4 / 2.1	**SAND AND SILT TO SILTY SAND:** trace clay, trace gravel, sand pockets, containing cobbles and boulders, brown, moist to wet, compact to very dense	4	SS	21	
		5	SS	52	
	---auger grinding	6	SS	69	
291.9 / 5.6	**FINE SAND AND SILT TO SILTY FINE SAND:** brown, wet, very dense	7	SS	69 / 290 mm	
290.9 / 6.5	**END OF BOREHOLE**				

Notes:
1) Water encountered at a depth of 4.6 m below ground surface (mBGS) during drilling.
2) Water was at a depth of 5.2 mBGS upon completion of drilling.
3) Borehole caved at 5.8 mBGS upon completion of drilling.

DYNAMIC PENETRATION TEST: ○ SPT, ≳ Cone, blows/0.3m (20, 40, 60, 80)

SHEAR STRENGTH (kPa): ● Unconfined, ✕ Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane (20, 40, 60, 80)

WATER CONTENT (%): Plastic Limit w_P, Natural Moisture Content w, Liquid Limit w_L (10, 20, 30, 40)

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%): GR SA SI CL

GROUNDWATER ELEVATIONS

Measurement: 1st, 2nd, 3rd, 4th

GRAPH NOTES: $+^{3}$, $\times^{3}$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH25

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: HR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 205 mm

DATE: 2018-04-30

REF. NO.: 17-2099GE

ENCL. NO.: 26

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION
305.8					
0.0 / 305.6	**TOPSOIL:** (200 mm)				
0.2 / 305.2	**GRAVELLY SAND:** trace silt, containing cobbles and boulders, brown, moist to wet, compact	1	SS	12	305.4/May 11
0.6	**SAND TO FINE SAND:** trace to some silt, trace gravel, brown, wet, compact	2	SS	24	305
		3	SS	18	
					304
		4	SS	23	
302.9					303
2.9	**FINE SAND TO SILTY FINE SAND:** brown, wet, compact	5	SS	22	
					302
		6	SS	24	301
					300
299.3		7	SS	12	
6.6	**END OF BOREHOLE**				

Bentonite

Sand

Screen

Natural pack

Notes:
1) Water encountered at a depth of 0.3 m below ground surface (mBGS) during drilling.
2) 51 mm dia. monitoring was installed in borehole upon completion of drilling.

Water Level Reading

Date	W. L Depth (mBGS)
May 11, 2018	0.48

DYNAMIC PENETRATION TEST: ○ SPT, ≳ Cone, blows/0.3m (20, 40, 60, 80)

SHEAR STRENGTH (kPa): ● Unconfined, ✕ Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane (20, 40, 60, 80)

Plastic Limit (w_P) — Natural Moisture Content (w) — Liquid Limit (w_L)

WATER CONTENT (%) (10, 20, 30, 40)

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
0	91	9	

GROUNDWATER ELEVATIONS

Measurement: 1st ▽, 2nd ▼, 3rd ▼, 4th ▼

GRAPH NOTES: + 3, × 3: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH26

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer | DIAMETER: 155 mm

FIELD ENGINEER: HR | DATE: 2018-04-30

SAMPLE REVIEW: DX | REF. NO.: 17-2099GE

CHECKED: DL | ENCL. NO.: 27

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION
306.5 / 0.0	**TOPSOIL:** (300 mm)				
306.2 / 0.3	**SAND AND SILT TO SILTY SAND:** trace clay, trace gravel, trace to some organics, trace rootlets, layers of peats, dark brown, moist, compact	1	SS	14	306
305.9 / 0.6	**FINE SAND:** trace to some silt, trace gravel, brown, wet, compact to very dense	2	SS	33	
		3	SS	18	305
		4	SS	37	304
		5	SS	54	303
301.8 / 4.7	**SILTY SAND TILL TO SAND AND SILT TILL:** some clay to clayey, trace gravel, layers of clayey silt, zones/layers of sand and silt, containing cobbles and boulders, brown, moist to wet, dense to very dense	6A	SS		302
		6B	SS	47	
		7	SS	57	301
300.0 / 6.6	**END OF BOREHOLE**				300

Notes:
1) Water encountered at a depth of 0.6 m below ground surface (mBGS) during drilling.
2) Water was at a depth of 0.7 mBGS upon completion of drilling.
3) Borehole caved at a depth of 0.7 mBGS upon completion of drilling.

DYNAMIC PENETRATION TEST: ○ SPT, ≳ Cone, blows/0.3m; 20 40 60 80

SHEAR STRENGTH (kPa): ● Unconfined ✕ Field Vane & Sensitivity ▲ Quick Triaxial ⊠ Penetrometer + Lab Vane; 20 40 60 80

Natural Moisture Content: Plastic Limit w_P | w | Liquid Limit w_L

WATER CONTENT (%): 10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
2	50	27	21

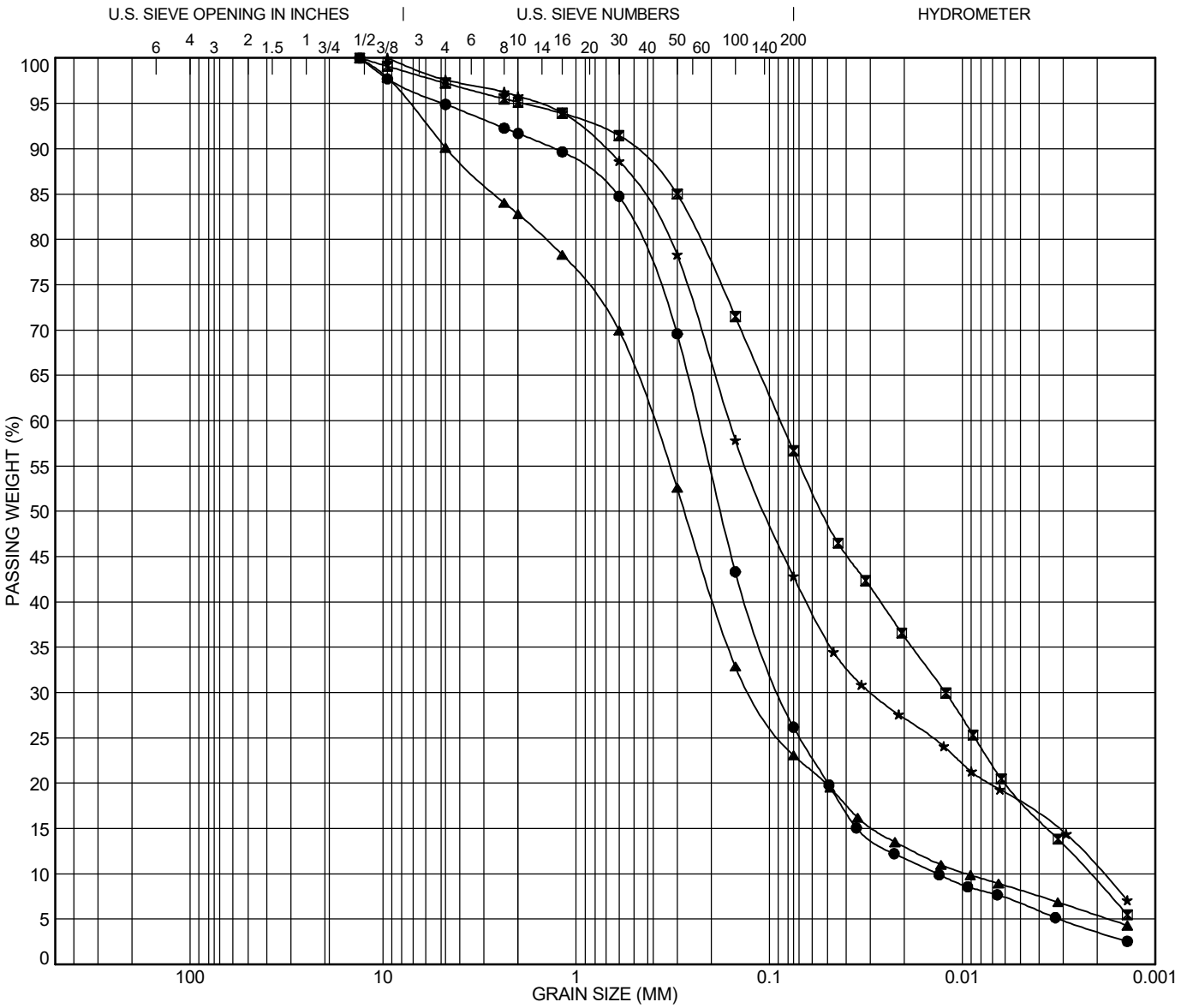
GROUNDWATER ELEVATIONS

Measurement: 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: $+^{3}$, $\times^{3}$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

FIGURES



COBBLES	GRAVEL		SAND			SILT	CLAY
	coarse	fine	coarse	medium	fine		

	Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	BH02	SS5	3.05					2.43	17.20
⊠	BH03	SS2	0.61					0.78	40.03
▲	BH04	SS3	1.22					3.91	42.36
★	BH06	SS3	1.22					2.93	86.12

	Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	BH02	SS5	3.05	13.2	0.233	0.088	0.014	5.1	68.7	22.5	3.6
⊠	BH03	SS2	0.61	13.2	0.088	0.012	0.002	2.8	40.6	47.6	9.1
▲	BH04	SS3	1.22	13.2	0.403	0.122	0.01	9.9	67.0	17.7	5.4
★	BH06	SS3	1.22	9.5	0.161	0.03	0.002	2.4	54.8	32.2	10.7

GeoPro CONSULTING LIMITED
Unit 57, 40 Vogell Road, Richmond Hill, Ontario L4B 3N6
Tel: 905-237-8336 Fax: 905-248-3699
office@geoproconsulting.ca www.geoproconsulting.ca

GRAIN SIZE DISTRIBUTION

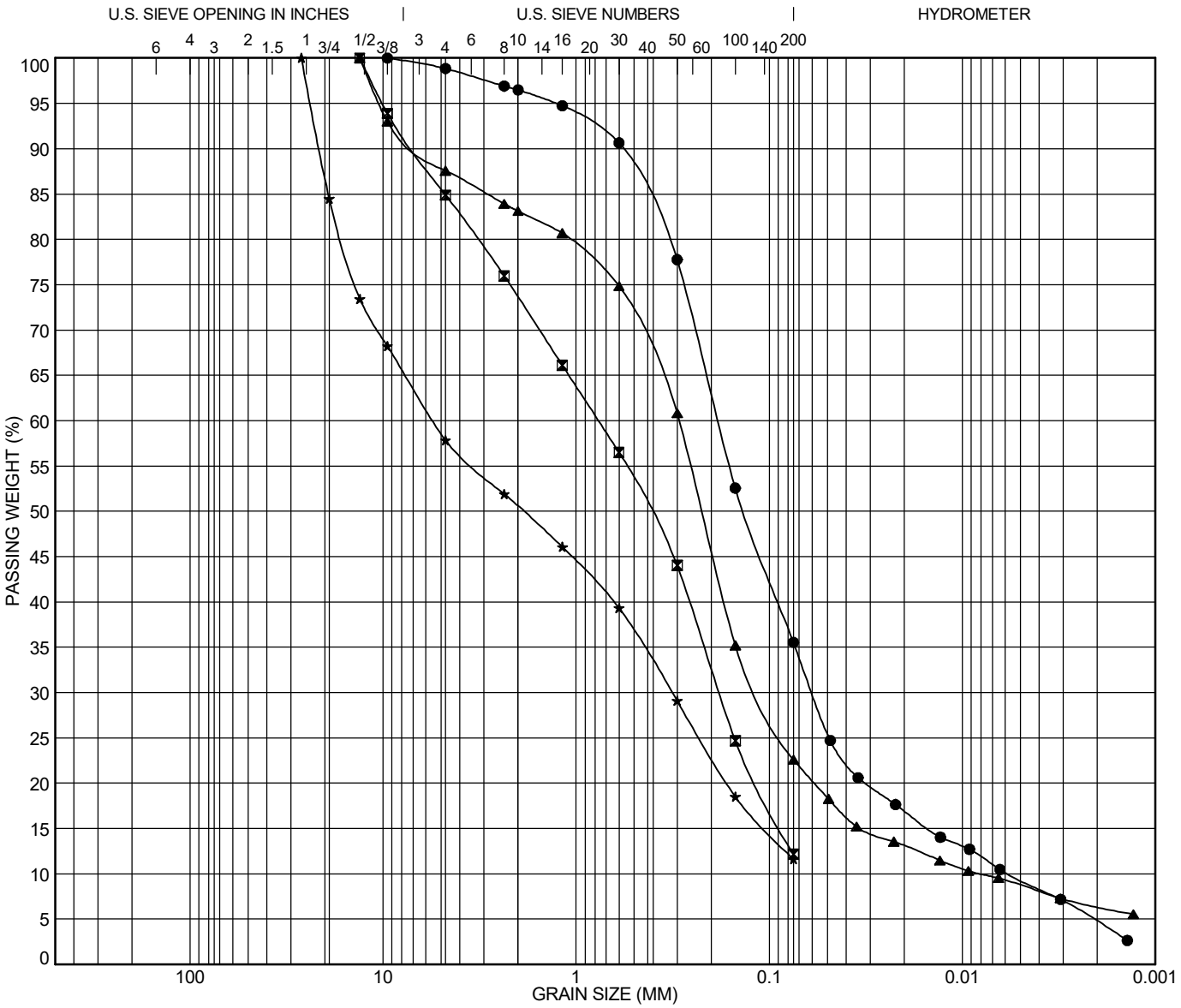
PROJECT: Proposed Phase One Environmental Site Assessment (ESA) and Geotechnical Investigation

LOCATION: County Road 27, Barrie

PROJECT NO.: 17-2099GE | SAMPLED ON: 2018-04-26

FIGURE NO.: 1 | TESTED ON: 2018-05-15

11 - GEOPRO_GRAIN_SIZE GEOPRO 17-2099 BH LOG PROJECT DATA 20180518-DC-WF-DC-LAB.GPJ 2018-05-18 16:44



COBBLES	GRAVEL		SAND			SILT	CLAY
	coarse	fine	coarse	medium	fine		

	Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	BH07	SS4	2.29					3.38	31.91
⊠	BH07	SS8	7.62					0.64	11.54
▲	BH08	SS5	3.05					5.33	36.13
★	BH09	SS5B	3.20					0.29	86.23

	Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	BH07	SS4	2.29	9.5	0.184	0.06	0.006	1.2	63.3	30.9	4.7
⊠	BH07	SS8	7.62	13.2	0.768	0.181		15.1	72.7	12.2	
▲	BH08	SS5	3.05	13.2	0.293	0.113	0.008	12.4	65.0	16.2	6.4
★	BH09	SS5B	3.20	26.5	5.487	0.319		42.2	46.2	11.6	

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Unit 57, 40 Vogell Road, Richmond Hill, Ontario L4B 3N6
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GRAIN SIZE DISTRIBUTION

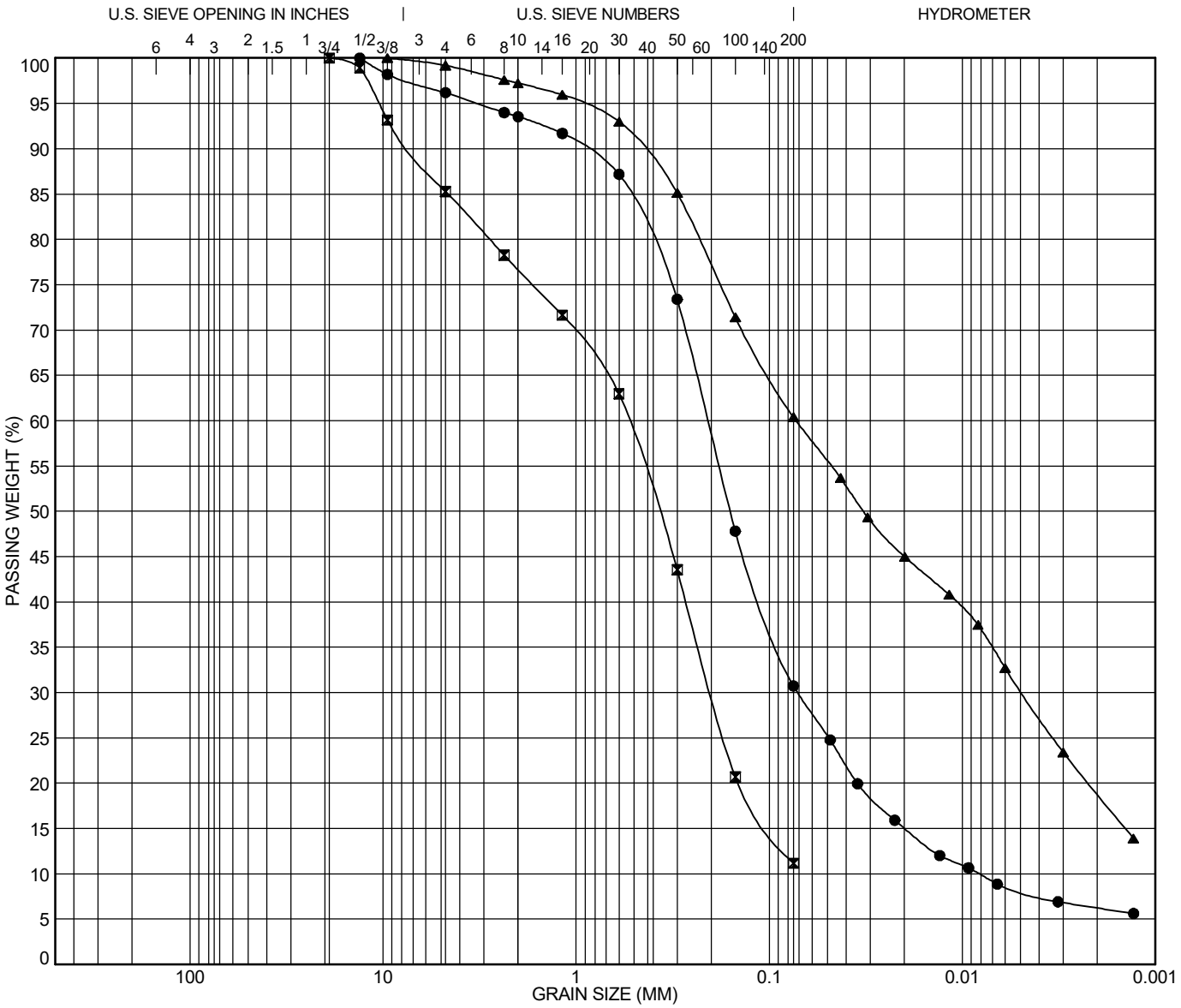
PROJECT: Proposed Phase One Environmental Site Assessment (ESA) and Geotechnical Investigation

LOCATION: County Road 27, Barrie

PROJECT NO.: 17-2099GE | SAMPLED ON: 2018-04-23

FIGURE NO.: 2 | TESTED ON: 2018-05-15

11 - GEOPRO_GRAIN_SIZE GEOPRO 17-2099 BH LOG PROJECT DATA 20180518-DC-WF-DC-LAB.GPJ 2018-05-18 16:45



COBBLES	GRAVEL		SAND			SILT	CLAY
	coarse	fine	coarse	medium	fine		

	Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	BH11	SS3	1.22					2.94	25.41
⊠	BH12	SS3	1.22					1.06	7.84
▲	BH13	SS2	0.61						

	Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	BH11	SS3	1.22	13.2	0.209	0.071	0.008	3.8	65.4	24.5	6.2
⊠	BH12	SS3	1.22	19	0.54	0.199		14.7	74.1	11.2	
▲	BH13	SS2	0.61	9.5	0.073	0.005		0.8	38.8	41.6	18.8

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GRAIN SIZE DISTRIBUTION

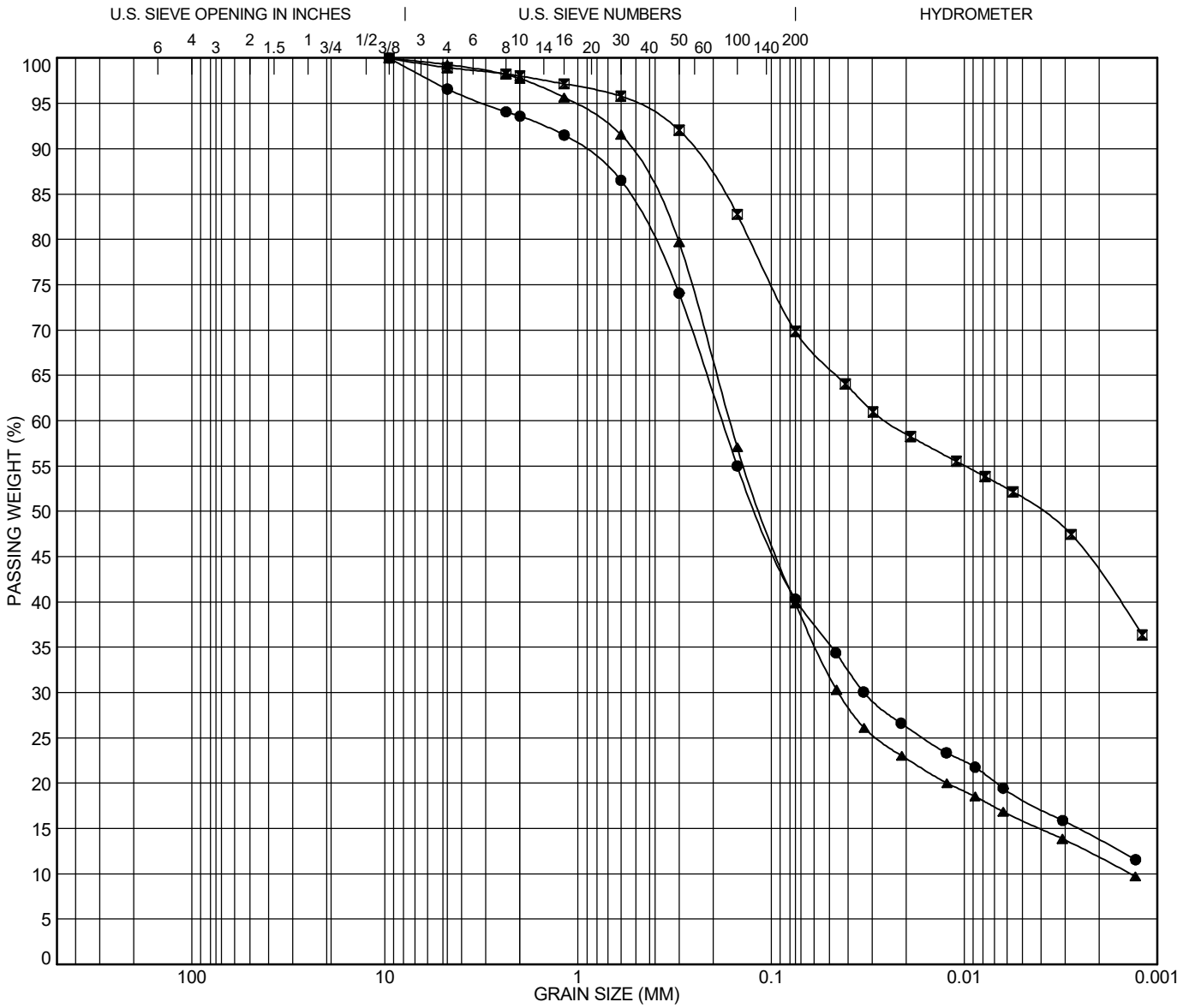
PROJECT: Proposed Phase One Environmental Site Assessment (ESA) and Geotechnical Investigation

LOCATION: County Road 27, Barrie

PROJECT NO.: 17-2099GE | SAMPLED ON: 2018-04-24

FIGURE NO.: 3 | TESTED ON: 2018-05-15

11 - GEOPRO_GRAIN_SIZE GEOPRO 17-2099 BH LOG PROJECT DATA 20180518-DC-WF-DC-LAB.GPJ 2018-05-18 16:47



COBBLES	GRAVEL		SAND			SILT	CLAY
	coarse	fine	coarse	medium	fine		

	Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	BH15	SS4	2.29						
⊠	BH17	SS2	0.76						
▲	BH20	SS4	2.29					8.85	118.54

	Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	BH15	SS4	2.29	9.5	0.18	0.033		3.4	56.3	26.6	13.7
⊠	BH17	SS2	0.76	9.5	0.025			1.0	29.1	26.8	43.0
▲	BH20	SS4	2.29	9.5	0.164	0.045	0.001	0.7	59.4	28.1	11.8

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Tel: 905-237-8336 Fax: 905-248-3699
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GRAIN SIZE DISTRIBUTION

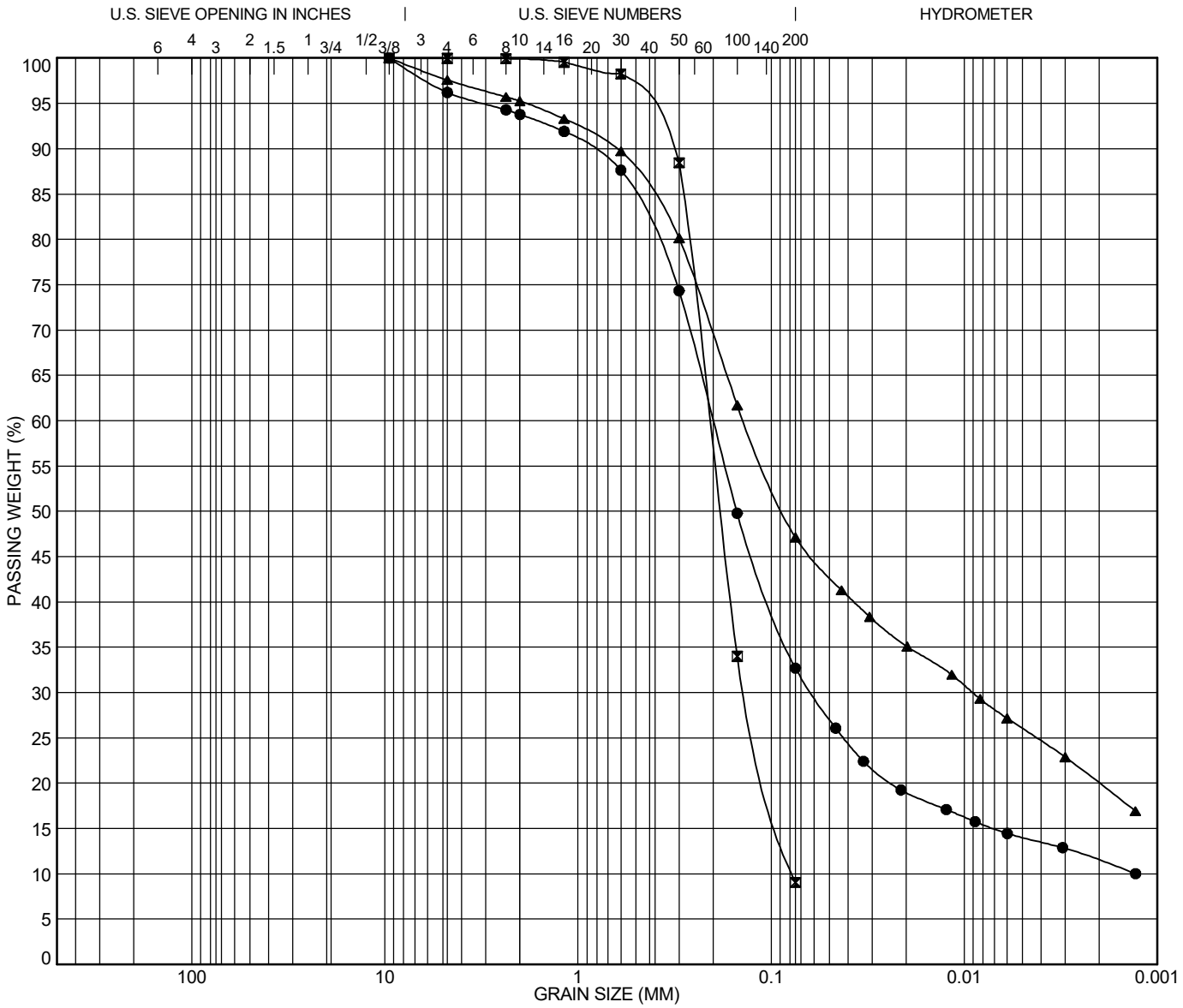
PROJECT: Proposed Phase One Environmental Site Assessment (ESA) and Geotechnical Investigation

LOCATION: County Road 27, Barrie

PROJECT NO.: 17-2099GE | SAMPLED ON: 2018-04-24

FIGURE NO.: 4 | TESTED ON: 2018-05-15

11 - GEOPRO_GRAIN_SIZE GEOPRO 17-2099 BH LOG PROJECT DATA 20180518-DC-WF-DC-LAB.GPJ 2018-05-18 16:48



COBBLES	GRAVEL		SAND			SILT	CLAY
	coarse	fine	coarse	medium	fine		

Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	**BH23**	**SS6**	**4.57**					
⊠	**BH25**	**SS3**	**1.22**				**1.12**	**2.71**
▲	**BH26**	**SS6B**	**4.70**					

Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**BH23**	**SS6**	**4.57**	**9.5**	**0.2**	**0.062**		**3.8**	**63.5**	**21.3**	**11.4**
⊠	**BH25**	**SS3**	**1.22**	**9.5**	**0.209**	**0.134**	**0.077**	**0.0**	**90.9**	**9.0**	
▲	**BH26**	**SS6B**	**4.70**	**9.5**	**0.138**	**0.009**		**2.4**	**50.5**	**27.2**	**20.0**

GeoPro CONSULTING LIMITED
Unit 57, 40 Vogell Road, Richmond Hill, Ontario L4B 3N6
Tel: 905-237-8336 Fax: 905-248-3699
office@geoproconsulting.ca www.geoproconsulting.ca

GRAIN SIZE DISTRIBUTION

PROJECT: Proposed Phase One Environmental Site Assessment (ESA) and Geotechnical Investigation

LOCATION: County Road 27, Barrie

PROJECT NO.: 17-2099GE | SAMPLED ON: 2018-04-30

FIGURE NO.: 5 | TESTED ON: 2018-05-15

11 - GEOPRO_GRAIN_SIZE GEOPRO 17-2099 BH LOG PROJECT DATA 20180518-DC-WF-DC-LAB.GPJ 2018-05-18 16:49

APPENDIX A

GENERAL REQUIREMENTS FOR ENGINEERED FILL

Compacted, imported soil that meets specific engineering requirements that is free of organics, topsoil, debris and any other deleterious materials, and that has been continually monitored on a full-time basis by a qualified geotechnical representative under the supervision of the geotechnical engineer is classified as engineered fill. Engineered fill that meets these requirements and is bearing on suitable native subsoil can be used for the support of foundations.

Imported soil used as engineered fill can be removed from other portions of a site or can be brought in from other site(s). In general, most Ontario soils are too wet to achieve 100% Standard Proctor Maximum Dry Density (SPMDD) and will require drying and careful site management if they are to be used for engineered fill. Imported non-cohesive granular soils, such as well-graded sandy/granular soils, are preferred for all engineered fill. We recommend that OPSS Granular 'B' sand and gravel materials be used for the engineered fill material.

Adverse weather conditions, such as rain or subzero temperatures, make the placement of engineered fill to the required degree of compaction difficult or impossible; engineered fill cannot be placed during freezing conditions (i.e. normally between December 15 and April 1 in Southern Ontario).

The locations and elevations of the foundations on the engineered fill pad are critical, and certification by a qualified surveyor, to ensure that the proposed foundations are to be located within the stipulated boundaries, is mandatory. Since layout stakes are often damaged or removed during engineered fill placement, offset stakes must be installed and maintained by the surveyors during the course of fill placement so that the contractor and engineering staff are continually aware of where the engineered fill limits lie. Excavations within the engineered fill pad must be backfilled with the same engineered fill as the original pad.

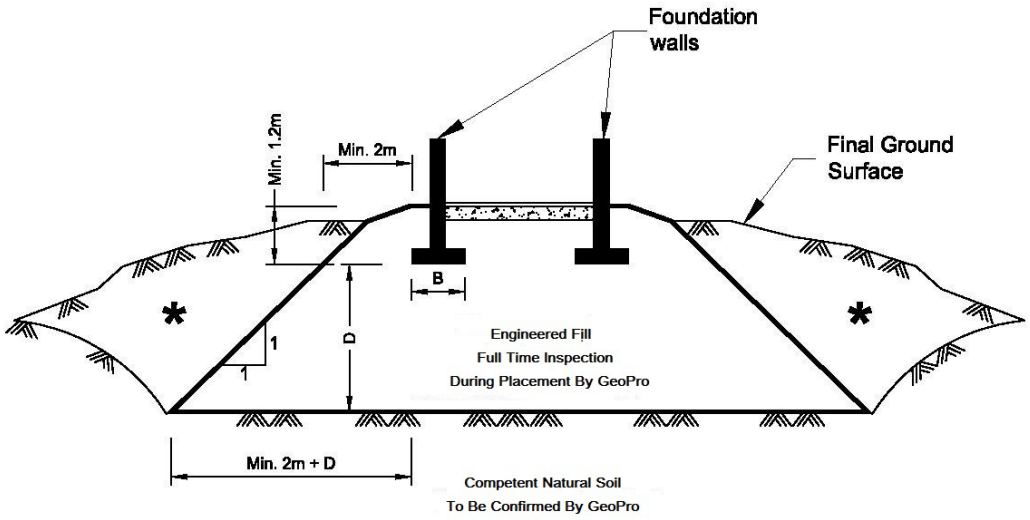
To perform satisfactorily, engineered fill requires the cooperation of the designers, engineers, and contractors, and all parties must be aware of the requirements. The minimum requirements are as follows; however, the geotechnical report must be reviewed for specific information and requirements.

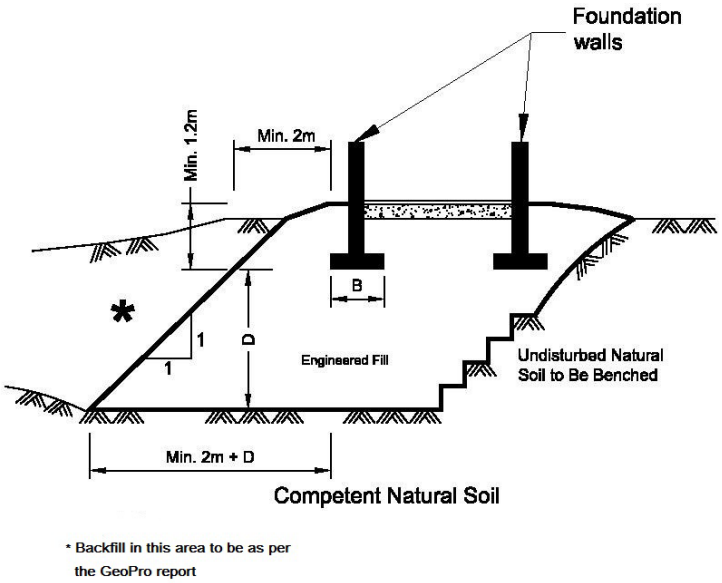
1. Prior to the site work involving engineered fill, a kick-off site meeting, to discuss all aspects of the engineered fill placement, must be carried out with all parties. The surveyor, contractor, design engineers and geotechnical engineer must attend the kick-off meeting. At the meeting, the construction schedule and the detailed design information regarding the engineered fills (such as the boundaries, thickness, competent subgrade elevations, specifications, and any special requirements from the engineers) will be discussed and determined. The contractor must provide the construction schedule including the source site(s) of the fill materials, which will have to be reviewed by the geotechnical engineer. The geotechnical engineer will arrange for soil sampling at the source site(s) and carry out the related laboratory testing. No soils can be hauled to the site prior to approval by the geotechnical engineer.
2. Detailed design drawings, such as grading drawings and other relevant drawings indicating the proposed structures or utilities as well as the underside and finished elevations of the engineered fill, should be provided in advance, and any concerns from a geotechnical perspective can be discussed at the kick-off site meeting and then approved by the engineers and other relevant parties.
3. The building footprint and base of the pad (including basements, garages, etc.) must be defined by offset stakes that will remain in place until the footings and service connections are all constructed. Confirmation, such as that the footings are within the pad, the service lines are in place, and the

grade conforms to drawings, must be obtained (by the owner) in writing from the surveyor and GeoPro. Without this confirmation in writing, no responsibility for the performance of the engineered fill can be accepted by GeoPro. Survey drawings of the pre and post fill location and elevations will also be required.

4. The subgrade area must be stripped of all topsoil, existing fill materials, loosened/softened native soils and any other deleterious materials. The subgrade must be proof-rolled by a qualified engineering representative from GeoPro. Any soft/loose spots revealed by proof-rolling must be subexcavated and replaced with engineered fill. The stripped subgrade must be examined and approved by a geotechnical engineer prior to the placement of engineered fill.
5. The approved engineered fill must be compacted to 98% SPMDD throughout. Granular fill materials consisting of well-graded, cohesionless sand and gravel are preferred. Engineered fill should not be placed (where it will support foundations) during the winter months. Engineered fill compacted to 98% SPMDD will settle under its own weight to approximately 0.25% to 0.75% of the fill height, and the structural engineer must be aware of this settlement. In addition to the settlement of the fill, additional settlement, due to consolidation of the underlying soils from the structures and fill loads, will occur and should be evaluated prior to placing the engineered fill.
6. Full-time geotechnical inspection and compaction testing by GeoPro during the placement of engineered fill must be required. The placement of the engineered fill must not commence or continue without the presence of GeoPro's representative.
7. Excavations must be carried out in accordance with the Occupational Health and Safety Regulations of Ontario.
8. Surface water cannot be allowed to pond in any area of the engineered fill footprint.
9. Clear stone backfill must not be used in any portion of the engineered fill unless it is approved by GeoPro in writing.
10. The fill must be placed such that the specified geometry is achieved. Refer to the attached sketches for the minimum requirements. Take careful note that the projection of the compacted pad beyond the footing (at footing level) is a minimum of 2 m. The base of the compacted pad extends 2 m plus the depth of excavation beyond the edge of the footing.
11. A bearing resistance of 100 kPa to 150 kPa at SLS (150 kPa to 225 kPa at a factored ULS), or that being specified in the geotechnical report, can be used provided that all conditions outlined are adhered to. A minimum footing width of 500 mm (20 inches) is suggested, and footings must be provided with nominal steel reinforcement.
12. The owner may choose the same contractor or a different contractor for the foundation construction after completion of the engineered fill pad. In any case, the prepared footing bases must be inspected and evaluated by an engineering representative from GeoPro prior to pouring footing concrete. All excavations must be backfilled, under full-time supervision by GeoPro, to the same degree as the engineered fill pad. Surface water cannot be allowed to pond in the excavations. Clear stone backfill is not allowed unless it is approved by GeoPro.
13. After completion of compaction, the surface of the engineered fill pad must be protected from disturbance from traffic, rain and frost. During the course of fill placement, the engineered fill must be smooth-graded, proof-rolled and sloped/crowned at the end of each day, prior to weekends, and at any stoppage in work, in order to promote rapid runoff of rainwater and to avoid any ponding of surface water. Any stockpiles of fill intended for use as engineered fill must also be smooth-bladed to promote runoff and/or protected from excessive moisture take-up.

14. If the engineered fill placement is suspended for a long period of time, the engineered fill pad must be inspected by the geotechnical engineer prior to resuming the engineered fill placement. The locations of the proposed structures must be reconfirmed by the project surveyor, and the offset stakes should be reinstated by the project surveyor prior to resuming the engineered fill placement.
15. The geometry of the engineered fill, as illustrated in these General Requirements, is general and generic in nature. Each project will have its own unique requirements. For example, if perimeter sidewalks are to be constructed around the building, then the projection of the engineered fill beyond the foundation wall may need to be greater.
16. These guidelines are to be read in conjunction with GeoPro's report.





APPENDIX B

CADUCEON™ ENVIRONMENTAL LABORATORIES
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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G73815

REPORT No. B18-12995

Rev. 1

Report To:

GeoPro Consulting Ltd
40 Vogell Rd, Unit 23
Richmond Hill ON L4B 3N6
Attention: Bujing Guan

Caduceon Environmental Laboratories
110 West Beaver Creek Rd Unit 14
Richmond Hill ON L4B 1J9
Tel: 289-475-5442
Fax: 289-562-1963

DATE RECEIVED: 15-May-18
DATE REPORTED: 25-May-18
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:

P.O. NUMBER: 17-2099GE
WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
Cyanide	10	Kingston	US	22-May-18	A-CN s K	in house
Conductivity	10	Richmond Hill	ABL	16-May-18	A-COND-02 s RH	MOEE3138
pH	10	Richmond Hill	ABL	15-May-18	A-pH-02 (rh)	MOEE 3137
Chromium (VI)	10	Holly Lane	VK	16-May-18	D-CRVI-02 (o)	EPA7196A
Mercury	10	Holly Lane	PBK	22-May-18	D-HG-01 (o)	EPA 7471A
Boron - HWS	10	Holly Lane	TPR	18-May-18	D-HWE s	MOE3470
Sodium Adsorption Ratio	10	Holly Lane	TPR	22-May-18	D-ICP-01 SAR (o)	SM 3120
Metals - ICP-OES	10	Holly Lane	TPR	22-May-18	D-ICP-02 (o)	EPA 6010
Metals - ICP-MS	10	Holly Lane	RPE	22-May-18	D-ICPMS-01 (o)	EPA 6020

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun

Christine Burke
Lab Manager

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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WATERWORKS NO.

	Client I.D.		BH 5 SS1+SS2	BH 7 SS1+SS2+SS3	BH 10 SS4+SS5	BH 13 SS2+SS3	O. Reg. 153 Tbl. 1 - All	
	Sample I.D.		B18-12995-1	B18-12995-2	B18-12995-3	B18-12995-4		
	Date Collected		26-Apr-18	25-Apr-18	23-Apr-18	24-Apr-18		
Parameter	**Units**	**R.L.**						
pH @25°C	pH Units		7.53	7.56	8.07	7.90		
Conductivity @25°C	mS/cm	0.07	0.20	0.25	0.08	0.12	0.57	
Cyanide (Free)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.051	
Sodium Adsorption Ratio	units		0.168	0.215	0.200	0.165	2.4	
Antimony	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.3	
Arsenic	µg/g	0.5	0.8	1.2	< 0.5	0.8	18	
Barium	µg/g	1	49	116	25	57	220	
Beryllium	µg/g	0.2	0.3	0.6	< 0.2	0.3	2.5	
Boron	µg/g	0.5	4.1	5.7	2.5	5.0	36	
Boron (HWS)	µg/g	0.02	< 0.02	< 0.02	0.02	< 0.02		
Cadmium	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.2	
Chromium	µg/g	1	16	23	10	15	70	
Chromium (VI)	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.66	
Cobalt	µg/g	1	5	8	4	6	21	
Copper	µg/g	1	8	13	5	11	92	
Lead	µg/g	5	< 5	5	< 5	< 5	120	
Mercury	µg/g	0.005	0.013	0.017	< 0.005	< 0.005	0.27	
Molybdenum	µg/g	1	< 1	3	1	< 1	2	
Nickel	µg/g	1	9	15	5	10	82	
Selenium	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.5	
Silver	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.5	
Thallium	µg/g	0.1	< 0.1	0.1	< 0.1	< 0.1	1	
Uranium	µg/g	0.1	0.4	0.5	0.3	0.4	2.5	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
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Lab Manager

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WATERWORKS NO.

	Client I.D.		BH 5 SS1+SS2	BH 7 SS1+SS2+SS 3	BH 10 SS4+SS5	BH 13 SS2+SS3	O. Reg. 153 Tbl. 1 - All	
	Sample I.D.		B18-12995-1	B18-12995-2	B18-12995-3	B18-12995-4		
	Date Collected		26-Apr-18	25-Apr-18	23-Apr-18	24-Apr-18		
Parameter	**Units**	**R.L.**						
Vanadium	µg/g	1	31	40	30	29	86	
Zinc	µg/g	3	20	38	16	26	290	

1 . Revised report to correct the project number as per client request

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun

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SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 17-2099GE
WATERWORKS NO.

	Client I.D.		BH 4 SS1	BH 17 SS2+SS3	BH 15 SS4+SS5	BH 22 SS2+SS3	O. Reg. 153 Tbl. 1 - All	
	Sample I.D.		B18-12995-5	B18-12995-6	B18-12995-7	B18-12995-8		
	Date Collected		30-Apr-18	02-May-18	30-Apr-18	30-Apr-18		
Parameter	**Units**	**R.L.**						
pH @25°C	pH Units		7.89	7.90	7.95	8.12		
Conductivity @25°C	mS/cm	0.07	0.10	0.52	0.11	< 0.07	0.57	
Cyanide (Free)	µg/g	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.051	
Sodium Adsorption Ratio	units		0.146	**3.19**	0.326	0.151	2.4	
Antimony	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.3	
Arsenic	µg/g	0.5	0.8	0.5	< 0.5	< 0.5	18	
Barium	µg/g	1	55	76	48	9	220	
Beryllium	µg/g	0.2	0.2	0.4	0.2	< 0.2	2.5	
Boron	µg/g	0.5	4.1	6.0	4.4	1.3	36	
Boron (HWS)	µg/g	0.02	< 0.02	< 0.02	< 0.02	< 0.02		
Cadmium	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.2	
Chromium	µg/g	1	13	19	13	6	70	
Chromium (VI)	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.66	
Cobalt	µg/g	1	5	7	5	2	21	
Copper	µg/g	1	8	11	8	2	92	
Lead	µg/g	5	< 5	< 5	< 5	< 5	120	
Mercury	µg/g	0.005	0.005	0.009	< 0.005	< 0.005	0.27	
Molybdenum	µg/g	1	< 1	< 1	< 1	< 1	2	
Nickel	µg/g	1	8	12	8	2	82	
Selenium	µg/g	0.5	< 0.5	< 0.5	< 0.5	< 0.5	1.5	
Silver	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.5	
Thallium	µg/g	0.1	< 0.1	< 0.1	< 0.1	< 0.1	1	
Uranium	µg/g	0.1	0.4	0.4	0.3	0.3	2.5	
Vanadium	µg/g	1	29	34	28	21	86	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun

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Lab Manager

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DATE RECEIVED: 15-May-18
DATE REPORTED: 25-May-18
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 17-2099GE
WATERWORKS NO.

	Client I.D.		BH 4 SS1	BH 17 SS2+SS3	BH 15 SS4+SS5	BH 22 SS2+SS3	O. Reg. 153 Tbl. 1 - All	
	Sample I.D.		B18-12995-5	B18-12995-6	B18-12995-7	B18-12995-8		
	Date Collected		30-Apr-18	02-May-18	30-Apr-18	30-Apr-18		
Parameter	**Units**	**R.L.**						
Zinc	µg/g	3	21	30	20	6	290	

1 . Revised report to correct the project number as per client request

O. Reg. 153 - Soil, Ground Water and Sediment Standards
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DATE RECEIVED: 15-May-18
DATE REPORTED: 25-May-18
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 17-2099GE
WATERWORKS NO.

	Client I.D.		BH 24 SS1+SS2	BH 26 SS2+SS3			O. Reg. 153 Tbl. 1 - All	
	Sample I.D.		B18-12995-9	B18-12995-10				
	Date Collected		24-Apr-18	24-Apr-18				
Parameter	**Units**	**R.L.**						
pH @25°C	pH Units		6.41	7.98				
Conductivity @25°C	mS/cm	0.07	0.23	< 0.07			0.57	
Cyanide (Free)	µg/g	0.05	< 0.05	< 0.05			0.051	
Sodium Adsorption Ratio	units		0.190	0.201			2.4	
Antimony	µg/g	0.5	< 0.5	< 0.5			1.3	
Arsenic	µg/g	0.5	1.4	< 0.5			18	
Barium	µg/g	1	87	12			220	
Beryllium	µg/g	0.2	0.5	< 0.2			2.5	
Boron	µg/g	0.5	3.8	1.9			36	
Boron (HWS)	µg/g	0.02	< 0.02	< 0.02				
Cadmium	µg/g	0.5	< 0.5	< 0.5			1.2	
Chromium	µg/g	1	24	7			70	
Chromium (VI)	µg/g	0.2	< 0.2	< 0.2			0.66	
Cobalt	µg/g	1	9	2			21	
Copper	µg/g	1	12	3			92	
Lead	µg/g	5	6	< 5			120	
Mercury	µg/g	0.005	0.020	< 0.005			0.27	
Molybdenum	µg/g	1	< 1	< 1			2	
Nickel	µg/g	1	14	2			82	
Selenium	µg/g	0.5	< 0.5	< 0.5			1.5	
Silver	µg/g	0.2	< 0.2	< 0.2			0.5	
Thallium	µg/g	0.1	< 0.1	< 0.1			1	
Uranium	µg/g	0.1	0.5	0.5			2.5	
Vanadium	µg/g	1	49	17			86	

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun



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Lab Manager

R.L. = Reporting Limit
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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G73815

REPORT No. B18-12995

Rev. 1

Report To:

GeoPro Consulting Ltd
40 Vogell Rd, Unit 23
Richmond Hill ON L4B 3N6
Attention: Bujing Guan

Caduceon Environmental Laboratories
110 West Beaver Creek Rd Unit 14
Richmond Hill ON L4B 1J9
Tel: 289-475-5442
Fax: 289-562-1963

DATE RECEIVED: 15-May-18
DATE REPORTED: 25-May-18
SAMPLE MATRIX: Soil

JOB/PROJECT NO.:
P.O. NUMBER: 17-2099GE
WATERWORKS NO.

	Client I.D.		BH 24 SS1+SS2	BH 26 SS2+SS3			O. Reg. 153 Tbl. 1 - All	
	Sample I.D.		B18-12995-9	B18-12995-10				
	Date Collected		24-Apr-18	24-Apr-18				
Parameter	**Units**	**R.L.**						
Zinc	µg/g	3	30	7			290	

1 . Revised report to correct the project number as per client request

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Christine Burke
Lab Manager

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CADUCEON ENVIRONMENTAL LABORATORIES
Client committed. Quality assured.

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P.O. NUMBER: 17-2099GE
WATERWORKS NO.

Summary of Exceedances

Table 1 - Res/Park/Institutional/Indus/Com/Commun		
BH 7 SS1+SS2+SS3	Found Value	Limit
Molybdenum (µg/g)	3	2
BH 17 SS2+SS3	Found Value	Limit
Sodium Adsorption Ratio (units)	3.19	2.4

O. Reg. 153 - Soil, Ground Water and Sediment Standards
Tbl. 1 - All - Table 1 - Res/Park/Institutional/Indus/Com/Commun

Christine Burke
Lab Manager

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Quality Assurance Report

Report No: B18-12995

Report To:

GeoPro Consulting Ltd
40 Vogell Rd
Richmond Hill, ON L4B 3N6
Attention: Bujing Guan

Caduceon Environmental Laboratories
110 West Beaver Creek Rd
Richmond Hill, ON L4B 1J9
Tel: (289) 475-5442
Fax: (866) 562-1963

Date Submitted:	2018/05/15	Job/Project No.:	
Samples Submitted By:	Fan Wu	COC No.:	G73815
Samples Received By:	Christine Burke	P.O. Number:	17-2099GE
Date Reported:	2018/05/23	Waterworks No.:	-
Sample Matrix:	Soil	Quote No.:	P18_GeoPro_Intro
Temperature Upon Receipt (ºC):	7.1	Invoice To:	Bujing Guan

Analyses	Qty.	Site Analyzed	Analyst Initials	Date Extracted	Date Analyzed	Time Analyzed	Date Approved	Laboratory Method	Method Reference
Metals - ICP-AES	10	Ottawa	TPR	2018/05/22	2018/05/22	14:03	2018/05/22	D-ICP-02 (o)	EPA 6010
pH	10	Richmond Hill	ABL	NA	2018/05/15	16:50	2018/05/15	A-pH-02 (rh)	MOEE 3137
Conductivity	10	Richmond Hill	ABL	NA	2018/05/16	15:40	2018/05/16	A-COND-02 s RH	MOEE3138
Boron - HWS	10	Ottawa	TPR	2018/05/18	2018/05/18	12:38	2018/05/18	D-HWE s	EPA 200.7
Mercury	10	Ottawa	PBK	2018/05/22	2018/05/22	16:20	2018/05/22	D-HG-01 (o)	EPA 7471A
Metals - ICP-AES	10	Ottawa	TPR	2018/05/22	2018/05/22	14:29	2018/05/22	D-ICP-01 (o)	SM 3120
Cyanide (Free)	10	Kingston	US	NA	2018/05/22	10:55	2018/05/22	A-CN s K	in house
Chromium (VI)	10	Ottawa	VK	2018/05/16	2018/05/16	09:31	2018/05/18	D-CRVI-02 (o)	EPA7196A
Metals - ICP-MS	10	Ottawa	RPE	2018/05/22	2018/05/22	15:47	2018/05/23	D-ICPMS-01 (o)	EPA 6020

NA = Not Applicable

Revised report to correct the project number as per client request

GENERAL COMMENTS

Christine Burke
Lab Manager

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Quality Assurance Report

Report No: B18-12995

Parameters	MDL	QC Data								
		LCS Sample (% Rec.)		Duplicate				Lab	MS/RM (% Rec.)	
		Found	Limits	Result 1	Result 2	R.P.D.	Limits (%)	Blank	Found	Limits
Cyanide (Free)	0.05	100	80-120	< MDL	< MDL	NC	35	< MDL	100	70-130
Conductivity @25°C	0.07	91	80-120	0.17	0.18	NC	30	< MDL	NA	70-130
pH @25°C		7.35	7.14-7.54	7.34	7.44	0.10	0.3 pH units	-	NA	70-130
Boron (HWS)	0.02	106	70-130	< MDL	< MDL	NC	40	< MDL	118	60-140
Chromium (VI)	0.2	100	80-120	< MDL	< MDL	NC	35	< MDL	49	25-124
Mercury	0.005	90	80-120	1.73	1.64	5.3	30	< MDL	90	70-130
Barium	1	108	80-120	368	392	6.3	30	1	110	70-130
Beryllium	0.2	108	80-120	1.1	1.2	NC	30	< MDL	100	70-130
Boron	0.5	109	80-120	9.9	11.5	15.0	30	< MDL	98	70-130
Cadmium	0.5	113	80-120	1.6	1.5	NC	30	< MDL	122	70-130
Chromium	1	112	80-120	75	75	0	30	5	100	70-130
Cobalt	1	111	80-120	19	21	10.0	30	< MDL	130	70-130
Copper	1	110	80-120	86	85	1.2	30	< MDL	109	70-130
Lead	5	115	80-120	927	1000	7.6	30	< MDL	114	70-130
Molybdenum	1	101	80-120	1	1	NC	30	< MDL	87	70-130
Nickel	1	113	80-120	38	39	2.6	30	3	120	70-130
Silver	0.2	110	80-120	0.5	1.4	NC	30	< MDL	70	70-130
Vanadium	1	115	80-120	56	59	5.2	30	< MDL	114	70-130
Zinc	3	111	80-120	574	573	0.2	30	< MDL	110	70-130
Antimony	0.5	98	80-120	2.9	3.7	NC	30	< MDL	102	70-130
Arsenic	0.5	84	80-120	19.3	19.2	0.5	30	< MDL	96	70-130
Selenium	0.5	80	80-120	1.6	1.5	NC	30	< MDL	81	70-130
Thallium	0.1	110	80-120	0.6	0.6	NC	30	< MDL	84	70-130
Uranium	0.1	106	80-120	0.8	0.8	NC	30	< MDL	108	70-130

Soil results are expressed in µg/gunless otherwise stated

Water results are expressed in mg/L, except SVOC and VOC are in µg/L, unless otherwise stated

LCS = Laboratory Control Standard

R.P.D. = Relative Percent Difference of Duplicate Pairs at > 10x M.D.L.

MDL = Method Detection Limit

NC = Not Calculated

- = Not Requested/Analyzed

NA = Not Applicable

MS/RM = Matrix Spike or Reference Material

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TESTING REQUIREMENTS

- [x] O.Reg 153 — Table: 1 Residential
- [ ] Surface Soil — [ ] Sub Surface Soil (O.Reg 153)
- [ ] Yes [ ] No — Record of Site Condition (O.Reg 153)
- [ ] Provincial Water Quality Objectives
- [ ] Sewer Use By-Law: _____
- [ ] MISA Guidelines
- [ ] O.Reg 558 Leachate Analysis
- Disposal Site: _____
- [ ] Landfill Monitoring
- [ ] Other: _____

REPORT NUMBER (Lab Use)

B18-12995

Are any samples to be submitted intended for Human Consumption under any Drinking Water Regulations? [ ] Yes [x] No (If yes, submit all Drinking Water Samples on a Drinking Water Chain of Custody)

Indicate Laboratory Samples are submitted to: [ ] Kingston [ ] Ottawa [x] Richmond Hill [ ] Windsor [ ] Barrie [ ] London

Organization:	GeoProConsulting Ltd
Contact:	Bojing Guan
Tel:	905-237-8336
Fax:	905-748-3699
Email:	bguan@geoproconsulting.ca

Address and Invoicing Address (if different)
Report: ① kar@geoproconsulting.ca ② ~~bglan~~dylanX@geoproconsulting.ca ③ Saseram@geoproconsulting.ca
Invoice: ① office@geoproconsulting.ca ② Saseram@geoproconsulting.ca

Quote No.: P18-GeoPro-Intro
Project Name: 18-2056G
P.O. No.:
Additional Info:

ANALYSES REQUESTED (Print Test in Boxes)

Silver M/T

Suspected Highly Contaminated

TURNAROUND SERVICE REQUESTED (see back page)

- [ ] Platinum — 200% Surcharge**
- [ ] Gold — 100% Surcharge
- [ ] Silver — 50% Surcharge
- [ ] Bronze — 25% Surcharge
- [x] Standard — 5-7 days
- [ ] Specific Date: _____

* Sample Matrix Legend: WW=Waste Water, SW=Surface Water, GW=Groundwater, LS=Liquid Sludge, SS=Solid Sludge, S=Soil, Sed=Sediment, PC=Paint Chips, F=Filter, Oil = Oil

Lab No:	Sample Identification	S.P.L.	Sample Matrix *	Date Collected (yy-mm-dd)	Time Collected	Indicate Test For Each Sample By Using A Check Mark In The Box Provided	✓	Field pH	Field Temp.	# Bottles/ Sample	Field Filtered(Y/N)
1	BH5 SS1+SS2		S	18-04-26	AM	✓				2	
2	BH7 SS1+SS2+SS3		S	18-04-25	AM	✓				2	
3	BH10 SS4+SS5		S	18-04-23	AM	✓				2	
4	BH13 SS2+SS3		S	18-04-24	AM	✓				2	
5	BH 4 SS1		S	18-04-30	AM	✓				2	
6	BH17 SS2+SS3		S	18-05-02	AM	✓				2	
7	BH15 SS4+SS5		S	18-04-30	AM	✓				2	
8	BH 22 SS2+SS3		S	18-04-30	AM	✓				2	
9	BH24 SS1+SS2		S	18-04-24	AM	✓				2	
10	BH26 SS2+SS3		S	18-04-24	AM	✓				2	
	K→ SPHT for CN			O→	JAR	RH→ JAR					

SAMPLE SUBMISSION INFORMATION

	Sampled by:	Submitted by:
Print:	Ryan Wu	
Sign:		
	Date (yy-mm-dd)/Time:	Date (yy-mm-dd)/Time:

SHIPPING INFORMATION

- [ ] Client's Courier
- [ ] Caduceon's Courier
- [ ] Drop Off
- [ ] Caduceon (Pick-up)
- Invoice [ ]
- # of Pieces

REPORTING / INVOICING

- [ ] Report by Fax
- [x] Report by Email
- [x] Invoice by Email
- [ ] Invoice by Mail

SAMPLE RECEIVING INFORMATION (LABORATORY USE ONLY)

Received By (print): SHERI Signature:
Date Received (yy-mm-dd): 18-05-15 Time Received: 9:50
Laboratory Prepared Bottles: [x] Yes [ ] No
Sample Temperature °C: 7.1 Labeled by: CP

Comments:

Page 1 of 1
G 73815

LIMITATIONS TO THE REPORT

This report is intended solely for the Client named. The report is prepared based on the work has been undertaken in accordance with normally accepted geotechnical engineering practices in Ontario.

The comments and recommendations given in this report are based on information determined at the limited number of the test hole and test pit locations. The boundaries between the various strata as shown on the borehole logs are based on non-continuous sampling and represent an inferred transition between the various strata and their lateral continuation rather than a precise plane of geological change. Subsurface and groundwater conditions between and beyond the test holes and test pits may differ significantly from those encountered at the test hole and test pit locations. The benchmark and elevations used in this report are primarily to establish relative elevation differences between the test hole and test pit locations and should not be used for other purposes, such as grading, excavating, planning, development, etc.

It should be noted that the results of the designated substance and chemical analysis refer only to the sample analyzed which was obtained from specific sampling location and sampling depth, and the presence of designated substance and soil chemistry may vary between and beyond the location and depth of the sample taken. Please note that the level of chemical testing outlined herein is meant to provide a broad indication of soil quality based on the limited soil samples tested. The analytical results contained in this report should not be considered a warranty with respect to the soil quality or the use of the soil for any specific purpose or the acceptability of the soils for any excess soil receiving sites.

The report reflects our best judgment based on the information available to GeoPro Consulting Limited at the time of preparation. Unless otherwise agreed in writing by GeoPro Consulting Limited, it shall not be used to express or imply warranty as to any other purposes. No portion of this report shall be used as a separate entity, it is written to be read in its entirety. The information contained herein in no way reflects on the environment aspects of the project, unless otherwise stated.

The design recommendations given in this report are applicable only to the project designed and constructed completely in accordance with the details stated in this report. Otherwise, our responsibility is limited to interpreting the subsurface information at the borehole or test pit locations.

Should any comments and recommendations provided in this report be made on any construction related issues, they are intended only for the guidance of the designers. The number of test holes and test pits may not be sufficient to determine all the factors that may affect construction activities, methods and costs. Such as, the thickness of surficial topsoil or fill layers may vary significantly and unpredictably; the amount of the cobbles and boulders may vary significantly than what described in the report; unexpected water bearing zones/layers with various thickness and extent may be encountered in the fill and native soils. The contractors bidding on this project or undertaking the construction should, therefore, make their own interpretation of the factual information presented and make their own conclusions as to how the subsurface conditions may affect their work and determine the proper construction methods.

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We accept no responsibility for any decisions made or actions taken as a result of this report unless we are specifically advised of and participate in such action, in which case our responsibility will be as agreed to at that time.

HYDROGEOLOGICAL INVESTIGATION

Hydrogeological Study in Support of Draft Plan

Di Poce Management Inc.
Barrie, Ontario

R.J. Burnside & Associates Limited
292 Speedvale Avenue West Unit 20
Guelph ON N1H 1C4 CANADA

December 2018 (Updated October 2019)
300041886.0000

Distribution List

No. of Hard Copies	PDF	Email	Organization Name
0	Yes	Yes	Oksana Vialykh, Di Poce Management Inc.
0	Yes	Yes	Nelson Lee, Schaeffers Consulting Engineers

Record of Revisions

Revision	Date	Description
-	December 18, 2018	Final Submission to Di Poce Management Inc.
1	October 23, 2019	Updated Submission to Di Poce Management Inc.

R.J. Burnside & Associates Limited

Report Prepared By:

Stephanie Charity



Stephanie Charity, P.Geo.
Hydrogeologist
SC:cl

Report Reviewed By:



Dwight Smikle, P.Geo.
Senior Hydrogeologist
DS:cl

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Appendix C Hydraulic Conductivity Data
Appendix D Groundwater Level Data
Appendix E Surface Water Monitoring Data
Appendix F Water Quality Data
Appendix G Water Balance Calculations

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1.0 Introduction

R.J. Burnside & Associates Limited (Burnside) has been retained by Di Poce Management Inc. (Di Poce) to complete a hydrogeological assessment for lands located within the OPA 39 Salem Secondary Plan Area (SPA) in Barrie. The lands associated with the assessment, herein referred to as the subject lands are located at the east side of County Road 27, west side of Essa Road and north side of Salem Road in the City of Barrie, Ontario (Figure 1). The subject lands are located within the Barrie Annexed Lands and the OPA 39 Salem Secondary Plan Area (SPA) located on the southern boundary of the City of Barrie. In 2016, a Subwatershed Impact Study (SIS) for the Salem SPA was completed for the Salem Secondary Plan Landowners Group that included an assessment of regional hydrogeology (Burnside, 2016). The current assessment is aimed at updating information contained in the regional hydrogeological assessment and providing more detailed site-specific information for the subject lands in support of an application for draft plan approval.

1.1 Scope of Work

The scope of work completed for the hydrogeological study was developed to build upon the regional work completed for the Salem SIS (Burnside, 2016) and to address requirements for hydrogeological studies in support of draft plan approval. The scope of work for the hydrogeological assessment included the review of available regional information as well as the completion of the following site-specific tasks:

1. Review of published geological and hydrogeological information: A review of background material for the area, including topography, surficial geology and bedrock geology mapping and existing geotechnical and hydrogeological reports was completed to assess the regional hydrogeological setting.

2. Review of the Ministry of the Environment, Conservation and Parks (MECP) water well records: The MECP maintains a database that provides geological records of water supply wells drilled in the province. A list of the available MECP water well records for local wells is provided in Appendix A and the well locations are plotted on Figure 5. It is noted that the well locations listed in the MECP records are approximations only and may not be representative of the precise well locations in the field. These well data were compiled and mapped to characterize the local groundwater resources.

3. Establish groundwater monitoring network: Groundwater monitoring wells were constructed to characterize seasonal variations in the water table. In addition to the new monitoring wells, existing wells from previous studies were selected for inclusion in the monitoring program. One drive-point piezometer nest (one shallow and one deep piezometer driven into the ground at the same location)

was installed near a watercourse on the subject lands to determine the nature of potential groundwater/surface water interactions. The locations of the monitoring wells and piezometers are shown on Figure 2. The monitoring well construction details are provided on the borehole logs in Appendix B.

4. Hydraulic conductivity testing: Burnside conducted single well response tests in order to determine hydraulic conductivity. Single well response tests were completed at four groundwater monitoring wells (BH7, BH23, BH120 and BH129) in 2018. The hydraulic conductivity field testing results are provided in Appendix C.

5. Monitoring of groundwater levels: Groundwater monitoring has been completed to measure the depth to the water table and assess the horizontal and vertical groundwater flow conditions. Groundwater level monitoring was completed from May 2018 to August 2019 in monitoring wells and piezometers. The groundwater monitoring data and hydrographs are provided in Appendix D.

6. Surface water monitoring: Surface water monitoring was completed along the tributary to Bear Creek that flows across the subject lands. The surface water monitoring locations were inspected monthly for water depth and flow from May 2018 to August 2019. The surface water monitoring data are summarized in Appendix E.

7. Water quality testing: Water quality data was collected from selected monitoring locations to typify the groundwater and surface water quality in the vicinity of the subject lands. Samples were collected in 2018 from two monitoring wells (MW3d and BH120). A surface water sample was collected at SSF-7 in 2019. The water samples were submitted to a certified laboratory for analyses of general water quality indicators (e.g., pH, hardness, and conductivity), basic ions (including chloride and nitrate) and selected metals to characterize the background water quality at the property. The laboratory water quality data are provided in Appendix F.

8. Water balance calculations: Pre and post-development water balance calculations have been completed to assess the groundwater infiltration volumes for the subject lands. The local climate data and detailed water balance calculations are provided in Appendix G.

9. Data compilation, assessment of site conditions and reporting: The above data were all compiled reviewed and assessed to develop an understanding of the site-specific hydrogeological conditions. The results of the assessment are presented in the current report.

2.0 Physical Setting

2.1 Topography and Drainage

The topography of the subject lands slopes regionally in a north-northwest direction. The topography can be described as generally flat to gently rolling with elevations ranging from 310 metres above sea level (masl) in the southeast corner to 287 masl, along the tributary of Bear Creek where it crosses County Road 27 (Figure 3). The topography along the northeastern edge of the subject lands shows a sharp drop off to the main valley of the Bear Creek which is approximately 15 m below the elevation at the northeast corner of the subject lands.

The subject lands are located within the jurisdiction of the Nottawasaga Valley Conservation Authority (NVCA) and the Bear Creek subwatershed. A tributary of Bear Creek which originates on south side of Salem Road from a wetland and open water pond conveys intermittent flows in a north to northwest direction across the western portion of the subject lands (Figure 3). The southern portion of the subject lands is covered by a woodland/unevaluated wetlands mosaic (Michalski Nielsen, 2019).

2.2 Geology

The subject lands are located in the physiographic region known as the Peterborough Drumlin Field. The region is characterized as a rolling drumlinized till plain. The drumlins through the region are comprised of highly calcareous till (Chapman & Putnam, 1984).

The overburden within the Peterborough Drumlin Field was deposited as a series of advances and retreats of the Simcoe glacial ice lobe. This has resulted in drumlinized sheets of glacial till (Newmarket till), stratified glaciolacustrine deposits of sand and gravel, littoral-foreshore deposits and massive-well laminated deposits of sand and gravel being common in this area. A review of the quaternary geology mapping for the area (OGS, 2003) indicates that the overburden sediments of the subject lands consist primarily of silty to sandy glacial till and ice contact stratified deposits (Figure 4).

The bedrock in the area is mapped as consisting primarily of Paleozoic limestone of the Middle Ordovician Simcoe Group. Underlying the subject lands is the Lindsay Formation which consists mainly of fine to coarse grained, fossiliferous, commonly nodular, argillaceous limestone (OGS, 2007).

2.3 Regional Hydrostratigraphy

The overburden deposits of the subject lands influence groundwater occurrence and flow. The overburden has been interpreted by regional studies such as the Tier 3 Water Balance (AquaResource, 2011) and Source Water Protection Assessment Report (LSRCA, 2012) to consist of alternating sequences of coarser-grained permeable layers

(aquifers) and finer-grained less permeable areas (aquitards) of varying thicknesses. The basic hydrostratigraphic sequence that was modelled in the regional studies (AquaResource, 2011) consists of four main aquifer areas (A1-A4) and four main aquitards (C1 to C4) with a confining layer (UC) over the uppermost aquifer (A1).

A description of the interpreted regional hydrostratigraphic framework is provided below (LSRCA, 2012):

- Surficial Geology Layer – This layer represents coarse grained sediments in stream beds and at surface surficial geology areas that overly the UC. The thickness ranges from 0.1 m to 3 m.
- UC – Upper Confining Layer – Represents smaller areas of less permeable surficial material. The upper confining layer has been mapped as coarse-grained lacustrine deposits which are part of a regionally extensive sand plain (LSRCA, 2012). Regional studies such as the AquaResource (2011) report indicate that the confining layer (UC) is patchy in the area of the study area.
- A1 – Represents the uppermost aquifer. Frequently exists as a surficial unconfined aquifer and is stratigraphically equivalent to the Oak Ridges Moraine. It is generally associated with coarse grained glacial and interglacial sediments mapped as ice contact stratified drift. The majority of the local domestic wells are completed within this area. The upper aquifer A1 is reported to be present throughout the larger Barrie area, and has been interpreted to occur extensively in the study area.
- C1 – Upper aquitard. Described as varved clay and silt (LRSCA, 2012).
- A2 – Intermediate aquifer which is stratigraphically equivalent to areas within the Northern Till. The aquifer is generally described as being composed of sand with some clast rich portions (LRSCA, 2012). This area is used for the Innisfil Heights water supply.
- C2 – Intermediate aquitard.
- A3 – This area constitutes the main Barrie municipal aquifer and is the source of the Stroud water supply; it is stratigraphically equivalent to the Thorncliffe deposits in the Upland regions.
- C3 – Lower aquitard.

- A4 – Lower aquifer, thin and sometimes combined with A3 where C3 is thin or absent.

- C4 – Lower aquitard but may also represent weathered bedrock.

The above regional hydrostratigraphic sequence was supported by the work completed by Burnside in the SIS and is thought to represent the sequences encountered in the vicinity of the subject lands.

2.4 Local Stratigraphy

Boreholes were drilled across the subject lands as part of geotechnical investigations conducted by Terraprobe and GeoPro Consulting in 2018. A total of 32 boreholes were completed with 16 of the boreholes being completed as monitoring wells. The locations of the boreholes and monitoring wells are shown on Figure 5 and the borehole logs are provided in Appendix B.

The geological information from the boreholes indicated that the overburden is generally composed of layers of glacial till and sand. The till deposits were generally composed of sandy silt to silty sand with varying amounts of clay and gravel. Some lenses of finer grained sediments were encountered in the boreholes and these lenses were interpreted to be discontinuous. Surficial sand, corresponding to the mapped ice-contact stratified deposits (Figure 4) was encountered with thicknesses up to 8 m. The information provided by the borehole logs confirms the surficial geology mapping for the area.

To illustrate the shallow hydrostratigraphic sequence of the subject lands, schematic geologic cross-sections have been prepared (Figures 6 and 7) using the MECP well records (Appendix A) and the soils information collected during drilling of boreholes (Appendix B). The locations of the cross-sections are illustrated on Figure 5 along with the locations of water wells and boreholes used in the construction of the cross-sections.

The cross-sections update the information contained in the SIS and illustrate that the subject lands are underlain by surficial sand and silt with thickness ranging from 2 to 14 m. There are variations in lithology within this layer with occasional low permeability layers occurring within the surficial sand and silt. Underlying the surficial sand is a clay silt till layer with thickness ranging from 8 to 25 m. The clay silt till is interpreted to be exposed at surface to the east of the subject lands and has occasional layers of sand and gravel. Underlying the clay silt till layer is a deeper layer of sand. The deeper sand layer is interpreted to form the local aquifer where most private supply wells are completed (Figures 6 and 7). Based on cross-sections produced in the Salem SIS (Burnside, 2016), the sand layer extends from an elevation of approximately 275 masl to below 230 masl. The deeper sand aquifer is separated from the surface by the silty clay till which is interpreted to act as an aquitard and is up to 25 m thick.

3.0 Hydrogeology

The hydrogeology of the subject lands was investigated in order to determine site specific conditions and features that impact the occurrence and movement of groundwater at the local scale. Various parameters were evaluated in order to develop a full understanding and interpretation of hydrogeological conditions on the subject lands. Conceptually, the information was all combined to create an understanding of the hydrogeological conditions of the subject lands that is referred to as the conceptual model. The following sections provides additional information on the interpreted conceptual model for the subject lands.

3.1 Hydraulic Conductivity

There are various methods that can be used to assess soil hydraulic conductivity, i.e., the ability of the soil to transmit groundwater. Grainsize data and soil characteristics can be used to provide a general estimate of hydraulic conductivity. In situ bail-down or slug-testing methods are used in groundwater monitoring wells to assess site-specific hydraulic conductivity. These methods have been used to estimate the hydraulic conductivity of the soils encountered on the subject lands as discussed below.

3.1.1 Grainsize Analysis

Grainsize analysis from geotechnical investigations on the subject lands (GeoPro, 2018 and Terraprobe, 2011) were reviewed (data provided in Appendix C).

Grainsize analyses results indicate that the sediments within the overburden range in composition from sand (9% fines) to silt and clay (82% fines). The amount of fines within a deposit impacts the ability of the material to transmit water and generally a greater amount of fines lowers the overall hydraulic conductivity. Groundwater flow is therefore generally limited by fine grained sediments with lower hydraulic conductivity.

To estimate hydraulic conductivity based on grainsize analysis, an empirical formula known as the Hazen estimation is used. This method is an approximation of hydraulic conductivity based on grainsize curves for sandy soils. The approximation does not strictly apply to finer grained materials, however, it is still considered useful to provide a general indication of the range of the hydraulic conductivity values.

Hydraulic conductivity values were derived empirically using the Hazen method for twelve of the samples collected on the subject lands. The grainsize distribution graphs are provided in Appendix C and the calculated hydraulic conductivity values are provided in Table 1.

Table 1: Summary of Grainsize Analyses and Hydraulic Conductivity

Sample ID	Depth of Sample (mbgs)	% Fines	Hydraulic Conductivity (cm/s)
BH2-SS5	3.05	26.2	$1.96E^{-04}$
BH3-SS2	0.61	56.6	$4.00E^{-06}$
BH4-SS3	1.22	23.1	$1.00E^{-04}$
BH6-SS3	1.22	42.9	$4.00E^{-06}$
BH7-SS4	2.29	35.5	$3.60E^{-05}$
BH7-SS8	7.62	12.2	$4.90E^{-03}$
BH8-SS5	3.05	22.6	$6.40E^{-05}$
BH9-SS5b	3.2	11.6	$4.90E^{-03}$
BH11-SS3	1.22	30.8	$6.40E^{-05}$
BH12-SS3	1.22	11.2	$4.90E^{-03}$
BH20-SS4	2.29	39.9	$1.00E^{-06}$
BH25-SS3	1.22	9	$5.93E^{-03}$

The hydraulic conductivities based on grainsize analyses are estimated in the range of 10^{-3} to 10^{-6} cm/sec.

3.1.2 Single Well Response Tests

To assess the in situ hydraulic conductivity of the sediments, single well response tests (bail-down tests) were conducted at four monitoring wells. The results from the tests were plotted (Appendix C) and analyzed to calculate hydraulic conductivity of the sediments screened. A summary the calculated hydraulic conductivities is provided below in Table 2.

Table 2: Single Well Response Testing Results

Monitoring Well	Screen Interval (mbgs)*	Formation Screened	Hydraulic Conductivity (cm/sec)
BH7	13.1 - 14.8	Sand and Silt to Silty Sand	6.8×10^{-3}
BH23	4.0 - 6.1	Sand and Silt to Silty Sand	4.4×10^{-2}
BH120	4.0 - 7.5	Silty Sand	1.2×10^{-5}
BH01	4.5	Silty Sand	6.5×10^{-3}

*metres below ground surface

The single well response test analyses resulted in hydraulic conductivities ranging from 10^{-2} to 10^{-5} cm/sec. The wells tested were screened across sand and in the surficial silty sand till which forms the area to be impacted by development. Overall, the hydraulic

conductivity of the overburden sediments on the subject lands consisting of sand and silt till is interpreted to range from 10^{-2} cm/sec (high) to 10^{-5} cm/sec (moderate).

3.2 Local Groundwater Use

The City of Barrie obtains its water from a combination of groundwater and surface water based supplies. Municipal servicing is assumed to be available for lands within the municipal city boundary which includes lands north of the subject lands (Figure 1). Homes along Country Road 27 and Salem Road outside of the previous municipal limits however are likely to have private water supply wells.

A review of the MECP water well records indicated that there are approximately 17 water supply well records within 500 m of the subject lands. The locations of the MECP water well records are shown on Figure 5. The wells are located in the overburden at depths ranging from 5.2 to 72.5 m. Based on our interpretation of local stratigraphy and the interpreted geological cross-sections it is interpreted that most of the water supply wells are in the regional sand aquifer that occurs at elevations approximately between 210 masl and 275 masl (Figures 6 and 7). These wells would be separated from activities on the subject lands by a layer of low hydraulic conductivity silty clay till.

The City of Barrie groundwater supply wells are located in deep aquifers (A3 and A4 in the regional hydrostratigraphy). These aquifers are interpreted to be found at elevations of 150 masl to 195 masl and 115 masl to 160 masl respectively and are therefore significantly below the surficial layer found on the subject lands and separated from any potential impact due to the proposed development (AquaResource et al., 2011). There are no municipal water supply wells located close to the subject lands; the municipal water supply wells are located on the west and northern sides of the City more than 5 km from the subject lands. The subject lands do not fall within any wellhead protection areas or intake protection zones associated with the City of Barrie water supply systems (LSRCA, 2012).

3.3 Water Level Monitoring Results

Groundwater levels were monitored at the on-site monitoring wells between May 2018 and August 2019. Groundwater level data is provided in tables and hydrographs in Appendix D. Groundwater elevations are plotted with daily precipitation data obtained from a nearby climate station – Barrie-Oro (Climate Station ID# 6117700) which is the closest station with daily precipitation values for the period under review. Automatic water level recorders were installed in September 2018 in monitoring wells BH23 and BH120 to collect continuous hourly water level data. The wells were chosen for instrumentation based on initial water level data with the intention to record short term water table responses. Wells with low water levels were not chosen as they have the potential to go dry.

Groundwater level data collected by Terraprobe as part of the geotechnical study (Terraprobe, 2019b) has also been incorporated into the hydrographs (Figures D-12 to D-16, Appendix D).

The groundwater monitoring data show the following (refer to Figure 2 for the monitoring locations and the data tables and hydrographs in Appendix D):

- Typically, in shallow wells in southern Ontario, a seasonal groundwater level pattern is apparent with highest levels occurring in the spring, declining throughout the summer and early fall and then rising again in the late fall/early winter. This seasonal pattern is evident at monitoring wells BH18, BH23, BH120 and MW3s/d with seasonal variations ranging from 1.2 m to 3.0 m (Figures D-1 to D-10, Appendix D).

- It is interpreted that a perched groundwater table exists within the surficial sands at BH18, BH23, BH120, BH01 and MW3 with water levels ranging from 0.5 m to 6.0 meters below ground surface. The perched conditions are interpreted to be due to local layers of low permeability occurring within the surficial sands. The water table is considered to be perched as unsaturated conditions exist below the low permeability layer that causes the perched conditions. This is illustrated at BH14, where a perched water table was encountered during drilling but the well was eventually screened below the surficial sand layer. Monitoring data has indicated that this well is dry and that unsaturated conditions exist confirming that the above water table represents perched conditions.

- Where perched conditions were not encountered it is interpreted that the low permeability layer is not present and shallow groundwater was encountered at depths ranging from 5.5 mbgs to 14.3 mbgs. Monitoring wells interpreted to be screened in the shallow groundwater system include BH7, BH122 and BH203 (Figure D-1, Figure D-7 and Figure D-16). During low water table conditions BH7 and BH122 were dry.

- Water levels at BH14 ranged from 1 cm to 9 cm above the bottom of the well screen (Figure D-2, Appendix D) and BH21 was consistently dry (Figure D-4, Appendix D). These wells are interpreted to be screened above the shallow groundwater table.

- Water levels at BH130 were consistently dry during monitoring between February 2018 and June 2019 (Terraprobe, 2019b) indicating that groundwater was consistently below the bottom of the well screen (285 masl).

- Water levels in BH123 are consistently 0.08 m above the bottom of the well (Figure D-8). This is interpreted to be water trapped in the bottom of the well cap

and not a reflection of the water table. BH123 is screened below the perched water table that adjacent wells MW3s/d are screened in.

- Water levels in piezometer nest DP-PZ1s/d ranged from ground surface to 0.4 m below ground surface. Water levels in the deep piezometer were lower than the shallow well indicating recharge conditions except during July where discharge conditions are observed (Figure D-11, Appendix D).

3.4 Interpreted Groundwater Flow Pattern

Groundwater flow on the subject lands has been interpreted based on groundwater elevations obtained from monitoring wells. Seasonal high groundwater elevations from April 2019 are shown on Figures 8 and 9 along with interpreted groundwater elevation contours and arrows perpendicular to the groundwater elevation contours illustrate the interpreted direction of the groundwater movement.

The observed groundwater elevations have been contoured based on their interpreted system as influenced by the underlying stratigraphy and screened formation. Monitoring wells with groundwater levels interpreted to be part of a perched groundwater system are shown on Figure 8. These wells are screened within sediments that are underlain by fine grained and low permeability layers which form pockets or layers of groundwater above the shallow groundwater flow system. These pockets or layers of groundwater are considered to be perched systems as they are not continuous and exist above the more continuous shallow system and are underlain by unsaturated conditions. Groundwater flow within the perched system is interpreted to follow the local topography and be in a northwest direction with some convergence along the tributary of Bear Creek. Where no low permeability layer exists, it is interpreted that the perched system also does not exist.

A shallow groundwater table is interpreted in areas where a fine grained layer is not present and therefore there is no perched water table. Elevations from monitoring wells within this shallow groundwater table are 5 to 10 m deeper than the perched water table as shown on Figure 9. The shallow groundwater table is interpreted to be influenced by the surface topography with groundwater flow from the topographically higher areas towards topographically lower areas moving in a northeast direction.

The mapped wetlands located on the southern portion of the subject lands are located upgradient of the subject lands in the groundwater flow path and are therefore expected to receive any groundwater contributions before that groundwater gets to the subject lands.

3.5 Recharge and Discharge Conditions

Areas where water from precipitation infiltrates into the ground and moves downward (i.e., areas of downward hydraulic gradients) are known as recharge areas. These areas are generally found at relatively higher topographic elevation. Areas where groundwater moves upward (i.e., areas of upward hydraulic gradients) are discharge areas and these generally occur in areas of relatively lower topographic elevation, such as along watercourses. When evaluating groundwater recharge or discharge conditions, nested wells (two wells screened at different depths at the same location) can be used to determine vertical hydraulic gradients in the subsurface.

At monitoring well nest MW3s/d, the shallow well is screened from 0.9 m to 6 m in sand and the deep well is screened from 5.1 m to 7.5 m in sand and sand and silt. Since the screens overlap a gradient cannot be calculated for the wells. BH123 is also located beside the wells. BH123 is screened from 10.6 m to 13.6 m and as discussed in Section 3.2, shows groundwater to below its screen. The water table exhibited at MW3 is interpreted to be a perched water table. Underlying unsaturated sediments screened by BH123 would create a downward gradient and is interpreted to form recharge conditions at this location.

Piezometer nest DP-PZ1s/d is located near the wooded area along the tributary of Bear Creek (Figure 2). The hydrograph of DP-PZ1s/d (Figure D-11) indicates recharge conditions with water levels in the deep piezometer lower than the shallow piezometer. A reversal of gradient and groundwater discharge conditions was observed in July 2018 during the seasonal groundwater low. Water levels in the shallow and deep piezometer decrease by 1.5 m over July and August 2019. The decrease in water levels is much lower than lows recorded in summer of 2018 suggesting that there may be some external activities impacting the ground water levels at the piezometers.

There were no other nested wells on the subject property however, several wells that were dry or seasonally dry wells (BH7, BH14, BH21, BH130 and BH123) support the interpretation that recharge conditions are present on the subject lands.

3.6 Significant Groundwater Recharge Areas and Ecologically Significant Groundwater Recharge Areas

Significant Groundwater Recharge Areas (SGRAs) can be described as areas that can effectively move water from the surface through the unsaturated soil zone to replenish available groundwater resources (LSRCA, 2012). SGRAs were mapped by the Source Water Protection Assessment Report (LSRCA, 2012) as a requirement of the Clean Water Act, 2006 and based on guidance provided by the MECP. The delineation of these areas was completed using numerical models and analyses that included the evaluations of numerous factors including precipitation, temperature and other climate

data along with land use, soil type, topography and vegetation to predict groundwater recharge, runoff and evapotranspiration.

SGRAs represent areas where the annual recharge rate is greater than 115% of the average recharge of 164 mm/year across the Lake Simcoe watershed (or greater than the threshold recharge rate of 189 mm/year) (LSRCA, 2012). SRGRAs are mapped in the topographically high areas along the southern portion of the subject lands (Figure 10). The mapping corresponds to where the regional surficial geology mapping for ice contact stratified deposits (Figure 4). Monitoring data and borehole logs support this classification. Groundwater flow data indicates that recharge occurring in these areas flows northwest (Figures 8 and 9).

Ecologically Significant Groundwater Recharge Areas (ESGRAs) were delineated for the Barrie Creek, Lover's Creek and Hewitt's Creek subwatersheds by Earthfx (2012) using the groundwater model developed by AquaResources for the Source Protection studies. ESGRAs were identified as areas of land that are assumed to support groundwater systems or environmentally sensitive features like lakes, cold water streams and wetlands (Earthfx, 2012). ESGRAs were delineated by identifying pathways in which recharge, if it occurred, would reach an ecologically significant feature. Ecologically significant features used for the delineation of the ESRGAs included headwater streams, cold water fisheries, wetlands, and brook trout and sculpin capture sites. There are no ESGRAs mapped on the subject lands (Figure 10).

3.7 Aquifer Vulnerability

Aquifer vulnerability refers to the susceptibility of the aquifer to potential contamination. Some degree of protection for aquifers is offered by the nature of the soil above the water table. The degree of protection is dependent on the depth to water table or the depth to the aquifer and the type of soil above the water table or aquifer. Generally greater depths provide better protection and finer deposits (clays and silts) provide better protection than sands and gravels.

The subject lands fall within the jurisdiction of the Nottawasaga Valley Conservation Authority (NVCA). Aquifer vulnerability in the NVCA was calculated using the Aquifer Vulnerability Index (AVI). This approach calculated an AVI for each delineated aquifer to produce a map of regional groundwater vulnerability across the landscape expressed as high, medium or low (South Georgian Bay Lake Simcoe Source Protection Region, 2017). The available mapping indicates that the subject lands is mapped as a highly vulnerability aquifer (HVA) area.

Depending on land use, runoff from urban developments may contain a variety of dilute contaminants such as suspended solids, chloride from road salt, oil and grease, metals, pesticide residues, bacteria and viruses. For groundwater, generally, with the exception of the dissolved constituents such as nitrogen and salt, most contaminants are

attenuated by filtration during groundwater transport through the soils. The potential for effects on local groundwater quality from infiltration in the urban areas is therefore expected to be limited.

4.0 Surface Water Monitoring

Surface water monitoring was completed along the tributary of Bear Creek that flows through the subject lands at two monitoring locations (Figure 3). Flow was measured at SSF-8 where the tributary flows north under Salem Road towards the subject lands. Within the subject lands the tributary flows north through a forested wetland then through a vegetated channel that borders agricultural fields. Flow was also measured at SSF-7 where the tributary leaves the subject lands under County Road 27.

Flow monitoring as part of this study was completed from May 2018 to June 2019 (Table E-1, Appendix E). Flow ranging from <0.5 L/s to 8.6 L/s were observed in May 2018, October 2018, April 2019 and June 2019. The stations were dry during monitoring events from June to September 2018 and frozen/snow covered during monitoring events from November to April. During the flow events, flow was greater upstream at SSF-8 compared to SSF-7 suggesting a losing stream (recharge conditions). Surface water monitoring was also completed at SSF-7 and SSF-8 as part of the Salem SIS report (Burnside, 2016) from December 2014 to December 2017 (Table E-2, Appendix E). The monitoring data supports that the drainage feature is intermittent with the potential for some seasonal contributions of groundwater. Groundwater monitoring at DP-PZ1s/d showing seasonal discharge conditions would support this conclusion (Figure D-11, Appendix D).

5.0 Water Quality

5.1 Groundwater Quality

Water quality data was collected from selected monitoring wells to typify the groundwater quality on the subject lands. Groundwater sampling was completed on September 27 and 28, 2018 at two groundwater monitoring wells (MW3d and BH120). The water samples were submitted to a certified laboratory for analyses of general water quality indicators (e.g., pH, hardness, and conductivity), basic ions (including chloride and nitrate) and selected metals to characterize the background water quality. The groundwater testing results from the analytical laboratory are provided in Table F-1, Appendix F and discussed below.

- The results showed that the water generally met the Ontario Drinking Water Quality Standards (ODWQS).

- Both samples exceeded the ODWQS for total hardness (100 mg/L) with values ranging of 136 mg/L (MW3d) and 447 mg/L (BH120). Hardness in groundwater is caused by dissolved calcium and magnesium and is typically related to the geologic material of the subsurface.

- Samples exceeded the ODWQS for turbidity (5 NTU) with values of 213 NTU (MW3d) and 384 NTU (BH120). This is likely a result of high silt content in the samples caused by a lack of well development. Groundwater is not intended for potable uses as part of the development and hence this exceedance is not regarded as an issue of concern.

- At BH120, high concentrations of sodium and chloride were detected. Sodium at BH120 was 298 mg/L compared to a ODWQS of 200 mg/L. Chloride was 654 mg/L compared to an ODWQS of 250 mg/L. In contrast, MW3d had very low concentrations of sodium and chloride, 1.2 mg/L and 1.0 mg/L respectively. BH120 is located close to Country Road 27. The elevated concentrations are likely a result of road salt runoff.

5.2 Surface Water Quality

To typify the surface water quality on the subject lands, a surface water sample (SSF-7) was collected on May 6, 2019 from the tributary of Bear Creek that traverses the subject lands. The water sample was submitted to an accredited laboratory for analyses of general water quality indicators (e.g., pH, hardness, and conductivity), basic ions (including chloride and nitrate) and selected metals to characterize the background water quality. The surface water quality testing results from the analytical laboratory are provided in Table F-2, Appendix F and have been compared to the Provincial Water Quality Objective (PWQO).

The results show that the surface water sample met all of the PWQO. Elevated sodium and chloride were reported at concentrations of 92.2 mg/L and 161 mg/L respectively suggesting impacts from road salt application along County Road 27. There was no nitrate or phosphorus detected in the samples.

6.0 Water Balance

In order to assess potential land development impacts on the local groundwater conditions, a detailed water balance analysis has been completed to determine the pre-development recharge volumes (based on existing land use conditions). The detailed water balance calculations are provided in Appendix G.

6.1 Water Balance Components

A water balance is an accounting of the water resources within a given area. As a concept, the water balance is relatively simple and may be estimated from the following equation:

$$P = S + ET + R + I$$

Where:

P	=	precipitation
S	=	change in groundwater storage
ET	=	evapotranspiration/evaporation
R	=	surface water runoff
I	=	infiltration

The components of the water balance vary in space and time and depend on climatic conditions as well as the soil and land cover conditions (i.e., rainfall intensity, land slope, soil hydraulic conductivity and vegetation). Runoff, for example, occurs particularly during periods of snowmelt when the ground is frozen, or during intense rainfall events. Precise measurement of the water balance components is difficult and as such, approximations and simplifications are made to characterize the water balance of a property. Field observations of the drainage conditions, land cover and soil types, groundwater levels and local climatic records are important input considerations for the water balance calculations.

The groundwater balance components for the subject area are discussed below:

Precipitation (P)

The long-term average annual precipitation for the area is 933 mm based on data from the Environment Canada Barrie WPCC (Station 6110557, 44°22'33.012" N, 79°41'23.010" W, elevation 221.0 masl) for the period between 1981 and 2010. The climate station is located 7.5 km northeast of the subject lands. Average monthly records of precipitation and temperature from this station have been used for the water balance calculations in this study (Appendix G).

Storage (S)

Although there are groundwater storage gains and losses on a short-term basis, the net change in groundwater storage on a long-term basis is assumed to be zero so this term is dropped from the equation.

Evapotranspiration (ET)

Evapotranspiration and evaporation components vary based on the characteristics of the land surface cover (i.e., type of vegetation, soil moisture conditions, perviousness of

surfaces, etc.). Potential evapotranspiration (PET) refers to the water loss from a vegetated surface to the atmosphere under conditions of an unlimited water supply. The actual rate of evapotranspiration (AET) is generally less than the PET under dry conditions (i.e., during the summer when there is a soil moisture deficit). In this report, the PET and AET have been calculated using a soil-moisture balance approach.

Water Surplus (R + I)

The difference between the mean annual P and the mean annual ET is referred to as the water surplus. Part of the water surplus travels across the surface of the soil as surface or overland runoff (R) and the remainder infiltrates the surficial soil (I). The infiltration is comprised of two end member components: one component that moves vertically downward to the groundwater table (referred to as recharge) and a second component that moves laterally through the topsoil profile or shallow soils as interflow that re-emerges locally to surface (i.e., as runoff) at some short time following cessation of precipitation. As opposed to the "direct" component of surface runoff that occurs during precipitation or snowmelt events, interflow becomes an "indirect" component of runoff. The interflow component of surface runoff is not accounted for in the water balance equation cited above since it is often difficult to distinguish between interflow and direct (overland) runoff, however both interflow and direct runoff together form the total surface water runoff component.

6.2 Approach and Methodology

The analytical approach to calculate the water balance involves monthly soil-moisture balance calculations to determine the pre-development (based on existing land use) infiltration volumes. A soil-moisture balance approach assumes that soils do not release water as potential recharge while a soil moisture deficit exists. During wetter periods, any excess of precipitation over evapotranspiration first goes to restore soil moisture. Once the soil moisture deficit is overcome, any further excess water can then pass through the soil as infiltration and either become interflow (indirect runoff) or recharge (deep infiltration).

A soil moisture storage capacity of 150 mm was used for the agricultural lands with predominantly short to moderate-rooted vegetation (Table G-1, Appendix G). A soil moisture storage capacity of 300 mm was used for wooded areas within the subject lands (Table G-2, Appendix G). Tables G-1 and G-2 in Appendix G detail the monthly potential evapotranspiration calculations accounting for latitude and climate, and then calculate the actual evapotranspiration and water surplus components of the water balance based on the monthly precipitation and soil moisture conditions.

The MECP SWM Planning and Design Manual (2003) methodology for calculating total infiltration based on topography, soil type and land cover was used and a corresponding runoff component was calculated for the soil moisture storage conditions. The

calculated water balance components from this table are then used to assess the pre-development and post development volumes for runoff and infiltration as presented on Table G-3 in Appendix G.

6.3 Water Balance Component Values

The detailed monthly calculations of the water balance components are provided in Tables G-1 and G-2 in Appendix G. For these calculations, it has been assumed that sandy loam soils are representative for the subject lands for estimating the soil infiltration factor. The calculations show that a water surplus is generally available from November to May. The monthly water balance calculations illustrate how infiltration occurs during periods when there is sufficient water available to overcome the soil moisture storage requirements. The monthly calculations are summed to provide estimates of the annual water balance component values (Tables G-1 and G-2, Appendix G). A summary of these values is provided in Table 3.

Table 3: Water Balance Component Values

Water Balance Component	Agricultural Lands	Wooded Areas
Average Precipitation	933 mm/year	933 mm/year
Actual Evapotranspiration	593 mm/year	593 mm/year
Water Surplus	340 mm/year	340 mm/year
Infiltration	238 mm/year	272 mm/year
Runoff	102 mm/year	68 mm/year

6.4 Pre-Development Water Balance (Existing Conditions)

The pre-development water balance calculations are presented in Table G-3 in Appendix G. As summarized on Table G-3, the total area of the subject lands is about 25.8 ha. The water balance component values from Table G-1 and Table G-2 were used to calculate the average annual volume of infiltration across the subject lands. Based on these component values, the pre-development infiltration volume for the subject lands is calculated to be about 53,000 m^3/year (Table G-3, Appendix G).

6.5 Potential Urban Development Impacts to Water Balance

Development of an area affects the natural water balance. The most significant difference is the addition of impervious surfaces as a type of surface cover (i.e., roads, parking lots, driveways, and rooftops). Impervious surfaces prevent infiltration of water into the soils and the removal of the vegetation removes the evapotranspiration component of the natural water balance. The evaporation component from impervious surfaces is relatively minor (estimated to be 10% to 20% of precipitation) compared to the evapotranspiration component that occurs with vegetation in this area (about 64% of

precipitation across the subject lands). The net effect of the construction of impervious surfaces is that most of the precipitation that falls onto impervious surfaces becomes surplus water and direct runoff. The natural infiltration components (interflow and deep recharge) are reduced.

A water balance calculation of the potential water surplus for impervious areas is shown at the bottom of Table G-1 in Appendix G. There is an evaporation component from impervious surfaces and this is typically estimated to be between about 10% and 20% of the total precipitation. For the purposes of the calculations in this study, the evaporation has been estimated to be 15% of precipitation. The remaining 85% of the precipitation that falls on impervious surfaces is assumed to become runoff. Therefore, assuming an evaporation/loss from impervious surfaces of 15% of the precipitation, there is a potential water surplus from impervious areas of 793 mm/year.

It is noted that the proposed development will be serviced by municipal water supply and waste water services. Therefore, there will be no impact on the water balance and local groundwater or surface water quantity and quality conditions related to any on-site groundwater supply pumping or disposal of septic effluent.

6.6 Post-Development Water Balance with No Mitigation

To assess potential development impacts on infiltration, the post-development infiltration volumes have been calculated for the subject lands on Table G-3 in Appendix G. The total areas for the proposed land uses and the associated percentage impervious factors were provided by Schaeffers Consulting Engineers.

The infiltration and runoff components for the post-development land uses have been calculated using the MOE SWM Planning and Design Manual (2003) methodology based on topography, soil type and land cover as shown on Tables G-1 and G-2 in Appendix G. In summary from these appendix tables, the average calculated post-development infiltration volume (without mitigation) is about 28,000 m^3/year.

Comparing the pre- and post-development infiltration volumes, shows that development has the potential to reduce the average infiltration on the subject lands from 53,000 m^3/year to 28,000 m^3/year, i.e., a reduction of about 25,000 m^3/year or 47%. These calculations assume no low impact development (LID) measures for stormwater management are in place.

6.7 Recommended Mitigation Strategies for Infiltration

The water balance calculations suggest that, without mitigation, the subject lands will receive about 50% of the current amount of average annual groundwater infiltration after development. It is recommended to minimize the potential development impacts to infiltration through the use of 'low impact development' (LID) measures for stormwater

management to ensure the post-development groundwater infiltration volume is maintained as close to the pre-development infiltration volume as possible.

Where feasible, measures to promote infiltration and minimize development impacts on the water balance should be incorporated into the development design. There, as outlined in the MOE SWM Design Manual (2003), a number of mitigation techniques that can be used to increase the potential for post-development infiltration and mitigate the reductions in infiltration that occur with land development. Techniques to maximize the water availability in pervious areas such as designing grades to direct roof runoff towards lawns, side and rear yard swales, boulevards, parks, and other open space areas throughout the development where possible and increasing the topsoil thickness (i.e., from typical thicknesses of about 15 cm up to 20 cm or 30 cm) can increase the potential for infiltration in developed areas. These types of surface LID techniques promote natural infiltration by providing additional water volumes in the pervious areas. This may be particularly effective in the summer months, when natural infiltration would not generally occur because the additional water overcomes the natural soil moisture deficit. Other LID measures that may be considered to reduce runoff volumes include bioswales, rain gardens, perforated pipe systems, infiltration trenches and facilities, permeable pavements, tree boxes, and rainwater harvesting techniques, such as cisterns and rain barrels.

The Functional Servicing Report (FSR) for the subject lands (Schaeffers, 2018) discusses potential LID measures to mitigate the infiltration deficit which includes an infiltration area within a stormwater management pond. The FSR provides that the proposed measures will provide adequate water to offset the infiltration deficit, however the impact of LID measures on infiltration should be confirmed at detailed design.

7.0 Development Considerations

7.1 Construction Below the Water Table

Based on groundwater level data collected as part of this study water table on the subject lands ranges from 0.8 m to 14 m below ground surface. Should excavations during construction of servicing extend below the water table the local soils may need to be dewatered. Significant groundwater flows may be encountered in areas where high permeability sand and gravel layers are encountered.

The construction of buried services below the water table has the potential to capture and redirect groundwater flow through more permeable fill materials typically placed in the base of excavations. Groundwater may also infiltrate into joints in storm sewers and manholes. Over the long-term, these impacts can lower the groundwater table across the development area. To mitigate this effect, services to be installed below the water table should be constructed to prevent redirection of groundwater flow. This will involve the use of anti-seepage collars or clay plugs surrounding the pipes to provide barriers to

flow and prevent groundwater flow along granular bedding material and erosion of the backfill materials.

Due to the potential for encountering the water table during construction, the dewatering of local aquifers may be required in order for services to be installed below the water table. The undertaking of dewatering according to industry standards and in accordance with a MECP processes will ensure that adequate attention is paid to potential adverse impacts to the environment. Currently the MECP allows for construction dewatering of less than 400,000 L/d to proceed under the Environmental Activity Sector Registry (EASR) process. If dewatering is to be above this threshold, then the standard Permit to Take Water (PTTW) process applies. In both cases, a scientific study is required in support of EASR registration or PTTW application.

An assessment of dewatering requirements for the subject lands was completed by Terraprobe (Terraprobe, 2019a). The assessment which included estimated daily water takings, zone of influence and a proposed monitoring and mitigation plan concluded that an EASR registration will be required.

7.2 Local Groundwater Supply Wells

The area surrounding the subject lands is not currently serviced and residences are supplied by private wells. Based on the MECP well records, the majority of wells located in the vicinity of the subject lands are drilled wells more than 13 m deep (Table A-1, Appendix A). There are three dug wells with depths less than 13 m and screened in the surficial sand layer. These wells would be more vulnerable to impacts during construction as they are completed in the shallow subsurface for which is most likely to be impacted by construction dewatering activities. It should however be noted that the potential impact to the shallow aquifers and water supply wells would be of limited spatial extent and duration. No long-term adverse impacts are expected. Although no long-term impacts are not anticipated, a targeted monitoring and mitigation program is recommended as part of due diligence and a conservative approach to implementation. This monitoring and mitigation program would include targeting the three dug wells for monitoring during the construction process.

7.3 Well Decommissioning

Prior to or during construction, it is necessary to ensure that all inactive wells within the development footprint have been located and properly decommissioned by a licensed water well contractor according to Ontario Regulation 903. This regulation applies to private domestic wells and to the groundwater observation wells installed for this study unless they are maintained throughout the construction for monitoring purposes.

8.0 Monitoring and Mitigation

The dewatering assessment completed by Terraprobe (Terraprobe 2019a) indicates that groundwater control (dewatering) is expected to be required for the short term only. It is noted that treatment of discharge water may be required in order to meet discharge standards. The discharge monitoring plan proposed by Terraprobe includes:

- Implementation of a sediment and erosion control plan for the duration of dewatering;
- Visual inspections of discharge;
- Sampling at regular frequency to ensure that discharged water meets the Provincial Water Quality Objectives; and
- Monitoring at available monitoring wells to confirm the area of extent of groundwater response;

It is noted that the area of influence calculated by Terraprobe is 16 m and hence there are no off-site impacts that are expected.

9.0 References

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Schaeffers, 2018. Functional Servicing Report, DiPoce (Innisfil) Inc. Properties Proposed Mixed Use Development Salem Secondary Lands, Schaeffers Consulting Engineers, November 2018.

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Landfill on Lot 1, Concession 11, Barrie Annex Lands, County of Simcoe, Ontario, December 21, 2011.

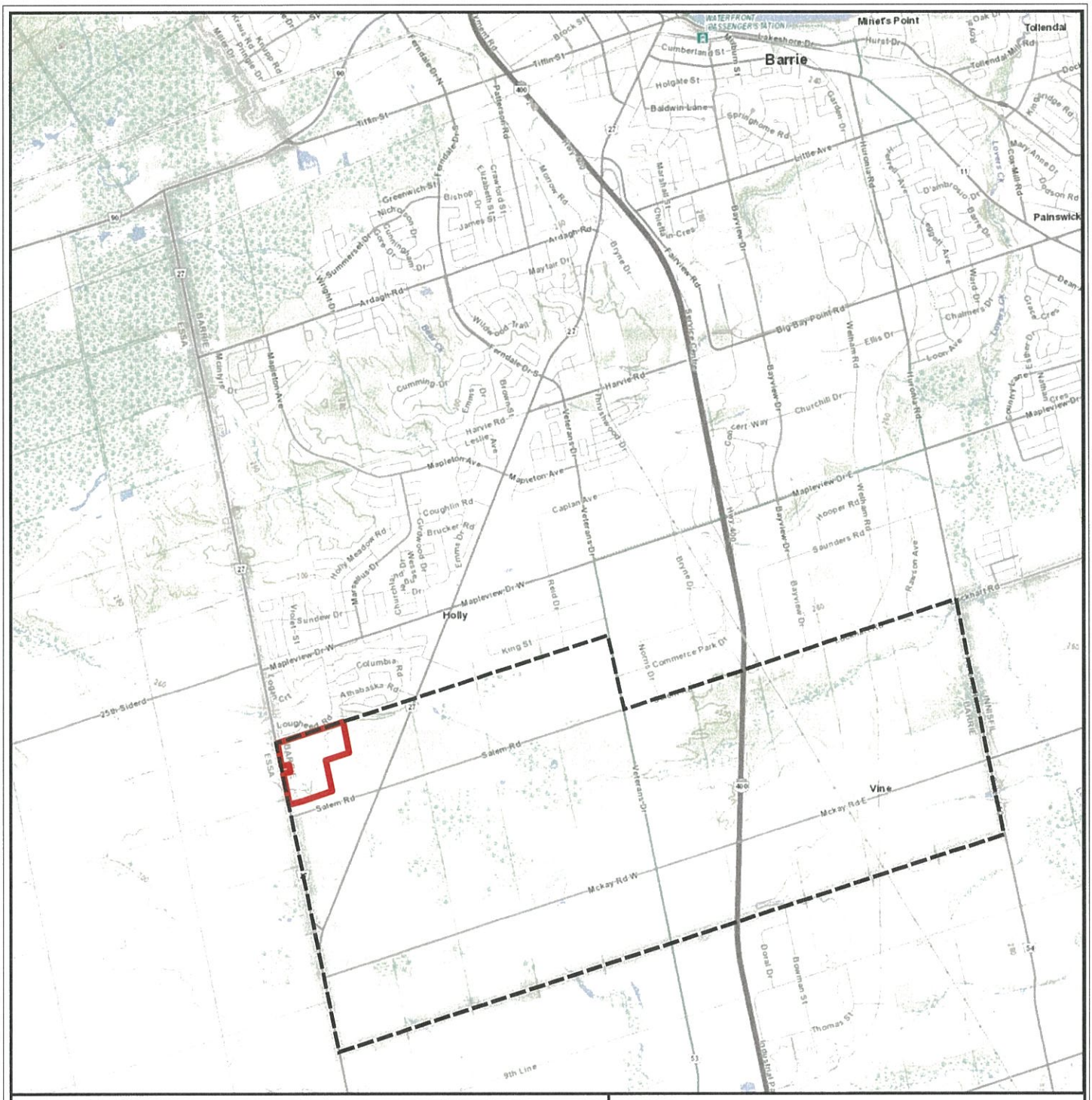
Terraprobe, 2019a. Hydrogeological Investigation Pratt-Salem Proposed Residential Development DiPoce Property and County Road 27 Barrie, Ontario. Terraprobe Inc., January 22, 2019.

Terraprobe, 2019b. Assessment of Groundwater Levels February 2018 to June 2019 Monitoring Proposed Bear Creek Ridge (DiPoce) Residential Development, Barrie, Ontario. July 10, 2019.

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Figures



LEGEND

SUBJECT LANDS

SETTLEMENT AREA BOUNDARY

0 250 500 1,000 1,500 2,000 2,500 3,000 3,500 4,000

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HYDROGEOLOGICAL ASSESSMENT IN SUPPORT OF DRAFT PLAN

Figure Title:

SITE LOCATION

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- SUBJECT LANDS
- WATERCOURSE
- MONITORING WELL (GEOPRO CONSULTING, 2018)
- MONITORING WELL (TERRAPROBE, 2011)
- MONITORING WELL (TERRAPROBE, 2018)
- DRIVE POINT PIEZOMETER (RJB, 2018)

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BARRIE, ONTARIO

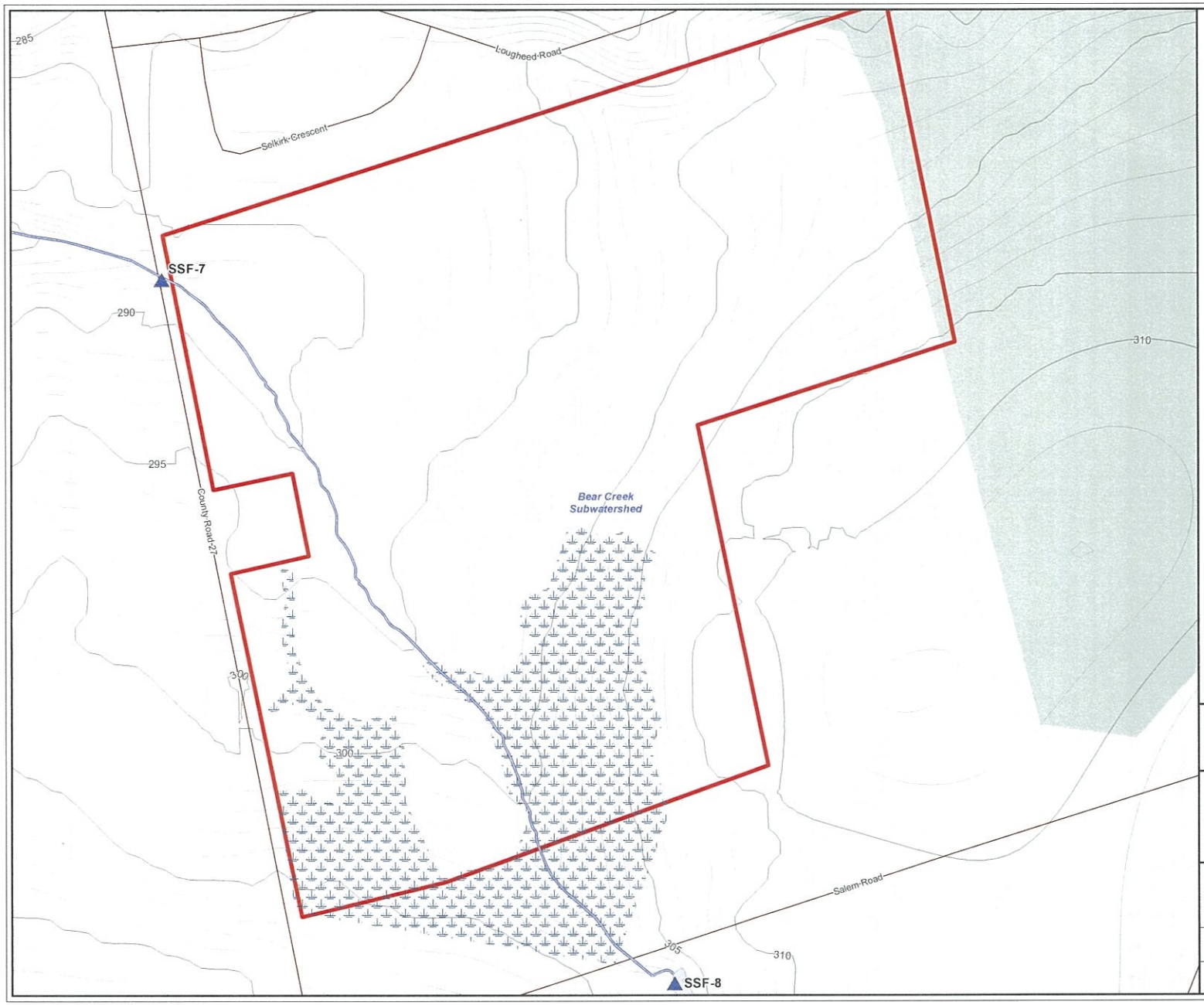
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LEGEND

- SUBJECT LANDS
- WATERCOURSE
- ROADWAY
- WETLAND (MBHC Draft Plan, 2019)
- PROVINCIALLY SIGNIFICANT WETLAND
- SUBWATERSHED BOUNDARY
- NATURAL HERITAGE SYSTEM BOUNDARY
- WATERBODY
- WOODED AREA
- CONTOUR (5m intervals - masl)
- CONTOUR (1m intervals)
- SURFACE WATER MONITORING LOCATION

Sources:

1 Ministry of Natural Resources, © Queen's Printer for Ontario
2 Natural Resources Canada © Her Majesty the Queen in Right of Canada

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IN SUPPORT OF DRAFT PLAN

Figure Title

TOPOGRAPHY AND DRAINAGE

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- SUBJECT LANDS
- ROADWAY
- WATERCOURSE
- Ice-Contact Slope
- 5b: Stone-poor, carbonate-derived silty to sandy till
- 6: Ice-contact stratified deposits
- 9c: Coarse-textured glaciolacustrine deposits: Foreshore-basinal deposits
- 20: Organic deposits

Sources:

1. Ministry of Natural Resources, © Queen's Printer for Ontario
2. Natural Resources Canada © Her Majesty the Queen in Right of Canada.
3. Ontario Geological Survey 2003. Surficial Geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release–Data 128.

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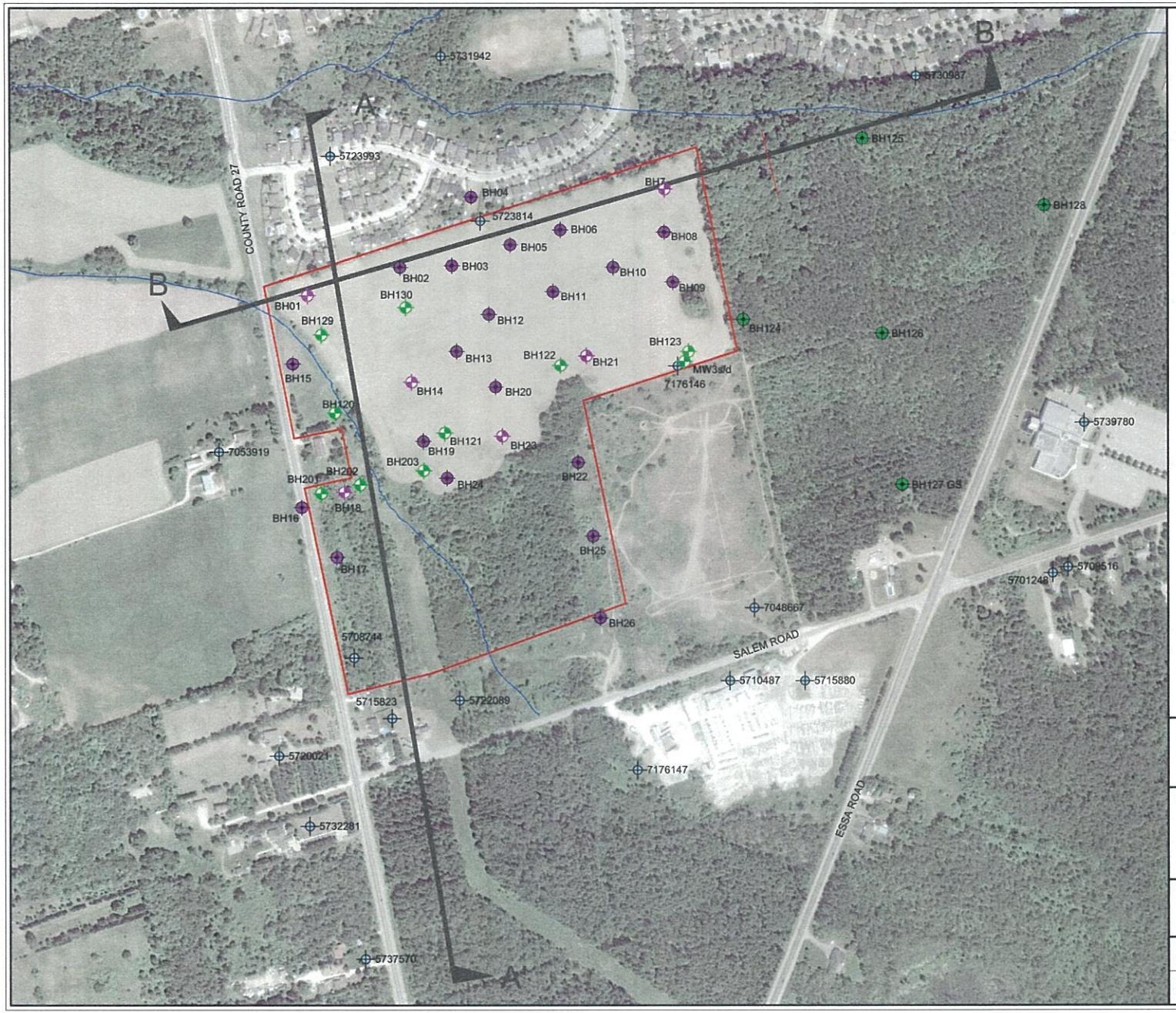
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HYDROGEOLOGICAL STUDY
IN SUPPORT OF DRAFT PLAN

Figure Title

SURFICIAL GEOLOGY

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LEGEND

- SUBJECT LANDS
- WATERCOURSE
- MONITORING WELL (GEOPRO CONSULTING, 2018)
- MONITORING WELL (TERRAPROBE, 2011)
- MONITORING WELL (TERRAPROBE, 2018)
- BOREHOLE (GEOPRO CONSULTING, 2018)
- BOREHOLE (TERRAPROBE, 2018)
- MECP WELL RECORD LOCATION
- A A' CROSS-SECTION LOCATION KEY

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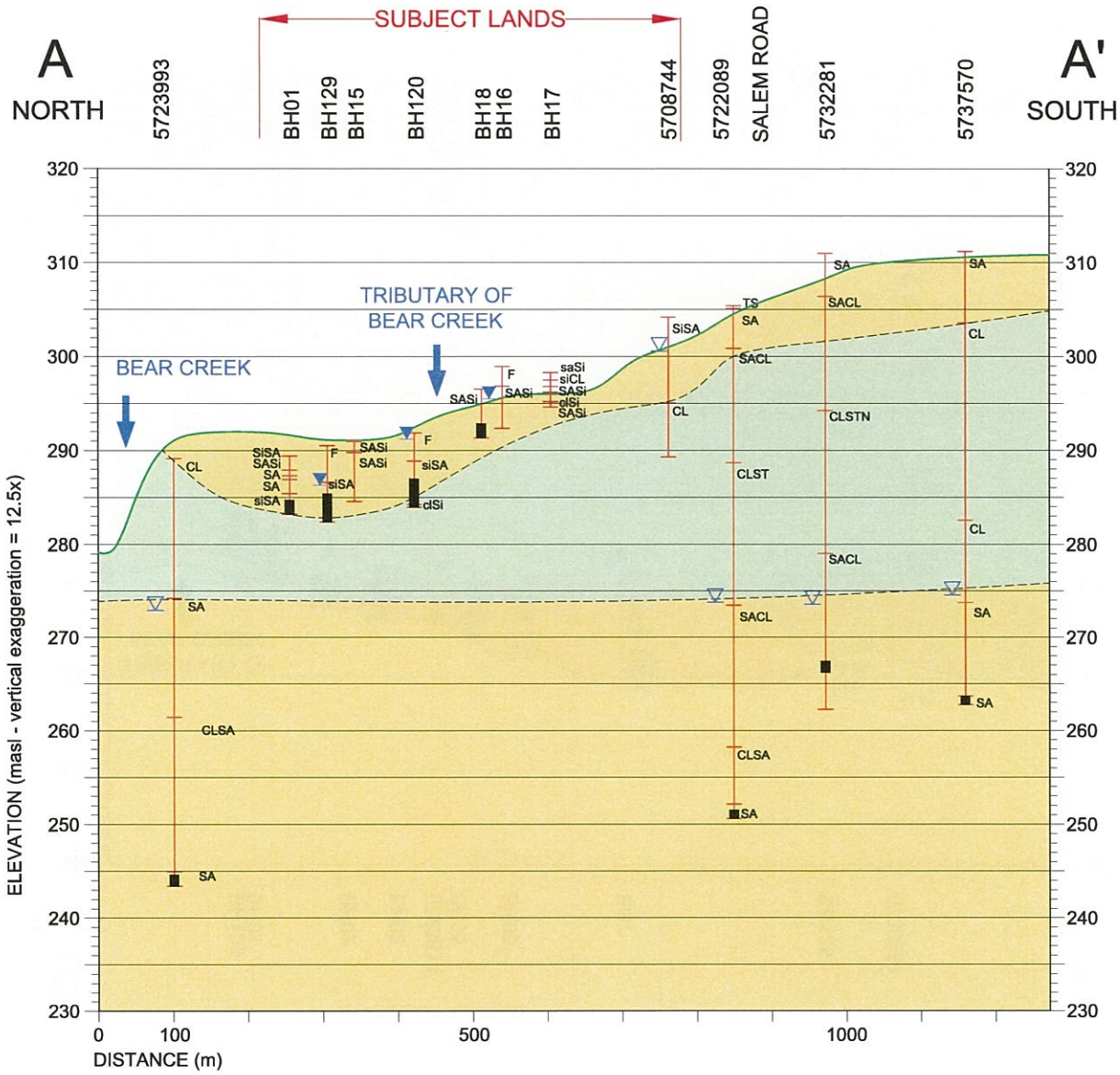
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Figure Title

BOREHOLE AND WELL LOCATION PLAN

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4901807 BH18 — WELL NUMBER / MOECC WELL RECORD NUMBER

CLGR — WELL GEOLOGICAL STRATIGRAPHY

STATIC WATER LEVEL (REPORTED ON MOECC WELL RECORD)

MEASURED WATER LEVEL (April 25, 2019)

WELL SCREEN

CLAY / SILT / TILL

SAND / GRAVEL

INTERPRETED GEOLOGICAL CONTACT

WATERCOURSE CROSSING

si	SILTY
cl	CLAYEY
sa	SANDY
F	FILL
T	TILL
SA	SAND
Si	SILT
GR	GRAVEL
CL	CLAY
PRDG	PREDUG

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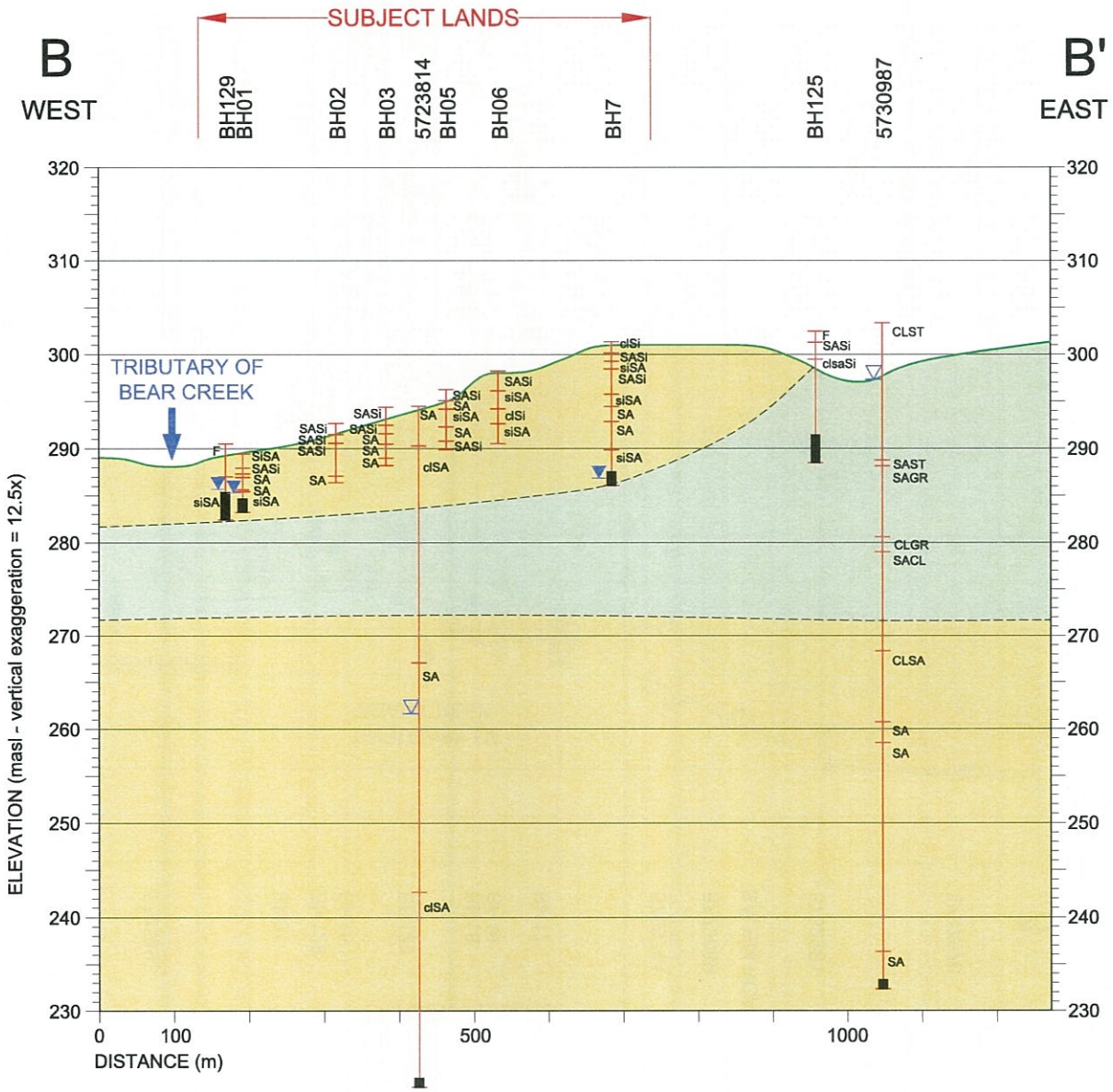
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HYDROGEOLOGICAL ASSESSMENT IN SUPPORT OF DRAFT PLAN

Figure Title

INTERPRETED GEOLOGICAL CROSS-SECTION A-A'

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LEGEND

4901807 BH18 — WELL NUMBER / MOECC WELL RECORD NUMBER

WELL

CLGR — GEOLOGICAL STRATIGRAPHY

STATIC WATER LEVEL (REPORTED ON MOECC WELL RECORD)

MEASURED WATER LEVEL (April 25, 2019)

WELL SCREEN

CLAY / SILT / TILL

SAND / GRAVEL

INTERPRETED GEOLOGICAL CONTACT

WATERCOURSE CROSSING

si	SILTY
cl	CLAYEY
sa	SANDY
F	FILL
T	TILL
SA	SAND
Si	SILT
GR	GRAVEL
CL	CLAY
PRDG	PREDUG

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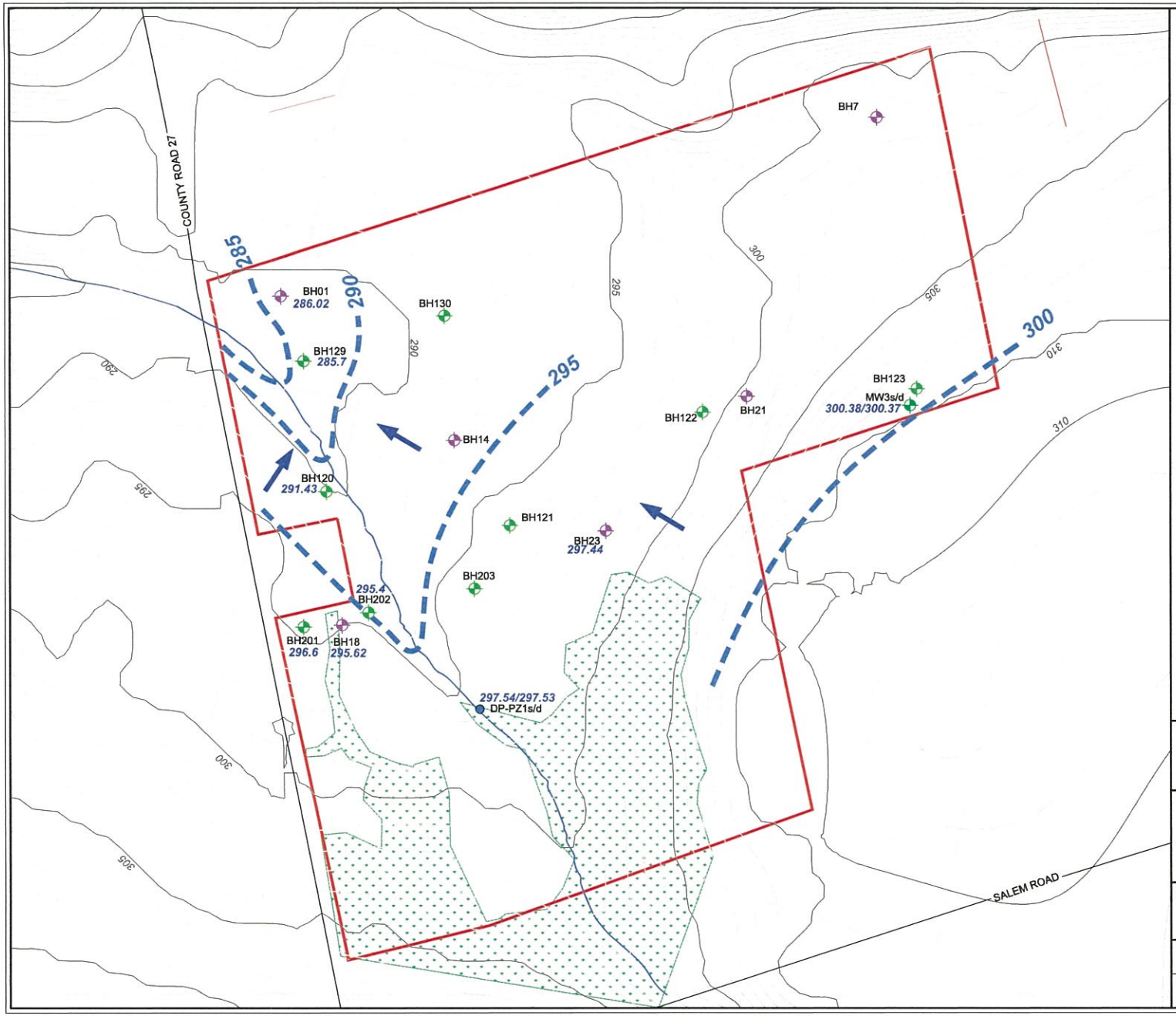
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BARRIE, ONTARIO

HYDROGEOLOGICAL ASSESSMENT IN SUPPORT OF DRAFT PLAN

Figure Title

INTERPRETED GEOLOGICAL CROSS-SECTION B-B'

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LEGEND

- SUBJECT LANDS
- WATERCOURSE
- WETLAND (MBHC Draft Plan, 2019)
- MONITORING WELL (GEOPRO CONSULTING, 2018)
- MONITORING WELL (TERRAPROBE, 2011)
- MONITORING WELL (TERRAPROBE, 2018)
- DRIVE POINT PIEZOMETER
- INTERPRETED GROUNDWATER CONTOUR (masl)
- 267.45 MEASURED WATER LEVEL (April 25, 2019)
- INTERPRETED GROUNDWATER FLOW

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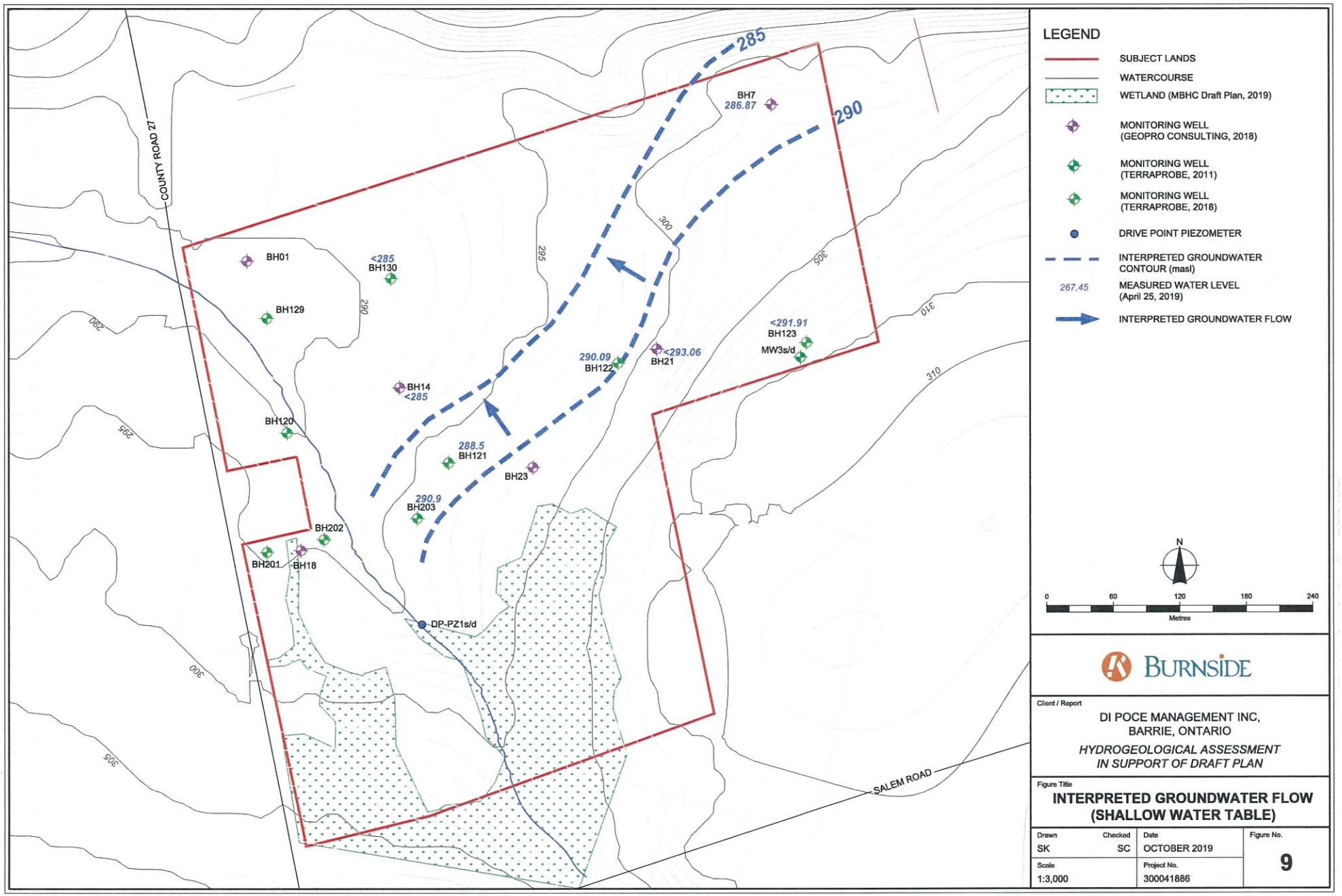
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BARRIE, ONTARIO

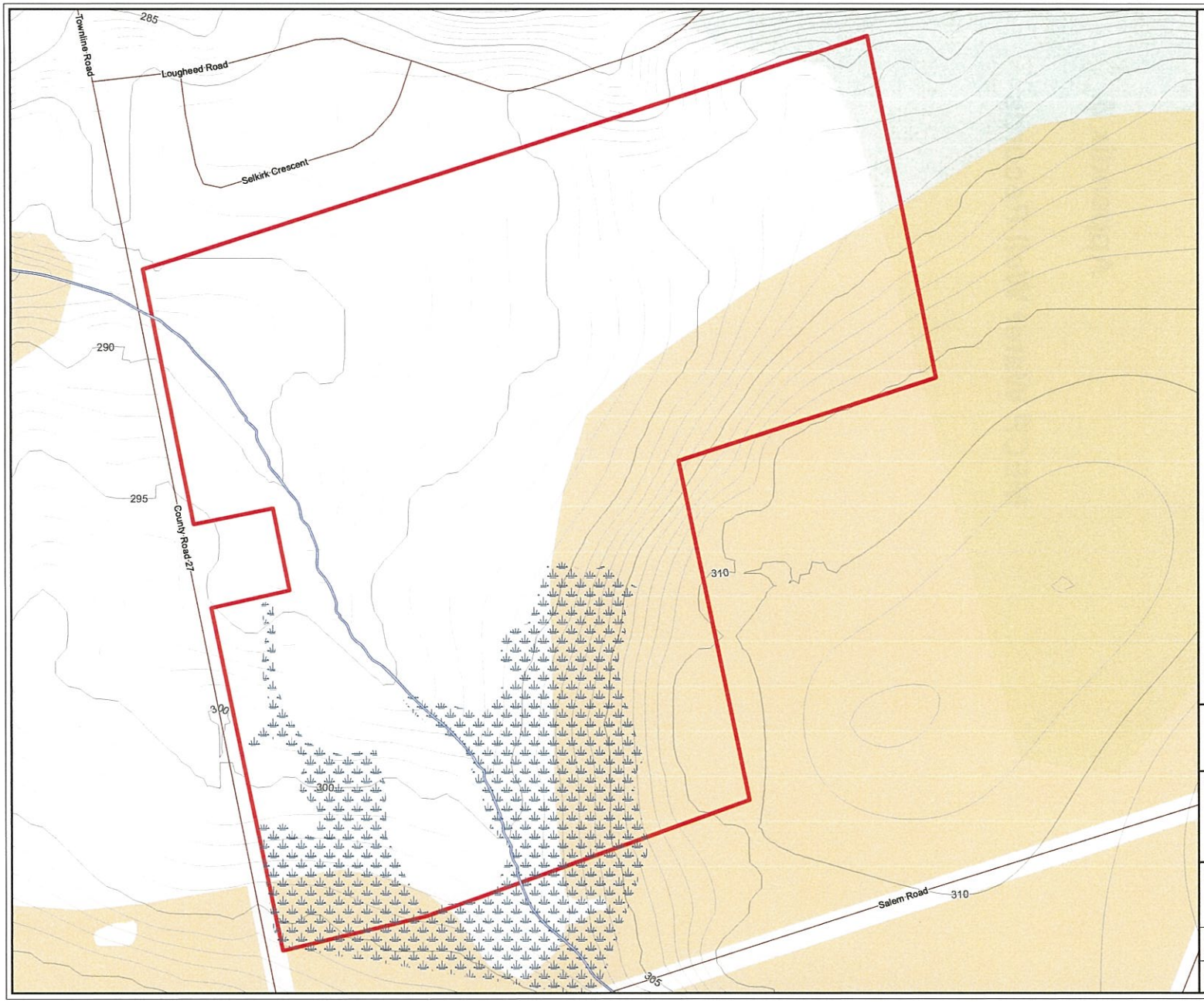
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Figure Title

INTERPRETED GROUNDWATER FLOW (PERCHED WATER TABLE)

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SUBJECT LANDS
WATERCOURSE
WETLAND (MBHC Draft Plan, 2019)
MONITORING WELL (GEOPRO CONSULTING, 2018)
MONITORING WELL (TERRAPROBE, 2011)
MONITORING WELL (TERRAPROBE, 2018)
DRIVE POINT PIEZOMETER
INTERPRETED GROUNDWATER CONTOUR (masl)
267.45 MEASURED WATER LEVEL (April 25, 2019)
INTERPRETED GROUNDWATER FLOW
285
290
295
300
305
310
COUNTY ROAD 27
SALEM ROAD
BH7 286.87
BH01
<285 BH130
BH129
BH14 <285
BH120
288.5 BH121
BH23
290.09 BH122
<293.06 BH21
<291.91 BH123
MW3s/d
290.9 BH203
BH202
BH201
BH18
DP-PZ1s/d
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HYDROGEOLOGICAL ASSESSMENT IN SUPPORT OF DRAFT PLAN
Figure Title
INTERPRETED GROUNDWATER FLOW (SHALLOW WATER TABLE)
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LEGEND

- SUBJECT LANDS
- WATERCOURSE
- ROADWAY
- WETLAND (MBHC Draft Plan, 2019)
- PROVINCIALLY SIGNIFICANT WETLAND
- NATURAL HERITAGE SYSTEM BOUNDARY
- CONTOUR (5m intervals - masl)
- CONTOUR (1m intervals)
- WATERBODY
- WOODED AREA
- SIGNIFICANT GROUNDWATER RECHARGE AREAS (SGRA, LSRCA)

Sources:

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3. SGRA mapping obtained for Lake Simcoe Conservation Authority, 2018

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Metres

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BARRIE, ONTARIO
HYDROGEOLOGICAL STUDY
IN SUPPORT OF DRAFT PLAN

Figure Title

RECHARGE AREAS

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Appendix A

MECP Water Well Records

Table A-1: MECP Water Well Record Summary

MECP WELL #	Well Use	Well Depth (m)	Well Construction	Date Completed
5701248	Well: Supply	12.2	Dug Well	8/12/1964
5701369	Well: Abandoned	29.0	N/A	8/2/1966
5708744	Well: Supply	14.9	Drilled Well	1/28/1972
5709516	Well: Supply	50.9	Drilled Well	8/14/1972
5710183	Well: Supply	27.1	Drilled Well	8/15/1973
5710487	Well: Supply	8.5	Dug Well	10/7/1973
5715823	Well: Supply	5.2	Dug Well	5/6/1978
5715880	Well: Supply	47.2	Drilled Well	1/31/1979
5720021	Well: Supply	46.0	Drilled Well	5/17/1985
5722089	Well: Supply	54.9	Drilled Well	4/14/1987
5723814	Well: Supply	72.5	Drilled Well	8/30/1988
5723993	Well: Supply	45.7	Drilled Well	9/7/1988
5723994	Well: Supply	72.8	Drilled Well	9/1/1988
5730987	Well: Abandoned	71.3	N/A	7/28/1994
5731026	Well: Supply	21.3	Drilled Well	7/28/1994
5731942	Well: Supply	37.8	Drilled Well	6/12/1995
5732281	Well: Supply	48.8	Drilled Well	5/18/1995
5737570	Well: Supply	48.5	Drilled Well	1/5/2003
5738084	Well: Abandoned	0.0	N/A	8/4/2003
5739780	Well: Supply	48.8	Drilled Well	1/4/2005
7048667	Well: Monitoring	25.6	Drilled Well	8/2/2007
7053919	Well: Abandoned	5.4	N/A	11/14/2007
7176146	Well: Monitoring	7.6	Drilled Well	10/19/2011
7176147	Well: Monitoring	4.6	Drilled Well	10/18/2011

Water Well Records

Thursday, October 25, 2018
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TOWNSHIP CON LOT	UTM	DATE CNTR	CASING DIA	WATER	PUMP TEST	WELL USE	SCREEN	WELL	FORMATION
ESSA TOWNSHIP 11 024	17 600885 4907776 W	2007/11 5528	35.4			NU		7053919 (Z48268) A	
ESSA TOWNSHIP CON 11	17 601079 4907103 W	2003/01 2513	6	FR 0159	120/140/20/1:30	DO	0156 3	5737570 (254052)	LOAM 0001 YLLW SAND SILT STNS 0025 GREY CLAY SAND 0094 BRWN CLAY SAND BLDR 0123 YLLW FSND 0156 YLLW MSND 0159
ESSA TOWNSHIP CON 11 023	17 601005 4907279 W	1995/05 2431	6	FR 0143	122//15/2:30	DO	0143 4	5732281 (160505)	BRWN FSND 0007 GREY CLAY SLTY GRVL 0031 GREY CLAY TILL 0136 BRWN FSND MSND 0147 BRWN FSND 0160
ESSA TOWNSHIP CON 11 023	17 600964 4907373 W	1985/05 3660	5	FR 0144	122/125/10/2:0	DO	0147 3	5720021 ()	BLCK LOAM 0001 BRWN SAND 0010 GREY CLAY SAND 0055 BLUE CLAY 0096 BRWN SAND 0144 MSND WBRG 0151
ESSA TOWNSHIP CON 11 024	17 600507 4907645 L	1994/07 4919	30	UK 0040 UK 0050 UK 0060	30/50/10/1:0	DO		5731026 (125652)	BRWN LOAM HARD 0001 BRWN CLAY HARD 0020 GREY CLAY SAND PCKD 0070
ESSA TOWNSHIP CON 11 025	17 600382 4908244 L	2003/08 7088				NU		5738084 (265253) A	
ESSA TOWNSHIP CON 11 025	17 600784 4908378 W	1973/08 1204	5	FR 0024 FR 0066 FR 0078	51/59/7/1:40	DO	0083 3	5710183 ()	BLCK CLAY 0024 GREY GRVL 0025 GREY SILT CLAY 0066 GREY SAND 0068 GREY SAND SILT CLAY 0078 BLCK SAND 0089
INNISFIL TOWNSHIP	17 601597 4907569 W	2007/08 6809	2		///:	MO		7048667 (Z63332) A059618	BRWN SAND GRVL 0045 GREY SAND SILT DNSE 0080 GREY SILT CLAY 0084
INNISFIL TOWNSHIP	17 601441 4907354 W	2011/10 7190	2	UT 0002		MO	0015 10	7176147 (Z133800) A076132	BRWN SAND GRVL DNSE 0015
INNISFIL TOWNSHIP CON 10 001	17 601564 4907473 W	1973/10 4608	30	FR 0015	13///0:30	DO		5710487 ()	LOAM 0001 SAND 0005 GREY CLAY 0028
INNISFIL TOWNSHIP CON 10 002	17 601664 4907473 W	1979/01 4816	6	FR 0130	109//5/3:0	IN	0131 5	5715880 ()	SAND GRVL 0004 MSND 0015 CLAY GRVL SAND 0052 GREY CLAY 0099 FSND 0139 FSND SILT 0155
INNISFIL TOWNSHIP CON 10 002	17 601994 4907615 W	1964/08 1631	30	FR 0028	12//2/:	DO		5701248 ()	LOAM MSND 0010 GREY CLAY 0040
INNISFIL TOWNSHIP CON 10 002	17 602014 4907623 W	1972/08 3203	4	FR 0140	20/140/6/1:15	DO	0164 3	5709516 ()	YLLW CLAY SAND 0014 GREY SAND CLAY 0022 GREY CLAY 0060 GREY SAND CLAY 0066 GREY CLAY 0120 BRWN SAND 0155 GREY SAND 0167
INNISFIL TOWNSHIP CON 11 001	17 601064 4907503 W	1972/01 1204	5	FR 0049	12/36/2/6:0	DO		5708744 ()	BRWN FILL 0004 GREY SILT SAND 0030 GREY CLAY 0049
INNISFIL TOWNSHIP CON 11 001	17 601232 4908083 L	1988/09 2662	6	UK 0235	107/225/10/3:15	DO	0236 3	5723994 (29976)	BRWN SAND 0018 GREY CLAY SNDY 0120 BRWN SAND DRY 0190 GREY CLAY SNDY WBRG 0235 GREY SAND 0239
INNISFIL TOWNSHIP CON 11 001	17 601141 4908622 W	1966/08 4608						5701369 () A	GRVL 0060 MSND 0095

TOWNSHIP CON LOT	UTM	DATE CNTR	CASING DIA	WATER	PUMP TEST	WELL USE	SCREEN	WELL	FORMATION
INNISFIL TOWNSHIP CON 11 001	17 601114 4907423 W	1978/05 4608	30	FR 0008	9///:	DO		5715823 ()	SAND 0017
INNISFIL TOWNSHIP CON 11 001	17 601232 4908083 L	1988/08 2662	6	UK 0234	108/225/10/4:0	DO	0235 4	5723814 (29977)	BRWN SAND 0014 GREY CLAY SNDY 0090 BRWN SAND DRY 0170 GREY CLAY SNDY 0238
INNISFIL TOWNSHIP CON 11 001	17 601033 4908169 W	1988/09 2662	6	UK 0145	60/140/10/3:20	DO	0146 4	5723993 (29982)	BRWN CLAY 0049 BRWN SAND 0091 GREY CLAY SNDY 0145 GREY SAND 0150
INNISFIL TOWNSHIP CON 11 001	17 601495 4907891 W	2011/10 7190	2	UT 0013		MO	0025 10	7176146 (Z133895) A076094	BRWN FSND 0015 GREY FSND 0025
INNISFIL TOWNSHIP CON 11 002	17 601180 4908302 W	1995/06 1583	6 5	FR 0123	72/85/12/2:0	DO	0099 4	5731942 (140621)	FILL CLAY 0006 BRWN CLAY 0012 BRWN SAND CLAY SOFT 0049 FSND 0100 BRWN FSND CGRD 0124
INNISFIL TOWNSHIP CON 11 002	17 602036 4907816 W	2005/01 2513	6.25	FR 0144	115/138/20/1:0	DO	0150 10	5739780 (Z14907) A014858	GREY SAND GRVL 0022 GREY CLAY BLDR 0078 GREY SAND CLAY 0093 YLLW SAND 0139 BRWN CLAY SAND 0142 YLLW SAND 0160
INNISFIL TOWNSHIP CON 11 002	17 601813 4908276 L	1994/07 6782		GS 0234	20/230/1/4:0	DO	0230 4	5730987 (144587) A	BLCK LOAM 0001 GREY CLAY STNS 0048 GREY SAND STNS 0050 GREY SAND GRVL 0075 GREY CLAY GRVL 0080 BRWN SAND CLAY 0115 GREY CLAY SAND 0140 GREY SAND 0147 GREY SAND WDFR SLTY 0220 BRWN CSND WDFR 0234

TOWNSHIP	CON	LOT	UTM	DATE CNTR	CASING DIA	WATER	PUMP TEST	WELL USE	SCREEN	WELL	FORMATION

Notes:
UTM: UTM in Zone, Easting, Northing and Datum is NAD83; L: UTM estimated from Centroid of Lot; W: UTM not from Lot Centroid
DATE CNTR: Date Work Completedand Well Contractor Licence Number
CASING DIA: .Casing diameter in inches
WATER: Unit of Depth in Fee. See Table 4 for Meaning of Code
PUMP TEST: Static Water Level in Feet / Water Level After Pumping in Feet / Pump Test Rate in GPM / Pump Test Duration in Hour : Minutes
WELL USE: See Table 3 for Meaning of Code
SCREEN: Screen Depth and Length in feet
WELL: WEL (AUDIT #) Well Tag . A: Abandonment; P: Partial Data Entry Only
FORMATION: See Table 1 and 2 for Meaning of Code

1. Core Material and Descriptive terms

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
BLDR	BOULDERS	FCRD	FRACTURED	IRFM	IRON FORMATION	PORS	POROUS	SOFT	SOFT
BSLT	BASALT	FGRD	FINE-GRAINED	LIMY	LIMY	PRDG	PREVIOUSLY DUG	SPST	SOAPSTONE
CGRD	COARSE-GRAINED	FGVL	FINE GRAVEL	LMSN	LIMESTONE	PRDR	PREV. DRILLED	STKY	STICKY
CGVL	COARSE GRAVEL	FILL	FILL	LOAM	TOPSOIL	QRTZ	QUARTZITE	STNS	STONES
CHRT	CHERT	FLDS	FELDSPAR	LOOS	LOOSE	QSND	QUICKSAND	STNY	STONEY
CLAY	CLAY	FLNT	FLINT	LTCL	LIGHT-COLOURED	QTZ	QUARTZ	THIK	THICK
CLN	CLEAN	FOSS	FOSILIFEROUS	LYRD	LAYERED	ROCK	ROCK	THIN	THIN
CLYY	CLAYEY	FSND	FINE SAND	MARL	MARL	SAND	SAND	TILL	TILL
CMTD	CEMENTED	GNIS	GNEISS	MGRD	MEDIUM-GRAINED	SHLE	SHALE	UNKN	UNKNOWN TYPE
CONG	CONGLOMERATE	GRNT	GRANITE	MGVL	MEDIUM GRAVEL	SHLY	SHALY	VERY	VERY
CRYS	CRYSTALLINE	GRSN	GREENSTONE	MRBL	MARBLE	SHRP	SHARP	WBRG	WATER-BEARING
CSND	COARSE SAND	GRVL	GRAVEL	MSND	MEDIUM SAND	SHST	SCHIST	WDFR	WOOD FRAGMENTS
DKCL	DARK-COLOURED	GRWK	GREYWACKE	MUCK	MUCK	SILT	SILT	WTHD	WEATHERED
DLMT	DOLOMITE	GVLY	GRAVELLY	OBDN	OVERBURDEN	SLTE	SLATE		
DNSE	DENSE	GYPS	GYPSUM	PCKD	PACKED	SLTY	SILTY		
DRTY	DIRTY	HARD	HARD	PEAT	PEAT	SNDS	SANDSTONE		
DRY	DRY	HPAN	HARDPAN	PGVL	PEA GRAVEL	SNDY	SANDYOAPSTONE		

2. Core Color

Code	Description
WHIT	WHITE
GREY	GREY
BLUE	BLUE
GREN	GREEN
YLLW	YELLOW
BRWN	BROWN
RED	RED
BLCK	BLACK
BLGY	BLUE-GREY

3. Well Use

Code	Description	Code	Description
DO	Domestic	OT	Other
ST	Livestock	TH	Test Hole
IR	Irrigation	DE	Dewatering
IN	Industrial	MO	Monitoring
CO	Commercial	MT	Monitoring TestHole
MN	Municipal		
PS	Public		
AC	Cooling And A/C		
NU	Not Used		

4. Water Detail

Code	Description	Code	Description
FR	Fresh	GS	Gas
SA	Salty	IR	Iron
SU	Sulphur		
MN	Mineral		
UK	Unknown		

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix B

Borehole Logs

LOG OF BOREHOLE BH01

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: HR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-30

REF. NO.: 17-2099GE

ENCL. NO.: 2

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	GROUND WATER
289.7					
0.0 / 289.4	**TOPSOIL:** (300 mm)				
0.3 / 289.0	**REWORKED SILTY SAND TO SAND AND SILT:** trace organics, trace rootlets, dark brown to brown, moist, loose	1	SS	4	
0.6	**SILTY SAND TO SAND AND SILT:** trace clay, trace gravel, organic stain, brown, wet, loose to compact	2	SS	8	
288.1		3A	SS	18	
1.5 / 287.6	**SAND AND SILT:** trace clay, trace gravel, brown, moist to wet, compact	3B	SS		
2.1 / 287.1	**SAND:** some silt, trace gravel, containing cobbles and boulders, brown, moist, dense	4A	SS	36	
	—auger grinding	4B	SS		
2.5	**FINE SAND TO SILTY FINE SAND:** brown, moist to wet, dense to very dense	5	SS	69 / 280 mm	286.4/May 11
285.6	— layers of clayey silt till				
4.0	**SILTY SAND:** trace to some gravel, trace clay, containing cobbles and boulders, brown, wet, very dense	6	SS	50 / 100 mm	
	— containing cobbles and boulders				
283.4		7	SS	50 / 140 mm	
6.2	**END OF BOREHOLE**				

Notes:
1) Water was encountered at a depth of 4.6 m below ground surface (mBGS) during drilling.
2) Borehole caved at a depth of 3.0 mBGS upon completion of drilling.
3) 51 mm dia. monitoring well was installed in borehole upon completion of drilling.

Water Level Reading

Date	W. L Depth (mBGS)
May 11, 2018	3.23

Bentonite

Sand

Screen

Natural pack

ELEVATION: 289, 288, 287, 286, 285, 284

DYNAMIC PENETRATION TEST
○ SPT ~ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined × Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

>>100

Plastic Limit w_P — Natural Moisture Content w — Liquid Limit w_L

WATER CONTENT (%)
10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES $+^3, \times^3$: Numbers refer to Sensitivity ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH02

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-24

REF. NO.: 17-2099GE

ENCL. NO.: 3

ELEV / DEPTH (m)	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" BLOWS/0.3m	GROUND WATER	ELEVATION	DYNAMIC PENETRATION TEST (O SPT, ~ Cone, blows/0.3m) / SHEAR STRENGTH (kPa) (● Unconfined, × Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane)	Plastic Limit w_P / Natural Moisture Content w / Liquid Limit w_L — WATER CONTENT (%)	UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
0.0 / 292.4	**TOPSOIL:** (310 mm)		1	SS	8		292				
0.3	**REWORKED SAND AND SILT:** trace clay, trace gravel, trace organics, trace rootlets, dark brown, moist, loose to compact		2	SS	17						
1 / 291.5							291				
1.2 / 290.7	**NO SAMPLE RECOVERY:** likely sand and silt to silty sand		3	NR	30						
2.1	**SAND AND SILT TO SILTY SAND:** trace clay, trace gravel, layers/zones of sandy silt, containing cobbles and boulders, brown, moist, dense to very dense		4	SS	49		290				
3	--- auger grinding		5	SS	39						5 69 23 3
4							289				
5 / 287.2			6	SS	62		288				
5.6	**SAND:** trace to some silt, trace gravel, brown, moist, very dense						287				
6 / 286.5			7	SS	50 / 150 mm			>>100			
6.3	**END OF BOREHOLE**										

Note:
1) Borehole was open and dry upon completion of drilling.

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH03

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-26

REF. NO.: 17-2099GE

ENCL. NO.: 4

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
294.3					
0.0 / 294.1	**TOPSOIL:** (280 mm)				
0.3 / 293.7	**REWORKED SAND AND SILT:** trace clay, trace gravel, trace organics, trace rootlets, pockets of topsoil, brown, moist, loose	1	SS	4	
0.6	**SAND AND SILT:** trace to some gravel, trace clay, organic stain, containing cobbles and boulders, brown, moist to wet, loose to very dense	2	SS	10	3 41 48 8
	---layers of sand	3	SS	50 / 150 mm	
292.4					
1.9	**SAND AND SILT TO SILTY SAND:** trace gravel, containing cobbles and boulders, brown, moist, very dense	4	SS	93 / 230 mm	
291.5					
2.8	**SAND:** some silt, trace gravel, layers of sandy silt, brown, moist, very dense	5	SS	50 / 80 mm	
290.4					
3.9	**GRAVELLY SAND:** some silt to silty, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense	6	SS	50 / 50 mm	
289.0					
5.4	**SAND:** some silt, trace to some gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense				
288.2		7	SS	50 / 80 mm	
6.2	~~---auger grinding~~ **END OF BOREHOLE**				

Note:
1) Borehole was open and dry upon completion of drilling.

DYNAMIC PENETRATION TEST: ○ SPT, ≳ Cone, blows/0.3m (20, 40, 60, 80)

SHEAR STRENGTH (kPa): ● Unconfined, ✕ Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane (20, 40, 60, 80)

WATER CONTENT (%): Plastic Limit w_P, Natural Moisture Content w, Liquid Limit w_L (10, 20, 30, 40)

UNIT WT (kN/m³)

ELEVATION: 294, 293, 292, 291, 290, 289

> >100

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH04

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: HR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-30

REF. NO.: 17-2099GE

ENCL. NO.: 5

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION
295.0 / 0.0	**TOPSOIL:** (230 mm)				
294.7 / 0.2	**FILL:** sand and silt to silty sand, trace clay, trace gravel, containing red brick fragments, brown, moist, compact	1	SS	16	
294.4 / 0.6	**SILTY SAND TO SAND:** trace to some gravel, containing cobbles and boulders, brown, moist, compact to very dense	2	SS	29	294
	--- auger grinding	3	SS	67	
	--- auger grinding				293
	--- auger grinding	4	SS	64	
	--- auger grinding	5	SS	50 / 50 mm	292
291.1 / 3.9	**SILTY FINE SAND:** pockets of sandy silt, containing cobbles and boulders, brown, moist, very dense				291
	--- auger grinding	6	SS	50 / 100 mm	
289.5 / 5.5	**SAND AND SILT TO SILTY SAND:** trace clay, trace gravel, containing cobbles and boulders, brown, moist, very dense				290
	--- auger grinding --- auger grinding	7	SS	50 / 130 mm	289
288.0 / 6.9	**SAND:** some gravel, trace to some silt, containing cobbles and boulders, brown, moist, very dense				288
287.2 / 7.7	**END OF BOREHOLE** Note: 1) Borehole caved at a depth of 4.1 m below ground surface (mBGS) upon completion of drilling.	8	SS	50 / 100 mm	

GROUND WATER

DYNAMIC PENETRATION TEST
○ SPT ~ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined ✕ Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

Plastic Limit w_P | Natural Moisture Content w | Liquid Limit w_L

WATER CONTENT (%)
10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
10	67	18	5

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3, \times^3$: Numbers refer to Sensitivity; $\blacktriangle^{\varepsilon=3\%}$ Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC - DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH05

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer | DIAMETER: 155 mm

FIELD ENGINEER: RR | DATE: 2018-04-26

SAMPLE REVIEW: DX | REF. NO.: 17-2099GE

CHECKED: DL | ENCL. NO.: 6

ELEV / DEPTH (m)	DESCRIPTION	STRATA PLOT	SAMPLES: NUMBER	TYPE	"N" BLOWS/0.3m	GROUND WATER	ELEVATION
296.3 / 0.0	**TOPSOIL:** (330 mm)		1	SS	3		296
295.9 / 0.3	**REWORKED FINE SAND AND SILT TO SILTY FINE SAND:** trace organics, trace rootlets, pockets of sandy silt, brown, moist, very loose		2A	SS	4		
295.7 / 0.6			2B	SS			
295.4 / 0.9	**REWORKED SAND AND SILT TO SANDY SILT:** trace to some clay, trace gravel, trace organics, trace rootlets, dark brown to brown, moist, loose		3	SS	35		295
295.0 / 1.2	**SAND AND SILT:** trace clay, trace gravel, containing cobbles and boulders, brown, moist, loose						
294.2 / 2.1	**SAND:** trace to some gravel, layers/zones of sandy silt, containing cobbles and boulders, brown, moist, dense		4	SS	61		294
	SILTY SAND: trace to some gravel, layers/zones of sandy silt, seams of silt, layers of sand, containing cobbles and boulders, brown, moist, very dense		5	SS	75		293
292.2	--- auger grinding						
290.8 / 4.0	**SAND:** some gravel, trace to some silt, brown, moist, very dense		6	SS	50 / 130 mm		292
	--- auger grinding						
289.9 / 5.5	**SAND AND SILT TO SILTY SAND:** trace gravel, containing cobbles and boulders, brown, moist, very dense		7	SS	50 / 100 mm		291
289.9 / 6.4	**END OF BOREHOLE**						290

Note:
1) Borehole was open and dry upon completion of drilling.

DYNAMIC PENETRATION TEST: O SPT, Cone blows/0.3m (20, 40, 60, 80)

SHEAR STRENGTH (kPa): ● Unconfined ✕ Field Vane & Sensitivity ▲ Quick Triaxial ⊠ Penetrometer + Lab Vane (20, 40, 60, 80)

Natural Moisture Content: Plastic Limit w_P — w — Liquid Limit w_L

WATER CONTENT (%) (10, 20, 30, 40)

>>100 (blows/0.3m)

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%): GR SA SI CL

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC-DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH06

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-26

REF. NO.: 17-2099GE

ENCL. NO.: 7

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION
298.6					
0.0 / 298.3	**TOPSOIL:** (245 mm)				
0.2 / 297.7	**REWORKED SAND AND SILT:** trace clay, trace gravel, trace organics, trace rootlets, dark brown to brown, moist to wet, very loose to compact	1	SS	2	298
		2A	SS		
0.8 / 296.5	**SAND AND SILT TO SILTY SAND:** trace to some clay, trace gravel, organic stain, containing cobbles and boulders, brown, moist, compact	2B	SS	11	
		3	SS	11	297
2.1 / 294.5	**SILTY SAND:** trace gravel, layers/zones of sand and silt, containing cobbles and boulders, brown, moist, very dense	4	SS	67	296
	--- auger grinding	5	SS	82	295
4.0 / 293.0	**CLAYEY SILT:** some sand to sandy, trace gravel, zones/layers of silty sand, containing cobbles and boulders, brown, moist, hard	6	SS	49	294
	--- auger grinding				
5.6 / 290.9	**SAND TO SILTY SAND:** trace to some gravel, containing cobbles and boulders, brown, moist, very dense	7	SS	50 / 130 mm	293
	--- auger grinding				292
7.7	**END OF BOREHOLE**	8	SS	50 / 80 mm	291

Note:
1) Borehole was open and dry upon completion of drilling.

DYNAMIC PENETRATION TEST
○ SPT N Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined ✕ Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

Plastic Limit w_P | Natural Moisture Content w | Liquid Limit w_L

WATER CONTENT (%)
10 20 30 40

>>100

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
2	55	32	11

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH07

PROJECT: Geotechnical Investigation for Slope Stability Assessment and Geotechnical Setback Study

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 205 mm

DATE: 2018-04-25

REF. NO.: 17-2099GE

ENCL. NO.: 2

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
301.4					
0.0 / 301.0	**TOPSOIL:** (360 mm)	1	SS	5	
0.4 / 300.8	**REWORKED SANDY SILT TO SAND AND SILT:** trace to some clay, trace gravel, trace organics, trace rootlets, layers of clayey silt, dark brown to brown, moist, loose	2	SS	11	
0.6 / 300.2	**CLAYEY SILT:** some sand, trace organics, brown, moist, stiff				
1.2 / 299.3	**SAND AND SILT:** trace clay, trace gravel, pockets of organics, brown, moist, loose	3	SS	6	
2.1 / 298.5	**SILTY SAND:** trace clay, trace gravel, layers of sand, containing cobbles and boulders, brown, moist, dense	4	SS	40	1 63 31 5
2.9	**FINE SAND AND SILT TO SILTY FINE SAND:** trace gravel, layers/zones of silt, brown, moist, dense to very dense	5	SS	34	
	--- auger grinding ---layers of clayey silt	6	SS	85 / 260 mm	
295.8					
5.6	**SILTY SAND:** trace to some gravel, layers of sand and silt, containing cobbles and boulders, brown, moist, very dense	7	SS	50 / 150 mm	
294.4	--- auger grinding				
6.9	**SAND:** some silt, some gravel, containing cobbles and boulders, brown, moist, very dense	8	SS	50 / 130 mm	15 73 12
292.9					
8.5	**FINE SAND:** trace to some silt, trace gravel, brown, moist, very dense	9	SS	50 / 80 mm	
10					

GROUND WATER: Bentonite

DYNAMIC PENETRATION TEST: O SPT, ≳ Cone, blows/0.3m; 20 40 60 80

SHEAR STRENGTH (kPa): ● Unconfined ✕ Field Vane & Sensitivity ▲ Quick Triaxial ⊠ Penetrometer + Lab Vane; 20 40 60 80

ELEVATION: 301 300 299 298 297 296 295 294 293 292

Natural Moisture Content; Plastic Limit w_P; Liquid Limit w_L; w

WATER CONTENT (%): 10 20 30 40

>>100

UNIT WT (kN/m³)

Continued Next Page

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ε_f=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC-DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH07

PROJECT: Geotechnical Investigation for Slope Stability Assessment and Geotechnical Setback Study **DRILLING DATA**

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI | METHOD: Continuous Flight Auger - Auto Hammer | DIAMETER: 205 mm

PROJECT LOCATION: County Road 27, Barrie, Ontario | FIELD ENGINEER: RR | DATE: 2018-04-25

DATUM: Geodetic | SAMPLE REVIEW: DX | REF. NO.: 17-2099GE

BH LOCATION: See Borehole Location Plan | CHECKED: DL | ENCL. NO.: 2

ELEV / DEPTH (m)	DESCRIPTION	STRATA PLOT	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: "N" BLOWS/0.3m	GROUND WATER	ELEVATION	DYNAMIC PENETRATION TEST (O SPT, ~ Cone, blows/0.3m) / SHEAR STRENGTH (kPa) (● Unconfined, ✕ Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane)	WATER CONTENT (%) (Plastic Limit w_P, Natural Moisture Content w, Liquid Limit w_L)	UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
11	**FINE SAND:** trace to some silt, trace gravel, brown, moist, very dense(Continued)		10	SS	50 / 80 mm		291	>>100			
289.9							290				
11.5	**SAND AND SILT TO SILTY SAND:** trace gravel, containing cobbles and boulders, brown, moist, very dense		11	SS	50 / 80 mm		289	>>100			
13	--- auger grinding					Sand	288				
14			12	SS	50 / 50 mm		287	>>100			
						Screen					
15						286.6/May 11					
286.1			13	SS	50 / 80 mm	Natural Pack		>>100			
15.3	**END OF BOREHOLE**										

Note:
1) 51 mm dia. monitoring well was installed in borehole upon completion of drilling.

Water Level Reading

Date	W. L Depth (mBGS)
May 11, 2018	14.83

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC - DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH08

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer | DIAMETER: 155 mm

FIELD ENGINEER: RR | DATE: 2018-04-23

SAMPLE REVIEW: DX | REF. NO.: 17-2099GE

CHECKED: DL | ENCL. NO.: 9

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION
301.8					
0.0 / 301.5	**TOPSOIL:** (330 mm)				
0.3 / 301.2	**REWORKED SILTY SAND:** trace gravel, trace organics, trace rootlets, pockets of organic silt, brown, moist to wet, compact	1	SS	11	
0.6	**SILTY SAND:** trace gravel, organic stain, dark brown to brown, wet, loose to compact	2	SS	6	301
		3	SS	4	
299.4		4A	SS		300
2.4 / 298.9	**SAND AND SILT TO SILTY SAND:** trace clay, trace gravel, brown, moist to wet, compact	4B	SS	29	
2.9	**SAND:** trace to some silt, trace to some gravel, containing cobbles and boulders, brown, moist, compact to very dense	5	SS	43	299
	--- auger grinding	6	SS	97 / 260 mm	298
	---zones of silty sand	7	SS	24	297
294.0		8	SS	50 / 80 mm	296
7.9	**END OF BOREHOLE**				295
	Notes: 1) Borehole was dry upon completion of drilling. 2) Borehole caved at depth of 7.3 m below ground surface (mBGS) upon completion of drilling.				294

GROUND WATER

DYNAMIC PENETRATION TEST: ○ SPT, ≳ Cone, blows/0.3m; 20 40 60 80

SHEAR STRENGTH (kPa): ● Unconfined, ✕ Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane; 20 40 60 80

>>100 >>100

Plastic Limit w_P | Natural Moisture Content w | Liquid Limit w_L

WATER CONTENT (%): 10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
12	65	16	7

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH09

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-23

REF. NO.: 17-2099GE

ENCL. NO.: 10

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	GROUND WATER	ELEVATION	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
302.9							
0.0 / 302.6	**TOPSOIL:** (330 mm)	1	SS	4			
0.3 / 302.3	**REWORKED SILTY FINE SAND:** trace organics, trace rootlets, dark brown to brown, moist, loose						
0.6 / 301.7	**SILTY SAND TO SANDY SILT:** trace organics, organic stain, brown, moist to wet, loose ---zones of clayey silt	2	SS	5		302	
1.2	**SILTY SAND:** trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, compact to very dense	3	SS	20			
		4	SS	48		301	
299.7		5A	SS	50 / 100 mm		300	
3.2 / 298.9	**SAND AND GRAVEL:** trace silt, containing cobbles and boulders, brown, moist, very dense	5B	SS				42 46 12
4.0	**SAND AND SILT TO SILTY SAND:** trace to some gravel, containing cobbles and boulders, brown, moist, very dense	6	SS	50 / 80 mm		299	
						298	
296.7		7	SS	50 / 100 mm		297	
6.2	**END OF BOREHOLE**						

Note:
1) Borehole caved at a depth of 5.0 m below ground surface (mBGS) upon completion of drilling.

DYNAMIC PENETRATION TEST: ○ SPT, ∿ Cone, blows/0.3m; 20, 40, 60, 80

SHEAR STRENGTH (kPa): ● Unconfined, ✕ Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane; 20, 40, 60, 80

>>100

Plastic Limit w_P — Natural Moisture Content w — Liquid Limit w_L

WATER CONTENT (%): 10, 20, 30, 40

UNIT WT (kN/m³)

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH10

PROJECT: Geotechnical Investigation for Proposed Residential Developments
CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI
PROJECT LOCATION: County Road 27, Barrie, Ontario
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
METHOD: Continuous Flight Auger - Auto Hammer
FIELD ENGINEER: RR
SAMPLE REVIEW: DX
CHECKED: DL
DIAMETER: 155 mm
DATE: 2018-04-23
REF. NO.: 17-2099GE
ENCL. NO.: 11

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	'N' BLOWS/0.3m	ELEVATION
300.8					
0.0 / 300.5	**TOPSOIL:** (310 mm)	1	SS	3	
0.3 / 300.2	**REWORKED SAND AND SILT TO SILTY SAND:** trace organics, trace rootlets, dark brown to brown, moist to wet, very loose	2	SS	2	300
0.6 / 1 / 299.3	**SAND AND SILT TO SILTY SAND:** trace clay, trace gravel, organic stain, dark brown to brown, moist to wet, very loose to compact	3A	SS	11	
1.5 / 2 / 298.8	**SAND AND SILT TO SILTY SAND:** trace clay, trace gravel, pockets of sand, containing cobbles and boulders, brown, moist, compact	3B	SS		299
2.1 / 297.9	**SAND:** some silt, trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense	4	SS	53	
2.9 / 3	**SILTY SAND:** trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense	5	SS	80 / 280 mm	298
4		6	SS	50 / 100 mm	297
5 / 295.5					296
5.4 / 6 / 294.5	**SILTY FINE SAND:** trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense	7	SS	50 / 100 mm	295
6.4	**END OF BOREHOLE**				

Notes:
1) Borehole was dry upon completion of drilling.
2) Borehole caved at a depth of 5.9 m below ground surface (mBGS) upon completion of drilling.

GROUND WATER

DYNAMIC PENETRATION TEST
○ SPT ∿ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined ✕ Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

Natural Moisture Content
Plastic Limit w_P — w — Liquid Limit w_L
WATER CONTENT (%)
10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES $+^3, \times^3$; Numbers refer to Sensitivity ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC-DX.GPJ 2018-05-29 17:03

LOG OF BOREHOLE BH11

PROJECT: Geotechnical Investigation for Proposed Residential Developments
CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI
PROJECT LOCATION: County Road 27, Barrie, Ontario
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
METHOD: Continuous Flight Auger - Auto Hammer
FIELD ENGINEER: RR
SAMPLE REVIEW: DX
CHECKED: DL
DIAMETER: 155 mm
DATE: 2018-04-23
REF. NO.: 17-2099GE
ENCL. NO.: 12

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
298.9						
0.0 / 298.6	**TOPSOIL:** (310 mm)	1	SS	2		
0.3 / 298.3	**REWORKED SAND AND SILT:** trace clay, trace organics, trace rootlets, brown, moist, very loose					
0.6 / 297.8	**SAND AND SILT:** trace to some clay, trace gravel, containing cobbles and boulders, brown, moist, loose	2A	SS	9	298	
297.7		2B	SS			
1.2	**SAND:** trace to some silt, trace gravel, layers of sandy silt, brown, moist, loose	3	SS	51		4 65 24 7
	SAND AND SILT TO SILTY SAND: trace clay, trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense	4	SS	69	297	
		5	SS	82 / 280 mm	296	
294.2	--- auger grinding	6A	SS	50 /	295	
4.7	**SAND:** trace to some silt, trace gravel, brown, moist, very dense	6B	SS	80 mm	294	
292.5		7	SS	50 / 130 mm	293	
6.4	**END OF BOREHOLE**					

Note:
1) Borehole caved at a depth of 5.2 m below ground surface (mBGS) upon completion of drilling.

GROUND WATER

DYNAMIC PENETRATION TEST
○ SPT ↘ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined × Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

>>100

Plastic Limit w_P — Natural Moisture Content w — Liquid Limit w_L
WATER CONTENT (%)
10 20 30 40

UNIT WT (kN/m³)

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
$+^3$, $\times^3$: Numbers refer to Sensitivity
▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH12

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer | DIAMETER: 155 mm

FIELD ENGINEER: RR | DATE: 2018-04-23

SAMPLE REVIEW: DX | REF. NO.: 17-2099GE

CHECKED: DL | ENCL. NO.: 13

ELEV / DEPTH (m)	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	TYPE	"N" BLOWS/0.3m	GROUND WATER	ELEVATION	DYNAMIC PENETRATION TEST: SPT / Cone blows/0.3m; SHEAR STRENGTH (kPa): Unconfined, Quick Triaxial, Field Vane & Sensitivity, Penetrometer, Lab Vane	Plastic Limit w_P / Natural Moisture Content w / Liquid Limit w_L: WATER CONTENT (%)	UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
295.3											
0.0 / 295.0	**TOPSOIL:** (290 mm)										
0.3 / 294.7	**REWORKED SANDY SILT TO SAND AND SILT:** trace clay, trace gravel, trace organics, trace rootlets, dark brown to brown, moist, loose		1	SS	4		295				
0.6 / 294.2			2A	SS	4						
294.1	**SAND AND SILT:** trace clay, trace gravel, organic stain, brown, moist to wet, loose		2B	SS							
1.2	**SAND AND SILT:** trace clay, trace gravel, containing cobbles and boulders, brown, moist, loose		3	SS	47		294				15 74 11
293.2 / 2.1	**SAND:** some gravel, some silt, containing cobbles and boulders, brown, moist, dense										
	SILTY SAND: trace gravel, layers/zones of sand and silt, brown, moist, very dense		4	SS	72		293				
292.4											
2.9	**SILTY FINE SAND:** seams/pockets of silt, brown, moist, very dense		5	SS	60		292				
291.3											
4.0	**SAND AND SILT TO SILTY SAND:** trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense		6	SS	77 / 260 mm		291	>>100			
5	--- auger grinding										
6			7	SS	50 / 140 mm		290	>>100			
	--- auger grinding						289				
7											
287.6	--- containing cobbles and boulders		8	SS	50 / 130 mm		288	>>100			
7.8	**END OF BOREHOLE**										

Note:
1) Borehole caved at a depth of 6.3 m below ground surface (mBGS) upon completion of drilling.

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC-DX.GPJ 2018-05-29 17:04

GeoPro

LOG OF BOREHOLE BH13

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-24

REF. NO.: 17-2099GE

ENCL. NO.: 14

ELEV / DEPTH (m)	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" BLOWS/0.3m	GROUND WATER	ELEVATION
294.6							
294.5 0.0	**TOPSOIL:** (170 mm)						
0.2 294.0	**REWORKED SANDY SILT:** trace to some clay, trace gravel, trace organics, trace rootlets, dark brown to brown, moist, very loose		1	SS	3		
0.6 1	**SAND AND SILT TO SANDY SILT:** some clay, trace gravel, sand pockets, containing cobbles and boulders, brown, moist, compact		2	SS	11		294
			3	SS	17		293
292.6 2.1	**SAND AND SILT TO SILTY SAND:** trace gravel, containing cobbles and boulders, brown, moist, very dense		4	SS	64		292
291.7 3 2.9	**FINE SAND:** trace to some silt, trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense — auger grinding		5	SS	59		291
290.6 4.0	**SILTY FINE SAND:** trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense		6A	SS	69		290
289.8 5 4.9	**SAND AND SILT:** trace clay, trace gravel, containing cobbles and boulders, brown, moist, very dense		6B	SS			
289.1 5.6 6	**SILTY SAND:** trace gravel, layers of sandy silt, containing cobbles and boulders, brown, moist, very dense		7	SS	50 / 140 mm		289
288.4 6.2	**END OF BOREHOLE**						

Note:
1) Borehole caved at a depth of 5.4 m below ground surface (mBGS) upon completion of drilling.

DYNAMIC PENETRATION TEST
○ SPT ∿ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined × Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

>>100

Natural Moisture Content
Plastic Limit w_P — w — Liquid Limit w_L
WATER CONTENT (%)
10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
1	39	42	18

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH14

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer | DIAMETER: 155 mm

FIELD ENGINEER: RR | DATE: 2018-04-24

SAMPLE REVIEW: DX | REF. NO.: 17-2099GE

CHECKED: DL | ENCL. NO.: 15

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m
293.3				
0.0 / 293.0	**TOPSOIL:** (340 mm)	1	SS	3
0.3 / 292.7	**REWORKED SANDY SILT TO SAND AND SILT:** trace to some clay, trace gravel, trace organics, trace rootlets, dark brown, moist, very loose	2	SS	5
1.2	**SAND AND SILT:** trace to some clay, trace gravel, trace rootlets, pockets of organics, organic stain, brown, wet, loose	3	SS	14
	SAND AND SILT TO SILTY SAND: trace to some clay, trace gravel, pockets of sand, containing cobbles and boulders, moist to wet, compact to very dense	4	SS	14
		5	SS	12
		6	SS	70
287.1		7	SS	50 / 150 mm
6.3	**END OF BOREHOLE**			

Notes:
1) Water was encountered at a depth of 2.3 m below ground surface (mBGS) during drilling.
2) Water was at a depth of 3.7 mBGS upon completion of drilling.
3) Borehole caved at a depth of 4.0 mBGS upon completion of drilling.
4) 51 mm dia. monitoring well was installed in borehole upon completion of drilling.

Water Level Reading

Date	W. L Depth (mBGS)
May 11, 2018	5.94

Bentonite

Sand

Screen

287.4/May 11

Natural pack

DYNAMIC PENETRATION TEST: O SPT, ≈ Cone; blows/0.3m; 20, 40, 60, 80

SHEAR STRENGTH (kPa): ● Unconfined, ✕ Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane; 20, 40, 60, 80

Plastic Limit, Natural Moisture Content, Liquid Limit; w_P, w, w_L

WATER CONTENT (%): 10, 20, 30, 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%): GR SA SI CL

GROUNDWATER ELEVATIONS

Measurement: 1st, 2nd, 3rd, 4th

GRAPH NOTES: +3, ×3: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC-DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH15

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: HR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-30

REF. NO.: 17-2099GE

ENCL. NO.: 16

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m
291.3				
0.0 / 291.0	**TOPSOIL:** (330 mm)	1	SS	2
0.3 / 290.7	**REWORKED SAND AND SILT:** trace clay, trace gravel, trace organics, trace rootlets, dark brown, wet, very loose	2	SS	9
0.6 / 290.1	**SAND AND SILT:** trace clay, trace gravel, organic stain, brown, wet, loose	3	SS	7
1.2	**SAND AND SILT TO SILTY SAND:** trace to some clay, trace gravel, layers of silty sand, pockets of sand, brown, moist to wet, loose to very dense	4	SS	9
		5	SS	11
		6	SS	10
285.0		7	SS	50 / 100 mm
6.4	**END OF BOREHOLE**			

Notes:
1) Water was encountered at a depth of 2.1 m below ground surface (mBGS) during drilling.
2) Borehole caved at a depth of 5.5 mBGS upon completion of drilling.
3) 51 mm dia. monitoring well was installed upon completion of drilling.

Water Level Reading

Date	W. L Depth (mBGS)
May 11, 2018	1.51

GROUND WATER: 289.8/May 11

Bentonite

Sand

Screen

Natural pack

ELEVATION: 291, 290, 289, 288, 287, 286, 285

DYNAMIC PENETRATION TEST
○ SPT ~ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined × Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

>>100

Natural Moisture Content
Plastic Limit w_P — w — Liquid Limit w_L
WATER CONTENT (%)
10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
3	56	27	14

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3, \times^3$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC - DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH16

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: HR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-30

REF. NO.: 17-2099GE

ENCL. NO.: 17

ELEV / DEPTH (m)	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	"N" BLOWS/0.3m	GROUND WATER	ELEVATION	DYNAMIC PENETRATION TEST (O SPT, ≈ Cone, blows/0.3m) / SHEAR STRENGTH (kPa) (● Unconfined, ✕ Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane)	Natural Moisture Content / Plastic Limit w_P / Liquid Limit w_L / WATER CONTENT (%)	UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
299.0								20 40 60 80	10 20 30 40		
298.9 / 0.1	**PAVED SHOULDER ASPHALT:** (60 mm)										
	GRANULAR BASE/SUBBASE: (780 mm)		1	AS							
298.1											
0.8 / 297.7	**FILL:** gravelly sand, trace silt, containing rock fragments, brown, moist, compact		2	SS	15		298				
1.2 / 297.2	**FILL:** organic sandy silt to organic silt, trace clay, trace gravel, dark brown, wet, loose		3A	SS	6						
1.8 / 296.8	**FILL:** sandy silt to sand and silt, trace to some clay, trace organics, brown, wet, loose		3B	SS			297				
2.1	**SAND AND SILT:** trace clay, trace gravel, brown to grey, wet, loose to compact		4	SS	7						
			5	SS	11		296				
							295				
	---grey		6	SS	29		294				
							293				
292.4			7	SS	11						
6.6	**END OF BOREHOLE**										

Notes:
1) Water was encountered at a depth of 4.6 m below ground surface (mBGS) during drilling.
2) Water was at a depth of 5.5 mBGS upon completion of drilling.
3) Borehole caved at a depth of 6.0 mBGS upon completion of drilling.

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180601-DC-JX.GPJ 2018-06-01 13:00

LOG OF BOREHOLE BH17

PROJECT: Geotechnical Investigation for Proposed Residential Developments
CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI
PROJECT LOCATION: County Road 27, Barrie, Ontario
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
METHOD: Continuous Split Spoon
FIELD ENGINEER: HR
SAMPLE REVIEW: DX
CHECKED: DL
DIAMETER: 51 mm
DATE: 2018-05-02
REF. NO.: 17-2099GE
ENCL. NO.: 18

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	GROUND WATER	ELEVATION
298.4						
0.0 / 298.1	**TOPSOIL:** (320 mm)	1	SS	1	298.2/May 11	298
0.3 / 297.6	**REWORKED SANDY SILT:** some clay, trace to some organics, trace rootlets, brown, wet, very loose				Bentonite	
0.8 / 296.9	**SILTY CLAY:** sandy, trace gravel, trace organics, organic stain, sand pockets, brown, wet, very soft to soft	2	SS	2		297
1.5 / 296.3	**SANDY SILT:** some clay, trace gravel, layers/seams of clayey silt, brown, wet, loose to compact	3	SS	10		
2.1 / 295.3	**CLAYEY SILT TO SILTY CLAY:** trace to some sand, trace gravel, seams of silty sand, layers of sandy silt, brown, wet, stiff	4	SS	9	Sand / Screen	296
3.1 / 294.7	**SAND AND SILT:** trace clay, trace gravel, containing cobbles and boulders, brown to grey, moist to wet, compact	5	SS	27		295
3.7	**END OF BOREHOLE**					

Notes:
1) Water was encountered at a depth of 0.8 m below ground surface (mBGS) during drilling.
2) Water was at a depth of 0.2 mBGS upon completion of drilling.
3) 38 mm dia. monitoring was installed in borehole upon completion of drilling.

Water Level Reading

Date	W. L Depth (mBGS)
May 11, 2018	0.23

DYNAMIC PENETRATION TEST: O SPT, ~ Cone, blows/0.3m; 20 40 60 80
SHEAR STRENGTH (kPa): ● Unconfined, ✕ Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane; 20 40 60 80
Plastic Limit w_P — Natural Moisture Content w — Liquid Limit w_L
WATER CONTENT (%): 10 20 30 40
UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
1	29	27	43

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH18

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Split Spoon

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 51 mm

DATE: 2018-05-01

REF. NO.: 17-2099GE

ENCL. NO.: 19

ELEV / DEPTH (m)	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS/0.3m	GROUND WATER	ELEVATION
296.6							
0.0 / 296.3	**TOPSOIL:** (300 mm)						
0.3 / 295.8	**REWORKED SAND AND SILT:** trace clay, trace gravel, brown, moist to wet, very loose		1	SS	2		296
0.8	**SAND AND SILT:** trace clay, trace gravel, trace rootlets, layers/seams /pockets of sand, containing cobbles and boulders, brown, moist to wet, loose to compact		2	SS	6	295.4/May 11	
			3	SS	8	Bentonite	295
			4	SS	9		294
			5	SS	17		
			6	SS	13		293
						Sand	
						Screen	292
5.2 / 291.4			7	SS	10		
5.2 / 290.7	**NO SAMPLE RECOVERY:** likely silty sand		8	NR	19	Natural pack	291
5.9	**END OF BOREHOLE:**						

Notes:
1) Water was encountered at a depth of 2.3 m below ground surface (mBGS) during drilling.
2) Water was at a depth of 3.5 mBGS upon completion of drilling.
3) Borehole caved at a depth of 5.3 mBGS upon completion.
4) 38 mm dia. monitoring was installed in borehole upon completion of drilling.

Water Level Reading

Date	W. L Depth (mBGS)
May 11, 2018	1.20

DYNAMIC PENETRATION TEST
O SPT (20, 40, 60, 80) ~N Cone blows/0.3m
SHEAR STRENGTH (kPa)
● Unconfined ✕ Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
(20, 40, 60, 80)

Plastic Limit w_P — Natural Moisture Content w — Liquid Limit w_L
WATER CONTENT (%)
10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES $+^3, \times^3$: Numbers refer to Sensitivity ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC-DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH19

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-24

REF. NO.: 17-2099GE

ENCL. NO.: 20

ELEV / DEPTH (m)	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" BLOWS/0.3m	GROUND WATER	ELEVATION	DYNAMIC PENETRATION TEST (O SPT, N Cone, blows/0.3m) / SHEAR STRENGTH (kPa) (● Unconfined, × Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane) / WATER CONTENT (%) (Plastic Limit w_P, Natural Moisture Content w, Liquid Limit w_L)	UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
295.3										
0.0 / 295.0	**TOPSOIL:** (290 mm)		1	SS	4		295			
0.3 / 294.7	**REWORKED FINE SAND AND SILT:** trace organics, trace rootlets, pockets of organics, dark brown to brown, moist, loose		2A	SS	4					
0.6 / 294.4	**CLAYEY SILT:** trace to some sand, trace organics, trace rootlets, zones of silty fine sand, organic stain, dark brown to brown, moist, soft to firm		2B	SS						
0.9 / 294.1										
1.2			3	SS	9		294			
293.3	**SAND AND SILT:** trace to some clay, trace gravel, brown, moist to wet, loose									
2.1	**SANDY SILT TO SAND AND SILT:** trace to some clay, trace gravel, layers of clayey silt, containing cobbles and boulders, brown, moist to wet, loose		4	SS	17		293			
292.4	**SAND AND SILT TILL:** trace clay, trace gravel, layers of sand and silt, containing cobbles and boulders, brown, moist, compact		5	SS	16		292			
2.9	**SAND AND SILT:** trace clay, trace gravel, containing cobbles and boulders, brown, moist, compact to very dense									
	--- auger grinding		6	SS	87 / 260 mm		291	>>100		
289.8							290			
5.6	**SILTY SAND:** trace gravel, containing cobbles and boulders, brown, moist, very dense									
288.9			7	SS	50 / 150 mm		289	>>100		
6.4	**END OF BOREHOLE**									

Note:
1) Borehole caved at a depth of 5.3 m below ground surface (mBGS) upon completion of drilling.

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES $+^3$, $\times^3$: Numbers refer to Sensitivity ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH20

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer | DIAMETER: 155 mm

FIELD ENGINEER: RR | DATE: 2018-04-24

SAMPLE REVIEW: DX | REF. NO.: 17-2099GE

CHECKED: DL | ENCL. NO.: 21

ELEV / DEPTH (m)	DESCRIPTION	STRATA PLOT	SAMPLES: NUMBER	TYPE	"N" BLOWS/0.3m	GROUND WATER	ELEVATION
297.3							
0.0 / 297.0	**TOPSOIL:** (280 mm)		1	SS	4		297
0.3 / 296.7	**REWORKED SANDY SILT TO SAND AND SILT:** trace clay, trace gravel, trace organics, trace rootlets, dark brown to brown, moist, loose		2	SS	14		
0.6	**SAND AND SILT TO SILTY SAND:** trace to some clay, trace gravel, layers/pockets of sand, containing cobbles and boulders, brown, moist, compact to very dense ---auger grinding		3	SS	64		296
	---auger grinding		4	SS	82		295
			5	SS	93		294
	--- auger grinding		6	SS	50 / 100 mm		293
291.0			7	SS	50 / 150 mm		292
6.3	**END OF BOREHOLE** Note: 1) Borehole caved at a depth of 5.6 m below ground surface (mBGS) upon completion of drilling.						

DYNAMIC PENETRATION TEST: ○ SPT, ~ Cone, blows/0.3m (20, 40, 60, 80)

SHEAR STRENGTH (kPa): ● Unconfined, ✕ Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane (20, 40, 60, 80)

WATER CONTENT (%): Plastic Limit (w_P), Natural Moisture Content (w), Liquid Limit (w_L) (10, 20, 30, 40)

UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)	GR	SA	SI	CL
		1	59	28	12

>>100 (SPT)

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20160529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH21

PROJECT: Geotechnical Investigation for Proposed Residential Developments
CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI
PROJECT LOCATION: County Road 27, Barrie, Ontario
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
METHOD: Continuous Flight Auger - Auto Hammer
FIELD ENGINEER: RR
SAMPLE REVIEW: DX
CHECKED: DL
DIAMETER: 155 mm
DATE: 2018-04-23
REF. NO.: 17-2099GE
ENCL. NO.: 22

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	GROUND WATER
302.0					
0.0 / 301.8	**TOPSOIL:** (240 mm)				
0.2 / 301.4	**REWORKED FINE SAND AND SILT TO SILTY FINE SAND:** trace clay, trace gravel, trace organics, trace rootlets, dark brown, wet, very loose	1	SS	2	
0.6 / 300.8	**SAND AND SILT:** trace clay, trace gravel, trace rootlets, organic stain, dark brown to brown, moist to wet, loose	2	SS	5	
1.2 / 299.1	**SAND AND SILT TO SILTY SAND:** trace clay, trace gravel, pockets of sand, containing cobbles and boulders, brown, moist, very dense	3	SS	61	
		4	SS	89	
2.9 / 298.6	**FINE SAND:** trace to some silt, trace gravel, brown, moist, very dense	5A	SS	87 / 280 mm	Bentonite
3.5 / 298.0	**SANDY SILT:** trace clay, trace gravel, layers of silt, brown, moist, very dense	5B	SS		
4.0 / 296.5	**SAND AND SILT TO SILTY SAND:** trace gravel, containing cobbles and boulders, brown, moist, very dense --- auger grinding	6	SS	50 / 100 mm	
5.5 / 295.1	**SAND:** trace to some silt, trace gravel, brown, moist, very dense	7	SS	50 / 80 mm	
6.9 / 293.6	**SAND AND SILT TO SILTY SAND:** trace gravel, pockets of sand, containing cobbles and boulders, brown, moist, very dense	8	SS	50 / 50 mm	Sand Screen
8.4 / 292.7	**SILTY FINE SAND:** brown, moist, very dense	9	SS	50 /	Natural pack
9.3	**END OF BOREHOLE** Notes: 1) Borehole caved at a depth of 7.9 m below ground surface (mBGS)			140 mm	

ELEVATION: 301, 300, 299, 298, 297, 296, 295, 294, 293

DYNAMIC PENETRATION TEST
○ SPT ~N Cone blows/0.3m
20 40 60 80
SHEAR STRENGTH (kPa)
● Unconfined × Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

Plastic Limit w_P — Natural Moisture Content w — Liquid Limit w_L
WATER CONTENT (%)
10 20 30 40

>>100

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

Continued Next Page

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3, \times^3$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH21

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: RR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-23

REF. NO.: 17-2099GE

ENCL. NO.: 22

SOIL PROFILE			SAMPLES			GROUND WATER	ELEVATION	DYNAMIC PENETRATION TEST (O SPT, N Cone, blows/0.3m; 20 40 60 80) / SHEAR STRENGTH (kPa) (● Unconfined ✕ Field Vane & Sensitivity ▲ Quick Triaxial ⊠ Penetrometer + Lab Vane; 20 40 60 80)	Plastic Limit w_P — Natural Moisture Content w — Liquid Limit w_L; WATER CONTENT (%) 10 20 30 40	UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
ELEV / DEPTH (m)	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS/0.3m					GR SA SI CL
	upon completion of drilling. 2) 51 mm dia. monitoring was installed in borehole upon completion of drilling. Water Level Reading Date W. L Depth (mBGS) May 11, 2018 Dry									

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES $+^3$, $\times^3$: Numbers refer to Sensitivity ▲ ε_f=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH22

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: HR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-30

REF. NO.: 17-2099GE

ENCL. NO.: 23

ELEV / DEPTH (m)	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" BLOWS/0.3m	GROUND WATER	ELEVATION
305.1 / 0.0	**TOPSOIL:** (230 mm)						305
304.9 / 0.2	**FINE SAND:** trace to some silt, trace gravel, containing cobbles and boulders, brown, moist to wet, loose to dense		1	SS	8		
			2	SS	40		304
			3	SS	36		
303.0 / 2.1	**SILTY FINE SAND:** brown, saturated, loose to compact		4	SS	10		303
302.2 / 2.9	**FINE SAND:** trace to some silt, brown, saturated, compact		5	SS	15		302
301.1 / 4.0	**SAND AND SILT:** trace to some clay, trace gravel, sand pockets, containing cobbles and boulders, brown, moist to wet, very dense		6	SS	59		301
299.5 / 5.6	**SAND:** some silt, trace gravel, brown, wet, very dense		7	SS	50 / 100 mm		300
298.9 / 6.2	**END OF BOREHOLE** Notes: 1) Water encountered at a depth of 0.3 m below ground surface (mBGS) during drilling. 2) Borehole caved at a depth of 0.6 mBGS upon completion of drilling.						299

DYNAMIC PENETRATION TEST
○ SPT ∿ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined × Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

Natural Moisture Content
Plastic Limit w_P — w — Liquid Limit w_L
WATER CONTENT (%)
10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
$+^3$, $\times^3$: Numbers refer to Sensitivity
▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH23

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer | DIAMETER: 155 mm

FIELD ENGINEER: RR | DATE: 2018-04-24

SAMPLE REVIEW: DX | REF. NO.: 17-2099GE

CHECKED: DL | ENCL. NO.: 24

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	GROUND WATER	ELEVATION
299.2						
0.0 / 298.9	**TOPSOIL:** (240 mm)	1A	SS	4		299
0.2 / 298.7	**REWORKED FINE SAND AND SILT:** trace organics, trace rootlets, dark brown, moist, loose	1B	SS			
298.6						
0.6	**REWORKED SANDY SILT:** some clay, trace gravel, trace organics, trace rootlets, dark brown to brown, moist, loose	2	SS	4		
298.0						298
1.2	**SANDY SILT:** some clay, trace organics, trace rootlets, organic stain, layers of sand, dark brown to brown, moist, loose	3	SS	17		
297.1	**SAND AND SILT:** trace clay, trace gravel, organic stain, brown, moist				Bentonite	
2.1	to wet, compact				297.0/May 11	297
	SAND AND SILT TO SILTY SAND: trace to some clay, trace gravel, sand pockets, containing cobbles and boulders, brown, moist to wet, dense to very dense	4	SS	44		
		5	SS	53		296
	---auger grinding	6	SS	50 / 150 mm	Sand	295
293.7					Screen	294
5.5	**FINE SAND AND SILT TO SILTY FINE SAND:** trace gravel, containing cobbles and boulders, brown, wet, very dense					
293.0		7	SS	50 / 120 mm	Natural pack	293
6.2	**END OF BOREHOLE**					

Notes:
1) Water encountered at a depth of 3.1 m below ground surface (mBGS) during drilling.
2) Water was at a depth of 3.7 mBGS upon completion of drilling.
3) Borehole caved at a depth of 5.9 mBGS upon completion of drilling.
4) 51 mm dia. monitoring was installed in borehole upon completion of drilling.

Water Level Reading

Date	W. L Depth (mBGS)
May 11, 2018	2.20

DYNAMIC PENETRATION TEST: ○ SPT, ∿ Cone, blows/0.3m (20, 40, 60, 80)

SHEAR STRENGTH (kPa): ● Unconfined, ✕ Field Vane & Sensitivity, ▲ Quick Triaxial, ⊠ Penetrometer, + Lab Vane (20, 40, 60, 80)

Plastic Limit (w_P) | Natural Moisture Content (w) | Liquid Limit (w_L)

WATER CONTENT (%) (10, 20, 30, 40)

>>100

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
4	64	21	11

GROUNDWATER ELEVATIONS

Measurement: 1st ▽, 2nd ▼, 3rd ▽, 4th ▼

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC-DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH24

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: HR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-24

REF. NO.: 17-2099GE

ENCL. NO.: 25

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m
297.5				
0.0 / 297.2	**TOPSOIL:** (280 mm)			
0.3 / 296.8	**REWORKED FINE SAND AND SILT TO SILTY FINE SAND:** trace organics, trace rootlets, dark brown to brown, moist, loose	1	SS	5
0.6 / 296.2	**CLAYEY SILT:** some sand to sandy, trace organics, trace rootlets, organic stain, dark brown to brown, moist, firm	2	SS	6
1.2 / 295.4	**SAND AND SILT:** trace clay, trace gravel, organic stain, brown, wet, loose	3	SS	9
2.1	**SAND AND SILT TO SILTY SAND:** trace clay, trace gravel, sand pockets, containing cobbles and boulders, brown, moist to wet, compact to very dense	4	SS	21
		5	SS	52
	---auger grinding	6	SS	69
5.6 / 290.9	**FINE SAND AND SILT TO SILTY FINE SAND:** brown, wet, very dense	7	SS	69 / 290 mm
6.5	**END OF BOREHOLE**			

Notes:
1) Water encountered at a depth of 4.6 m below ground surface (mBGS) during drilling.
2) Water was at a depth of 5.2 mBGS upon completion of drilling.
3) Borehole caved at 5.8 mBGS upon completion of drilling.

GROUND WATER

ELEVATION: 297, 296, 295, 294, 293, 292, 291

DYNAMIC PENETRATION TEST
○ SPT ~ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined × Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

>>100

Natural Moisture Content
Plastic Limit w_P — w — Liquid Limit w_L
WATER CONTENT (%)
10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)
GR SA SI CL

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES
$+^3, \times^3$: Numbers refer to Sensitivity
▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH25

PROJECT: Geotechnical Investigation for Proposed Residential Developments
CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI
PROJECT LOCATION: County Road 27, Barrie, Ontario
DATUM: Geodetic
BH LOCATION: See Borehole Location Plan

DRILLING DATA
METHOD: Continuous Flight Auger - Auto Hammer
FIELD ENGINEER: HR
SAMPLE REVIEW: DX
CHECKED: DL
DIAMETER: 205 mm
DATE: 2018-04-30
REF. NO.: 17-2099GE
ENCL. NO.: 26

ELEV / DEPTH (m)	DESCRIPTION	NUMBER	TYPE	"N" BLOWS/0.3m	ELEVATION
305.8					
0.0 / 305.6	**TOPSOIL:** (200 mm)				
0.2 / 305.2	**GRAVELLY SAND:** trace silt, containing cobbles and boulders, brown, moist to wet, compact	1	SS	12	
0.6	**SAND TO FINE SAND:** trace to some silt, trace gravel, brown, wet, compact	2	SS	24	305
		3	SS	18	
					304
		4	SS	23	
302.9					303
2.9	**FINE SAND TO SILTY FINE SAND:** brown, wet, compact	5	SS	22	
					302
		6	SS	24	301
		7	SS	12	
299.3					300
6.6	**END OF BOREHOLE**				

Notes:
1) Water encountered at a depth of 0.3 m below ground surface (mBGS) during drilling.
2) 51 mm dia. monitoring was installed in borehole upon completion of drilling.

Water Level Reading
Date — W. L Depth (mBGS)
May 11, 2018 — 0.48

GROUND WATER: 305.4/May 11
Bentonite
Sand
Screen
Natural pack

DYNAMIC PENETRATION TEST
○ SPT ≳ Cone — blows/0.3m — 20 40 60 80
SHEAR STRENGTH (kPa)
● Unconfined × Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

Plastic Limit — Natural Moisture Content — Liquid Limit
w_P — w — w_L
WATER CONTENT (%)
10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
0	91	9	

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC -DX.GPJ 2018-05-29 17:04

LOG OF BOREHOLE BH26

PROJECT: Geotechnical Investigation for Proposed Residential Developments

CLIENT: Di Poce Management Inc. c/o Oksana Vialykh, BBA, AACI

PROJECT LOCATION: County Road 27, Barrie, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan

DRILLING DATA

METHOD: Continuous Flight Auger - Auto Hammer

FIELD ENGINEER: HR

SAMPLE REVIEW: DX

CHECKED: DL

DIAMETER: 155 mm

DATE: 2018-04-30

REF. NO.: 17-2099GE

ENCL. NO.: 27

ELEV / DEPTH (m)	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	"N" BLOWS/0.3m	GROUND WATER	ELEVATION
306.5							
0.0 / 306.2	**TOPSOIL:** (300 mm)		1	SS	14		306
0.3 / 305.9	**SAND AND SILT TO SILTY SAND:** trace clay, trace gravel, trace to some organics, trace rootlets, layers of peats, dark brown, moist, compact		2	SS	33		
0.6	**FINE SAND:** trace to some silt, trace gravel, brown, wet, compact to very dense		3	SS	18		305
			4	SS	37		304
			5	SS	54		303
301.8			6A	SS			302
4.7	**SILTY SAND TILL TO SAND AND SILT TILL:** some clay to clayey, trace gravel, layers of clayey silt, zones/layers of sand and silt, containing cobbles and boulders, brown, moist to wet, dense to very dense		6B	SS	47		
			7	SS	57		301
300.0							300
6.6	**END OF BOREHOLE**						

Notes:
1) Water encountered at a depth of 0.6 m below ground surface (mBGS) during drilling.
2) Water was at a depth of 0.7 mBGS upon completion of drilling.
3) Borehole caved at a depth of 0.7 mBGS upon completion of drilling.

DYNAMIC PENETRATION TEST
○ SPT ~ Cone blows/0.3m
20 40 60 80

SHEAR STRENGTH (kPa)
● Unconfined × Field Vane & Sensitivity
▲ Quick Triaxial ⊠ Penetrometer + Lab Vane
20 40 60 80

Natural Moisture Content
Plastic Limit w_P — w — Liquid Limit w_L
WATER CONTENT (%)
10 20 30 40

UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR	SA	SI	CL
2	50	27	21

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES: $+^3, \times^3$: Numbers refer to Sensitivity; ▲ ε=3% Strain at Failure

01 - GEOPRO SOIL LOG GEOPRO 17-2099 BH LOG PROJECT DATA 20180529-DC - DX.GPJ 2018-05-29 17:04

Terraprobe

LOG OF BH 120

Project No. : 3-17-0047-03 | Client : PRATT DEVELOPMENT INC. | Originated by : BH

Date started : January 24, 2018 | Project : BEAR CREEK RIDGE | Compiled by : BH

Sheet No. : 1 of 1 | Location : Barrie | Checked by : SO

Position : *Dipoce Property* | Elevation Datum : Geodetic

Rig type : CME 55, track-mounted | Drilling Method : Hollow stem augers

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value
0	291.9	**GROUND SURFACE**				
	291.6	280mm **TOPSOIL**				
	0.3	**FILL**, silty sand and sandy silt, trace gravel, trace clay, loose, brown, moist to wet		1	AS	
1				2	SS	5
				3	SS	9
2	289.9					
	2.0	**SILTY SAND**, some gravel, some clay, compact to very dense, brown, moist to wet (GLACIAL TILL)		4	SS	11
3				5	SS	12
		...wet seams between 3.7m to 4.6m.				
4						
5				6	SS	21
6				7	SS	50 / 150mm
7	284.3					
	7.6	**CLAYEY SILT**, trace sand, trace gravel, very dense, brown, moist (GLACIAL TILL)		8	SS	50 / 125mm
	284.0					
	7.9	**END OF BOREHOLE**				

Elevation Scale (m): 291, 290, 289, 288, 287, 286, 285, 284

Penetration Test Values (Blows / 0.3m) — × Dynamic Cone (10, 20, 30, 40)

Undrained Shear Strength (kPa) — ○ Unconfined, ● Pocket Penetrometer, + Field Vane, ■ Lab Vane (40, 80, 120, 160)

Moisture / Plasticity — Plastic Limit (PL) | Natural Water Content (MC) | Liquid Limit (LL) (10, 20, 30)

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT)

GR	SA	SI	CL
	13	47	27	13
	2	7	70	21

Unstabilized water level measured at 4.6 m below ground surface upon completion of drilling.

50 mm dia. monitoring well installed. 3.0m screen installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Feb 15, 2018	1.7	290.2
Feb 20, 2018	1.5	290.4
Feb 22, 2018	1.5	290.4

file: 3170047 bh.gpj

Terraprobe

LOG OF BH 121

Project No. : 3-17-0047-03 | Client : PRATT DEVELOPMENT INC. | Originated by : BH

Date started : January 29, 2018 | Project : BEAR CREEK RIDGE | Compiled by : BH

Sheet No. : 1 of 1 | Location : Barrie | Checked by : SO

Position : *Dipoce Property* | Elevation Datum : Geodetic

Rig type : CME 55, track-mounted | Drilling Method : Hollow stem augers

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value
0	295.5	**GROUND SURFACE**				
	295.2	300mm **TOPSOIL**		1	AS	
	0.3	**FILL**, silty sand, trace clay, trace organics, very loose, brown, moist to wet		2	SS/AS	3
1						
				3	SS	2
2						
				4	SS	3
	292.5					
3	3.0	**SILTY SAND**, trace gravel, trace clay, cobble and boulder inclusions, very dense, brown, moist (GLACIAL TILL)		5	SS	55
4						
				6	SS	50 / 150mm
5						
		...wet seam at 6m.		7	SS	50 / 150mm
6						
7						
	287.7			8	SS	50 / 150mm
	7.8	**END OF BOREHOLE**				

Elevation Scale (m): 295, 294, 293, 292, 291, 290, 289, 288

Penetration Test Values (Blows / 0.3m): × Dynamic Cone; 10 20 30 40

Undrained Shear Strength (kPa): ○ Unconfined, ● Pocket Penetrometer, + Field Vane, ■ Lab Vane; 40 80 120 160

Moisture / Plasticity: Plastic Limit (PL) | Natural Water Content (MC) | Liquid Limit (LL); 10 20 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT)

GR	SA	SI	CL
0	64	29	7
8	59	25	8

Borehole was dry upon completion of drilling.

50 mm dia. monitoring well installed.
3.0m screen installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Feb 15, 2018	dry	n/a
Feb 20, 2018	dry	n/a
Feb 22, 2018	dry	n/a

file: 3170047 bh.gpj

Terraprobe

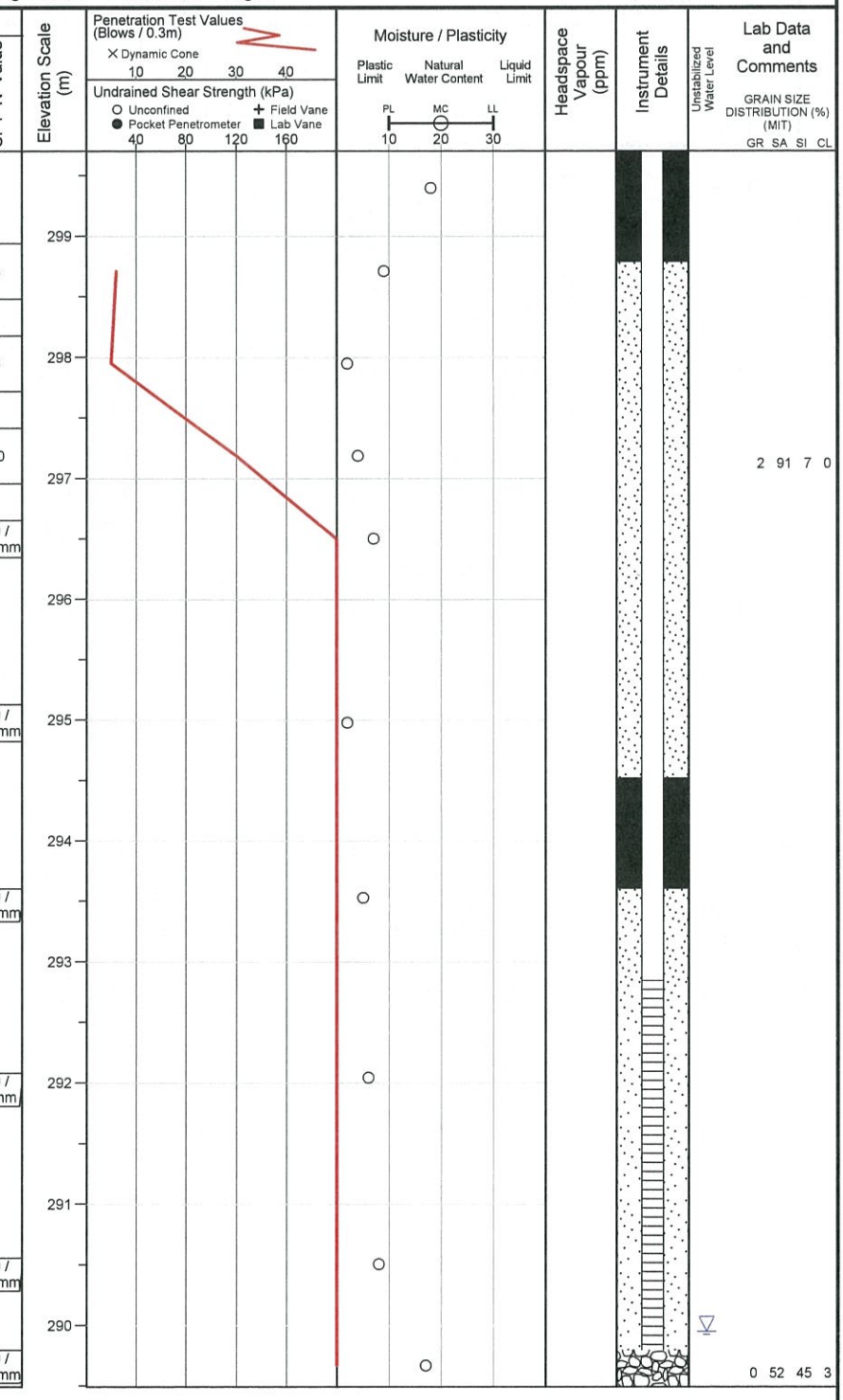
LOG OF BH 122

Project No.	: 3-17-0047-03	Client	: PRATT DEVELOPMENT INC.	Originated by	: BH
Date started	: January 29, 2018	Project	: BEAR CREEK RIDGE	Compiled by	: BH
Sheet No.	: 1 of 1	Location	: Barrie	Checked by	: SO

Position : *Dipoce Property* — Elevation Datum : Geodetic

Rig type : CME 55, track-mounted — Drilling Method : Hollow stem augers

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Sample Number	Sample Type	SPT 'N' Value
0	299.7	**GROUND SURFACE**				
	299.4	300mm **TOPSOIL**		1	AS	
	0.3	**FILL**, silty sand, trace gravel, trace organic to 0.6m, loose, brown, moist		2	SS	6
1				3	SS	5
2	297.7					
	2.0	**SAND**, trace silt, trace gravel, dense to very dense, brown, moist		4	SS	30
3				5	SS	50 / 150mm
4						
	294.8			6	SS	50 / 150mm
5	4.9	**SILTY SAND**, trace clay, trace gravel, cobble and boulder inclusions, very dense, brown, moist (GLACIAL TILL)				
6				7	SS	50 / 150mm
7						
				8	SS	50 / 75mm
8						
	290.1			9	SS	50 / 100mm
	9.6	**SAND AND SILT**, trace clay, very dense, greyish brown, wet				
9						
10	289.5			10	SS	50 / 100mm
	10.2	**END OF BOREHOLE**				



Unstabilized water level measured at 9.8 m below ground surface upon completion of drilling.

50 mm dia. monitoring well installed. 3.0m screen installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Feb 15, 2018	dry	n/a
Feb 20, 2018	dry	n/a
Feb 22, 2018	dry	n/a

file: 3170047 bh.gpj

Terraprobe

LOG OF BH 123

Project No.	: 3-17-0047-03	Client	: PRATT DEVELOPMENT INC.	Originated by	: BH
Date started	: January 30, 2018	Project	: BEAR CREEK RIDGE	Compiled by	: BH
Sheet No.	: 1 of 1	Location	: Barrie	Checked by	: SO

Position : *Dipoce Property* — Elevation Datum : Geodetic

Rig type : CME 55, track-mounted — Drilling Method : Hollow stem augers

Depth (m)	Elev Depth (m)	Description	Graphic Log	Sample Number	Sample Type	SPT 'N' Value	Elevation (m)
0	309.3	**GROUND SURFACE**					309
		200mm **TOPSOIL**		1	AS		
		FILL, sand, trace to some silt, trace organics, loose, brown, moist					
1	308.1			2	SS	7	308
	1.2	**SAND**, trace to some silt, trace to some gravel, dense to very dense, brown, moist to wet		3	SS	40	
2				4	SS	50 / 125mm	307
3				5	SS	50 / 150mm	306
4							305
5				6	SS	32	304
6	303.2						
	6.1	**SILTY CLAY**, some sand, trace gravel, stiff, greyish brown, moist to wet		7	SS	8	303
7	301.7						302
	7.6	**SAND**, trace to some silt, very dense, brown, wet		8	SS	82	
8	300.2						301
9	9.1	**SILTY SAND**, trace gravel, trace clay, very dense, brown, moist (GLACIAL TILL)		9	SS	50 / 150mm	300
10	298.6						299
	10.7	**SAND**, some silt, trace gravel, very dense, brown, moist		10	SS	50 / 125mm	
11	297.1						298
12	12.2	**SILT AND SAND**, some clay, trace gravel, very dense, brown, wet to moist (GLACIAL TILL)		11	SS	50 / 125mm	297
13	295.4						296
	13.9	**END OF BOREHOLE**		12	SS	50 / 125mm	

Penetration Test Values (Blows / 0.3m) — × Dynamic Cone — 10 20 30 40

Undrained Shear Strength (kPa) — ○ Unconfined ● Pocket Penetrometer + Field Vane ■ Lab Vane — 40 80 120 160

Moisture / Plasticity — Plastic Limit | Natural Water Content | Liquid Limit — PL MC LL — 10 20 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments — GRAIN SIZE DISTRIBUTION (%) (MIT) — GR SA SI CL

4 19 34 43

4 40 44 12

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Feb 15, 2018	13.5	295.8
Feb 20, 2018	13.4	295.9
Feb 22, 2018	13.4	295.9

Unstabilized water level measured at 9.8 m below ground surface upon completion of drilling.

50 mm dia. monitoring well installed. 3.0m screen installed.

file: 3170047 bh.gpj

Terraprobe

LOG OF BH 124

Project No.	: 3-17-0047-03	Client	: PRATT DEVELOPMENT INC.	Originated by	: BH
Date started	: January 31, 2018	Project	: BEAR CREEK RIDGE	Compiled by	: BH
Sheet No.	: 1 of 1	Location	: Barrie	Checked by	: SO

Position : *851 Essa Road* — Elevation Datum : Geodetic

Rig type : CME 55, track-mounted — Drilling Method : Hollow stem augers

Depth (m)	Elev Depth (m)	Description	Graphic Log	Sample Number	Sample Type	SPT 'N' Value
0	308.4	**GROUND SURFACE**				
	307.9	460mm **TOPSOIL**		1	AS	
	0.5	**FILL**, sand, trace silt, trace organics, loose, brown, moist		2	SS	7
1	307.2					
	1.2	**SAND**, trace silt, loose to very dense, brown, moist to wet		3	SS	6
2				4	SS	10
3				5	SS	53
4		...at 4.2 m, wet seam at 4.2m.				
5				6	SS	24
	302.4					
6	6.0	**SILT AND SAND**, some clay, trace gravel, cobbles and boulder inclusions, very dense, brown, moist (GLACIAL TILL)		7	SS	50 / 50mm
7						
8				8	SS	50 / 150mm
9				9	SS	50 / 125mm
10				10	SS	50 / 125mm
11				11	SS	50 / 100mm
12						
13	294.7					
	294.5	**SAND**, trace to some silt, very dense, brown, moist		12	SS	50 / 125mm
	13.9	**END OF BOREHOLE**				

Elevation Scale (m): 308, 307, 306, 305, 304, 303, 302, 301, 300, 299, 298, 297, 296, 295

Penetration Test Values (Blows / 0.3m) — × Dynamic Cone: 10, 20, 30, 40

Undrained Shear Strength (kPa) — ○ Unconfined, ● Pocket Penetrometer, + Field Vane, ■ Lab Vane: 40, 80, 120, 160

Moisture / Plasticity — Plastic Limit, Natural Water Content, Liquid Limit — PL, MC, LL: 10, 20, 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT)

	GR	SA	SI	CL
3	0	94	6	0
9	8	60	22	10

Borehole was dry upon completion of drilling.

50 mm dia. monitoring well installed.
3.0m screen installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Feb 15, 2018	dry	n/a
Feb 20, 2018	dry	n/a
Feb 22, 2018	dry	n/a

file: 3170047 bh.gpj

Terraprobe

LOG OF BH 125

Project No.	: 3-17-0047-03	Client	: PRATT DEVELOPMENT INC.	Originated by	: BH
Date started	: February 6, 2018	Project	: BEAR CREEK RIDGE	Compiled by	: BH
Sheet No.	: 1 of 1	Location	: Barrie	Checked by	: SO

Position : *851 Essa Road* — Elevation Datum : Geodetic

Rig type : CME 55, track-mounted — Drilling Method : Hollow stem augers

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value
0	302.5	**GROUND SURFACE**				
		FILL, silty sand, trace organics, trace clay, trace gravel, loose, brown, moist		1	AS	
1	301.3			2	SS	8
	1.2	**SAND AND SILT**, some clay, trace gravel, dense, brown, moist (GLACIAL TILL)		3	SS	38
2				4	SS	33
	299.5					
3	3.0	**CLAYEY SANDY SILT**, some clay, trace to some sand, trace gravel, dense to very dense, brown, moist (GLACIAL TILL)		5	SS	36
4						
				6	SS	40
5						
6				7	SS	37
7						
				8	SS	69
8						
9				9	SS	56
10						
				10	SS	61
11						
12				11	SS	64
13						
	288.5			12	SS	50 / 150mm
14	14.0					

Elevation Scale (m): 302, 301, 300, 299, 298, 297, 296, 295, 294, 293, 292, 291, 290, 289

Penetration Test Values (Blows / 0.3m): × Dynamic Cone; 10 20 30 40

Undrained Shear Strength (kPa): ○ Unconfined ● Pocket Penetrometer + Field Vane ■ Lab Vane; 40 80 120 160

Moisture / Plasticity: Plastic Limit — Natural Water Content — Liquid Limit; PL MC LL; 10 20 30

Headspace Vapour (ppm)

Instrument Details — Unstabilized Water Level

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT)

	GR	SA	SI	CL
8	42	36	14	
6	32	35	27	

END OF BOREHOLE

Borehole was dry upon completion of drilling.

50 mm dia. monitoring well installed.
3.0m screen installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Feb 15, 2018	12.2	290.3
Feb 20, 2018	12.2	290.3
Feb 22, 2018	11.9	290.6

file: 3170047 bh.gpj

Terraprobe

LOG OF BH 126

Project No. : 3-17-0047-03 | Client : PRATT DEVELOPMENT INC. | Originated by : BH

Date started : February 6, 2018 | Project : BEAR CREEK RIDGE | Compiled by : BH

Sheet No. : 1 of 1 | Location : Barrie | Checked by : SO

Position : *851 Essa Road* | Elevation Datum : Geodetic

Rig type : CME 55, track-mounted | Drilling Method : Hollow stem augers

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Sample Number	Sample Type	SPT 'N' Value
0	309.1	**GROUND SURFACE**				
	308.9	200mm **TOPSOIL**				
	0.2	**SAND**, trace silt, trace gravel, trace organic to 0.6m, loose and compact, brown, moist		1	AS	
1				2	SS	5
				3	SS	13
2				4	SS	14
				5	SS	7
3						
	304.5					
4	4.6	**SILTY SAND**, some gravel, trace silt, cobble and boulder inclusions, loose to very dense, brown, moist (GLACIAL TILL)		6	SS	9
5						
				7	SS	50 / 150mm
6						
	302.1					
7	7.0					

Elevation Scale (m): 309, 308, 307, 306, 305, 304, 303

Penetration Test Values (Blows / 0.3m) — × Dynamic Cone: 10, 20, 30, 40

Undrained Shear Strength (kPa) — ○ Unconfined, ● Pocket Penetrometer, + Field Vane, ■ Lab Vane: 40, 80, 120, 160

Moisture / Plasticity — Plastic Limit (PL) | Natural Water Content (MC) | Liquid Limit (LL): 10, 20, 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT)

GR SA SI CL

1 97 2 0

19 43 28 10

END OF BOREHOLE
Auger refusal on inferred bedrock and/or boulders

Borehole was dry upon completion of drilling.

50 mm dia. monitoring well installed.
3.0m screen installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Feb 15, 2018	dry	n/a
Feb 20, 2018	dry	n/a
Feb 22, 2018	dry	n/a

file: 3170047 bh.gpj

Terraprobe

LOG OF BH 127

Project No. : 3-17-0047-03 | Client : PRATT DEVELOPMENT INC. | Originated by : BH

Date started : February 7, 2018 | Project : BEAR CREEK RIDGE | Compiled by : BH

Sheet No. : 1 of 1 | Location : Barrie | Checked by : SO

Position : *851 Essa Road* | Elevation Datum : Geodetic

Rig type : CME 55, track-mounted | Drilling Method : Hollow stem augers

Depth Scale (m)	Elev / Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value	Elevation Scale (m)
0	312.0	**GROUND SURFACE**					
	311.8 / 0.2	200mm **TOPSOIL**					
	311.4 / 0.6	**FILL**, silty sand, some organics, trace gravel, brown, moist		1	AS		
1		**SILTY SAND**, trace gravel, compact to dense, brown, moist to wet		2	SS	14	311
2				3	SS	37	310
				4	SS	31	
3				5	SS	45	309
4							308
5				6	SS	32	307
6				7	SS	20	306
	305.3 / 6.7						
7		**SILTY SAND**, some clay, stratified, compact, brown, wet					305
				8	SS	11	
8	303.9 / 8.1						304

Penetration Test Values (Blows / 0.3m): × Dynamic Cone; 10 20 30 40

Undrained Shear Strength (kPa): ○ Unconfined ● Pocket Penetrometer + Field Vane ■ Lab Vane; 40 80 120 160

Moisture / Plasticity: Plastic Limit | Natural Water Content | Liquid Limit; PL MC LL; 10 20 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT)

GR	SA	SI	CL
2	69	29	0
0	56	26	18

END OF BOREHOLE

Unstabilized water level measured at 6.7 m below ground surface upon completion of drilling.

50 mm dia. monitoring well installed. 3.0m screen installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Feb 15, 2018	7.2	304.8
Feb 20, 2018	7.0	305.0
Feb 22, 2018	7.3	304.7

file: 3170047 bh.gpj

Terraprobe

LOG OF BH 128

Project No. : 3-17-0047-03 | Client : PRATT DEVELOPMENT INC. | Originated by : BH

Date started : February 5, 2018 | Project : BEAR CREEK RIDGE | Compiled by : BH

Sheet No. : 1 of 1 | Location : Barrie | Checked by : SO

Position : *851 Essa Road* | Elevation Datum : Geodetic

Rig type : CME 55, track-mounted | Drilling Method : Hollow stem augers

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value
0	304.8	**GROUND SURFACE**				
	304.2	**FILL**, silty sand, some organics, brown, moist		1	AS	
1	0.6	**SILTY SAND**, trace to some gravel, trace to some clay, compact to dense, brown, moist to wet (GLACIAL TILL)		2	SS	11
				3	SS	24
2				4	SS	20
3				5	SS	37
4	300.5					
	4.3	**SAND**, some gravel, trace silt, trace clay, dense, brown, wet		6	SS	44
5	299.8					
	5.0	**SILTY GRAVELLY SAND**, some clay, dense to very dense, brown to grey, moist (GLACIAL TILL)		7	SS	40
6						
7				8	SS	54
8	296.7					
	8.1	**END OF BOREHOLE**				

Elevation Scale (m): 304, 303, 302, 301, 300, 299, 298, 297

Penetration Test Values (Blows / 0.3m) — × Dynamic Cone — 10 20 30 40

Undrained Shear Strength (kPa) — ○ Unconfined ● Pocket Penetrometer + Field Vane ■ Lab Vane — 40 80 120 160

Moisture / Plasticity — Plastic Limit | Natural Water Content | Liquid Limit — PL MC LL — 10 20 30

Headspace Vapour (ppm): 51

Instrument Details

Unstabilized Water Level

Lab Data and Comments — GRAIN SIZE DISTRIBUTION (%) (MIT) — GR SA SI CL

17 72 8 3

21 38 26 15

Unstabilized water level measured at 0.6 m below ground surface upon completion of drilling.

50 mm dia. monitoring well installed. 3.0m screen installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Feb 15, 2018	0.9	303.9
Feb 20, 2018	0.2	304.6
Feb 22, 2018	0.3	304.5

file: 3170047 bh.gpj

LOG OF BH 129

Terraprobe

Project No.	: 3-17-0047-03	Client	: PRATT DEVELOPMENT INC.	Originated by	: BH
Date started	: January 24, 2018	Project	: BEAR CREEK RIDGE	Compiled by	: BH
Sheet No.	: 1 of 1	Location	: Barrie	Checked by	: SO

Position : *Dipoce Property* — Elevation Datum : Geodetic

Rig type : CME 55, track-mounted — Drilling Method : Hollow stem augers

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Sample Number	Sample Type	SPT 'N' Value
0	290.6	**GROUND SURFACE**				
	290.4	250mm **TOPSOIL**				
	0.2	**FILL**, silty sand and sandy silt, trace gravel, trace clay, trace organics to 0.6m, loose to compact, brown, moist to wet		1	AS	
1				2	SS	11
2				3	SS	13
				4	SS	9
3				5	SS	12
	287.1					
	3.5	**SILTY SAND**, trace gravel, trace clay, very dense, brown, wet to moist (GLACIAL TILL)				
4						
				6	SS	85
5						
6				7	SS	50 / 150mm
7						
				8	SS	57
8	282.5					
	8.1	**END OF BOREHOLE**				

Elevation Scale (m): 290, 289, 288, 287, 286, 285, 284, 283

Penetration Test Values (Blows / 0.3m): × Dynamic Cone — 10, 20, 30, 40

Undrained Shear Strength (kPa): ○ Unconfined, ● Pocket Penetrometer, + Field Vane, ■ Lab Vane — 40, 80, 120, 160

Moisture / Plasticity: Plastic Limit (PL) — Natural Water Content (MC) — Liquid Limit (LL); 10, 20, 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT) — GR SA SI CL

Borehole was dry upon completion of drilling.

50 mm dia. monitoring well installed.
3.0m screen installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Feb 15, 2018	5.5	285.1
Feb 20, 2018	5.4	285.2
Feb 22, 2018	5.4	285.2

file: 3170047 bh.gpj

Terraprobe

LOG OF BH 130

Project No. : 3-17-0047-03
Client : PRATT DEVELOPMENT INC.
Originated by : BH

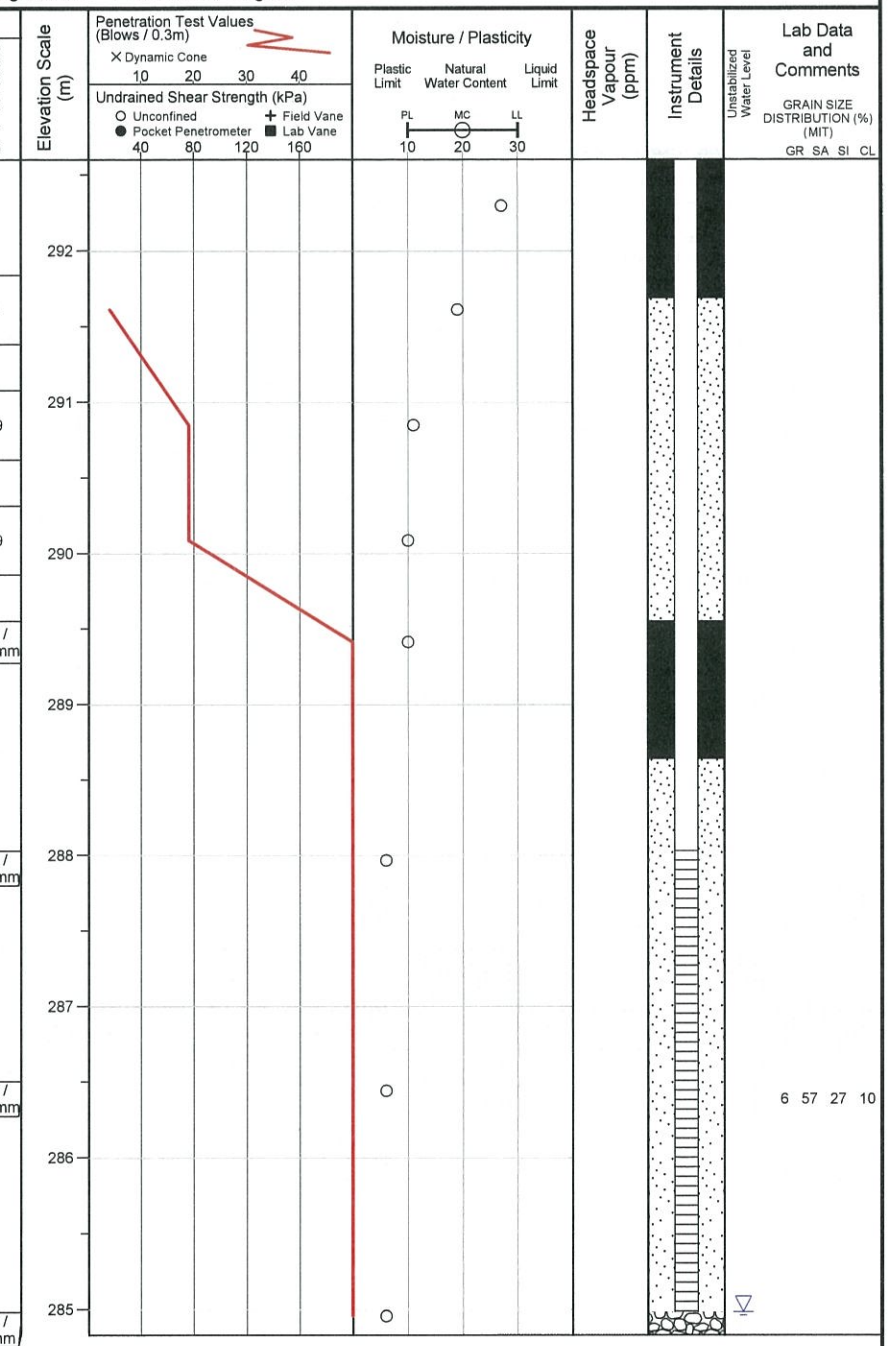
Date started : January 26, 2018
Project : BEAR CREEK RIDGE
Compiled by : BH

Sheet No. : 1 of 1
Location : Barrie
Checked by : SO

Position : *Dipoce Property*
Elevation Datum : Geodetic

Rig type : CME 55, track-mounted
Drilling Method : Hollow stem augers

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value
0	292.6	**GROUND SURFACE**				
		460mm **TOPSOIL**		1	AS	
	292.1 / 0.5	**FILL**, sandy silt, trace organics, very loose, brown, moist to wet		2	SS	4
1	291.4 / 1.2	**SILTY SAND**, trace clay, trace gravel, cobble and boulder inclusions, compact to very dense, brown, moist (GLACIAL TILL)		3	SS	19
2				4	SS	19
3				5	SS	50 / 125mm
4				6	SS	50 / 125mm
5						
6				7	SS	50 / 125mm
7	285.0					
	284.8 / 7.8	**SAND**, some silt, trace gravel, very dense, brown, moist		8	SS	50 / 50mm



END OF BOREHOLE

Unstabilized water level measured at 7.6 m below ground surface upon completion of drilling.

50 mm dia. monitoring well installed. 3.0m screen installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Feb 15, 2018	dry	n/a
Feb 20, 2018	dry	n/a
Feb 22, 2018	dry	n/a

file: 3170047 bh.gpj

Terraprobe

LOG OF BH 201

Project No.	: 3-17-0047-07	Client	: Pratt Development Inc.	Originated by	: BH
Date started	: September 27, 2018	Project	: DiPoce Suplementary Geotechnical Investigation	Compiled by	: BH
Sheet No.	: 1 of 1	Location	: Barrie, Ontario	Checked by	: BG

Position : E: 601006, N: 4907722 (UTM 17T) Elevation Datum : Geodetic (NAD83)

Rig type : D50, track-mounted Drilling Method : Hollow stem augers

Depth Scale (m)	Elev. Depth (m)	Description	Graphic Log	Sample Number	Sample Type	SPT 'N' Value
0	297.1	**GROUND SURFACE**				
	296.8	300mm **TOPSOIL**				
	0.3	**SILTY SAND**, trace to some gravel, trace to some clay, loose to compact, brown to grey, moist to wet		1	SS	5
1				2	SS	2
2				3	SS	11
				4	SS	12
3				5	SS	12
4						
5				6	SS	13
		...grey below 5.5m		7	SS	11
6				8	SS	24
7		...wet sand seam, trace silt, some gravel, below 6.7m		9A	SS	
				9B	SS	9
8				10	SS	12
9						
				11	SS	11
10	287.1					
	10.0	**FINE SAND**, some silt, trace to some clay, dense, grey, wet		12	SS	41
11	285.6					
	11.5	**SILT**, trace sand, some clay, dense, grey, wet				
12				13	SS	37
	284.5					
	12.6	**END OF BOREHOLE**				

Elevation Scale (m): 297, 296, 295, 294, 293, 292, 291, 290, 289, 288, 287, 286, 285

Penetration Test Values (Blows / 0.3m): × Dynamic Cone; 10 20 30 40

Undrained Shear Strength (kPa): ○ Unconfined ● Pocket Penetrometer + Field Vane ■ Lab Vane; 40 80 120 160

Moisture / Plasticity: Plastic Limit | Natural Water Content | Liquid Limit; PL MC LL; 10 20 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT)

GR SA SI CL

10 48 29 13

14 65 16 5

0 3 80 17

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Oct 10, 2018	3.6	293.5

Unstabilized water level measured at 1.8 m below ground surface upon completion of drilling.

32 mm dia. piezometer installed.
3 m screen installed.

file: 3170047-7, bh logs.gpj

Terraprobe

LOG OF BH 202

Project No. : 3-17-0047-07 | Client : Pratt Development Inc. | Originated by : BH

Date started : September 27, 2018 | Project : DiPoce Suplementary Geotechnical Investigation | Compiled by : BH

Sheet No. : 1 of 1 | Location : Barrie, Ontario | Checked by : BG

Position : E: 601062, N: 4907727 (UTM 17T) | Elevation Datum : Geodetic (NAD83)

Rig type : D50, track-mounted | Drilling Method : Hollow stem augers

Depth Scale (m)	Elev / Depth (m)	Description	Graphic Log	Sample Number	Sample Type	SPT 'N' Value	Elevation Scale (m)
0	296.5	**GROUND SURFACE**					296
		SILTY SAND, trace to some gravel, trace to some clay, sand seams, loose to compact, brown to grey, moist to wet		1	SS	6	
1				2	SS	8	295
				3	SS	8	
2				4	SS	10	294
3				5	SS	18	
							293
4							
							292
5				6	SS	10	
				7	SS	14	291
6		...grey below 6m					
				8	SS	11	290
7				9	SS	10	
							289
8				10	SS	12	
							288
9	287.2			11A	SS		
	9.3	**FINE SAND**, some silt, trace to some clay, very dense, grey, wet		11B	SS	61	287
10	286.0						
	10.5	**SILT**, trace sand, trace to some clay, dense, grey, wet		12	SS	46	286
11	285.4						
	11.1	**END OF BOREHOLE**					

Penetration Test Values (Blows / 0.3m) — × Dynamic Cone (10 20 30 40); Undrained Shear Strength (kPa) — ○ Unconfined, + Field Vane, ● Pocket Penetrometer, ■ Lab Vane (40 80 120 160)

Moisture / Plasticity — Plastic Limit (PL) | Natural Water Content (MC) | Liquid Limit (LL); 10 20 30

Headspace Vapour (ppm)

Instrument Details — Unstabilized Water Level

Lab Data and Comments — GRAIN SIZE DISTRIBUTION (%) (MIT)

	GR	SA	SI	CL
1	5	50	33	12
11A	0	64	25	11

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Oct 10, 2018	2.0	294.5

Unstabilized water level measured at 5.8 m below ground surface upon completion of drilling.

32 mm dia. piezometer installed.
1.5 m screen installed.

file: 3170047-7. bh logs.gpj

Terraprobe

LOG OF BH 203

Project No. : 3-17-0047-07 | Client : Pratt Development Inc. | Originated by : BH

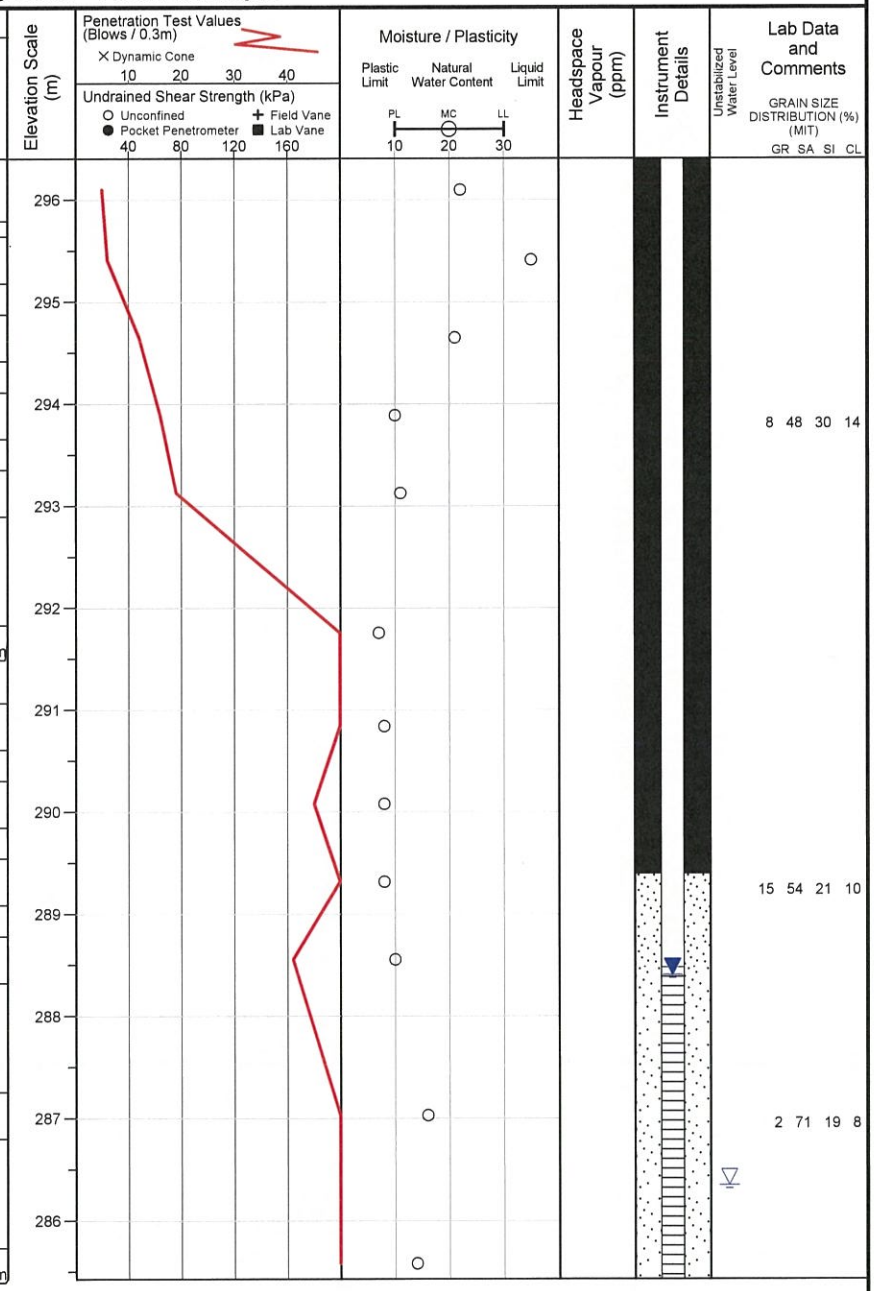
Date started : September 28, 2018 | Project : DiPoce Suplementary Geotechnical Investigation | Compiled by : BH

Sheet No. : 1 of 1 | Location : Barrie, Ontario | Checked by : BG

Position : E: 601152, N: 4907751 (UTM 17T) | Elevation Datum : Geodetic (NAD83)

Rig type : D50, track-mounted | Drilling Method : Hollow stem augers

Depth Scale (m)	Elev Depth (m)	Description	Graphic Log	Number	Type	SPT 'N' Value
0	296.4	**GROUND SURFACE**				
	296.2	250mm **TOPSOIL**		1	SS/AS	5
	0.2	**SILT**, some clay, trace to some sand, firm to stiff, brown, moist		2	SS	6
1				3	SS	12
2	294.3					
	2.1	**SILTY SAND**, trace to some gravel, trace to some clay, compact to very dense, brown, moist		4	SS	16
3				5	SS	19
4						
				6	SS	50 / 150mm
5				7	SS	54
6				8	SS	45
7				9	SS	55
				10	SS	41
8	287.9					
	8.5	**FINE SAND**, some silt, trace to some clay, trace gravel, very dense, brown, wet		11	SS	58
9	286.9					
	9.5	**SILT**, some sand, trace to some clay, trace gravel, very dense, brown, moist to wet				
10				12	SS	50 / 150mm
	285.4					
	11.0	**END OF BOREHOLE**				



WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Oct 10, 2018	8.0	288.4

Unstabilized water level measured at 10.1 m below ground surface upon completion of drilling.

32 mm dia. piezometer installed.
3 m screen installed.

file: 3170047-7, bh logs.gpj

Terraprobe

LOG OF BOREHOLE ..MW3..

PROJECT NAME: Annex Lands, Barrie
PROJECT No.: 33-11-7130
CLIENT: Pratt Development
BORING DATE: October 19, 2011
LOCATION: Barrie, Ontario
ELEVATION DATUM:

BORING METHOD: D-50T Crawler-mounted Drill Rig / Hollow Stem Augers

DEPTH SCALE IN METRES	DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	NUMBER	TYPE	"N" VALUE	PENETRATION RESISTANCE PLOT (20 40 60 80) / SHEAR STRENGTH kPa (nat.V – +, rem.V – ⊕, Q – ●, U – ○) (20 40 60 80)	WATER CONTENT (%) (10 20 30)	INSTALLATION INFORMATION
0	GROUND SURFACE								
	150mm – Topsoil		0.0						
	Orange to Brown; Compact to Dense; Moist to Wet			1	AS				
1	SAND, fine to medium, trace to some gravel, trace to some silt			2	SS	5	x		
				3	SS	12	x		
2				4	SS	55	x		
3				5	SS	50/150mm			
4									
				6	SS	61	x		
5									
	Grey; Compact; Wet		6.4	7	SS	25	x		
6	SAND & SILT								
	Brown; Very Dense; Wet		7.1						
7	SAND, fine, some silt			8	SS	50/150mm			
	End of Borehole		8.1						
8									
9									

INSTALLATION INFORMATION: Bentonite Seal; Concrete; Bentonite Seal; Bentonite Seal; 5.0m; 6.6m

5. gas probe well depth to 6.9m with 5m screen. – 6. No detectable gas measured on October 24, 2011.

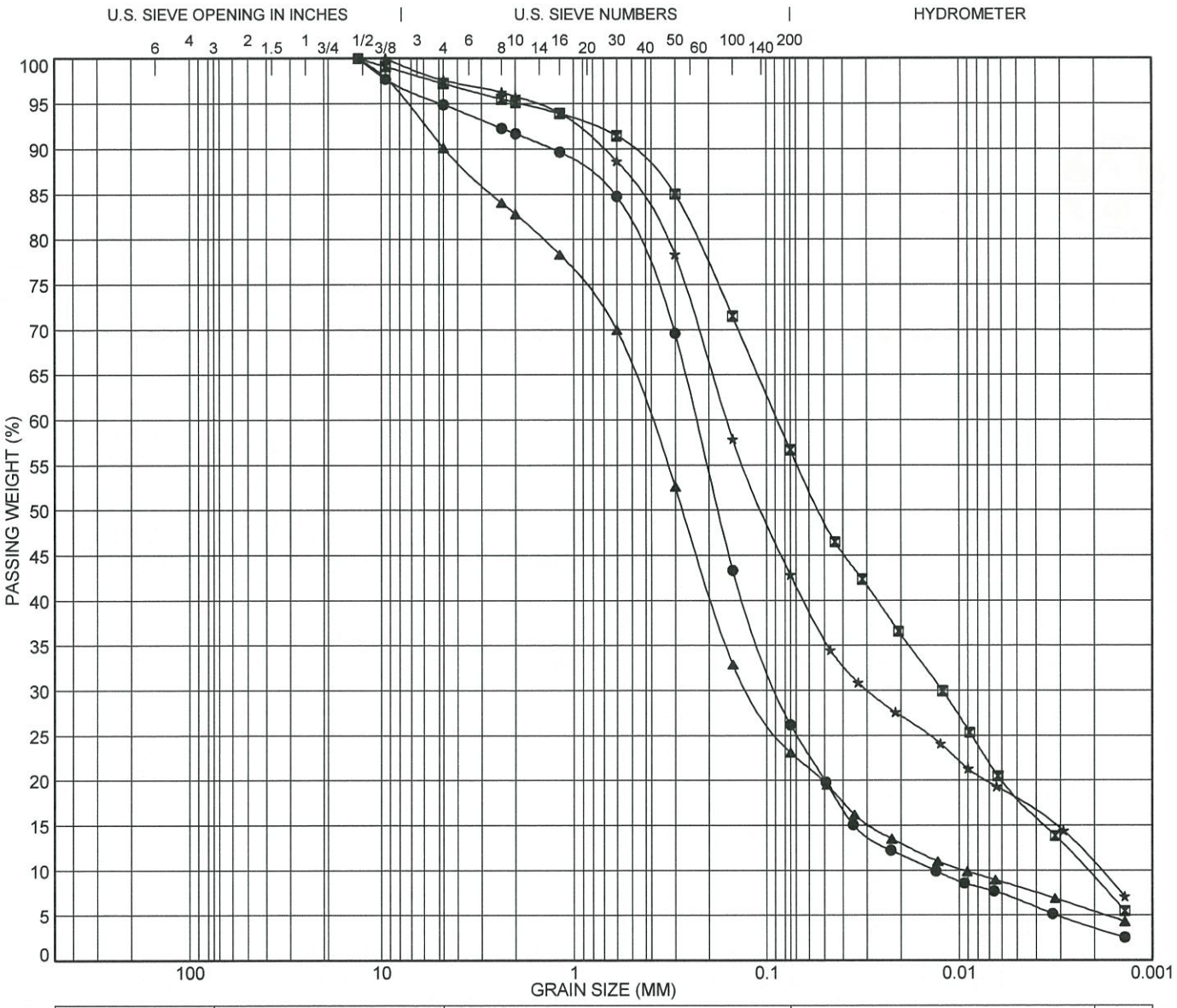
1. Borehole caved at 5.5m during drilling. – 2. Water level noted at 5.0m upon completion of drilling.
3. Schedule 40, 50mm diameter monitoring well installed with 3m screen tip at 8.1m. – 4. Water level measured on October 24, 2011 at 6.6m.

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix C

Hydraulic Conductivity Data



COBBLES	GRAVEL		SAND			SILT	CLAY
	coarse	fine	coarse	medium	fine		

	Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	BH02	SS5	3.05					2.43	17.20
⊠	BH03	SS2	0.61					0.78	40.03
▲	BH04	SS3	1.22					3.91	42.36
★	BH06	SS3	1.22					2.93	86.12

	Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	BH02	SS5	3.05	13.2	0.233	0.088	0.014	5.1	68.7	22.5	3.6
⊠	BH03	SS2	0.61	13.2	0.088	0.012	0.002	2.8	40.6	47.6	9.1
▲	BH04	SS3	1.22	13.2	0.403	0.122	0.01	9.9	67.0	17.7	5.4
★	BH06	SS3	1.22	9.5	0.161	0.03	0.002	2.4	54.8	32.2	10.7

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GRAIN SIZE DISTRIBUTION

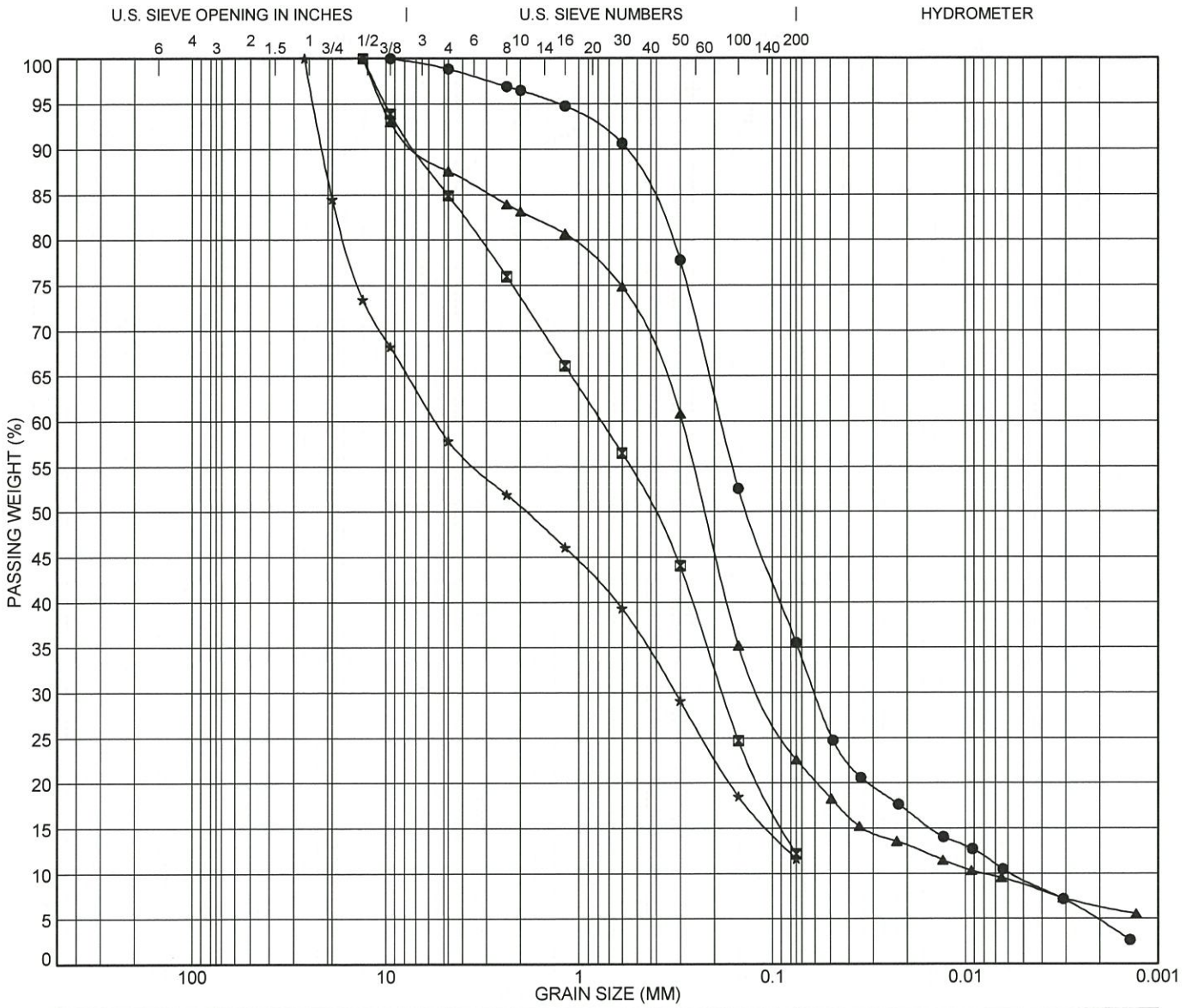
PROJECT: Proposed Phase One Environmental Site Assessment (ESA) and Geotechnical Investigation

LOCATION: County Road 27, Barrie

PROJECT NO.: 17-2099GE | SAMPLED ON: 2018-04-26

FIGURE NO.: 1 | TESTED ON: 2018-05-15

11 - GEOPRO_GRAIN_SIZE GEOPRO 17-2099 BH LOG PROJECT DATA 20180518-DC-WF-DC-LAB.GPJ 2018-05-18 16:44



COBBLES	GRAVEL		SAND			SILT	CLAY
	coarse	fine	coarse	medium	fine		

	Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	BH07	SS4	2.29					3.38	31.91
⊠	BH07	SS8	7.62					0.64	11.54
▲	BH08	SS5	3.05					5.33	36.13
★	BH09	SS5B	3.20					0.29	86.23

	Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	BH07	SS4	2.29	9.5	0.184	0.06	0.006	1.2	63.3	30.9	4.7
⊠	BH07	SS8	7.62	13.2	0.768	0.181		15.1	72.7	12.2	
▲	BH08	SS5	3.05	13.2	0.293	0.113	0.008	12.4	65.0	16.2	6.4
★	BH09	SS5B	3.20	26.5	5.487	0.319		42.2	46.2	11.6	

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GRAIN SIZE DISTRIBUTION

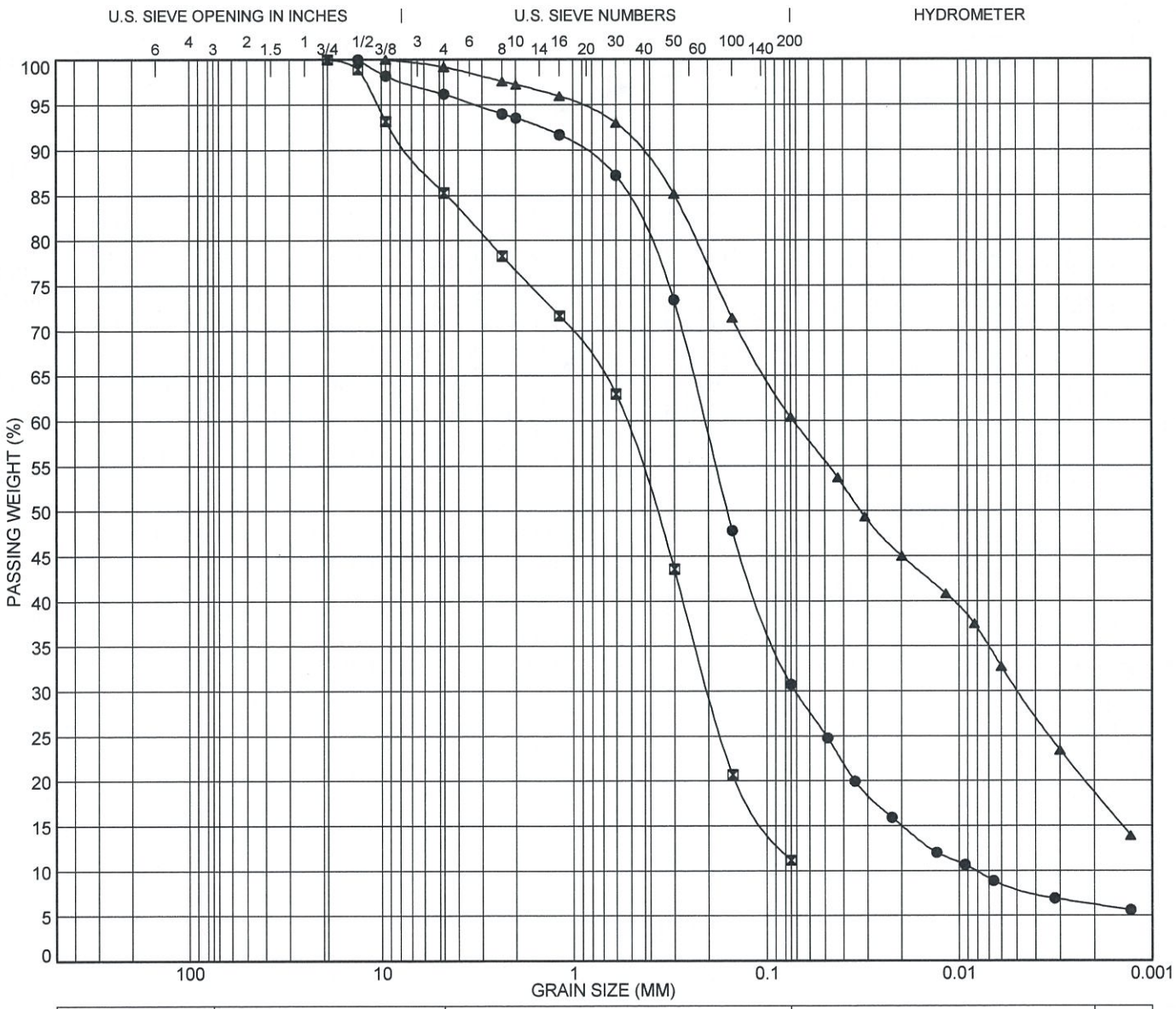
PROJECT: Proposed Phase One Environmental Site Assessment (ESA) and Geotechnical Investigation

LOCATION: County Road 27, Barrie

PROJECT NO.: 17-2099GE | SAMPLED ON: 2018-04-23

FIGURE NO.: 2 | TESTED ON: 2018-05-15

11 - GEOPRO_GRAIN_SIZE GEOPRO 17-2099 BH LOG PROJECT DATA 20180518-DC-WF-DC-LAB.GPJ 2018-05-18 16:45



COBBLES	GRAVEL		SAND			SILT	CLAY
	coarse	fine	coarse	medium	fine		

	Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	BH11	SS3	1.22					2.94	25.41
⊠	BH12	SS3	1.22					1.06	7.84
▲	BH13	SS2	0.61						

	Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	BH11	SS3	1.22	13.2	0.209	0.071	0.008	3.8	65.4	24.5	6.2
⊠	BH12	SS3	1.22	19	0.54	0.199		14.7	74.1	11.2	
▲	BH13	SS2	0.61	9.5	0.073	0.005		0.8	38.8	41.6	18.8

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GRAIN SIZE DISTRIBUTION

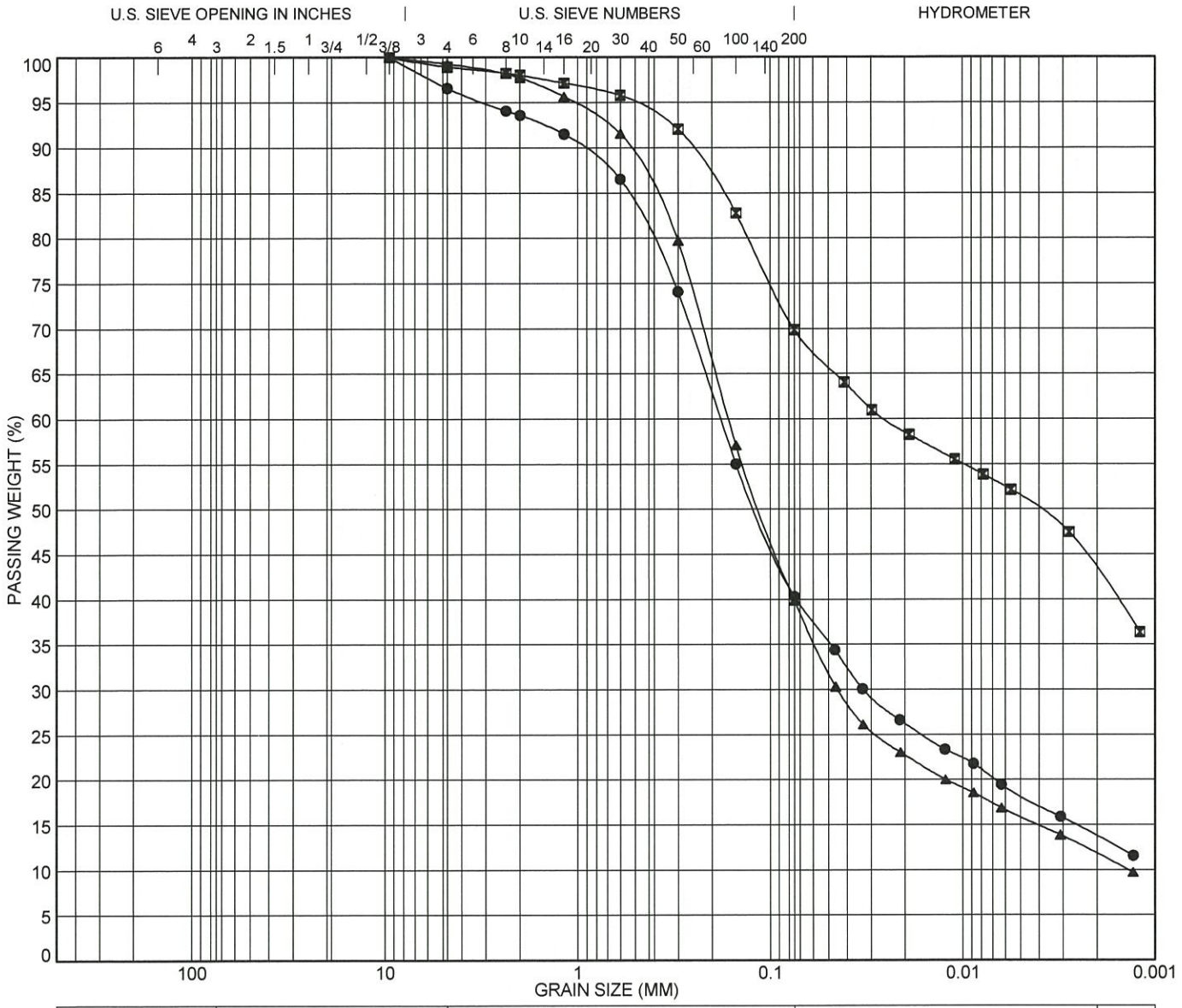
PROJECT: Proposed Phase One Environmental Site Assessment (ESA) and Geotechnical Investigation

LOCATION: County Road 27, Barrie

PROJECT NO.: 17-2099GE | SAMPLED ON: 2018-04-24

FIGURE NO.: 3 | TESTED ON: 2018-05-15

11 - GEOPRO_GRAIN_SIZE GEOPRO 17-2099 BH LOG PROJECT DATA 20180518-DC-WF-DC-LAB.GPJ 2018-05-18 16:47



COBBLES	GRAVEL		SAND			SILT	CLAY
	coarse	fine	coarse	medium	fine		

	Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	BH15	SS4	2.29						
⊠	BH17	SS2	0.76						
▲	BH20	SS4	2.29					8.85	118.54

	Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	BH15	SS4	2.29	9.5	0.18	0.033		3.4	56.3	26.6	13.7
⊠	BH17	SS2	0.76	9.5	0.025			1.0	29.1	26.8	43.0
▲	BH20	SS4	2.29	9.5	0.164	0.045	0.001	0.7	59.4	28.1	11.8

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GRAIN SIZE DISTRIBUTION

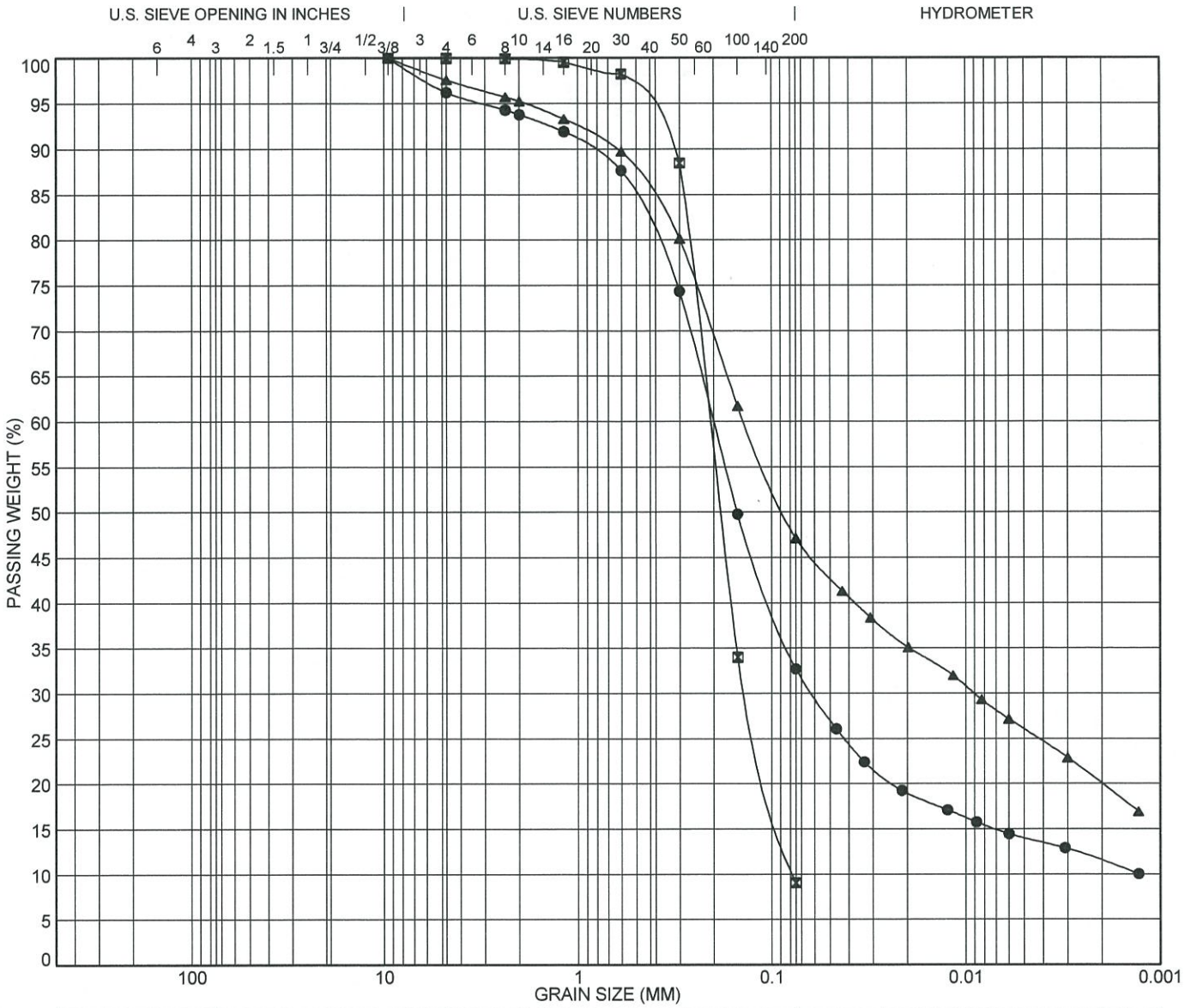
PROJECT: Proposed Phase One Environmental Site Assessment (ESA) and Geotechnical Investigation

LOCATION: County Road 27, Barrie

PROJECT NO.: 17-2099GE | SAMPLED ON: 2018-04-24

FIGURE NO.: 4 | TESTED ON: 2018-05-15

11 - GEOPRO_GRAIN_SIZE GEOPRO 17-2099 BH LOG PROJECT DATA 20180518-DC-WF-DC-LAB.GPJ 2018-05-18 16:48



COBBLES	GRAVEL		SAND			SILT	CLAY
	coarse	fine	coarse	medium	fine		

	Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	BH23	SS6	4.57						
⊠	BH25	SS3	1.22					1.12	2.71
▲	BH26	SS6B	4.70						

	Specimen Identification			D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	BH23	SS6	4.57	9.5	0.2	0.062		3.8	63.5	21.3	11.4
⊠	BH25	SS3	1.22	9.5	0.209	0.134	0.077	0.0	90.9	9.0	
▲	BH26	SS6B	4.70	9.5	0.138	0.009		2.4	50.5	27.2	20.0

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GRAIN SIZE DISTRIBUTION

PROJECT: Proposed Phase One Environmental Site Assessment (ESA) and Geotechnical Investigation

LOCATION: County Road 27, Barrie

PROJECT NO.: 17-2099GE | SAMPLED ON: 2018-04-30

FIGURE NO.: 5 | TESTED ON: 2018-05-15

11 - GEOPRO_GRAIN_SIZE GEOPRO 17-2099 BH LOG PROJECT DATA 20180518-DC-WF-DC-LAB.GPJ 2018-05-18 16:49

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WASH SIEVE ANALYSIS TEST REPORT

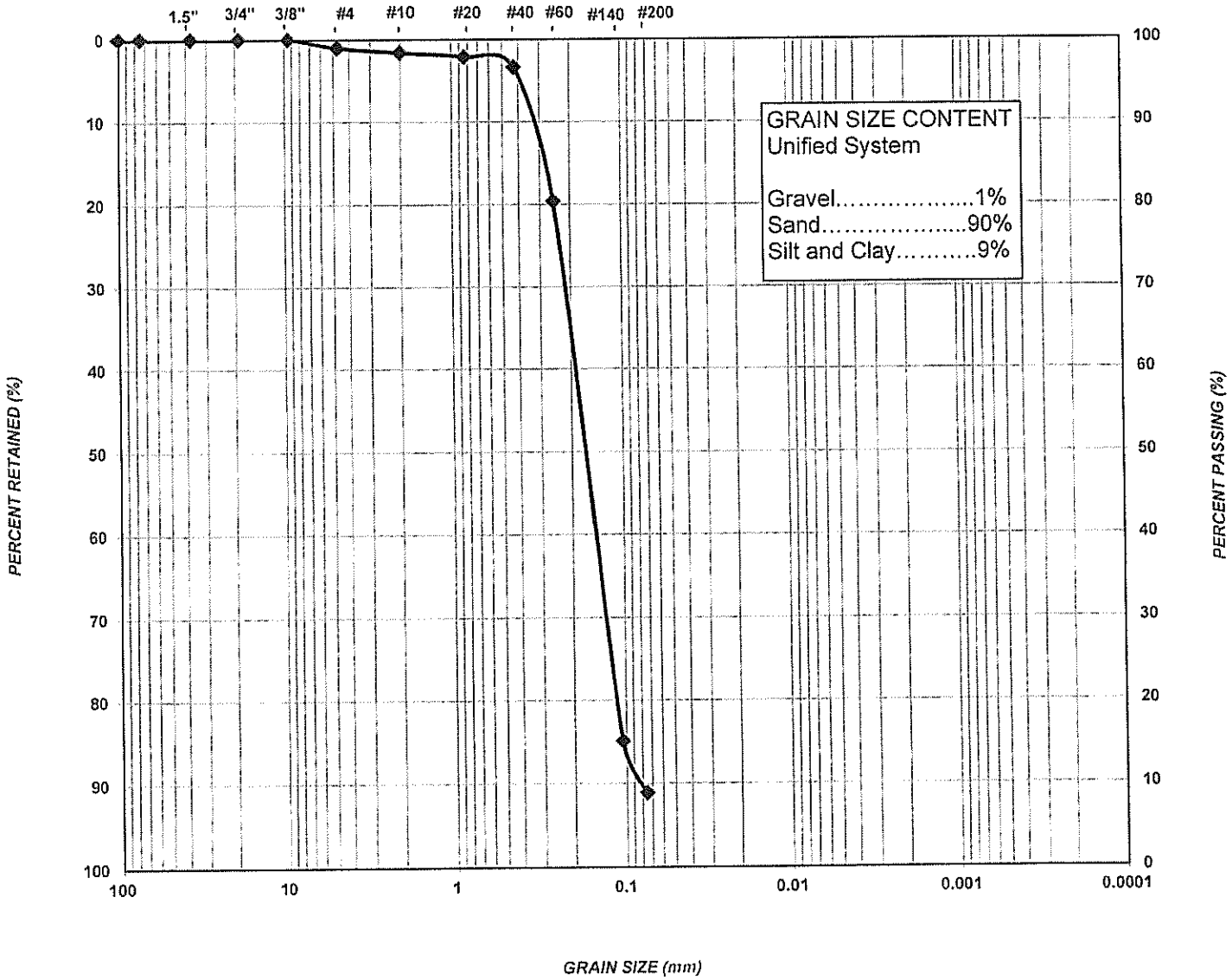
PROJECT: **Annex Lands**
LOCATION: **Barrie, ON**
CLIENT: **Pratt Development**

FILE NO.: **33-11-7130**
LAB NO.: **1126a**
SAMPLE DATE: **Oct-19-11**
SAMPLED BY: **B.H.**

TEST HOLE NUMBER: **2** SAMPLE DEPTH: **25 to 26.5'**
SAMPLE NUMBER: **8**
SAMPLE LOCATION: **as above**
SAMPLE DESCRIPTION: **Sand, trace silt, trace gravel**

GRAIN SIZE DISTRIBUTION

U.S. STANDARD SIEVE SIZES



MIT SYSTEM	GRAVEL	COARSE	MEDIUM	FINE	SILT	CLAY
		SAND				

UNIFIED SYSTEM	COARSE	FINE	COARSE	MEDIUM	FINE	SILT AND CLAY
	GRAVEL		SAND			

Terraprobe

SIEVE AND HYDROMETER ANALYSIS TEST REPORT

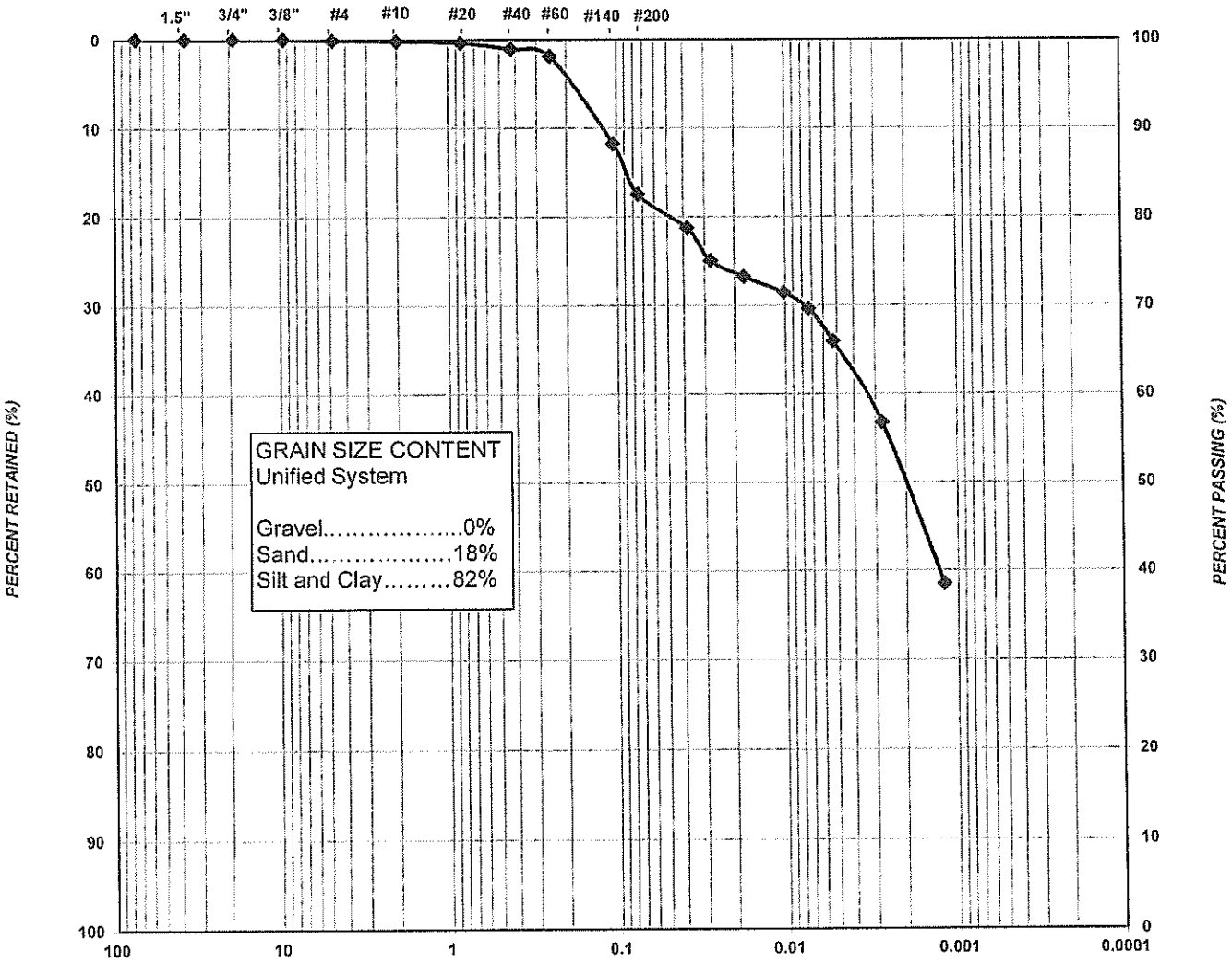
PROJECT: **Annex Lands**
LOCATION: **Barrie, ON**
CLIENT: **Pratt Development**

FILE NO.: **33-11-7130**
LAB NO.: **1126b**
SAMPLE DATE: **Oct-19-11**
SAMPLED BY: **B.H.**

BOREHOLE NUMBER: **4** SAMPLE DEPTH: **15 to 16.5'**
SAMPLE NUMBER: **6**
SAMPLE LOCATION: **as above**
SAMPLE DESCRIPTION: **Silt and clay, some sand**

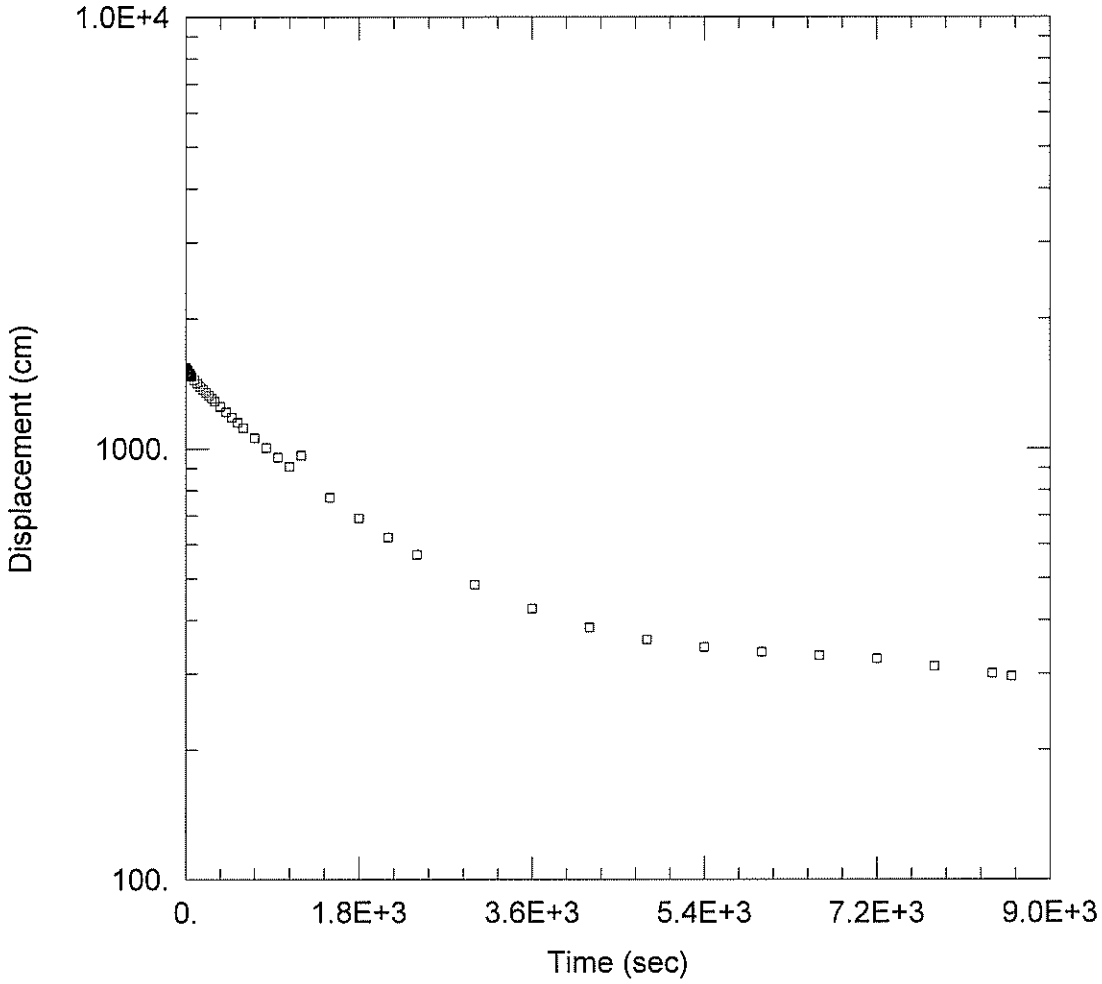
GRAIN SIZE DISTRIBUTION

U.S. STANDARD SIEVE SIZES



MIT SYSTEM	GRAVEL	COARSE	MEDIUM	FINE	SILT	CLAY
		SAND				

UNIFIED SYSTEM	COARSE	FINE	COARSE	MEDIUM	FINE	SILT AND CLAY
	GRAVEL		SAND			



HYDRAULIC CONDUCTIVITY TEST AT BH7 "SCREENED IN SAND AND SILTY TO SILTY SAND"

PROJECT INFORMATION

Company: R.J Burnside
Client: Di Poce
Project: 300041886
Location: Barrie
Test Well: BH7
Test Date: Sept 27, 2018

AQUIFER DATA

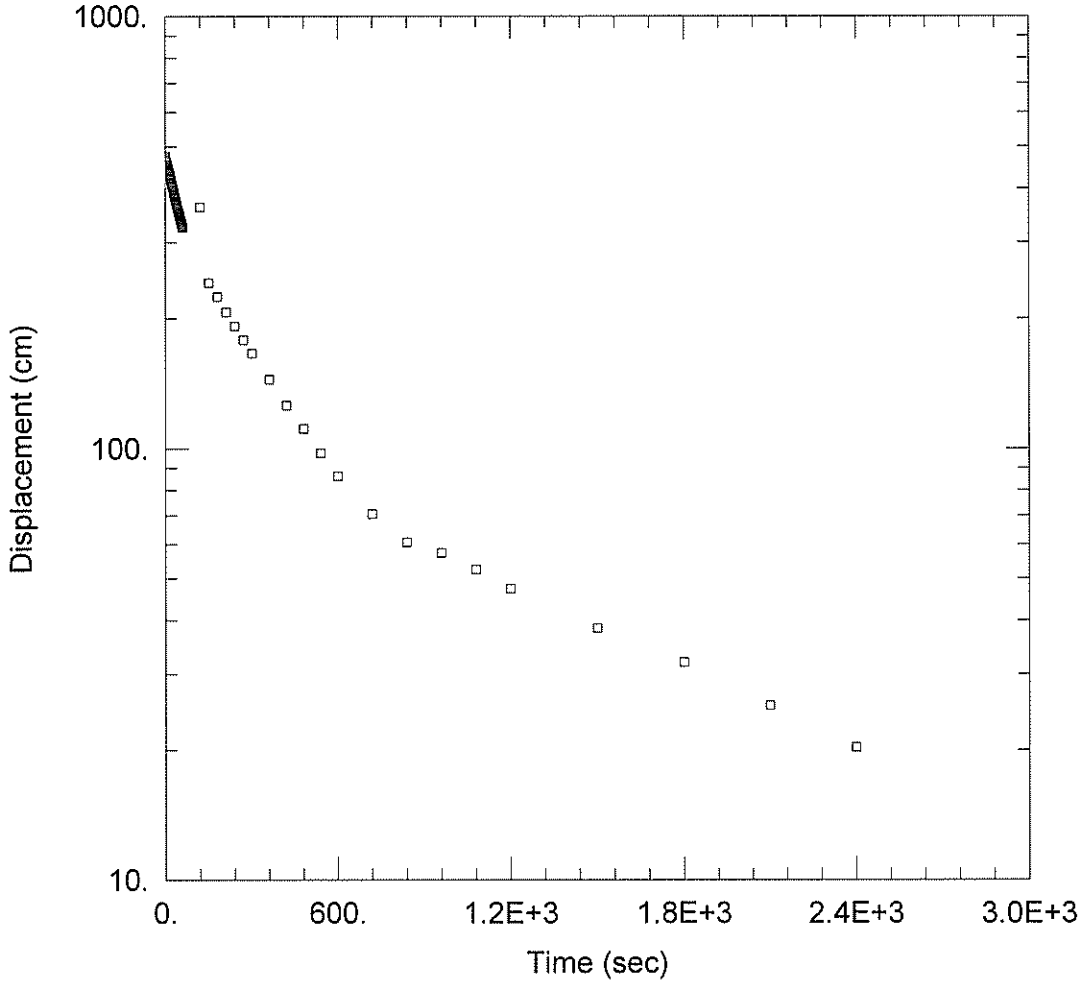
Saturated Thickness: 1. cm
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (DP-BH7)

Initial Displacement: 1544.5 cm
Total Well Penetration Depth: 152. cm
Casing Radius: 2.54 cm
Static Water Column Height: 0. cm
Screen Length: 152. cm
Well Radius: 7.62 cm

SOLUTION

Aquifer Model: Unconfined
K = 0.00682 cm/sec
Solution Method: Hvorslev
y0 = 1534.6 cm



HYDRAULIC CONDUCTIVITY TEST AT BH23 "SCREENED IN SAND AND SILT TO SILTY SAND"

PROJECT INFORMATION

Company: R.J Burnside
Client: Di Poce
Project: 300041886
Location: Barrie
Test Well: BH23
Test Date: Sept 27, 2018

AQUIFER DATA

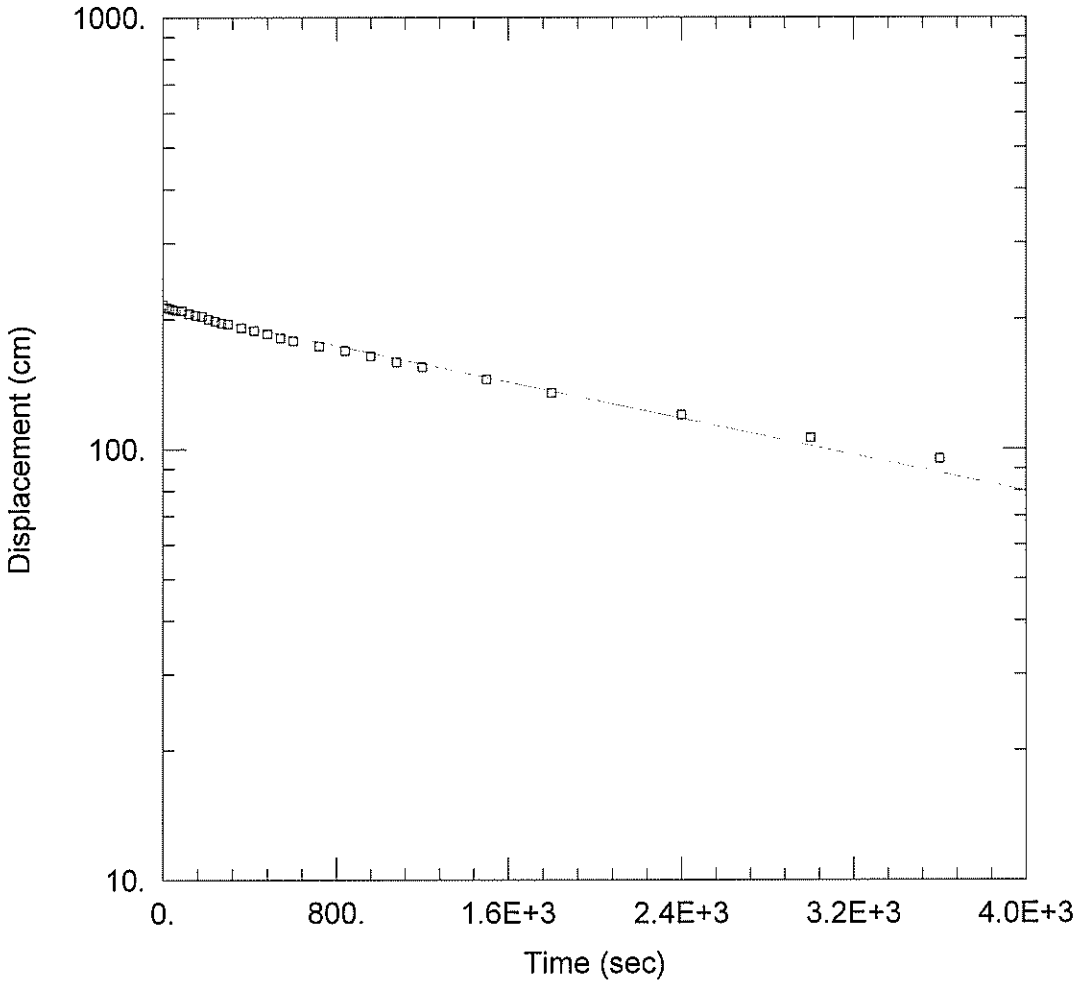
Saturated Thickness: 1. cm
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH23)

Initial Displacement: 475.1 cm
Total Well Penetration Depth: 152. cm
Casing Radius: 2.54 cm
Static Water Column Height: 0. cm
Screen Length: 152. cm
Well Radius: 7.62 cm

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 0.0439 cm/sec
y0 = 422.9 cm



HYDRAULIC CONDUCTIVITY TEST AT BH120 "SCREENED IN SILTY SAND"

PROJECT INFORMATION

Company: R.J Burnside
Client: Di Poce
Project: 300041886
Location: Barrie
Test Well: BH120
Test Date: Sept 27, 2018

AQUIFER DATA

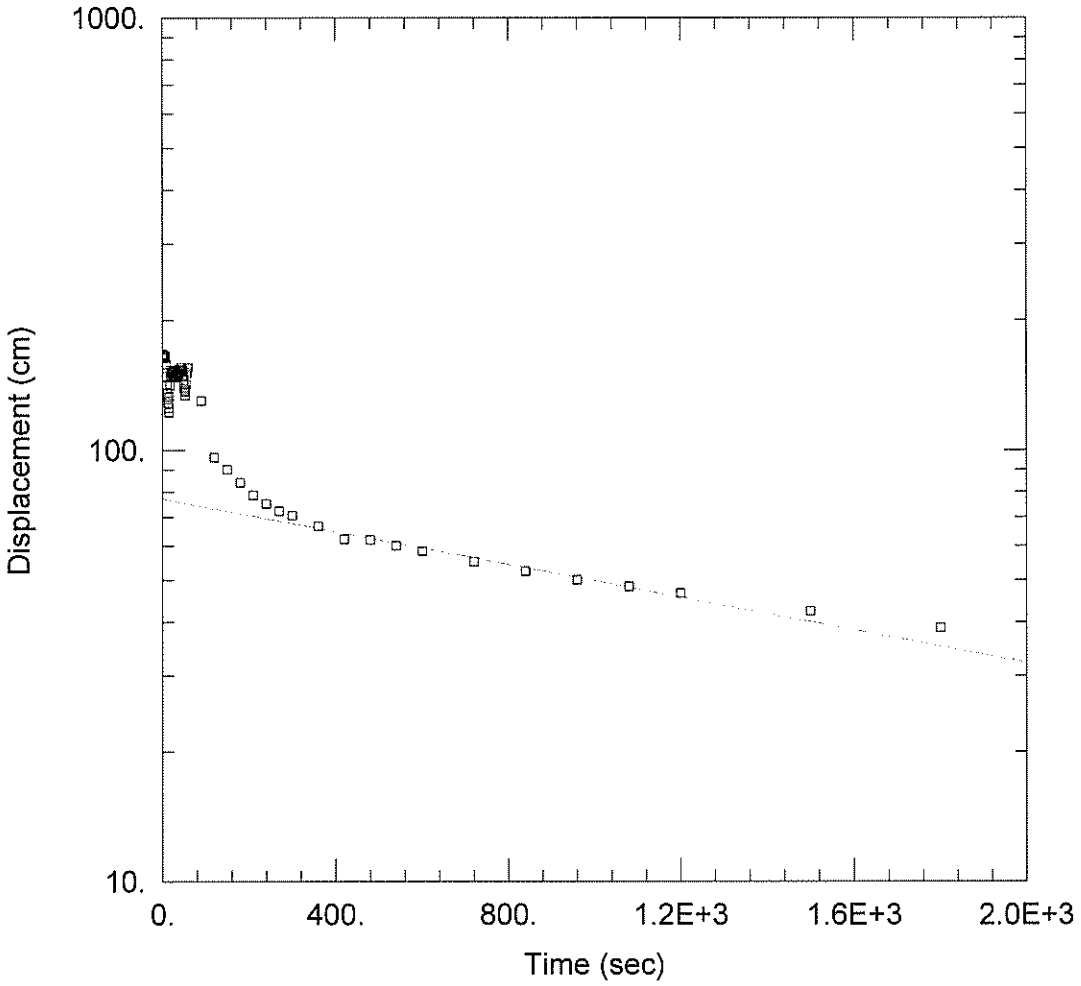
Saturated Thickness: 480. cm
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (DP-BH120)

Initial Displacement: 216. cm
Total Well Penetration Depth: 628. cm
Casing Radius: 2.57 cm
Static Water Column Height: 480. cm
Screen Length: 300. cm
Well Radius: 7.62 cm

SOLUTION

Aquifer Model: Unconfined
K = 1.166E-5 cm/sec
Solution Method: Hvorslev
y0 = 210.6 cm



HYDRAULIC CONDUCTIVITY TEST AT BH129 "SCREENED IN SILTY SAND"

PROJECT INFORMATION

Company: R.J Burnside
Client: Di Poce
Project: 300041886
Location: Barrie
Test Well: BH129
Test Date: Sept 27, 2018

AQUIFER DATA

Saturated Thickness: 1. cm
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH129)

Initial Displacement: 167.3 cm
Total Well Penetration Depth: 300. cm
Casing Radius: 2.54 cm
Static Water Column Height: 0. cm
Screen Length: 300. cm
Well Radius: 7.62 cm

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 0.007461 cm/sec
y0 = 77.08 cm

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix D

Groundwater Level Data

Table D-1
Groundwater Elevations

Well Name	Well Depth (mbgs)	Ground Surface Elevation (masl)*	17-May-2018		28-Jun-2018		27-Jul-2018		14-Aug-2018	
			Water Level (mbgs)	Water Elevation (masl)	Water Level (mbgs)	Water Elevation (masl)	Water Level (mbgs)	Water Elevation (masl)	Water Level (mbgs)	Water Elevation (masl)
BH01	**4.51**	**289.70**	3.32	286.38	3.86	285.84	4.33	285.37	4.33	285.37
BH7	**14.79**	**301.40**	14.42	286.98	14.26	287.14	14.47	286.93	14.63	286.77
BH14	**6.07**	**293.30**	5.98	287.32	6.01	287.29	6.02	287.28	6.03	287.27
BH18	**4.10**	**296.60**	1.26	295.34	1.96	294.64	2.51	294.09	2.56	294.04
BH21	**8.94**	**302.00**	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
BH23	**6.08**	**299.20**	2.35	296.85	3.83	295.37	4.42	294.78	4.60	294.60
BH120	**7.50**	**291.90**	0.78	291.12	1.59	290.31	2.46	289.44	2.58	289.32
BH122	**9.81**	**299.70**	9.39	290.31	9.62	290.08	9.71	289.99	9.73	289.98
BH123	**13.59**	**305.50**	13.50	292.00	13.51	291.99	13.51	291.99	13.51	291.99
MW3s	**6.04**	**305.50**	Dry	Dry	5.00	300.50	5.18	300.32	5.29	300.21
MW3d	**7.47**	**305.50**	4.73	300.77	5.02	300.48	5.19	300.31	5.30	300.20
DP-PZ1s	**1.24**	**297.50**	-0.03	297.53	0.23	297.27	0.54	296.96	0.29	297.21
DP-PZ1d	**1.85**	**297.50**	0.02	297.48	0.32	297.18	0.33	297.17	0.36	297.14

Notes
"-" denotes data unavailable
mbgs - meters below ground surface
masl - metres above sea level
*** Ground elevations from geotechnical reports (GeoPro 2018, Terraprobe 2018)**

Table D-1
Groundwater Elevations

Well Name	Well Depth (mbgs)	Ground Surface Elevation (masl)*	27-Sep-2018		24-Oct-2018		29-Nov-2018		17-Dec-2018	
			Water Level (mbgs)	Water Elevation (masl)	Water Level (mbgs)	Water Elevation (masl)	Water Level (mbgs)	Water Elevation (masl)	Water Level (mbgs)	Water Elevation (masl)
BH01	**4.51**	**289.70**	4.34	285.36	4.34	285.36	4.34	285.36	4.08	285.62
BH7	**14.79**	**301.40**	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
BH14	**6.07**	**293.30**	6.05	287.25	Dry	Dry	Dry	Dry	Dry	Dry
BH18	**4.10**	**296.60**	2.49	294.11	1.78	294.82	1.11	295.49	1.21	295.39
BH21	**8.94**	**302.00**	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
BH23	**6.08**	**299.20**	4.74	294.46	4.67	294.53	4.11	295.10	3.56	295.64
BH120	**7.50**	**291.90**	2.68	289.22	2.54	289.36	1.26	290.64	0.79	291.11
BH122	**9.81**	**299.70**	9.75	289.95	9.76	289.94	9.76	289.94	9.76	289.94
BH123	**13.59**	**305.50**	13.51	291.99	13.52	291.98	13.52	291.98	13.52	291.98
MW3s	**6.04**	**305.50**	5.47	300.03	Dry	Dry	5.59	299.91	5.39	300.11
MW3d	**7.47**	**305.50**	5.54	299.96	5.78	299.72	5.95	299.55	5.42	300.08
DP-PZ1s	**1.24**	**297.50**	0.25	297.25	0.03	297.47	-0.04	297.54	-0.01	297.51
DP-PZ1d	**1.85**	**297.50**	0.25	297.25	0.12	297.38	0.02	297.48	0.07	297.43

Notes

"-" denotes data unavailable

mbgs - meters below ground surface

masl - metres above sea level

*** Ground elevations from geotechnical reports (GeoPro 2018, Terraprobe 2018)**

Table D-1
Groundwater Elevations

Well Name	Well Depth (mbgs)	Ground Surface Elevation (masl)*	1-Feb-2019		1-Mar-2019		2-Apr-2019		25-Apr-2019	
			Water Level (mbgs)	Water Elevation (masl)	Water Level (mbgs)	Water Elevation (masl)	Water Level (mbgs)	Water Elevation (masl)	Water Level (mbgs)	Water Elevation (masl)
BH01	**4.51**	**289.70**	4.06	285.64	4.05	285.65	4.34	285.36	3.68	286.02
BH7	**14.79**	**301.40**	Dry	Dry	14.55	286.85	14.41	286.99	14.53	286.87
BH14	**6.07**	**293.30**	6.02	287.28	6.04	287.26	6.06	287.24	6.06	287.24
BH18	**4.10**	**296.60**	1.43	295.17	1.40	295.20	1.05	295.55	0.98	295.62
BH21	**8.94**	**302.00**	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
BH23	**6.08**	**299.20**	3.75	295.45	4.01	295.19	3.39	295.81	1.76	297.44
BH120	**7.50**	**291.90**	1.06	290.84	1.01	290.89	0.61	291.29	0.47	291.43
BH122	**9.81**	**299.70**	9.61	290.09	9.64	290.06	9.71	289.99	9.61	290.09
BH123	**13.59**	**305.50**	13.53	291.97	13.52	291.98	13.51	291.99	13.51	291.99
MW3s	**6.04**	**305.50**	-	-	-	-	-	-	5.12	300.38
MW3d	**7.47**	**305.50**	5.18	300.32	5.16	300.34	5.22	300.28	5.13	300.37
DP-PZ1s	**1.24**	**297.50**	Frozen	Frozen	Frozen	Frozen	0.02	297.48	-0.04	297.54
DP-PZ1d	**1.85**	**297.50**	Frozen	Frozen	0.10	297.40	0.09	297.41	-0.03	297.53

Notes

"-" denotes data unavailable

mbgs - meters below ground surface

masl - metres above sea level

*** Ground elevations from geotechnical reports (GeoPro 2018, Terraprobe 2018)**

Table D-1
Groundwater Elevations

Well Name	Well Depth (mbgs)	Ground Surface Elevation (masl)*	24-Jun-2019		26-Aug-2019	
			Water Level (mbgs)	Water Elevation (masl)	Water Level (mbgs)	Water Elevation (masl)
BH01	4.51	289.70	3.68	286.02	4.34	285.36
BH7	14.79	301.40	14.28	287.12	14.69	286.71
BH14	6.07	293.30	6.01	287.29	6.05	287.25
BH18	4.10	296.60	Removed	Removed	Removed	Removed
BH21	8.94	302.00	Removed	Removed	Removed	Removed
BH23	6.08	299.20	3.24	295.96	4.60	294.60
BH120	7.50	291.90	1.01	290.89	2.86	289.04
BH122	9.81	299.70	9.46	290.24	9.66	290.04
BH123	13.59	305.50	13.51	291.99	13.51	291.99
MW3s	6.04	305.50	4.82	300.68	5.22	300.28
MW3d	7.47	305.50	4.83	300.67	5.23	300.27
DP-PZ1s	1.24	297.50	-0.02	297.52	1.02	296.48
DP-PZ1d	1.85	297.50	-0.01	297.51	1.40	296.10

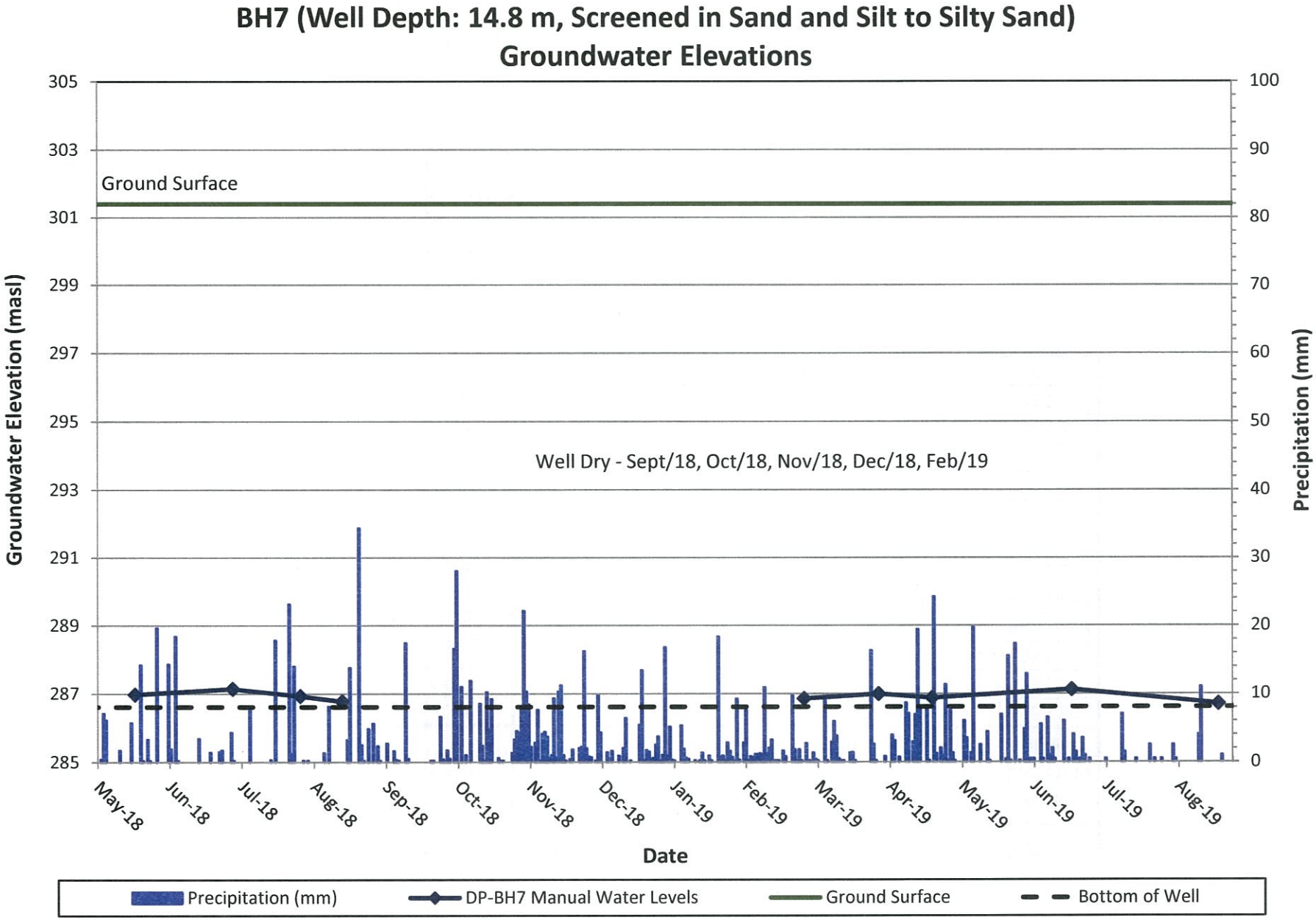
Notes

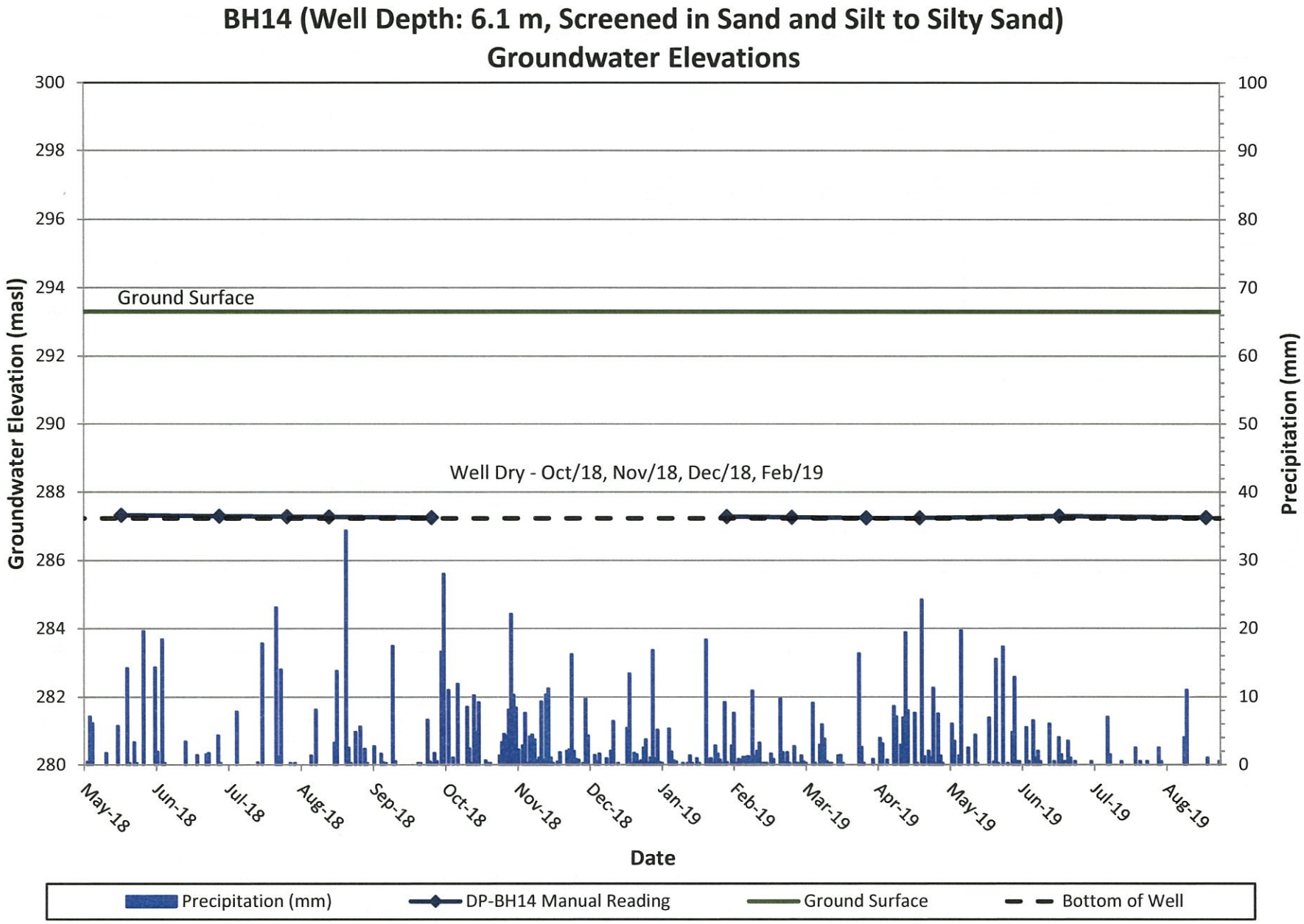
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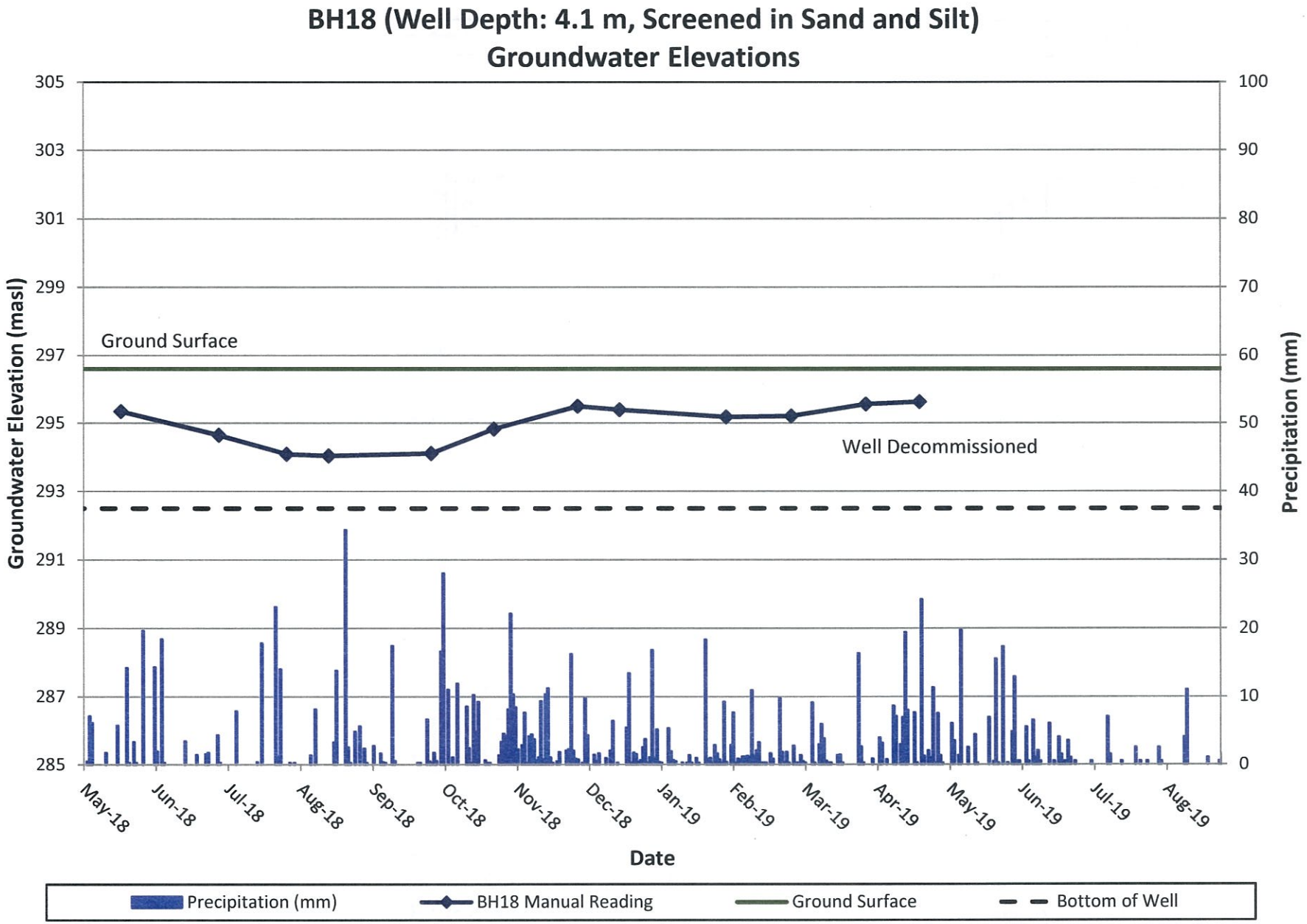
mbgs - meters below ground surface

masl - metres above sea level

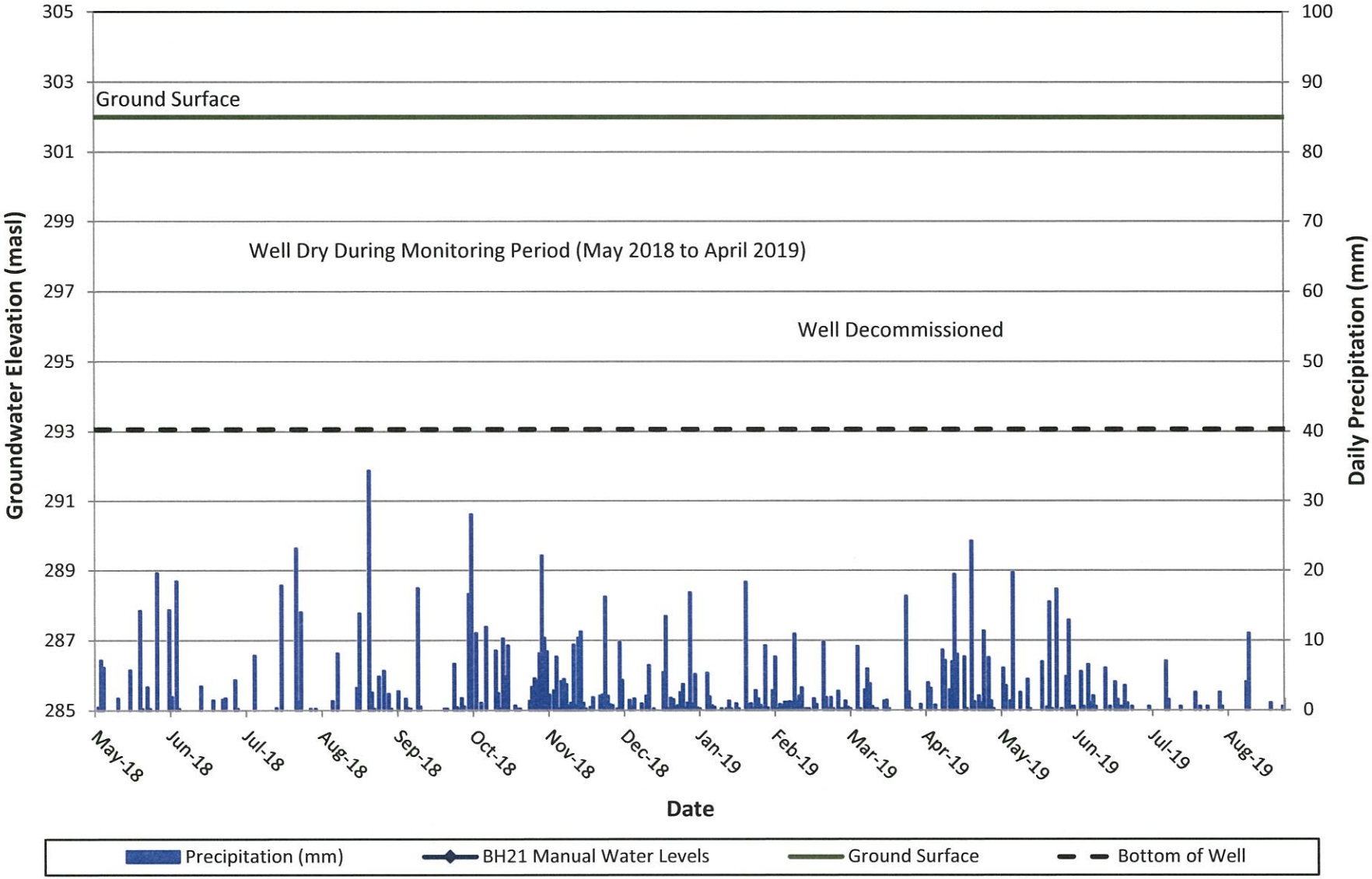
*** Ground elevations from geotechnical reports (GeoPro 2018, Terraprobe 2018)**

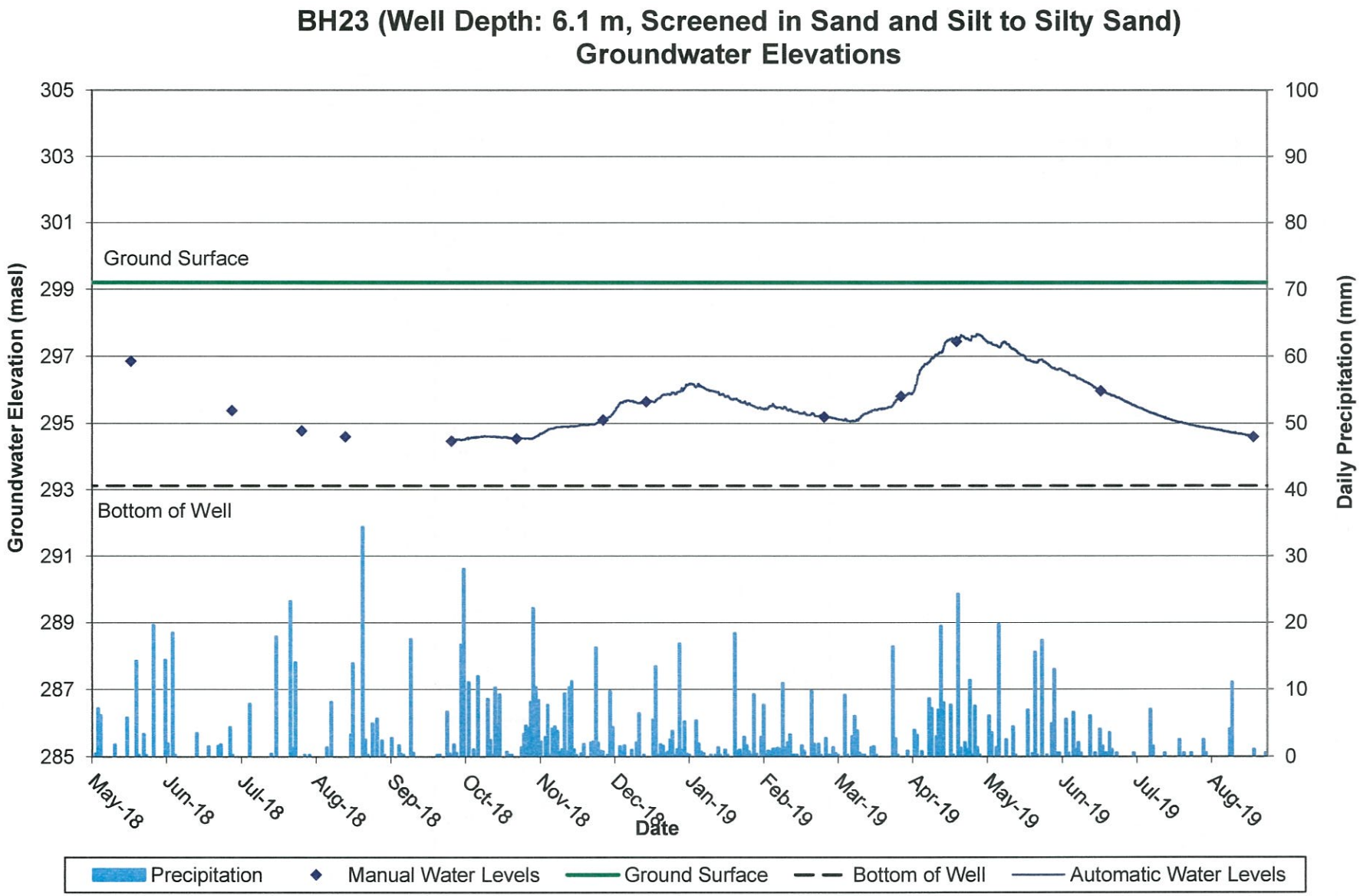

BH7 (Well Depth: 14.8 m, Screened in Sand and Silt to Silty Sand)
Groundwater Elevations
Groundwater Elevation (masl)
Precipitation (mm)
Ground Surface
Well Dry - Sept/18, Oct/18, Nov/18, Dec/18, Feb/19
305
303
301
299
297
295
293
291
289
287
285
100
90
80
70
60
50
40
30
20
10
0
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Date
Precipitation (mm)
DP-BH7 Manual Water Levels
Ground Surface
Bottom of Well

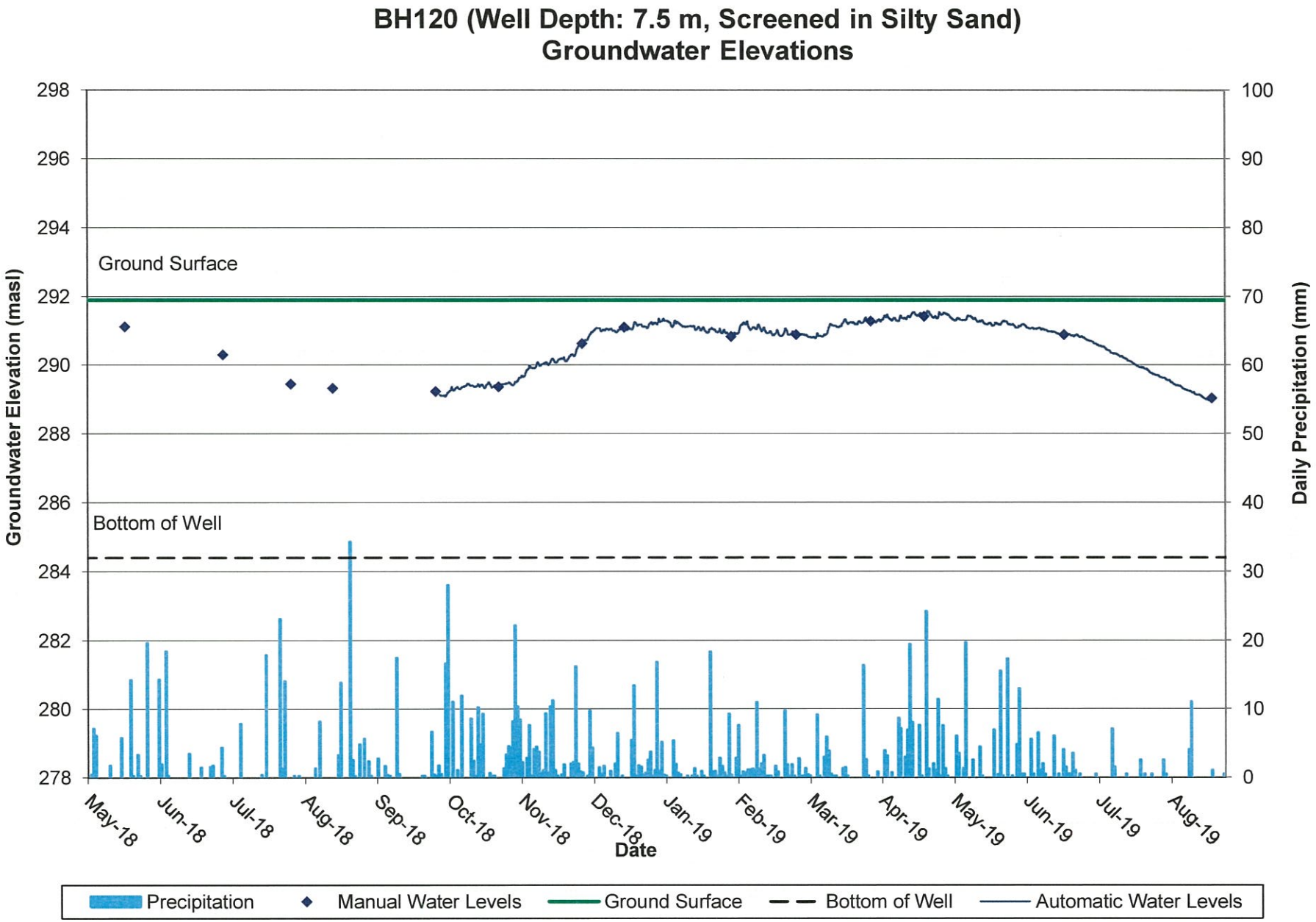

BH14 (Well Depth: 6.1 m, Screened in Sand and Silt to Silty Sand)
Groundwater Elevations
Groundwater Elevation (masl)
Precipitation (mm)
Ground Surface
Well Dry - Oct/18, Nov/18, Dec/18, Feb/19
300
298
296
294
292
290
288
286
284
282
280
100
90
80
70
60
50
40
30
20
10
0
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Date
Precipitation (mm)
DP-BH14 Manual Reading
Ground Surface
Bottom of Well

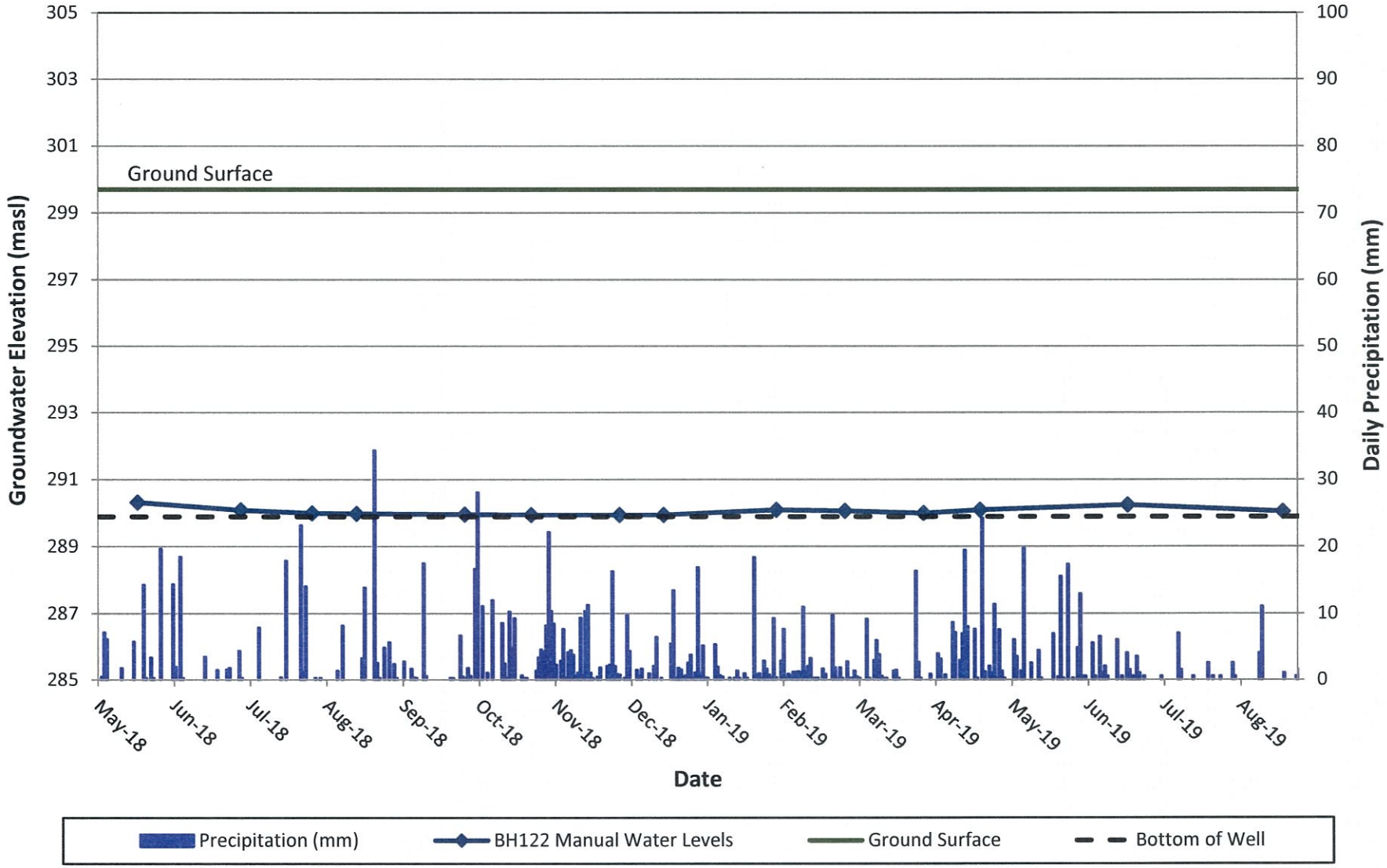

BH18 (Well Depth: 4.1 m, Screened in Sand and Silt)
Groundwater Elevations
Groundwater Elevation (masl)
Precipitation (mm)
305
303
301
299
297
295
293
291
289
287
285
100
90
80
70
60
50
40
30
20
10
0
Ground Surface
Well Decommissioned
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Date
Precipitation (mm)
BH18 Manual Reading
Ground Surface
Bottom of Well

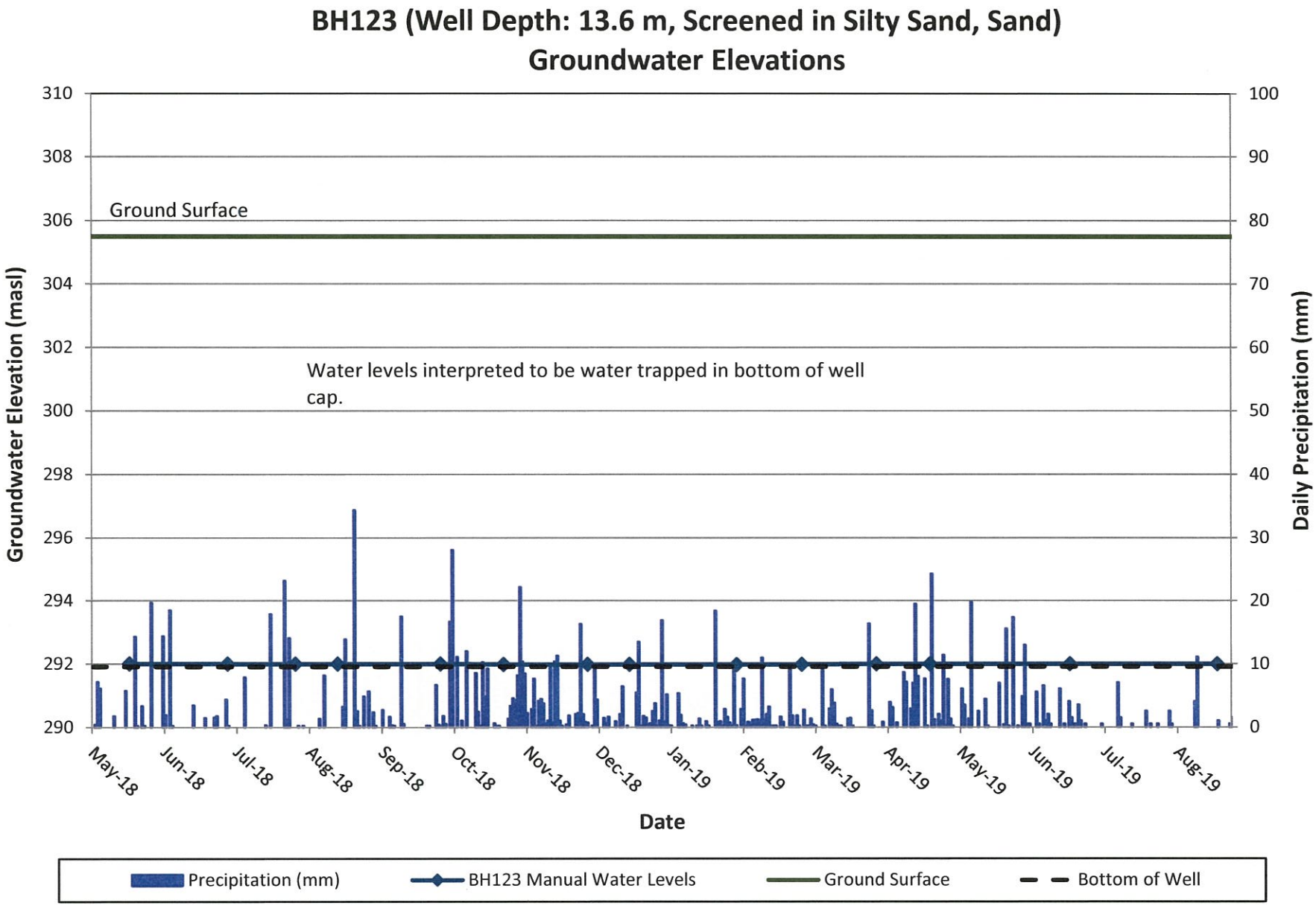
BH21 (Well Depth: 8.9 m, Screened in Sand and Silt to Silty Sand)
Groundwater Elevations




BH23 (Well Depth: 6.1 m, Screened in Sand and Silt to Silty Sand)
Groundwater Elevations
Groundwater Elevation (masl)
Daily Precipitation (mm)
Ground Surface
Bottom of Well
305
303
301
299
297
295
293
291
289
287
285
100
90
80
70
60
50
40
30
20
10
0
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Date
Precipitation
Manual Water Levels
Ground Surface
Bottom of Well
Automatic Water Levels


BH120 (Well Depth: 7.5 m, Screened in Silty Sand)
Groundwater Elevations
Groundwater Elevation (masl)
Daily Precipitation (mm)
298
296
294
292
290
288
286
284
282
280
278
100
90
80
70
60
50
40
30
20
10
0
Ground Surface
Bottom of Well
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Date
Precipitation
Manual Water Levels
Ground Surface
Bottom of Well
Automatic Water Levels


BH122 (Well Depth: 9.8 m, Screened in Silty Sand)
Groundwater Elevations
Groundwater Elevation (masl)
Daily Precipitation (mm)
Ground Surface
305
303
301
299
297
295
293
291
289
287
285
100
90
80
70
60
50
40
30
20
10
0
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Date
Precipitation (mm)
BH122 Manual Water Levels
Ground Surface
Bottom of Well


BH123 (Well Depth: 13.6 m, Screened in Silty Sand, Sand)
Groundwater Elevations
Groundwater Elevation (masl)
Daily Precipitation (mm)
Ground Surface
Water levels interpreted to be water trapped in bottom of well cap.
310
308
306
304
302
300
298
296
294
292
290
100
90
80
70
60
50
40
30
20
10
0
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Date
Precipitation (mm)
BH123 Manual Water Levels
Ground Surface
Bottom of Well

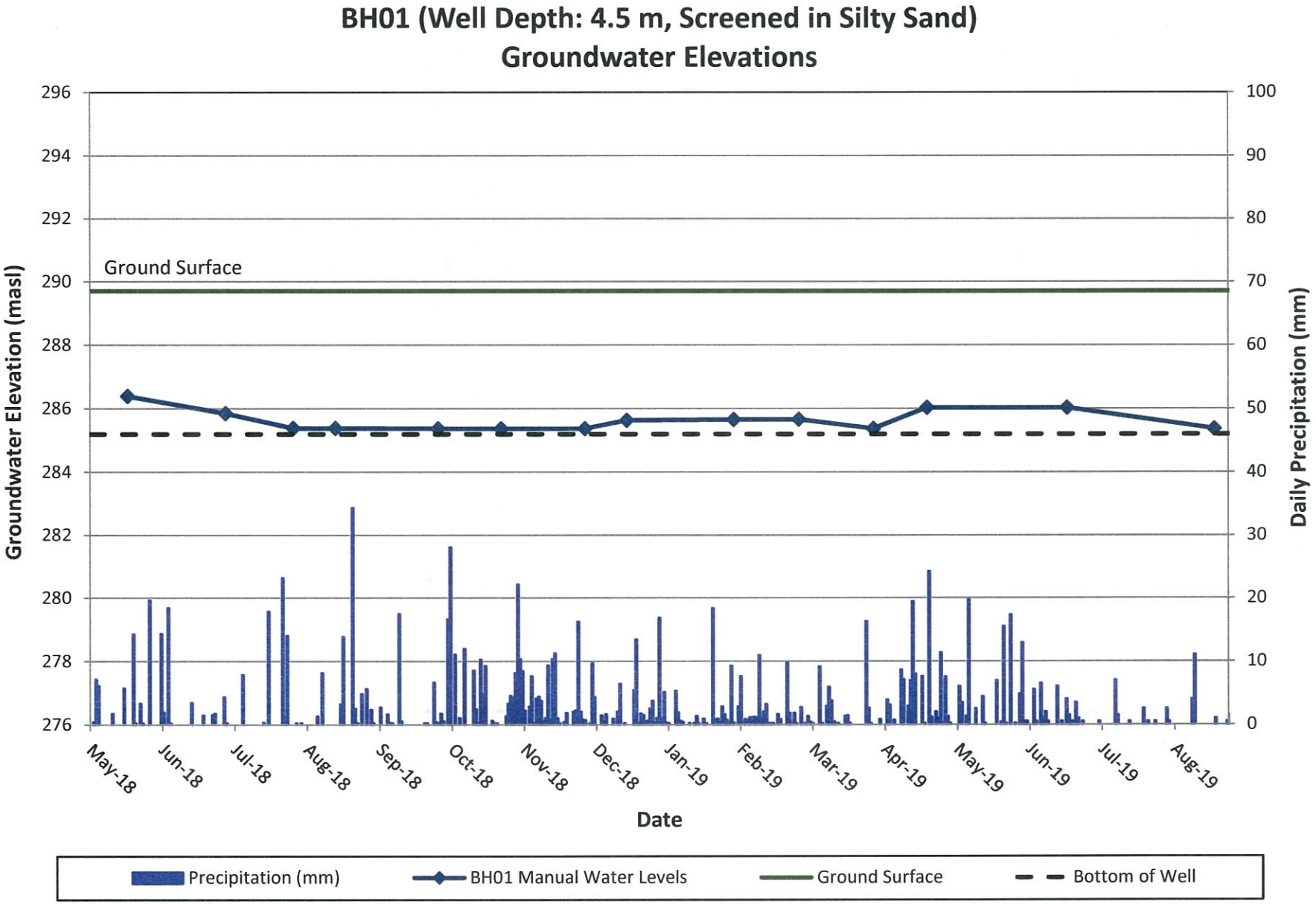
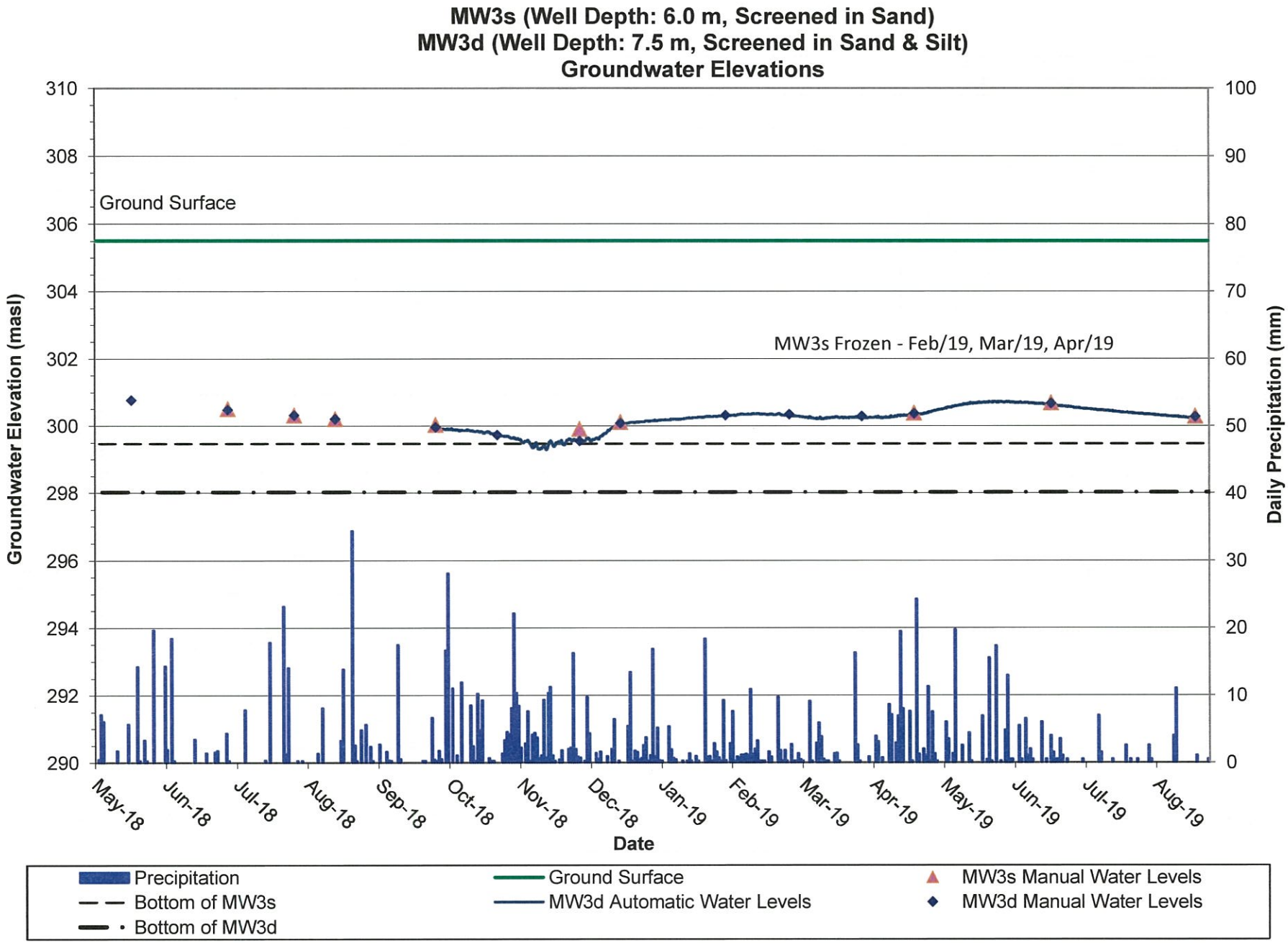
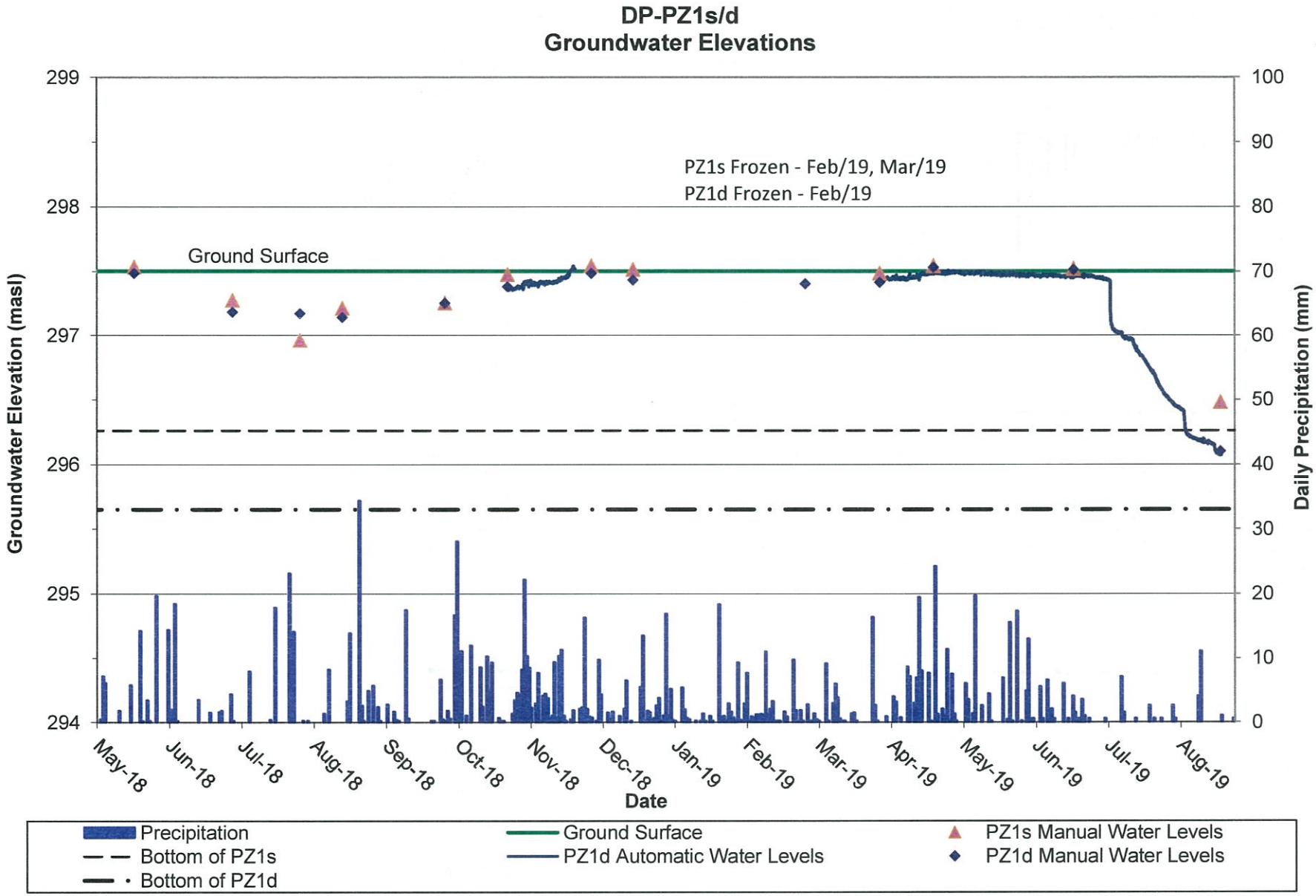

BH01 (Well Depth: 4.5 m, Screened in Silty Sand)
Groundwater Elevations
Groundwater Elevation (masl)
Daily Precipitation (mm)
Ground Surface
296
294
292
290
288
286
284
282
280
278
276
100
90
80
70
60
50
40
30
20
10
0
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Date
Precipitation (mm)
BH01 Manual Water Levels
Ground Surface
Bottom of Well

Figure D-9


MW3s (Well Depth: 6.0 m, Screened in Sand)
MW3d (Well Depth: 7.5 m, Screened in Sand & Silt)
Groundwater Elevations
Ground Surface
MW3s Frozen - Feb/19, Mar/19, Apr/19
Groundwater Elevation (masl)
Daily Precipitation (mm)
Date
310
308
306
304
302
300
298
296
294
292
290
100
90
80
70
60
50
40
30
20
10
0
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Precipitation
Bottom of MW3s
Bottom of MW3d
Ground Surface
MW3d Automatic Water Levels
MW3s Manual Water Levels
MW3d Manual Water Levels


DP-PZ1s/d
Groundwater Elevations
PZ1s Frozen - Feb/19, Mar/19
PZ1d Frozen - Feb/19
Ground Surface
Groundwater Elevation (masl)
Daily Precipitation (mm)
299
298
297
296
295
294
100
90
80
70
60
50
40
30
20
10
0
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Date
Precipitation
Ground Surface
PZ1s Manual Water Levels
Bottom of PZ1s
PZ1d Automatic Water Levels
PZ1d Manual Water Levels
Bottom of PZ1d

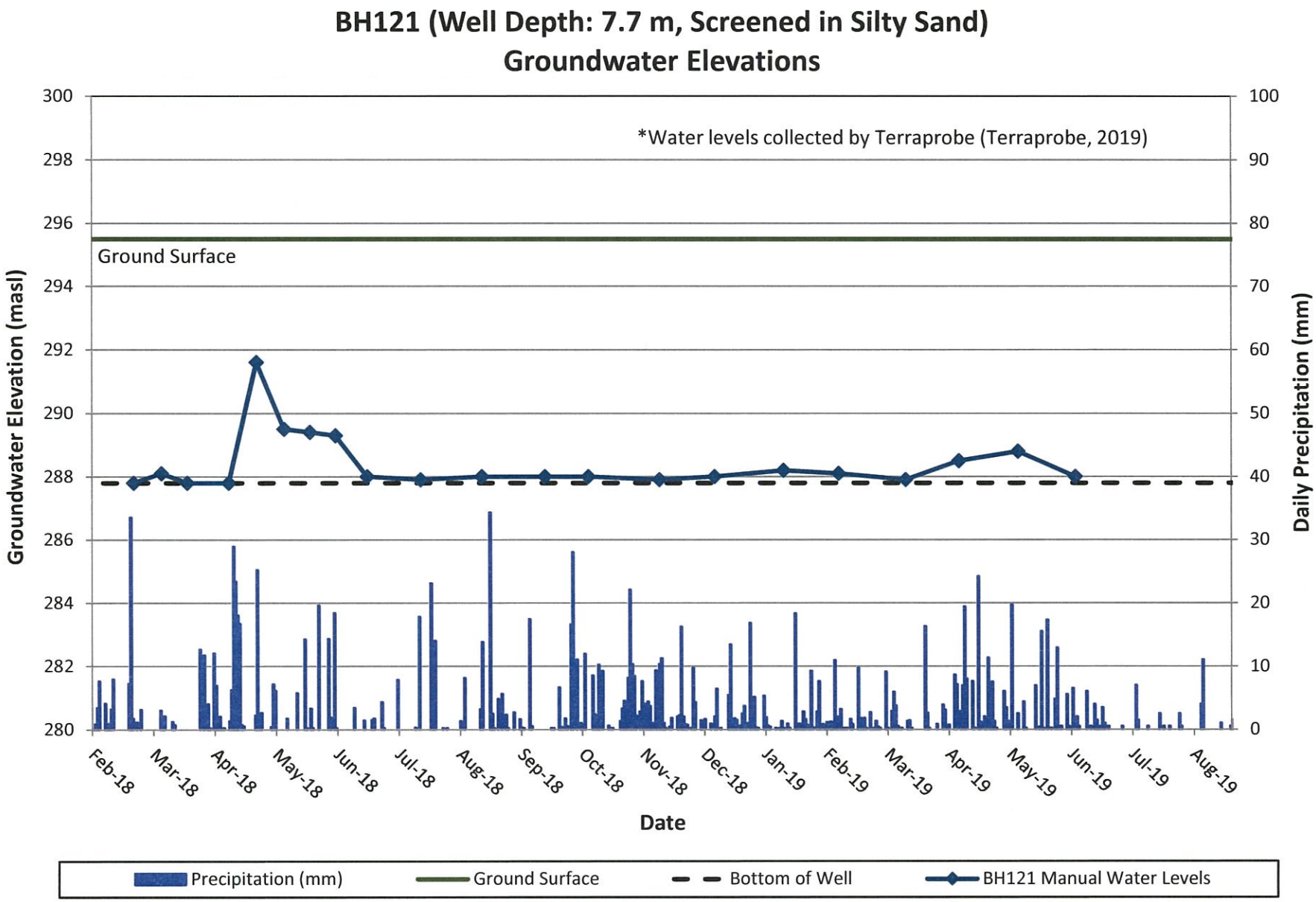

BH121 (Well Depth: 7.7 m, Screened in Silty Sand)
Groundwater Elevations
*Water levels collected by Terraprobe (Terraprobe, 2019)
Ground Surface
Groundwater Elevation (masl)
Daily Precipitation (mm)
300
298
296
294
292
290
288
286
284
282
280
100
90
80
70
60
50
40
30
20
10
0
Feb-18
Mar-18
Apr-18
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Date
Precipitation (mm)
Ground Surface
Bottom of Well
BH121 Manual Water Levels

Figure D-12

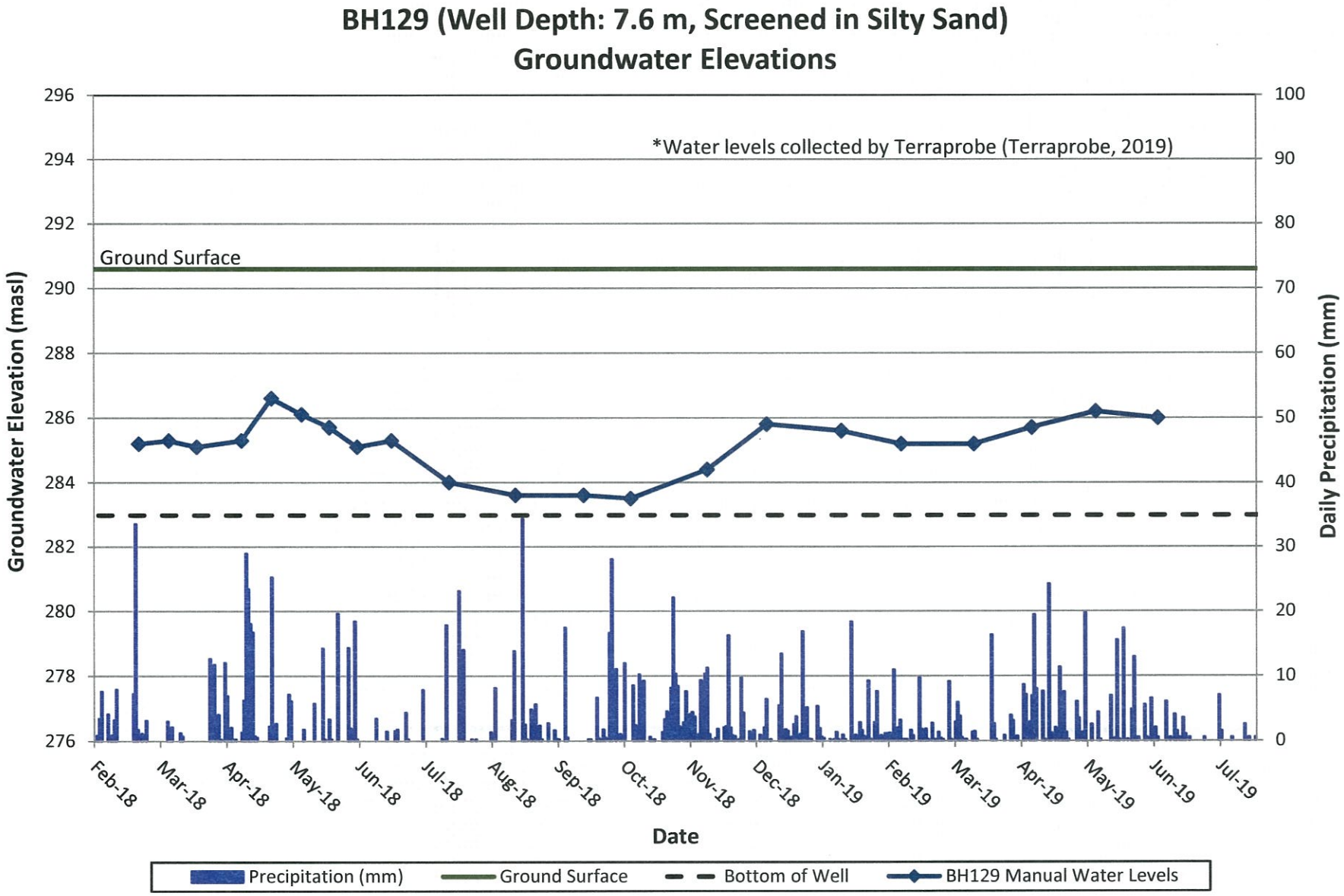
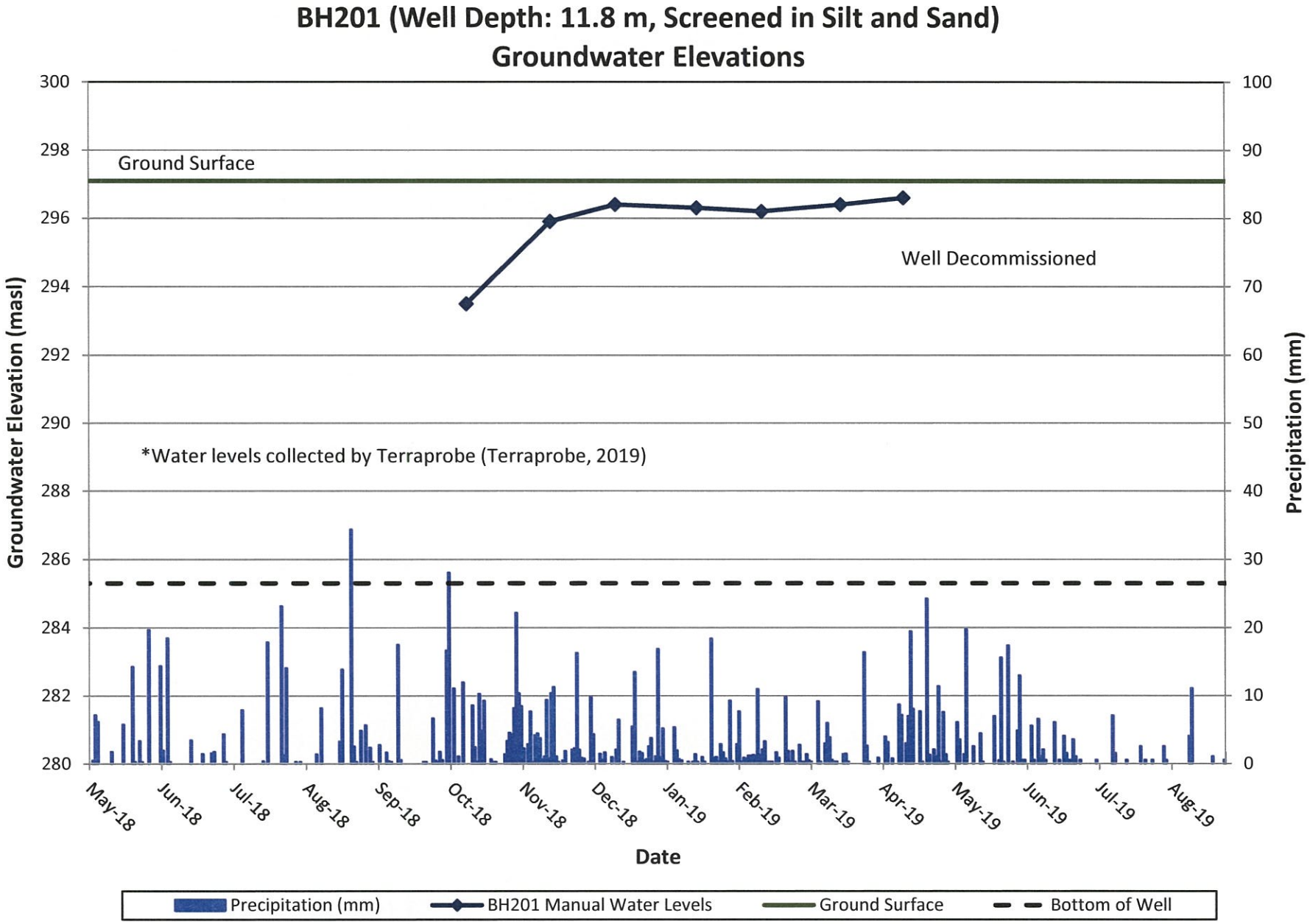
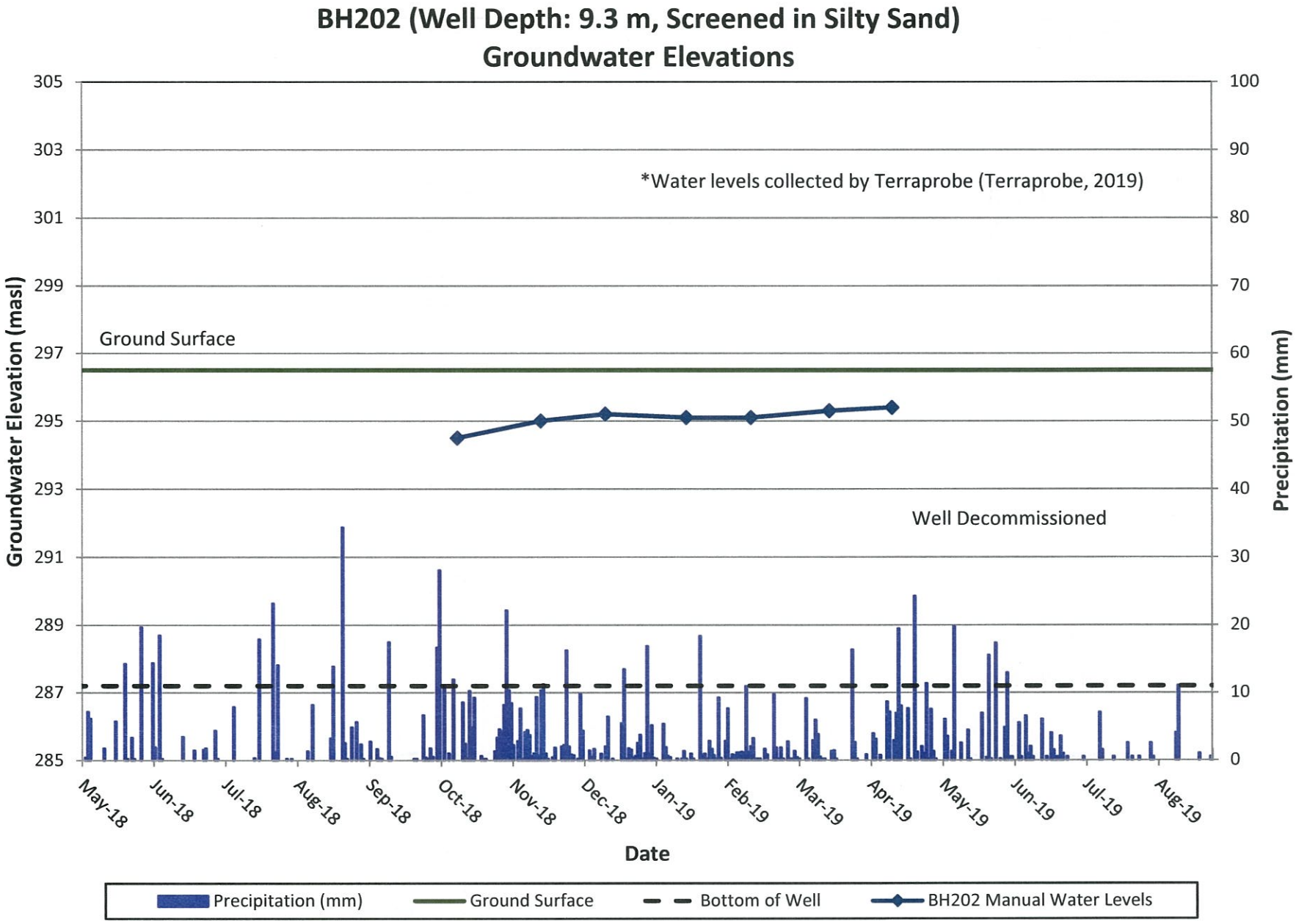
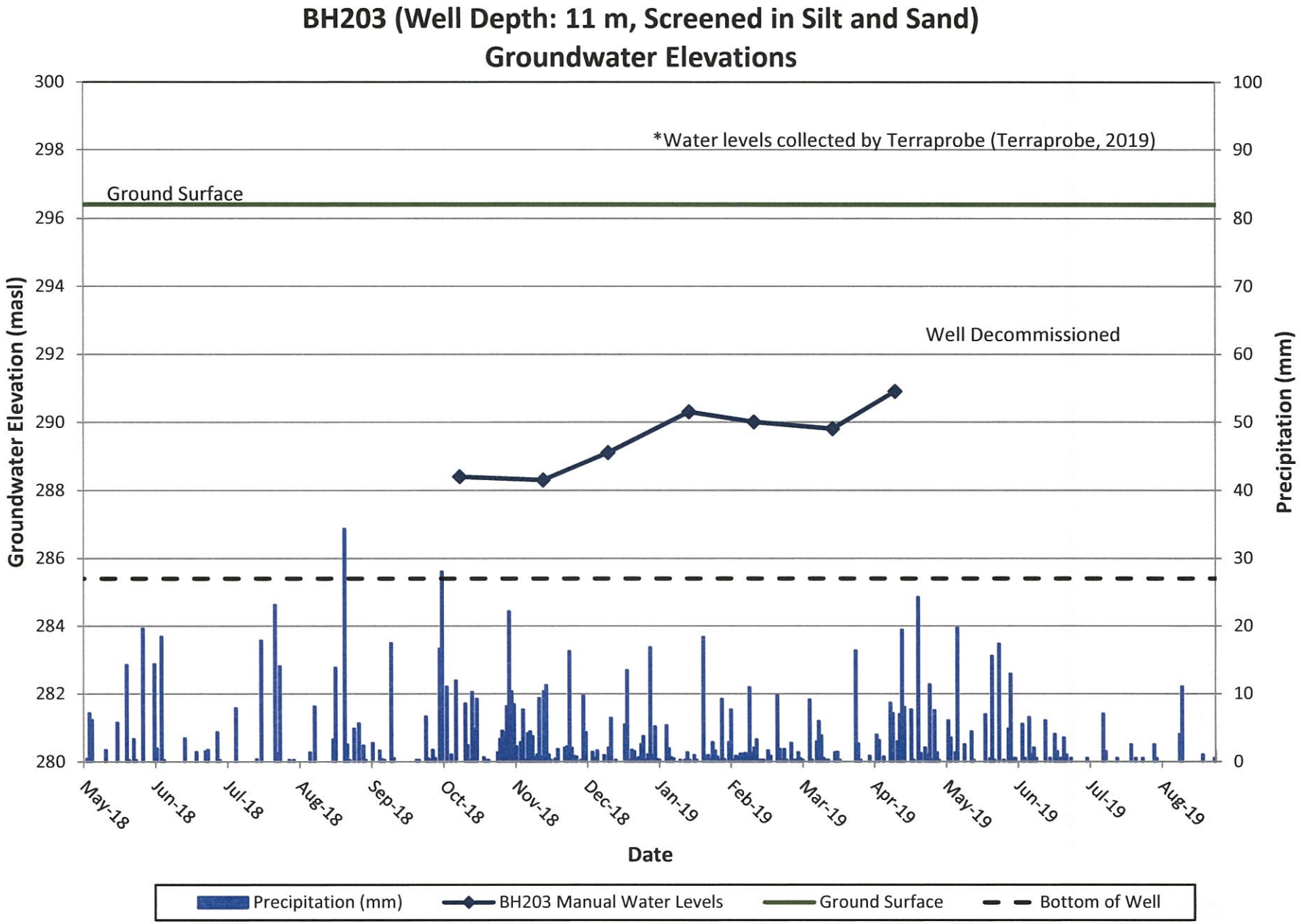

BH129 (Well Depth: 7.6 m, Screened in Silty Sand)
Groundwater Elevations
*Water levels collected by Terraprobe (Terraprobe, 2019)
Ground Surface
Groundwater Elevation (masl)
Daily Precipitation (mm)
296
294
292
290
288
286
284
282
280
278
276
100
90
80
70
60
50
40
30
20
10
0
Feb-18
Mar-18
Apr-18
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Date
Precipitation (mm)
Ground Surface
Bottom of Well
BH129 Manual Water Levels

Figure D-13


BH201 (Well Depth: 11.8 m, Screened in Silt and Sand)
Groundwater Elevations
Ground Surface
Well Decommissioned
*Water levels collected by Terraprobe (Terraprobe, 2019)
Groundwater Elevation (masl)
Precipitation (mm)
Date
300
298
296
294
292
290
288
286
284
282
280
100
90
80
70
60
50
40
30
20
10
0
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Precipitation (mm)
BH201 Manual Water Levels
Ground Surface
Bottom of Well


BH202 (Well Depth: 9.3 m, Screened in Silty Sand)
Groundwater Elevations
*Water levels collected by Terraprobe (Terraprobe, 2019)
Ground Surface
Well Decommissioned
Groundwater Elevation (masl)
Precipitation (mm)
Date
305
303
301
299
297
295
293
291
289
287
285
100
90
80
70
60
50
40
30
20
10
0
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Precipitation (mm)
Ground Surface
Bottom of Well
BH202 Manual Water Levels


BH203 (Well Depth: 11 m, Screened in Silt and Sand)
Groundwater Elevations
*Water levels collected by Terraprobe (Terraprobe, 2019)
Ground Surface
Well Decommissioned
Groundwater Elevation (masl)
Precipitation (mm)
Date
300
298
296
294
292
290
288
286
284
282
280
100
90
80
70
60
50
40
30
20
10
0
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Precipitation (mm)
BH203 Manual Water Levels
Ground Surface
Bottom of Well

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Appendix E

Surface Water Monitoring Data

Table E-1
Surface Water Flow

Date	Days since rain:	Flow Rate (L/s)	
		SSF-7	SSF-8
17-May-18	2	<0.5	<0.5
28-Jun-18	0	Dry	Dry
27-Jul-18	3	Dry	Dry
14-Aug-18	6	Dry	Dry
27-Sep-18	0	Dry	Dry
24-Oct-18	1	<0.5	1
29-Nov-18	0	Snow Covered	Snow Covered
17-Dec-18	1	Snow Covered	Partially Frozen
1-Feb-19	0	Snow Covered	Snow Covered
1-Mar-19	1	Snow Covered	Snow Covered
2-Apr-19	1	Snow Covered	Partially Frozen
25-Apr-19	1	2.5	8.6
24-Jun-19		Minimal Flow	Minimal Flow

Notes:
"<0.5" minimal flow not measurable with equipment (estimated)
"-" not measured

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Appendix F

Water Quality Data

Table F-1
Groundwater Quality

Monitoring Well				MW3d	BH120
Date Sampled				27-Sep-18	28-Sep-18
Parameter	Unit	RDL	ODWQS		
Electrical Conductivity	µS/cm	2		269	2280
pH	pH Units	NA	(6.5-8.5)	7.85	7.68
Saturation pH				7.53	6.65
Langelier Index				0.32	1.03
Total Hardness (as CaCO3)	mg/L	0.5	(80-100)	136	447
Total Dissolved Solids	mg/L	20	500	156	1320
Alkalinity (as CaCO3)	mg/L	5	(30-500)	148	402
Bicarbonate (as CaCO3)	mg/L	5		148	402
Carbonate (as CaCO3)	mg/L	5		<5	<5
Hydroxide (as CaCO3)	mg/L	5		<5	<5
Fluoride	mg/L	0.05	1.5	<0.05	<0.5
Chloride	mg/L	0.10	250	1.00	654
Nitrate as N	mg/L	0.05	10.0	1.41	1.5
Nitrite as N	mg/L	0.05	1.0	<0.05	<0.5
Bromide	mg/L	0.05		<0.05	<0.5
Sulphate	mg/L	0.10	500	2.28	34.9
Ortho Phosphate as P	mg/L	0.10		<0.10	<1.0
Reactive Silica	mg/L	0.05		4.88	14.4
Ammonia as N	mg/L	0.02		<0.02	<0.02
Total Phosphorus	mg/L	0.02		<0.02	<0.02
Total Organic Carbon	mg/L	0.5		1.7	2.4
Colour	TCU	5	5	<5	<5
Turbidity	NTU	0.5	5	213	384
Calcium	mg/L	0.05		49.4	150
Magnesium	mg/L	0.05		3.09	17.7
Sodium	mg/L	0.05	20 (200)	1.20	**298**
Potassium	mg/L	0.05		0.60	2.05
Aluminum	mg/L	0.004	0.1	0.007	0.013
Antimony	mg/L	0.003	0.006	<0.003	<0.003
Arsenic	mg/L	0.003	0.025	<0.003	<0.003
Barium	mg/L	0.002	1	0.010	0.091
Beryllium	mg/L	0.001		<0.001	<0.001
Boron	mg/L	0.010	5	<0.010	0.025
Cadmium	mg/L	0.001	0.005	<0.001	<0.001
Chromium	mg/L	0.003	0.05	<0.003	<0.003
Cobalt	mg/L	0.001		<0.001	<0.001
Copper	mg/L	0.003	1	<0.003	0.004
Iron	mg/L	0.010	0.3	<0.010	<0.010
Lead	mg/L	0.001	0.01	<0.001	<0.001
Manganese	mg/L	0.002	0.05	<0.002	0.017
Mercury	mg/L	0.0001	0.001	<0.0001	<0.0001
Molybdenum	mg/L	0.002		<0.002	<0.002
Nickel	mg/L	0.003		<0.003	<0.003
Selenium	mg/L	0.004	0.01	<0.004	<0.004
Silver	mg/L	0.002		<0.002	<0.002
Strontium	mg/L	0.005		0.082	0.422
Thallium	mg/L	0.006		<0.006	<0.006
Tin	mg/L	0.002		<0.002	<0.002
Titanium	mg/L	0.002		<0.002	<0.002
Tungsten	mg/L	0.010		<0.010	<0.010
Uranium	mg/L	0.002	0.02	<0.002	<0.002
Vanadium	mg/L	0.002	3	<0.002	<0.002
Zinc	mg/L	0.005	5	0.005	0.020
Zirconium	mg/L	0.004		<0.004	<0.004
% Difference/ Ion Balance	%	NA		5.83	10.9

ODWQS - Ontario Drinking Water Quality Standards
RDL - Reported Detection Limit
Bold indicates an exceedence of the ODWQS

Table F-2
Surface Water Quality

Monitoring Well				SSF-7
Date Sampled				6-May-19
Parameter	Unit	RDL	PWQO	
Electrical Conductivity	µS/cm	2		917
pH	pH Units	NA	(6.5-8.5)	7.86
Saturation pH				7.13
Langelier Index				0.73
Total Hardness (as CaCO3)	mg/L	0.5		218
Total Dissolved Solids	mg/L	20		486
Total Suspended Solids	mg/L	10		<10
Alkalinity (as CaCO3)	mg/L	5		244
Bicarbonate (as CaCO3)	mg/L	5		244
Carbonate (as CaCO3)	mg/L	5		<5
Hydroxide (as CaCO3)	mg/L	5		<5
Fluoride	mg/L	0.25		<0.25
Chloride	mg/L	0.50		161
Nitrate as N	mg/L	0.25		<0.25
Nitrite as N	mg/L	0.25		<0.25
Bromide	mg/L	0.25		<0.25
Sulphate	mg/L	0.50		12.8
Ortho Phosphate as P	mg/L	0.50		<0.50
Ammonia as N	mg/L	0.02		<0.02
Total Phosphorus	mg/L	0.01	0.03	<0.01
Total Organic Carbon	mg/L	0.5		5.8
Colour	TCU	5		<5
Turbidity	NTU	0.5		0.9
Calcium	mg/L	0.05		78.7
Magnesium	mg/L	0.05		5.3
Sodium	mg/L	0.05		92.2
Potassium	mg/L	0.05		2.92
Aluminum	mg/L	0.004	0.075	<0.004
Antimony	mg/L	0.001		<0.001
Arsenic	mg/L	0.003	1	<0.003
Barium	mg/L	0.002		0.031
Beryllium	mg/L	0.0005		<0.0005
Boron	mg/L	0.010	2	0.011
Cadmium	mg/L	0.0001	0.0002	<0.0001
Chromium	mg/L	0.003	0.009	<0.003
Cobalt	mg/L	0.0005		<0.0005
Copper	mg/L	0.001	0.005	<0.001
Iron	mg/L	0.010	0.3	<0.010
Lead	mg/L	0.001	0.001	<0.001
Manganese	mg/L	0.002		0.018
Mercury	mg/L	0.0001	0.0002	<0.0001
Molybdenum	mg/L	0.002	0.04	<0.002
Nickel	mg/L	0.003	0.025	<0.003
Selenium	mg/L	0.004	0.01	<0.004
Silver	mg/L	0.0001	<0.002	<0.0001
Strontium	mg/L	0.005		0.220
Thallium	mg/L	0.0003	0.0003	<0.0003
Tin	mg/L	0.002		<0.002
Titanium	mg/L	0.002		<0.002
Tungsten	mg/L	0.010		<0.010
Uranium	mg/L	0.002	0.005	<0.002
Vanadium	mg/L	0.002		<0.002
Zinc	mg/L	0.005	0.03	<0.005
Zirconium	mg/L	0.004		<0.004

RDL - Reported Detection Limit
PWQS - Provincial Water Quality Standards
Bold indicates an exceedence of the PWQS

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Appendix G

Water Balance Calculations

WATER BALANCE CALCULATIONS
DiPoce Management Inc.
Barrie, ON

PROJECT No.300041886

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TABLE G-1

Water Balance Components

Based on Thornthwaite's Soil Moisture Balance Approach with a Soil Moisture Retention of 150 mm (moderate rooted crops in sandy loam soils)

Precipitation data from Barrie WPCC Climate Station (1981 - 2010)

Potential Evapotranspiration Calculation	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
Average Temperature (Degree C)	-7.7	-6.6	-2.1	5.6	12.3	17.9	20.8	19.7	15.3	8.7	2.7	-3.5	**6.9**
Heat index: $i = (t/5)^{1.514}$	0.00	0.00	0.00	1.19	3.91	6.90	8.66	7.97	5.44	2.31	0.39	0.00	**36.8**
Unadjusted Daily Potential Evapotranspiration U (mm)	0.00	0.00	0.00	25.18	58.76	88.02	103.48	97.59	74.33	40.47	11.47	0.00	**499**
Adjusting Factor for U (Latitude 44° 20' N)	0.81	0.82	1.02	1.13	1.27	1.29	1.3	1.2	1.04	0.95	0.8	0.76	
Adjusted Potential Evapotranspiration PET (mm)	0	0	0	28	75	114	135	117	77	38	9	0	**593**
WATER BALANCE COMPONENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**YEAR**
Precipitation (P)	83	62	58	62	82	85	77	90	94	78	89	74	**933**
Potential Evapotranspiration (PET)	0	0	0	28	75	114	135	117	77	38	9	0	**593**
P - PET	83	62	58	34	8	-29	-57	-27	17	39	80	74	**340**
Change in Soil Moisture Storage	0	0	0	0	0	-29	-57	-27	17	39	58	0	**0**
Soil Moisture Storage max 150 mm	150	150	150	150	150	121	64	37	53	92	150	150	
Actual Evapotranspiration (AET)	0	0	0	28	75	114	135	117	77	38	9	0	**593**
Soil Moisture Deficit max 150 mm	0	0	0	0	0	29	86	113	97	58	0	0	
Water Surplus - available for infiltration or runoff	83	62	58	34	8	0	0	0	0	0	22	74	**340**
Potential Infiltration (based on MOE methodology*; independent of temperature)	58	43	41	24	5	0	0	0	0	0	16	52	**238**
Potential Direct Surface Water Runoff (independent of temperature)	25	19	17	10	2	0	0	0	0	0	7	22	**102**
IMPERVIOUS AREA WATER SURPLUS													
Precipitation (P)	933	mm/year											
Potential Evaporation (PE) from impervious areas (assume 15%)	140	mm/year											
P-PE (surplus available for runoff from impervious areas)	793	mm/year											

Assume January storage is 100% of Soil Moisture Storage
Soil Moisture Storage 150 mm <-- See "Water Holding Capacity" values in Table 3.1, MOE SWMPDM, 2003

*MOE SWM infiltration calculations

topography - rolling to hilly land	0.2	<-- Infiltration Factors from the bottom section of Table 3.1, MOE SWMPDM, 2003
soils - sandy loam	0.4	<-- Infiltration Factors from the bottom section of Table 3.1, MOE SWMPDM, 2003
cover - predominantly cultivated land	0.1	<-- Infiltration Factors from the bottom section of Table 3.1, MOE SWMPDM, 2003
Infiltration factor	**0.7**	

Latitude of site (or climate station) 44 ° N.

WATER BALANCE CALCULATIONS
DiPoce Management Inc.
Barrie, ON

PROJECT No.300041886

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TABLE G-2

Water Balance Components

Based on Thornthwaite's Soil Moisture Balance Approach with a Soil Moisture Retention of 300 mm (wooded areas in sandy loam soils)

Precipitation data from Barrie WPCC Climate Station (1981 - 2010)

Potential Evapotranspiration Calculation	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
Average Temperature (Degree C)	-7.7	-6.6	-2.1	5.6	12.3	17.9	20.8	19.7	15.3	8.7	2.7	-3.5	**6.9**
Heat index: $i = (t/5)^{1.514}$	0.00	0.00	0.00	1.19	3.91	6.90	8.66	7.97	5.44	2.31	0.39	0.00	**36.8**
Unadjusted Daily Potential Evapotranspiration U (mm)	0.00	0.00	0.00	25.18	58.76	88.02	103.48	97.59	74.33	40.47	11.47	0.00	**499**
Adjusting Factor for U (Latitude 44° 20' N)	0.81	0.82	1.02	1.13	1.27	1.29	1.3	1.2	1.04	0.95	0.8	0.76	
Adjusted Potential Evapotranspiration PET (mm)	0	0	0	28	75	114	135	117	77	38	9	0	**593**
WATER BALANCE COMPONENTS	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**YEAR**
Precipitation (P)	83	62	58	62	82	85	77	90	94	78	89	74	**933**
Potential Evapotranspiration (PET)	0	0	0	28	75	114	135	117	77	38	9	0	**593**
P - PET	83	62	58	34	8	-29	-57	-27	17	39	80	74	**340**
Change in Soil Moisture Storage	0	0	0	0	0	-29	-57	-27	17	39	58	0	**0**
Soil Moisture Storage max 300 mm	300	300	300	300	300	271	214	187	203	242	300	300	
Actual Evapotranspiration (AET)	0	0	0	28	75	114	135	117	77	38	9	0	**593**
Soil Moisture Deficit max 300 mm	0	0	0	0	0	29	86	113	97	58	0	0	
Water Surplus - available for infiltration or runoff	83	62	58	34	8	0	0	0	0	0	22	74	**340**
Potential Infiltration (based on MOE metholodogy*; independent of temperature)	66	49	46	27	6	0	0	0	0	0	18	59	**272**
Potential Direct Surface Water Runoff (independent of temperature)	17	12	12	7	2	0	0	0	0	0	4	15	**68**
IMPERVIOUS AREA WATER SURPLUS													
Precipitation (P)	933	mm/year											
Potential Evaporation (PE) from impervious areas (assume 15%)	140	mm/year											
P-PE (surplus available for runoff from impervious areas)	793	mm/year											

Assume January storage is 100% of Soil Moisture Storage
Soil Moisture Storage 300 mm <-- See "Water Holding Capacity" values in Table 3.1, MOE SWMPDM, 2003

*MOE SWM infiltration calculations

topography - rolling to hilly land	0.2	<-- Infiltration Factors from the bottom section of Table 3.1, MOE SWMPDM, 2003
soils - sandy loam	0.4	<-- Infiltration Factors from the bottom section of Table 3.1, MOE SWMPDM, 2003
cover - woodlands	0.2	<-- Infiltration Factors from the bottom section of Table 3.1, MOE SWMPDM, 2003
infiltration factor	**0.8**	

Latitude of site (or climate station) 44 ° N.

WATER BALANCE CALCULATIONS
DiPoce Management Inc.
Barrie, ON

PROJECT No.300041886

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TABLE G-3

Water Balance for Pre- and Post-Development Land Use Conditions (with no SWM/LID measures in place)

Land Use Description	Approx. Land Area* (m^2)	Estimated Impervious Fraction for Land Use*	Estimated Impervious Area (m^2)	Runoff from Impervious Area** (m/a)	Runoff Volume from Impervious Area (m^3/a)	Estimated Pervious Area (m^2)	Runoff from Pervious Area** (m/a)	Runoff Volume from Pervious Area (m^3/a)	Infiltration from Pervious Area** (m/a)	Infiltration Volume from Pervious Area (m^3/a)	Total Runoff Volume (m^3/a)	Total Infiltration Volume (m^3/a)
Exising Land Use												
Mixed Forest	33,700	0.00	0	0.793	0	33,700	0.068	2,290	0.272	9,159	2,290	9,159
Wetlands	40,500	1.00	40,500	0.793	32,115	0	0.068	0	0.272	0	32,115	0
Agricultural	184,000	0.00	0	0.793	0	184,000	0.102	18,752	0.238	43,755	18,752	43,755
TOTAL PRE-DEVELOPMENT	**258,200**		**40,500**		**32,115**	**217,700**		**21,042**		**52,914**	**53,157**	**52,914**
Post-Development Land Use (with no LID measures in place)												
Residential (Medium Density)	28,800	0.75	21,600	0.793	17,128	7,200	0.102	734	0.238	1,712	17,862	1,712
Residential (Townhouse)	49,800	0.69	34,362	0.793	27,248	15,438	0.102	1,573	0.238	3,671	28,821	3,671
Commercial	2,700	0.71	1,917	0.793	1,520	783	0.102	80	0.238	186	1,600	186
School	22,000	0.71	15,620	0.793	12,386	6,380	0.102	650	0.238	1,517	13,036	1,517
Stormwater Management Area	12,500	0.50	6,250	0.793	4,956	6,250	0.102	637	0.238	1,486	5,593	1,486
Park	24,700	0.07	1,729	0.793	1,371	22,971	0.102	2,341	0.238	5,463	3,712	5,463
Pipeline	9,000	0.00	0	0.793	0	9,000	0.102	917	0.238	2,140	917	2,140
Open Space	34,654	0.00	0	0.793	0	34,654	0.068	2,355	0.272	9,418	2,355	9,418
Wetlands	38,846	1.00	38,846	0.793	30,804	0	0.068	0	0.272	0	30,804	0
Walkway	800	1.00	800	0.793	634	0	0.102	0	0.238	0	634	0
Drainage	800	0.00	0	0.793	0	800	0.102	82	0.238	190	82	190
Right of Way	33,600	0.75	25,200	0.793	19,983	8,400	0.102	856	0.238	1,998	20,839	1,998
TOTAL POST-DEVELOPMENT	**258,200**		**146,324**		**116,030**	**111,876**		**10,225**		**27,781**	**126,254**	**27,781**
										% Change from Pre to Post	238	47
										Effect of development (with no mitigation)	2.4 times increase in runoff	47% reduction of infiltration

* data provided by Schaeffers & Associates Ltd.

** figures from Tables G-1 and G-2

To balance pre- to post-,
the infiltration target (m^3/a)= **25,133**

APPENDIX B

TIMP & XIMP CALCULATIONS

2019-10-29 13:44

DiPoce Subdivision
Post-Development Drainage Areas & Runoff Coefficients

Catchment 200 + 206 -(Requires Quality Control)	Area (ha)	Runoff Coeff	Impervious	A*R	A*Imp	Ximp	A*Ximp	
ROW-18m	1.78	0.72	0.75	1.29	1.33	0.75	1.33	Calculated based on Barrie Citeria
ROW-24m	1.52	0.73	0.75	1.11	1.15	0.75	1.15	Calculated based on Barrie Citeria
7 m Lots: Townhouse Front Yards	0.96	0.55	0.50	0.53	0.48	0.50	0.48	Calculated based on typical lot layout
SWM Pond	1.25	0.55	0.50	0.69	0.63	0.50	0.63	
Walkway	0.08	0.90	1.00	0.07	0.08	1.50	0.12	Measured in Autocad
Walkway & Drainage	0.06	0.90	1.00	0.05	0.06	2.50	0.15	
School	2.20	0.70	0.71	1.54	1.57	0.71	1.57	Based on IMP suggested by Planner
Park	2.47	0.25	0.07	0.62	0.18	0.07	0.18	Based on Barrie and NVCA criteria
Service corridor	0.04	0.25	0.07	0.01	0.00	0.07	0.00	Based on Draft plan Area
Subtotal	**10.36**	**0.57**	**0.53**	**5.90**	**5.47**	**0.54**	**5.60**	
Catchment 101-(No Quality Control Required)	**Area (ha)**	**Runoff Coeff**	**Impervious**	**A*R**	**A*Imp**	**Ximp**	**A*Ximp**	
7m Lots: Rooftops and backyards	4.07	0.71	0.73	2.88	2.95	0.73	2.95	Calculated based on typical lot layout
Total Area	**14.43**	**0.61**	**0.58**	**8.7843**	**8.4247**	**0.59**	**8.5547**	
	Area (ha)	**Runoff Coeff**	**Impervious**	**A*R**	**A*Imp**	**Ximp**	**A*Ximp**	
External Area (Catchment 209E)	0.93	0.55	0.50	0.51	0.47	0.50	0.47	Assumed 50% Imperviousness
	15.36	**0.61**	**0.58**	**9.30**	**8.89**	**0.59**	**9.02**	
Catchment 202-Onsite Quality Control	**Area (ha)**	**Runoff Coeff**	**Impervious**	**A*R**	**A*Imp**	**Ximp**	**A*Ximp**	
Medium Density - Block 40	1.07	0.725	0.75	0.78	0.80	0.75	0.80	Based on IMP suggested by Planner
Catchment 201-Onsite Quality Control	**Area (ha)**	**Runoff Coeff**	**Impervious**	**A*R**	**A*Imp**	**Ximp**	**A*Ximp**	
Medium Density - Block 39	1.03	0.73	0.75	0.74	0.77	0.75	0.77	Based on IMP suggested by Planner
Catchment 204- Site plans on other side of channel	**Area (ha)**	**Runoff Coeff**	**Impervious**	**A*R**	**A*Imp**	**Ximp**	**A*Ximp**	
Medium Density - Block 41	0.78	0.73	0.75	0.56	0.58	0.75	0.58	Based on IMP suggested by Planner
Catchment 203- Site plans on other side of channel	**Area (ha)**	**Runoff Coeff**	**Impervious**	**A*R**	**A*Imp**	**Ximp**	**A*Ximp**	
Commercial - Block 42	0.27	0.70	0.71	0.19	0.19	0.71	0.19	Based on Barrie Design Criteria
Undeveloped Lands	**Area (ha)**	**Runoff Coeff**	**Impervious**	**A*R**	**A*Imp**	**Ximp**	**A*Ximp**	
Pipeline corridor	0.90	0.25	0.07	0.23	0.06	0.07	0.06	Based on Draft plan Area
Environmental Protection	7.35	0.25	0.07	1.84	0.53	0.07	0.53	Based on Draft plan Area
Total Site Area	**25.82**	**0.51**	**0.44**	**13.12**	**11.36**	**0.44**	**11.49**	

TIME OF CONCENTRATION CALCULATIONS

PROJECT NO.: 4560
PROJECT NAME: DiPoche Residential Development
LOCATION: City of Barrie
DATE: Oct-19

SCHAEFFERS
CONSULTING ENGINEERS

Table 1: Existing Catchment Area Drainage Characteristics

Catchment	Area	Hydrologic Soil Group	Curve Number (SIS Study)	Initial Abstraction (SIS)	Watershed Slope, S_w	Overland Flow Length, L	Runoff Coefficient, C	Velocity (Uplands)	Time of Concentration, t_c (Airport)	Time of Concentration (Upland)	Time to Peak, tp = 0.67tc (Airport)	Time to Peak (Upland)	Time to Peak, tp = 0.67tc (Airport)	Time to Peak, tp = 0.67tc (Upland)
	(ha)			*(mm)*	*(%)*	*(m)*		*m/s*	minutes	minutes	minutes	minutes	(hrs)	(hrs)
100	24.51	AB	52.7	5.00	1.8	746.5810	0.25	0.36	62.4	34.3	41.8	23.0	0.70	0.38
Catchment	**Area**	**Hydrologic Soil Group**	**Curve Number (NVCA Table 10.1)**	**Initial Abstraction (SDSA /NVCA**	**Watershed Slope, S_w**	**Overland Flow Length, L**	**Runoff Coefficient, C**	**Velocity (Uplands)**	**Time of Concentration, t_c**	**Time of Concentration (Upland)**	**Time to Peak, tp = 0.67tc (Airport)**	**Time to Peak (Upland)**	**Time to Peak, tp = 0.67tc (Airport)**	**Time to Peak, tp = 0.67tc (Upland)**
	(ha)			*(mm)*	*(%)*	*(m)*		*m/s*	minutes	minutes	minutes	minutes	(hrs)	(hrs)
101	0.28	AB	51 (Meadows - AB)	8.00	7.0	46.3	0.25	0.40	9.9	1.9	6.6	1.3	0.11	0.02
102	0.78	AB	46 (Woods - AB)	10.00	3.7	110.5	0.25	0.30	18.9	6.1	12.7	4.1	0.21	0.07

Table 2: Post-Development Drainage Area

208E	8.10	AB	52.7	5.00	1.4	438.4	0.25	0.32	52.4	22.8	35.1	15.3	0.59	0.25

Please note that the Time to Peak for catchment 101 was considered based on minimum time of concentration of 10min (Time to Peak =0.17hr) which is considered more conservative

PROJECT NO.: 4560
PROJECT NAME: DiPoce Inc.
LOCATION: City of Barrie
DATE: Oct-19

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Table 2: Watershed Slope Calculations

Catchment	Number of Divisions of Equal Length	Equal Lengths *(m)*	Upstream Elevation *(mAMSL)*	Downstream Elevation *(mAMSL)*	Slope *(m/m)*	Slope to the power of -0.5 *(m/m)*	Sum of Length *(m)*	Sum of Slope to the power of -0.5	Watershed Slope, Sw *(%)*
100	1	74.7	309.00	307.75	0.017	7.7	747.0	76.1	1.8
	2	74.7	307.75	307	0.010	10.0			
	3	74.7	307.00	306.75	0.003	17.3			
	4	74.7	306.75	305	0.023	6.5			
	5	74.7	305.00	303.5	0.020	7.1			
	6	74.7	303.50	299.75	0.050	4.5			
	7	74.7	299.75	295.9	0.052	4.4			
	8	74.7	295.90	293.75	0.029	5.9			
	9	74.7	293.75	292.25	0.020	7.1			
	10	74.7	292.25	290	0.030	5.8			
101	1	15.4	296.5	295.4	0.071	3.7	46.3	11.3	7.0
	2	15.4	295.4	294.4	0.065	3.9			
	3	15.4	294.4	293.25	0.075	3.7			
102	1	22.1	299.6	298.8	0.036	5.3	110.5	26.0	3.7
	2	22.1	298.8	298	0.036	5.3			
	3	22.1	298	297.1	0.041	5.0			
	4	22.1	297.1	296.4	0.032	5.6			
	5	22.1	296.4	295.5	0.041	5.0			
208E	1	219.2	309	306.25	0.013	8.9	438.4	17.1	1.4
	2	219.2	306.25	303	0.015	8.2			

EROSION CONTROL CALCULATIONS

PROJECT NO.: 4560
PROJECT NAME: DiPoce (Innisfil) Development
LOCATION: City of Barrie

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Area Draining to SWM Pond- TIMP Calculations for Erosion Control

Catchments	Area (ha)	Runoff Coefficient (c)	TIMP
Catchment 200+206+209E	15.36	0.60	58%
Catchment 201	1.03	0.73	75.00%
Catchment 208E	8.1	0.25	7%
Total	**24.49**	**0.46**	**41.8%**

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4560-DiPoce Inc.- Erosion Control Discharge Rate and Storage Calculations - 208 Site Plan

2019-10-29

Table 4.4.15: End-of-Pipe Stormwater Management Requirements[1,3]

Subwatershed	Reach	Outlet Node	Cumulative Unitary Storage Rate (m^3/imp. ha)				Unitary Discharge Rate (m^3/s/ha)			
			Erosion Control	Flood Control[2]			Erosion Control	Flood Control		
				5 Yr	25 Yr	100 Yr		5 Yr	25 Yr	100 Yr
Bear Creek	BEA1	9001	410	850	1000	1300	0.0012	0.007	0.013	0.030
	BEA2	9005	440	1030	1280	1580	0.0012	0.007	0.013	0.030
Thornton Creek	THO1	9024	430	920	1070	1420	0.0011	0.007	0.013	0.025
	THO2	9017	370	860	960	1310	0.0013	0.009	0.018	0.036
Lover's Creel	LOV2	9251	400	850	1050	1300	0.0011	0.010	0.020	0.050
	LOV4	9142	400	1000	1250	1400	0.0012	0.007	0.012	0.027
	LOV6	9201	400	900	1050	1350	0.0013	0.007	0.013	0.030
	LOV8	9350	460	1060	1310	1510	0.0012	0.007	0.012	0.027
Hewitts Creek	-	9140	450	900	1050	1300	0.0006	0.007	0.013	0.030
Sandy Cove Creek	SAN2	9284	310	760	835	1235	0.0010	0.010	0.020	0.040
	SAN3	9281	320	770	845	1245	0.0011	0.010	0.020	0.040

Note: [1] Water quality: Volumetric requirements for permanent pool storage are in addition to storage provided here and are to be provided in accordance with Ministry of the Environment Enhanced Level treatment.
[2] Includes erosion control volume
[3] Volumes do not include LID

Catchment 208E	8.1	ha	
Total	**8.1**	ha	
Total Impervious Area (75%) (Post-Development)	6.075	ha	=[8.10x0.75]
Cumulative Unitary Storage (From 4.4.15)	**2490.75**	**m^3**	=[410x6.075]
Unitary Discharge Rate (From 4.4.15)	0.00972	m^3/s	=[0.0012x8.1]
Peak Outflow	**0.01458**	**m^3/s**	=[0.00972x1.5]

PROJECT NO.: 4560
PROJECT NAME: DiPoce (Innisfil) Inc. Development
LOCATION: City of Barrie

SCHAEFFERS CONSULTING ENGINEERS

Erosion Control Discharge Rate and Storage Requirement Calculations

Table 4.4.15: End-of-Pipe Stormwater Management Requirements[1,3]

Subwatershed	Reach	Outlet Node	Cumulative Unitary Storage Rate (m^3/imp. ha)				Unitary Discharge Rate (m^3/s/ha)			
			Erosion Control	Flood Control[2]			Erosion Control	Flood Control		
				5 Yr	25 Yr	100 Yr		5 Yr	25 Yr	100 Yr
Bear Creek	BEA1	9001	410	850	1000	1300	0.0012	0.007	0.013	0.030
	BEA2	9005	440	1030	1280	1580	0.0012	0.007	0.013	0.030
Thornton Creek	THO1	9024	430	920	1070	1420	0.0011	0.007	0.013	0.025
	THO2	9017	370	860	960	1310	0.0013	0.009	0.018	0.036
Lover's Creel	LOV2	9251	400	850	1050	1300	0.0011	0.010	0.020	0.050
	LOV4	9142	400	1000	1250	1400	0.0012	0.007	0.012	0.027
	LOV6	9201	400	900	1050	1350	0.0013	0.007	0.013	0.030
	LOV8	9350	460	1060	1310	1510	0.0012	0.007	0.012	0.027
Hewitts Creek	-	9140	450	900	1050	1300	0.0006	0.007	0.013	0.030
Sandy Cove Creek	SAN2	9284	310	760	835	1235	0.0010	0.010	0.020	0.040
	SAN3	9281	320	770	845	1245	0.0011	0.010	0.020	0.040

Note: [1] Water quality: Volumetric requirements for permanent pool storage are in addition to storage provided here and are to be provided in accordance with Ministry of the Environment Enhanced Level treatment.
[2] Includes erosion control volume
[3] Volumes do not include LID

Catchment 200+206+209E+201	16.39	ha	
Catchment 208E	8.1		
Total	**24.49**	ha	
Total Impervious Area (42%)	10.2858	ha	=[24.49x0.42]
Cumulative Unitary Storage (From 4.4.15)	**4217.18**	**m^3**	=[410x10.2858]
Unitary Discharge Rate (From 4.4.15)	0.02939	m^3/s	=[0.0012x24.49]
Peak Outflow	**0.04408**	**m^3/s**	=[0.02939x1.5]

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ALLOWABLE RELEASE RATE CALCULATIONS

Project No.: 4560
Project Name: DiPoce Residential Subdivision

Precipation Comparison Resultant Table

Precipitation (mm)						
Storm	**2-Year**	**5-Year**	**10-Year**	**25-Year**	**50-Year**	**100-Year**
24 HR SCS	55	76	89.9	107.5	120.6	133.6
4-HR Chicago- Barrie	36.96	50.52	59.69	71.24	79.45	87.58
4-HR Chicago- MTO	33.38	44.15	51.28	60.39	67.06	73.59

SOIL COVER COMPLEX NUMBER
CALCULATION SHEET

PROJECT: **DiPoce Residential Development**
City of Barrie

PROJECT #: **4532**

Catchment ID: **100 (Pre-Development)**

AREA (ha): **24.51**

Soil Type: Sand

SOIL SUMMARY		
SOIL GROUP	AREA (ha)	**% OF CATCHMENT**
A	0.00	0.0
AB	22.36	91.2
B	0.00	0.0
BC	0.00	0.0
C	0.00	0.0
CD	2.15	8.8
D	0.00	0.0
TOTAL	24.51	100.0

LAND USE SUMMARY		
LAND USE	AREA (ha)	**% OF CATCHMENT**
1 WETLANDS/LAKES/SWMFS	0.000	0.0
2 WOODS	3.770	15.4
3 MEADOWS	20.740	84.6
4 PASTURE/LAWN	0.000	0.0
5 CULTIVATED	0.000	0.0
6 IMPERVIOUS AREAS	0.000	0.0
TOTAL	24.51	100.0

WEIGHTED CN CALCULATION							
SOIL	LAND USE						% AREA
GROUP	1	2	3	4	5	6	BY SOIL
A	50	32	38	49	62	100	0.0
AB	50	46	51	59	68	100	91.2
B	50	60	65	69	74	100	0.0
BC	50	67	71	74	78	100	0.0
C	50	73	76	79	82	100	0.0
CD	50	76	79	82	84	100	8.8
D	50	79	81	84	86	100	0.0

WEIGHTED CN CALCULATION						
SOIL	WEIGHTED SOIL CONDITION					
GROUP	1	2	3	4	5	6
A	0.0	0.0	0.0	0.0	0.0	0.0
AB	45.6	42.0	46.5	53.8	62.0	91.2
B	0.0	0.0	0.0	0.0	0.0	0.0
BC	0.0	0.0	0.0	0.0	0.0	0.0
C	0.0	0.0	0.0	0.0	0.0	0.0
CD	4.4	6.7	6.9	7.2	7.4	8.8
D	0.0	0.0	0.0	0.0	0.0	0.0

WEIGHTED SOIL COVER COMPLEX NUMBER									
LAND	WEIGHTED SOIL CONDITION							% AREA	WTD
USE	A	AB	B	BC	C	CD	D	BY LAND	CN
1	0.0	45.6	0.0	0.0	0.0	4.4	0.0	0.0	0.0
2	0.0	42.0	0.0	0.0	0.0	6.7	0.0	15.4	7.5
3	0.0	46.5	0.0	0.0	0.0	6.9	0.0	84.6	45.2
4	0.0	53.8	0.0	0.0	0.0	7.2	0.0	0.0	0.0
5	0.0	62.0	0.0	0.0	0.0	7.4	0.0	0.0	0.0
6	0.0	91.2	0.0	0.0	0.0	8.8	0.0	0.0	0.0
							WEIGHTED CN II		**52.7**
							WEIGHTED CN III		72.2

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Printed: 31-Oct-19

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SOIL COVER COMPLEX NUMBER
CALCULATION SHEET

PROJECT: **DiPoce Residential Development**
City of Barrie

PROJECT #: **4532**

Catchment ID: **101 (Pre-Development)**

AREA (ha): **0.27**

Soil Type: Sand

SOIL SUMMARY		
SOIL GROUP	AREA (ha)	**% OF CATCHMENT**
A	0.00	0.0
AB	0.28	100.0
B	0.00	0.0
BC	0.00	0.0
C	0.00	0.0
CD	0.00	0.0
D	0.00	0.0
TOTAL	0.28	100.0

LAND USE SUMMARY		
LAND USE	AREA (ha)	**% OF CATCHMENT**
1 WETLANDS/LAKES/SWMFS	0.000	0.0
2 WOODS	0.000	0.0
3 MEADOWS	0.280	100.0
4 PASTURE/LAWN	0.000	0.0
5 CULTIVATED	0.000	0.0
6 IMPERVIOUS AREAS	0.000	0.0
TOTAL	0.28	100.0

WEIGHTED CN CALCULATION							
SOIL	LAND USE						% AREA
GROUP	1	2	3	4	5	6	BY SOIL
A	50	32	38	49	62	100	0.0
AB	50	46	51	59	68	100	100.0
B	50	60	65	69	74	100	0.0
BC	50	67	71	74	78	100	0.0
C	50	73	76	79	82	100	0.0
CD	50	76	79	82	84	100	0.0
D	50	79	81	84	86	100	0.0

WEIGHTED CN CALCULATION						
SOIL	WEIGHTED SOIL CONDITION					
GROUP	1	2	3	4	5	6
A	0.0	0.0	0.0	0.0	0.0	0.0
AB	50.0	46.0	51.0	59.0	68.0	100.0
B	0.0	0.0	0.0	0.0	0.0	0.0
BC	0.0	0.0	0.0	0.0	0.0	0.0
C	0.0	0.0	0.0	0.0	0.0	0.0
CD	0.0	0.0	0.0	0.0	0.0	0.0
D	0.0	0.0	0.0	0.0	0.0	0.0

WEIGHTED SOIL COVER COMPLEX NUMBER									
LAND	WEIGHTED SOIL CONDITION							% AREA	WTD
USE	A	AB	B	BC	C	CD	D	BY LAND	CN
1	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	46.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	51.0	0.0	0.0	0.0	0.0	0.0	100.0	51.0
4	0.0	59.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	68.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							WEIGHTED CN II		**51.0**
							WEIGHTED CN III		70.6

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Printed: 31-Oct-19
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SOIL COVER COMPLEX NUMBER
CALCULATION SHEET

PROJECT: **DiPoce Residential Development**
City of Barrie

PROJECT #: **4532**

Catchment ID: **102 (Pre-Development)**

AREA (ha): **0.78**

Soil Type: Sand

SOIL SUMMARY		
SOIL GROUP	AREA (ha)	**% OF CATCHMENT**
A	0.00	0.0
AB	0.78	100.0
B	0.00	0.0
BC	0.00	0.0
C	0.00	0.0
CD	0.00	0.0
D	0.00	0.0
TOTAL	0.78	100.0

LAND USE SUMMARY		
LAND USE	AREA (ha)	**% OF CATCHMENT**
1 WETLANDS/LAKES/SWMFS	0.000	0.0
2 WOODS	0.780	100.0
3 MEADOWS	0.000	0.0
4 PASTURE/LAWN	0.000	0.0
5 CULTIVATED	0.000	0.0
6 IMPERVIOUS AREAS	0.000	0.0
TOTAL	0.78	100.0

WEIGHTED CN CALCULATION							
SOIL	LAND USE						% AREA
GROUP	1	2	3	4	5	6	BY SOIL
A	50	32	38	49	62	100	0.0
AB	50	46	51	59	68	100	100.0
B	50	60	65	69	74	100	0.0
BC	50	67	71	74	78	100	0.0
C	50	73	76	79	82	100	0.0
CD	50	76	79	82	84	100	0.0
D	50	79	81	84	86	100	0.0

WEIGHTED CN CALCULATION						
SOIL	WEIGHTED SOIL CONDITION					
GROUP	1	2	3	4	5	6
A	0.0	0.0	0.0	0.0	0.0	0.0
AB	50.0	46.0	51.0	59.0	68.0	100.0
B	0.0	0.0	0.0	0.0	0.0	0.0
BC	0.0	0.0	0.0	0.0	0.0	0.0
C	0.0	0.0	0.0	0.0	0.0	0.0
CD	0.0	0.0	0.0	0.0	0.0	0.0
D	0.0	0.0	0.0	0.0	0.0	0.0

WEIGHTED SOIL COVER COMPLEX NUMBER									
LAND	WEIGHTED SOIL CONDITION							% AREA	WTD
USE	A	AB	B	BC	C	CD	D	BY LAND	CN
1	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	46.0	0.0	0.0	0.0	0.0	0.0	100.0	46.0
3	0.0	51.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	59.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	68.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							WEIGHTED CN II		**46.0**
							WEIGHTED CN III		65.9

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SOIL COVER COMPLEX NUMBER
CALCULATION SHEET

PROJECT:	**DiPoce Residential Development** **City of Barrie**	PROJECT #:	**4532**
Catchment ID:	**200+206+209E (Post-Development)**	AREA (ha):	**15.36**

SOIL SUMMARY		
SOIL GROUP	AREA (ha)	**% OF CATCHMENT**
A	0.00	0.0
AB	14.28	93.0
B	0.00	0.0
BC	0.00	0.0
C	0.00	0.0
CD	1.08	7.0
D	0.00	0.0
TOTAL	15.36	100.0

LAND USE SUMMARY		
LAND USE	AREA (ha)	**% OF CATCHMENT**
1 WETLANDS/LAKES/SWMFS	0.000	0.0
2 WOODS	0.000	0.0
3 MEADOWS	0.000	0.0
4 PASTURE/LAWN	15.360	100.0
5 CULTIVATED	0.000	0.0
6 IMPERVIOUS AREAS	0.000	0.0
TOTAL	15.36	100.0

WEIGHTED CN CALCULATION							
SOIL	LAND USE						% AREA
GROUP	1	2	3	4	5	6	BY SOIL
A	50	32	38	49	62	100	0.0
AB	50	46	51	59	68	100	93.0
B	50	60	65	69	74	100	0.0
BC	50	67	71	74	78	100	0.0
C	50	73	76	79	82	100	0.0
CD	50	76	79	82	84	100	7.0
D	50	79	81	84	86	100	0.0

WEIGHTED CN CALCULATION						
SOIL	WEIGHTED SOIL CONDITION					
GROUP	1	2	3	4	5	6
A	0.0	0.0	0.0	0.0	0.0	0.0
AB	46.5	42.8	47.4	54.9	63.2	93.0
B	0.0	0.0	0.0	0.0	0.0	0.0
BC	0.0	0.0	0.0	0.0	0.0	0.0
C	0.0	0.0	0.0	0.0	0.0	0.0
CD	3.5	5.3	5.6	5.8	5.9	7.0
D	0.0	0.0	0.0	0.0	0.0	0.0

WEIGHTED SOIL COVER COMPLEX NUMBER									
LAND	WEIGHTED SOIL CONDITION							% AREA	WTD
USE	A	AB	B	BC	C	CD	D	BY LAND	CN
1	0.0	46.5	0.0	0.0	0.0	3.5	0.0	0.0	0.0
2	0.0	42.8	0.0	0.0	0.0	5.3	0.0	0.0	0.0
3	0.0	47.4	0.0	0.0	0.0	5.6	0.0	0.0	0.0
4	0.0	54.9	0.0	0.0	0.0	5.8	0.0	100.0	60.6
5	0.0	63.2	0.0	0.0	0.0	5.9	0.0	0.0	0.0
6	0.0	93.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0
							WEIGHTED CN II		**60.6**
							WEIGHTED CN III		78.9

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SOIL COVER COMPLEX NUMBER
CALCULATION SHEET

PROJECT: **DiPoce Residential Development**
City of Barrie

PROJECT #: **4532**

Catchment ID: **208E**

AREA (ha): **8.10**

Soil Type: Sand

SOIL SUMMARY		
SOIL GROUP	AREA (ha)	**% OF CATCHMENT**
A	0.00	0.0
AB	8.10	100.0
B	0.00	0.0
BC	0.00	0.0
C	0.00	0.0
CD	0.00	0.0
D	0.00	0.0
TOTAL	8.10	100.0

LAND USE SUMMARY		
LAND USE	AREA (ha)	**% OF CATCHMENT**
1 WETLANDS/LAKES/SWMFS	0.000	0.0
2 WOODS	0.000	0.0
3 MEADOWS	0.000	0.0
4 PASTURE/LAWN	8.100	100.0
5 CULTIVATED	0.000	0.0
6 IMPERVIOUS AREAS	0.000	0.0
TOTAL	8.10	100.0

WEIGHTED CN CALCULATION							
SOIL	LAND USE						% AREA
GROUP	1	2	3	4	5	6	BY SOIL
A	50	32	38	49	62	100	0.0
AB	50	46	51	59	68	100	100.0
B	50	60	65	69	74	100	0.0
BC	50	67	71	74	78	100	0.0
C	50	73	76	79	82	100	0.0
CD	50	76	79	82	84	100	0.0
D	50	79	81	84	86	100	0.0

WEIGHTED CN CALCULATION						
SOIL	WEIGHTED SOIL CONDITION					
GROUP	1	2	3	4	5	6
A	0.0	0.0	0.0	0.0	0.0	0.0
AB	50.0	46.0	51.0	59.0	68.0	100.0
B	0.0	0.0	0.0	0.0	0.0	0.0
BC	0.0	0.0	0.0	0.0	0.0	0.0
C	0.0	0.0	0.0	0.0	0.0	0.0
CD	0.0	0.0	0.0	0.0	0.0	0.0
D	0.0	0.0	0.0	0.0	0.0	0.0

WEIGHTED SOIL COVER COMPLEX NUMBER									
LAND	WEIGHTED SOIL CONDITION							% AREA	WTD
USE	A	AB	B	BC	C	CD	D	BY LAND	CN
1	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	46.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	51.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	59.0	0.0	0.0	0.0	0.0	0.0	100.0	59.0
5	0.0	68.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							WEIGHTED CN II		**59.0**
							WEIGHTED CN III		77.6

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SOIL COVER COMPLEX NUMBER
CALCULATION SHEET

PROJECT: **DiPoce Residential Development**
City of Barrie

PROJECT #: **4532**

Catchment ID: **201**

AREA (ha): **1.03**

Soil Type: Sand

SOIL SUMMARY		
SOIL GROUP	AREA (ha)	**% OF CATCHMENT**
A	0.00	0.0
AB	1.03	100.0
B	0.00	0.0
BC	0.00	0.0
C	0.00	0.0
CD	0.00	0.0
D	0.00	0.0
TOTAL	1.03	100.0

LAND USE SUMMARY		
LAND USE	AREA (ha)	**% OF CATCHMENT**
1 WETLANDS/LAKES/SWMFS	0.000	0.0
2 WOODS	0.000	0.0
3 MEADOWS	0.000	0.0
4 PASTURE/LAWN	1.030	100.0
5 CULTIVATED	0.000	0.0
6 IMPERVIOUS AREAS	0.000	0.0
TOTAL	1.03	100.0

WEIGHTED CN CALCULATION							
SOIL	LAND USE						% AREA
GROUP	1	2	3	4	5	6	BY SOIL
A	50	32	38	49	62	100	0.0
AB	50	46	51	59	68	100	100.0
B	50	60	65	69	74	100	0.0
BC	50	67	71	74	78	100	0.0
C	50	73	76	79	82	100	0.0
CD	50	76	79	82	84	100	0.0
D	50	79	81	84	86	100	0.0

WEIGHTED CN CALCULATION						
SOIL	WEIGHTED SOIL CONDITION					
GROUP	1	2	3	4	5	6
A	0.0	0.0	0.0	0.0	0.0	0.0
AB	50.0	46.0	51.0	59.0	68.0	100.0
B	0.0	0.0	0.0	0.0	0.0	0.0
BC	0.0	0.0	0.0	0.0	0.0	0.0
C	0.0	0.0	0.0	0.0	0.0	0.0
CD	0.0	0.0	0.0	0.0	0.0	0.0
D	0.0	0.0	0.0	0.0	0.0	0.0

WEIGHTED SOIL COVER COMPLEX NUMBER									
LAND	WEIGHTED SOIL CONDITION							% AREA	WTD
USE	A	AB	B	BC	C	CD	D	BY LAND	CN
1	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	46.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	51.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	59.0	0.0	0.0	0.0	0.0	0.0	100.0	59.0
5	0.0	68.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							WEIGHTED CN II		**59.0**
							WEIGHTED CN III		77.6

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SOIL COVER COMPLEX NUMBER
CALCULATION SHEET

PROJECT: **DiPoce Residential Development**
City of Barrie

PROJECT #: **4532**

Catchment ID: **202**

AREA (ha): **1.07**

Soil Type: Sand

SOIL SUMMARY		
SOIL GROUP	AREA (ha)	**% OF CATCHMENT**
A	0.00	0.0
AB	0.00	0.0
B	0.00	0.0
BC	0.00	0.0
C	0.00	0.0
CD	1.07	100.0
D	0.00	0.0
TOTAL	1.07	100.0

LAND USE SUMMARY		
LAND USE	AREA (ha)	**% OF CATCHMENT**
1 WETLANDS/LAKES/SWMFS	0.000	0.0
2 WOODS	0.000	0.0
3 MEADOWS	0.000	0.0
4 PASTURE/LAWN	1.070	100.0
5 CULTIVATED	0.000	0.0
6 IMPERVIOUS AREAS	0.000	0.0
TOTAL	1.07	100.0

WEIGHTED CN CALCULATION							
SOIL	LAND USE						% AREA
GROUP	1	2	3	4	5	6	BY SOIL
A	50	32	38	49	62	100	0.0
AB	50	46	51	59	68	100	0.0
B	50	60	65	69	74	100	0.0
BC	50	67	71	74	78	100	0.0
C	50	73	76	79	82	100	0.0
CD	50	76	79	82	84	100	100.0
D	50	79	81	84	86	100	0.0

WEIGHTED CN CALCULATION						
SOIL	WEIGHTED SOIL CONDITION					
GROUP	1	2	3	4	5	6
A	0.0	0.0	0.0	0.0	0.0	0.0
AB	0.0	0.0	0.0	0.0	0.0	0.0
B	0.0	0.0	0.0	0.0	0.0	0.0
BC	0.0	0.0	0.0	0.0	0.0	0.0
C	0.0	0.0	0.0	0.0	0.0	0.0
CD	50.0	76.0	79.0	82.0	84.0	100.0
D	0.0	0.0	0.0	0.0	0.0	0.0

WEIGHTED SOIL COVER COMPLEX NUMBER									
LAND	WEIGHTED SOIL CONDITION							% AREA	WTD
USE	A	AB	B	BC	C	CD	D	BY LAND	CN
1	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	76.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	79.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	82.0	0.0	100.0	82.0
5	0.0	0.0	0.0	0.0	0.0	84.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
							WEIGHTED CN II		**82.0**
							WEIGHTED CN III		92.6

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SOIL COVER COMPLEX NUMBER
CALCULATION SHEET

PROJECT: **DiPoce Residential Development**
City of Barrie

PROJECT #: **4532**

Catchment ID: **203**

AREA (ha): **0.27**

Soil Type: Sand

SOIL SUMMARY		
SOIL GROUP	AREA (ha)	**% OF CATCHMENT**
A	0.00	0.0
AB	0.27	100.0
B	0.00	0.0
BC	0.00	0.0
C	0.00	0.0
CD	0.00	0.0
D	0.00	0.0
TOTAL	0.27	100.0

LAND USE SUMMARY		
LAND USE	AREA (ha)	**% OF CATCHMENT**
1 WETLANDS/LAKES/SWMFS	0.000	0.0
2 WOODS	0.000	0.0
3 MEADOWS	0.000	0.0
4 PASTURE/LAWN	0.270	100.0
5 CULTIVATED	0.000	0.0
6 IMPERVIOUS AREAS	0.000	0.0
TOTAL	0.27	100.0

WEIGHTED CN CALCULATION							
SOIL	LAND USE						% AREA
GROUP	1	2	3	4	5	6	BY SOIL
A	50	32	38	49	62	100	0.0
AB	50	46	51	59	68	100	100.0
B	50	60	65	69	74	100	0.0
BC	50	67	71	74	78	100	0.0
C	50	73	76	79	82	100	0.0
CD	50	76	79	82	84	100	0.0
D	50	79	81	84	86	100	0.0

WEIGHTED CN CALCULATION						
SOIL	WEIGHTED SOIL CONDITION					
GROUP	1	2	3	4	5	6
A	0.0	0.0	0.0	0.0	0.0	0.0
AB	50.0	46.0	51.0	59.0	68.0	100.0
B	0.0	0.0	0.0	0.0	0.0	0.0
BC	0.0	0.0	0.0	0.0	0.0	0.0
C	0.0	0.0	0.0	0.0	0.0	0.0
CD	0.0	0.0	0.0	0.0	0.0	0.0
D	0.0	0.0	0.0	0.0	0.0	0.0

WEIGHTED SOIL COVER COMPLEX NUMBER									
LAND	WEIGHTED SOIL CONDITION							% AREA	WTD
USE	A	AB	B	BC	C	CD	D	BY LAND	CN
1	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	46.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	51.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	59.0	0.0	0.0	0.0	0.0	0.0	100.0	59.0
5	0.0	68.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							WEIGHTED CN II		**59.0**
							WEIGHTED CN III		77.6

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SOIL COVER COMPLEX NUMBER
CALCULATION SHEET

PROJECT: **DiPoce Residential Development**
City of Barrie

PROJECT #: **4532**

Catchment ID: **204**

AREA (ha): **0.78**

Soil Type: Sand

SOIL SUMMARY		
SOIL GROUP	AREA (ha)	**% OF CATCHMENT**
A	0.00	0.0
AB	0.00	0.0
B	0.00	0.0
BC	0.00	0.0
C	0.00	0.0
CD	0.78	100.0
D	0.00	0.0
TOTAL	0.78	100.0

LAND USE SUMMARY		
LAND USE	AREA (ha)	**% OF CATCHMENT**
1 WETLANDS/LAKES/SWMFS	0.000	0.0
2 WOODS	0.000	0.0
3 MEADOWS	0.000	0.0
4 PASTURE/LAWN	0.780	100.0
5 CULTIVATED	0.000	0.0
6 IMPERVIOUS AREAS	0.000	0.0
TOTAL	0.78	100.0

WEIGHTED CN CALCULATION							
SOIL	LAND USE						% AREA
GROUP	1	2	3	4	5	6	BY SOIL
A	50	32	38	49	62	100	0.0
AB	50	46	51	59	68	100	0.0
B	50	60	65	69	74	100	0.0
BC	50	67	71	74	78	100	0.0
C	50	73	76	79	82	100	0.0
CD	50	76	79	82	84	100	100.0
D	50	79	81	84	86	100	0.0

WEIGHTED CN CALCULATION						
SOIL	WEIGHTED SOIL CONDITION					
GROUP	1	2	3	4	5	6
A	0.0	0.0	0.0	0.0	0.0	0.0
AB	0.0	0.0	0.0	0.0	0.0	0.0
B	0.0	0.0	0.0	0.0	0.0	0.0
BC	0.0	0.0	0.0	0.0	0.0	0.0
C	0.0	0.0	0.0	0.0	0.0	0.0
CD	50.0	76.0	79.0	82.0	84.0	100.0
D	0.0	0.0	0.0	0.0	0.0	0.0

WEIGHTED SOIL COVER COMPLEX NUMBER									
LAND	WEIGHTED SOIL CONDITION							% AREA	WTD
USE	A	AB	B	BC	C	CD	D	BY LAND	CN
1	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	76.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	79.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	82.0	0.0	100.0	82.0
5	0.0	0.0	0.0	0.0	0.0	84.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
							WEIGHTED CN II		**82.0**
							WEIGHTED CN III		92.6

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PROJECT NO.: 4560
PROJECT NAME: DiPoce (Innisfil) Development
LOCATION: City of Barrie

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Table A.1.1

Storm Event	Pre-development Flows (m^3/s)														
	Pre-Development:		Pre-Development Catchment 100			Pre-Development:		Pre-Development Catchment 101			Pre-Development:		Pre-Development Catchment 102		
	Post-Development:		Post-Development 200+202+206+209E+208E			Post-Development:		Post-Development 203			Post-Development:		102 (Post-Development 204)		
	24Hr SCS	12Hr SCS	6Hr SCS	4Hr Chicago - Barrie	4Hr Chicago - MTO	24Hr SCS	12Hr SCS	6Hr SCS	4Hr Chicago - Barrie	4Hr Chicago - MTO	24Hr SCS	12Hr SCS	6Hr SCS	4Hr Chicago - Barrie	4Hr Chicago - MTO
2 Year	0.213	0.183	0.173	0.121	0.087	0.005	0.004	0.004	0.002	0.002	0.010	0.008	0.007	0.004	0.002
5 Year	0.406	0.353	0.352	0.234	0.164	0.010	0.009	0.009	0.005	0.003	0.021	0.017	0.017	0.009	0.006
10 Year	0.560	0.489	0.497	0.327	0.225	0.014	0.013	0.013	0.007	0.005	0.030	0.025	0.025	0.013	0.009
25 Year	0.779	0.684	0.709	0.463	0.316	0.023	0.018	0.019	0.010	0.007	0.048	0.037	0.038	0.020	0.013
50 Year	0.958	0.845	0.884	0.569	0.390	0.025	0.022	0.023	0.013	0.009	0.054	0.046	0.048	0.025	0.017
100 Year	1.148	1.015	1.070	0.690	0.469	0.031	0.027	0.029	0.016	0.011	0.065	0.056	0.059	0.031	0.021

Table A.1.2

Storm Event	ALLOWABLE RELEASE RATE TO BEAR CREEK*				
	24Hr SCS	12Hr SCS	6Hr SCS	4Hr Chicago - Barrie	4Hr Chicago - MTO
2 Year	0.228	0.195	0.184	0.127	0.091
5 Year	0.437	0.379	0.378	0.248	0.173
10 Year	0.604	0.527	0.535	0.348	0.239
25 Year	0.850	0.739	0.765	0.493	0.336
50 Year	1.036	0.913	0.955	0.607	0.416
100 Year	1.244	1.098	1.159	0.737	0.501

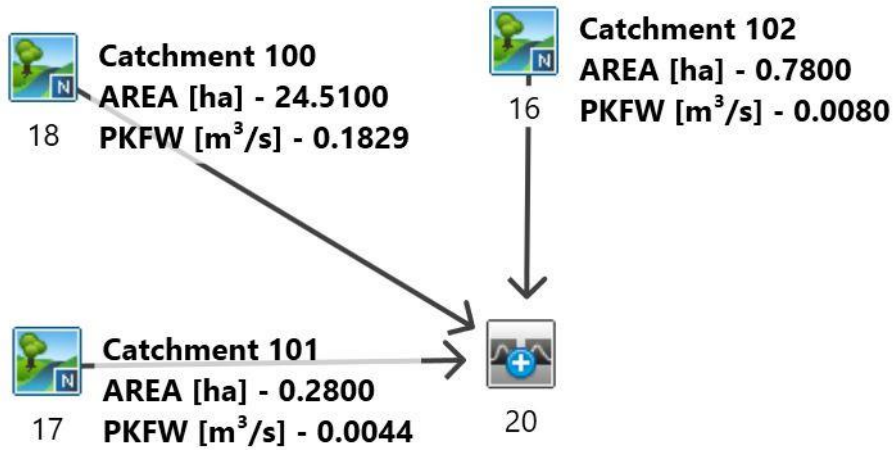
Table A.2.

Storm Event	Pre-development Flows (m^3/s)				
	Pre-Development Catchment 208E				
	Post-Development Catchment 208E for (Ultimate Condition VO5 model)				
	24Hr SCS	12Hr SCS	6Hr SCS	4Hr Chicago - Barrie	4Hr Chicago - MTO
2 Year	0.080	0.068	0.065	0.045	0.032
5 Year	0.152	0.131	0.132	0.086	0.060
10 Year	0.209	0.182	0.186	0.121	0.083
25 Year	0.291	0.255	0.264	0.171	0.116
50 Year	0.358	0.315	0.329	0.210	0.144
100 Year	0.429	0.379	0.399	0.255	0.173

Table A.3. **(Prorating the Release Rates based on Area)**

Storm Event	Pre-Devlopment Catchment 100									
	Post-Development Catchments					Post-Development Catchment				
	Catchment 200+206+209E+208E*					Catchment 202*				
	24.49					1.07				
	24HR SCS	12HR SCS	6HR SCS	4Hr Chicago - Barrie	4Hr Chicago - MTO	24HR SCS	12HR SCS	6HR SCS	4Hr Chicago - Barrie	4Hr Chicago - MTO
2 Year	0.204	0.175	0.166	0.116	0.083	0.009	0.008	0.007	0.005	0.004
5 Year	0.389	0.338	0.337	0.224	0.157	0.017	0.015	0.015	0.010	0.007
10 Year	0.536	0.469	0.476	0.314	0.216	0.023	0.020	0.021	0.014	0.009
25 Year	0.746	0.655	0.679	0.444	0.303	0.033	0.029	0.030	0.019	0.013
50 Year	0.917	0.810	0.847	0.545	0.374	0.040	0.035	0.037	0.024	0.016
100 Year	1.100	0.972	1.025	0.661	0.449	0.048	0.042	0.045	0.029	0.020

VISUAL OTTHYMO MODEL



SCHAEFFERS CONSULTING ENGINEERS

Visual OTTHYMO™ Schematic

PRE-DEVELOPMENT SCENARIO

Job #: 4560 **Date:OCTOBER 2019**

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\dd3dea06-a575-465d-96d4-495969aec494\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\dd3dea06-a575-465d-96d4-495969aec494\scen


DATE: 10-31-2019                          TIME: 10:40:31

USER:


COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 1-2-Year-12-Hour-SCS-Type-II  **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\926f0257
| Ptotal= 46.70 mm |    Comments: 2-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    1.87 |  6.75    8.41 | 10.00    1.63
                0.50    1.17 |  3.75    1.87 |  7.00    3.74 | 10.25    1.63
                0.75    1.17 |  4.00    1.87 |  7.25    3.74 | 10.50    0.93
                1.00    1.17 |  4.25    1.87 |  7.50    2.80 | 10.75    0.93
                1.25    1.17 |  4.50    2.80 |  7.75    2.80 | 11.00    0.93
                1.50    1.17 |  4.75    2.80 |  8.00    2.80 | 11.25    0.93
                1.75    1.17 |  5.00    3.74 |  8.25    2.80 | 11.50    0.93
                2.00    1.17 |  5.25    3.74 |  8.50    1.63 | 11.75    0.93
```

2.25	1.17	5.50	5.60	8.75	1.63	12.00	0.93
2.50	1.40	5.75	5.60	9.00	1.63	12.25	0.93
2.75	1.40	6.00	22.42	9.25	1.63		
3.00	1.40	6.25	61.64	9.50	1.63		
3.25	1.40	6.50	8.41	9.75	1.63		

CALIB					
NASHYD (0016)	Area (ha)=	0.78	Curve Number (CN)=	46.0	
ID= 1 DT= 5.0 min	Ia (mm)=	10.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.21			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.40	6.250	61.64	9.33	1.63
0.167	0.00	3.250	1.40	6.333	8.41	9.42	1.63
0.250	0.00	3.333	1.87	6.417	8.41	9.50	1.63
0.333	1.17	3.417	1.87	6.500	8.41	9.58	1.63
0.417	1.17	3.500	1.87	6.583	8.41	9.67	1.63
0.500	1.17	3.583	1.87	6.667	8.41	9.75	1.63
0.583	1.17	3.667	1.87	6.750	8.41	9.83	1.63
0.667	1.17	3.750	1.87	6.833	3.74	9.92	1.63
0.750	1.17	3.833	1.87	6.917	3.74	10.00	1.63
0.833	1.17	3.917	1.87	7.000	3.74	10.08	1.63
0.917	1.17	4.000	1.87	7.083	3.74	10.17	1.63
1.000	1.17	4.083	1.87	7.167	3.74	10.25	1.63
1.083	1.17	4.167	1.87	7.250	3.74	10.33	0.93
1.167	1.17	4.250	1.87	7.333	2.80	10.42	0.93
1.250	1.17	4.333	2.80	7.417	2.80	10.50	0.93
1.333	1.17	4.417	2.80	7.500	2.80	10.58	0.93
1.417	1.17	4.500	2.80	7.583	2.80	10.67	0.93
1.500	1.17	4.583	2.80	7.667	2.80	10.75	0.93
1.583	1.17	4.667	2.80	7.750	2.80	10.83	0.93
1.667	1.17	4.750	2.80	7.833	2.80	10.92	0.93
1.750	1.17	4.833	3.74	7.917	2.80	11.00	0.93
1.833	1.17	4.917	3.74	8.000	2.80	11.08	0.93
1.917	1.17	5.000	3.74	8.083	2.80	11.17	0.93
2.000	1.17	5.083	3.74	8.167	2.80	11.25	0.93
2.083	1.17	5.167	3.74	8.250	2.80	11.33	0.93
2.167	1.17	5.250	3.74	8.333	1.63	11.42	0.93
2.250	1.17	5.333	5.60	8.417	1.63	11.50	0.93
2.333	1.40	5.417	5.60	8.500	1.63	11.58	0.93
2.417	1.40	5.500	5.60	8.583	1.63	11.67	0.93
2.500	1.40	5.583	5.60	8.667	1.63	11.75	0.93
2.583	1.40	5.667	5.60	8.750	1.63	11.83	0.93
2.667	1.40	5.750	5.60	8.833	1.63	11.92	0.93
2.750	1.40	5.833	22.42	8.917	1.63	12.00	0.93
2.833	1.40	5.917	22.42	9.000	1.63	12.08	0.93
2.917	1.40	6.000	22.42	9.083	1.63	12.17	0.93
3.000	1.40	6.083	61.64	9.167	1.63	12.25	0.93
3.083	1.40	6.167	61.64	9.250	1.63		

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.008 (i)
TIME TO PEAK (hrs)= 6.333
RUNOFF VOLUME (mm)= 4.015
TOTAL RAINFALL (mm)= 46.700
RUNOFF COEFFICIENT = 0.086

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\926f0257
Ptotal= 46.70 mm	Comments: 2-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	1.87	6.75	8.41	10.00	1.63
0.50	1.17	3.75	1.87	7.00	3.74	10.25	1.63
0.75	1.17	4.00	1.87	7.25	3.74	10.50	0.93
1.00	1.17	4.25	1.87	7.50	2.80	10.75	0.93
1.25	1.17	4.50	2.80	7.75	2.80	11.00	0.93
1.50	1.17	4.75	2.80	8.00	2.80	11.25	0.93
1.75	1.17	5.00	3.74	8.25	2.80	11.50	0.93
2.00	1.17	5.25	3.74	8.50	1.63	11.75	0.93
2.25	1.17	5.50	5.60	8.75	1.63	12.00	0.93
2.50	1.40	5.75	5.60	9.00	1.63	12.25	0.93
2.75	1.40	6.00	22.42	9.25	1.63		
3.00	1.40	6.25	61.64	9.50	1.63		
3.25	1.40	6.50	8.41	9.75	1.63		

CALIB					
NASHYD (0017)	Area (ha)=	0.28	Curve Number (CN)=	51.0	
ID= 1 DT= 5.0 min	Ia (mm)=	8.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.17			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.40	6.250	61.64	9.33	1.63
0.167	0.00	3.250	1.40	6.333	8.41	9.42	1.63
0.250	0.00	3.333	1.87	6.417	8.41	9.50	1.63
0.333	1.17	3.417	1.87	6.500	8.41	9.58	1.63
0.417	1.17	3.500	1.87	6.583	8.41	9.67	1.63
0.500	1.17	3.583	1.87	6.667	8.41	9.75	1.63
0.583	1.17	3.667	1.87	6.750	8.41	9.83	1.63
0.667	1.17	3.750	1.87	6.833	3.74	9.92	1.63
0.750	1.17	3.833	1.87	6.917	3.74	10.00	1.63
0.833	1.17	3.917	1.87	7.000	3.74	10.08	1.63
0.917	1.17	4.000	1.87	7.083	3.74	10.17	1.63
1.000	1.17	4.083	1.87	7.167	3.74	10.25	1.63
1.083	1.17	4.167	1.87	7.250	3.74	10.33	0.93
1.167	1.17	4.250	1.87	7.333	2.80	10.42	0.93

1.250	1.17	4.333	2.80	7.417	2.80	10.50	0.93
1.333	1.17	4.417	2.80	7.500	2.80	10.58	0.93
1.417	1.17	4.500	2.80	7.583	2.80	10.67	0.93
1.500	1.17	4.583	2.80	7.667	2.80	10.75	0.93
1.583	1.17	4.667	2.80	7.750	2.80	10.83	0.93
1.667	1.17	4.750	2.80	7.833	2.80	10.92	0.93
1.750	1.17	4.833	3.74	7.917	2.80	11.00	0.93
1.833	1.17	4.917	3.74	8.000	2.80	11.08	0.93
1.917	1.17	5.000	3.74	8.083	2.80	11.17	0.93
2.000	1.17	5.083	3.74	8.167	2.80	11.25	0.93
2.083	1.17	5.167	3.74	8.250	2.80	11.33	0.93
2.167	1.17	5.250	3.74	8.333	1.63	11.42	0.93
2.250	1.17	5.333	5.60	8.417	1.63	11.50	0.93
2.333	1.40	5.417	5.60	8.500	1.63	11.58	0.93
2.417	1.40	5.500	5.60	8.583	1.63	11.67	0.93
2.500	1.40	5.583	5.60	8.667	1.63	11.75	0.93
2.583	1.40	5.667	5.60	8.750	1.63	11.83	0.93
2.667	1.40	5.750	5.60	8.833	1.63	11.92	0.93
2.750	1.40	5.833	22.42	8.917	1.63	12.00	0.93
2.833	1.40	5.917	22.42	9.000	1.63	12.08	0.93
2.917	1.40	6.000	22.42	9.083	1.63	12.17	0.93
3.000	1.40	6.083	61.64	9.167	1.63	12.25	0.93
3.083	1.40	6.167	61.64	9.250	1.63		

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.004 (i)
TIME TO PEAK (hrs)= 6.333
RUNOFF VOLUME (mm)= 5.276
TOTAL RAINFALL (mm)= 46.700
RUNOFF COEFFICIENT = 0.113

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\926f0257
Ptotal= 46.70 mm	Comments: 2-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	1.87	6.75	8.41	10.00	1.63
0.50	1.17	3.75	1.87	7.00	3.74	10.25	1.63
0.75	1.17	4.00	1.87	7.25	3.74	10.50	0.93
1.00	1.17	4.25	1.87	7.50	2.80	10.75	0.93
1.25	1.17	4.50	2.80	7.75	2.80	11.00	0.93
1.50	1.17	4.75	2.80	8.00	2.80	11.25	0.93
1.75	1.17	5.00	3.74	8.25	2.80	11.50	0.93
2.00	1.17	5.25	3.74	8.50	1.63	11.75	0.93
2.25	1.17	5.50	5.60	8.75	1.63	12.00	0.93
2.50	1.40	5.75	5.60	9.00	1.63	12.25	0.93
2.75	1.40	6.00	22.42	9.25	1.63		
3.00	1.40	6.25	61.64	9.50	1.63		
3.25	1.40	6.50	8.41	9.75	1.63		

CALIB NASHYD (0018) ID= 1 DT= 5.0 min	Area (ha)= 24.51	Curve Number (CN)= 52.7
	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.70	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.40	6.250	61.64	9.33	1.63
0.167	0.00	3.250	1.40	6.333	8.41	9.42	1.63
0.250	0.00	3.333	1.87	6.417	8.41	9.50	1.63
0.333	1.17	3.417	1.87	6.500	8.41	9.58	1.63
0.417	1.17	3.500	1.87	6.583	8.41	9.67	1.63
0.500	1.17	3.583	1.87	6.667	8.41	9.75	1.63
0.583	1.17	3.667	1.87	6.750	8.41	9.83	1.63
0.667	1.17	3.750	1.87	6.833	3.74	9.92	1.63
0.750	1.17	3.833	1.87	6.917	3.74	10.00	1.63
0.833	1.17	3.917	1.87	7.000	3.74	10.08	1.63
0.917	1.17	4.000	1.87	7.083	3.74	10.17	1.63
1.000	1.17	4.083	1.87	7.167	3.74	10.25	1.63
1.083	1.17	4.167	1.87	7.250	3.74	10.33	0.93
1.167	1.17	4.250	1.87	7.333	2.80	10.42	0.93
1.250	1.17	4.333	2.80	7.417	2.80	10.50	0.93
1.333	1.17	4.417	2.80	7.500	2.80	10.58	0.93
1.417	1.17	4.500	2.80	7.583	2.80	10.67	0.93
1.500	1.17	4.583	2.80	7.667	2.80	10.75	0.93
1.583	1.17	4.667	2.80	7.750	2.80	10.83	0.93
1.667	1.17	4.750	2.80	7.833	2.80	10.92	0.93
1.750	1.17	4.833	3.74	7.917	2.80	11.00	0.93
1.833	1.17	4.917	3.74	8.000	2.80	11.08	0.93
1.917	1.17	5.000	3.74	8.083	2.80	11.17	0.93
2.000	1.17	5.083	3.74	8.167	2.80	11.25	0.93
2.083	1.17	5.167	3.74	8.250	2.80	11.33	0.93
2.167	1.17	5.250	3.74	8.333	1.63	11.42	0.93
2.250	1.17	5.333	5.60	8.417	1.63	11.50	0.93
2.333	1.40	5.417	5.60	8.500	1.63	11.58	0.93
2.417	1.40	5.500	5.60	8.583	1.63	11.67	0.93
2.500	1.40	5.583	5.60	8.667	1.63	11.75	0.93
2.583	1.40	5.667	5.60	8.750	1.63	11.83	0.93
2.667	1.40	5.750	5.60	8.833	1.63	11.92	0.93
2.750	1.40	5.833	22.42	8.917	1.63	12.00	0.93
2.833	1.40	5.917	22.42	9.000	1.63	12.08	0.93
2.917	1.40	6.000	22.42	9.083	1.63	12.17	0.93
3.000	1.40	6.083	61.64	9.167	1.63	12.25	0.93
3.083	1.40	6.167	61.64	9.250	1.63		

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.183 (i)
TIME TO PEAK (hrs)= 6.917
RUNOFF VOLUME (mm)= 6.448
TOTAL RAINFALL (mm)= 46.700
RUNOFF COEFFICIENT = 0.138

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

```
--------------------------------------------------------------------------------
--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0016):      0.78   0.008     6.33     4.02
      + ID2= 2 (  0017):      0.28   0.004     6.33     5.28
        ================================================
        ID = 3 (  0020):      1.06   0.012     6.33     4.35

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):      1.06   0.012     6.33     4.35
      + ID2= 2 (  0018):     24.51   0.183     6.92     6.45
        ================================================
        ID = 1 (  0020):     25.57   0.187     6.92     6.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
================================================================================
======================

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\237926aa-d465-4d80-a6cc-bcf335aa9399\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\237926aa-d465-4d80-a6cc-bcf335aa9399\scen


DATE: 10-31-2019                          TIME: 10:40:27

USER:
```

COMMENTS: _____

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--------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : 1-2-Year-24-Hour-SCS-Type-II  **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\4d3f0190
| Ptotal= 55.00 mm |    Comments: 2-Year-24-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    1.10 | 12.75    7.92 | 19.00    0.99
                0.50    0.55 |  6.75    1.10 | 13.00    4.07 | 19.25    0.99
                0.75    0.55 |  7.00    1.10 | 13.25    4.07 | 19.50    0.99
                1.00    0.55 |  7.25    1.10 | 13.50    0.77 | 19.75    0.99
                1.25    0.55 |  7.50    1.10 | 13.75    0.77 | 20.00    0.99
                1.50    0.55 |  7.75    1.10 | 14.00    4.51 | 20.25    0.99
                1.75    0.55 |  8.00    1.10 | 14.25    4.51 | 20.50    0.66
                2.00    0.55 |  8.25    1.10 | 14.50    1.65 | 20.75    0.66
                2.25    0.99 |  8.50    1.49 | 14.75    1.65 | 21.00    0.66
                2.50    0.72 |  8.75    1.48 | 15.00    1.65 | 21.25    0.66
                2.75    0.71 |  9.00    1.49 | 15.25    1.65 | 21.50    0.66
                3.00    0.72 |  9.25    1.49 | 15.50    1.65 | 21.75    0.66
                3.25    0.71 |  9.50    1.76 | 15.75    1.65 | 22.00    0.66
                3.50    0.71 |  9.75    1.76 | 16.00    1.65 | 22.25    0.66
                3.75    0.71 | 10.00    1.98 | 16.25    1.65 | 22.50    0.66
                4.00    0.72 | 10.25    1.98 | 16.50    0.99 | 22.75    0.66
                4.25    0.71 | 10.50    2.53 | 16.75    0.99 | 23.00    0.66
                4.50    0.88 | 10.75    2.53 | 17.00    0.99 | 23.25    0.66
                4.75    0.88 | 11.00    3.41 | 17.25    0.99 | 23.50    0.66
                5.00    0.88 | 11.25    3.41 | 17.50    0.99 | 23.75    0.66
                5.25    0.88 | 11.50    5.28 | 17.75    0.99 | 24.00    0.66
                5.50    0.88 | 11.75    5.28 | 18.00    0.99 | 24.25    0.66
                5.75    0.88 | 12.00   22.88 | 18.25    0.99 |
                6.00    0.88 | 12.25   60.72 | 18.50    0.99 |
                6.25    0.88 | 12.50    7.92 | 18.75    0.99 |

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| CALIB            |
| NASHYD   (  0016)|   Area     (ha)=   0.78   Curve Number    (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 6.167    0.88 |12.250   60.72 | 18.33    0.99
```

0.167	0.00	6.250	0.88	12.333	7.93	18.42	0.99
0.250	0.00	6.333	1.10	12.417	7.92	18.50	0.99
0.333	0.55	6.417	1.10	12.500	7.92	18.58	0.99
0.417	0.55	6.500	1.10	12.583	7.92	18.67	0.99
0.500	0.55	6.583	1.10	12.667	7.92	18.75	0.99
0.583	0.55	6.667	1.10	12.750	7.92	18.83	0.99
0.667	0.55	6.750	1.10	12.833	4.07	18.92	0.99
0.750	0.55	6.833	1.10	12.917	4.07	19.00	0.99
0.833	0.55	6.917	1.10	13.000	4.07	19.08	0.99
0.917	0.55	7.000	1.10	13.083	4.07	19.17	0.99
1.000	0.55	7.083	1.10	13.167	4.07	19.25	0.99
1.083	0.55	7.167	1.10	13.250	4.07	19.33	0.99
1.167	0.55	7.250	1.10	13.333	0.77	19.42	0.99
1.250	0.55	7.333	1.10	13.417	0.77	19.50	0.99
1.333	0.55	7.417	1.10	13.500	0.77	19.58	0.99
1.417	0.55	7.500	1.10	13.583	0.77	19.67	0.99
1.500	0.55	7.583	1.10	13.667	0.77	19.75	0.99
1.583	0.55	7.667	1.10	13.750	0.77	19.83	0.99
1.667	0.55	7.750	1.10	13.833	4.51	19.92	0.99
1.750	0.55	7.833	1.10	13.917	4.51	20.00	0.99
1.833	0.55	7.917	1.10	14.000	4.51	20.08	0.99
1.917	0.55	8.000	1.10	14.083	4.51	20.17	0.99
2.000	0.55	8.083	1.10	14.167	4.51	20.25	0.99
2.083	0.99	8.167	1.10	14.250	4.51	20.33	0.66
2.167	0.99	8.250	1.10	14.333	1.65	20.42	0.66
2.250	0.99	8.333	1.49	14.417	1.65	20.50	0.66
2.333	0.71	8.417	1.49	14.500	1.65	20.58	0.66
2.417	0.72	8.500	1.48	14.583	1.65	20.67	0.66
2.500	0.72	8.583	1.48	14.667	1.65	20.75	0.66
2.583	0.71	8.667	1.48	14.750	1.65	20.83	0.66
2.667	0.71	8.750	1.48	14.833	1.65	20.92	0.66
2.750	0.71	8.833	1.49	14.917	1.65	21.00	0.66
2.833	0.71	8.917	1.49	15.000	1.65	21.08	0.66
2.917	0.72	9.000	1.48	15.083	1.65	21.17	0.66
3.000	0.72	9.083	1.49	15.167	1.65	21.25	0.66
3.083	0.71	9.167	1.49	15.250	1.65	21.33	0.66
3.167	0.71	9.250	1.48	15.333	1.65	21.42	0.66
3.250	0.71	9.333	1.76	15.417	1.65	21.50	0.66
3.333	0.71	9.417	1.76	15.500	1.65	21.58	0.66
3.417	0.71	9.500	1.76	15.583	1.65	21.67	0.66
3.500	0.71	9.583	1.76	15.667	1.65	21.75	0.66
3.583	0.71	9.667	1.76	15.750	1.65	21.83	0.66
3.667	0.71	9.750	1.76	15.833	1.65	21.92	0.66
3.750	0.71	9.833	1.98	15.917	1.65	22.00	0.66
3.833	0.71	9.917	1.98	16.000	1.65	22.08	0.66
3.917	0.72	10.000	1.98	16.083	1.65	22.17	0.66
4.000	0.72	10.083	1.98	16.167	1.65	22.25	0.66
4.083	0.71	10.167	1.98	16.250	1.65	22.33	0.66
4.167	0.71	10.250	1.98	16.333	0.99	22.42	0.66
4.250	0.71	10.333	2.53	16.417	0.99	22.50	0.66
4.333	0.88	10.417	2.53	16.500	0.99	22.58	0.66
4.417	0.88	10.500	2.53	16.583	0.99	22.67	0.66
4.500	0.88	10.583	2.53	16.667	0.99	22.75	0.66
4.583	0.88	10.667	2.53	16.750	0.99	22.83	0.66
4.667	0.88	10.750	2.53	16.833	0.99	22.92	0.66
4.750	0.88	10.833	3.41	16.917	0.99	23.00	0.66
4.833	0.88	10.917	3.41	17.000	0.99	23.08	0.66
4.917	0.88	11.000	3.41	17.083	0.99	23.17	0.66
5.000	0.88	11.083	3.41	17.167	0.99	23.25	0.66
5.083	0.88	11.167	3.41	17.250	0.99	23.33	0.66
5.167	0.88	11.250	3.41	17.333	0.99	23.42	0.66
5.250	0.88	11.333	5.28	17.417	0.99	23.50	0.66
5.333	0.88	11.417	5.28	17.500	0.99	23.58	0.66
5.417	0.88	11.500	5.28	17.583	0.99	23.67	0.66
5.500	0.88	11.583	5.28	17.667	0.99	23.75	0.66
5.583	0.88	11.667	5.28	17.750	0.99	23.83	0.66
5.667	0.88	11.750	5.28	17.833	0.99	23.92	0.66
5.750	0.88	11.833	22.88	17.917	0.99	24.00	0.66
5.833	0.88	11.917	22.88	18.000	0.99	24.08	0.66
5.917	0.88	12.000	22.88	18.083	0.99	24.17	0.66
6.000	0.88	12.083	60.72	18.167	0.99	24.25	0.66
6.083	0.88	12.167	60.72	18.250	0.99		

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.010 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 5.891
TOTAL RAINFALL (mm)= 55.000
RUNOFF COEFFICIENT = 0.107

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\4d3f0190
Ptotal= 55.00 mm	Comments: 2-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.10	12.75	7.92	19.00	0.99
0.50	0.55	6.75	1.10	13.00	4.07	19.25	0.99
0.75	0.55	7.00	1.10	13.25	4.07	19.50	0.99
1.00	0.55	7.25	1.10	13.50	0.77	19.75	0.99
1.25	0.55	7.50	1.10	13.75	0.77	20.00	0.99
1.50	0.55	7.75	1.10	14.00	4.51	20.25	0.99
1.75	0.55	8.00	1.10	14.25	4.51	20.50	0.66
2.00	0.55	8.25	1.10	14.50	1.65	20.75	0.66
2.25	0.99	8.50	1.49	14.75	1.65	21.00	0.66
2.50	0.72	8.75	1.48	15.00	1.65	21.25	0.66
2.75	0.71	9.00	1.49	15.25	1.65	21.50	0.66
3.00	0.72	9.25	1.49	15.50	1.65	21.75	0.66
3.25	0.71	9.50	1.76	15.75	1.65	22.00	0.66
3.50	0.71	9.75	1.76	16.00	1.65	22.25	0.66
3.75	0.71	10.00	1.98	16.25	1.65	22.50	0.66
4.00	0.72	10.25	1.98	16.50	0.99	22.75	0.66
4.25	0.71	10.50	2.53	16.75	0.99	23.00	0.66
4.50	0.88	10.75	2.53	17.00	0.99	23.25	0.66
4.75	0.88	11.00	3.41	17.25	0.99	23.50	0.66
5.00	0.88	11.25	3.41	17.50	0.99	23.75	0.66
5.25	0.88	11.50	5.28	17.75	0.99	24.00	0.66
5.50	0.88	11.75	5.28	18.00	0.99	24.25	0.66
5.75	0.88	12.00	22.88	18.25	0.99		
6.00	0.88	12.25	60.72	18.50	0.99		
6.25	0.88	12.50	7.92	18.75	0.99		

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| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.28   Curve Number   (CN)= 51.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17
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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.88	12.250	60.72	18.33	0.99
0.167	0.00	6.250	0.88	12.333	7.93	18.42	0.99
0.250	0.00	6.333	1.10	12.417	7.92	18.50	0.99
0.333	0.55	6.417	1.10	12.500	7.92	18.58	0.99
0.417	0.55	6.500	1.10	12.583	7.92	18.67	0.99
0.500	0.55	6.583	1.10	12.667	7.92	18.75	0.99
0.583	0.55	6.667	1.10	12.750	7.92	18.83	0.99
0.667	0.55	6.750	1.10	12.833	4.07	18.92	0.99
0.750	0.55	6.833	1.10	12.917	4.07	19.00	0.99
0.833	0.55	6.917	1.10	13.000	4.07	19.08	0.99
0.917	0.55	7.000	1.10	13.083	4.07	19.17	0.99
1.000	0.55	7.083	1.10	13.167	4.07	19.25	0.99
1.083	0.55	7.167	1.10	13.250	4.07	19.33	0.99
1.167	0.55	7.250	1.10	13.333	0.77	19.42	0.99
1.250	0.55	7.333	1.10	13.417	0.77	19.50	0.99
1.333	0.55	7.417	1.10	13.500	0.77	19.58	0.99
1.417	0.55	7.500	1.10	13.583	0.77	19.67	0.99
1.500	0.55	7.583	1.10	13.667	0.77	19.75	0.99
1.583	0.55	7.667	1.10	13.750	0.77	19.83	0.99
1.667	0.55	7.750	1.10	13.833	4.51	19.92	0.99
1.750	0.55	7.833	1.10	13.917	4.51	20.00	0.99
1.833	0.55	7.917	1.10	14.000	4.51	20.08	0.99
1.917	0.55	8.000	1.10	14.083	4.51	20.17	0.99
2.000	0.55	8.083	1.10	14.167	4.51	20.25	0.99
2.083	0.99	8.167	1.10	14.250	4.51	20.33	0.66
2.167	0.99	8.250	1.10	14.333	1.65	20.42	0.66
2.250	0.99	8.333	1.49	14.417	1.65	20.50	0.66
2.333	0.71	8.417	1.49	14.500	1.65	20.58	0.66
2.417	0.72	8.500	1.48	14.583	1.65	20.67	0.66
2.500	0.72	8.583	1.48	14.667	1.65	20.75	0.66
2.583	0.71	8.667	1.48	14.750	1.65	20.83	0.66
2.667	0.71	8.750	1.48	14.833	1.65	20.92	0.66
2.750	0.71	8.833	1.49	14.917	1.65	21.00	0.66
2.833	0.71	8.917	1.49	15.000	1.65	21.08	0.66
2.917	0.72	9.000	1.48	15.083	1.65	21.17	0.66
3.000	0.72	9.083	1.49	15.167	1.65	21.25	0.66
3.083	0.71	9.167	1.49	15.250	1.65	21.33	0.66
3.167	0.71	9.250	1.48	15.333	1.65	21.42	0.66
3.250	0.71	9.333	1.76	15.417	1.65	21.50	0.66
3.333	0.71	9.417	1.76	15.500	1.65	21.58	0.66
3.417	0.71	9.500	1.76	15.583	1.65	21.67	0.66
3.500	0.71	9.583	1.76	15.667	1.65	21.75	0.66
3.583	0.71	9.667	1.76	15.750	1.65	21.83	0.66
3.667	0.71	9.750	1.76	15.833	1.65	21.92	0.66
3.750	0.71	9.833	1.98	15.917	1.65	22.00	0.66
3.833	0.71	9.917	1.98	16.000	1.65	22.08	0.66
3.917	0.72	10.000	1.98	16.083	1.65	22.17	0.66
4.000	0.72	10.083	1.98	16.167	1.65	22.25	0.66
4.083	0.71	10.167	1.98	16.250	1.65	22.33	0.66
4.167	0.71	10.250	1.98	16.333	0.99	22.42	0.66
4.250	0.71	10.333	2.53	16.417	0.99	22.50	0.66
4.333	0.88	10.417	2.53	16.500	0.99	22.58	0.66
4.417	0.88	10.500	2.53	16.583	0.99	22.67	0.66
4.500	0.88	10.583	2.53	16.667	0.99	22.75	0.66
4.583	0.88	10.667	2.53	16.750	0.99	22.83	0.66
4.667	0.88	10.750	2.53	16.833	0.99	22.92	0.66
4.750	0.88	10.833	3.41	16.917	0.99	23.00	0.66
4.833	0.88	10.917	3.41	17.000	0.99	23.08	0.66
4.917	0.88	11.000	3.41	17.083	0.99	23.17	0.66
5.000	0.88	11.083	3.41	17.167	0.99	23.25	0.66
5.083	0.88	11.167	3.41	17.250	0.99	23.33	0.66
5.167	0.88	11.250	3.41	17.333	0.99	23.42	0.66
5.250	0.88	11.333	5.28	17.417	0.99	23.50	0.66
5.333	0.88	11.417	5.28	17.500	0.99	23.58	0.66
5.417	0.88	11.500	5.28	17.583	0.99	23.67	0.66
5.500	0.88	11.583	5.28	17.667	0.99	23.75	0.66
5.583	0.88	11.667	5.28	17.750	0.99	23.83	0.66
5.667	0.88	11.750	5.28	17.833	0.99	23.92	0.66
5.750	0.88	11.833	22.88	17.917	0.99	24.00	0.66
5.833	0.88	11.917	22.88	18.000	0.99	24.08	0.66
5.917	0.88	12.000	22.88	18.083	0.99	24.17	0.66
6.000	0.88	12.083	60.72	18.167	0.99	24.25	0.66
6.083	0.88	12.167	60.72	18.250	0.99		

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     Unit Hyd Qpeak  (cms)=   0.063

     PEAK FLOW       (cms)=   0.005 (i)
     TIME TO PEAK    (hrs)=  12.333
     RUNOFF VOLUME    (mm)=   7.562
     TOTAL RAINFALL   (mm)=  55.000
     RUNOFF COEFFICIENT   =   0.137

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

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\4d3f0190
| Ptotal= 55.00 mm |    Comments: 2-Year-24-Hour-SCS-Type-II
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.10	12.75	7.92	19.00	0.99
0.50	0.55	6.75	1.10	13.00	4.07	19.25	0.99
0.75	0.55	7.00	1.10	13.25	4.07	19.50	0.99
1.00	0.55	7.25	1.10	13.50	0.77	19.75	0.99
1.25	0.55	7.50	1.10	13.75	0.77	20.00	0.99
1.50	0.55	7.75	1.10	14.00	4.51	20.25	0.99
1.75	0.55	8.00	1.10	14.25	4.51	20.50	0.66
2.00	0.55	8.25	1.10	14.50	1.65	20.75	0.66
2.25	0.99	8.50	1.49	14.75	1.65	21.00	0.66
2.50	0.72	8.75	1.48	15.00	1.65	21.25	0.66
2.75	0.71	9.00	1.49	15.25	1.65	21.50	0.66
3.00	0.72	9.25	1.49	15.50	1.65	21.75	0.66
3.25	0.71	9.50	1.76	15.75	1.65	22.00	0.66

3.50	0.71	9.75	1.76	16.00	1.65	22.25	0.66
3.75	0.71	10.00	1.98	16.25	1.65	22.50	0.66
4.00	0.72	10.25	1.98	16.50	0.99	22.75	0.66
4.25	0.71	10.50	2.53	16.75	0.99	23.00	0.66
4.50	0.88	10.75	2.53	17.00	0.99	23.25	0.66
4.75	0.88	11.00	3.41	17.25	0.99	23.50	0.66
5.00	0.88	11.25	3.41	17.50	0.99	23.75	0.66
5.25	0.88	11.50	5.28	17.75	0.99	24.00	0.66
5.50	0.88	11.75	5.28	18.00	0.99	24.25	0.66
5.75	0.88	12.00	22.88	18.25	0.99		
6.00	0.88	12.25	60.72	18.50	0.99		
6.25	0.88	12.50	7.92	18.75	0.99		

CALIB			
NASHYD (0018)	Area (ha)= 24.51	Curve Number (CN)= 52.7	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.70		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.88	12.250	60.72	18.33	0.99
0.167	0.00	6.250	0.88	12.333	7.93	18.42	0.99
0.250	0.00	6.333	1.10	12.417	7.92	18.50	0.99
0.333	0.55	6.417	1.10	12.500	7.92	18.58	0.99
0.417	0.55	6.500	1.10	12.583	7.92	18.67	0.99
0.500	0.55	6.583	1.10	12.667	7.92	18.75	0.99
0.583	0.55	6.667	1.10	12.750	7.92	18.83	0.99
0.667	0.55	6.750	1.10	12.833	4.07	18.92	0.99
0.750	0.55	6.833	1.10	12.917	4.07	19.00	0.99
0.833	0.55	6.917	1.10	13.000	4.07	19.08	0.99
0.917	0.55	7.000	1.10	13.083	4.07	19.17	0.99
1.000	0.55	7.083	1.10	13.167	4.07	19.25	0.99
1.083	0.55	7.167	1.10	13.250	4.07	19.33	0.99
1.167	0.55	7.250	1.10	13.333	0.77	19.42	0.99
1.250	0.55	7.333	1.10	13.417	0.77	19.50	0.99
1.333	0.55	7.417	1.10	13.500	0.77	19.58	0.99
1.417	0.55	7.500	1.10	13.583	0.77	19.67	0.99
1.500	0.55	7.583	1.10	13.667	0.77	19.75	0.99
1.583	0.55	7.667	1.10	13.750	0.77	19.83	0.99
1.667	0.55	7.750	1.10	13.833	4.51	19.92	0.99
1.750	0.55	7.833	1.10	13.917	4.51	20.00	0.99
1.833	0.55	7.917	1.10	14.000	4.51	20.08	0.99
1.917	0.55	8.000	1.10	14.083	4.51	20.17	0.99
2.000	0.55	8.083	1.10	14.167	4.51	20.25	0.99
2.083	0.99	8.167	1.10	14.250	4.51	20.33	0.66
2.167	0.99	8.250	1.10	14.333	1.65	20.42	0.66
2.250	0.99	8.333	1.49	14.417	1.65	20.50	0.66
2.333	0.71	8.417	1.49	14.500	1.65	20.58	0.66
2.417	0.72	8.500	1.48	14.583	1.65	20.67	0.66
2.500	0.72	8.583	1.48	14.667	1.65	20.75	0.66
2.583	0.71	8.667	1.48	14.750	1.65	20.83	0.66
2.667	0.71	8.750	1.48	14.833	1.65	20.92	0.66
2.750	0.71	8.833	1.49	14.917	1.65	21.00	0.66
2.833	0.71	8.917	1.49	15.000	1.65	21.08	0.66
2.917	0.72	9.000	1.48	15.083	1.65	21.17	0.66
3.000	0.72	9.083	1.49	15.167	1.65	21.25	0.66
3.083	0.71	9.167	1.49	15.250	1.65	21.33	0.66
3.167	0.71	9.250	1.48	15.333	1.65	21.42	0.66
3.250	0.71	9.333	1.76	15.417	1.65	21.50	0.66
3.333	0.71	9.417	1.76	15.500	1.65	21.58	0.66
3.417	0.71	9.500	1.76	15.583	1.65	21.67	0.66
3.500	0.71	9.583	1.76	15.667	1.65	21.75	0.66
3.583	0.71	9.667	1.76	15.750	1.65	21.83	0.66
3.667	0.71	9.750	1.76	15.833	1.65	21.92	0.66
3.750	0.71	9.833	1.98	15.917	1.65	22.00	0.66
3.833	0.71	9.917	1.98	16.000	1.65	22.08	0.66
3.917	0.72	10.000	1.98	16.083	1.65	22.17	0.66
4.000	0.72	10.083	1.98	16.167	1.65	22.25	0.66
4.083	0.71	10.167	1.98	16.250	1.65	22.33	0.66
4.167	0.71	10.250	1.98	16.333	0.99	22.42	0.66
4.250	0.71	10.333	2.53	16.417	0.99	22.50	0.66
4.333	0.88	10.417	2.53	16.500	0.99	22.58	0.66
4.417	0.88	10.500	2.53	16.583	0.99	22.67	0.66
4.500	0.88	10.583	2.53	16.667	0.99	22.75	0.66
4.583	0.88	10.667	2.53	16.750	0.99	22.83	0.66
4.667	0.88	10.750	2.53	16.833	0.99	22.92	0.66
4.750	0.88	10.833	3.41	16.917	0.99	23.00	0.66
4.833	0.88	10.917	3.41	17.000	0.99	23.08	0.66
4.917	0.88	11.000	3.41	17.083	0.99	23.17	0.66
5.000	0.88	11.083	3.41	17.167	0.99	23.25	0.66
5.083	0.88	11.167	3.41	17.250	0.99	23.33	0.66
5.167	0.88	11.250	3.41	17.333	0.99	23.42	0.66
5.250	0.88	11.333	5.28	17.417	0.99	23.50	0.66
5.333	0.88	11.417	5.28	17.500	0.99	23.58	0.66
5.417	0.88	11.500	5.28	17.583	0.99	23.67	0.66
5.500	0.88	11.583	5.28	17.667	0.99	23.75	0.66
5.583	0.88	11.667	5.28	17.750	0.99	23.83	0.66
5.667	0.88	11.750	5.28	17.833	0.99	23.92	0.66
5.750	0.88	11.833	22.88	17.917	0.99	24.00	0.66
5.833	0.88	11.917	22.88	18.000	0.99	24.08	0.66
5.917	0.88	12.000	22.88	18.083	0.99	24.17	0.66
6.000	0.88	12.083	60.72	18.167	0.99	24.25	0.66
6.083	0.88	12.167	60.72	18.250	0.99		

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.213 (i)
TIME TO PEAK (hrs)= 12.917
RUNOFF VOLUME (mm)= 8.993
TOTAL RAINFALL (mm)= 55.000
RUNOFF COEFFICIENT = 0.164

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

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0016):	0.78	0.010	12.33	5.89
	+ ID2= 2 (0017):	0.28	0.005	12.33	7.56

```
        ID = 3 (  0020):     1.06   0.015    12.33     6.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     1.06   0.015    12.33     6.33
      + ID2= 2 (  0018):    24.51   0.213    12.92     8.99
        ====================================================
        ID = 1 (  0020):    25.57   0.217    12.92     8.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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DATE: 10-31-2019                          TIME: 10:40:27

USER:


COMMENTS: _____________________________________________________

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  ***********************************************
  ** SIMULATION : 1-2-Year-4-Hour-Chicago-Barri **
  ***********************************************

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\5aeaad13
| Ptotal= 36.96 mm |    Comments: 2-Year-4-Hour-Chicago
--------------------
                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.17    2.47 |  1.17   18.78 |  2.17    5.73 |  3.17    2.92
                  0.33    2.82 |  1.33   83.11 |  2.33    4.89 |  3.33    2.72
                  0.50    3.31 |  1.50   24.57 |  2.50    4.28 |  3.50    2.55
                  0.67    4.05 |  1.67   13.01 |  2.67    3.82 |  3.67    2.39
                  0.83    5.30 |  1.83    9.01 |  2.83    3.46 |  3.83    2.26
                  1.00    7.98 |  2.00    6.97 |  3.00    3.17 |  4.00    2.15

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| CALIB            |
| NASHYD   (  0016)|   Area     (ha)=   0.78   Curve Number    (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.083    2.47 | 1.083   18.78 | 2.083    5.73 |  3.08    2.92
                 0.167    2.47 | 1.167   18.78 | 2.167    5.73 |  3.17    2.93
                 0.250    2.82 | 1.250   83.11 | 2.250    4.89 |  3.25    2.72
                 0.333    2.82 | 1.333   83.11 | 2.333    4.89 |  3.33    2.72
                 0.417    3.31 | 1.417   24.57 | 2.417    4.28 |  3.42    2.55
                 0.500    3.31 | 1.500   24.57 | 2.500    4.28 |  3.50    2.55
                 0.583    4.05 | 1.583   13.01 | 2.583    3.82 |  3.58    2.39
                 0.667    4.05 | 1.667   13.01 | 2.667    3.82 |  3.67    2.39
                 0.750    5.30 | 1.750    9.01 | 2.750    3.46 |  3.75    2.26
                 0.833    5.30 | 1.833    9.01 | 2.833    3.46 |  3.83    2.26
                 0.917    7.98 | 1.917    6.97 | 2.917    3.17 |  3.92    2.15
                 1.000    7.98 | 2.000    6.97 | 3.000    3.17 |  4.00    2.15

     Unit Hyd Qpeak  (cms)=   0.142

     PEAK FLOW       (cms)=   0.004 (i)
     TIME TO PEAK    (hrs)=   1.583
     RUNOFF VOLUME    (mm)=   2.231
     TOTAL RAINFALL   (mm)=  36.955
     RUNOFF COEFFICIENT   =   0.060

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

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\5aeaad13
```

| Ptotal= 36.96 mm | Comments: 2-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.47	1.17	18.78	2.17	5.73	3.17	2.92
0.33	2.82	1.33	83.11	2.33	4.89	3.33	2.72
0.50	3.31	1.50	24.57	2.50	4.28	3.50	2.55
0.67	4.05	1.67	13.01	2.67	3.82	3.67	2.39
0.83	5.30	1.83	9.01	2.83	3.46	3.83	2.26
1.00	7.98	2.00	6.97	3.00	3.17	4.00	2.15

CALIB	
NASHYD (0017)	Area (ha)= 0.28 Curve Number (CN)= 51.0
ID= 1 DT= 5.0 min	Ia (mm)= 8.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.17

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.47	1.083	18.78	2.083	5.73	3.08	2.92
0.167	2.47	1.167	18.78	2.167	5.73	3.17	2.93
0.250	2.82	1.250	83.11	2.250	4.89	3.25	2.72
0.333	2.82	1.333	83.11	2.333	4.89	3.33	2.72
0.417	3.31	1.417	24.57	2.417	4.28	3.42	2.55
0.500	3.31	1.500	24.57	2.500	4.28	3.50	2.55
0.583	4.05	1.583	13.01	2.583	3.82	3.58	2.39
0.667	4.05	1.667	13.01	2.667	3.82	3.67	2.39
0.750	5.30	1.750	9.01	2.750	3.46	3.75	2.26
0.833	5.30	1.833	9.01	2.833	3.46	3.83	2.26
0.917	7.98	1.917	6.97	2.917	3.17	3.92	2.15
1.000	7.98	2.000	6.97	3.000	3.17	4.00	2.15

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.002 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 3.059
TOTAL RAINFALL (mm)= 36.955
RUNOFF COEFFICIENT = 0.083

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\5aeaad13
Ptotal= 36.96 mm	Comments: 2-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.47	1.17	18.78	2.17	5.73	3.17	2.92
0.33	2.82	1.33	83.11	2.33	4.89	3.33	2.72
0.50	3.31	1.50	24.57	2.50	4.28	3.50	2.55
0.67	4.05	1.67	13.01	2.67	3.82	3.67	2.39
0.83	5.30	1.83	9.01	2.83	3.46	3.83	2.26
1.00	7.98	2.00	6.97	3.00	3.17	4.00	2.15

CALIB	
NASHYD (0018)	Area (ha)= 24.51 Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.70

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.47	1.083	18.78	2.083	5.73	3.08	2.92
0.167	2.47	1.167	18.78	2.167	5.73	3.17	2.93
0.250	2.82	1.250	83.11	2.250	4.89	3.25	2.72
0.333	2.82	1.333	83.11	2.333	4.89	3.33	2.72
0.417	3.31	1.417	24.57	2.417	4.28	3.42	2.55
0.500	3.31	1.500	24.57	2.500	4.28	3.50	2.55
0.583	4.05	1.583	13.01	2.583	3.82	3.58	2.39
0.667	4.05	1.667	13.01	2.667	3.82	3.67	2.39
0.750	5.30	1.750	9.01	2.750	3.46	3.75	2.26
0.833	5.30	1.833	9.01	2.833	3.46	3.83	2.26
0.917	7.98	1.917	6.97	2.917	3.17	3.92	2.15
1.000	7.98	2.000	6.97	3.000	3.17	4.00	2.15

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.121 (i)
TIME TO PEAK (hrs)= 2.250
RUNOFF VOLUME (mm)= 3.928
TOTAL RAINFALL (mm)= 36.955
RUNOFF COEFFICIENT = 0.106

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

ADD HYD (0020)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0016):	0.78	0.004	1.58	2.23
	+ ID2= 2 (0017):	0.28	0.002	1.50	3.06
	ID = 3 (0020):	1.06	0.006	1.58	2.45

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1					

```
--------------------          (ha)     (cms)     (hrs)      (mm)
       ID1= 3 (  0020):      1.06     0.006      1.58      2.45
     + ID2= 2 (  0018):     24.51     0.121      2.25      3.93
       ================================================
       ID = 1 (  0020):     25.57     0.124      2.25      3.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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DATE: 10-31-2019                          TIME: 10:40:32

USER:



COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 1-2-Year-4-Hour-Chicago-MTO   **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 384.902
| Ptotal= 33.38 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

      TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
       hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
      0.17    2.81 |  1.17   13.28 |'  2.17    5.55 |  3.17    3.23
      0.33    3.14 |  1.33   76.98 |'  2.33    4.90 |  3.33    3.04
      0.50    3.58 |  1.50   16.30 |'  2.50    4.41 |  3.50    2.88
      0.67    4.21 |  1.67   10.28 |'  2.67    4.03 |  3.67    2.74
      0.83    5.22 |  1.83    7.84 |'  2.83    3.71 |  3.83    2.61
      1.00    7.14 |  2.00    6.46 |'  3.00    3.45 |  4.00    2.50

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--------------------
| CALIB            |
| NASHYD   (  0016)|   Area     (ha)=   0.78   Curve Number    (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
      TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
       hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
     0.083    2.81 | 1.083   13.28 | 2.083    5.55 |  3.08    3.23
     0.167    2.81 | 1.167   13.28 | 2.167    5.55 |  3.17    3.23
     0.250    3.14 | 1.250   76.98 | 2.250    4.90 |  3.25    3.04
     0.333    3.14 | 1.333   76.98 | 2.333    4.90 |  3.33    3.04
     0.417    3.58 | 1.417   16.30 | 2.417    4.41 |  3.42    2.88
     0.500    3.58 | 1.500   16.30 | 2.500    4.41 |  3.50    2.88
     0.583    4.21 | 1.583   10.28 | 2.583    4.03 |  3.58    2.74
     0.667    4.21 | 1.667   10.28 | 2.667    4.03 |  3.67    2.74
     0.750    5.22 | 1.750    7.84 | 2.750    3.71 |  3.75    2.61
     0.833    5.22 | 1.833    7.84 | 2.833    3.71 |  3.83    2.61
     0.917    7.14 | 1.917    6.46 | 2.917    3.45 |  3.92    2.50
     1.000    7.14 | 2.000    6.46 | 3.000    3.45 |  4.00    2.50

    Unit Hyd Qpeak  (cms)=   0.142

    PEAK FLOW       (cms)=   0.002 (i)
    TIME TO PEAK    (hrs)=   1.583
    RUNOFF VOLUME    (mm)=   1.697
    TOTAL RAINFALL   (mm)=  33.380
    RUNOFF COEFFICIENT   =   0.051

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

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 384.902
| Ptotal= 33.38 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

      TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.81	1.17	13.28	2.17	5.55	3.17	3.23
0.33	3.14	1.33	76.98	2.33	4.90	3.33	3.04
0.50	3.58	1.50	16.30	2.50	4.41	3.50	2.88
0.67	4.21	1.67	10.28	2.67	4.03	3.67	2.74
0.83	5.22	1.83	7.84	2.83	3.71	3.83	2.61
1.00	7.14	2.00	6.46	3.00	3.45	4.00	2.50

CALIB			
NASHYD (0017)	Area (ha)=	0.28	Curve Number (CN)= 51.0
ID= 1 DT= 5.0 min	Ia (mm)=	8.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.17	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.81	1.083	13.28	2.083	5.55	3.08	3.23
0.167	2.81	1.167	13.28	2.167	5.55	3.17	3.23
0.250	3.14	1.250	76.98	2.250	4.90	3.25	3.04
0.333	3.14	1.333	76.98	2.333	4.90	3.33	3.04
0.417	3.58	1.417	16.30	2.417	4.41	3.42	2.88
0.500	3.58	1.500	16.30	2.500	4.41	3.50	2.88
0.583	4.21	1.583	10.28	2.583	4.03	3.58	2.74
0.667	4.21	1.667	10.28	2.667	4.03	3.67	2.74
0.750	5.22	1.750	7.84	2.750	3.71	3.75	2.61
0.833	5.22	1.833	7.84	2.833	3.71	3.83	2.61
0.917	7.14	1.917	6.46	2.917	3.45	3.92	2.50
1.000	7.14	2.000	6.46	3.000	3.45	4.00	2.50

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.002 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 2.381
TOTAL RAINFALL (mm)= 33.380
RUNOFF COEFFICIENT = 0.071

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

CHICAGO STORM	IDF curve parameters:	A=	384.902
Ptotal= 33.38 mm		B=	0.000
		C=	0.699
	used in: INTENSITY = A / (t + B)^C		

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.81	1.17	13.28	2.17	5.55	3.17	3.23
0.33	3.14	1.33	76.98	2.33	4.90	3.33	3.04
0.50	3.58	1.50	16.30	2.50	4.41	3.50	2.88
0.67	4.21	1.67	10.28	2.67	4.03	3.67	2.74
0.83	5.22	1.83	7.84	2.83	3.71	3.83	2.61
1.00	7.14	2.00	6.46	3.00	3.45	4.00	2.50

CALIB			
NASHYD (0018)	Area (ha)=	24.51	Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.70	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.81	1.083	13.28	2.083	5.55	3.08	3.23
0.167	2.81	1.167	13.28	2.167	5.55	3.17	3.23
0.250	3.14	1.250	76.98	2.250	4.90	3.25	3.04
0.333	3.14	1.333	76.98	2.333	4.90	3.33	3.04
0.417	3.58	1.417	16.30	2.417	4.41	3.42	2.88
0.500	3.58	1.500	16.30	2.500	4.41	3.50	2.88
0.583	4.21	1.583	10.28	2.583	4.03	3.58	2.74
0.667	4.21	1.667	10.28	2.667	4.03	3.67	2.74
0.750	5.22	1.750	7.84	2.750	3.71	3.75	2.61
0.833	5.22	1.833	7.84	2.833	3.71	3.83	2.61
0.917	7.14	1.917	6.46	2.917	3.45	3.92	2.50
1.000	7.14	2.000	6.46	3.000	3.45	4.00	2.50

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.087 (i)
TIME TO PEAK (hrs)= 2.333
RUNOFF VOLUME (mm)= 3.142
TOTAL RAINFALL (mm)= 33.380
RUNOFF COEFFICIENT = 0.094

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

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0016):	0.78	0.002	1.58	1.70
	+ ID2= 2 (0017):	0.28	0.002	1.50	2.38
	==========				
	ID = 3 (0020):	1.06	0.004	1.58	1.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1					

```
--------------------          (ha)    (cms)    (hrs)      (mm)
       ID1= 3 (  0020):     1.06   0.004     1.58     1.88
     + ID2= 2 (  0018):    24.51   0.087     2.33     3.14
       ================================================
       ID = 1 (  0020):    25.57   0.089     2.33     3.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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DATE: 10-31-2019                          TIME: 10:40:28

USER:


COMMENTS: _____________________________________________________


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  ***********************************************
  ** SIMULATION : 1-2-Year-6-Hour-SCS-Type-II   **
  ***********************************************


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|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\3038ab57
| Ptotal= 42.30 mm |    Comments: 2-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    4.23 |  3.75    9.31 |  5.50    1.69
                0.50    1.69 |  2.25    4.23 |  4.00    4.23 |  5.75    1.69
                0.75    1.69 |  2.50    5.08 |  4.25    4.23 |  6.00    1.69
                1.00    2.54 |  2.75    5.08 |  4.50    3.38 |  6.25    1.69
                1.25    2.54 |  3.00   25.38 |  4.75    3.38 |
                1.50    2.54 |  3.25   65.99 |  5.00    2.54 |
                1.75    2.54 |  3.50    9.31 |  5.25    2.54 |

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| CALIB            |
| NASHYD   (  0016)|   Area     (ha)=   0.78   Curve Number    (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    2.54 | 3.250   65.99 |  4.83    2.54
               0.167    0.00 | 1.750    2.54 | 3.333    9.31 |  4.92    2.54
               0.250    0.00 | 1.833    4.23 | 3.417    9.31 |  5.00    2.54
               0.333    1.69 | 1.917    4.23 | 3.500    9.31 |  5.08    2.54
               0.417    1.69 | 2.000    4.23 | 3.583    9.31 |  5.17    2.54
               0.500    1.69 | 2.083    4.23 | 3.667    9.31 |  5.25    2.54
               0.583    1.69 | 2.167    4.23 | 3.750    9.31 |  5.33    1.69
               0.667    1.69 | 2.250    4.23 | 3.833    4.23 |  5.42    1.69
               0.750    1.69 | 2.333    5.08 | 3.917    4.23 |  5.50    1.69
               0.833    2.54 | 2.417    5.08 | 4.000    4.23 |  5.58    1.69
               0.917    2.54 | 2.500    5.08 | 4.083    4.23 |  5.67    1.69
               1.000    2.54 | 2.583    5.08 | 4.167    4.23 |  5.75    1.69
               1.083    2.54 | 2.667    5.08 | 4.250    4.23 |  5.83    1.69
               1.167    2.54 | 2.750    5.08 | 4.333    3.38 |  5.92    1.69
               1.250    2.54 | 2.833   25.38 | 4.417    3.38 |  6.00    1.69
               1.333    2.54 | 2.917   25.38 | 4.500    3.38 |  6.08    1.69
               1.417    2.54 | 3.000   25.38 | 4.583    3.38 |  6.17    1.69
               1.500    2.54 | 3.083   65.99 | 4.667    3.38 |  6.25    1.69
               1.583    2.54 | 3.167   65.99 | 4.750    3.38 |

    Unit Hyd Qpeak  (cms)=   0.142

    PEAK FLOW       (cms)=   0.007 (i)
    TIME TO PEAK    (hrs)=   3.333
    RUNOFF VOLUME    (mm)=   3.151
    TOTAL RAINFALL   (mm)=  42.300
    RUNOFF COEFFICIENT   =   0.075

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

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\3038ab57
| Ptotal= 42.30 mm |    Comments: 2-Year-6-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	4.23	3.75	9.31	5.50	1.69
0.50	1.69	2.25	4.23	4.00	4.23	5.75	1.69
0.75	1.69	2.50	5.08	4.25	4.23	6.00	1.69
1.00	2.54	2.75	5.08	4.50	3.38	6.25	1.69
1.25	2.54	3.00	25.38	4.75	3.38		
1.50	2.54	3.25	65.99	5.00	2.54		
1.75	2.54	3.50	9.31	5.25	2.54		

```
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.28   Curve Number   (CN)= 51.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.54	3.250	65.99	4.83	2.54
0.167	0.00	1.750	2.54	3.333	9.31	4.92	2.54
0.250	0.00	1.833	4.23	3.417	9.31	5.00	2.54
0.333	1.69	1.917	4.23	3.500	9.31	5.08	2.54
0.417	1.69	2.000	4.23	3.583	9.31	5.17	2.54
0.500	1.69	2.083	4.23	3.667	9.31	5.25	2.54
0.583	1.69	2.167	4.23	3.750	9.31	5.33	1.69
0.667	1.69	2.250	4.23	3.833	4.23	5.42	1.69
0.750	1.69	2.333	5.08	3.917	4.23	5.50	1.69
0.833	2.54	2.417	5.08	4.000	4.23	5.58	1.69
0.917	2.54	2.500	5.08	4.083	4.23	5.67	1.69
1.000	2.54	2.583	5.08	4.167	4.23	5.75	1.69
1.083	2.54	2.667	5.08	4.250	4.23	5.83	1.69
1.167	2.54	2.750	5.08	4.333	3.38	5.92	1.69
1.250	2.54	2.833	25.38	4.417	3.38	6.00	1.69
1.333	2.54	2.917	25.38	4.500	3.38	6.08	1.69
1.417	2.54	3.000	25.38	4.583	3.38	6.17	1.69
1.500	2.54	3.083	65.99	4.667	3.38	6.25	1.69
1.583	2.54	3.167	65.99	4.750	3.38		

```
    Unit Hyd Qpeak  (cms)=   0.063

    PEAK FLOW       (cms)=   0.004 (i)
    TIME TO PEAK    (hrs)=   3.333
    RUNOFF VOLUME    (mm)=   4.210
    TOTAL RAINFALL   (mm)=  42.300
    RUNOFF COEFFICIENT   =   0.100

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

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\3038ab57
| Ptotal= 42.30 mm |    Comments: 2-Year-6-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	4.23	3.75	9.31	5.50	1.69
0.50	1.69	2.25	4.23	4.00	4.23	5.75	1.69
0.75	1.69	2.50	5.08	4.25	4.23	6.00	1.69
1.00	2.54	2.75	5.08	4.50	3.38	6.25	1.69
1.25	2.54	3.00	25.38	4.75	3.38		
1.50	2.54	3.25	65.99	5.00	2.54		
1.75	2.54	3.50	9.31	5.25	2.54		

```
--------------------
| CALIB            |
| NASHYD   (  0018)|   Area    (ha)=  24.51   Curve Number   (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.54	3.250	65.99	4.83	2.54
0.167	0.00	1.750	2.54	3.333	9.31	4.92	2.54
0.250	0.00	1.833	4.23	3.417	9.31	5.00	2.54
0.333	1.69	1.917	4.23	3.500	9.31	5.08	2.54
0.417	1.69	2.000	4.23	3.583	9.31	5.17	2.54
0.500	1.69	2.083	4.23	3.667	9.31	5.25	2.54
0.583	1.69	2.167	4.23	3.750	9.31	5.33	1.69
0.667	1.69	2.250	4.23	3.833	4.23	5.42	1.69
0.750	1.69	2.333	5.08	3.917	4.23	5.50	1.69
0.833	2.54	2.417	5.08	4.000	4.23	5.58	1.69
0.917	2.54	2.500	5.08	4.083	4.23	5.67	1.69
1.000	2.54	2.583	5.08	4.167	4.23	5.75	1.69
1.083	2.54	2.667	5.08	4.250	4.23	5.83	1.69
1.167	2.54	2.750	5.08	4.333	3.38	5.92	1.69
1.250	2.54	2.833	25.38	4.417	3.38	6.00	1.69
1.333	2.54	2.917	25.38	4.500	3.38	6.08	1.69
1.417	2.54	3.000	25.38	4.583	3.38	6.17	1.69
1.500	2.54	3.083	65.99	4.667	3.38	6.25	1.69
1.583	2.54	3.167	65.99	4.750	3.38		

```
    Unit Hyd Qpeak  (cms)=   1.337

    PEAK FLOW       (cms)=   0.173 (i)
    TIME TO PEAK    (hrs)=   4.000
    RUNOFF VOLUME    (mm)=   5.245
    TOTAL RAINFALL   (mm)=  42.300
    RUNOFF COEFFICIENT   =   0.124
```

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

ADD HYD (0020)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0016):		0.78	0.007	3.33	3.15
+ ID2= 2 (0017):		0.28	0.004	3.33	4.21
ID = 3 (0020):		1.06	0.011	3.33	3.43

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)					
3 + 2 = 1		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0020):		1.06	0.011	3.33	3.43
+ ID2= 2 (0018):		24.51	0.173	4.00	5.24
ID = 1 (0020):		25.57	0.176	3.92	5.17

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

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

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***** D E T A I L E D O U T P U T *****

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DATE: 10-31-2019 TIME: 10:40:30

USER:

COMMENTS: _____

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  ** SIMULATION : 2-5-Year-12-Hour-SCS-Type-II  **
  ********************************************
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READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\8c2f7a62
Ptotal= 64.30 mm	Comments: 5-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.57	6.75	11.57	10.00	2.25
0.50	1.61	3.75	2.57	7.00	5.14	10.25	2.25
0.75	1.61	4.00	2.57	7.25	5.14	10.50	1.29
1.00	1.61	4.25	2.57	7.50	3.86	10.75	1.29
1.25	1.61	4.50	3.86	7.75	3.86	11.00	1.29
1.50	1.61	4.75	3.86	8.00	3.86	11.25	1.29
1.75	1.61	5.00	5.14	8.25	3.86	11.50	1.29
2.00	1.61	5.25	5.14	8.50	2.25	11.75	1.29
2.25	1.61	5.50	7.72	8.75	2.25	12.00	1.29
2.50	1.93	5.75	7.72	9.00	2.25	12.25	1.29
2.75	1.93	6.00	30.86	9.25	2.25		
3.00	1.93	6.25	84.88	9.50	2.25		
3.25	1.93	6.50	11.57	9.75	2.25		

CALIB					
NASHYD (0016)		Area	(ha)=	0.78	Curve Number (CN)= 46.0
ID= 1 DT= 5.0 min		Ia	(mm)=	10.00	# of Linear Res.(N)= 3.00
		U.H. Tp(hrs)=		0.21	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.93	6.250	84.87	9.33	2.25
0.167	0.00	3.250	1.93	6.333	11.57	9.42	2.25
0.250	0.00	3.333	2.57	6.417	11.57	9.50	2.25
0.333	1.61	3.417	2.57	6.500	11.57	9.58	2.25
0.417	1.61	3.500	2.57	6.583	11.57	9.67	2.25
0.500	1.61	3.583	2.57	6.667	11.57	9.75	2.25
0.583	1.61	3.667	2.57	6.750	11.57	9.83	2.25
0.667	1.61	3.750	2.57	6.833	5.14	9.92	2.25
0.750	1.61	3.833	2.57	6.917	5.14	10.00	2.25
0.833	1.61	3.917	2.57	7.000	5.14	10.08	2.25
0.917	1.61	4.000	2.57	7.083	5.14	10.17	2.25

1.000	1.61	4.083	2.57	7.167	5.14	10.25	2.25
1.083	1.61	4.167	2.57	7.250	5.14	10.33	1.29
1.167	1.61	4.250	2.57	7.333	3.86	10.42	1.29
1.250	1.61	4.333	3.86	7.417	3.86	10.50	1.29
1.333	1.61	4.417	3.86	7.500	3.86	10.58	1.29
1.417	1.61	4.500	3.86	7.583	3.86	10.67	1.29
1.500	1.61	4.583	3.86	7.667	3.86	10.75	1.29
1.583	1.61	4.667	3.86	7.750	3.86	10.83	1.29
1.667	1.61	4.750	3.86	7.833	3.86	10.92	1.29
1.750	1.61	4.833	5.14	7.917	3.86	11.00	1.29
1.833	1.61	4.917	5.14	8.000	3.86	11.08	1.29
1.917	1.61	5.000	5.14	8.083	3.86	11.17	1.29
2.000	1.61	5.083	5.14	8.167	3.86	11.25	1.29
2.083	1.61	5.167	5.14	8.250	3.86	11.33	1.29
2.167	1.61	5.250	5.14	8.333	2.25	11.42	1.29
2.250	1.61	5.333	7.72	8.417	2.25	11.50	1.29
2.333	1.93	5.417	7.72	8.500	2.25	11.58	1.29
2.417	1.93	5.500	7.72	8.583	2.25	11.67	1.29
2.500	1.93	5.583	7.72	8.667	2.25	11.75	1.29
2.583	1.93	5.667	7.72	8.750	2.25	11.83	1.29
2.667	1.93	5.750	7.72	8.833	2.25	11.92	1.29
2.750	1.93	5.833	30.86	8.917	2.25	12.00	1.29
2.833	1.93	5.917	30.86	9.000	2.25	12.08	1.29
2.917	1.93	6.000	30.87	9.083	2.25	12.17	1.29
3.000	1.93	6.083	84.88	9.167	2.25	12.25	1.29
3.083	1.93	6.167	84.88	9.250	2.25		

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.017 (i)
TIME TO PEAK (hrs)= 6.333
RUNOFF VOLUME (mm)= 8.351
TOTAL RAINFALL (mm)= 64.300
RUNOFF COEFFICIENT = 0.130

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\8c2f7a62
Ptotal= 64.30 mm	Comments: 5-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.57	6.75	11.57	10.00	2.25
0.50	1.61	3.75	2.57	7.00	5.14	10.25	2.25
0.75	1.61	4.00	2.57	7.25	5.14	10.50	1.29
1.00	1.61	4.25	2.57	7.50	3.86	10.75	1.29
1.25	1.61	4.50	3.86	7.75	3.86	11.00	1.29
1.50	1.61	4.75	3.86	8.00	3.86	11.25	1.29
1.75	1.61	5.00	5.14	8.25	3.86	11.50	1.29
2.00	1.61	5.25	5.14	8.50	2.25	11.75	1.29
2.25	1.61	5.50	7.72	8.75	2.25	12.00	1.29
2.50	1.93	5.75	7.72	9.00	2.25	12.25	1.29
2.75	1.93	6.00	30.86	9.25	2.25		
3.00	1.93	6.25	84.88	9.50	2.25		
3.25	1.93	6.50	11.57	9.75	2.25		

CALIB NASHYD (0017) ID= 1 DT= 5.0 min	Area (ha)= 0.28	Curve Number (CN)= 51.0
	Ia (mm)= 8.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.17	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.93	6.250	84.87	9.33	2.25
0.167	0.00	3.250	1.93	6.333	11.57	9.42	2.25
0.250	0.00	3.333	2.57	6.417	11.57	9.50	2.25
0.333	1.61	3.417	2.57	6.500	11.57	9.58	2.25
0.417	1.61	3.500	2.57	6.583	11.57	9.67	2.25
0.500	1.61	3.583	2.57	6.667	11.57	9.75	2.25
0.583	1.61	3.667	2.57	6.750	11.57	9.83	2.25
0.667	1.61	3.750	2.57	6.833	5.14	9.92	2.25
0.750	1.61	3.833	2.57	6.917	5.14	10.00	2.25
0.833	1.61	3.917	2.57	7.000	5.14	10.08	2.25
0.917	1.61	4.000	2.57	7.083	5.14	10.17	2.25
1.000	1.61	4.083	2.57	7.167	5.14	10.25	2.25
1.083	1.61	4.167	2.57	7.250	5.14	10.33	1.29
1.167	1.61	4.250	2.57	7.333	3.86	10.42	1.29
1.250	1.61	4.333	3.86	7.417	3.86	10.50	1.29
1.333	1.61	4.417	3.86	7.500	3.86	10.58	1.29
1.417	1.61	4.500	3.86	7.583	3.86	10.67	1.29
1.500	1.61	4.583	3.86	7.667	3.86	10.75	1.29
1.583	1.61	4.667	3.86	7.750	3.86	10.83	1.29
1.667	1.61	4.750	3.86	7.833	3.86	10.92	1.29
1.750	1.61	4.833	5.14	7.917	3.86	11.00	1.29
1.833	1.61	4.917	5.14	8.000	3.86	11.08	1.29
1.917	1.61	5.000	5.14	8.083	3.86	11.17	1.29
2.000	1.61	5.083	5.14	8.167	3.86	11.25	1.29
2.083	1.61	5.167	5.14	8.250	3.86	11.33	1.29
2.167	1.61	5.250	5.14	8.333	2.25	11.42	1.29
2.250	1.61	5.333	7.72	8.417	2.25	11.50	1.29
2.333	1.93	5.417	7.72	8.500	2.25	11.58	1.29
2.417	1.93	5.500	7.72	8.583	2.25	11.67	1.29
2.500	1.93	5.583	7.72	8.667	2.25	11.75	1.29
2.583	1.93	5.667	7.72	8.750	2.25	11.83	1.29
2.667	1.93	5.750	7.72	8.833	2.25	11.92	1.29
2.750	1.93	5.833	30.86	8.917	2.25	12.00	1.29
2.833	1.93	5.917	30.86	9.000	2.25	12.08	1.29
2.917	1.93	6.000	30.87	9.083	2.25	12.17	1.29
3.000	1.93	6.083	84.88	9.167	2.25	12.25	1.29
3.083	1.93	6.167	84.88	9.250	2.25		

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.009 (i)
TIME TO PEAK (hrs)= 6.333
RUNOFF VOLUME (mm)= 10.514
TOTAL RAINFALL (mm)= 64.300
RUNOFF COEFFICIENT = 0.164

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\8c2f7a62
Ptotal= 64.30 mm	Comments: 5-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.57	6.75	11.57	10.00	2.25
0.50	1.61	3.75	2.57	7.00	5.14	10.25	2.25
0.75	1.61	4.00	2.57	7.25	5.14	10.50	1.29
1.00	1.61	4.25	2.57	7.50	3.86	10.75	1.29
1.25	1.61	4.50	3.86	7.75	3.86	11.00	1.29
1.50	1.61	4.75	3.86	8.00	3.86	11.25	1.29
1.75	1.61	5.00	5.14	8.25	3.86	11.50	1.29
2.00	1.61	5.25	5.14	8.50	2.25	11.75	1.29
2.25	1.61	5.50	7.72	8.75	2.25	12.00	1.29
2.50	1.93	5.75	7.72	9.00	2.25	12.25	1.29
2.75	1.93	6.00	30.86	9.25	2.25		
3.00	1.93	6.25	84.88	9.50	2.25		
3.25	1.93	6.50	11.57	9.75	2.25		

CALIB	
NASHYD (0018)	Area (ha)= 24.51 Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.70

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.93	6.250	84.87	9.33	2.25
0.167	0.00	3.250	1.93	6.333	11.57	9.42	2.25
0.250	0.00	3.333	2.57	6.417	11.57	9.50	2.25
0.333	1.61	3.417	2.57	6.500	11.57	9.58	2.25
0.417	1.61	3.500	2.57	6.583	11.57	9.67	2.25
0.500	1.61	3.583	2.57	6.667	11.57	9.75	2.25
0.583	1.61	3.667	2.57	6.750	11.57	9.83	2.25
0.667	1.61	3.750	2.57	6.833	5.14	9.92	2.25
0.750	1.61	3.833	2.57	6.917	5.14	10.00	2.25
0.833	1.61	3.917	2.57	7.000	5.14	10.08	2.25
0.917	1.61	4.000	2.57	7.083	5.14	10.17	2.25
1.000	1.61	4.083	2.57	7.167	5.14	10.25	2.25
1.083	1.61	4.167	2.57	7.250	5.14	10.33	1.29
1.167	1.61	4.250	2.57	7.333	3.86	10.42	1.29
1.250	1.61	4.333	3.86	7.417	3.86	10.50	1.29
1.333	1.61	4.417	3.86	7.500	3.86	10.58	1.29
1.417	1.61	4.500	3.86	7.583	3.86	10.67	1.29
1.500	1.61	4.583	3.86	7.667	3.86	10.75	1.29
1.583	1.61	4.667	3.86	7.750	3.86	10.83	1.29
1.667	1.61	4.750	3.86	7.833	3.86	10.92	1.29
1.750	1.61	4.833	5.14	7.917	3.86	11.00	1.29
1.833	1.61	4.917	5.14	8.000	3.86	11.08	1.29
1.917	1.61	5.000	5.14	8.083	3.86	11.17	1.29
2.000	1.61	5.083	5.14	8.167	3.86	11.25	1.29
2.083	1.61	5.167	5.14	8.250	3.86	11.33	1.29
2.167	1.61	5.250	5.14	8.333	2.25	11.42	1.29
2.250	1.61	5.333	7.72	8.417	2.25	11.50	1.29
2.333	1.93	5.417	7.72	8.500	2.25	11.58	1.29
2.417	1.93	5.500	7.72	8.583	2.25	11.67	1.29
2.500	1.93	5.583	7.72	8.667	2.25	11.75	1.29
2.583	1.93	5.667	7.72	8.750	2.25	11.83	1.29
2.667	1.93	5.750	7.72	8.833	2.25	11.92	1.29
2.750	1.93	5.833	30.86	8.917	2.25	12.00	1.29
2.833	1.93	5.917	30.86	9.000	2.25	12.08	1.29
2.917	1.93	6.000	30.87	9.083	2.25	12.17	1.29
3.000	1.93	6.083	84.88	9.167	2.25	12.25	1.29
3.083	1.93	6.167	84.88	9.250	2.25		

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.353 (i)
TIME TO PEAK (hrs)= 6.917
RUNOFF VOLUME (mm)= 12.241
TOTAL RAINFALL (mm)= 64.300
RUNOFF COEFFICIENT = 0.190

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

ADD HYD (0020)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0016):	0.78	0.017	6.33	8.35
	+ ID2= 2 (0017):	0.28	0.009	6.33	10.51
	ID = 3 (0020):	1.06	0.026	6.33	8.92

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0020):	1.06	0.026	6.33	8.92
	+ ID2= 2 (0018):	24.51	0.353	6.92	12.24
	ID = 1 (0020):	25.57	0.360	6.92	12.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

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DATE: 10-31-2019 TIME: 10:40:31

USER:

COMMENTS: _____

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  ************************************************
  ** SIMULATION : 2-5-Year-24-Hour-SCS-Type-II  **
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READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\361a8f55
Ptotal= 76.00 mm	Comments: 5-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.52	12.75	10.94	19.00	1.37
0.50	0.76	6.75	1.52	13.00	5.62	19.25	1.37
0.75	0.76	7.00	1.52	13.25	5.62	19.50	1.37
1.00	0.76	7.25	1.52	13.50	1.06	19.75	1.37
1.25	0.76	7.50	1.52	13.75	1.06	20.00	1.37
1.50	0.76	7.75	1.52	14.00	6.23	20.25	1.37
1.75	0.76	8.00	1.52	14.25	6.23	20.50	0.91
2.00	0.76	8.25	1.52	14.50	2.28	20.75	0.91
2.25	1.37	8.50	2.05	14.75	2.28	21.00	0.91
2.50	0.99	8.75	2.05	15.00	2.28	21.25	0.91
2.75	0.99	9.00	2.05	15.25	2.28	21.50	0.91
3.00	0.99	9.25	2.05	15.50	2.28	21.75	0.91
3.25	0.99	9.50	2.43	15.75	2.28	22.00	0.91
3.50	0.99	9.75	2.43	16.00	2.28	22.25	0.91
3.75	0.99	10.00	2.74	16.25	2.28	22.50	0.91
4.00	0.99	10.25	2.74	16.50	1.37	22.75	0.91
4.25	0.99	10.50	3.50	16.75	1.37	23.00	0.91
4.50	1.22	10.75	3.50	17.00	1.37	23.25	0.91
4.75	1.22	11.00	4.71	17.25	1.37	23.50	0.91
5.00	1.22	11.25	4.71	17.50	1.37	23.75	0.91
5.25	1.22	11.50	7.30	17.75	1.37	24.00	0.91
5.50	1.22	11.75	7.30	18.00	1.37	24.25	0.91
5.75	1.22	12.00	31.62	18.25	1.37		
6.00	1.22	12.25	83.90	18.50	1.37		
6.25	1.22	12.50	10.94	18.75	1.37		

CALIB				
NASHYD (0016)	Area (ha)= 0.78	Curve Number (CN)= 46.0		
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 3.00		
	U.H. Tp(hrs)= 0.21			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.22	12.250	83.90	18.33	1.37
0.167	0.00	6.250	1.22	12.333	10.95	18.42	1.37
0.250	0.00	6.333	1.52	12.417	10.94	18.50	1.37
0.333	0.76	6.417	1.52	12.500	10.94	18.58	1.37
0.417	0.76	6.500	1.52	12.583	10.94	18.67	1.37
0.500	0.76	6.583	1.52	12.667	10.94	18.75	1.37
0.583	0.76	6.667	1.52	12.750	10.94	18.83	1.37
0.667	0.76	6.750	1.52	12.833	5.62	18.92	1.37
0.750	0.76	6.833	1.52	12.917	5.62	19.00	1.37
0.833	0.76	6.917	1.52	13.000	5.62	19.08	1.37
0.917	0.76	7.000	1.52	13.083	5.62	19.17	1.37
1.000	0.76	7.083	1.52	13.167	5.62	19.25	1.37
1.083	0.76	7.167	1.52	13.250	5.62	19.33	1.37
1.167	0.76	7.250	1.52	13.333	1.06	19.42	1.37
1.250	0.76	7.333	1.52	13.417	1.06	19.50	1.37
1.333	0.76	7.417	1.52	13.500	1.06	19.58	1.37
1.417	0.76	7.500	1.52	13.583	1.06	19.67	1.37
1.500	0.76	7.583	1.52	13.667	1.06	19.75	1.37
1.583	0.76	7.667	1.52	13.750	1.06	19.83	1.37
1.667	0.76	7.750	1.52	13.833	6.23	19.92	1.37
1.750	0.76	7.833	1.52	13.917	6.23	20.00	1.37
1.833	0.76	7.917	1.52	14.000	6.23	20.08	1.37
1.917	0.76	8.000	1.52	14.083	6.23	20.17	1.37
2.000	0.76	8.083	1.52	14.167	6.23	20.25	1.37
2.083	1.37	8.167	1.52	14.250	6.23	20.33	0.91
2.167	1.37	8.250	1.52	14.333	2.28	20.42	0.91
2.250	1.37	8.333	2.05	14.417	2.28	20.50	0.91
2.333	0.99	8.417	2.05	14.500	2.28	20.58	0.91
2.417	0.99	8.500	2.05	14.583	2.28	20.67	0.91
2.500	0.99	8.583	2.05	14.667	2.28	20.75	0.91
2.583	0.99	8.667	2.05	14.750	2.28	20.83	0.91
2.667	0.99	8.750	2.05	14.833	2.28	20.92	0.91

2.750	0.99	8.833	2.05	14.917	2.28	21.00	0.91
2.833	0.99	8.917	2.05	15.000	2.28	21.08	0.91
2.917	0.99	9.000	2.05	15.083	2.28	21.17	0.91
3.000	0.99	9.083	2.05	15.167	2.28	21.25	0.91
3.083	0.99	9.167	2.05	15.250	2.28	21.33	0.91
3.167	0.99	9.250	2.05	15.333	2.28	21.42	0.91
3.250	0.99	9.333	2.43	15.417	2.28	21.50	0.91
3.333	0.99	9.417	2.43	15.500	2.28	21.58	0.91
3.417	0.99	9.500	2.43	15.583	2.28	21.67	0.91
3.500	0.99	9.583	2.43	15.667	2.28	21.75	0.91
3.583	0.99	9.667	2.43	15.750	2.28	21.83	0.91
3.667	0.99	9.750	2.43	15.833	2.28	21.92	0.91
3.750	0.99	9.833	2.74	15.917	2.28	22.00	0.91
3.833	0.99	9.917	2.74	16.000	2.28	22.08	0.91
3.917	0.99	10.000	2.74	16.083	2.28	22.17	0.91
4.000	0.99	10.083	2.74	16.167	2.28	22.25	0.91
4.083	0.99	10.167	2.74	16.250	2.28	22.33	0.91
4.167	0.99	10.250	2.74	16.333	1.37	22.42	0.91
4.250	0.99	10.333	3.50	16.417	1.37	22.50	0.91
4.333	1.22	10.417	3.50	16.500	1.37	22.58	0.91
4.417	1.22	10.500	3.50	16.583	1.37	22.67	0.91
4.500	1.22	10.583	3.50	16.667	1.37	22.75	0.91
4.583	1.22	10.667	3.50	16.750	1.37	22.83	0.91
4.667	1.22	10.750	3.50	16.833	1.37	22.92	0.91
4.750	1.22	10.833	4.71	16.917	1.37	23.00	0.91
4.833	1.22	10.917	4.71	17.000	1.37	23.08	0.91
4.917	1.22	11.000	4.71	17.083	1.37	23.17	0.91
5.000	1.22	11.083	4.71	17.167	1.37	23.25	0.91
5.083	1.22	11.167	4.71	17.250	1.37	23.33	0.91
5.167	1.22	11.250	4.71	17.333	1.37	23.42	0.91
5.250	1.22	11.333	7.30	17.417	1.37	23.50	0.91
5.333	1.22	11.417	7.30	17.500	1.37	23.58	0.91
5.417	1.22	11.500	7.30	17.583	1.37	23.67	0.91
5.500	1.22	11.583	7.30	17.667	1.37	23.75	0.91
5.583	1.22	11.667	7.30	17.750	1.37	23.83	0.91
5.667	1.22	11.750	7.30	17.833	1.37	23.92	0.91
5.750	1.22	11.833	31.61	17.917	1.37	24.00	0.91
5.833	1.22	11.917	31.62	18.000	1.37	24.08	0.91
5.917	1.22	12.000	31.62	18.083	1.37	24.17	0.91
6.000	1.22	12.083	83.90	18.167	1.37	24.25	0.91
6.083	1.22	12.167	83.90	18.250	1.37		

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.021 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 11.942
TOTAL RAINFALL (mm)= 76.000
RUNOFF COEFFICIENT = 0.157

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\361a8f55
Ptotal= 76.00 mm	Comments: 5-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.52	12.75	10.94	19.00	1.37
0.50	0.76	6.75	1.52	13.00	5.62	19.25	1.37
0.75	0.76	7.00	1.52	13.25	5.62	19.50	1.37
1.00	0.76	7.25	1.52	13.50	1.06	19.75	1.37
1.25	0.76	7.50	1.52	13.75	1.06	20.00	1.37
1.50	0.76	7.75	1.52	14.00	6.23	20.25	1.37
1.75	0.76	8.00	1.52	14.25	6.23	20.50	0.91
2.00	0.76	8.25	1.52	14.50	2.28	20.75	0.91
2.25	1.37	8.50	2.05	14.75	2.28	21.00	0.91
2.50	0.99	8.75	2.05	15.00	2.28	21.25	0.91
2.75	0.99	9.00	2.05	15.25	2.28	21.50	0.91
3.00	0.99	9.25	2.05	15.50	2.28	21.75	0.91
3.25	0.99	9.50	2.43	15.75	2.28	22.00	0.91
3.50	0.99	9.75	2.43	16.00	2.28	22.25	0.91
3.75	0.99	10.00	2.74	16.25	2.28	22.50	0.91
4.00	0.99	10.25	2.74	16.50	1.37	22.75	0.91
4.25	0.99	10.50	3.50	16.75	1.37	23.00	0.91
4.50	1.22	10.75	3.50	17.00	1.37	23.25	0.91
4.75	1.22	11.00	4.71	17.25	1.37	23.50	0.91
5.00	1.22	11.25	4.71	17.50	1.37	23.75	0.91
5.25	1.22	11.50	7.30	17.75	1.37	24.00	0.91
5.50	1.22	11.75	7.30	18.00	1.37	24.25	0.91
5.75	1.22	12.00	31.62	18.25	1.37		
6.00	1.22	12.25	83.90	18.50	1.37		
6.25	1.22	12.50	10.94	18.75	1.37		

CALIB			
NASHYD (0017)	Area (ha)=	0.28	Curve Number (CN)= 51.0
ID= 1 DT= 5.0 min	Ia (mm)=	8.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.17	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.22	12.250	83.90	18.33	1.37
0.167	0.00	6.250	1.22	12.333	10.95	18.42	1.37
0.250	0.00	6.333	1.52	12.417	10.94	18.50	1.37
0.333	0.76	6.417	1.52	12.500	10.94	18.58	1.37
0.417	0.76	6.500	1.52	12.583	10.94	18.67	1.37
0.500	0.76	6.583	1.52	12.667	10.94	18.75	1.37
0.583	0.76	6.667	1.52	12.750	10.94	18.83	1.37
0.667	0.76	6.750	1.52	12.833	5.62	18.92	1.37
0.750	0.76	6.833	1.52	12.917	5.62	19.00	1.37
0.833	0.76	6.917	1.52	13.000	5.62	19.08	1.37
0.917	0.76	7.000	1.52	13.083	5.62	19.17	1.37
1.000	0.76	7.083	1.52	13.167	5.62	19.25	1.37
1.083	0.76	7.167	1.52	13.250	5.62	19.33	1.37
1.167	0.76	7.250	1.52	13.333	1.06	19.42	1.37
1.250	0.76	7.333	1.52	13.417	1.06	19.50	1.37
1.333	0.76	7.417	1.52	13.500	1.06	19.58	1.37
1.417	0.76	7.500	1.52	13.583	1.06	19.67	1.37
1.500	0.76	7.583	1.52	13.667	1.06	19.75	1.37

1.583	0.76	7.667	1.52	13.750	1.06	19.83	1.37
1.667	0.76	7.750	1.52	13.833	6.23	19.92	1.37
1.750	0.76	7.833	1.52	13.917	6.23	20.00	1.37
1.833	0.76	7.917	1.52	14.000	6.23	20.08	1.37
1.917	0.76	8.000	1.52	14.083	6.23	20.17	1.37
2.000	0.76	8.083	1.52	14.167	6.23	20.25	1.37
2.083	1.37	8.167	1.52	14.250	6.23	20.33	0.91
2.167	1.37	8.250	1.52	14.333	2.28	20.42	0.91
2.250	1.37	8.333	2.05	14.417	2.28	20.50	0.91
2.333	0.99	8.417	2.05	14.500	2.28	20.58	0.91
2.417	0.99	8.500	2.05	14.583	2.28	20.67	0.91
2.500	0.99	8.583	2.05	14.667	2.28	20.75	0.91
2.583	0.99	8.667	2.05	14.750	2.28	20.83	0.91
2.667	0.99	8.750	2.05	14.833	2.28	20.92	0.91
2.750	0.99	8.833	2.05	14.917	2.28	21.00	0.91
2.833	0.99	8.917	2.05	15.000	2.28	21.08	0.91
2.917	0.99	9.000	2.05	15.083	2.28	21.17	0.91
3.000	0.99	9.083	2.05	15.167	2.28	21.25	0.91
3.083	0.99	9.167	2.05	15.250	2.28	21.33	0.91
3.167	0.99	9.250	2.05	15.333	2.28	21.42	0.91
3.250	0.99	9.333	2.43	15.417	2.28	21.50	0.91
3.333	0.99	9.417	2.43	15.500	2.28	21.58	0.91
3.417	0.99	9.500	2.43	15.583	2.28	21.67	0.91
3.500	0.99	9.583	2.43	15.667	2.28	21.75	0.91
3.583	0.99	9.667	2.43	15.750	2.28	21.83	0.91
3.667	0.99	9.750	2.43	15.833	2.28	21.92	0.91
3.750	0.99	9.833	2.74	15.917	2.28	22.00	0.91
3.833	0.99	9.917	2.74	16.000	2.28	22.08	0.91
3.917	0.99	10.000	2.74	16.083	2.28	22.17	0.91
4.000	0.99	10.083	2.74	16.167	2.28	22.25	0.91
4.083	0.99	10.167	2.74	16.250	2.28	22.33	0.91
4.167	0.99	10.250	2.74	16.333	1.37	22.42	0.91
4.250	0.99	10.333	3.50	16.417	1.37	22.50	0.91
4.333	1.22	10.417	3.50	16.500	1.37	22.58	0.91
4.417	1.22	10.500	3.50	16.583	1.37	22.67	0.91
4.500	1.22	10.583	3.50	16.667	1.37	22.75	0.91
4.583	1.22	10.667	3.50	16.750	1.37	22.83	0.91
4.667	1.22	10.750	3.50	16.833	1.37	22.92	0.91
4.750	1.22	10.833	4.71	16.917	1.37	23.00	0.91
4.833	1.22	10.917	4.71	17.000	1.37	23.08	0.91
4.917	1.22	11.000	4.71	17.083	1.37	23.17	0.91
5.000	1.22	11.083	4.71	17.167	1.37	23.25	0.91
5.083	1.22	11.167	4.71	17.250	1.37	23.33	0.91
5.167	1.22	11.250	4.71	17.333	1.37	23.42	0.91
5.250	1.22	11.333	7.30	17.417	1.37	23.50	0.91
5.333	1.22	11.417	7.30	17.500	1.37	23.58	0.91
5.417	1.22	11.500	7.30	17.583	1.37	23.67	0.91
5.500	1.22	11.583	7.30	17.667	1.37	23.75	0.91
5.583	1.22	11.667	7.30	17.750	1.37	23.83	0.91
5.667	1.22	11.750	7.30	17.833	1.37	23.92	0.91
5.750	1.22	11.833	31.61	17.917	1.37	24.00	0.91
5.833	1.22	11.917	31.62	18.000	1.37	24.08	0.91
5.917	1.22	12.000	31.62	18.083	1.37	24.17	0.91
6.000	1.22	12.083	83.90	18.167	1.37	24.25	0.91
6.083	1.22	12.167	83.90	18.250	1.37		

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.010 (i)
TIME TO PEAK (hrs)= 12.333

RUNOFF VOLUME (mm)= 14.765
TOTAL RAINFALL (mm)= 76.000
RUNOFF COEFFICIENT = 0.194

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

READ STORM | Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\361a8f55
Ptotal= 76.00 mm | Comments: 5-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.52	12.75	10.94	19.00	1.37
0.50	0.76	6.75	1.52	13.00	5.62	19.25	1.37
0.75	0.76	7.00	1.52	13.25	5.62	19.50	1.37
1.00	0.76	7.25	1.52	13.50	1.06	19.75	1.37
1.25	0.76	7.50	1.52	13.75	1.06	20.00	1.37
1.50	0.76	7.75	1.52	14.00	6.23	20.25	1.37
1.75	0.76	8.00	1.52	14.25	6.23	20.50	0.91
2.00	0.76	8.25	1.52	14.50	2.28	20.75	0.91
2.25	1.37	8.50	2.05	14.75	2.28	21.00	0.91
2.50	0.99	8.75	2.05	15.00	2.28	21.25	0.91
2.75	0.99	9.00	2.05	15.25	2.28	21.50	0.91
3.00	0.99	9.25	2.05	15.50	2.28	21.75	0.91
3.25	0.99	9.50	2.43	15.75	2.28	22.00	0.91
3.50	0.99	9.75	2.43	16.00	2.28	22.25	0.91
3.75	0.99	10.00	2.74	16.25	2.28	22.50	0.91
4.00	0.99	10.25	2.74	16.50	1.37	22.75	0.91
4.25	0.99	10.50	3.50	16.75	1.37	23.00	0.91
4.50	1.22	10.75	3.50	17.00	1.37	23.25	0.91
4.75	1.22	11.00	4.71	17.25	1.37	23.50	0.91
5.00	1.22	11.25	4.71	17.50	1.37	23.75	0.91
5.25	1.22	11.50	7.30	17.75	1.37	24.00	0.91
5.50	1.22	11.75	7.30	18.00	1.37	24.25	0.91
5.75	1.22	12.00	31.62	18.25	1.37		
6.00	1.22	12.25	83.90	18.50	1.37		
6.25	1.22	12.50	10.94	18.75	1.37		

CALIB | NASHYD (0018) | ID= 1 DT= 5.0 min | Area (ha)= 24.51 Curve Number (CN)= 52.7 | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00 | U.H. Tp(hrs)= 0.70

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.22	12.250	83.90	18.33	1.37
0.167	0.00	6.250	1.22	12.333	10.95	18.42	1.37
0.250	0.00	6.333	1.52	12.417	10.94	18.50	1.37
0.333	0.76	6.417	1.52	12.500	10.94	18.58	1.37

0.417	0.76	6.500	1.52	12.583	10.94	18.67	1.37
0.500	0.76	6.583	1.52	12.667	10.94	18.75	1.37
0.583	0.76	6.667	1.52	12.750	10.94	18.83	1.37
0.667	0.76	6.750	1.52	12.833	5.62	18.92	1.37
0.750	0.76	6.833	1.52	12.917	5.62	19.00	1.37
0.833	0.76	6.917	1.52	13.000	5.62	19.08	1.37
0.917	0.76	7.000	1.52	13.083	5.62	19.17	1.37
1.000	0.76	7.083	1.52	13.167	5.62	19.25	1.37
1.083	0.76	7.167	1.52	13.250	5.62	19.33	1.37
1.167	0.76	7.250	1.52	13.333	1.06	19.42	1.37
1.250	0.76	7.333	1.52	13.417	1.06	19.50	1.37
1.333	0.76	7.417	1.52	13.500	1.06	19.58	1.37
1.417	0.76	7.500	1.52	13.583	1.06	19.67	1.37
1.500	0.76	7.583	1.52	13.667	1.06	19.75	1.37
1.583	0.76	7.667	1.52	13.750	1.06	19.83	1.37
1.667	0.76	7.750	1.52	13.833	6.23	19.92	1.37
1.750	0.76	7.833	1.52	13.917	6.23	20.00	1.37
1.833	0.76	7.917	1.52	14.000	6.23	20.08	1.37
1.917	0.76	8.000	1.52	14.083	6.23	20.17	1.37
2.000	0.76	8.083	1.52	14.167	6.23	20.25	1.37
2.083	1.37	8.167	1.52	14.250	6.23	20.33	0.91
2.167	1.37	8.250	1.52	14.333	2.28	20.42	0.91
2.250	1.37	8.333	2.05	14.417	2.28	20.50	0.91
2.333	0.99	8.417	2.05	14.500	2.28	20.58	0.91
2.417	0.99	8.500	2.05	14.583	2.28	20.67	0.91
2.500	0.99	8.583	2.05	14.667	2.28	20.75	0.91
2.583	0.99	8.667	2.05	14.750	2.28	20.83	0.91
2.667	0.99	8.750	2.05	14.833	2.28	20.92	0.91
2.750	0.99	8.833	2.05	14.917	2.28	21.00	0.91
2.833	0.99	8.917	2.05	15.000	2.28	21.08	0.91
2.917	0.99	9.000	2.05	15.083	2.28	21.17	0.91
3.000	0.99	9.083	2.05	15.167	2.28	21.25	0.91
3.083	0.99	9.167	2.05	15.250	2.28	21.33	0.91
3.167	0.99	9.250	2.05	15.333	2.28	21.42	0.91
3.250	0.99	9.333	2.43	15.417	2.28	21.50	0.91
3.333	0.99	9.417	2.43	15.500	2.28	21.58	0.91
3.417	0.99	9.500	2.43	15.583	2.28	21.67	0.91
3.500	0.99	9.583	2.43	15.667	2.28	21.75	0.91
3.583	0.99	9.667	2.43	15.750	2.28	21.83	0.91
3.667	0.99	9.750	2.43	15.833	2.28	21.92	0.91
3.750	0.99	9.833	2.74	15.917	2.28	22.00	0.91
3.833	0.99	9.917	2.74	16.000	2.28	22.08	0.91
3.917	0.99	10.000	2.74	16.083	2.28	22.17	0.91
4.000	0.99	10.083	2.74	16.167	2.28	22.25	0.91
4.083	0.99	10.167	2.74	16.250	2.28	22.33	0.91
4.167	0.99	10.250	2.74	16.333	1.37	22.42	0.91
4.250	0.99	10.333	3.50	16.417	1.37	22.50	0.91
4.333	1.22	10.417	3.50	16.500	1.37	22.58	0.91
4.417	1.22	10.500	3.50	16.583	1.37	22.67	0.91
4.500	1.22	10.583	3.50	16.667	1.37	22.75	0.91
4.583	1.22	10.667	3.50	16.750	1.37	22.83	0.91
4.667	1.22	10.750	3.50	16.833	1.37	22.92	0.91
4.750	1.22	10.833	4.71	16.917	1.37	23.00	0.91
4.833	1.22	10.917	4.71	17.000	1.37	23.08	0.91
4.917	1.22	11.000	4.71	17.083	1.37	23.17	0.91
5.000	1.22	11.083	4.71	17.167	1.37	23.25	0.91
5.083	1.22	11.167	4.71	17.250	1.37	23.33	0.91
5.167	1.22	11.250	4.71	17.333	1.37	23.42	0.91
5.250	1.22	11.333	7.30	17.417	1.37	23.50	0.91
5.333	1.22	11.417	7.30	17.500	1.37	23.58	0.91
5.417	1.22	11.500	7.30	17.583	1.37	23.67	0.91
5.500	1.22	11.583	7.30	17.667	1.37	23.75	0.91
5.583	1.22	11.667	7.30	17.750	1.37	23.83	0.91
5.667	1.22	11.750	7.30	17.833	1.37	23.92	0.91
5.750	1.22	11.833	31.61	17.917	1.37	24.00	0.91
5.833	1.22	11.917	31.62	18.000	1.37	24.08	0.91
5.917	1.22	12.000	31.62	18.083	1.37	24.17	0.91
6.000	1.22	12.083	83.90	18.167	1.37	24.25	0.91
6.083	1.22	12.167	83.90	18.250	1.37		

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.406 (i)
TIME TO PEAK (hrs)= 12.917
RUNOFF VOLUME (mm)= 16.861
TOTAL RAINFALL (mm)= 76.000
RUNOFF COEFFICIENT = 0.222

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

ADD HYD (0020)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0016):	0.78	0.021	12.33	11.94
+ ID2= 2 (0017):	0.28	0.010	12.33	14.76
ID = 3 (0020):	1.06	0.031	12.33	12.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0020):	1.06	0.031	12.33	12.69
+ ID2= 2 (0018):	24.51	0.406	12.92	16.86
ID = 1 (0020):	25.57	0.415	12.83	16.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

  OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
 O   O    T      T    H   H   Y Y   MM MM  O   O
 O   O    T      T    H   H    Y    M   M  O   O
  OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

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DATE: 10-31-2019 TIME: 10:40:31

USER:

COMMENTS: _____

****
** SIMULATION : 2-5-Year-4-Hour-Chicago-Barri **
****

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\8c4d0259
Ptotal= 50.52 mm	Comments: New DesignStormManualInput

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.57	1.17	25.64	2.17	8.12	3.17	4.22
0.33	4.07	1.33	108.92	2.33	6.96	3.33	3.93
0.50	4.76	1.50	33.31	2.50	6.12	3.50	3.68
0.67	5.79	1.67	17.99	2.67	5.48	3.67	3.47
0.83	7.53	1.83	12.60	2.83	4.97	3.83	3.28
1.00	11.20	2.00	9.82	3.00	4.56	4.00	3.12

CALIB NASHYD (0016) ID= 1 DT= 5.0 min	Area (ha)= 0.78	Curve Number (CN)= 46.0	Ia (mm)= 10.00	# of Linear Res.(N)= 3.00	U.H. Tp(hrs)= 0.21

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.57	1.083	25.64	2.083	8.12	3.08	4.22
0.167	3.57	1.167	25.64	2.167	8.12	3.17	4.22
0.250	4.07	1.250	108.92	2.250	6.96	3.25	3.93
0.333	4.07	1.333	108.92	2.333	6.96	3.33	3.93
0.417	4.76	1.417	33.31	2.417	6.12	3.42	3.68
0.500	4.76	1.500	33.31	2.500	6.12	3.50	3.68
0.583	5.79	1.583	17.99	2.583	5.48	3.58	3.47
0.667	5.79	1.667	17.99	2.667	5.48	3.67	3.47
0.750	7.53	1.750	12.60	2.750	4.97	3.75	3.28
0.833	7.53	1.833	12.60	2.833	4.97	3.83	3.28
0.917	11.20	1.917	9.82	2.917	4.56	3.92	3.12
1.000	11.20	2.000	9.82	3.000	4.56	4.00	3.12

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.009 (i)
TIME TO PEAK (hrs)= 1.583
RUNOFF VOLUME (mm)= 4.840
TOTAL RAINFALL (mm)= 50.521
RUNOFF COEFFICIENT = 0.096

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\8c4d0259
Ptotal= 50.52 mm	Comments: New DesignStormManualInput

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.57	1.17	25.64	2.17	8.12	3.17	4.22
0.33	4.07	1.33	108.92	2.33	6.96	3.33	3.93
0.50	4.76	1.50	33.31	2.50	6.12	3.50	3.68
0.67	5.79	1.67	17.99	2.67	5.48	3.67	3.47
0.83	7.53	1.83	12.60	2.83	4.97	3.83	3.28
1.00	11.20	2.00	9.82	3.00	4.56	4.00	3.12

CALIB NASHYD (0017) ID= 1 DT= 5.0 min	Area (ha)= 0.28	Curve Number (CN)= 51.0	Ia (mm)= 8.00	# of Linear Res.(N)= 3.00	U.H. Tp(hrs)= 0.17

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.57	1.083	25.64	2.083	8.12	3.08	4.22
0.167	3.57	1.167	25.64	2.167	8.12	3.17	4.22
0.250	4.07	1.250	108.92	2.250	6.96	3.25	3.93
0.333	4.07	1.333	108.92	2.333	6.96	3.33	3.93
0.417	4.76	1.417	33.31	2.417	6.12	3.42	3.68
0.500	4.76	1.500	33.31	2.500	6.12	3.50	3.68

0.583	5.79	1.583	17.99	2.583	5.48	3.58	3.47
0.667	5.79	1.667	17.99	2.667	5.48	3.67	3.47
0.750	7.53	1.750	12.60	2.750	4.97	3.75	3.28
0.833	7.53	1.833	12.60	2.833	4.97	3.83	3.28
0.917	11.20	1.917	9.82	2.917	4.56	3.92	3.12
1.000	11.20	2.000	9.82	3.000	4.56	4.00	3.12

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.005 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 6.286
TOTAL RAINFALL (mm)= 50.521
RUNOFF COEFFICIENT = 0.124

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\8c4d0259
Ptotal= 50.52 mm	Comments: New DesignStormManualInput

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.57	1.17	25.64	2.17	8.12	3.17	4.22
0.33	4.07	1.33	108.92	2.33	6.96	3.33	3.93
0.50	4.76	1.50	33.31	2.50	6.12	3.50	3.68
0.67	5.79	1.67	17.99	2.67	5.48	3.67	3.47
0.83	7.53	1.83	12.60	2.83	4.97	3.83	3.28
1.00	11.20	2.00	9.82	3.00	4.56	4.00	3.12

CALIB NASHYD (0018)	Area (ha)= 24.51	Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.70	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.57	1.083	25.64	2.083	8.12	3.08	4.22
0.167	3.57	1.167	25.64	2.167	8.12	3.17	4.22
0.250	4.07	1.250	108.92	2.250	6.96	3.25	3.93
0.333	4.07	1.333	108.92	2.333	6.96	3.33	3.93
0.417	4.76	1.417	33.31	2.417	6.12	3.42	3.68
0.500	4.76	1.500	33.31	2.500	6.12	3.50	3.68
0.583	5.79	1.583	17.99	2.583	5.48	3.58	3.47
0.667	5.79	1.667	17.99	2.667	5.48	3.67	3.47
0.750	7.53	1.750	12.60	2.750	4.97	3.75	3.28
0.833	7.53	1.833	12.60	2.833	4.97	3.83	3.28
0.917	11.20	1.917	9.82	2.917	4.56	3.92	3.12
1.000	11.20	2.000	9.82	3.000	4.56	4.00	3.12

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.234 (i)
TIME TO PEAK (hrs)= 2.250
RUNOFF VOLUME (mm)= 7.577
TOTAL RAINFALL (mm)= 50.521
RUNOFF COEFFICIENT = 0.150

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

ADD HYD (0020)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0016):	0.78	0.009	1.58	4.84
	+ ID2= 2 (0017):	0.28	0.005	1.50	6.29
	ID = 3 (0020):	1.06	0.013	1.58	5.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0020):	1.06	0.013	1.58	5.22
	+ ID2= 2 (0018):	24.51	0.234	2.25	7.58
	ID = 1 (0020):	25.57	0.239	2.25	7.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

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DATE: 10-31-2019 TIME: 10:40:27

USER:

COMMENTS: _____

** SIMULATION : 2-5-Year-4-Hour-Chicago-MTO **

| CHICAGO STORM | IDF curve parameters: A= 509.121
| Ptotal= 44.15 mm | B= 0.000
C= 0.699
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.71	1.17	17.57	2.17	7.34	3.17	4.28
0.33	4.15	1.33	101.82	2.33	6.48	3.33	4.03
0.50	4.73	1.50	21.56	2.50	5.83	3.50	3.81
0.67	5.57	1.67	13.59	2.67	5.32	3.67	3.62
0.83	6.91	1.83	10.37	2.83	4.91	3.83	3.45
1.00	9.45	2.00	8.54	3.00	4.57	4.00	3.30

CALIB	NASHYD (0016)	ID= 1 DT= 5.0 min	Area (ha)= 0.78	Ia (mm)= 10.00	U.H. Tp(hrs)= 0.21	Curve Number (CN)= 46.0	# of Linear Res.(N)= 3.00

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.71	1.083	17.57	2.083	7.34	3.08	4.28
0.167	3.71	1.167	17.57	2.167	7.34	3.17	4.28
0.250	4.15	1.250	101.82	2.250	6.48	3.25	4.03
0.333	4.15	1.333	101.82	2.333	6.48	3.33	4.03
0.417	4.73	1.417	21.56	2.417	5.83	3.42	3.81
0.500	4.73	1.500	21.56	2.500	5.83	3.50	3.81
0.583	5.57	1.583	13.59	2.583	5.32	3.58	3.62
0.667	5.57	1.667	13.59	2.667	5.32	3.67	3.62
0.750	6.91	1.750	10.37	2.750	4.91	3.75	3.45
0.833	6.91	1.833	10.37	2.833	4.91	3.83	3.45
0.917	9.45	1.917	8.54	2.917	4.57	3.92	3.30
1.000	9.45	2.000	8.54	3.000	4.57	4.00	3.30

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.006 (i)
TIME TO PEAK (hrs)= 1.583
RUNOFF VOLUME (mm)= 3.504
TOTAL RAINFALL (mm)= 44.152
RUNOFF COEFFICIENT = 0.079

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

| CHICAGO STORM | IDF curve parameters: A= 509.121
| Ptotal= 44.15 mm | B= 0.000
C= 0.699
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.71	1.17	17.57	2.17	7.34	3.17	4.28
0.33	4.15	1.33	101.82	2.33	6.48	3.33	4.03
0.50	4.73	1.50	21.56	2.50	5.83	3.50	3.81
0.67	5.57	1.67	13.59	2.67	5.32	3.67	3.62
0.83	6.91	1.83	10.37	2.83	4.91	3.83	3.45
1.00	9.45	2.00	8.54	3.00	4.57	4.00	3.30

CALIB	NASHYD (0017)	ID= 1 DT= 5.0 min	Area (ha)= 0.28	Ia (mm)= 8.00	U.H. Tp(hrs)= 0.17	Curve Number (CN)= 51.0	# of Linear Res.(N)= 3.00

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.71	1.083	17.57	2.083	7.34	3.08	4.28
0.167	3.71	1.167	17.57	2.167	7.34	3.17	4.28
0.250	4.15	1.250	101.82	2.250	6.48	3.25	4.03
0.333	4.15	1.333	101.82	2.333	6.48	3.33	4.03
0.417	4.73	1.417	21.56	2.417	5.83	3.42	3.81
0.500	4.73	1.500	21.56	2.500	5.83	3.50	3.81
0.583	5.57	1.583	13.59	2.583	5.32	3.58	3.62
0.667	5.57	1.667	13.59	2.667	5.32	3.67	3.62
0.750	6.91	1.750	10.37	2.750	4.91	3.75	3.45

0.833	6.91	1.833	10.37	2.833	4.91	3.83	3.45
0.917	9.45	1.917	8.54	2.917	4.57	3.92	3.30
1.000	9.45	2.000	8.54	3.000	4.57	4.00	3.30

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.003 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 4.647
TOTAL RAINFALL (mm)= 44.152
RUNOFF COEFFICIENT = 0.105

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

CHICAGO STORM	IDF curve parameters: A= 509.121
Ptotal= 44.15 mm	B= 0.000
	C= 0.699

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.71	1.17	17.57	2.17	7.34	3.17	4.28
0.33	4.15	1.33	101.82	2.33	6.48	3.33	4.03
0.50	4.73	1.50	21.56	2.50	5.83	3.50	3.81
0.67	5.57	1.67	13.59	2.67	5.32	3.67	3.62
0.83	6.91	1.83	10.37	2.83	4.91	3.83	3.45
1.00	9.45	2.00	8.54	3.00	4.57	4.00	3.30

CALIB			
NASHYD (0018)	Area (ha)= 24.51	Curve Number (CN)= 52.7	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.70		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.71	1.083	17.57	2.083	7.34	3.08	4.28
0.167	3.71	1.167	17.57	2.167	7.34	3.17	4.28
0.250	4.15	1.250	101.82	2.250	6.48	3.25	4.03
0.333	4.15	1.333	101.82	2.333	6.48	3.33	4.03
0.417	4.73	1.417	21.56	2.417	5.83	3.42	3.81
0.500	4.73	1.500	21.56	2.500	5.83	3.50	3.81
0.583	5.57	1.583	13.59	2.583	5.32	3.58	3.62
0.667	5.57	1.667	13.59	2.667	5.32	3.67	3.62
0.750	6.91	1.750	10.37	2.750	4.91	3.75	3.45
0.833	6.91	1.833	10.37	2.833	4.91	3.83	3.45
0.917	9.45	1.917	8.54	2.917	4.57	3.92	3.30
1.000	9.45	2.000	8.54	3.000	4.57	4.00	3.30

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.163 (i)
TIME TO PEAK (hrs)= 2.250
RUNOFF VOLUME (mm)= 5.738
TOTAL RAINFALL (mm)= 44.152
RUNOFF COEFFICIENT = 0.130

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

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0016):	0.78	0.006	1.58	3.50
	+ ID2= 2 (0017):	0.28	0.003	1.50	4.65
	ID = 3 (0020):	1.06	0.009	1.50	3.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0020):	1.06	0.009	1.50	3.81
	+ ID2= 2 (0018):	24.51	0.163	2.25	5.74
	ID = 1 (0020):	25.57	0.167	2.25	5.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

 OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
O   O    T      T    H   H   Y Y   MM MM  O   O
O   O    T      T    H   H    Y    M   M  O   O
 OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

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DATE: 10-31-2019 TIME: 10:40:31

USER:

COMMENTS: _____

** SIMULATION : 2-5-Year-6-Hour-SCS-Type-II **

| READ STORM | Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\d811bc74
| Ptotal= 59.50 mm | Comments: 5-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	5.95	3.75	13.09	5.50	2.38
0.50	2.38	2.25	5.95	4.00	5.95	5.75	2.38
0.75	2.38	2.50	7.14	4.25	5.95	6.00	2.38
1.00	3.57	2.75	7.14	4.50	4.76	6.25	2.38
1.25	3.57	3.00	35.70	4.75	4.76		
1.50	3.57	3.25	92.82	5.00	3.57		
1.75	3.57	3.50	13.09	5.25	3.57		

| CALIB | NASHYD (0016) | ID= 1 DT= 5.0 min | Area (ha)= 0.78 | Ia (mm)= 10.00 | U.H. Tp(hrs)= 0.21 | Curve Number (CN)= 46.0 | # of Linear Res.(N)= 3.00

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	3.57	3.250	92.82	4.83	3.57
0.167	0.00	1.750	3.57	3.333	13.09	4.92	3.57
0.250	0.00	1.833	5.95	3.417	13.09	5.00	3.57
0.333	2.38	1.917	5.95	3.500	13.09	5.08	3.57
0.417	2.38	2.000	5.95	3.583	13.09	5.17	3.57
0.500	2.38	2.083	5.95	3.667	13.09	5.25	3.57
0.583	2.38	2.167	5.95	3.750	13.09	5.33	2.38
0.667	2.38	2.250	5.95	3.833	5.95	5.42	2.38
0.750	2.38	2.333	7.14	3.917	5.95	5.50	2.38
0.833	3.57	2.417	7.14	4.000	5.95	5.58	2.38
0.917	3.57	2.500	7.14	4.083	5.95	5.67	2.38
1.000	3.57	2.583	7.14	4.167	5.95	5.75	2.38
1.083	3.57	2.667	7.14	4.250	5.95	5.83	2.38
1.167	3.57	2.750	7.14	4.333	4.76	5.92	2.38
1.250	3.57	2.833	35.70	4.417	4.76	6.00	2.38
1.333	3.57	2.917	35.70	4.500	4.76	6.08	2.38
1.417	3.57	3.000	35.70	4.583	4.76	6.17	2.38
1.500	3.57	3.083	92.82	4.667	4.76	6.25	2.38
1.583	3.57	3.167	92.82	4.750	4.76		

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.017 (i)
TIME TO PEAK (hrs)= 3.333
RUNOFF VOLUME (mm)= 7.036
TOTAL RAINFALL (mm)= 59.500
RUNOFF COEFFICIENT = 0.118

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

| READ STORM | Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\d811bc74
| Ptotal= 59.50 mm | Comments: 5-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	5.95	3.75	13.09	5.50	2.38
0.50	2.38	2.25	5.95	4.00	5.95	5.75	2.38
0.75	2.38	2.50	7.14	4.25	5.95	6.00	2.38
1.00	3.57	2.75	7.14	4.50	4.76	6.25	2.38
1.25	3.57	3.00	35.70	4.75	4.76		
1.50	3.57	3.25	92.82	5.00	3.57		
1.75	3.57	3.50	13.09	5.25	3.57		

| CALIB | NASHYD (0017) | ID= 1 DT= 5.0 min | Area (ha)= 0.28 | Ia (mm)= 8.00 | U.H. Tp(hrs)= 0.17 | Curve Number (CN)= 51.0 | # of Linear Res.(N)= 3.00

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	3.57	3.250	92.82	4.83	3.57
0.167	0.00	1.750	3.57	3.333	13.09	4.92	3.57
0.250	0.00	1.833	5.95	3.417	13.09	5.00	3.57
0.333	2.38	1.917	5.95	3.500	13.09	5.08	3.57
0.417	2.38	2.000	5.95	3.583	13.09	5.17	3.57
0.500	2.38	2.083	5.95	3.667	13.09	5.25	3.57

0.583	2.38	2.167	5.95	3.750	13.09	5.33	2.38
0.667	2.38	2.250	5.95	3.833	5.95	5.42	2.38
0.750	2.38	2.333	7.14	3.917	5.95	5.50	2.38
0.833	3.57	2.417	7.14	4.000	5.95	5.58	2.38
0.917	3.57	2.500	7.14	4.083	5.95	5.67	2.38
1.000	3.57	2.583	7.14	4.167	5.95	5.75	2.38
1.083	3.57	2.667	7.14	4.250	5.95	5.83	2.38
1.167	3.57	2.750	7.14	4.333	4.76	5.92	2.38
1.250	3.57	2.833	35.70	4.417	4.76	6.00	2.38
1.333	3.57	2.917	35.70	4.500	4.76	6.08	2.38
1.417	3.57	3.000	35.70	4.583	4.76	6.17	2.38
1.500	3.57	3.083	92.82	4.667	4.76	6.25	2.38
1.583	3.57	3.167	92.82	4.750	4.76		

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.009 (i)
TIME TO PEAK (hrs)= 3.333
RUNOFF VOLUME (mm)= 8.941
TOTAL RAINFALL (mm)= 59.500
RUNOFF COEFFICIENT = 0.150

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\d811bc74
Ptotal= 59.50 mm	Comments: 5-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	5.95	3.75	13.09	5.50	2.38
0.50	2.38	2.25	5.95	4.00	5.95	5.75	2.38
0.75	2.38	2.50	7.14	4.25	5.95	6.00	2.38
1.00	3.57	2.75	7.14	4.50	4.76	6.25	2.38
1.25	3.57	3.00	35.70	4.75	4.76		
1.50	3.57	3.25	92.82	5.00	3.57		
1.75	3.57	3.50	13.09	5.25	3.57		

CALIB			
NASHYD (0018)	Area (ha)= 24.51	Curve Number (CN)= 52.7	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.70		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	3.57	3.250	92.82	4.83	3.57
0.167	0.00	1.750	3.57	3.333	13.09	4.92	3.57
0.250	0.00	1.833	5.95	3.417	13.09	5.00	3.57
0.333	2.38	1.917	5.95	3.500	13.09	5.08	3.57
0.417	2.38	2.000	5.95	3.583	13.09	5.17	3.57
0.500	2.38	2.083	5.95	3.667	13.09	5.25	3.57
0.583	2.38	2.167	5.95	3.750	13.09	5.33	2.38
0.667	2.38	2.250	5.95	3.833	5.95	5.42	2.38
0.750	2.38	2.333	7.14	3.917	5.95	5.50	2.38
0.833	3.57	2.417	7.14	4.000	5.95	5.58	2.38
0.917	3.57	2.500	7.14	4.083	5.95	5.67	2.38
1.000	3.57	2.583	7.14	4.167	5.95	5.75	2.38
1.083	3.57	2.667	7.14	4.250	5.95	5.83	2.38
1.167	3.57	2.750	7.14	4.333	4.76	5.92	2.38
1.250	3.57	2.833	35.70	4.417	4.76	6.00	2.38
1.333	3.57	2.917	35.70	4.500	4.76	6.08	2.38
1.417	3.57	3.000	35.70	4.583	4.76	6.17	2.38
1.500	3.57	3.083	92.82	4.667	4.76	6.25	2.38
1.583	3.57	3.167	92.82	4.750	4.76		

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.352 (i)
TIME TO PEAK (hrs)= 3.917
RUNOFF VOLUME (mm)= 10.515
TOTAL RAINFALL (mm)= 59.500
RUNOFF COEFFICIENT = 0.177

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

ADD HYD (0020)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0016):	0.78	0.017	3.33	7.04
	+ ID2= 2 (0017):	0.28	0.009	3.33	8.94
	ID = 3 (0020):	1.06	0.026	3.33	7.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0020):	1.06	0.026	3.33	7.54
	+ ID2= 2 (0018):	24.51	0.352	3.92	10.51
	ID = 1 (0020):	25.57	0.360	3.92	10.39

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M M M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

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DATE: 10-31-2019 TIME: 10:40:28

USER:

COMMENTS: _____

** SIMULATION : 3-10-Year-12-Hour-SCS-Type-II **

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\6041a8cc
Ptotal= 76.00 mm	Comments: 10-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.04	6.75	13.68	10.00	2.66
0.50	1.90	3.75	3.04	7.00	6.08	10.25	2.66
0.75	1.90	4.00	3.04	7.25	6.08	10.50	1.52
1.00	1.90	4.25	3.04	7.50	4.56	10.75	1.52
1.25	1.90	4.50	4.56	7.75	4.56	11.00	1.52
1.50	1.90	4.75	4.56	8.00	4.56	11.25	1.52
1.75	1.90	5.00	6.08	8.25	4.56	11.50	1.52
2.00	1.90	5.25	6.08	8.50	2.66	11.75	1.52
2.25	1.90	5.50	9.12	8.75	2.66	12.00	1.52
2.50	2.28	5.75	9.12	9.00	2.66	12.25	1.52
2.75	2.28	6.00	36.48	9.25	2.66		
3.00	2.28	6.25	100.32	9.50	2.66		
3.25	2.28	6.50	13.68	9.75	2.66		

CALIB					
NASHYD (0016)	Area (ha)= 0.78	Curve Number (CN)= 46.0			
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.21				

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.28	6.250	100.32	9.33	2.66
0.167	0.00	3.250	2.28	6.333	13.68	9.42	2.66
0.250	0.00	3.333	3.04	6.417	13.68	9.50	2.66
0.333	1.90	3.417	3.04	6.500	13.68	9.58	2.66
0.417	1.90	3.500	3.04	6.583	13.68	9.67	2.66
0.500	1.90	3.583	3.04	6.667	13.68	9.75	2.66
0.583	1.90	3.667	3.04	6.750	13.68	9.83	2.66
0.667	1.90	3.750	3.04	6.833	6.08	9.92	2.66
0.750	1.90	3.833	3.04	6.917	6.08	10.00	2.66
0.833	1.90	3.917	3.04	7.000	6.08	10.08	2.66
0.917	1.90	4.000	3.04	7.083	6.08	10.17	2.66
1.000	1.90	4.083	3.04	7.167	6.08	10.25	2.66
1.083	1.90	4.167	3.04	7.250	6.08	10.33	1.52
1.167	1.90	4.250	3.04	7.333	4.56	10.42	1.52
1.250	1.90	4.333	4.56	7.417	4.56	10.50	1.52
1.333	1.90	4.417	4.56	7.500	4.56	10.58	1.52
1.417	1.90	4.500	4.56	7.583	4.56	10.67	1.52
1.500	1.90	4.583	4.56	7.667	4.56	10.75	1.52
1.583	1.90	4.667	4.56	7.750	4.56	10.83	1.52
1.667	1.90	4.750	4.56	7.833	4.56	10.92	1.52
1.750	1.90	4.833	6.08	7.917	4.56	11.00	1.52
1.833	1.90	4.917	6.08	8.000	4.56	11.08	1.52
1.917	1.90	5.000	6.08	8.083	4.56	11.17	1.52
2.000	1.90	5.083	6.08	8.167	4.56	11.25	1.52
2.083	1.90	5.167	6.08	8.250	4.56	11.33	1.52
2.167	1.90	5.250	6.08	8.333	2.66	11.42	1.52
2.250	1.90	5.333	9.12	8.417	2.66	11.50	1.52
2.333	2.28	5.417	9.12	8.500	2.66	11.58	1.52
2.417	2.28	5.500	9.12	8.583	2.66	11.67	1.52
2.500	2.28	5.583	9.12	8.667	2.66	11.75	1.52
2.583	2.28	5.667	9.12	8.750	2.66	11.83	1.52
2.667	2.28	5.750	9.12	8.833	2.66	11.92	1.52
2.750	2.28	5.833	36.48	8.917	2.66	12.00	1.52
2.833	2.28	5.917	36.48	9.000	2.66	12.08	1.52
2.917	2.28	6.000	36.48	9.083	2.66	12.17	1.52
3.000	2.28	6.083	100.32	9.167	2.66	12.25	1.52
3.083	2.28	6.167	100.32	9.250	2.66		

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.025 (i)
TIME TO PEAK (hrs)= 6.333
RUNOFF VOLUME (mm)= 11.942
TOTAL RAINFALL (mm)= 76.000
RUNOFF COEFFICIENT = 0.157

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

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\6041a8cc
| Ptotal= 76.00 mm |    Comments: 10-Year-12-Hour-SCS-Type-II
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.04	6.75	13.68	10.00	2.66
0.50	1.90	3.75	3.04	7.00	6.08	10.25	2.66
0.75	1.90	4.00	3.04	7.25	6.08	10.50	1.52
1.00	1.90	4.25	3.04	7.50	4.56	10.75	1.52
1.25	1.90	4.50	4.56	7.75	4.56	11.00	1.52
1.50	1.90	4.75	4.56	8.00	4.56	11.25	1.52
1.75	1.90	5.00	6.08	8.25	4.56	11.50	1.52
2.00	1.90	5.25	6.08	8.50	2.66	11.75	1.52
2.25	1.90	5.50	9.12	8.75	2.66	12.00	1.52
2.50	2.28	5.75	9.12	9.00	2.66	12.25	1.52
2.75	2.28	6.00	36.48	9.25	2.66		
3.00	2.28	6.25	100.32	9.50	2.66		
3.25	2.28	6.50	13.68	9.75	2.66		

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| CALIB            |
| NASHYD   (  0017)|   Area     (ha)=   0.28   Curve Number    (CN)= 51.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.28	6.250	100.32	9.33	2.66
0.167	0.00	3.250	2.28	6.333	13.68	9.42	2.66
0.250	0.00	3.333	3.04	6.417	13.68	9.50	2.66
0.333	1.90	3.417	3.04	6.500	13.68	9.58	2.66
0.417	1.90	3.500	3.04	6.583	13.68	9.67	2.66
0.500	1.90	3.583	3.04	6.667	13.68	9.75	2.66
0.583	1.90	3.667	3.04	6.750	13.68	9.83	2.66
0.667	1.90	3.750	3.04	6.833	6.08	9.92	2.66
0.750	1.90	3.833	3.04	6.917	6.08	10.00	2.66
0.833	1.90	3.917	3.04	7.000	6.08	10.08	2.66
0.917	1.90	4.000	3.04	7.083	6.08	10.17	2.66
1.000	1.90	4.083	3.04	7.167	6.08	10.25	2.66
1.083	1.90	4.167	3.04	7.250	6.08	10.33	1.52
1.167	1.90	4.250	3.04	7.333	4.56	10.42	1.52
1.250	1.90	4.333	4.56	7.417	4.56	10.50	1.52
1.333	1.90	4.417	4.56	7.500	4.56	10.58	1.52
1.417	1.90	4.500	4.56	7.583	4.56	10.67	1.52
1.500	1.90	4.583	4.56	7.667	4.56	10.75	1.52
1.583	1.90	4.667	4.56	7.750	4.56	10.83	1.52
1.667	1.90	4.750	4.56	7.833	4.56	10.92	1.52
1.750	1.90	4.833	6.08	7.917	4.56	11.00	1.52
1.833	1.90	4.917	6.08	8.000	4.56	11.08	1.52
1.917	1.90	5.000	6.08	8.083	4.56	11.17	1.52
2.000	1.90	5.083	6.08	8.167	4.56	11.25	1.52
2.083	1.90	5.167	6.08	8.250	4.56	11.33	1.52
2.167	1.90	5.250	6.08	8.333	2.66	11.42	1.52
2.250	1.90	5.333	9.12	8.417	2.66	11.50	1.52
2.333	2.28	5.417	9.12	8.500	2.66	11.58	1.52
2.417	2.28	5.500	9.12	8.583	2.66	11.67	1.52
2.500	2.28	5.583	9.12	8.667	2.66	11.75	1.52
2.583	2.28	5.667	9.12	8.750	2.66	11.83	1.52
2.667	2.28	5.750	9.12	8.833	2.66	11.92	1.52
2.750	2.28	5.833	36.48	8.917	2.66	12.00	1.52
2.833	2.28	5.917	36.48	9.000	2.66	12.08	1.52
2.917	2.28	6.000	36.48	9.083	2.66	12.17	1.52
3.000	2.28	6.083	100.32	9.167	2.66	12.25	1.52
3.083	2.28	6.167	100.32	9.250	2.66		

```
    Unit Hyd Qpeak  (cms)=   0.063

    PEAK FLOW       (cms)=   0.013 (i)
    TIME TO PEAK    (hrs)=   6.333
    RUNOFF VOLUME    (mm)=  14.765
    TOTAL RAINFALL   (mm)=  76.000
    RUNOFF COEFFICIENT   =   0.194

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

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\6041a8cc
| Ptotal= 76.00 mm |    Comments: 10-Year-12-Hour-SCS-Type-II
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.04	6.75	13.68	10.00	2.66
0.50	1.90	3.75	3.04	7.00	6.08	10.25	2.66
0.75	1.90	4.00	3.04	7.25	6.08	10.50	1.52
1.00	1.90	4.25	3.04	7.50	4.56	10.75	1.52
1.25	1.90	4.50	4.56	7.75	4.56	11.00	1.52
1.50	1.90	4.75	4.56	8.00	4.56	11.25	1.52
1.75	1.90	5.00	6.08	8.25	4.56	11.50	1.52
2.00	1.90	5.25	6.08	8.50	2.66	11.75	1.52
2.25	1.90	5.50	9.12	8.75	2.66	12.00	1.52
2.50	2.28	5.75	9.12	9.00	2.66	12.25	1.52
2.75	2.28	6.00	36.48	9.25	2.66		
3.00	2.28	6.25	100.32	9.50	2.66		
3.25	2.28	6.50	13.68	9.75	2.66		

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| CALIB            |
| NASHYD   (  0018)|   Area     (ha)=  24.51   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.28	6.250	100.32	9.33	2.66
0.167	0.00	3.250	2.28	6.333	13.68	9.42	2.66
0.250	0.00	3.333	3.04	6.417	13.68	9.50	2.66
0.333	1.90	3.417	3.04	6.500	13.68	9.58	2.66
0.417	1.90	3.500	3.04	6.583	13.68	9.67	2.66
0.500	1.90	3.583	3.04	6.667	13.68	9.75	2.66
0.583	1.90	3.667	3.04	6.750	13.68	9.83	2.66
0.667	1.90	3.750	3.04	6.833	6.08	9.92	2.66
0.750	1.90	3.833	3.04	6.917	6.08	10.00	2.66
0.833	1.90	3.917	3.04	7.000	6.08	10.08	2.66
0.917	1.90	4.000	3.04	7.083	6.08	10.17	2.66
1.000	1.90	4.083	3.04	7.167	6.08	10.25	2.66
1.083	1.90	4.167	3.04	7.250	6.08	10.33	1.52
1.167	1.90	4.250	3.04	7.333	4.56	10.42	1.52
1.250	1.90	4.333	4.56	7.417	4.56	10.50	1.52
1.333	1.90	4.417	4.56	7.500	4.56	10.58	1.52
1.417	1.90	4.500	4.56	7.583	4.56	10.67	1.52
1.500	1.90	4.583	4.56	7.667	4.56	10.75	1.52
1.583	1.90	4.667	4.56	7.750	4.56	10.83	1.52
1.667	1.90	4.750	4.56	7.833	4.56	10.92	1.52
1.750	1.90	4.833	6.08	7.917	4.56	11.00	1.52
1.833	1.90	4.917	6.08	8.000	4.56	11.08	1.52
1.917	1.90	5.000	6.08	8.083	4.56	11.17	1.52
2.000	1.90	5.083	6.08	8.167	4.56	11.25	1.52
2.083	1.90	5.167	6.08	8.250	4.56	11.33	1.52
2.167	1.90	5.250	6.08	8.333	2.66	11.42	1.52
2.250	1.90	5.333	9.12	8.417	2.66	11.50	1.52
2.333	2.28	5.417	9.12	8.500	2.66	11.58	1.52
2.417	2.28	5.500	9.12	8.583	2.66	11.67	1.52
2.500	2.28	5.583	9.12	8.667	2.66	11.75	1.52
2.583	2.28	5.667	9.12	8.750	2.66	11.83	1.52
2.667	2.28	5.750	9.12	8.833	2.66	11.92	1.52
2.750	2.28	5.833	36.48	8.917	2.66	12.00	1.52
2.833	2.28	5.917	36.48	9.000	2.66	12.08	1.52
2.917	2.28	6.000	36.48	9.083	2.66	12.17	1.52
3.000	2.28	6.083	100.32	9.167	2.66	12.25	1.52
3.083	2.28	6.167	100.32	9.250	2.66		

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.489 (i)
TIME TO PEAK (hrs)= 6.917
RUNOFF VOLUME (mm)= 16.861
TOTAL RAINFALL (mm)= 76.000
RUNOFF COEFFICIENT = 0.222

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

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0016):		0.78	0.025	6.33	11.94
+ ID2= 2 (0017):		0.28	0.013	6.33	14.76
ID = 3 (0020):		1.06	0.038	6.33	12.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0020):		1.06	0.038	6.33	12.69
+ ID2= 2 (0018):		24.51	0.489	6.92	16.86
ID = 1 (0020):		25.57	0.499	6.92	16.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\324763ec-906a-445f-a0c9-abc6e73a16c4\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\324763ec-906a-445f-a0c9-abc6e73a16c4\scen

DATE: 10-31-2019 TIME: 10:40:27

USER:

COMMENTS: _____

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  ** SIMULATION : 3-10-Year-24-Hour-SCS-Type-II **
  ************************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\efc9bd42
| Ptotal= 89.90 mm |    Comments: New DesignStormManualInput
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.80	12.75	12.95	19.00	1.62
0.50	0.90	6.75	1.80	13.00	6.65	19.25	1.62
0.75	0.90	7.00	1.80	13.25	6.65	19.50	1.62
1.00	0.90	7.25	1.80	13.50	1.26	19.75	1.62
1.25	0.90	7.50	1.80	13.75	1.26	20.00	1.62
1.50	0.90	7.75	1.80	14.00	7.37	20.25	1.62
1.75	0.90	8.00	1.80	14.25	7.37	20.50	1.08
2.00	0.90	8.25	1.80	14.50	2.70	20.75	1.08
2.25	1.62	8.50	2.43	14.75	2.70	21.00	1.08
2.50	1.17	8.75	2.43	15.00	2.70	21.25	1.08
2.75	1.17	9.00	2.43	15.25	2.70	21.50	1.08
3.00	1.17	9.25	2.43	15.50	2.70	21.75	1.08
3.25	1.17	9.50	2.88	15.75	2.70	22.00	1.08
3.50	1.17	9.75	2.88	16.00	2.70	22.25	1.08
3.75	1.17	10.00	3.24	16.25	2.70	22.50	1.08
4.00	1.17	10.25	3.24	16.50	1.62	22.75	1.08
4.25	1.17	10.50	4.14	16.75	1.62	23.00	1.08
4.50	1.44	10.75	4.14	17.00	1.62	23.25	1.08
4.75	1.44	11.00	5.57	17.25	1.62	23.50	1.08
5.00	1.44	11.25	5.57	17.50	1.62	23.75	1.08
5.25	1.44	11.50	8.63	17.75	1.62	24.00	1.08
5.50	1.44	11.75	8.63	18.00	1.62	24.25	1.08
5.75	1.44	12.00	37.40	18.25	1.62		
6.00	1.44	12.25	99.25	18.50	1.62		
6.25	1.44	12.50	12.95	18.75	1.62		

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| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   0.78   Curve Number    (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.44	12.250	99.25	18.33	1.62
0.167	0.00	6.250	1.44	12.333	12.96	18.42	1.62
0.250	0.00	6.333	1.80	12.417	12.95	18.50	1.62
0.333	0.90	6.417	1.80	12.500	12.95	18.58	1.62
0.417	0.90	6.500	1.80	12.583	12.95	18.67	1.62
0.500	0.90	6.583	1.80	12.667	12.95	18.75	1.62
0.583	0.90	6.667	1.80	12.750	12.95	18.83	1.62
0.667	0.90	6.750	1.80	12.833	6.65	18.92	1.62
0.750	0.90	6.833	1.80	12.917	6.65	19.00	1.62
0.833	0.90	6.917	1.80	13.000	6.65	19.08	1.62
0.917	0.90	7.000	1.80	13.083	6.65	19.17	1.62
1.000	0.90	7.083	1.80	13.167	6.65	19.25	1.62
1.083	0.90	7.167	1.80	13.250	6.65	19.33	1.62
1.167	0.90	7.250	1.80	13.333	1.26	19.42	1.62
1.250	0.90	7.333	1.80	13.417	1.26	19.50	1.62
1.333	0.90	7.417	1.80	13.500	1.26	19.58	1.62
1.417	0.90	7.500	1.80	13.583	1.26	19.67	1.62
1.500	0.90	7.583	1.80	13.667	1.26	19.75	1.62
1.583	0.90	7.667	1.80	13.750	1.26	19.83	1.62
1.667	0.90	7.750	1.80	13.833	7.37	19.92	1.62
1.750	0.90	7.833	1.80	13.917	7.37	20.00	1.62
1.833	0.90	7.917	1.80	14.000	7.37	20.08	1.62
1.917	0.90	8.000	1.80	14.083	7.37	20.17	1.62
2.000	0.90	8.083	1.80	14.167	7.37	20.25	1.62
2.083	1.62	8.167	1.80	14.250	7.37	20.33	1.08
2.167	1.62	8.250	1.80	14.333	2.70	20.42	1.08
2.250	1.62	8.333	2.43	14.417	2.70	20.50	1.08
2.333	1.17	8.417	2.43	14.500	2.70	20.58	1.08
2.417	1.17	8.500	2.43	14.583	2.70	20.67	1.08
2.500	1.17	8.583	2.43	14.667	2.70	20.75	1.08
2.583	1.17	8.667	2.43	14.750	2.70	20.83	1.08
2.667	1.17	8.750	2.43	14.833	2.70	20.92	1.08
2.750	1.17	8.833	2.43	14.917	2.70	21.00	1.08
2.833	1.17	8.917	2.43	15.000	2.70	21.08	1.08
2.917	1.17	9.000	2.43	15.083	2.70	21.17	1.08
3.000	1.17	9.083	2.43	15.167	2.70	21.25	1.08
3.083	1.17	9.167	2.43	15.250	2.70	21.33	1.08
3.167	1.17	9.250	2.43	15.333	2.70	21.42	1.08
3.250	1.17	9.333	2.88	15.417	2.70	21.50	1.08
3.333	1.17	9.417	2.88	15.500	2.70	21.58	1.08
3.417	1.17	9.500	2.88	15.583	2.70	21.67	1.08
3.500	1.17	9.583	2.88	15.667	2.70	21.75	1.08
3.583	1.17	9.667	2.88	15.750	2.70	21.83	1.08
3.667	1.17	9.750	2.88	15.833	2.70	21.92	1.08
3.750	1.17	9.833	3.24	15.917	2.70	22.00	1.08
3.833	1.17	9.917	3.24	16.000	2.70	22.08	1.08
3.917	1.17	10.000	3.24	16.083	2.70	22.17	1.08
4.000	1.17	10.083	3.24	16.167	2.70	22.25	1.08
4.083	1.17	10.167	3.24	16.250	2.70	22.33	1.08
4.167	1.17	10.250	3.24	16.333	1.62	22.42	1.08
4.250	1.17	10.333	4.14	16.417	1.62	22.50	1.08
4.333	1.44	10.417	4.14	16.500	1.62	22.58	1.08
4.417	1.44	10.500	4.14	16.583	1.62	22.67	1.08
4.500	1.44	10.583	4.14	16.667	1.62	22.75	1.08
4.583	1.44	10.667	4.14	16.750	1.62	22.83	1.08
4.667	1.44	10.750	4.14	16.833	1.62	22.92	1.08
4.750	1.44	10.833	5.57	16.917	1.62	23.00	1.08
4.833	1.44	10.917	5.57	17.000	1.62	23.08	1.08
4.917	1.44	11.000	5.57	17.083	1.62	23.17	1.08
5.000	1.44	11.083	5.57	17.167	1.62	23.25	1.08
5.083	1.44	11.167	5.57	17.250	1.62	23.33	1.08
5.167	1.44	11.250	5.57	17.333	1.62	23.42	1.08
5.250	1.44	11.333	8.63	17.417	1.62	23.50	1.08
5.333	1.44	11.417	8.63	17.500	1.62	23.58	1.08
5.417	1.44	11.500	8.63	17.583	1.62	23.67	1.08
5.500	1.44	11.583	8.63	17.667	1.62	23.75	1.08
5.583	1.44	11.667	8.63	17.750	1.62	23.83	1.08
5.667	1.44	11.750	8.63	17.833	1.62	23.92	1.08

5.750	1.44	11.833	37.40	17.917	1.62	24.00	1.08
5.833	1.44	11.917	37.40	18.000	1.62	24.08	1.08
5.917	1.44	12.000	37.40	18.083	1.62	24.17	1.08
6.000	1.44	12.083	99.24	18.167	1.62	24.25	1.08
6.083	1.44	12.167	99.25	18.250	1.62		

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.030 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 16.858
TOTAL RAINFALL (mm)= 89.900
RUNOFF COEFFICIENT = 0.188

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\efc9bd42
Ptotal= 89.90 mm	Comments: New DesignStormManualInput

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.80	12.75	12.95	19.00	1.62
0.50	0.90	6.75	1.80	13.00	6.65	19.25	1.62
0.75	0.90	7.00	1.80	13.25	6.65	19.50	1.62
1.00	0.90	7.25	1.80	13.50	1.26	19.75	1.62
1.25	0.90	7.50	1.80	13.75	1.26	20.00	1.62
1.50	0.90	7.75	1.80	14.00	7.37	20.25	1.62
1.75	0.90	8.00	1.80	14.25	7.37	20.50	1.08
2.00	0.90	8.25	1.80	14.50	2.70	20.75	1.08
2.25	1.62	8.50	2.43	14.75	2.70	21.00	1.08
2.50	1.17	8.75	2.43	15.00	2.70	21.25	1.08
2.75	1.17	9.00	2.43	15.25	2.70	21.50	1.08
3.00	1.17	9.25	2.43	15.50	2.70	21.75	1.08
3.25	1.17	9.50	2.88	15.75	2.70	22.00	1.08
3.50	1.17	9.75	2.88	16.00	2.70	22.25	1.08
3.75	1.17	10.00	3.24	16.25	2.70	22.50	1.08
4.00	1.17	10.25	3.24	16.50	1.62	22.75	1.08
4.25	1.17	10.50	4.14	16.75	1.62	23.00	1.08
4.50	1.44	10.75	4.14	17.00	1.62	23.25	1.08
4.75	1.44	11.00	5.57	17.25	1.62	23.50	1.08
5.00	1.44	11.25	5.57	17.50	1.62	23.75	1.08
5.25	1.44	11.50	8.63	17.75	1.62	24.00	1.08
5.50	1.44	11.75	8.63	18.00	1.62	24.25	1.08
5.75	1.44	12.00	37.40	18.25	1.62		
6.00	1.44	12.25	99.25	18.50	1.62		
6.25	1.44	12.50	12.95	18.75	1.62		

CALIB			
NASHYD (0017)	Area (ha)= 0.28	Curve Number (CN)= 51.0	
ID= 1 DT= 5.0 min	Ia (mm)= 8.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.17		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.44	12.250	99.25	18.33	1.62
0.167	0.00	6.250	1.44	12.333	12.96	18.42	1.62
0.250	0.00	6.333	1.80	12.417	12.95	18.50	1.62
0.333	0.90	6.417	1.80	12.500	12.95	18.58	1.62
0.417	0.90	6.500	1.80	12.583	12.95	18.67	1.62
0.500	0.90	6.583	1.80	12.667	12.95	18.75	1.62
0.583	0.90	6.667	1.80	12.750	12.95	18.83	1.62
0.667	0.90	6.750	1.80	12.833	6.65	18.92	1.62
0.750	0.90	6.833	1.80	12.917	6.65	19.00	1.62
0.833	0.90	6.917	1.80	13.000	6.65	19.08	1.62
0.917	0.90	7.000	1.80	13.083	6.65	19.17	1.62
1.000	0.90	7.083	1.80	13.167	6.65	19.25	1.62
1.083	0.90	7.167	1.80	13.250	6.65	19.33	1.62
1.167	0.90	7.250	1.80	13.333	1.26	19.42	1.62
1.250	0.90	7.333	1.80	13.417	1.26	19.50	1.62
1.333	0.90	7.417	1.80	13.500	1.26	19.58	1.62
1.417	0.90	7.500	1.80	13.583	1.26	19.67	1.62
1.500	0.90	7.583	1.80	13.667	1.26	19.75	1.62
1.583	0.90	7.667	1.80	13.750	1.26	19.83	1.62
1.667	0.90	7.750	1.80	13.833	7.37	19.92	1.62
1.750	0.90	7.833	1.80	13.917	7.37	20.00	1.62
1.833	0.90	7.917	1.80	14.000	7.37	20.08	1.62
1.917	0.90	8.000	1.80	14.083	7.37	20.17	1.62
2.000	0.90	8.083	1.80	14.167	7.37	20.25	1.62
2.083	1.62	8.167	1.80	14.250	7.37	20.33	1.08
2.167	1.62	8.250	1.80	14.333	2.70	20.42	1.08
2.250	1.62	8.333	2.43	14.417	2.70	20.50	1.08
2.333	1.17	8.417	2.43	14.500	2.70	20.58	1.08
2.417	1.17	8.500	2.43	14.583	2.70	20.67	1.08
2.500	1.17	8.583	2.43	14.667	2.70	20.75	1.08
2.583	1.17	8.667	2.43	14.750	2.70	20.83	1.08
2.667	1.17	8.750	2.43	14.833	2.70	20.92	1.08
2.750	1.17	8.833	2.43	14.917	2.70	21.00	1.08
2.833	1.17	8.917	2.43	15.000	2.70	21.08	1.08
2.917	1.17	9.000	2.43	15.083	2.70	21.17	1.08
3.000	1.17	9.083	2.43	15.167	2.70	21.25	1.08
3.083	1.17	9.167	2.43	15.250	2.70	21.33	1.08
3.167	1.17	9.250	2.43	15.333	2.70	21.42	1.08
3.250	1.17	9.333	2.88	15.417	2.70	21.50	1.08
3.333	1.17	9.417	2.88	15.500	2.70	21.58	1.08
3.417	1.17	9.500	2.88	15.583	2.70	21.67	1.08
3.500	1.17	9.583	2.88	15.667	2.70	21.75	1.08
3.583	1.17	9.667	2.88	15.750	2.70	21.83	1.08
3.667	1.17	9.750	2.88	15.833	2.70	21.92	1.08
3.750	1.17	9.833	3.24	15.917	2.70	22.00	1.08
3.833	1.17	9.917	3.24	16.000	2.70	22.08	1.08
3.917	1.17	10.000	3.24	16.083	2.70	22.17	1.08
4.000	1.17	10.083	3.24	16.167	2.70	22.25	1.08
4.083	1.17	10.167	3.24	16.250	2.70	22.33	1.08
4.167	1.17	10.250	3.24	16.333	1.62	22.42	1.08
4.250	1.17	10.333	4.14	16.417	1.62	22.50	1.08
4.333	1.44	10.417	4.14	16.500	1.62	22.58	1.08
4.417	1.44	10.500	4.14	16.583	1.62	22.67	1.08
4.500	1.44	10.583	4.14	16.667	1.62	22.75	1.08

4.583	1.44	10.667	4.14	16.750	1.62	22.83	1.08
4.667	1.44	10.750	4.14	16.833	1.62	22.92	1.08
4.750	1.44	10.833	5.57	16.917	1.62	23.00	1.08
4.833	1.44	10.917	5.57	17.000	1.62	23.08	1.08
4.917	1.44	11.000	5.57	17.083	1.62	23.17	1.08
5.000	1.44	11.083	5.57	17.167	1.62	23.25	1.08
5.083	1.44	11.167	5.57	17.250	1.62	23.33	1.08
5.167	1.44	11.250	5.57	17.333	1.62	23.42	1.08
5.250	1.44	11.333	8.63	17.417	1.62	23.50	1.08
5.333	1.44	11.417	8.63	17.500	1.62	23.58	1.08
5.417	1.44	11.500	8.63	17.583	1.62	23.67	1.08
5.500	1.44	11.583	8.63	17.667	1.62	23.75	1.08
5.583	1.44	11.667	8.63	17.750	1.62	23.83	1.08
5.667	1.44	11.750	8.63	17.833	1.62	23.92	1.08
5.750	1.44	11.833	37.40	17.917	1.62	24.00	1.08
5.833	1.44	11.917	37.40	18.000	1.62	24.08	1.08
5.917	1.44	12.000	37.40	18.083	1.62	24.17	1.08
6.000	1.44	12.083	99.24	18.167	1.62	24.25	1.08
6.083	1.44	12.167	99.25	18.250	1.62		

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.014 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 20.504
TOTAL RAINFALL (mm)= 89.900
RUNOFF COEFFICIENT = 0.228

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\efc9bd42
Ptotal= 89.90 mm	Comments: New DesignStormManualInput

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.80	12.75	12.95	19.00	1.62
0.50	0.90	6.75	1.80	13.00	6.65	19.25	1.62
0.75	0.90	7.00	1.80	13.25	6.65	19.50	1.62
1.00	0.90	7.25	1.80	13.50	1.26	19.75	1.62
1.25	0.90	7.50	1.80	13.75	1.26	20.00	1.62
1.50	0.90	7.75	1.80	14.00	7.37	20.25	1.62
1.75	0.90	8.00	1.80	14.25	7.37	20.50	1.08
2.00	0.90	8.25	1.80	14.50	2.70	20.75	1.08
2.25	1.62	8.50	2.43	14.75	2.70	21.00	1.08
2.50	1.17	8.75	2.43	15.00	2.70	21.25	1.08
2.75	1.17	9.00	2.43	15.25	2.70	21.50	1.08
3.00	1.17	9.25	2.43	15.50	2.70	21.75	1.08
3.25	1.17	9.50	2.88	15.75	2.70	22.00	1.08
3.50	1.17	9.75	2.88	16.00	2.70	22.25	1.08
3.75	1.17	10.00	3.24	16.25	2.70	22.50	1.08
4.00	1.17	10.25	3.24	16.50	1.62	22.75	1.08
4.25	1.17	10.50	4.14	16.75	1.62	23.00	1.08
4.50	1.44	10.75	4.14	17.00	1.62	23.25	1.08
4.75	1.44	11.00	5.57	17.25	1.62	23.50	1.08
5.00	1.44	11.25	5.57	17.50	1.62	23.75	1.08
5.25	1.44	11.50	8.63	17.75	1.62	24.00	1.08
5.50	1.44	11.75	8.63	18.00	1.62	24.25	1.08
5.75	1.44	12.00	37.40	18.25	1.62		
6.00	1.44	12.25	99.25	18.50	1.62		
6.25	1.44	12.50	12.95	18.75	1.62		

CALIB NASHYD (0018) ID= 1 DT= 5.0 min	Area (ha)= 24.51	Curve Number (CN)= 52.7
	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.70	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.44	12.250	99.25	18.33	1.62
0.167	0.00	6.250	1.44	12.333	12.96	18.42	1.62
0.250	0.00	6.333	1.80	12.417	12.95	18.50	1.62
0.333	0.90	6.417	1.80	12.500	12.95	18.58	1.62
0.417	0.90	6.500	1.80	12.583	12.95	18.67	1.62
0.500	0.90	6.583	1.80	12.667	12.95	18.75	1.62
0.583	0.90	6.667	1.80	12.750	12.95	18.83	1.62
0.667	0.90	6.750	1.80	12.833	6.65	18.92	1.62
0.750	0.90	6.833	1.80	12.917	6.65	19.00	1.62
0.833	0.90	6.917	1.80	13.000	6.65	19.08	1.62
0.917	0.90	7.000	1.80	13.083	6.65	19.17	1.62
1.000	0.90	7.083	1.80	13.167	6.65	19.25	1.62
1.083	0.90	7.167	1.80	13.250	6.65	19.33	1.62
1.167	0.90	7.250	1.80	13.333	1.26	19.42	1.62
1.250	0.90	7.333	1.80	13.417	1.26	19.50	1.62
1.333	0.90	7.417	1.80	13.500	1.26	19.58	1.62
1.417	0.90	7.500	1.80	13.583	1.26	19.67	1.62
1.500	0.90	7.583	1.80	13.667	1.26	19.75	1.62
1.583	0.90	7.667	1.80	13.750	1.26	19.83	1.62
1.667	0.90	7.750	1.80	13.833	7.37	19.92	1.62
1.750	0.90	7.833	1.80	13.917	7.37	20.00	1.62
1.833	0.90	7.917	1.80	14.000	7.37	20.08	1.62
1.917	0.90	8.000	1.80	14.083	7.37	20.17	1.62
2.000	0.90	8.083	1.80	14.167	7.37	20.25	1.62
2.083	1.62	8.167	1.80	14.250	7.37	20.33	1.08
2.167	1.62	8.250	1.80	14.333	2.70	20.42	1.08
2.250	1.62	8.333	2.43	14.417	2.70	20.50	1.08
2.333	1.17	8.417	2.43	14.500	2.70	20.58	1.08
2.417	1.17	8.500	2.43	14.583	2.70	20.67	1.08
2.500	1.17	8.583	2.43	14.667	2.70	20.75	1.08
2.583	1.17	8.667	2.43	14.750	2.70	20.83	1.08
2.667	1.17	8.750	2.43	14.833	2.70	20.92	1.08
2.750	1.17	8.833	2.43	14.917	2.70	21.00	1.08
2.833	1.17	8.917	2.43	15.000	2.70	21.08	1.08
2.917	1.17	9.000	2.43	15.083	2.70	21.17	1.08
3.000	1.17	9.083	2.43	15.167	2.70	21.25	1.08
3.083	1.17	9.167	2.43	15.250	2.70	21.33	1.08
3.167	1.17	9.250	2.43	15.333	2.70	21.42	1.08
3.250	1.17	9.333	2.88	15.417	2.70	21.50	1.08
3.333	1.17	9.417	2.88	15.500	2.70	21.58	1.08

3.417	1.17	9.500	2.88	15.583	2.70	21.67	1.08
3.500	1.17	9.583	2.88	15.667	2.70	21.75	1.08
3.583	1.17	9.667	2.88	15.750	2.70	21.83	1.08
3.667	1.17	9.750	2.88	15.833	2.70	21.92	1.08
3.750	1.17	9.833	3.24	15.917	2.70	22.00	1.08
3.833	1.17	9.917	3.24	16.000	2.70	22.08	1.08
3.917	1.17	10.000	3.24	16.083	2.70	22.17	1.08
4.000	1.17	10.083	3.24	16.167	2.70	22.25	1.08
4.083	1.17	10.167	3.24	16.250	2.70	22.33	1.08
4.167	1.17	10.250	3.24	16.333	1.62	22.42	1.08
4.250	1.17	10.333	4.14	16.417	1.62	22.50	1.08
4.333	1.44	10.417	4.14	16.500	1.62	22.58	1.08
4.417	1.44	10.500	4.14	16.583	1.62	22.67	1.08
4.500	1.44	10.583	4.14	16.667	1.62	22.75	1.08
4.583	1.44	10.667	4.14	16.750	1.62	22.83	1.08
4.667	1.44	10.750	4.14	16.833	1.62	22.92	1.08
4.750	1.44	10.833	5.57	16.917	1.62	23.00	1.08
4.833	1.44	10.917	5.57	17.000	1.62	23.08	1.08
4.917	1.44	11.000	5.57	17.083	1.62	23.17	1.08
5.000	1.44	11.083	5.57	17.167	1.62	23.25	1.08
5.083	1.44	11.167	5.57	17.250	1.62	23.33	1.08
5.167	1.44	11.250	5.57	17.333	1.62	23.42	1.08
5.250	1.44	11.333	8.63	17.417	1.62	23.50	1.08
5.333	1.44	11.417	8.63	17.500	1.62	23.58	1.08
5.417	1.44	11.500	8.63	17.583	1.62	23.67	1.08
5.500	1.44	11.583	8.63	17.667	1.62	23.75	1.08
5.583	1.44	11.667	8.63	17.750	1.62	23.83	1.08
5.667	1.44	11.750	8.63	17.833	1.62	23.92	1.08
5.750	1.44	11.833	37.40	17.917	1.62	24.00	1.08
5.833	1.44	11.917	37.40	18.000	1.62	24.08	1.08
5.917	1.44	12.000	37.40	18.083	1.62	24.17	1.08
6.000	1.44	12.083	99.24	18.167	1.62	24.25	1.08
6.083	1.44	12.167	99.25	18.250	1.62		

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.560 (i)
TIME TO PEAK (hrs)= 12.917
RUNOFF VOLUME (mm)= 23.038
TOTAL RAINFALL (mm)= 89.900
RUNOFF COEFFICIENT = 0.256

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

ADD HYD (0020)|	AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0016):		0.78	0.030	12.33	16.86
+ ID2= 2 (0017):		0.28	0.014	12.25	20.50
ID = 3 (0020):		1.06	0.044	12.33	17.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)|	AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0020):		1.06	0.044	12.33	17.82
+ ID2= 2 (0018):		24.51	0.560	12.92	23.04
ID = 1 (0020):		25.57	0.572	12.83	22.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\67d55713-bdfe-44d1-a31c-e3da0f37afbd\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\67d55713-bdfe-44d1-a31c-e3da0f37afbd\scen

DATE: 10-31-2019 TIME: 10:40:29

USER:

COMMENTS: _____

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  ************************************************
  ** SIMULATION : 3-10-Year-4-Hour-Chicago-Barr **
  ************************************************
```

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\335bdce2
Ptotal= 59.69 mm	Comments: 10-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.32	1.17	30.27	2.17	9.72	3.17	5.09
0.33	4.91	1.33	126.55	2.33	8.35	3.33	4.74
0.50	5.73	1.50	39.22	2.50	7.35	3.50	4.45
0.67	6.96	1.67	21.35	2.67	6.59	3.67	4.19
0.83	9.03	1.83	15.01	2.83	5.99	3.83	3.97
1.00	13.36	2.00	11.74	3.00	5.50	4.00	3.77

CALIB	
NASHYD (0016)	Area (ha)= 0.78 Curve Number (CN)= 46.0
ID= 1 DT= 5.0 min	Ia (mm)= 10.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.21

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.32	1.083	30.27	2.083	9.72	3.08	5.09
0.167	4.32	1.167	30.27	2.167	9.72	3.17	5.09
0.250	4.91	1.250	126.55	2.250	8.35	3.25	4.74
0.333	4.91	1.333	126.55	2.333	8.35	3.33	4.74
0.417	5.73	1.417	39.22	2.417	7.35	3.42	4.45
0.500	5.73	1.500	39.22	2.500	7.35	3.50	4.45
0.583	6.96	1.583	21.35	2.583	6.59	3.58	4.19
0.667	6.96	1.667	21.35	2.667	6.59	3.67	4.19
0.750	9.03	1.750	15.01	2.750	5.99	3.75	3.97
0.833	9.03	1.833	15.01	2.833	5.99	3.83	3.97
0.917	13.36	1.917	11.74	2.917	5.50	3.92	3.77
1.000	13.36	2.000	11.74	3.000	5.50	4.00	3.77

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.013 (i)
TIME TO PEAK (hrs)= 1.583
RUNOFF VOLUME (mm)= 7.087
TOTAL RAINFALL (mm)= 59.695
RUNOFF COEFFICIENT = 0.119

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\335bdce2
Ptotal= 59.69 mm	Comments: 10-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.32	1.17	30.27	2.17	9.72	3.17	5.09
0.33	4.91	1.33	126.55	2.33	8.35	3.33	4.74
0.50	5.73	1.50	39.22	2.50	7.35	3.50	4.45
0.67	6.96	1.67	21.35	2.67	6.59	3.67	4.19
0.83	9.03	1.83	15.01	2.83	5.99	3.83	3.97
1.00	13.36	2.00	11.74	3.00	5.50	4.00	3.77

CALIB	
NASHYD (0017)	Area (ha)= 0.28 Curve Number (CN)= 51.0
ID= 1 DT= 5.0 min	Ia (mm)= 8.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.17

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.32	1.083	30.27	2.083	9.72	3.08	5.09
0.167	4.32	1.167	30.27	2.167	9.72	3.17	5.09
0.250	4.91	1.250	126.55	2.250	8.35	3.25	4.74
0.333	4.91	1.333	126.55	2.333	8.35	3.33	4.74
0.417	5.73	1.417	39.22	2.417	7.35	3.42	4.45
0.500	5.73	1.500	39.22	2.500	7.35	3.50	4.45
0.583	6.96	1.583	21.35	2.583	6.59	3.58	4.19
0.667	6.96	1.667	21.35	2.667	6.59	3.67	4.19
0.750	9.03	1.750	15.01	2.750	5.99	3.75	3.97
0.833	9.03	1.833	15.01	2.833	5.99	3.83	3.97
0.917	13.36	1.917	11.74	2.917	5.50	3.92	3.77
1.000	13.36	2.000	11.74	3.000	5.50	4.00	3.77

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.007 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 9.002
TOTAL RAINFALL (mm)= 59.695
RUNOFF COEFFICIENT = 0.151

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\335bdce2
Ptotal= 59.69 mm	Comments: 10-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.32	1.17	30.27	2.17	9.72	3.17	5.09
0.33	4.91	1.33	126.55	2.33	8.35	3.33	4.74
0.50	5.73	1.50	39.22	2.50	7.35	3.50	4.45
0.67	6.96	1.67	21.35	2.67	6.59	3.67	4.19
0.83	9.03	1.83	15.01	2.83	5.99	3.83	3.97
1.00	13.36	2.00	11.74	3.00	5.50	4.00	3.77

```
--------------------
| CALIB            |
| NASHYD   (  0018)|   Area     (ha)=  24.51   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.32	1.083	30.27	2.083	9.72	3.08	5.09
0.167	4.32	1.167	30.27	2.167	9.72	3.17	5.09
0.250	4.91	1.250	126.55	2.250	8.35	3.25	4.74
0.333	4.91	1.333	126.55	2.333	8.35	3.33	4.74
0.417	5.73	1.417	39.22	2.417	7.35	3.42	4.45
0.500	5.73	1.500	39.22	2.500	7.35	3.50	4.45
0.583	6.96	1.583	21.35	2.583	6.59	3.58	4.19
0.667	6.96	1.667	21.35	2.667	6.59	3.67	4.19
0.750	9.03	1.750	15.01	2.750	5.99	3.75	3.97
0.833	9.03	1.833	15.01	2.833	5.99	3.83	3.97
0.917	13.36	1.917	11.74	2.917	5.50	3.92	3.77
1.000	13.36	2.000	11.74	3.000	5.50	4.00	3.77

```
     Unit Hyd Qpeak  (cms)=   1.337

     PEAK FLOW       (cms)=   0.327 (i)
     TIME TO PEAK    (hrs)=   2.250
     RUNOFF VOLUME    (mm)=  10.583
     TOTAL RAINFALL   (mm)=  59.695
     RUNOFF COEFFICIENT   =   0.177

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

```
--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
       ID1= 1 (  0016):      0.78    0.013     1.58     7.09
     + ID2= 2 (  0017):      0.28    0.007     1.50     9.00
       ================================================
       ID = 3 (  0020):      1.06    0.020     1.50     7.59

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

```
--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
       ID1= 3 (  0020):      1.06    0.020     1.50     7.59
     + ID2= 2 (  0018):     24.51    0.327     2.25    10.58
       ================================================
       ID = 1 (  0020):     25.57    0.335     2.25    10.46

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

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\4bd4bdee-7cb7-4694-9ecb-b1fbe7e83335\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\4bd4bdee-7cb7-4694-9ecb-b1fbe7e83335\scen

DATE: 10-31-2019                          TIME: 10:40:28

USER:

COMMENTS: _____
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  ********************************************
  ** SIMULATION : 3-10-Year-4-Hour-Chicago-MTO  **
  ********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 591.350
| Ptotal= 51.28 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.31	1.17	20.41	2.17	8.53	3.17	4.97
0.33	4.82	1.33	118.26	2.33	7.53	3.33	4.68
0.50	5.50	1.50	25.04	2.50	6.78	3.50	4.43

0.67	6.47	1.67	15.79	2.67	6.18	3.67	4.21
0.83	8.02	1.83	12.04	2.83	5.70	3.83	4.01
1.00	10.97	2.00	9.92	3.00	5.30	4.00	3.83

CALIB					
NASHYD (0016)	Area (ha)= 0.78	Curve Number (CN)= 46.0			
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.21				

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.31	1.083	20.41	2.083	8.53	3.08	4.97
0.167	4.31	1.167	20.41	2.167	8.53	3.17	4.97
0.250	4.82	1.250	118.26	2.250	7.53	3.25	4.68
0.333	4.82	1.333	118.26	2.333	7.53	3.33	4.68
0.417	5.50	1.417	25.04	2.417	6.78	3.42	4.43
0.500	5.50	1.500	25.04	2.500	6.78	3.50	4.43
0.583	6.47	1.583	15.79	2.583	6.18	3.58	4.21
0.667	6.47	1.667	15.79	2.667	6.18	3.67	4.21
0.750	8.02	1.750	12.04	2.750	5.70	3.75	4.01
0.833	8.02	1.833	12.04	2.833	5.70	3.83	4.01
0.917	10.97	1.917	9.92	2.917	5.30	3.92	3.83
1.000	10.97	2.000	9.92	3.000	5.30	4.00	3.83

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.009 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 5.012
TOTAL RAINFALL (mm)= 51.284
RUNOFF COEFFICIENT = 0.098

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

CHICAGO STORM	IDF curve parameters: A= 591.350
Ptotal= 51.28 mm	B= 0.000
	C= 0.699

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.31	1.17	20.41	2.17	8.53	3.17	4.97
0.33	4.82	1.33	118.26	2.33	7.53	3.33	4.68
0.50	5.50	1.50	25.04	2.50	6.78	3.50	4.43
0.67	6.47	1.67	15.79	2.67	6.18	3.67	4.21
0.83	8.02	1.83	12.04	2.83	5.70	3.83	4.01
1.00	10.97	2.00	9.92	3.00	5.30	4.00	3.83

CALIB					
NASHYD (0017)	Area (ha)= 0.28	Curve Number (CN)= 51.0			
ID= 1 DT= 5.0 min	Ia (mm)= 8.00	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.17				

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.31	1.083	20.41	2.083	8.53	3.08	4.97
0.167	4.31	1.167	20.41	2.167	8.53	3.17	4.97
0.250	4.82	1.250	118.26	2.250	7.53	3.25	4.68
0.333	4.82	1.333	118.26	2.333	7.53	3.33	4.68
0.417	5.50	1.417	25.04	2.417	6.78	3.42	4.43
0.500	5.50	1.500	25.04	2.500	6.78	3.50	4.43
0.583	6.47	1.583	15.79	2.583	6.18	3.58	4.21
0.667	6.47	1.667	15.79	2.667	6.18	3.67	4.21
0.750	8.02	1.750	12.04	2.750	5.70	3.75	4.01
0.833	8.02	1.833	12.04	2.833	5.70	3.83	4.01
0.917	10.97	1.917	9.92	2.917	5.30	3.92	3.83
1.000	10.97	2.000	9.92	3.000	5.30	4.00	3.83

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.005 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 6.495
TOTAL RAINFALL (mm)= 51.284
RUNOFF COEFFICIENT = 0.127

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

CHICAGO STORM	IDF curve parameters: A= 591.350
Ptotal= 51.28 mm	B= 0.000
	C= 0.699

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.31	1.17	20.41	2.17	8.53	3.17	4.97
0.33	4.82	1.33	118.26	2.33	7.53	3.33	4.68
0.50	5.50	1.50	25.04	2.50	6.78	3.50	4.43
0.67	6.47	1.67	15.79	2.67	6.18	3.67	4.21
0.83	8.02	1.83	12.04	2.83	5.70	3.83	4.01
1.00	10.97	2.00	9.92	3.00	5.30	4.00	3.83

```
--------------------
| CALIB            |
| NASHYD   (  0018)|   Area     (ha)=  24.51   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.31	1.083	20.41	2.083	8.53	3.08	4.97
0.167	4.31	1.167	20.41	2.167	8.53	3.17	4.97
0.250	4.82	1.250	118.26	2.250	7.53	3.25	4.68
0.333	4.82	1.333	118.26	2.333	7.53	3.33	4.68
0.417	5.50	1.417	25.04	2.417	6.78	3.42	4.43
0.500	5.50	1.500	25.04	2.500	6.78	3.50	4.43
0.583	6.47	1.583	15.79	2.583	6.18	3.58	4.21
0.667	6.47	1.667	15.79	2.667	6.18	3.67	4.21
0.750	8.02	1.750	12.04	2.750	5.70	3.75	4.01
0.833	8.02	1.833	12.04	2.833	5.70	3.83	4.01
0.917	10.97	1.917	9.92	2.917	5.30	3.92	3.83
1.000	10.97	2.000	9.92	3.000	5.30	4.00	3.83

```
     Unit Hyd Qpeak  (cms)=   1.337

     PEAK FLOW       (cms)=   0.225 (i)
     TIME TO PEAK    (hrs)=   2.250
     RUNOFF VOLUME    (mm)=   7.811
     TOTAL RAINFALL   (mm)=  51.284
     RUNOFF COEFFICIENT   =   0.152

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

```
--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
       ID1= 1 (  0016):      0.78   0.009     1.50     5.01
     + ID2= 2 (  0017):      0.28   0.005     1.50     6.50
       ================================================
       ID = 3 (  0020):      1.06   0.013     1.50     5.40

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

```
--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
       ID1= 3 (  0020):      1.06   0.013     1.50     5.40
     + ID2= 2 (  0018):     24.51   0.225     2.25     7.81
       ================================================
       ID = 1 (  0020):     25.57   0.231     2.25     7.71

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

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

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\61d29d39-eafe-415a-97c7-2d4090d0e2b6\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\61d29d39-eafe-415a-97c7-2d4090d0e2b6\scen


DATE: 10-31-2019                          TIME: 10:40:28

USER:


COMMENTS: _____________________________________________________________
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```
----------------------
  ********************************************
  ** SIMULATION : 3-10-Year-6-Hour-SCS-Type-II  **
  ********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\9434984f
| Ptotal= 70.80 mm |    Comments: 10-Year-6-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	7.08	3.75	15.58	5.50	2.83
0.50	2.83	2.25	7.08	4.00	7.08	5.75	2.83
0.75	2.83	2.50	8.50	4.25	7.08	6.00	2.83
1.00	4.25	2.75	8.50	4.50	5.66	6.25	2.83
1.25	4.25	3.00	42.48	4.75	5.66		
1.50	4.25	3.25	110.45	5.00	4.25		

		1.75	4.25	3.50	15.58	5.25	4.25				

CALIB											
NASHYD (0016)	Area (ha)= 0.78	Curve Number (CN)= 46.0									
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 3.00									
	U.H. Tp(hrs)= 0.21										

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.25	3.250	110.45	4.83	4.25
0.167	0.00	1.750	4.25	3.333	15.58	4.92	4.25
0.250	0.00	1.833	7.08	3.417	15.58	5.00	4.25
0.333	2.83	1.917	7.08	3.500	15.58	5.08	4.25
0.417	2.83	2.000	7.08	3.583	15.58	5.17	4.25
0.500	2.83	2.083	7.08	3.667	15.58	5.25	4.25
0.583	2.83	2.167	7.08	3.750	15.58	5.33	2.83
0.667	2.83	2.250	7.08	3.833	7.08	5.42	2.83
0.750	2.83	2.333	8.50	3.917	7.08	5.50	2.83
0.833	4.25	2.417	8.50	4.000	7.08	5.58	2.83
0.917	4.25	2.500	8.50	4.083	7.08	5.67	2.83
1.000	4.25	2.583	8.50	4.167	7.08	5.75	2.83
1.083	4.25	2.667	8.50	4.250	7.08	5.83	2.83
1.167	4.25	2.750	8.50	4.333	5.66	5.92	2.83
1.250	4.25	2.833	42.48	4.417	5.66	6.00	2.83
1.333	4.25	2.917	42.48	4.500	5.66	6.08	2.83
1.417	4.25	3.000	42.48	4.583	5.66	6.17	2.83
1.500	4.25	3.083	110.45	4.667	5.66	6.25	2.83
1.583	4.25	3.167	110.45	4.750	5.66		

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.025 (i)
TIME TO PEAK (hrs)= 3.333
RUNOFF VOLUME (mm)= 10.281
TOTAL RAINFALL (mm)= 70.800
RUNOFF COEFFICIENT = 0.145

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

READ STORM	Filename: C:\Users\ssoumik\AppD ata\Local\Temp\ 51e889a9-b20e-490a-a712-b7c08b57f1c7\9434984f
Ptotal= 70.80 mm	Comments: 10-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	7.08	3.75	15.58	5.50	2.83
0.50	2.83	2.25	7.08	4.00	7.08	5.75	2.83
0.75	2.83	2.50	8.50	4.25	7.08	6.00	2.83
1.00	4.25	2.75	8.50	4.50	5.66	6.25	2.83
1.25	4.25	3.00	42.48	4.75	5.66		
1.50	4.25	3.25	110.45	5.00	4.25		
1.75	4.25	3.50	15.58	5.25	4.25		

CALIB											
NASHYD (0017)	Area (ha)= 0.28	Curve Number (CN)= 51.0									
ID= 1 DT= 5.0 min	Ia (mm)= 8.00	# of Linear Res.(N)= 3.00									
	U.H. Tp(hrs)= 0.17										

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.25	3.250	110.45	4.83	4.25
0.167	0.00	1.750	4.25	3.333	15.58	4.92	4.25
0.250	0.00	1.833	7.08	3.417	15.58	5.00	4.25
0.333	2.83	1.917	7.08	3.500	15.58	5.08	4.25
0.417	2.83	2.000	7.08	3.583	15.58	5.17	4.25
0.500	2.83	2.083	7.08	3.667	15.58	5.25	4.25
0.583	2.83	2.167	7.08	3.750	15.58	5.33	2.83
0.667	2.83	2.250	7.08	3.833	7.08	5.42	2.83
0.750	2.83	2.333	8.50	3.917	7.08	5.50	2.83
0.833	4.25	2.417	8.50	4.000	7.08	5.58	2.83
0.917	4.25	2.500	8.50	4.083	7.08	5.67	2.83
1.000	4.25	2.583	8.50	4.167	7.08	5.75	2.83
1.083	4.25	2.667	8.50	4.250	7.08	5.83	2.83
1.167	4.25	2.750	8.50	4.333	5.66	5.92	2.83
1.250	4.25	2.833	42.48	4.417	5.66	6.00	2.83
1.333	4.25	2.917	42.48	4.500	5.66	6.08	2.83
1.417	4.25	3.000	42.48	4.583	5.66	6.17	2.83
1.500	4.25	3.083	110.45	4.667	5.66	6.25	2.83
1.583	4.25	3.167	110.45	4.750	5.66		

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.013 (i)
TIME TO PEAK (hrs)= 3.333
RUNOFF VOLUME (mm)= 12.806
TOTAL RAINFALL (mm)= 70.800
RUNOFF COEFFICIENT = 0.181

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

READ STORM	Filename: C:\Users\ssoumik\AppD ata\Local\Temp\ 51e889a9-b20e-490a-a712-b7c08b57f1c7\9434984f
Ptotal= 70.80 mm	Comments: 10-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	7.08	3.75	15.58	5.50	2.83
0.50	2.83	2.25	7.08	4.00	7.08	5.75	2.83

0.75	2.83	2.50	8.50	4.25	7.08	6.00	2.83
1.00	4.25	2.75	8.50	4.50	5.66	6.25	2.83
1.25	4.25	3.00	42.48	4.75	5.66		
1.50	4.25	3.25	110.45	5.00	4.25		
1.75	4.25	3.50	15.58	5.25	4.25		

CALIB					
NASHYD (0018)	Area	(ha)= 24.51	Curve Number	(CN)= 52.7	
ID= 1 DT= 5.0 min	Ia	(mm)= 5.00	# of Linear Res.	(N)= 3.00	
	U.H. Tp	(hrs)= 0.70			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.25	3.250	110.45	4.83	4.25
0.167	0.00	1.750	4.25	3.333	15.58	4.92	4.25
0.250	0.00	1.833	7.08	3.417	15.58	5.00	4.25
0.333	2.83	1.917	7.08	3.500	15.58	5.08	4.25
0.417	2.83	2.000	7.08	3.583	15.58	5.17	4.25
0.500	2.83	2.083	7.08	3.667	15.58	5.25	4.25
0.583	2.83	2.167	7.08	3.750	15.58	5.33	2.83
0.667	2.83	2.250	7.08	3.833	7.08	5.42	2.83
0.750	2.83	2.333	8.50	3.917	7.08	5.50	2.83
0.833	4.25	2.417	8.50	4.000	7.08	5.58	2.83
0.917	4.25	2.500	8.50	4.083	7.08	5.67	2.83
1.000	4.25	2.583	8.50	4.167	7.08	5.75	2.83
1.083	4.25	2.667	8.50	4.250	7.08	5.83	2.83
1.167	4.25	2.750	8.50	4.333	5.66	5.92	2.83
1.250	4.25	2.833	42.48	4.417	5.66	6.00	2.83
1.333	4.25	2.917	42.48	4.500	5.66	6.08	2.83
1.417	4.25	3.000	42.48	4.583	5.66	6.17	2.83
1.500	4.25	3.083	110.45	4.667	5.66	6.25	2.83
1.583	4.25	3.167	110.45	4.750	5.66		

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.497 (i)
TIME TO PEAK (hrs)= 3.917
RUNOFF VOLUME (mm)= 14.738
TOTAL RAINFALL (mm)= 70.800
RUNOFF COEFFICIENT = 0.208

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

ADD HYD (0020)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0016):	0.78	0.025	3.33	10.28
	+ ID2= 2 (0017):	0.28	0.013	3.33	12.81
	ID = 3 (0020):	1.06	0.038	3.33	10.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0020):	1.06	0.038	3.33	10.95
	+ ID2= 2 (0018):	24.51	0.497	3.92	14.74
	ID = 1 (0020):	25.57	0.508	3.92	14.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\69067060-233d-4d8c-94b2-df9d15154675\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\69067060-233d-4d8c-94b2-df9d15154675\scen

DATE: 10-31-2019 TIME: 10:40:29

USER:

COMMENTS: _____

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  ********************************************
  ** SIMULATION : 4-25-Year-12-Hour-SCS-Type-II **
  ********************************************
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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\5eef7ed8
| Ptotal= 90.70 mm |    Comments: 25-Year-12-Hour-SCS-Type-II
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.63	6.75	16.33	10.00	3.17
0.50	2.27	3.75	3.63	7.00	7.26	10.25	3.17
0.75	2.27	4.00	3.63	7.25	7.26	10.50	1.81
1.00	2.27	4.25	3.63	7.50	5.44	10.75	1.81
1.25	2.27	4.50	5.44	7.75	5.44	11.00	1.81
1.50	2.27	4.75	5.44	8.00	5.44	11.25	1.81
1.75	2.27	5.00	7.26	8.25	5.44	11.50	1.81
2.00	2.27	5.25	7.26	8.50	3.17	11.75	1.81
2.25	2.27	5.50	10.88	8.75	3.17	12.00	1.81
2.50	2.72	5.75	10.88	9.00	3.17	12.25	1.81
2.75	2.72	6.00	43.54	9.25	3.17		
3.00	2.72	6.25	119.72	9.50	3.17		
3.25	2.72	6.50	16.33	9.75	3.17		

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--------------------
| CALIB            |
| NASHYD   (  0016)|   Area     (ha)=   0.78   Curve Number    (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.72	6.250	119.72	9.33	3.17
0.167	0.00	3.250	2.72	6.333	16.33	9.42	3.17
0.250	0.00	3.333	3.63	6.417	16.33	9.50	3.17
0.333	2.27	3.417	3.63	6.500	16.33	9.58	3.17
0.417	2.27	3.500	3.63	6.583	16.33	9.67	3.17
0.500	2.27	3.583	3.63	6.667	16.33	9.75	3.17
0.583	2.27	3.667	3.63	6.750	16.33	9.83	3.17
0.667	2.27	3.750	3.63	6.833	7.26	9.92	3.17
0.750	2.27	3.833	3.63	6.917	7.26	10.00	3.17
0.833	2.27	3.917	3.63	7.000	7.26	10.08	3.17
0.917	2.27	4.000	3.63	7.083	7.26	10.17	3.17
1.000	2.27	4.083	3.63	7.167	7.26	10.25	3.17
1.083	2.27	4.167	3.63	7.250	7.26	10.33	1.81
1.167	2.27	4.250	3.63	7.333	5.44	10.42	1.81
1.250	2.27	4.333	5.44	7.417	5.44	10.50	1.81
1.333	2.27	4.417	5.44	7.500	5.44	10.58	1.81
1.417	2.27	4.500	5.44	7.583	5.44	10.67	1.81
1.500	2.27	4.583	5.44	7.667	5.44	10.75	1.81
1.583	2.27	4.667	5.44	7.750	5.44	10.83	1.81
1.667	2.27	4.750	5.44	7.833	5.44	10.92	1.81
1.750	2.27	4.833	7.26	7.917	5.44	11.00	1.81
1.833	2.27	4.917	7.26	8.000	5.44	11.08	1.81
1.917	2.27	5.000	7.26	8.083	5.44	11.17	1.81
2.000	2.27	5.083	7.26	8.167	5.44	11.25	1.81
2.083	2.27	5.167	7.26	8.250	5.44	11.33	1.81
2.167	2.27	5.250	7.26	8.333	3.17	11.42	1.81
2.250	2.27	5.333	10.88	8.417	3.17	11.50	1.81
2.333	2.72	5.417	10.88	8.500	3.17	11.58	1.81
2.417	2.72	5.500	10.88	8.583	3.17	11.67	1.81
2.500	2.72	5.583	10.88	8.667	3.17	11.75	1.81
2.583	2.72	5.667	10.88	8.750	3.17	11.83	1.81
2.667	2.72	5.750	10.88	8.833	3.17	11.92	1.81
2.750	2.72	5.833	43.54	8.917	3.17	12.00	1.81
2.833	2.72	5.917	43.54	9.000	3.17	12.08	1.81
2.917	2.72	6.000	43.54	9.083	3.17	12.17	1.81
3.000	2.72	6.083	119.72	9.167	3.17	12.25	1.81
3.083	2.72	6.167	119.72	9.250	3.17		

```
Unit Hyd Qpeak  (cms)=   0.142

PEAK FLOW       (cms)=   0.037 (i)
TIME TO PEAK    (hrs)=   6.333
RUNOFF VOLUME    (mm)=  17.161
TOTAL RAINFALL   (mm)=  90.700
RUNOFF COEFFICIENT   =   0.189

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\5eef7ed8
| Ptotal= 90.70 mm |    Comments: 25-Year-12-Hour-SCS-Type-II
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.63	6.75	16.33	10.00	3.17
0.50	2.27	3.75	3.63	7.00	7.26	10.25	3.17
0.75	2.27	4.00	3.63	7.25	7.26	10.50	1.81
1.00	2.27	4.25	3.63	7.50	5.44	10.75	1.81
1.25	2.27	4.50	5.44	7.75	5.44	11.00	1.81
1.50	2.27	4.75	5.44	8.00	5.44	11.25	1.81
1.75	2.27	5.00	7.26	8.25	5.44	11.50	1.81
2.00	2.27	5.25	7.26	8.50	3.17	11.75	1.81
2.25	2.27	5.50	10.88	8.75	3.17	12.00	1.81
2.50	2.72	5.75	10.88	9.00	3.17	12.25	1.81
2.75	2.72	6.00	43.54	9.25	3.17		
3.00	2.72	6.25	119.72	9.50	3.17		
3.25	2.72	6.50	16.33	9.75	3.17		

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--------------------
| CALIB            |
| NASHYD   (  0017)|   Area     (ha)=   0.28   Curve Number    (CN)= 51.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.72	6.250	119.72	9.33	3.17
0.167	0.00	3.250	2.72	6.333	16.33	9.42	3.17
0.250	0.00	3.333	3.63	6.417	16.33	9.50	3.17
0.333	2.27	3.417	3.63	6.500	16.33	9.58	3.17
0.417	2.27	3.500	3.63	6.583	16.33	9.67	3.17
0.500	2.27	3.583	3.63	6.667	16.33	9.75	3.17
0.583	2.27	3.667	3.63	6.750	16.33	9.83	3.17
0.667	2.27	3.750	3.63	6.833	7.26	9.92	3.17
0.750	2.27	3.833	3.63	6.917	7.26	10.00	3.17
0.833	2.27	3.917	3.63	7.000	7.26	10.08	3.17
0.917	2.27	4.000	3.63	7.083	7.26	10.17	3.17
1.000	2.27	4.083	3.63	7.167	7.26	10.25	3.17
1.083	2.27	4.167	3.63	7.250	7.26	10.33	1.81
1.167	2.27	4.250	3.63	7.333	5.44	10.42	1.81
1.250	2.27	4.333	5.44	7.417	5.44	10.50	1.81
1.333	2.27	4.417	5.44	7.500	5.44	10.58	1.81
1.417	2.27	4.500	5.44	7.583	5.44	10.67	1.81
1.500	2.27	4.583	5.44	7.667	5.44	10.75	1.81
1.583	2.27	4.667	5.44	7.750	5.44	10.83	1.81
1.667	2.27	4.750	5.44	7.833	5.44	10.92	1.81
1.750	2.27	4.833	7.26	7.917	5.44	11.00	1.81
1.833	2.27	4.917	7.26	8.000	5.44	11.08	1.81
1.917	2.27	5.000	7.26	8.083	5.44	11.17	1.81
2.000	2.27	5.083	7.26	8.167	5.44	11.25	1.81
2.083	2.27	5.167	7.26	8.250	5.44	11.33	1.81
2.167	2.27	5.250	7.26	8.333	3.17	11.42	1.81
2.250	2.27	5.333	10.88	8.417	3.17	11.50	1.81
2.333	2.72	5.417	10.88	8.500	3.17	11.58	1.81
2.417	2.72	5.500	10.88	8.583	3.17	11.67	1.81
2.500	2.72	5.583	10.88	8.667	3.17	11.75	1.81
2.583	2.72	5.667	10.88	8.750	3.17	11.83	1.81
2.667	2.72	5.750	10.88	8.833	3.17	11.92	1.81
2.750	2.72	5.833	43.54	8.917	3.17	12.00	1.81
2.833	2.72	5.917	43.54	9.000	3.17	12.08	1.81
2.917	2.72	6.000	43.54	9.083	3.17	12.17	1.81
3.000	2.72	6.083	119.72	9.167	3.17	12.25	1.81
3.083	2.72	6.167	119.72	9.250	3.17		

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.018 (i)
TIME TO PEAK (hrs)= 6.333
RUNOFF VOLUME (mm)= 20.856
TOTAL RAINFALL (mm)= 90.700
RUNOFF COEFFICIENT = 0.230

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\5eef7ed8
Ptotal= 90.70 mm	Comments: 25-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.63	6.75	16.33	10.00	3.17
0.50	2.27	3.75	3.63	7.00	7.26	10.25	3.17
0.75	2.27	4.00	3.63	7.25	7.26	10.50	1.81
1.00	2.27	4.25	3.63	7.50	5.44	10.75	1.81
1.25	2.27	4.50	5.44	7.75	5.44	11.00	1.81
1.50	2.27	4.75	5.44	8.00	5.44	11.25	1.81
1.75	2.27	5.00	7.26	8.25	5.44	11.50	1.81
2.00	2.27	5.25	7.26	8.50	3.17	11.75	1.81
2.25	2.27	5.50	10.88	8.75	3.17	12.00	1.81
2.50	2.72	5.75	10.88	9.00	3.17	12.25	1.81
2.75	2.72	6.00	43.54	9.25	3.17		
3.00	2.72	6.25	119.72	9.50	3.17		
3.25	2.72	6.50	16.33	9.75	3.17		

CALIB			
NASHYD (0018)	Area (ha)= 24.51	Curve Number (CN)= 52.7	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.70		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.72	6.250	119.72	9.33	3.17
0.167	0.00	3.250	2.72	6.333	16.33	9.42	3.17
0.250	0.00	3.333	3.63	6.417	16.33	9.50	3.17
0.333	2.27	3.417	3.63	6.500	16.33	9.58	3.17
0.417	2.27	3.500	3.63	6.583	16.33	9.67	3.17
0.500	2.27	3.583	3.63	6.667	16.33	9.75	3.17
0.583	2.27	3.667	3.63	6.750	16.33	9.83	3.17
0.667	2.27	3.750	3.63	6.833	7.26	9.92	3.17
0.750	2.27	3.833	3.63	6.917	7.26	10.00	3.17
0.833	2.27	3.917	3.63	7.000	7.26	10.08	3.17
0.917	2.27	4.000	3.63	7.083	7.26	10.17	3.17
1.000	2.27	4.083	3.63	7.167	7.26	10.25	3.17
1.083	2.27	4.167	3.63	7.250	7.26	10.33	1.81
1.167	2.27	4.250	3.63	7.333	5.44	10.42	1.81
1.250	2.27	4.333	5.44	7.417	5.44	10.50	1.81
1.333	2.27	4.417	5.44	7.500	5.44	10.58	1.81
1.417	2.27	4.500	5.44	7.583	5.44	10.67	1.81
1.500	2.27	4.583	5.44	7.667	5.44	10.75	1.81
1.583	2.27	4.667	5.44	7.750	5.44	10.83	1.81
1.667	2.27	4.750	5.44	7.833	5.44	10.92	1.81
1.750	2.27	4.833	7.26	7.917	5.44	11.00	1.81
1.833	2.27	4.917	7.26	8.000	5.44	11.08	1.81
1.917	2.27	5.000	7.26	8.083	5.44	11.17	1.81
2.000	2.27	5.083	7.26	8.167	5.44	11.25	1.81
2.083	2.27	5.167	7.26	8.250	5.44	11.33	1.81
2.167	2.27	5.250	7.26	8.333	3.17	11.42	1.81
2.250	2.27	5.333	10.88	8.417	3.17	11.50	1.81
2.333	2.72	5.417	10.88	8.500	3.17	11.58	1.81
2.417	2.72	5.500	10.88	8.583	3.17	11.67	1.81
2.500	2.72	5.583	10.88	8.667	3.17	11.75	1.81
2.583	2.72	5.667	10.88	8.750	3.17	11.83	1.81

2.667	2.72	5.750	10.88	8.833	3.17	11.92	1.81
2.750	2.72	5.833	43.54	8.917	3.17	12.00	1.81
2.833	2.72	5.917	43.54	9.000	3.17	12.08	1.81
2.917	2.72	6.000	43.54	9.083	3.17	12.17	1.81
3.000	2.72	6.083	119.72	9.167	3.17	12.25	1.81
3.083	2.72	6.167	119.72	9.250	3.17		

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.684 (i)
TIME TO PEAK (hrs)= 6.917
RUNOFF VOLUME (mm)= 23.414
TOTAL RAINFALL (mm)= 90.700
RUNOFF COEFFICIENT = 0.258

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

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0016):	0.78	0.037	6.33	17.16
+	ID2= 2 (0017):	0.28	0.018	6.33	20.86
	ID = 3 (0020):	1.06	0.054	6.33	18.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0020):	1.06	0.054	6.33	18.14
+	ID2= 2 (0018):	24.51	0.684	6.92	23.41
	ID = 1 (0020):	25.57	0.698	6.92	23.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\ef7f3f5b-dffb-4249-8954-59f93a7efdbb\scen
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DATE: 10-31-2019 TIME: 10:40:31

USER:

COMMENTS: _____

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  ********************************************
  ** SIMULATION : 4-25-Year-24-Hour-SCS-Type-II **
  ********************************************
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READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\6b809c2e
Ptotal=107.50 mm	Comments: 25-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.48	19.00	1.93
0.50	1.07	6.75	2.15	13.00	7.95	19.25	1.94
0.75	1.07	7.00	2.15	13.25	7.96	19.50	1.93
1.00	1.07	7.25	2.15	13.50	1.50	19.75	1.94
1.25	1.07	7.50	2.15	13.75	1.50	20.00	1.93
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.07	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.22	20.75	1.29
2.25	1.93	8.50	2.90	14.75	3.22	21.00	1.29
2.50	1.40	8.75	2.90	15.00	3.22	21.25	1.29
2.75	1.40	9.00	2.90	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.90	15.50	3.22	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.22	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.22	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.22	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.66	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.32	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.32	18.00	1.93	24.25	1.29
5.75	1.72	12.00	44.72	18.25	1.94		
6.00	1.72	12.25	118.68	18.50	1.93		

6.25	1.72	12.50	15.48	18.75	1.94

CALIB					
NASHYD (0016)	Area (ha)= 0.78	Curve Number (CN)= 46.0			
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.21				

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.68	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.49	18.42	1.93
0.250	0.00	6.333	2.15	12.417	15.48	18.50	1.93
0.333	1.08	6.417	2.15	12.500	15.48	18.58	1.94
0.417	1.07	6.500	2.15	12.583	15.48	18.67	1.94
0.500	1.07	6.583	2.15	12.667	15.48	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.48	18.83	1.94
0.667	1.07	6.750	2.15	12.833	7.96	18.92	1.93
0.750	1.07	6.833	2.15	12.917	7.95	19.00	1.93
0.833	1.07	6.917	2.15	13.000	7.95	19.08	1.94
0.917	1.07	7.000	2.15	13.083	7.95	19.17	1.94
1.000	1.07	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.07	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.07	7.250	2.15	13.333	1.51	19.42	1.93
1.250	1.07	7.333	2.15	13.417	1.50	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.50	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.50	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.50	19.75	1.94
1.583	1.07	7.667	2.15	13.750	1.50	19.83	1.93
1.667	1.07	7.750	2.15	13.833	8.81	19.92	1.93
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.81	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.93
2.083	1.93	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.93	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.93	8.333	2.90	14.417	3.22	20.50	1.29
2.333	1.40	8.417	2.90	14.500	3.22	20.58	1.29
2.417	1.40	8.500	2.90	14.583	3.22	20.67	1.29
2.500	1.40	8.583	2.90	14.667	3.22	20.75	1.29
2.583	1.40	8.667	2.90	14.750	3.22	20.83	1.29
2.667	1.40	8.750	2.90	14.833	3.22	20.92	1.29
2.750	1.40	8.833	2.90	14.917	3.22	21.00	1.29
2.833	1.40	8.917	2.90	15.000	3.22	21.08	1.29
2.917	1.40	9.000	2.90	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.90	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.90	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.90	15.333	3.22	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.22	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.22	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.22	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.22	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.22	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.22	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.22	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.22	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.22	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.22	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.22	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.94	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.94	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.66	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.66	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.66	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.66	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.32	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.32	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.32	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.32	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.32	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.32	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.72	17.917	1.93	24.00	1.29
5.833	1.72	11.917	44.72	18.000	1.93	24.08	1.29
5.917	1.72	12.000	44.72	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.67	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.68	18.250	1.94		

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.043 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 23.987
TOTAL RAINFALL (mm)= 107.500
RUNOFF COEFFICIENT = 0.223

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\6b809c2e
Ptotal=107.50 mm	Comments: 25-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.48	19.00	1.93
0.50	1.07	6.75	2.15	13.00	7.95	19.25	1.94
0.75	1.07	7.00	2.15	13.25	7.96	19.50	1.93
1.00	1.07	7.25	2.15	13.50	1.50	19.75	1.94
1.25	1.07	7.50	2.15	13.75	1.50	20.00	1.93
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.07	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.22	20.75	1.29
2.25	1.93	8.50	2.90	14.75	3.22	21.00	1.29
2.50	1.40	8.75	2.90	15.00	3.22	21.25	1.29

2.75	1.40	9.00	2.90	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.90	15.50	3.22	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.22	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.22	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.22	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.66	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.32	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.32	18.00	1.93	24.25	1.29
5.75	1.72	12.00	44.72	18.25	1.94		
6.00	1.72	12.25	118.68	18.50	1.93		
6.25	1.72	12.50	15.48	18.75	1.94		

CALIB			
NASHYD (0017)	Area (ha)= 0.28	Curve Number (CN)= 51.0	
ID= 1 DT= 5.0 min	Ia (mm)= 8.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.17		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.68	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.49	18.42	1.93
0.250	0.00	6.333	2.15	12.417	15.48	18.50	1.93
0.333	1.08	6.417	2.15	12.500	15.48	18.58	1.94
0.417	1.07	6.500	2.15	12.583	15.48	18.67	1.94
0.500	1.07	6.583	2.15	12.667	15.48	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.48	18.83	1.94
0.667	1.07	6.750	2.15	12.833	7.96	18.92	1.93
0.750	1.07	6.833	2.15	12.917	7.95	19.00	1.93
0.833	1.07	6.917	2.15	13.000	7.95	19.08	1.94
0.917	1.07	7.000	2.15	13.083	7.95	19.17	1.94
1.000	1.07	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.07	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.07	7.250	2.15	13.333	1.51	19.42	1.93
1.250	1.07	7.333	2.15	13.417	1.50	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.50	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.50	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.50	19.75	1.94
1.583	1.07	7.667	2.15	13.750	1.50	19.83	1.93
1.667	1.07	7.750	2.15	13.833	8.81	19.92	1.93
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.81	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.93
2.083	1.93	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.93	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.93	8.333	2.90	14.417	3.22	20.50	1.29
2.333	1.40	8.417	2.90	14.500	3.22	20.58	1.29
2.417	1.40	8.500	2.90	14.583	3.22	20.67	1.29
2.500	1.40	8.583	2.90	14.667	3.22	20.75	1.29
2.583	1.40	8.667	2.90	14.750	3.22	20.83	1.29
2.667	1.40	8.750	2.90	14.833	3.22	20.92	1.29
2.750	1.40	8.833	2.90	14.917	3.22	21.00	1.29
2.833	1.40	8.917	2.90	15.000	3.22	21.08	1.29
2.917	1.40	9.000	2.90	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.90	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.90	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.90	15.333	3.22	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.22	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.22	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.22	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.22	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.22	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.22	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.22	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.22	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.22	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.22	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.22	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.94	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.94	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.66	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.66	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.66	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.66	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.32	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.32	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.32	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.32	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.32	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.32	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.72	17.917	1.93	24.00	1.29
5.833	1.72	11.917	44.72	18.000	1.93	24.08	1.29
5.917	1.72	12.000	44.72	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.67	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.68	18.250	1.94		

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.020 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 28.715
TOTAL RAINFALL (mm)= 107.500
RUNOFF COEFFICIENT = 0.267

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\6b809c2e

| Ptotal=107.50 mm | Comments: 25-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.48	19.00	1.93
0.50	1.07	6.75	2.15	13.00	7.95	19.25	1.94
0.75	1.07	7.00	2.15	13.25	7.96	19.50	1.93
1.00	1.07	7.25	2.15	13.50	1.50	19.75	1.94
1.25	1.07	7.50	2.15	13.75	1.50	20.00	1.93
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.07	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.22	20.75	1.29
2.25	1.93	8.50	2.90	14.75	3.22	21.00	1.29
2.50	1.40	8.75	2.90	15.00	3.22	21.25	1.29
2.75	1.40	9.00	2.90	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.90	15.50	3.22	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.22	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.22	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.22	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.66	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.32	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.32	18.00	1.93	24.25	1.29
5.75	1.72	12.00	44.72	18.25	1.94		
6.00	1.72	12.25	118.68	18.50	1.93		
6.25	1.72	12.50	15.48	18.75	1.94		

CALIB	
NASHYD (0018)	Area (ha)= 24.51 Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.70

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.68	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.49	18.42	1.93
0.250	0.00	6.333	2.15	12.417	15.48	18.50	1.93
0.333	1.08	6.417	2.15	12.500	15.48	18.58	1.94
0.417	1.07	6.500	2.15	12.583	15.48	18.67	1.94
0.500	1.07	6.583	2.15	12.667	15.48	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.48	18.83	1.94
0.667	1.07	6.750	2.15	12.833	7.96	18.92	1.93
0.750	1.07	6.833	2.15	12.917	7.95	19.00	1.93
0.833	1.07	6.917	2.15	13.000	7.95	19.08	1.94
0.917	1.07	7.000	2.15	13.083	7.95	19.17	1.94
1.000	1.07	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.07	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.07	7.250	2.15	13.333	1.51	19.42	1.93
1.250	1.07	7.333	2.15	13.417	1.50	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.50	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.50	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.50	19.75	1.94
1.583	1.07	7.667	2.15	13.750	1.50	19.83	1.93
1.667	1.07	7.750	2.15	13.833	8.81	19.92	1.93
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.81	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.93
2.083	1.93	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.93	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.93	8.333	2.90	14.417	3.22	20.50	1.29
2.333	1.40	8.417	2.90	14.500	3.22	20.58	1.29
2.417	1.40	8.500	2.90	14.583	3.22	20.67	1.29
2.500	1.40	8.583	2.90	14.667	3.22	20.75	1.29
2.583	1.40	8.667	2.90	14.750	3.22	20.83	1.29
2.667	1.40	8.750	2.90	14.833	3.22	20.92	1.29
2.750	1.40	8.833	2.90	14.917	3.22	21.00	1.29
2.833	1.40	8.917	2.90	15.000	3.22	21.08	1.29
2.917	1.40	9.000	2.90	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.90	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.90	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.90	15.333	3.22	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.22	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.22	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.22	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.22	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.22	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.22	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.22	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.22	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.22	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.22	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.22	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.94	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.94	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.66	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.66	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.66	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.66	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.32	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.32	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.32	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.32	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.32	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.32	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.72	17.917	1.93	24.00	1.29
5.833	1.72	11.917	44.72	18.000	1.93	24.08	1.29
5.917	1.72	12.000	44.72	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.67	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.68	18.250	1.94		

Unit Hyd Qpeak (cms)= 1.337

```
     PEAK FLOW       (cms)=   0.779 (i)
     TIME TO PEAK    (hrs)=  12.917
     RUNOFF VOLUME    (mm)=  31.791
     TOTAL RAINFALL   (mm)= 107.500
     RUNOFF COEFFICIENT   =   0.296

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

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--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0016):     0.78   0.043    12.33    23.99
      + ID2= 2 (  0017):     0.28   0.020    12.25    28.71
        ====================================================
        ID = 3 (  0020):     1.06   0.063    12.33    25.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):     1.06   0.063    12.33    25.24
      + ID2= 2 (  0018):    24.51   0.779    12.92    31.79
        ====================================================
        ID = 1 (  0020):    25.57   0.796    12.83    31.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\48a85836-a7ed-4118-a460-3bc617a26202\scen

  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\48a85836-a7ed-4118-a460-3bc617a26202\scen

DATE: 10-31-2019                          TIME: 10:40:27

USER:


COMMENTS: _____________________________________________________________

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  ********************************************
  ** SIMULATION : 4-25-Year-4-Hour-Chicago-Barr **
  ********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\afcaafd9
| Ptotal= 71.24 mm |    Comments: 25-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.22 |  1.17   36.37 |  2.17   11.74 |  3.17    6.15
                0.33    5.94 |  1.33  148.15 |  2.33   10.09 |  3.33    5.74
                0.50    6.93 |  1.50   47.06 |  2.50    8.89 |  3.50    5.38
                0.67    8.42 |  1.67   25.72 |  2.67    7.96 |  3.67    5.08
                0.83   10.91 |  1.83   18.11 |  2.83    7.24 |  3.83    4.80
                1.00   16.13 |  2.00   14.17 |  3.00    6.65 |  4.00    4.57

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--------------------
| CALIB            |
| NASHYD   (  0016)|   Area     (ha)=   0.78   Curve Number    (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    5.22 | 1.083   36.37 | 2.083   11.74 |  3.08    6.15
               0.167    5.22 | 1.167   36.37 | 2.167   11.74 |  3.17    6.15
               0.250    5.94 | 1.250  148.15 | 2.250   10.09 |  3.25    5.74
               0.333    5.94 | 1.333  148.15 | 2.333   10.09 |  3.33    5.74
               0.417    6.93 | 1.417   47.06 | 2.417    8.88 |  3.42    5.38
               0.500    6.93 | 1.500   47.06 | 2.500    8.89 |  3.50    5.38
               0.583    8.42 | 1.583   25.72 | 2.583    7.96 |  3.58    5.08
               0.667    8.42 | 1.667   25.72 | 2.667    7.96 |  3.67    5.08
               0.750   10.91 | 1.750   18.11 | 2.750    7.24 |  3.75    4.80
               0.833   10.91 | 1.833   18.11 | 2.833    7.24 |  3.83    4.80
               0.917   16.13 | 1.917   14.17 | 2.917    6.65 |  3.92    4.57
```

1.000	16.13	2.000	14.17	3.000	6.65	4.00	4.57

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.020 (i)
TIME TO PEAK (hrs)= 1.583
RUNOFF VOLUME (mm)= 10.416
TOTAL RAINFALL (mm)= 71.236
RUNOFF COEFFICIENT = 0.146

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\afcaafd9
Ptotal= 71.24 mm	Comments: 25-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.22	1.17	36.37	2.17	11.74	3.17	6.15
0.33	5.94	1.33	148.15	2.33	10.09	3.33	5.74
0.50	6.93	1.50	47.06	2.50	8.89	3.50	5.38
0.67	8.42	1.67	25.72	2.67	7.96	3.67	5.08
0.83	10.91	1.83	18.11	2.83	7.24	3.83	4.80
1.00	16.13	2.00	14.17	3.00	6.65	4.00	4.57

CALIB			
NASHYD (0017)	Area (ha)= 0.28	Curve Number (CN)= 51.0	
ID= 1 DT= 5.0 min	Ia (mm)= 8.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.17		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.22	1.083	36.37	2.083	11.74	3.08	6.15
0.167	5.22	1.167	36.37	2.167	11.74	3.17	6.15
0.250	5.94	1.250	148.15	2.250	10.09	3.25	5.74
0.333	5.94	1.333	148.15	2.333	10.09	3.33	5.74
0.417	6.93	1.417	47.06	2.417	8.88	3.42	5.38
0.500	6.93	1.500	47.06	2.500	8.89	3.50	5.38
0.583	8.42	1.583	25.72	2.583	7.96	3.58	5.08
0.667	8.42	1.667	25.72	2.667	7.96	3.67	5.08
0.750	10.91	1.750	18.11	2.750	7.24	3.75	4.80
0.833	10.91	1.833	18.11	2.833	7.24	3.83	4.80
0.917	16.13	1.917	14.17	2.917	6.65	3.92	4.57
1.000	16.13	2.000	14.17	3.000	6.65	4.00	4.57

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.010 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 12.966
TOTAL RAINFALL (mm)= 71.236
RUNOFF COEFFICIENT = 0.182

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\afcaafd9
Ptotal= 71.24 mm	Comments: 25-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.22	1.17	36.37	2.17	11.74	3.17	6.15
0.33	5.94	1.33	148.15	2.33	10.09	3.33	5.74
0.50	6.93	1.50	47.06	2.50	8.89	3.50	5.38
0.67	8.42	1.67	25.72	2.67	7.96	3.67	5.08
0.83	10.91	1.83	18.11	2.83	7.24	3.83	4.80
1.00	16.13	2.00	14.17	3.00	6.65	4.00	4.57

CALIB			
NASHYD (0018)	Area (ha)= 24.51	Curve Number (CN)= 52.7	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.70		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.22	1.083	36.37	2.083	11.74	3.08	6.15
0.167	5.22	1.167	36.37	2.167	11.74	3.17	6.15
0.250	5.94	1.250	148.15	2.250	10.09	3.25	5.74
0.333	5.94	1.333	148.15	2.333	10.09	3.33	5.74
0.417	6.93	1.417	47.06	2.417	8.88	3.42	5.38
0.500	6.93	1.500	47.06	2.500	8.89	3.50	5.38
0.583	8.42	1.583	25.72	2.583	7.96	3.58	5.08
0.667	8.42	1.667	25.72	2.667	7.96	3.67	5.08
0.750	10.91	1.750	18.11	2.750	7.24	3.75	4.80
0.833	10.91	1.833	18.11	2.833	7.24	3.83	4.80
0.917	16.13	1.917	14.17	2.917	6.65	3.92	4.57
1.000	16.13	2.000	14.17	3.000	6.65	4.00	4.57

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.463 (i)
TIME TO PEAK (hrs)= 2.250
RUNOFF VOLUME (mm)= 14.912
TOTAL RAINFALL (mm)= 71.236
RUNOFF COEFFICIENT = 0.209

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

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--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0016):      0.78   0.020     1.58    10.42
      + ID2= 2 (  0017):      0.28   0.010     1.50    12.97
        ================================================
        ID = 3 (  0020):      1.06   0.030     1.50    11.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):      1.06   0.030     1.50    11.09
      + ID2= 2 (  0018):     24.51   0.463     2.25    14.91
        ================================================
        ID = 1 (  0020):     25.57   0.474     2.25    14.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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86e9-d1c81bbaf91e\4b88ebbf-929a-492e-9591-2bc36ab300df\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
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DATE: 10-31-2019                          TIME: 10:40:28

USER:
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COMMENTS: _____

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  ***********************************************
  ** SIMULATION : 4-25-Year-4-Hour-Chicago-MTO  **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 696.323
| Ptotal= 60.39 mm |                          B=   0.000
--------------------                          C=   0.699
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.08 |  1.17   24.03 |  2.17   10.04 |  3.17    5.85
                0.33    5.67 |  1.33  139.25 |  2.33    8.87 |  3.33    5.51
                0.50    6.47 |  1.50   29.49 |  2.50    7.98 |  3.50    5.21
                0.67    7.62 |  1.67   18.59 |  2.67    7.28 |  3.67    4.95
                0.83    9.44 |  1.83   14.18 |  2.83    6.72 |  3.83    4.72
                1.00   12.92 |  2.00   11.68 |  3.00    6.25 |  4.00    4.52

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--------------------
| CALIB            |
| NASHYD   (  0016)|   Area     (ha)=   0.78   Curve Number    (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    5.08 | 1.083   24.03 | 2.083   10.04 |  3.08    5.85
               0.167    5.08 | 1.167   24.03 | 2.167   10.04 |  3.17    5.85
               0.250    5.67 | 1.250  139.25 | 2.250    8.87 |  3.25    5.51
               0.333    5.67 | 1.333  139.25 | 2.333    8.87 |  3.33    5.51
               0.417    6.47 | 1.417   29.49 | 2.417    7.98 |  3.42    5.21
               0.500    6.47 | 1.500   29.49 | 2.500    7.98 |  3.50    5.21
               0.583    7.62 | 1.583   18.59 | 2.583    7.28 |  3.58    4.95
               0.667    7.62 | 1.667   18.59 | 2.667    7.28 |  3.67    4.95
               0.750    9.44 | 1.750   14.18 | 2.750    6.72 |  3.75    4.72
               0.833    9.44 | 1.833   14.18 | 2.833    6.72 |  3.83    4.72
               0.917   12.92 | 1.917   11.68 | 2.917    6.25 |  3.92    4.52
               1.000   12.92 | 2.000   11.68 | 3.000    6.25 |  4.00    4.52

    Unit Hyd Qpeak  (cms)=   0.142

    PEAK FLOW       (cms)=   0.013 (i)
    TIME TO PEAK    (hrs)=   1.500
```

RUNOFF VOLUME (mm)= 7.272
TOTAL RAINFALL (mm)= 60.387
RUNOFF COEFFICIENT = 0.120

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

| CHICAGO STORM / Ptotal= 60.39 mm | IDF curve parameters: A= 696.323, B= 0.000, C= 0.699
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.08	1.17	24.03	2.17	10.04	3.17	5.85
0.33	5.67	1.33	139.25	2.33	8.87	3.33	5.51
0.50	6.47	1.50	29.49	2.50	7.98	3.50	5.21
0.67	7.62	1.67	18.59	2.67	7.28	3.67	4.95
0.83	9.44	1.83	14.18	2.83	6.72	3.83	4.72
1.00	12.92	2.00	11.68	3.00	6.25	4.00	4.52

| CALIB / NASHYD (0017) / ID= 1 DT= 5.0 min | Area (ha)= 0.28 | Curve Number (CN)= 51.0 | # of Linear Res.(N)= 3.00 | U.H. Tp(hrs)= 0.17

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.08	1.083	24.03	2.083	10.04	3.08	5.85
0.167	5.08	1.167	24.03	2.167	10.04	3.17	5.85
0.250	5.67	1.250	139.25	2.250	8.87	3.25	5.51
0.333	5.67	1.333	139.25	2.333	8.87	3.33	5.51
0.417	6.47	1.417	29.49	2.417	7.98	3.42	5.21
0.500	6.47	1.500	29.49	2.500	7.98	3.50	5.21
0.583	7.62	1.583	18.59	2.583	7.28	3.58	4.95
0.667	7.62	1.667	18.59	2.667	7.28	3.67	4.95
0.750	9.44	1.750	14.18	2.750	6.72	3.75	4.72
0.833	9.44	1.833	14.18	2.833	6.72	3.83	4.72
0.917	12.92	1.917	11.68	2.917	6.25	3.92	4.52
1.000	12.92	2.000	11.68	3.000	6.25	4.00	4.52

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.007 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 9.224
TOTAL RAINFALL (mm)= 60.387
RUNOFF COEFFICIENT = 0.153

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

| CHICAGO STORM / Ptotal= 60.39 mm | IDF curve parameters: A= 696.323, B= 0.000, C= 0.699
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.08	1.17	24.03	2.17	10.04	3.17	5.85
0.33	5.67	1.33	139.25	2.33	8.87	3.33	5.51
0.50	6.47	1.50	29.49	2.50	7.98	3.50	5.21
0.67	7.62	1.67	18.59	2.67	7.28	3.67	4.95
0.83	9.44	1.83	14.18	2.83	6.72	3.83	4.72
1.00	12.92	2.00	11.68	3.00	6.25	4.00	4.52

| CALIB / NASHYD (0018) / ID= 1 DT= 5.0 min | Area (ha)= 24.51 | Curve Number (CN)= 52.7 | # of Linear Res.(N)= 3.00 | U.H. Tp(hrs)= 0.70

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.08	1.083	24.03	2.083	10.04	3.08	5.85
0.167	5.08	1.167	24.03	2.167	10.04	3.17	5.85
0.250	5.67	1.250	139.25	2.250	8.87	3.25	5.51
0.333	5.67	1.333	139.25	2.333	8.87	3.33	5.51
0.417	6.47	1.417	29.49	2.417	7.98	3.42	5.21
0.500	6.47	1.500	29.49	2.500	7.98	3.50	5.21
0.583	7.62	1.583	18.59	2.583	7.28	3.58	4.95
0.667	7.62	1.667	18.59	2.667	7.28	3.67	4.95
0.750	9.44	1.750	14.18	2.750	6.72	3.75	4.72
0.833	9.44	1.833	14.18	2.833	6.72	3.83	4.72
0.917	12.92	1.917	11.68	2.917	6.25	3.92	4.52
1.000	12.92	2.000	11.68	3.000	6.25	4.00	4.52

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.316 (i)
TIME TO PEAK (hrs)= 2.250
RUNOFF VOLUME (mm)= 10.826
TOTAL RAINFALL (mm)= 60.387
RUNOFF COEFFICIENT = 0.179

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

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--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0016):      0.78   0.013     1.50     7.27
      + ID2= 2 (  0017):      0.28   0.007     1.42     9.22
        ================================================
        ID = 3 (  0020):      1.06   0.020     1.50     7.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0020):      1.06   0.020     1.50     7.79
      + ID2= 2 (  0018):     24.51   0.316     2.25    10.83
        ================================================
        ID = 1 (  0020):     25.57   0.323     2.25    10.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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DATE: 10-31-2019                          TIME: 10:40:27

USER:
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COMMENTS: _____

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  ***********************************************
  ** SIMULATION : 4-25-Year-6-Hour-SCS-Type-II  **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\edbfb811
| Ptotal= 85.20 mm |    Comments: 25-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    8.52 |  3.75   18.74 |  5.50    3.41
                0.50    3.41 |  2.25    8.52 |  4.00    8.52 |  5.75    3.41
                0.75    3.41 |  2.50   10.22 |  4.25    8.52 |  6.00    3.41
                1.00    5.11 |  2.75   10.22 |  4.50    6.82 |  6.25    3.41
                1.25    5.11 |  3.00   51.12 |  4.75    6.82 |
                1.50    5.11 |  3.25  132.91 |  5.00    5.11 |
                1.75    5.11 |  3.50   18.74 |  5.25    5.11 |

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--------------------
| CALIB            |
| NASHYD   (  0016)|   Area     (ha)=   0.78   Curve Number    (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.083    0.00 | 1.667    5.11 | 3.250  132.91 |  4.83    5.11
0.167    0.00 | 1.750    5.11 | 3.333   18.75 |  4.92    5.11
0.250    0.00 | 1.833    8.52 | 3.417   18.74 |  5.00    5.11
0.333    3.41 | 1.917    8.52 | 3.500   18.74 |  5.08    5.11
0.417    3.41 | 2.000    8.52 | 3.583   18.74 |  5.17    5.11
0.500    3.41 | 2.083    8.52 | 3.667   18.74 |  5.25    5.11
0.583    3.41 | 2.167    8.52 | 3.750   18.74 |  5.33    3.41
0.667    3.41 | 2.250    8.52 | 3.833    8.52 |  5.42    3.41
0.750    3.41 | 2.333   10.22 | 3.917    8.52 |  5.50    3.41
0.833    5.11 | 2.417   10.22 | 4.000    8.52 |  5.58    3.41
0.917    5.11 | 2.500   10.22 | 4.083    8.52 |  5.67    3.41
1.000    5.11 | 2.583   10.22 | 4.167    8.52 |  5.75    3.41
1.083    5.11 | 2.667   10.22 | 4.250    8.52 |  5.83    3.41
1.167    5.11 | 2.750   10.22 | 4.333    6.82 |  5.92    3.41
1.250    5.11 | 2.833   51.12 | 4.417    6.82 |  6.00    3.41
1.333    5.11 | 2.917   51.12 | 4.500    6.82 |  6.08    3.41
1.417    5.11 | 3.000   51.12 | 4.583    6.82 |  6.17    3.41
1.500    5.11 | 3.083  132.91 | 4.667    6.82 |  6.25    3.41
1.583    5.11 | 3.167  132.91 | 4.750    6.82 |
```

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.038 (i)
TIME TO PEAK (hrs)= 3.333
RUNOFF VOLUME (mm)= 15.121
TOTAL RAINFALL (mm)= 85.200
RUNOFF COEFFICIENT = 0.177

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\edbfb811
Ptotal= 85.20 mm	Comments: 25-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	8.52	3.75	18.74	5.50	3.41
0.50	3.41	2.25	8.52	4.00	8.52	5.75	3.41
0.75	3.41	2.50	10.22	4.25	8.52	6.00	3.41
1.00	5.11	2.75	10.22	4.50	6.82	6.25	3.41
1.25	5.11	3.00	51.12	4.75	6.82		
1.50	5.11	3.25	132.91	5.00	5.11		
1.75	5.11	3.50	18.74	5.25	5.11		

CALIB	
NASHYD (0017)	Area (ha)= 0.28 Curve Number (CN)= 51.0
ID= 1 DT= 5.0 min	Ia (mm)= 8.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.17

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.11	3.250	132.91	4.83	5.11
0.167	0.00	1.750	5.11	3.333	18.75	4.92	5.11
0.250	0.00	1.833	8.52	3.417	18.74	5.00	5.11
0.333	3.41	1.917	8.52	3.500	18.74	5.08	5.11
0.417	3.41	2.000	8.52	3.583	18.74	5.17	5.11
0.500	3.41	2.083	8.52	3.667	18.74	5.25	5.11
0.583	3.41	2.167	8.52	3.750	18.74	5.33	3.41
0.667	3.41	2.250	8.52	3.833	8.52	5.42	3.41
0.750	3.41	2.333	10.22	3.917	8.52	5.50	3.41
0.833	5.11	2.417	10.22	4.000	8.52	5.58	3.41
0.917	5.11	2.500	10.22	4.083	8.52	5.67	3.41
1.000	5.11	2.583	10.22	4.167	8.52	5.75	3.41
1.083	5.11	2.667	10.22	4.250	8.52	5.83	3.41
1.167	5.11	2.750	10.22	4.333	6.82	5.92	3.41
1.250	5.11	2.833	51.12	4.417	6.82	6.00	3.41
1.333	5.11	2.917	51.12	4.500	6.82	6.08	3.41
1.417	5.11	3.000	51.12	4.583	6.82	6.17	3.41
1.500	5.11	3.083	132.91	4.667	6.82	6.25	3.41
1.583	5.11	3.167	132.91	4.750	6.82		

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.019 (i)
TIME TO PEAK (hrs)= 3.333
RUNOFF VOLUME (mm)= 18.485
TOTAL RAINFALL (mm)= 85.200
RUNOFF COEFFICIENT = 0.217

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\edbfb811
Ptotal= 85.20 mm	Comments: 25-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	8.52	3.75	18.74	5.50	3.41
0.50	3.41	2.25	8.52	4.00	8.52	5.75	3.41
0.75	3.41	2.50	10.22	4.25	8.52	6.00	3.41
1.00	5.11	2.75	10.22	4.50	6.82	6.25	3.41
1.25	5.11	3.00	51.12	4.75	6.82		
1.50	5.11	3.25	132.91	5.00	5.11		
1.75	5.11	3.50	18.74	5.25	5.11		

CALIB	
NASHYD (0018)	Area (ha)= 24.51 Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.70

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.11	3.250	132.91	4.83	5.11
0.167	0.00	1.750	5.11	3.333	18.75	4.92	5.11
0.250	0.00	1.833	8.52	3.417	18.74	5.00	5.11
0.333	3.41	1.917	8.52	3.500	18.74	5.08	5.11
0.417	3.41	2.000	8.52	3.583	18.74	5.17	5.11
0.500	3.41	2.083	8.52	3.667	18.74	5.25	5.11
0.583	3.41	2.167	8.52	3.750	18.74	5.33	3.41
0.667	3.41	2.250	8.52	3.833	8.52	5.42	3.41
0.750	3.41	2.333	10.22	3.917	8.52	5.50	3.41
0.833	5.11	2.417	10.22	4.000	8.52	5.58	3.41
0.917	5.11	2.500	10.22	4.083	8.52	5.67	3.41
1.000	5.11	2.583	10.22	4.167	8.52	5.75	3.41
1.083	5.11	2.667	10.22	4.250	8.52	5.83	3.41
1.167	5.11	2.750	10.22	4.333	6.82	5.92	3.41
1.250	5.11	2.833	51.12	4.417	6.82	6.00	3.41

```
                1.333    5.11 | 2.917   51.12 | 4.500    6.82 |  6.08    3.41
                1.417    5.11 | 3.000   51.12 | 4.583    6.82 |  6.17    3.41
                1.500    5.11 | 3.083  132.91 | 4.667    6.82 |  6.25    3.41
                1.583    5.11 | 3.167  132.91 | 4.750    6.82 |

     Unit Hyd Qpeak  (cms)=   1.337

     PEAK FLOW       (cms)=   0.709 (i)
     TIME TO PEAK    (hrs)=   3.917
     RUNOFF VOLUME    (mm)=  20.871
     TOTAL RAINFALL   (mm)=  85.200
     RUNOFF COEFFICIENT   =   0.245

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

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

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0016):     0.78   0.038     3.33    15.12
     + ID2= 2 (  0017):     0.28   0.019     3.33    18.49
       ================================================
       ID = 3 (  0020):     1.06   0.056     3.33    16.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     1.06   0.056     3.33    16.01
     + ID2= 2 (  0018):    24.51   0.709     3.92    20.87
       ================================================
       ID = 1 (  0020):    25.57   0.725     3.92    20.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                    *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\772d767e-26f2-4f80-9a14-9473ba6c2435\scen
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86e9-d1c81bbaf91e\772d767e-26f2-4f80-9a14-9473ba6c2435\scen

DATE: 10-31-2019                          TIME: 10:40:29

USER:

COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 5-50-Year-12-Hour-SCS-Type-II **
  ***********************************************

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\69aab664
| Ptotal=101.70 mm |    Comments: 50-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    4.07 |  6.75   18.31 | 10.00    3.56
                0.50    2.54 |  3.75    4.07 |  7.00    8.14 | 10.25    3.56
                0.75    2.54 |  4.00    4.07 |  7.25    8.14 | 10.50    2.03
                1.00    2.54 |  4.25    4.07 |  7.50    6.10 | 10.75    2.03
                1.25    2.54 |  4.50    6.10 |  7.75    6.10 | 11.00    2.03
                1.50    2.54 |  4.75    6.10 |  8.00    6.10 | 11.25    2.03
                1.75    2.54 |  5.00    8.14 |  8.25    6.10 | 11.50    2.03
                2.00    2.54 |  5.25    8.14 |  8.50    3.56 | 11.75    2.03
                2.25    2.54 |  5.50   12.20 |  8.75    3.56 | 12.00    2.03
                2.50    3.05 |  5.75   12.20 |  9.00    3.56 | 12.25    2.03
                2.75    3.05 |  6.00   48.82 |  9.25    3.56 |
                3.00    3.05 |  6.25  134.24 |  9.50    3.56 |
                3.25    3.05 |  6.50   18.31 |  9.75    3.56 |

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--------------------
| CALIB            |
| NASHYD   (  0016)|   Area     (ha)=   0.78   Curve Number    (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.05	6.250	134.24	9.33	3.56
0.167	0.00	3.250	3.05	6.333	18.31	9.42	3.56
0.250	0.00	3.333	4.07	6.417	18.31	9.50	3.56
0.333	2.54	3.417	4.07	6.500	18.31	9.58	3.56
0.417	2.54	3.500	4.07	6.583	18.31	9.67	3.56
0.500	2.54	3.583	4.07	6.667	18.31	9.75	3.56
0.583	2.54	3.667	4.07	6.750	18.31	9.83	3.56
0.667	2.54	3.750	4.07	6.833	8.14	9.92	3.56
0.750	2.54	3.833	4.07	6.917	8.14	10.00	3.56
0.833	2.54	3.917	4.07	7.000	8.14	10.08	3.56
0.917	2.54	4.000	4.07	7.083	8.14	10.17	3.56
1.000	2.54	4.083	4.07	7.167	8.14	10.25	3.56
1.083	2.54	4.167	4.07	7.250	8.14	10.33	2.03
1.167	2.54	4.250	4.07	7.333	6.10	10.42	2.03
1.250	2.54	4.333	6.10	7.417	6.10	10.50	2.03
1.333	2.54	4.417	6.10	7.500	6.10	10.58	2.03
1.417	2.54	4.500	6.10	7.583	6.10	10.67	2.03
1.500	2.54	4.583	6.10	7.667	6.10	10.75	2.03
1.583	2.54	4.667	6.10	7.750	6.10	10.83	2.03
1.667	2.54	4.750	6.10	7.833	6.10	10.92	2.03
1.750	2.54	4.833	8.14	7.917	6.10	11.00	2.03
1.833	2.54	4.917	8.14	8.000	6.10	11.08	2.03
1.917	2.54	5.000	8.14	8.083	6.10	11.17	2.03
2.000	2.54	5.083	8.14	8.167	6.10	11.25	2.03
2.083	2.54	5.167	8.14	8.250	6.10	11.33	2.03
2.167	2.54	5.250	8.14	8.333	3.56	11.42	2.03
2.250	2.54	5.333	12.20	8.417	3.56	11.50	2.03
2.333	3.05	5.417	12.20	8.500	3.56	11.58	2.03
2.417	3.05	5.500	12.20	8.583	3.56	11.67	2.03
2.500	3.05	5.583	12.20	8.667	3.56	11.75	2.03
2.583	3.05	5.667	12.20	8.750	3.56	11.83	2.03
2.667	3.05	5.750	12.20	8.833	3.56	11.92	2.03
2.750	3.05	5.833	48.82	8.917	3.56	12.00	2.03
2.833	3.05	5.917	48.82	9.000	3.56	12.08	2.03
2.917	3.05	6.000	48.82	9.083	3.56	12.17	2.03
3.000	3.05	6.083	134.24	9.167	3.56	12.25	2.03
3.083	3.05	6.167	134.24	9.250	3.56		

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.046 (i)
TIME TO PEAK (hrs)= 6.333
RUNOFF VOLUME (mm)= 21.534
TOTAL RAINFALL (mm)= 101.700
RUNOFF COEFFICIENT = 0.212

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\69aab664
Ptotal=101.70 mm	Comments: 50-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.07	6.75	18.31	10.00	3.56
0.50	2.54	3.75	4.07	7.00	8.14	10.25	3.56
0.75	2.54	4.00	4.07	7.25	8.14	10.50	2.03
1.00	2.54	4.25	4.07	7.50	6.10	10.75	2.03
1.25	2.54	4.50	6.10	7.75	6.10	11.00	2.03
1.50	2.54	4.75	6.10	8.00	6.10	11.25	2.03
1.75	2.54	5.00	8.14	8.25	6.10	11.50	2.03
2.00	2.54	5.25	8.14	8.50	3.56	11.75	2.03
2.25	2.54	5.50	12.20	8.75	3.56	12.00	2.03
2.50	3.05	5.75	12.20	9.00	3.56	12.25	2.03
2.75	3.05	6.00	48.82	9.25	3.56		
3.00	3.05	6.25	134.24	9.50	3.56		
3.25	3.05	6.50	18.31	9.75	3.56		

CALIB			
NASHYD (0017)	Area (ha)= 0.28	Curve Number (CN)= 51.0	
ID= 1 DT= 5.0 min	Ia (mm)= 8.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.17		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.05	6.250	134.24	9.33	3.56
0.167	0.00	3.250	3.05	6.333	18.31	9.42	3.56
0.250	0.00	3.333	4.07	6.417	18.31	9.50	3.56
0.333	2.54	3.417	4.07	6.500	18.31	9.58	3.56
0.417	2.54	3.500	4.07	6.583	18.31	9.67	3.56
0.500	2.54	3.583	4.07	6.667	18.31	9.75	3.56
0.583	2.54	3.667	4.07	6.750	18.31	9.83	3.56
0.667	2.54	3.750	4.07	6.833	8.14	9.92	3.56
0.750	2.54	3.833	4.07	6.917	8.14	10.00	3.56
0.833	2.54	3.917	4.07	7.000	8.14	10.08	3.56
0.917	2.54	4.000	4.07	7.083	8.14	10.17	3.56
1.000	2.54	4.083	4.07	7.167	8.14	10.25	3.56
1.083	2.54	4.167	4.07	7.250	8.14	10.33	2.03
1.167	2.54	4.250	4.07	7.333	6.10	10.42	2.03
1.250	2.54	4.333	6.10	7.417	6.10	10.50	2.03
1.333	2.54	4.417	6.10	7.500	6.10	10.58	2.03
1.417	2.54	4.500	6.10	7.583	6.10	10.67	2.03
1.500	2.54	4.583	6.10	7.667	6.10	10.75	2.03
1.583	2.54	4.667	6.10	7.750	6.10	10.83	2.03
1.667	2.54	4.750	6.10	7.833	6.10	10.92	2.03
1.750	2.54	4.833	8.14	7.917	6.10	11.00	2.03
1.833	2.54	4.917	8.14	8.000	6.10	11.08	2.03
1.917	2.54	5.000	8.14	8.083	6.10	11.17	2.03
2.000	2.54	5.083	8.14	8.167	6.10	11.25	2.03
2.083	2.54	5.167	8.14	8.250	6.10	11.33	2.03
2.167	2.54	5.250	8.14	8.333	3.56	11.42	2.03
2.250	2.54	5.333	12.20	8.417	3.56	11.50	2.03
2.333	3.05	5.417	12.20	8.500	3.56	11.58	2.03
2.417	3.05	5.500	12.20	8.583	3.56	11.67	2.03
2.500	3.05	5.583	12.20	8.667	3.56	11.75	2.03
2.583	3.05	5.667	12.20	8.750	3.56	11.83	2.03
2.667	3.05	5.750	12.20	8.833	3.56	11.92	2.03

2.750	3.05	5.833	48.82	8.917	3.56	12.00	2.03
2.833	3.05	5.917	48.82	9.000	3.56	12.08	2.03
2.917	3.05	6.000	48.82	9.083	3.56	12.17	2.03
3.000	3.05	6.083	134.24	9.167	3.56	12.25	2.03
3.083	3.05	6.167	134.24	9.250	3.56		

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.022 (i)
TIME TO PEAK (hrs)= 6.333
RUNOFF VOLUME (mm)= 25.901
TOTAL RAINFALL (mm)= 101.700
RUNOFF COEFFICIENT = 0.255

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\69aab664
Ptotal=101.70 mm	Comments: 50-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.07	6.75	18.31	10.00	3.56
0.50	2.54	3.75	4.07	7.00	8.14	10.25	3.56
0.75	2.54	4.00	4.07	7.25	8.14	10.50	2.03
1.00	2.54	4.25	4.07	7.50	6.10	10.75	2.03
1.25	2.54	4.50	6.10	7.75	6.10	11.00	2.03
1.50	2.54	4.75	6.10	8.00	6.10	11.25	2.03
1.75	2.54	5.00	8.14	8.25	6.10	11.50	2.03
2.00	2.54	5.25	8.14	8.50	3.56	11.75	2.03
2.25	2.54	5.50	12.20	8.75	3.56	12.00	2.03
2.50	3.05	5.75	12.20	9.00	3.56	12.25	2.03
2.75	3.05	6.00	48.82	9.25	3.56		
3.00	3.05	6.25	134.24	9.50	3.56		
3.25	3.05	6.50	18.31	9.75	3.56		

CALIB	
NASHYD (0018)	Area (ha)= 24.51 Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.70

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.05	6.250	134.24	9.33	3.56
0.167	0.00	3.250	3.05	6.333	18.31	9.42	3.56
0.250	0.00	3.333	4.07	6.417	18.31	9.50	3.56
0.333	2.54	3.417	4.07	6.500	18.31	9.58	3.56
0.417	2.54	3.500	4.07	6.583	18.31	9.67	3.56
0.500	2.54	3.583	4.07	6.667	18.31	9.75	3.56
0.583	2.54	3.667	4.07	6.750	18.31	9.83	3.56
0.667	2.54	3.750	4.07	6.833	8.14	9.92	3.56
0.750	2.54	3.833	4.07	6.917	8.14	10.00	3.56
0.833	2.54	3.917	4.07	7.000	8.14	10.08	3.56
0.917	2.54	4.000	4.07	7.083	8.14	10.17	3.56
1.000	2.54	4.083	4.07	7.167	8.14	10.25	3.56
1.083	2.54	4.167	4.07	7.250	8.14	10.33	2.03
1.167	2.54	4.250	4.07	7.333	6.10	10.42	2.03
1.250	2.54	4.333	6.10	7.417	6.10	10.50	2.03
1.333	2.54	4.417	6.10	7.500	6.10	10.58	2.03
1.417	2.54	4.500	6.10	7.583	6.10	10.67	2.03
1.500	2.54	4.583	6.10	7.667	6.10	10.75	2.03
1.583	2.54	4.667	6.10	7.750	6.10	10.83	2.03
1.667	2.54	4.750	6.10	7.833	6.10	10.92	2.03
1.750	2.54	4.833	8.14	7.917	6.10	11.00	2.03
1.833	2.54	4.917	8.14	8.000	6.10	11.08	2.03
1.917	2.54	5.000	8.14	8.083	6.10	11.17	2.03
2.000	2.54	5.083	8.14	8.167	6.10	11.25	2.03
2.083	2.54	5.167	8.14	8.250	6.10	11.33	2.03
2.167	2.54	5.250	8.14	8.333	3.56	11.42	2.03
2.250	2.54	5.333	12.20	8.417	3.56	11.50	2.03
2.333	3.05	5.417	12.20	8.500	3.56	11.58	2.03
2.417	3.05	5.500	12.20	8.583	3.56	11.67	2.03
2.500	3.05	5.583	12.20	8.667	3.56	11.75	2.03
2.583	3.05	5.667	12.20	8.750	3.56	11.83	2.03
2.667	3.05	5.750	12.20	8.833	3.56	11.92	2.03
2.750	3.05	5.833	48.82	8.917	3.56	12.00	2.03
2.833	3.05	5.917	48.82	9.000	3.56	12.08	2.03
2.917	3.05	6.000	48.82	9.083	3.56	12.17	2.03
3.000	3.05	6.083	134.24	9.167	3.56	12.25	2.03
3.083	3.05	6.167	134.24	9.250	3.56		

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.845 (i)
TIME TO PEAK (hrs)= 6.917
RUNOFF VOLUME (mm)= 28.800
TOTAL RAINFALL (mm)= 101.700
RUNOFF COEFFICIENT = 0.283

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

ADD HYD (0020)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0016):	0.78	0.046	6.33	21.53
	+ ID2= 2 (0017):	0.28	0.022	6.33	25.90
	ID = 3 (0020):	1.06	0.068	6.33	22.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1					

```
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0020):     1.06   0.068     6.33    22.69
     + ID2= 2 (  0018):    24.51   0.845     6.92    28.80
       ================================================
       ID = 1 (  0020):    25.57   0.862     6.92    28.55

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\f53dfd38-2fc5-4335-882a-cdcc9f245cd9\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\f53dfd38-2fc5-4335-882a-cdcc9f245cd9\scen

DATE: 10-31-2019                          TIME: 10:40:32

USER:



COMMENTS: _____________________________________________________

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  ***********************************************
  ** SIMULATION : 5-50-Year-24-Hour-SCS-Type-II **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\ada53171
| Ptotal=120.60 mm |    Comments: 50-Year-24-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    2.41 | 12.75   17.37 | 19.00    2.17
                0.50    1.21 |  6.75    2.41 | 13.00    8.92 | 19.25    2.17
                0.75    1.21 |  7.00    2.41 | 13.25    8.92 | 19.50    2.17
                1.00    1.21 |  7.25    2.41 | 13.50    1.69 | 19.75    2.17
                1.25    1.21 |  7.50    2.41 | 13.75    1.69 | 20.00    2.17
                1.50    1.21 |  7.75    2.41 | 14.00    9.89 | 20.25    2.17
                1.75    1.21 |  8.00    2.41 | 14.25    9.89 | 20.50    1.45
                2.00    1.21 |  8.25    2.41 | 14.50    3.62 | 20.75    1.45
                2.25    2.17 |  8.50    3.26 | 14.75    3.62 | 21.00    1.45
                2.50    1.57 |  8.75    3.26 | 15.00    3.62 | 21.25    1.45
                2.75    1.57 |  9.00    3.26 | 15.25    3.62 | 21.50    1.45
                3.00    1.57 |  9.25    3.26 | 15.50    3.62 | 21.75    1.45
                3.25    1.57 |  9.50    3.86 | 15.75    3.62 | 22.00    1.45
                3.50    1.57 |  9.75    3.86 | 16.00    3.62 | 22.25    1.45
                3.75    1.57 | 10.00    4.34 | 16.25    3.62 | 22.50    1.45
                4.00    1.57 | 10.25    4.34 | 16.50    2.17 | 22.75    1.45
                4.25    1.57 | 10.50    5.55 | 16.75    2.17 | 23.00    1.45
                4.50    1.93 | 10.75    5.55 | 17.00    2.17 | 23.25    1.45
                4.75    1.93 | 11.00    7.48 | 17.25    2.17 | 23.50    1.45
                5.00    1.93 | 11.25    7.48 | 17.50    2.17 | 23.75    1.45
                5.25    1.93 | 11.50   11.58 | 17.75    2.17 | 24.00    1.45
                5.50    1.93 | 11.75   11.58 | 18.00    2.17 | 24.25    1.45
                5.75    1.93 | 12.00   50.17 | 18.25    2.17 |
                6.00    1.93 | 12.25  133.14 | 18.50    2.17 |
                6.25    1.93 | 12.50   17.37 | 18.75    2.17 |

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| CALIB            |
| NASHYD   (  0016)|   Area     (ha)=   0.78   Curve Number    (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 6.167    1.93 |12.250  133.14 | 18.33    2.17
               0.167    0.00 | 6.250    1.93 |12.333   17.38 | 18.42    2.17
               0.250    0.00 | 6.333    2.41 |12.417   17.37 | 18.50    2.17
               0.333    1.21 | 6.417    2.41 |12.500   17.37 | 18.58    2.17
               0.417    1.21 | 6.500    2.41 |12.583   17.37 | 18.67    2.17
               0.500    1.21 | 6.583    2.41 |12.667   17.37 | 18.75    2.17
               0.583    1.21 | 6.667    2.41 |12.750   17.37 | 18.83    2.17
               0.667    1.21 | 6.750    2.41 |12.833    8.93 | 18.92    2.17
               0.750    1.21 | 6.833    2.41 |12.917    8.92 | 19.00    2.17
               0.833    1.21 | 6.917    2.41 |13.000    8.92 | 19.08    2.17
               0.917    1.21 | 7.000    2.41 |13.083    8.92 | 19.17    2.17
               1.000    1.21 | 7.083    2.41 |13.167    8.92 | 19.25    2.17
               1.083    1.21 | 7.167    2.41 |13.250    8.92 | 19.33    2.17
               1.167    1.21 | 7.250    2.41 |13.333    1.69 | 19.42    2.17
               1.250    1.21 | 7.333    2.41 |13.417    1.69 | 19.50    2.17
               1.333    1.21 | 7.417    2.41 |13.500    1.69 | 19.58    2.17
               1.417    1.21 | 7.500    2.41 |13.583    1.69 | 19.67    2.17
               1.500    1.21 | 7.583    2.41 |13.667    1.69 | 19.75    2.17
               1.583    1.21 | 7.667    2.41 |13.750    1.69 | 19.83    2.17
```

1.667	1.21	7.750	2.41	13.833	9.89	19.92	2.17
1.750	1.21	7.833	2.41	13.917	9.89	20.00	2.17
1.833	1.21	7.917	2.41	14.000	9.89	20.08	2.17
1.917	1.21	8.000	2.41	14.083	9.89	20.17	2.17
2.000	1.21	8.083	2.41	14.167	9.89	20.25	2.17
2.083	2.17	8.167	2.41	14.250	9.89	20.33	1.45
2.167	2.17	8.250	2.41	14.333	3.62	20.42	1.45
2.250	2.17	8.333	3.26	14.417	3.62	20.50	1.45
2.333	1.57	8.417	3.26	14.500	3.62	20.58	1.45
2.417	1.57	8.500	3.26	14.583	3.62	20.67	1.45
2.500	1.57	8.583	3.26	14.667	3.62	20.75	1.45
2.583	1.57	8.667	3.26	14.750	3.62	20.83	1.45
2.667	1.57	8.750	3.26	14.833	3.62	20.92	1.45
2.750	1.57	8.833	3.26	14.917	3.62	21.00	1.45
2.833	1.57	8.917	3.26	15.000	3.62	21.08	1.45
2.917	1.57	9.000	3.26	15.083	3.62	21.17	1.45
3.000	1.57	9.083	3.26	15.167	3.62	21.25	1.45
3.083	1.57	9.167	3.26	15.250	3.62	21.33	1.45
3.167	1.57	9.250	3.26	15.333	3.62	21.42	1.45
3.250	1.57	9.333	3.86	15.417	3.62	21.50	1.45
3.333	1.57	9.417	3.86	15.500	3.62	21.58	1.45
3.417	1.57	9.500	3.86	15.583	3.62	21.67	1.45
3.500	1.57	9.583	3.86	15.667	3.62	21.75	1.45
3.583	1.57	9.667	3.86	15.750	3.62	21.83	1.45
3.667	1.57	9.750	3.86	15.833	3.62	21.92	1.45
3.750	1.57	9.833	4.34	15.917	3.62	22.00	1.45
3.833	1.57	9.917	4.34	16.000	3.62	22.08	1.45
3.917	1.57	10.000	4.34	16.083	3.62	22.17	1.45
4.000	1.57	10.083	4.34	16.167	3.62	22.25	1.45
4.083	1.57	10.167	4.34	16.250	3.62	22.33	1.45
4.167	1.57	10.250	4.34	16.333	2.17	22.42	1.45
4.250	1.57	10.333	5.55	16.417	2.17	22.50	1.45
4.333	1.93	10.417	5.55	16.500	2.17	22.58	1.45
4.417	1.93	10.500	5.55	16.583	2.17	22.67	1.45
4.500	1.93	10.583	5.55	16.667	2.17	22.75	1.45
4.583	1.93	10.667	5.55	16.750	2.17	22.83	1.45
4.667	1.93	10.750	5.55	16.833	2.17	22.92	1.45
4.750	1.93	10.833	7.48	16.917	2.17	23.00	1.45
4.833	1.93	10.917	7.48	17.000	2.17	23.08	1.45
4.917	1.93	11.000	7.48	17.083	2.17	23.17	1.45
5.000	1.93	11.083	7.48	17.167	2.17	23.25	1.45
5.083	1.93	11.167	7.48	17.250	2.17	23.33	1.45
5.167	1.93	11.250	7.48	17.333	2.17	23.42	1.45
5.250	1.93	11.333	11.58	17.417	2.17	23.50	1.45
5.333	1.93	11.417	11.58	17.500	2.17	23.58	1.45
5.417	1.93	11.500	11.58	17.583	2.17	23.67	1.45
5.500	1.93	11.583	11.58	17.667	2.17	23.75	1.45
5.583	1.93	11.667	11.58	17.750	2.17	23.83	1.45
5.667	1.93	11.750	11.58	17.833	2.17	23.92	1.45
5.750	1.93	11.833	50.17	17.917	2.17	24.00	1.45
5.833	1.93	11.917	50.17	18.000	2.17	24.08	1.45
5.917	1.93	12.000	50.17	18.083	2.17	24.17	1.45
6.000	1.93	12.083	133.13	18.167	2.17	24.25	1.45
6.083	1.93	12.167	133.14	18.250	2.17		

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.054 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 29.877

TOTAL RAINFALL (mm)= 120.600
RUNOFF COEFFICIENT = 0.248

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\ada53171
Ptotal=120.60 mm	Comments: 50-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.41	12.75	17.37	19.00	2.17
0.50	1.21	6.75	2.41	13.00	8.92	19.25	2.17
0.75	1.21	7.00	2.41	13.25	8.92	19.50	2.17
1.00	1.21	7.25	2.41	13.50	1.69	19.75	2.17
1.25	1.21	7.50	2.41	13.75	1.69	20.00	2.17
1.50	1.21	7.75	2.41	14.00	9.89	20.25	2.17
1.75	1.21	8.00	2.41	14.25	9.89	20.50	1.45
2.00	1.21	8.25	2.41	14.50	3.62	20.75	1.45
2.25	2.17	8.50	3.26	14.75	3.62	21.00	1.45
2.50	1.57	8.75	3.26	15.00	3.62	21.25	1.45
2.75	1.57	9.00	3.26	15.25	3.62	21.50	1.45
3.00	1.57	9.25	3.26	15.50	3.62	21.75	1.45
3.25	1.57	9.50	3.86	15.75	3.62	22.00	1.45
3.50	1.57	9.75	3.86	16.00	3.62	22.25	1.45
3.75	1.57	10.00	4.34	16.25	3.62	22.50	1.45
4.00	1.57	10.25	4.34	16.50	2.17	22.75	1.45
4.25	1.57	10.50	5.55	16.75	2.17	23.00	1.45
4.50	1.93	10.75	5.55	17.00	2.17	23.25	1.45
4.75	1.93	11.00	7.48	17.25	2.17	23.50	1.45
5.00	1.93	11.25	7.48	17.50	2.17	23.75	1.45
5.25	1.93	11.50	11.58	17.75	2.17	24.00	1.45
5.50	1.93	11.75	11.58	18.00	2.17	24.25	1.45
5.75	1.93	12.00	50.17	18.25	2.17		
6.00	1.93	12.25	133.14	18.50	2.17		
6.25	1.93	12.50	17.37	18.75	2.17		

CALIB NASHYD (0017) ID= 1 DT= 5.0 min	Area (ha)= 0.28	Curve Number (CN)= 51.0
	Ia (mm)= 8.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.17	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.93	12.250	133.14	18.33	2.17
0.167	0.00	6.250	1.93	12.333	17.38	18.42	2.17
0.250	0.00	6.333	2.41	12.417	17.37	18.50	2.17
0.333	1.21	6.417	2.41	12.500	17.37	18.58	2.17
0.417	1.21	6.500	2.41	12.583	17.37	18.67	2.17

0.500	1.21	6.583	2.41	12.667	17.37	18.75	2.17
0.583	1.21	6.667	2.41	12.750	17.37	18.83	2.17
0.667	1.21	6.750	2.41	12.833	8.93	18.92	2.17
0.750	1.21	6.833	2.41	12.917	8.92	19.00	2.17
0.833	1.21	6.917	2.41	13.000	8.92	19.08	2.17
0.917	1.21	7.000	2.41	13.083	8.92	19.17	2.17
1.000	1.21	7.083	2.41	13.167	8.92	19.25	2.17
1.083	1.21	7.167	2.41	13.250	8.92	19.33	2.17
1.167	1.21	7.250	2.41	13.333	1.69	19.42	2.17
1.250	1.21	7.333	2.41	13.417	1.69	19.50	2.17
1.333	1.21	7.417	2.41	13.500	1.69	19.58	2.17
1.417	1.21	7.500	2.41	13.583	1.69	19.67	2.17
1.500	1.21	7.583	2.41	13.667	1.69	19.75	2.17
1.583	1.21	7.667	2.41	13.750	1.69	19.83	2.17
1.667	1.21	7.750	2.41	13.833	9.89	19.92	2.17
1.750	1.21	7.833	2.41	13.917	9.89	20.00	2.17
1.833	1.21	7.917	2.41	14.000	9.89	20.08	2.17
1.917	1.21	8.000	2.41	14.083	9.89	20.17	2.17
2.000	1.21	8.083	2.41	14.167	9.89	20.25	2.17
2.083	2.17	8.167	2.41	14.250	9.89	20.33	1.45
2.167	2.17	8.250	2.41	14.333	3.62	20.42	1.45
2.250	2.17	8.333	3.26	14.417	3.62	20.50	1.45
2.333	1.57	8.417	3.26	14.500	3.62	20.58	1.45
2.417	1.57	8.500	3.26	14.583	3.62	20.67	1.45
2.500	1.57	8.583	3.26	14.667	3.62	20.75	1.45
2.583	1.57	8.667	3.26	14.750	3.62	20.83	1.45
2.667	1.57	8.750	3.26	14.833	3.62	20.92	1.45
2.750	1.57	8.833	3.26	14.917	3.62	21.00	1.45
2.833	1.57	8.917	3.26	15.000	3.62	21.08	1.45
2.917	1.57	9.000	3.26	15.083	3.62	21.17	1.45
3.000	1.57	9.083	3.26	15.167	3.62	21.25	1.45
3.083	1.57	9.167	3.26	15.250	3.62	21.33	1.45
3.167	1.57	9.250	3.26	15.333	3.62	21.42	1.45
3.250	1.57	9.333	3.86	15.417	3.62	21.50	1.45
3.333	1.57	9.417	3.86	15.500	3.62	21.58	1.45
3.417	1.57	9.500	3.86	15.583	3.62	21.67	1.45
3.500	1.57	9.583	3.86	15.667	3.62	21.75	1.45
3.583	1.57	9.667	3.86	15.750	3.62	21.83	1.45
3.667	1.57	9.750	3.86	15.833	3.62	21.92	1.45
3.750	1.57	9.833	4.34	15.917	3.62	22.00	1.45
3.833	1.57	9.917	4.34	16.000	3.62	22.08	1.45
3.917	1.57	10.000	4.34	16.083	3.62	22.17	1.45
4.000	1.57	10.083	4.34	16.167	3.62	22.25	1.45
4.083	1.57	10.167	4.34	16.250	3.62	22.33	1.45
4.167	1.57	10.250	4.34	16.333	2.17	22.42	1.45
4.250	1.57	10.333	5.55	16.417	2.17	22.50	1.45
4.333	1.93	10.417	5.55	16.500	2.17	22.58	1.45
4.417	1.93	10.500	5.55	16.583	2.17	22.67	1.45
4.500	1.93	10.583	5.55	16.667	2.17	22.75	1.45
4.583	1.93	10.667	5.55	16.750	2.17	22.83	1.45
4.667	1.93	10.750	5.55	16.833	2.17	22.92	1.45
4.750	1.93	10.833	7.48	16.917	2.17	23.00	1.45
4.833	1.93	10.917	7.48	17.000	2.17	23.08	1.45
4.917	1.93	11.000	7.48	17.083	2.17	23.17	1.45
5.000	1.93	11.083	7.48	17.167	2.17	23.25	1.45
5.083	1.93	11.167	7.48	17.250	2.17	23.33	1.45
5.167	1.93	11.250	7.48	17.333	2.17	23.42	1.45
5.250	1.93	11.333	11.58	17.417	2.17	23.50	1.45
5.333	1.93	11.417	11.58	17.500	2.17	23.58	1.45
5.417	1.93	11.500	11.58	17.583	2.17	23.67	1.45
5.500	1.93	11.583	11.58	17.667	2.17	23.75	1.45
5.583	1.93	11.667	11.58	17.750	2.17	23.83	1.45
5.667	1.93	11.750	11.58	17.833	2.17	23.92	1.45
5.750	1.93	11.833	50.17	17.917	2.17	24.00	1.45
5.833	1.93	11.917	50.17	18.000	2.17	24.08	1.45
5.917	1.93	12.000	50.17	18.083	2.17	24.17	1.45
6.000	1.93	12.083	133.13	18.167	2.17	24.25	1.45
6.083	1.93	12.167	133.14	18.250	2.17		

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.025 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 35.422
TOTAL RAINFALL (mm)= 120.600
RUNOFF COEFFICIENT = 0.294

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\ada53171
Ptotal=120.60 mm	Comments: 50-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.41	12.75	17.37	19.00	2.17
0.50	1.21	6.75	2.41	13.00	8.92	19.25	2.17
0.75	1.21	7.00	2.41	13.25	8.92	19.50	2.17
1.00	1.21	7.25	2.41	13.50	1.69	19.75	2.17
1.25	1.21	7.50	2.41	13.75	1.69	20.00	2.17
1.50	1.21	7.75	2.41	14.00	9.89	20.25	2.17
1.75	1.21	8.00	2.41	14.25	9.89	20.50	1.45
2.00	1.21	8.25	2.41	14.50	3.62	20.75	1.45
2.25	2.17	8.50	3.26	14.75	3.62	21.00	1.45
2.50	1.57	8.75	3.26	15.00	3.62	21.25	1.45
2.75	1.57	9.00	3.26	15.25	3.62	21.50	1.45
3.00	1.57	9.25	3.26	15.50	3.62	21.75	1.45
3.25	1.57	9.50	3.86	15.75	3.62	22.00	1.45
3.50	1.57	9.75	3.86	16.00	3.62	22.25	1.45
3.75	1.57	10.00	4.34	16.25	3.62	22.50	1.45
4.00	1.57	10.25	4.34	16.50	2.17	22.75	1.45
4.25	1.57	10.50	5.55	16.75	2.17	23.00	1.45
4.50	1.93	10.75	5.55	17.00	2.17	23.25	1.45
4.75	1.93	11.00	7.48	17.25	2.17	23.50	1.45
5.00	1.93	11.25	7.48	17.50	2.17	23.75	1.45
5.25	1.93	11.50	11.58	17.75	2.17	24.00	1.45
5.50	1.93	11.75	11.58	18.00	2.17	24.25	1.45
5.75	1.93	12.00	50.17	18.25	2.17		
6.00	1.93	12.25	133.14	18.50	2.17		
6.25	1.93	12.50	17.37	18.75	2.17		

CALIB					
NASHYD (0018)	Area (ha)= 24.51	Curve Number (CN)= 52.7			

|ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
---------- U.H. Tp(hrs)= 0.70

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.93	12.250	133.14	18.33	2.17
0.167	0.00	6.250	1.93	12.333	17.38	18.42	2.17
0.250	0.00	6.333	2.41	12.417	17.37	18.50	2.17
0.333	1.21	6.417	2.41	12.500	17.37	18.58	2.17
0.417	1.21	6.500	2.41	12.583	17.37	18.67	2.17
0.500	1.21	6.583	2.41	12.667	17.37	18.75	2.17
0.583	1.21	6.667	2.41	12.750	17.37	18.83	2.17
0.667	1.21	6.750	2.41	12.833	8.93	18.92	2.17
0.750	1.21	6.833	2.41	12.917	8.92	19.00	2.17
0.833	1.21	6.917	2.41	13.000	8.92	19.08	2.17
0.917	1.21	7.000	2.41	13.083	8.92	19.17	2.17
1.000	1.21	7.083	2.41	13.167	8.92	19.25	2.17
1.083	1.21	7.167	2.41	13.250	8.92	19.33	2.17
1.167	1.21	7.250	2.41	13.333	1.69	19.42	2.17
1.250	1.21	7.333	2.41	13.417	1.69	19.50	2.17
1.333	1.21	7.417	2.41	13.500	1.69	19.58	2.17
1.417	1.21	7.500	2.41	13.583	1.69	19.67	2.17
1.500	1.21	7.583	2.41	13.667	1.69	19.75	2.17
1.583	1.21	7.667	2.41	13.750	1.69	19.83	2.17
1.667	1.21	7.750	2.41	13.833	9.89	19.92	2.17
1.750	1.21	7.833	2.41	13.917	9.89	20.00	2.17
1.833	1.21	7.917	2.41	14.000	9.89	20.08	2.17
1.917	1.21	8.000	2.41	14.083	9.89	20.17	2.17
2.000	1.21	8.083	2.41	14.167	9.89	20.25	2.17
2.083	2.17	8.167	2.41	14.250	9.89	20.33	1.45
2.167	2.17	8.250	2.41	14.333	3.62	20.42	1.45
2.250	2.17	8.333	3.26	14.417	3.62	20.50	1.45
2.333	1.57	8.417	3.26	14.500	3.62	20.58	1.45
2.417	1.57	8.500	3.26	14.583	3.62	20.67	1.45
2.500	1.57	8.583	3.26	14.667	3.62	20.75	1.45
2.583	1.57	8.667	3.26	14.750	3.62	20.83	1.45
2.667	1.57	8.750	3.26	14.833	3.62	20.92	1.45
2.750	1.57	8.833	3.26	14.917	3.62	21.00	1.45
2.833	1.57	8.917	3.26	15.000	3.62	21.08	1.45
2.917	1.57	9.000	3.26	15.083	3.62	21.17	1.45
3.000	1.57	9.083	3.26	15.167	3.62	21.25	1.45
3.083	1.57	9.167	3.26	15.250	3.62	21.33	1.45
3.167	1.57	9.250	3.26	15.333	3.62	21.42	1.45
3.250	1.57	9.333	3.86	15.417	3.62	21.50	1.45
3.333	1.57	9.417	3.86	15.500	3.62	21.58	1.45
3.417	1.57	9.500	3.86	15.583	3.62	21.67	1.45
3.500	1.57	9.583	3.86	15.667	3.62	21.75	1.45
3.583	1.57	9.667	3.86	15.750	3.62	21.83	1.45
3.667	1.57	9.750	3.86	15.833	3.62	21.92	1.45
3.750	1.57	9.833	4.34	15.917	3.62	22.00	1.45
3.833	1.57	9.917	4.34	16.000	3.62	22.08	1.45
3.917	1.57	10.000	4.34	16.083	3.62	22.17	1.45
4.000	1.57	10.083	4.34	16.167	3.62	22.25	1.45
4.083	1.57	10.167	4.34	16.250	3.62	22.33	1.45
4.167	1.57	10.250	4.34	16.333	2.17	22.42	1.45
4.250	1.57	10.333	5.55	16.417	2.17	22.50	1.45
4.333	1.93	10.417	5.55	16.500	2.17	22.58	1.45
4.417	1.93	10.500	5.55	16.583	2.17	22.67	1.45
4.500	1.93	10.583	5.55	16.667	2.17	22.75	1.45
4.583	1.93	10.667	5.55	16.750	2.17	22.83	1.45
4.667	1.93	10.750	5.55	16.833	2.17	22.92	1.45
4.750	1.93	10.833	7.48	16.917	2.17	23.00	1.45
4.833	1.93	10.917	7.48	17.000	2.17	23.08	1.45
4.917	1.93	11.000	7.48	17.083	2.17	23.17	1.45
5.000	1.93	11.083	7.48	17.167	2.17	23.25	1.45
5.083	1.93	11.167	7.48	17.250	2.17	23.33	1.45
5.167	1.93	11.250	7.48	17.333	2.17	23.42	1.45
5.250	1.93	11.333	11.58	17.417	2.17	23.50	1.45
5.333	1.93	11.417	11.58	17.500	2.17	23.58	1.45
5.417	1.93	11.500	11.58	17.583	2.17	23.67	1.45
5.500	1.93	11.583	11.58	17.667	2.17	23.75	1.45
5.583	1.93	11.667	11.58	17.750	2.17	23.83	1.45
5.667	1.93	11.750	11.58	17.833	2.17	23.92	1.45
5.750	1.93	11.833	50.17	17.917	2.17	24.00	1.45
5.833	1.93	11.917	50.17	18.000	2.17	24.08	1.45
5.917	1.93	12.000	50.17	18.083	2.17	24.17	1.45
6.000	1.93	12.083	133.13	18.167	2.17	24.25	1.45
6.083	1.93	12.167	133.14	18.250	2.17		

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.958 (i)
TIME TO PEAK (hrs)= 12.833
RUNOFF VOLUME (mm)= 38.895
TOTAL RAINFALL (mm)= 120.600
RUNOFF COEFFICIENT = 0.323

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

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0016):		0.78	0.054	12.33	29.88
+ ID2= 2 (0017):		0.28	0.025	12.25	35.42
ID = 3 (0020):		1.06	0.079	12.33	31.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0020):		1.06	0.079	12.33	31.34
+ ID2= 2 (0018):		24.51	0.958	12.83	38.89
ID = 1 (0020):		25.57	0.980	12.83	38.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\ebc065ac-044c-46a4-8277-49183ba1ef4f\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\ebc065ac-044c-46a4-8277-49183ba1ef4f\scen


DATE: 10-31-2019                          TIME: 10:40:31

USER:



COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 5-50-Year-4-Hour-Chicago-Barr **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\66deb195
| Ptotal= 79.45 mm |    Comments: 50-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.93 |  1.17   40.22 |  2.17   13.20 |  3.17    6.98
                0.33    6.74 |  1.33  164.22 |  2.33   11.37 |  3.33    6.51
                0.50    7.85 |  1.50   51.92 |  2.50   10.03 |  3.50    6.11
                0.67    9.50 |  1.67   28.58 |  2.67    9.00 |  3.67    5.77
                0.83   12.27 |  1.83   20.23 |  2.83    8.19 |  3.83    5.46
                1.00   18.04 |  2.00   15.88 |  3.00    7.53 |  4.00    5.19

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| CALIB            |
| NASHYD   (  0016)|   Area     (ha)=   0.78   Curve Number    (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083   5.93 | 1.083   40.22 | 2.083   13.20 |  3.08    6.98
                0.167   5.93 | 1.167   40.22 | 2.167   13.20 |  3.17    6.98
                0.250   6.74 | 1.250  164.22 | 2.250   11.37 |  3.25    6.51
                0.333   6.74 | 1.333  164.22 | 2.333   11.37 |  3.33    6.51
                0.417   7.85 | 1.417   51.92 | 2.417   10.03 |  3.42    6.11
                0.500   7.85 | 1.500   51.92 | 2.500   10.03 |  3.50    6.11
                0.583   9.50 | 1.583   28.58 | 2.583    9.00 |  3.58    5.77
                0.667   9.50 | 1.667   28.58 | 2.667    9.00 |  3.67    5.77
                0.750  12.27 | 1.750   20.23 | 2.750    8.19 |  3.75    5.46
                0.833  12.27 | 1.833   20.23 | 2.833    8.19 |  3.83    5.46
                0.917  18.04 | 1.917   15.88 | 2.917    7.53 |  3.92    5.19
                1.000  18.04 | 2.000   15.88 | 3.000    7.53 |  4.00    5.19

    Unit Hyd Qpeak  (cms)=   0.142

    PEAK FLOW       (cms)=   0.025 (i)
    TIME TO PEAK    (hrs)=   1.583
    RUNOFF VOLUME    (mm)=  13.100
    TOTAL RAINFALL   (mm)=  79.453
    RUNOFF COEFFICIENT   =   0.165

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

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\66deb195
| Ptotal= 79.45 mm |    Comments: 50-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.93 |  1.17   40.22 |  2.17   13.20 |  3.17    6.98
                0.33    6.74 |  1.33  164.22 |  2.33   11.37 |  3.33    6.51
                0.50    7.85 |  1.50   51.92 |  2.50   10.03 |  3.50    6.11
                0.67    9.50 |  1.67   28.58 |  2.67    9.00 |  3.67    5.77
                0.83   12.27 |  1.83   20.23 |  2.83    8.19 |  3.83    5.46
                1.00   18.04 |  2.00   15.88 |  3.00    7.53 |  4.00    5.19

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--------------------
| CALIB            |
| NASHYD   (  0017)|   Area     (ha)=   0.28   Curve Number    (CN)= 51.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17
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NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.93	1.083	40.22	2.083	13.20	3.08	6.98
0.167	5.93	1.167	40.22	2.167	13.20	3.17	6.98
0.250	6.74	1.250	164.22	2.250	11.37	3.25	6.51
0.333	6.74	1.333	164.22	2.333	11.37	3.33	6.51
0.417	7.85	1.417	51.92	2.417	10.03	3.42	6.11
0.500	7.85	1.500	51.92	2.500	10.03	3.50	6.11
0.583	9.50	1.583	28.58	2.583	9.00	3.58	5.77
0.667	9.50	1.667	28.58	2.667	9.00	3.67	5.77
0.750	12.27	1.750	20.23	2.750	8.19	3.75	5.46
0.833	12.27	1.833	20.23	2.833	8.19	3.83	5.46
0.917	18.04	1.917	15.88	2.917	7.53	3.92	5.19
1.000	18.04	2.000	15.88	3.000	7.53	4.00	5.19

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.013 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 16.124
TOTAL RAINFALL (mm)= 79.453
RUNOFF COEFFICIENT = 0.203

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\66deb195
Ptotal= 79.45 mm	Comments: 50-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.93	1.17	40.22	2.17	13.20	3.17	6.98
0.33	6.74	1.33	164.22	2.33	11.37	3.33	6.51
0.50	7.85	1.50	51.92	2.50	10.03	3.50	6.11
0.67	9.50	1.67	28.58	2.67	9.00	3.67	5.77
0.83	12.27	1.83	20.23	2.83	8.19	3.83	5.46
1.00	18.04	2.00	15.88	3.00	7.53	4.00	5.19

CALIB NASHYD (0018) ID= 1 DT= 5.0 min	Area (ha)= 24.51	Curve Number (CN)= 52.7
	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.70	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.93	1.083	40.22	2.083	13.20	3.08	6.98
0.167	5.93	1.167	40.22	2.167	13.20	3.17	6.98
0.250	6.74	1.250	164.22	2.250	11.37	3.25	6.51
0.333	6.74	1.333	164.22	2.333	11.37	3.33	6.51
0.417	7.85	1.417	51.92	2.417	10.03	3.42	6.11
0.500	7.85	1.500	51.92	2.500	10.03	3.50	6.11
0.583	9.50	1.583	28.58	2.583	9.00	3.58	5.77
0.667	9.50	1.667	28.58	2.667	9.00	3.67	5.77
0.750	12.27	1.750	20.23	2.750	8.19	3.75	5.46
0.833	12.27	1.833	20.23	2.833	8.19	3.83	5.46
0.917	18.04	1.917	15.88	2.917	7.53	3.92	5.19
1.000	18.04	2.000	15.88	3.000	7.53	4.00	5.19

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.569 (i)
TIME TO PEAK (hrs)= 2.250
RUNOFF VOLUME (mm)= 18.329
TOTAL RAINFALL (mm)= 79.453
RUNOFF COEFFICIENT = 0.231

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

ADD HYD (0020) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0016):	0.78	0.025	1.58	13.10
+ ID2= 2 (0017):	0.28	0.013	1.50	16.12
ID = 3 (0020):	1.06	0.038	1.50	13.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020) 3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0020):	1.06	0.038	1.50	13.90
+ ID2= 2 (0018):	24.51	0.569	2.25	18.33
ID = 1 (0020):	25.57	0.582	2.25	18.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
V    V   I    SSSSS  U   U    A    L
V    V   I    SS     U   U   A A   L
 V  V    I     SS    U   U  AAAAA  L
 V  V    I      SS   U   U  A   A  L
  VV     I    SSSSS  UUUUU  A   A  LLLLL
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        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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86e9-d1c81bbaf91e\841ac059-bdc6-41bb-a50c-3b61a6e64670\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
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DATE: 10-31-2019                          TIME: 10:40:30

USER:



COMMENTS: _____________________________________________________________

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  ************************************************
  ** SIMULATION : 5-50-Year-4-Hour-Chicago-MTO  **
  ************************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 773.304
| Ptotal= 67.06 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.64 |  1.17   26.68 |  2.17   11.15 |  3.17    6.50
                0.33    6.30 |  1.33  154.65 |  2.33    9.85 |  3.33    6.12
                0.50    7.19 |  1.50   32.75 |  2.50    8.86 |  3.50    5.79
                0.67    8.47 |  1.67   20.65 |  2.67    8.09 |  3.67    5.50
                0.83   10.49 |  1.83   15.75 |  2.83    7.46 |  3.83    5.24
                1.00   14.35 |  2.00   12.97 |  3.00    6.94 |  4.00    5.01


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0016)|   Area     (ha)=   0.78   Curve Number    (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    5.64 | 1.083   26.68 | 2.083   11.15 |  3.08    6.50
                0.167    5.64 | 1.167   26.68 | 2.167   11.15 |  3.17    6.50
                0.250    6.30 | 1.250  154.65 | 2.250    9.85 |  3.25    6.12
                0.333    6.30 | 1.333  154.65 | 2.333    9.85 |  3.33    6.12
                0.417    7.19 | 1.417   32.75 | 2.417    8.86 |  3.42    5.79
                0.500    7.19 | 1.500   32.75 | 2.500    8.86 |  3.50    5.79
                0.583    8.47 | 1.583   20.65 | 2.583    8.09 |  3.58    5.50
                0.667    8.47 | 1.667   20.65 | 2.667    8.09 |  3.67    5.50
                0.750   10.49 | 1.750   15.75 | 2.750    7.46 |  3.75    5.24
                0.833   10.49 | 1.833   15.75 | 2.833    7.46 |  3.83    5.24
                0.917   14.35 | 1.917   12.97 | 2.917    6.94 |  3.92    5.01
                1.000   14.35 | 2.000   12.97 | 3.000    6.94 |  4.00    5.01

    Unit Hyd Qpeak  (cms)=   0.142

    PEAK FLOW       (cms)=   0.017 (i)
    TIME TO PEAK    (hrs)=   1.500
    RUNOFF VOLUME    (mm)=   9.151
    TOTAL RAINFALL   (mm)=  67.063
    RUNOFF COEFFICIENT   =   0.136

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

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 773.304
| Ptotal= 67.06 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.64 |  1.17   26.68 |  2.17   11.15 |  3.17    6.50
                0.33    6.30 |  1.33  154.65 |  2.33    9.85 |  3.33    6.12
                0.50    7.19 |  1.50   32.75 |  2.50    8.86 |  3.50    5.79
                0.67    8.47 |  1.67   20.65 |  2.67    8.09 |  3.67    5.50
                0.83   10.49 |  1.83   15.75 |  2.83    7.46 |  3.83    5.24
                1.00   14.35 |  2.00   12.97 |  3.00    6.94 |  4.00    5.01


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area     (ha)=   0.28   Curve Number    (CN)= 51.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.64	1.083	26.68	2.083	11.15	3.08	6.50
0.167	5.64	1.167	26.68	2.167	11.15	3.17	6.50
0.250	6.30	1.250	154.65	2.250	9.85	3.25	6.12
0.333	6.30	1.333	154.65	2.333	9.85	3.33	6.12
0.417	7.19	1.417	32.75	2.417	8.86	3.42	5.79
0.500	7.19	1.500	32.75	2.500	8.86	3.50	5.79
0.583	8.47	1.583	20.65	2.583	8.09	3.58	5.50
0.667	8.47	1.667	20.65	2.667	8.09	3.67	5.50
0.750	10.49	1.750	15.75	2.750	7.46	3.75	5.24
0.833	10.49	1.833	15.75	2.833	7.46	3.83	5.24
0.917	14.35	1.917	12.97	2.917	6.94	3.92	5.01
1.000	14.35	2.000	12.97	3.000	6.94	4.00	5.01

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.009 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 11.467
TOTAL RAINFALL (mm)= 67.063
RUNOFF COEFFICIENT = 0.171

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

CHICAGO STORM	Ptotal= 67.06 mm

IDF curve parameters: A= 773.304
B= 0.000
C= 0.699
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.64	1.17	26.68	2.17	11.15	3.17	6.50
0.33	6.30	1.33	154.65	2.33	9.85	3.33	6.12
0.50	7.19	1.50	32.75	2.50	8.86	3.50	5.79
0.67	8.47	1.67	20.65	2.67	8.09	3.67	5.50
0.83	10.49	1.83	15.75	2.83	7.46	3.83	5.24
1.00	14.35	2.00	12.97	3.00	6.94	4.00	5.01

CALIB	NASHYD (0018)	ID= 1 DT= 5.0 min

Area (ha)= 24.51 Curve Number (CN)= 52.7
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.70

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.64	1.083	26.68	2.083	11.15	3.08	6.50
0.167	5.64	1.167	26.68	2.167	11.15	3.17	6.50
0.250	6.30	1.250	154.65	2.250	9.85	3.25	6.12
0.333	6.30	1.333	154.65	2.333	9.85	3.33	6.12
0.417	7.19	1.417	32.75	2.417	8.86	3.42	5.79
0.500	7.19	1.500	32.75	2.500	8.86	3.50	5.79
0.583	8.47	1.583	20.65	2.583	8.09	3.58	5.50
0.667	8.47	1.667	20.65	2.667	8.09	3.67	5.50
0.750	10.49	1.750	15.75	2.750	7.46	3.75	5.24
0.833	10.49	1.833	15.75	2.833	7.46	3.83	5.24
0.917	14.35	1.917	12.97	2.917	6.94	3.92	5.01
1.000	14.35	2.000	12.97	3.000	6.94	4.00	5.01

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.390 (i)
TIME TO PEAK (hrs)= 2.250
RUNOFF VOLUME (mm)= 13.280
TOTAL RAINFALL (mm)= 67.063
RUNOFF COEFFICIENT = 0.198

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

ADD HYD (0020)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 1 (0016):	0.78	0.017	1.50	9.15
		+ ID2= 2 (0017):	0.28	0.009	1.42	11.47
		ID = 3 (0020):	1.06	0.026	1.50	9.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)	3 + 2 = 1		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
		ID1= 3 (0020):	1.06	0.026	1.50	9.76
		+ ID2= 2 (0018):	24.51	0.390	2.25	13.28
		ID = 1 (0020):	25.57	0.400	2.17	13.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
V    V   I    SSSSS  U   U    A    L
V    V   I    SS     U   U   A A   L
 V  V    I     SS    U   U  AAAAA  L
 V  V    I      SS   U   U  A   A  L
  VV     I    SSSSS  UUUUU  A   A  LLLLL
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```
        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\0948e609-09e2-4f69-b609-35b38e749477\scen
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DATE: 10-31-2019                          TIME: 10:40:26

USER:


COMMENTS: _____________________________________________________________

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  ************************************************
  ** SIMULATION : 5-50-Year-6-Hour-SCS-Type-II  **
  ************************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\573d0df0
| Ptotal= 95.90 mm |    Comments: 50-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    9.59 |  3.75   21.10 |  5.50    3.84
                0.50    3.84 |  2.25    9.59 |  4.00    9.59 |  5.75    3.84
                0.75    3.84 |  2.50   11.51 |  4.25    9.59 |  6.00    3.84
                1.00    5.75 |  2.75   11.51 |  4.50    7.67 |  6.25    3.84
                1.25    5.75 |  3.00   57.54 |  4.75    7.67 |
                1.50    5.75 |  3.25  149.60 |  5.00    5.75 |
                1.75    5.75 |  3.50   21.10 |  5.25    5.75 |

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

--------------------
| CALIB            |
| NASHYD   (  0016)|   Area     (ha)=   0.78   Curve Number    (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.75	3.250	149.60	4.83	5.75
0.167	0.00	1.750	5.75	3.333	21.10	4.92	5.75
0.250	0.00	1.833	9.59	3.417	21.10	5.00	5.75
0.333	3.84	1.917	9.59	3.500	21.10	5.08	5.75
0.417	3.84	2.000	9.59	3.583	21.10	5.17	5.75
0.500	3.84	2.083	9.59	3.667	21.10	5.25	5.75
0.583	3.84	2.167	9.59	3.750	21.10	5.33	3.84
0.667	3.84	2.250	9.59	3.833	9.59	5.42	3.84
0.750	3.84	2.333	11.51	3.917	9.59	5.50	3.84
0.833	5.75	2.417	11.51	4.000	9.59	5.58	3.84
0.917	5.75	2.500	11.51	4.083	9.59	5.67	3.84
1.000	5.75	2.583	11.51	4.167	9.59	5.75	3.84
1.083	5.75	2.667	11.51	4.250	9.59	5.83	3.84
1.167	5.75	2.750	11.51	4.333	7.67	5.92	3.84
1.250	5.75	2.833	57.54	4.417	7.67	6.00	3.84
1.333	5.75	2.917	57.54	4.500	7.67	6.08	3.84
1.417	5.75	3.000	57.54	4.583	7.67	6.17	3.84
1.500	5.75	3.083	149.60	4.667	7.67	6.25	3.84
1.583	5.75	3.167	149.60	4.750	7.67		

```
    Unit Hyd Qpeak  (cms)=   0.142

    PEAK FLOW       (cms)=   0.048 (i)
    TIME TO PEAK    (hrs)=   3.333
    RUNOFF VOLUME    (mm)=  19.181
    TOTAL RAINFALL   (mm)=  95.900
    RUNOFF COEFFICIENT   =   0.200

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

```
--------------------
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|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\573d0df0
| Ptotal= 95.90 mm |    Comments: 50-Year-6-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	9.59	3.75	21.10	5.50	3.84
0.50	3.84	2.25	9.59	4.00	9.59	5.75	3.84
0.75	3.84	2.50	11.51	4.25	9.59	6.00	3.84
1.00	5.75	2.75	11.51	4.50	7.67	6.25	3.84
1.25	5.75	3.00	57.54	4.75	7.67		
1.50	5.75	3.25	149.60	5.00	5.75		
1.75	5.75	3.50	21.10	5.25	5.75		

```
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area     (ha)=   0.28   Curve Number    (CN)= 51.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17
```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.75	3.250	149.60	4.83	5.75
0.167	0.00	1.750	5.75	3.333	21.10	4.92	5.75
0.250	0.00	1.833	9.59	3.417	21.10	5.00	5.75
0.333	3.84	1.917	9.59	3.500	21.10	5.08	5.75
0.417	3.84	2.000	9.59	3.583	21.10	5.17	5.75
0.500	3.84	2.083	9.59	3.667	21.10	5.25	5.75
0.583	3.84	2.167	9.59	3.750	21.10	5.33	3.84
0.667	3.84	2.250	9.59	3.833	9.59	5.42	3.84
0.750	3.84	2.333	11.51	3.917	9.59	5.50	3.84
0.833	5.75	2.417	11.51	4.000	9.59	5.58	3.84
0.917	5.75	2.500	11.51	4.083	9.59	5.67	3.84
1.000	5.75	2.583	11.51	4.167	9.59	5.75	3.84
1.083	5.75	2.667	11.51	4.250	9.59	5.83	3.84
1.167	5.75	2.750	11.51	4.333	7.67	5.92	3.84
1.250	5.75	2.833	57.54	4.417	7.67	6.00	3.84
1.333	5.75	2.917	57.54	4.500	7.67	6.08	3.84
1.417	5.75	3.000	57.54	4.583	7.67	6.17	3.84
1.500	5.75	3.083	149.60	4.667	7.67	6.25	3.84
1.583	5.75	3.167	149.60	4.750	7.67		

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.023 (i)
TIME TO PEAK (hrs)= 3.333
RUNOFF VOLUME (mm)= 23.192
TOTAL RAINFALL (mm)= 95.900
RUNOFF COEFFICIENT = 0.242

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

READ STORM | Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\573d0df0
Ptotal= 95.90 mm | Comments: 50-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	9.59	3.75	21.10	5.50	3.84
0.50	3.84	2.25	9.59	4.00	9.59	5.75	3.84
0.75	3.84	2.50	11.51	4.25	9.59	6.00	3.84
1.00	5.75	2.75	11.51	4.50	7.67	6.25	3.84
1.25	5.75	3.00	57.54	4.75	7.67		
1.50	5.75	3.25	149.60	5.00	5.75		
1.75	5.75	3.50	21.10	5.25	5.75		

CALIB | NASHYD (0018)| Area (ha)= 24.51 Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.70

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.75	3.250	149.60	4.83	5.75
0.167	0.00	1.750	5.75	3.333	21.10	4.92	5.75
0.250	0.00	1.833	9.59	3.417	21.10	5.00	5.75
0.333	3.84	1.917	9.59	3.500	21.10	5.08	5.75
0.417	3.84	2.000	9.59	3.583	21.10	5.17	5.75
0.500	3.84	2.083	9.59	3.667	21.10	5.25	5.75
0.583	3.84	2.167	9.59	3.750	21.10	5.33	3.84
0.667	3.84	2.250	9.59	3.833	9.59	5.42	3.84
0.750	3.84	2.333	11.51	3.917	9.59	5.50	3.84
0.833	5.75	2.417	11.51	4.000	9.59	5.58	3.84
0.917	5.75	2.500	11.51	4.083	9.59	5.67	3.84
1.000	5.75	2.583	11.51	4.167	9.59	5.75	3.84
1.083	5.75	2.667	11.51	4.250	9.59	5.83	3.84
1.167	5.75	2.750	11.51	4.333	7.67	5.92	3.84
1.250	5.75	2.833	57.54	4.417	7.67	6.00	3.84
1.333	5.75	2.917	57.54	4.500	7.67	6.08	3.84
1.417	5.75	3.000	57.54	4.583	7.67	6.17	3.84
1.500	5.75	3.083	149.60	4.667	7.67	6.25	3.84
1.583	5.75	3.167	149.60	4.750	7.67		

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.884 (i)
TIME TO PEAK (hrs)= 3.917
RUNOFF VOLUME (mm)= 25.912
TOTAL RAINFALL (mm)= 95.900
RUNOFF COEFFICIENT = 0.270

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

ADD HYD (0020)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0016):	0.78	0.048	3.33	19.18
+ ID2= 2 (0017):	0.28	0.023	3.33	23.19
ID = 3 (0020):	1.06	0.071	3.33	20.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0020):	1.06	0.071	3.33	20.24
+ ID2= 2 (0018):	24.51	0.884	3.92	25.91

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       ================================================
       ID = 1 (  0020):    25.57   0.903     3.92    25.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\0d83c5fc-1777-4d2e-8362-0138ff60508d\scen
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DATE: 10-31-2019                          TIME: 10:40:26

USER:



COMMENTS: _____________________________________________________


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  ***********************************************
  ** SIMULATION : 6-100-Year-12-Hour-SCS-Type-I **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\aa0b6fb5
| Ptotal=112.50 mm |    Comments: 100-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    4.50 |  6.75   20.25 | 10.00    3.94
                0.50    2.81 |  3.75    4.50 |  7.00    9.00 | 10.25    3.94
                0.75    2.81 |  4.00    4.50 |  7.25    9.00 | 10.50    2.25
                1.00    2.81 |  4.25    4.50 |  7.50    6.75 | 10.75    2.25
                1.25    2.81 |  4.50    6.75 |  7.75    6.75 | 11.00    2.25
                1.50    2.81 |  4.75    6.75 |  8.00    6.75 | 11.25    2.25
                1.75    2.81 |  5.00    9.00 |  8.25    6.75 | 11.50    2.25
                2.00    2.81 |  5.25    9.00 |  8.50    3.94 | 11.75    2.25
                2.25    2.81 |  5.50   13.50 |  8.75    3.94 | 12.00    2.25
                2.50    3.38 |  5.75   13.50 |  9.00    3.94 | 12.25    2.25
                2.75    3.37 |  6.00   54.00 |  9.25    3.94 |
                3.00    3.38 |  6.25  148.50 |  9.50    3.94 |
                3.25    3.38 |  6.50   20.25 |  9.75    3.94 |

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| CALIB            |
| NASHYD   (  0016)|   Area     (ha)=   0.78   Curve Number    (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

       NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.083    0.00 | 3.167    3.38 | 6.250  148.50 |  9.33    3.94
0.167    0.00 | 3.250    3.38 | 6.333   20.25 |  9.42    3.94
0.250    0.00 | 3.333    4.50 | 6.417   20.25 |  9.50    3.94
0.333    2.81 | 3.417    4.50 | 6.500   20.25 |  9.58    3.94
0.417    2.81 | 3.500    4.50 | 6.583   20.25 |  9.67    3.94
0.500    2.81 | 3.583    4.50 | 6.667   20.25 |  9.75    3.94
0.583    2.81 | 3.667    4.50 | 6.750   20.25 |  9.83    3.94
0.667    2.81 | 3.750    4.50 | 6.833    9.00 |  9.92    3.94
0.750    2.81 | 3.833    4.50 | 6.917    9.00 | 10.00    3.94
0.833    2.81 | 3.917    4.50 | 7.000    9.00 | 10.08    3.94
0.917    2.81 | 4.000    4.50 | 7.083    9.00 | 10.17    3.94
1.000    2.81 | 4.083    4.50 | 7.167    9.00 | 10.25    3.94
1.083    2.81 | 4.167    4.50 | 7.250    9.00 | 10.33    2.25
1.167    2.81 | 4.250    4.50 | 7.333    6.75 | 10.42    2.25
1.250    2.81 | 4.333    6.75 | 7.417    6.75 | 10.50    2.25
1.333    2.81 | 4.417    6.75 | 7.500    6.75 | 10.58    2.25
1.417    2.81 | 4.500    6.75 | 7.583    6.75 | 10.67    2.25
1.500    2.81 | 4.583    6.75 | 7.667    6.75 | 10.75    2.25
1.583    2.81 | 4.667    6.75 | 7.750    6.75 | 10.83    2.25
1.667    2.81 | 4.750    6.75 | 7.833    6.75 | 10.92    2.25
1.750    2.81 | 4.833    9.00 | 7.917    6.75 | 11.00    2.25
1.833    2.81 | 4.917    9.00 | 8.000    6.75 | 11.08    2.25
1.917    2.81 | 5.000    9.00 | 8.083    6.75 | 11.17    2.25
2.000    2.81 | 5.083    9.00 | 8.167    6.75 | 11.25    2.25
2.083    2.81 | 5.167    9.00 | 8.250    6.75 | 11.33    2.25
2.167    2.81 | 5.250    9.00 | 8.333    3.94 | 11.42    2.25
2.250    2.81 | 5.333   13.50 | 8.417    3.94 | 11.50    2.25
2.333    3.37 | 5.417   13.50 | 8.500    3.94 | 11.58    2.25
2.417    3.38 | 5.500   13.50 | 8.583    3.94 | 11.67    2.25
2.500    3.38 | 5.583   13.50 | 8.667    3.94 | 11.75    2.25
2.583    3.37 | 5.667   13.50 | 8.750    3.94 | 11.83    2.25
2.667    3.37 | 5.750   13.50 | 8.833    3.94 | 11.92    2.25
2.750    3.37 | 5.833   54.00 | 8.917    3.94 | 12.00    2.25
2.833    3.37 | 5.917   54.00 | 9.000    3.94 | 12.08    2.25
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2.917	3.38	6.000	54.00	9.083	3.94	12.17	2.25
3.000	3.38	6.083	148.50	9.167	3.94	12.25	2.25
3.083	3.37	6.167	148.50	9.250	3.94		

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.056 (i)
TIME TO PEAK (hrs)= 6.333
RUNOFF VOLUME (mm)= 26.180
TOTAL RAINFALL (mm)= 112.500
RUNOFF COEFFICIENT = 0.233

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\aa0b6fb5
Ptotal=112.50 mm	Comments: 100-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.50	6.75	20.25	10.00	3.94
0.50	2.81	3.75	4.50	7.00	9.00	10.25	3.94
0.75	2.81	4.00	4.50	7.25	9.00	10.50	2.25
1.00	2.81	4.25	4.50	7.50	6.75	10.75	2.25
1.25	2.81	4.50	6.75	7.75	6.75	11.00	2.25
1.50	2.81	4.75	6.75	8.00	6.75	11.25	2.25
1.75	2.81	5.00	9.00	8.25	6.75	11.50	2.25
2.00	2.81	5.25	9.00	8.50	3.94	11.75	2.25
2.25	2.81	5.50	13.50	8.75	3.94	12.00	2.25
2.50	3.38	5.75	13.50	9.00	3.94	12.25	2.25
2.75	3.37	6.00	54.00	9.25	3.94		
3.00	3.38	6.25	148.50	9.50	3.94		
3.25	3.38	6.50	20.25	9.75	3.94		

CALIB	
NASHYD (0017)	Area (ha)= 0.28 Curve Number (CN)= 51.0
ID= 1 DT= 5.0 min	Ia (mm)= 8.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.17

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.38	6.250	148.50	9.33	3.94
0.167	0.00	3.250	3.38	6.333	20.25	9.42	3.94
0.250	0.00	3.333	4.50	6.417	20.25	9.50	3.94
0.333	2.81	3.417	4.50	6.500	20.25	9.58	3.94
0.417	2.81	3.500	4.50	6.583	20.25	9.67	3.94
0.500	2.81	3.583	4.50	6.667	20.25	9.75	3.94
0.583	2.81	3.667	4.50	6.750	20.25	9.83	3.94
0.667	2.81	3.750	4.50	6.833	9.00	9.92	3.94
0.750	2.81	3.833	4.50	6.917	9.00	10.00	3.94
0.833	2.81	3.917	4.50	7.000	9.00	10.08	3.94
0.917	2.81	4.000	4.50	7.083	9.00	10.17	3.94
1.000	2.81	4.083	4.50	7.167	9.00	10.25	3.94
1.083	2.81	4.167	4.50	7.250	9.00	10.33	2.25
1.167	2.81	4.250	4.50	7.333	6.75	10.42	2.25
1.250	2.81	4.333	6.75	7.417	6.75	10.50	2.25
1.333	2.81	4.417	6.75	7.500	6.75	10.58	2.25
1.417	2.81	4.500	6.75	7.583	6.75	10.67	2.25
1.500	2.81	4.583	6.75	7.667	6.75	10.75	2.25
1.583	2.81	4.667	6.75	7.750	6.75	10.83	2.25
1.667	2.81	4.750	6.75	7.833	6.75	10.92	2.25
1.750	2.81	4.833	9.00	7.917	6.75	11.00	2.25
1.833	2.81	4.917	9.00	8.000	6.75	11.08	2.25
1.917	2.81	5.000	9.00	8.083	6.75	11.17	2.25
2.000	2.81	5.083	9.00	8.167	6.75	11.25	2.25
2.083	2.81	5.167	9.00	8.250	6.75	11.33	2.25
2.167	2.81	5.250	9.00	8.333	3.94	11.42	2.25
2.250	2.81	5.333	13.50	8.417	3.94	11.50	2.25
2.333	3.37	5.417	13.50	8.500	3.94	11.58	2.25
2.417	3.38	5.500	13.50	8.583	3.94	11.67	2.25
2.500	3.38	5.583	13.50	8.667	3.94	11.75	2.25
2.583	3.37	5.667	13.50	8.750	3.94	11.83	2.25
2.667	3.37	5.750	13.50	8.833	3.94	11.92	2.25
2.750	3.37	5.833	54.00	8.917	3.94	12.00	2.25
2.833	3.37	5.917	54.00	9.000	3.94	12.08	2.25
2.917	3.38	6.000	54.00	9.083	3.94	12.17	2.25
3.000	3.38	6.083	148.50	9.167	3.94	12.25	2.25
3.083	3.37	6.167	148.50	9.250	3.94		

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.027 (i)
TIME TO PEAK (hrs)= 6.333
RUNOFF VOLUME (mm)= 31.218
TOTAL RAINFALL (mm)= 112.500
RUNOFF COEFFICIENT = 0.277

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\aa0b6fb5
Ptotal=112.50 mm	Comments: 100-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.50	6.75	20.25	10.00	3.94
0.50	2.81	3.75	4.50	7.00	9.00	10.25	3.94
0.75	2.81	4.00	4.50	7.25	9.00	10.50	2.25
1.00	2.81	4.25	4.50	7.50	6.75	10.75	2.25
1.25	2.81	4.50	6.75	7.75	6.75	11.00	2.25
1.50	2.81	4.75	6.75	8.00	6.75	11.25	2.25
1.75	2.81	5.00	9.00	8.25	6.75	11.50	2.25
2.00	2.81	5.25	9.00	8.50	3.94	11.75	2.25
2.25	2.81	5.50	13.50	8.75	3.94	12.00	2.25
2.50	3.38	5.75	13.50	9.00	3.94	12.25	2.25

2.75	3.37	6.00	54.00	9.25	3.94
3.00	3.38	6.25	148.50	9.50	3.94
3.25	3.38	6.50	20.25	9.75	3.94

CALIB			
NASHYD (0018)	Area (ha)=	24.51	Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.70	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.38	6.250	148.50	9.33	3.94
0.167	0.00	3.250	3.38	6.333	20.25	9.42	3.94
0.250	0.00	3.333	4.50	6.417	20.25	9.50	3.94
0.333	2.81	3.417	4.50	6.500	20.25	9.58	3.94
0.417	2.81	3.500	4.50	6.583	20.25	9.67	3.94
0.500	2.81	3.583	4.50	6.667	20.25	9.75	3.94
0.583	2.81	3.667	4.50	6.750	20.25	9.83	3.94
0.667	2.81	3.750	4.50	6.833	9.00	9.92	3.94
0.750	2.81	3.833	4.50	6.917	9.00	10.00	3.94
0.833	2.81	3.917	4.50	7.000	9.00	10.08	3.94
0.917	2.81	4.000	4.50	7.083	9.00	10.17	3.94
1.000	2.81	4.083	4.50	7.167	9.00	10.25	3.94
1.083	2.81	4.167	4.50	7.250	9.00	10.33	2.25
1.167	2.81	4.250	4.50	7.333	6.75	10.42	2.25
1.250	2.81	4.333	6.75	7.417	6.75	10.50	2.25
1.333	2.81	4.417	6.75	7.500	6.75	10.58	2.25
1.417	2.81	4.500	6.75	7.583	6.75	10.67	2.25
1.500	2.81	4.583	6.75	7.667	6.75	10.75	2.25
1.583	2.81	4.667	6.75	7.750	6.75	10.83	2.25
1.667	2.81	4.750	6.75	7.833	6.75	10.92	2.25
1.750	2.81	4.833	9.00	7.917	6.75	11.00	2.25
1.833	2.81	4.917	9.00	8.000	6.75	11.08	2.25
1.917	2.81	5.000	9.00	8.083	6.75	11.17	2.25
2.000	2.81	5.083	9.00	8.167	6.75	11.25	2.25
2.083	2.81	5.167	9.00	8.250	6.75	11.33	2.25
2.167	2.81	5.250	9.00	8.333	3.94	11.42	2.25
2.250	2.81	5.333	13.50	8.417	3.94	11.50	2.25
2.333	3.37	5.417	13.50	8.500	3.94	11.58	2.25
2.417	3.38	5.500	13.50	8.583	3.94	11.67	2.25
2.500	3.38	5.583	13.50	8.667	3.94	11.75	2.25
2.583	3.37	5.667	13.50	8.750	3.94	11.83	2.25
2.667	3.37	5.750	13.50	8.833	3.94	11.92	2.25
2.750	3.37	5.833	54.00	8.917	3.94	12.00	2.25
2.833	3.37	5.917	54.00	9.000	3.94	12.08	2.25
2.917	3.38	6.000	54.00	9.083	3.94	12.17	2.25
3.000	3.38	6.083	148.50	9.167	3.94	12.25	2.25
3.083	3.37	6.167	148.50	9.250	3.94		

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 1.014 (i)
TIME TO PEAK (hrs)= 6.917

RUNOFF VOLUME (mm)= 34.447
TOTAL RAINFALL (mm)= 112.500
RUNOFF COEFFICIENT = 0.306

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

ADD HYD (0020)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0016):	0.78	0.056	6.33	26.18
	+ ID2= 2 (0017):	0.28	0.027	6.33	31.22
	ID = 3 (0020):	1.06	0.083	6.33	27.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0020):	1.06	0.083	6.33	27.51
	+ ID2= 2 (0018):	24.51	1.014	6.92	34.45
	ID = 1 (0020):	25.57	1.035	6.83	34.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

 OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
O   O    T      T    H   H   Y Y   MM MM  O   O
O   O    T      T    H   H    Y    M   M  O   O
 OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\acd837b0-2a00-4404-a7e1-4d8f970dc151\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\acd837b0-2a00-4404-a7e1-4d8f970dc151\scen

DATE: 10-31-2019 TIME: 10:40:30

USER:

COMMENTS: _____

**** SIMULATION : 6-100-Year-24-Hour-SCS-Type-I ****

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\04046152
Ptotal=133.60 mm	Comments: 100-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.67	12.75	19.24	19.00	2.40
0.50	1.34	6.75	2.67	13.00	9.89	19.25	2.40
0.75	1.34	7.00	2.67	13.25	9.89	19.50	2.40
1.00	1.34	7.25	2.67	13.50	1.87	19.75	2.40
1.25	1.34	7.50	2.67	13.75	1.87	20.00	2.40
1.50	1.34	7.75	2.67	14.00	10.96	20.25	2.40
1.75	1.34	8.00	2.67	14.25	10.96	20.50	1.60
2.00	1.34	8.25	2.67	14.50	4.01	20.75	1.60
2.25	2.40	8.50	3.61	14.75	4.01	21.00	1.60
2.50	1.74	8.75	3.61	15.00	4.01	21.25	1.60
2.75	1.74	9.00	3.61	15.25	4.01	21.50	1.60
3.00	1.74	9.25	3.61	15.50	4.01	21.75	1.60
3.25	1.74	9.50	4.28	15.75	4.01	22.00	1.60
3.50	1.74	9.75	4.28	16.00	4.01	22.25	1.60
3.75	1.74	10.00	4.81	16.25	4.01	22.50	1.60
4.00	1.74	10.25	4.81	16.50	2.40	22.75	1.60
4.25	1.74	10.50	6.15	16.75	2.40	23.00	1.60
4.50	2.14	10.75	6.15	17.00	2.40	23.25	1.60
4.75	2.14	11.00	8.28	17.25	2.40	23.50	1.60
5.00	2.14	11.25	8.28	17.50	2.40	23.75	1.60
5.25	2.14	11.50	12.83	17.75	2.40	24.00	1.60
5.50	2.14	11.75	12.83	18.00	2.40	24.25	1.60
5.75	2.14	12.00	55.58	18.25	2.40		
6.00	2.14	12.25	147.49	18.50	2.40		
6.25	2.14	12.50	19.24	18.75	2.40		

CALIB			
NASHYD (0016)	Area (ha)= 0.78	Curve Number (CN)= 46.0	
ID= 1 DT= 5.0 min	Ia (mm)= 10.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.21		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.14	12.250	147.49	18.33	2.40
0.167	0.00	6.250	2.14	12.333	19.25	18.42	2.40
0.250	0.00	6.333	2.67	12.417	19.24	18.50	2.40
0.333	1.34	6.417	2.67	12.500	19.24	18.58	2.40
0.417	1.34	6.500	2.67	12.583	19.24	18.67	2.40
0.500	1.34	6.583	2.67	12.667	19.24	18.75	2.40
0.583	1.34	6.667	2.67	12.750	19.24	18.83	2.40
0.667	1.34	6.750	2.67	12.833	9.89	18.92	2.40
0.750	1.34	6.833	2.67	12.917	9.89	19.00	2.40
0.833	1.34	6.917	2.67	13.000	9.89	19.08	2.40
0.917	1.34	7.000	2.67	13.083	9.89	19.17	2.40
1.000	1.34	7.083	2.67	13.167	9.89	19.25	2.40
1.083	1.34	7.167	2.67	13.250	9.89	19.33	2.40
1.167	1.34	7.250	2.67	13.333	1.87	19.42	2.40
1.250	1.34	7.333	2.67	13.417	1.87	19.50	2.40
1.333	1.34	7.417	2.67	13.500	1.87	19.58	2.40
1.417	1.34	7.500	2.67	13.583	1.87	19.67	2.40
1.500	1.34	7.583	2.67	13.667	1.87	19.75	2.40
1.583	1.34	7.667	2.67	13.750	1.87	19.83	2.40
1.667	1.34	7.750	2.67	13.833	10.95	19.92	2.40
1.750	1.34	7.833	2.67	13.917	10.96	20.00	2.40
1.833	1.34	7.917	2.67	14.000	10.96	20.08	2.40
1.917	1.34	8.000	2.67	14.083	10.96	20.17	2.40
2.000	1.34	8.083	2.67	14.167	10.96	20.25	2.40
2.083	2.40	8.167	2.67	14.250	10.96	20.33	1.60
2.167	2.40	8.250	2.67	14.333	4.01	20.42	1.60
2.250	2.40	8.333	3.61	14.417	4.01	20.50	1.60
2.333	1.74	8.417	3.61	14.500	4.01	20.58	1.60
2.417	1.74	8.500	3.61	14.583	4.01	20.67	1.60
2.500	1.74	8.583	3.61	14.667	4.01	20.75	1.60
2.583	1.74	8.667	3.61	14.750	4.01	20.83	1.60
2.667	1.74	8.750	3.61	14.833	4.01	20.92	1.60
2.750	1.74	8.833	3.61	14.917	4.01	21.00	1.60
2.833	1.74	8.917	3.61	15.000	4.01	21.08	1.60
2.917	1.74	9.000	3.61	15.083	4.01	21.17	1.60
3.000	1.74	9.083	3.61	15.167	4.01	21.25	1.60
3.083	1.74	9.167	3.61	15.250	4.01	21.33	1.60
3.167	1.74	9.250	3.61	15.333	4.01	21.42	1.60
3.250	1.74	9.333	4.28	15.417	4.01	21.50	1.60
3.333	1.74	9.417	4.28	15.500	4.01	21.58	1.60
3.417	1.74	9.500	4.28	15.583	4.01	21.67	1.60
3.500	1.74	9.583	4.28	15.667	4.01	21.75	1.60
3.583	1.74	9.667	4.28	15.750	4.01	21.83	1.60
3.667	1.74	9.750	4.28	15.833	4.01	21.92	1.60
3.750	1.74	9.833	4.81	15.917	4.01	22.00	1.60
3.833	1.74	9.917	4.81	16.000	4.01	22.08	1.60
3.917	1.74	10.000	4.81	16.083	4.01	22.17	1.60
4.000	1.74	10.083	4.81	16.167	4.01	22.25	1.60
4.083	1.74	10.167	4.81	16.250	4.01	22.33	1.60
4.167	1.74	10.250	4.81	16.333	2.41	22.42	1.60
4.250	1.74	10.333	6.15	16.417	2.40	22.50	1.60
4.333	2.14	10.417	6.15	16.500	2.40	22.58	1.60
4.417	2.14	10.500	6.15	16.583	2.40	22.67	1.60
4.500	2.14	10.583	6.15	16.667	2.40	22.75	1.60
4.583	2.14	10.667	6.15	16.750	2.40	22.83	1.60

4.667	2.14	10.750	6.15	16.833	2.40	22.92	1.60
4.750	2.14	10.833	8.28	16.917	2.40	23.00	1.60
4.833	2.14	10.917	8.28	17.000	2.40	23.08	1.60
4.917	2.14	11.000	8.28	17.083	2.40	23.17	1.60
5.000	2.14	11.083	8.28	17.167	2.40	23.25	1.60
5.083	2.14	11.167	8.28	17.250	2.40	23.33	1.60
5.167	2.14	11.250	8.28	17.333	2.40	23.42	1.60
5.250	2.14	11.333	12.83	17.417	2.40	23.50	1.60
5.333	2.14	11.417	12.83	17.500	2.40	23.58	1.60
5.417	2.14	11.500	12.83	17.583	2.40	23.67	1.60
5.500	2.14	11.583	12.83	17.667	2.40	23.75	1.60
5.583	2.14	11.667	12.83	17.750	2.40	23.83	1.60
5.667	2.14	11.750	12.83	17.833	2.40	23.92	1.60
5.750	2.14	11.833	55.57	17.917	2.40	24.00	1.60
5.833	2.14	11.917	55.58	18.000	2.40	24.08	1.60
5.917	2.14	12.000	55.58	18.083	2.40	24.17	1.60
6.000	2.14	12.083	147.48	18.167	2.40	24.25	1.60
6.083	2.14	12.167	147.49	18.250	2.40		

Unit Hyd Qpeak (cms)= 0.142

PEAK FLOW (cms)= 0.065 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 36.163
TOTAL RAINFALL (mm)= 133.600
RUNOFF COEFFICIENT = 0.271

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\04046152
Ptotal=133.60 mm	Comments: 100-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.67	12.75	19.24	19.00	2.40
0.50	1.34	6.75	2.67	13.00	9.89	19.25	2.40
0.75	1.34	7.00	2.67	13.25	9.89	19.50	2.40
1.00	1.34	7.25	2.67	13.50	1.87	19.75	2.40
1.25	1.34	7.50	2.67	13.75	1.87	20.00	2.40
1.50	1.34	7.75	2.67	14.00	10.96	20.25	2.40
1.75	1.34	8.00	2.67	14.25	10.96	20.50	1.60
2.00	1.34	8.25	2.67	14.50	4.01	20.75	1.60
2.25	2.40	8.50	3.61	14.75	4.01	21.00	1.60
2.50	1.74	8.75	3.61	15.00	4.01	21.25	1.60
2.75	1.74	9.00	3.61	15.25	4.01	21.50	1.60
3.00	1.74	9.25	3.61	15.50	4.01	21.75	1.60
3.25	1.74	9.50	4.28	15.75	4.01	22.00	1.60
3.50	1.74	9.75	4.28	16.00	4.01	22.25	1.60
3.75	1.74	10.00	4.81	16.25	4.01	22.50	1.60
4.00	1.74	10.25	4.81	16.50	2.40	22.75	1.60
4.25	1.74	10.50	6.15	16.75	2.40	23.00	1.60
4.50	2.14	10.75	6.15	17.00	2.40	23.25	1.60
4.75	2.14	11.00	8.28	17.25	2.40	23.50	1.60
5.00	2.14	11.25	8.28	17.50	2.40	23.75	1.60
5.25	2.14	11.50	12.83	17.75	2.40	24.00	1.60
5.50	2.14	11.75	12.83	18.00	2.40	24.25	1.60
5.75	2.14	12.00	55.58	18.25	2.40		
6.00	2.14	12.25	147.49	18.50	2.40		
6.25	2.14	12.50	19.24	18.75	2.40		

CALIB			
NASHYD (0017)	Area (ha)= 0.28	Curve Number (CN)= 51.0	
ID= 1 DT= 5.0 min	Ia (mm)= 8.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.17		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.14	12.250	147.49	18.33	2.40
0.167	0.00	6.250	2.14	12.333	19.25	18.42	2.40
0.250	0.00	6.333	2.67	12.417	19.24	18.50	2.40
0.333	1.34	6.417	2.67	12.500	19.24	18.58	2.40
0.417	1.34	6.500	2.67	12.583	19.24	18.67	2.40
0.500	1.34	6.583	2.67	12.667	19.24	18.75	2.40
0.583	1.34	6.667	2.67	12.750	19.24	18.83	2.40
0.667	1.34	6.750	2.67	12.833	9.89	18.92	2.40
0.750	1.34	6.833	2.67	12.917	9.89	19.00	2.40
0.833	1.34	6.917	2.67	13.000	9.89	19.08	2.40
0.917	1.34	7.000	2.67	13.083	9.89	19.17	2.40
1.000	1.34	7.083	2.67	13.167	9.89	19.25	2.40
1.083	1.34	7.167	2.67	13.250	9.89	19.33	2.40
1.167	1.34	7.250	2.67	13.333	1.87	19.42	2.40
1.250	1.34	7.333	2.67	13.417	1.87	19.50	2.40
1.333	1.34	7.417	2.67	13.500	1.87	19.58	2.40
1.417	1.34	7.500	2.67	13.583	1.87	19.67	2.40
1.500	1.34	7.583	2.67	13.667	1.87	19.75	2.40
1.583	1.34	7.667	2.67	13.750	1.87	19.83	2.40
1.667	1.34	7.750	2.67	13.833	10.95	19.92	2.40
1.750	1.34	7.833	2.67	13.917	10.96	20.00	2.40
1.833	1.34	7.917	2.67	14.000	10.96	20.08	2.40
1.917	1.34	8.000	2.67	14.083	10.96	20.17	2.40
2.000	1.34	8.083	2.67	14.167	10.96	20.25	2.40
2.083	2.40	8.167	2.67	14.250	10.96	20.33	1.60
2.167	2.40	8.250	2.67	14.333	4.01	20.42	1.60
2.250	2.40	8.333	3.61	14.417	4.01	20.50	1.60
2.333	1.74	8.417	3.61	14.500	4.01	20.58	1.60
2.417	1.74	8.500	3.61	14.583	4.01	20.67	1.60
2.500	1.74	8.583	3.61	14.667	4.01	20.75	1.60
2.583	1.74	8.667	3.61	14.750	4.01	20.83	1.60
2.667	1.74	8.750	3.61	14.833	4.01	20.92	1.60
2.750	1.74	8.833	3.61	14.917	4.01	21.00	1.60
2.833	1.74	8.917	3.61	15.000	4.01	21.08	1.60
2.917	1.74	9.000	3.61	15.083	4.01	21.17	1.60
3.000	1.74	9.083	3.61	15.167	4.01	21.25	1.60
3.083	1.74	9.167	3.61	15.250	4.01	21.33	1.60
3.167	1.74	9.250	3.61	15.333	4.01	21.42	1.60
3.250	1.74	9.333	4.28	15.417	4.01	21.50	1.60
3.333	1.74	9.417	4.28	15.500	4.01	21.58	1.60
3.417	1.74	9.500	4.28	15.583	4.01	21.67	1.60

3.500	1.74	9.583	4.28	15.667	4.01	21.75	1.60
3.583	1.74	9.667	4.28	15.750	4.01	21.83	1.60
3.667	1.74	9.750	4.28	15.833	4.01	21.92	1.60
3.750	1.74	9.833	4.81	15.917	4.01	22.00	1.60
3.833	1.74	9.917	4.81	16.000	4.01	22.08	1.60
3.917	1.74	10.000	4.81	16.083	4.01	22.17	1.60
4.000	1.74	10.083	4.81	16.167	4.01	22.25	1.60
4.083	1.74	10.167	4.81	16.250	4.01	22.33	1.60
4.167	1.74	10.250	4.81	16.333	2.41	22.42	1.60
4.250	1.74	10.333	6.15	16.417	2.40	22.50	1.60
4.333	2.14	10.417	6.15	16.500	2.40	22.58	1.60
4.417	2.14	10.500	6.15	16.583	2.40	22.67	1.60
4.500	2.14	10.583	6.15	16.667	2.40	22.75	1.60
4.583	2.14	10.667	6.15	16.750	2.40	22.83	1.60
4.667	2.14	10.750	6.15	16.833	2.40	22.92	1.60
4.750	2.14	10.833	8.28	16.917	2.40	23.00	1.60
4.833	2.14	10.917	8.28	17.000	2.40	23.08	1.60
4.917	2.14	11.000	8.28	17.083	2.40	23.17	1.60
5.000	2.14	11.083	8.28	17.167	2.40	23.25	1.60
5.083	2.14	11.167	8.28	17.250	2.40	23.33	1.60
5.167	2.14	11.250	8.28	17.333	2.40	23.42	1.60
5.250	2.14	11.333	12.83	17.417	2.40	23.50	1.60
5.333	2.14	11.417	12.83	17.500	2.40	23.58	1.60
5.417	2.14	11.500	12.83	17.583	2.40	23.67	1.60
5.500	2.14	11.583	12.83	17.667	2.40	23.75	1.60
5.583	2.14	11.667	12.83	17.750	2.40	23.83	1.60
5.667	2.14	11.750	12.83	17.833	2.40	23.92	1.60
5.750	2.14	11.833	55.57	17.917	2.40	24.00	1.60
5.833	2.14	11.917	55.58	18.000	2.40	24.08	1.60
5.917	2.14	12.000	55.58	18.083	2.40	24.17	1.60
6.000	2.14	12.083	147.48	18.167	2.40	24.25	1.60
6.083	2.14	12.167	147.49	18.250	2.40		

Unit Hyd Qpeak (cms)= 0.063

PEAK FLOW (cms)= 0.031 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 42.524
TOTAL RAINFALL (mm)= 133.600
RUNOFF COEFFICIENT = 0.318

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\51e889a9-b20e-490a-a712-b7c08b57f1c7\04046152
Ptotal=133.60 mm	Comments: 100-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.67	12.75	19.24	19.00	2.40
0.50	1.34	6.75	2.67	13.00	9.89	19.25	2.40
0.75	1.34	7.00	2.67	13.25	9.89	19.50	2.40
1.00	1.34	7.25	2.67	13.50	1.87	19.75	2.40
1.25	1.34	7.50	2.67	13.75	1.87	20.00	2.40
1.50	1.34	7.75	2.67	14.00	10.96	20.25	2.40
1.75	1.34	8.00	2.67	14.25	10.96	20.50	1.60
2.00	1.34	8.25	2.67	14.50	4.01	20.75	1.60
2.25	2.40	8.50	3.61	14.75	4.01	21.00	1.60
2.50	1.74	8.75	3.61	15.00	4.01	21.25	1.60
2.75	1.74	9.00	3.61	15.25	4.01	21.50	1.60
3.00	1.74	9.25	3.61	15.50	4.01	21.75	1.60
3.25	1.74	9.50	4.28	15.75	4.01	22.00	1.60
3.50	1.74	9.75	4.28	16.00	4.01	22.25	1.60
3.75	1.74	10.00	4.81	16.25	4.01	22.50	1.60
4.00	1.74	10.25	4.81	16.50	2.40	22.75	1.60
4.25	1.74	10.50	6.15	16.75	2.40	23.00	1.60
4.50	2.14	10.75	6.15	17.00	2.40	23.25	1.60
4.75	2.14	11.00	8.28	17.25	2.40	23.50	1.60
5.00	2.14	11.25	8.28	17.50	2.40	23.75	1.60
5.25	2.14	11.50	12.83	17.75	2.40	24.00	1.60
5.50	2.14	11.75	12.83	18.00	2.40	24.25	1.60
5.75	2.14	12.00	55.58	18.25	2.40		
6.00	2.14	12.25	147.49	18.50	2.40		
6.25	2.14	12.50	19.24	18.75	2.40		

CALIB			
NASHYD (0018)	Area (ha)= 24.51	Curve Number (CN)= 52.7	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.70		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.14	12.250	147.49	18.33	2.40
0.167	0.00	6.250	2.14	12.333	19.25	18.42	2.40
0.250	0.00	6.333	2.67	12.417	19.24	18.50	2.40
0.333	1.34	6.417	2.67	12.500	19.24	18.58	2.40
0.417	1.34	6.500	2.67	12.583	19.24	18.67	2.40
0.500	1.34	6.583	2.67	12.667	19.24	18.75	2.40
0.583	1.34	6.667	2.67	12.750	19.24	18.83	2.40
0.667	1.34	6.750	2.67	12.833	9.89	18.92	2.40
0.750	1.34	6.833	2.67	12.917	9.89	19.00	2.40
0.833	1.34	6.917	2.67	13.000	9.89	19.08	2.40
0.917	1.34	7.000	2.67	13.083	9.89	19.17	2.40
1.000	1.34	7.083	2.67	13.167	9.89	19.25	2.40
1.083	1.34	7.167	2.67	13.250	9.89	19.33	2.40
1.167	1.34	7.250	2.67	13.333	1.87	19.42	2.40
1.250	1.34	7.333	2.67	13.417	1.87	19.50	2.40
1.333	1.34	7.417	2.67	13.500	1.87	19.58	2.40
1.417	1.34	7.500	2.67	13.583	1.87	19.67	2.40
1.500	1.34	7.583	2.67	13.667	1.87	19.75	2.40
1.583	1.34	7.667	2.67	13.750	1.87	19.83	2.40
1.667	1.34	7.750	2.67	13.833	10.95	19.92	2.40
1.750	1.34	7.833	2.67	13.917	10.96	20.00	2.40
1.833	1.34	7.917	2.67	14.000	10.96	20.08	2.40
1.917	1.34	8.000	2.67	14.083	10.96	20.17	2.40
2.000	1.34	8.083	2.67	14.167	10.96	20.25	2.40
2.083	2.40	8.167	2.67	14.250	10.96	20.33	1.60
2.167	2.40	8.250	2.67	14.333	4.01	20.42	1.60
2.250	2.40	8.333	3.61	14.417	4.01	20.50	1.60

2.333	1.74	8.417	3.61	14.500	4.01	20.58	1.60
2.417	1.74	8.500	3.61	14.583	4.01	20.67	1.60
2.500	1.74	8.583	3.61	14.667	4.01	20.75	1.60
2.583	1.74	8.667	3.61	14.750	4.01	20.83	1.60
2.667	1.74	8.750	3.61	14.833	4.01	20.92	1.60
2.750	1.74	8.833	3.61	14.917	4.01	21.00	1.60
2.833	1.74	8.917	3.61	15.000	4.01	21.08	1.60
2.917	1.74	9.000	3.61	15.083	4.01	21.17	1.60
3.000	1.74	9.083	3.61	15.167	4.01	21.25	1.60
3.083	1.74	9.167	3.61	15.250	4.01	21.33	1.60
3.167	1.74	9.250	3.61	15.333	4.01	21.42	1.60
3.250	1.74	9.333	4.28	15.417	4.01	21.50	1.60
3.333	1.74	9.417	4.28	15.500	4.01	21.58	1.60
3.417	1.74	9.500	4.28	15.583	4.01	21.67	1.60
3.500	1.74	9.583	4.28	15.667	4.01	21.75	1.60
3.583	1.74	9.667	4.28	15.750	4.01	21.83	1.60
3.667	1.74	9.750	4.28	15.833	4.01	21.92	1.60
3.750	1.74	9.833	4.81	15.917	4.01	22.00	1.60
3.833	1.74	9.917	4.81	16.000	4.01	22.08	1.60
3.917	1.74	10.000	4.81	16.083	4.01	22.17	1.60
4.000	1.74	10.083	4.81	16.167	4.01	22.25	1.60
4.083	1.74	10.167	4.81	16.250	4.01	22.33	1.60
4.167	1.74	10.250	4.81	16.333	2.41	22.42	1.60
4.250	1.74	10.333	6.15	16.417	2.40	22.50	1.60
4.333	2.14	10.417	6.15	16.500	2.40	22.58	1.60
4.417	2.14	10.500	6.15	16.583	2.40	22.67	1.60
4.500	2.14	10.583	6.15	16.667	2.40	22.75	1.60
4.583	2.14	10.667	6.15	16.750	2.40	22.83	1.60
4.667	2.14	10.750	6.15	16.833	2.40	22.92	1.60
4.750	2.14	10.833	8.28	16.917	2.40	23.00	1.60
4.833	2.14	10.917	8.28	17.000	2.40	23.08	1.60
4.917	2.14	11.000	8.28	17.083	2.40	23.17	1.60
5.000	2.14	11.083	8.28	17.167	2.40	23.25	1.60
5.083	2.14	11.167	8.28	17.250	2.40	23.33	1.60
5.167	2.14	11.250	8.28	17.333	2.40	23.42	1.60
5.250	2.14	11.333	12.83	17.417	2.40	23.50	1.60
5.333	2.14	11.417	12.83	17.500	2.40	23.58	1.60
5.417	2.14	11.500	12.83	17.583	2.40	23.67	1.60
5.500	2.14	11.583	12.83	17.667	2.40	23.75	1.60
5.583	2.14	11.667	12.83	17.750	2.40	23.83	1.60
5.667	2.14	11.750	12.83	17.833	2.40	23.92	1.60
5.750	2.14	11.833	55.57	17.917	2.40	24.00	1.60
5.833	2.14	11.917	55.58	18.000	2.40	24.08	1.60
5.917	2.14	12.000	55.58	18.083	2.40	24.17	1.60
6.000	2.14	12.083	147.48	18.167	2.40	24.25	1.60
6.083	2.14	12.167	147.49	18.250	2.40		

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 1.148 (i)
TIME TO PEAK (hrs)= 12.833
RUNOFF VOLUME (mm)= 46.380
TOTAL RAINFALL (mm)= 133.600
RUNOFF COEFFICIENT = 0.347

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

ADD HYD (0020)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0016):	0.78	0.065	12.33	36.16
+ ID2= 2 (0017):	0.28	0.031	12.25	42.52
ID = 3 (0020):	1.06	0.095	12.33	37.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0020):	1.06	0.095	12.33	37.84
+ ID2= 2 (0018):	24.51	1.148	12.83	46.38
ID = 1 (0020):	25.57	1.175	12.83	46.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

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

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\05a93ccc-fca6-4ad4-9f3a-f6333656b8fd\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\05a93ccc-fca6-4ad4-9f3a-f6333656b8fd\scen

DATE: 10-31-2019 TIME: 10:40:26

USER:

COMMENTS: _____

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------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : 6-100-Year-4-Hour-Chicago-Bar **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\3fa9f526
| Ptotal= 87.58 mm |    Comments: 100-Year-4-Hour-Chicago
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.41	1.17	45.22	2.17	14.50	3.17	7.56
0.33	7.29	1.33	180.15	2.33	12.44	3.33	7.04
0.50	8.52	1.50	58.54	2.50	10.94	3.50	6.60
0.67	10.36	1.67	31.96	2.67	9.80	3.67	6.22
0.83	13.45	1.83	22.45	2.83	8.90	3.83	5.89
1.00	19.96	2.00	17.52	3.00	8.16	4.00	5.59

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

--------------------
| CALIB            |
| NASHYD   (  0016)|   Area     (ha)=   0.78   Curve Number    (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.41	1.083	45.22	2.083	14.50	3.08	7.56
0.167	6.41	1.167	45.22	2.167	14.50	3.17	7.56
0.250	7.29	1.250	180.15	2.250	12.44	3.25	7.04
0.333	7.29	1.333	180.15	2.333	12.44	3.33	7.04
0.417	8.52	1.417	58.54	2.417	10.94	3.42	6.60
0.500	8.52	1.500	58.54	2.500	10.94	3.50	6.60
0.583	10.36	1.583	31.96	2.583	9.80	3.58	6.22
0.667	10.36	1.667	31.96	2.667	9.80	3.67	6.22
0.750	13.45	1.750	22.45	2.750	8.90	3.75	5.89
0.833	13.45	1.833	22.45	2.833	8.90	3.83	5.89
0.917	19.96	1.917	17.52	2.917	8.16	3.92	5.59
1.000	19.96	2.000	17.52	3.000	8.16	4.00	5.59

```
    Unit Hyd Qpeak  (cms)=   0.142

    PEAK FLOW       (cms)=   0.031 (i)
    TIME TO PEAK    (hrs)=   1.583
    RUNOFF VOLUME    (mm)=  15.992
    TOTAL RAINFALL   (mm)=  87.580
    RUNOFF COEFFICIENT   =   0.183

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

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\3fa9f526
| Ptotal= 87.58 mm |    Comments: 100-Year-4-Hour-Chicago
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.41	1.17	45.22	2.17	14.50	3.17	7.56
0.33	7.29	1.33	180.15	2.33	12.44	3.33	7.04
0.50	8.52	1.50	58.54	2.50	10.94	3.50	6.60
0.67	10.36	1.67	31.96	2.67	9.80	3.67	6.22
0.83	13.45	1.83	22.45	2.83	8.90	3.83	5.89
1.00	19.96	2.00	17.52	3.00	8.16	4.00	5.59

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

--------------------
| CALIB            |
| NASHYD   (  0017)|   Area     (ha)=   0.28   Curve Number    (CN)= 51.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.41	1.083	45.22	2.083	14.50	3.08	7.56
0.167	6.41	1.167	45.22	2.167	14.50	3.17	7.56
0.250	7.29	1.250	180.15	2.250	12.44	3.25	7.04
0.333	7.29	1.333	180.15	2.333	12.44	3.33	7.04
0.417	8.52	1.417	58.54	2.417	10.94	3.42	6.60
0.500	8.52	1.500	58.54	2.500	10.94	3.50	6.60
0.583	10.36	1.583	31.96	2.583	9.80	3.58	6.22
0.667	10.36	1.667	31.96	2.667	9.80	3.67	6.22
0.750	13.45	1.750	22.45	2.750	8.90	3.75	5.89
0.833	13.45	1.833	22.45	2.833	8.90	3.83	5.89
0.917	19.96	1.917	17.52	2.917	8.16	3.92	5.59
1.000	19.96	2.000	17.52	3.000	8.16	4.00	5.59

```
    Unit Hyd Qpeak  (cms)=   0.063

    PEAK FLOW       (cms)=   0.016 (i)
    TIME TO PEAK    (hrs)=   1.500
    RUNOFF VOLUME    (mm)=  19.497
    TOTAL RAINFALL   (mm)=  87.580
    RUNOFF COEFFICIENT   =   0.223

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

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\3fa9f526
```

```
| Ptotal= 87.58 mm |    Comments: 100-Year-4-Hour-Chicago
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.41	1.17	45.22	2.17	14.50	3.17	7.56
0.33	7.29	1.33	180.15	2.33	12.44	3.33	7.04
0.50	8.52	1.50	58.54	2.50	10.94	3.50	6.60
0.67	10.36	1.67	31.96	2.67	9.80	3.67	6.22
0.83	13.45	1.83	22.45	2.83	8.90	3.83	5.89
1.00	19.96	2.00	17.52	3.00	8.16	4.00	5.59

```
--------------------
| CALIB              |
| NASHYD   (  0018)|   Area     (ha)=  24.51   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.41	1.083	45.22	2.083	14.50	3.08	7.56
0.167	6.41	1.167	45.22	2.167	14.50	3.17	7.56
0.250	7.29	1.250	180.15	2.250	12.44	3.25	7.04
0.333	7.29	1.333	180.15	2.333	12.44	3.33	7.04
0.417	8.52	1.417	58.54	2.417	10.94	3.42	6.60
0.500	8.52	1.500	58.54	2.500	10.94	3.50	6.60
0.583	10.36	1.583	31.96	2.583	9.80	3.58	6.22
0.667	10.36	1.667	31.96	2.667	9.80	3.67	6.22
0.750	13.45	1.750	22.45	2.750	8.90	3.75	5.89
0.833	13.45	1.833	22.45	2.833	8.90	3.83	5.89
0.917	19.96	1.917	17.52	2.917	8.16	3.92	5.59
1.000	19.96	2.000	17.52	3.000	8.16	4.00	5.59

```
     Unit Hyd Qpeak  (cms)=   1.337

     PEAK FLOW       (cms)=   0.690 (i)
     TIME TO PEAK    (hrs)=   2.250
     RUNOFF VOLUME    (mm)=  21.958
     TOTAL RAINFALL   (mm)=  87.580
     RUNOFF COEFFICIENT   =   0.251

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

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)      (mm)
       ID1= 1 (  0016):     0.78   0.031     1.58    15.99
     + ID2= 2 (  0017):     0.28   0.016     1.50    19.50
       ================================================
       ID = 3 (  0020):     1.06   0.047     1.50    16.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)      (mm)
       ID1= 3 (  0020):     1.06   0.047     1.50    16.92
     + ID2= 2 (  0018):    24.51   0.690     2.25    21.96
       ================================================
       ID = 1 (  0020):    25.57   0.707     2.17    21.75

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

================================================================================
========================

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\7c69c145-60d3-4ff2-b8f8-79467770696f\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\7c69c145-60d3-4ff2-b8f8-79467770696f\scen

DATE: 10-31-2019                          TIME: 10:40:29

USER:

COMMENTS: _____

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  ********************************************
  ** SIMULATION : 6-100-Year-4-Hour-Chicago-MTO **
  ********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 848.534
```

```
| Ptotal= 73.59 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.19	1.17	29.28	2.17	12.23	3.17	7.13
0.33	6.91	1.33	169.70	2.33	10.80	3.33	6.71
0.50	7.89	1.50	35.93	2.50	9.72	3.50	6.35
0.67	9.29	1.67	22.66	2.67	8.87	3.67	6.03
0.83	11.51	1.83	17.28	2.83	8.18	3.83	5.75
1.00	15.74	2.00	14.23	3.00	7.61	4.00	5.50

```
--------------------
| CALIB            |
| NASHYD   (  0016)|   Area     (ha)=   0.78   Curve Number    (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.19	1.083	29.28	2.083	12.23	3.08	7.13
0.167	6.19	1.167	29.28	2.167	12.23	3.17	7.13
0.250	6.91	1.250	169.69	2.250	10.80	3.25	6.71
0.333	6.91	1.333	169.70	2.333	10.80	3.33	6.71
0.417	7.89	1.417	35.93	2.417	9.72	3.42	6.35
0.500	7.89	1.500	35.93	2.500	9.72	3.50	6.35
0.583	9.29	1.583	22.66	2.583	8.87	3.58	6.03
0.667	9.29	1.667	22.66	2.667	8.87	3.67	6.03
0.750	11.51	1.750	17.28	2.750	8.18	3.75	5.75
0.833	11.51	1.833	17.28	2.833	8.18	3.83	5.75
0.917	15.74	1.917	14.23	2.917	7.61	3.92	5.50
1.000	15.74	2.000	14.23	3.000	7.61	4.00	5.50

```
     Unit Hyd Qpeak  (cms)=   0.142

     PEAK FLOW       (cms)=   0.021 (i)
     TIME TO PEAK    (hrs)=   1.500
     RUNOFF VOLUME    (mm)=  11.159
     TOTAL RAINFALL   (mm)=  73.587
     RUNOFF COEFFICIENT   =   0.152

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

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 848.534
| Ptotal= 73.59 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.19	1.17	29.28	2.17	12.23	3.17	7.13
0.33	6.91	1.33	169.70	2.33	10.80	3.33	6.71
0.50	7.89	1.50	35.93	2.50	9.72	3.50	6.35
0.67	9.29	1.67	22.66	2.67	8.87	3.67	6.03
0.83	11.51	1.83	17.28	2.83	8.18	3.83	5.75
1.00	15.74	2.00	14.23	3.00	7.61	4.00	5.50

```
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area     (ha)=   0.28   Curve Number    (CN)= 51.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.19	1.083	29.28	2.083	12.23	3.08	7.13
0.167	6.19	1.167	29.28	2.167	12.23	3.17	7.13
0.250	6.91	1.250	169.69	2.250	10.80	3.25	6.71
0.333	6.91	1.333	169.70	2.333	10.80	3.33	6.71
0.417	7.89	1.417	35.93	2.417	9.72	3.42	6.35
0.500	7.89	1.500	35.93	2.500	9.72	3.50	6.35
0.583	9.29	1.583	22.66	2.583	8.87	3.58	6.03
0.667	9.29	1.667	22.66	2.667	8.87	3.67	6.03
0.750	11.51	1.750	17.28	2.750	8.18	3.75	5.75
0.833	11.51	1.833	17.28	2.833	8.18	3.83	5.75
0.917	15.74	1.917	14.23	2.917	7.61	3.92	5.50
1.000	15.74	2.000	14.23	3.000	7.61	4.00	5.50

```
     Unit Hyd Qpeak  (cms)=   0.063

     PEAK FLOW       (cms)=   0.011 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  13.842
     TOTAL RAINFALL   (mm)=  73.587
     RUNOFF COEFFICIENT   =   0.188

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

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 848.534
| Ptotal= 73.59 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
```

Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.19	1.17	29.28	2.17	12.23	3.17	7.13
0.33	6.91	1.33	169.70	2.33	10.80	3.33	6.71
0.50	7.89	1.50	35.93	2.50	9.72	3.50	6.35
0.67	9.29	1.67	22.66	2.67	8.87	3.67	6.03
0.83	11.51	1.83	17.28	2.83	8.18	3.83	5.75
1.00	15.74	2.00	14.23	3.00	7.61	4.00	5.50

CALIB	
NASHYD (0018)	Area (ha)= 24.51 Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.70

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.19	1.083	29.28	2.083	12.23	3.08	7.13
0.167	6.19	1.167	29.28	2.167	12.23	3.17	7.13
0.250	6.91	1.250	169.69	2.250	10.80	3.25	6.71
0.333	6.91	1.333	169.70	2.333	10.80	3.33	6.71
0.417	7.89	1.417	35.93	2.417	9.72	3.42	6.35
0.500	7.89	1.500	35.93	2.500	9.72	3.50	6.35
0.583	9.29	1.583	22.66	2.583	8.87	3.58	6.03
0.667	9.29	1.667	22.66	2.667	8.87	3.67	6.03
0.750	11.51	1.750	17.28	2.750	8.18	3.75	5.75
0.833	11.51	1.833	17.28	2.833	8.18	3.83	5.75
0.917	15.74	1.917	14.23	2.917	7.61	3.92	5.50
1.000	15.74	2.000	14.23	3.000	7.61	4.00	5.50

Unit Hyd Qpeak (cms)= 1.337

PEAK FLOW (cms)= 0.469 (i)
TIME TO PEAK (hrs)= 2.250
RUNOFF VOLUME (mm)= 15.862
TOTAL RAINFALL (mm)= 73.587
RUNOFF COEFFICIENT = 0.216

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

ADD HYD (0020)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0016):	0.78	0.021	1.50	11.16
	+ ID2= 2 (0017):	0.28	0.011	1.42	13.84
	ID = 3 (0020):	1.06	0.032	1.50	11.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0020)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0020):	1.06	0.032	1.50	11.87
	+ ID2= 2 (0018):	24.51	0.469	2.25	15.86
	ID = 1 (0020):	25.57	0.481	2.17	15.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

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

***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\53a39d49-7f9b-48b8-8d47-f1863acdf03a\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\53a39d49-7f9b-48b8-8d47-f1863acdf03a\scen

DATE: 10-31-2019 TIME: 10:40:28

USER:

COMMENTS: _____

```
  **********************************************
  ** SIMULATION : 6-100-Year-6-Hour-SCS-Type-II **
  **********************************************
```

```
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\a340cffa
| Ptotal=106.50 mm |    Comments: 100-Year-6-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	10.65	3.75	23.43	5.50	4.26
0.50	4.26	2.25	10.65	4.00	10.65	5.75	4.26
0.75	4.26	2.50	12.78	4.25	10.65	6.00	4.26
1.00	6.39	2.75	12.78	4.50	8.52	6.25	4.26
1.25	6.39	3.00	63.90	4.75	8.52		
1.50	6.39	3.25	166.14	5.00	6.39		
1.75	6.39	3.50	23.43	5.25	6.39		

```
--------------------
| CALIB            |
| NASHYD   (  0016)|   Area    (ha)=   0.78   Curve Number   (CN)= 46.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=  10.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.21

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.39	3.250	166.14	4.83	6.39
0.167	0.00	1.750	6.39	3.333	23.43	4.92	6.39
0.250	0.00	1.833	10.65	3.417	23.43	5.00	6.39
0.333	4.26	1.917	10.65	3.500	23.43	5.08	6.39
0.417	4.26	2.000	10.65	3.583	23.43	5.17	6.39
0.500	4.26	2.083	10.65	3.667	23.43	5.25	6.39
0.583	4.26	2.167	10.65	3.750	23.43	5.33	4.26
0.667	4.26	2.250	10.65	3.833	10.65	5.42	4.26
0.750	4.26	2.333	12.78	3.917	10.65	5.50	4.26
0.833	6.39	2.417	12.78	4.000	10.65	5.58	4.26
0.917	6.39	2.500	12.78	4.083	10.65	5.67	4.26
1.000	6.39	2.583	12.78	4.167	10.65	5.75	4.26
1.083	6.39	2.667	12.78	4.250	10.65	5.83	4.26
1.167	6.39	2.750	12.78	4.333	8.52	5.92	4.26
1.250	6.39	2.833	63.90	4.417	8.52	6.00	4.26
1.333	6.39	2.917	63.90	4.500	8.52	6.08	4.26
1.417	6.39	3.000	63.90	4.583	8.52	6.17	4.26
1.500	6.39	3.083	166.14	4.667	8.52	6.25	4.26
1.583	6.39	3.167	166.14	4.750	8.52		

```
    Unit Hyd Qpeak  (cms)=   0.142

    PEAK FLOW       (cms)=   0.059 (i)
    TIME TO PEAK    (hrs)=   3.333
    RUNOFF VOLUME    (mm)=  23.557
    TOTAL RAINFALL   (mm)= 106.500
    RUNOFF COEFFICIENT   =   0.221

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

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\a340cffa
| Ptotal=106.50 mm |    Comments: 100-Year-6-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	10.65	3.75	23.43	5.50	4.26
0.50	4.26	2.25	10.65	4.00	10.65	5.75	4.26
0.75	4.26	2.50	12.78	4.25	10.65	6.00	4.26
1.00	6.39	2.75	12.78	4.50	8.52	6.25	4.26
1.25	6.39	3.00	63.90	4.75	8.52		
1.50	6.39	3.25	166.14	5.00	6.39		
1.75	6.39	3.50	23.43	5.25	6.39		

```
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.28   Curve Number   (CN)= 51.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.17

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.39	3.250	166.14	4.83	6.39
0.167	0.00	1.750	6.39	3.333	23.43	4.92	6.39
0.250	0.00	1.833	10.65	3.417	23.43	5.00	6.39
0.333	4.26	1.917	10.65	3.500	23.43	5.08	6.39
0.417	4.26	2.000	10.65	3.583	23.43	5.17	6.39
0.500	4.26	2.083	10.65	3.667	23.43	5.25	6.39
0.583	4.26	2.167	10.65	3.750	23.43	5.33	4.26
0.667	4.26	2.250	10.65	3.833	10.65	5.42	4.26
0.750	4.26	2.333	12.78	3.917	10.65	5.50	4.26
0.833	6.39	2.417	12.78	4.000	10.65	5.58	4.26
0.917	6.39	2.500	12.78	4.083	10.65	5.67	4.26
1.000	6.39	2.583	12.78	4.167	10.65	5.75	4.26
1.083	6.39	2.667	12.78	4.250	10.65	5.83	4.26
1.167	6.39	2.750	12.78	4.333	8.52	5.92	4.26
1.250	6.39	2.833	63.90	4.417	8.52	6.00	4.26
1.333	6.39	2.917	63.90	4.500	8.52	6.08	4.26
1.417	6.39	3.000	63.90	4.583	8.52	6.17	4.26
1.500	6.39	3.083	166.14	4.667	8.52	6.25	4.26
1.583	6.39	3.167	166.14	4.750	8.52		

```
    Unit Hyd Qpeak  (cms)=   0.063

    PEAK FLOW       (cms)=   0.029 (i)
    TIME TO PEAK    (hrs)=   3.333
    RUNOFF VOLUME    (mm)=  28.222
    TOTAL RAINFALL   (mm)= 106.500
    RUNOFF COEFFICIENT   =   0.265

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

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

--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              51e889a9-b20e-490a-a712-b7c08b57f1c7\a340cffa
| Ptotal=106.50 mm |    Comments: 100-Year-6-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	10.65	3.75	23.43	5.50	4.26
0.50	4.26	2.25	10.65	4.00	10.65	5.75	4.26
0.75	4.26	2.50	12.78	4.25	10.65	6.00	4.26
1.00	6.39	2.75	12.78	4.50	8.52	6.25	4.26
1.25	6.39	3.00	63.90	4.75	8.52		
1.50	6.39	3.25	166.14	5.00	6.39		
1.75	6.39	3.50	23.43	5.25	6.39		

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

--------------------
| CALIB            |
| NASHYD   (  0018)|   Area     (ha)=  24.51   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.39	3.250	166.14	4.83	6.39
0.167	0.00	1.750	6.39	3.333	23.43	4.92	6.39
0.250	0.00	1.833	10.65	3.417	23.43	5.00	6.39
0.333	4.26	1.917	10.65	3.500	23.43	5.08	6.39
0.417	4.26	2.000	10.65	3.583	23.43	5.17	6.39
0.500	4.26	2.083	10.65	3.667	23.43	5.25	6.39
0.583	4.26	2.167	10.65	3.750	23.43	5.33	4.26
0.667	4.26	2.250	10.65	3.833	10.65	5.42	4.26
0.750	4.26	2.333	12.78	3.917	10.65	5.50	4.26
0.833	6.39	2.417	12.78	4.000	10.65	5.58	4.26
0.917	6.39	2.500	12.78	4.083	10.65	5.67	4.26
1.000	6.39	2.583	12.78	4.167	10.65	5.75	4.26
1.083	6.39	2.667	12.78	4.250	10.65	5.83	4.26
1.167	6.39	2.750	12.78	4.333	8.52	5.92	4.26
1.250	6.39	2.833	63.90	4.417	8.52	6.00	4.26
1.333	6.39	2.917	63.90	4.500	8.52	6.08	4.26
1.417	6.39	3.000	63.90	4.583	8.52	6.17	4.26
1.500	6.39	3.083	166.14	4.667	8.52	6.25	4.26
1.583	6.39	3.167	166.14	4.750	8.52		

```
     Unit Hyd Qpeak  (cms)=   1.337

     PEAK FLOW       (cms)=   1.070 (i)
     TIME TO PEAK    (hrs)=   3.917
     RUNOFF VOLUME    (mm)=  31.268
     TOTAL RAINFALL   (mm)= 106.500
     RUNOFF COEFFICIENT   =   0.294

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

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

--------------------
| ADD HYD  (  0020)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
       ID1= 1 (  0016):      0.78   0.059     3.33    23.56
     + ID2= 2 (  0017):      0.28   0.029     3.33    28.22
       ==================================================
       ID = 3 (  0020):      1.06   0.088     3.33    24.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0020)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
       ID1= 3 (  0020):      1.06   0.088     3.33    24.79
     + ID2= 2 (  0018):     24.51   1.070     3.92    31.27
       ==================================================
       ID = 1 (  0020):     25.57   1.094     3.92    31.00

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



Catchment 208E
AREA [ha] - 8.1000
15 **PKFW [m³/s] - 0.0681**

SCHAEFFERS
CONSULTING ENGINEERS

Visual OTTHYMO™ Schematic

PRE-DEVELOPMENT SCENARIO (208E)

Job #: 4560 **Date:OCTOBER 2019**

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

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\815856e7-0664-46c2-9e68-1231ef3a1d89\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\815856e7-0664-46c2-9e68-1231ef3a1d89\scen


DATE: 10-31-2019                          TIME: 10:44:55

USER:


COMMENTS: _____________________________________________________________

--------------------------------------------------------------------------------
-------------------------
  ***********************************************
  ** SIMULATION : 1-2-Year-12-Hour-SCS-Type-II  **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              2c00b23f-5338-40ec-bd02-bcfe53f4e52a\926f0257
| Ptotal= 46.70 mm |    Comments: 2-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    1.87 |  6.75    8.41 | 10.00    1.63
                0.50    1.17 |  3.75    1.87 |  7.00    3.74 | 10.25    1.63
                0.75    1.17 |  4.00    1.87 |  7.25    3.74 | 10.50    0.93
                1.00    1.17 |  4.25    1.87 |  7.50    2.80 | 10.75    0.93
                1.25    1.17 |  4.50    2.80 |  7.75    2.80 | 11.00    0.93
                1.50    1.17 |  4.75    2.80 |  8.00    2.80 | 11.25    0.93
                1.75    1.17 |  5.00    3.74 |  8.25    2.80 | 11.50    0.93
                2.00    1.17 |  5.25    3.74 |  8.50    1.63 | 11.75    0.93
```

2.25	1.17	5.50	5.60	8.75	1.63	12.00	0.93
2.50	1.40	5.75	5.60	9.00	1.63	12.25	0.93
2.75	1.40	6.00	22.42	9.25	1.63		
3.00	1.40	6.25	61.64	9.50	1.63		
3.25	1.40	6.50	8.41	9.75	1.63		

CALIB	
NASHYD (0015)	Area (ha)= 8.10 Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.59

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.40	6.250	61.64	9.33	1.63
0.167	0.00	3.250	1.40	6.333	8.41	9.42	1.63
0.250	0.00	3.333	1.87	6.417	8.41	9.50	1.63
0.333	1.17	3.417	1.87	6.500	8.41	9.58	1.63
0.417	1.17	3.500	1.87	6.583	8.41	9.67	1.63
0.500	1.17	3.583	1.87	6.667	8.41	9.75	1.63
0.583	1.17	3.667	1.87	6.750	8.41	9.83	1.63
0.667	1.17	3.750	1.87	6.833	3.74	9.92	1.63
0.750	1.17	3.833	1.87	6.917	3.74	10.00	1.63
0.833	1.17	3.917	1.87	7.000	3.74	10.08	1.63
0.917	1.17	4.000	1.87	7.083	3.74	10.17	1.63
1.000	1.17	4.083	1.87	7.167	3.74	10.25	1.63
1.083	1.17	4.167	1.87	7.250	3.74	10.33	0.93
1.167	1.17	4.250	1.87	7.333	2.80	10.42	0.93
1.250	1.17	4.333	2.80	7.417	2.80	10.50	0.93
1.333	1.17	4.417	2.80	7.500	2.80	10.58	0.93
1.417	1.17	4.500	2.80	7.583	2.80	10.67	0.93
1.500	1.17	4.583	2.80	7.667	2.80	10.75	0.93
1.583	1.17	4.667	2.80	7.750	2.80	10.83	0.93
1.667	1.17	4.750	2.80	7.833	2.80	10.92	0.93
1.750	1.17	4.833	3.74	7.917	2.80	11.00	0.93
1.833	1.17	4.917	3.74	8.000	2.80	11.08	0.93
1.917	1.17	5.000	3.74	8.083	2.80	11.17	0.93
2.000	1.17	5.083	3.74	8.167	2.80	11.25	0.93
2.083	1.17	5.167	3.74	8.250	2.80	11.33	0.93
2.167	1.17	5.250	3.74	8.333	1.63	11.42	0.93
2.250	1.17	5.333	5.60	8.417	1.63	11.50	0.93
2.333	1.40	5.417	5.60	8.500	1.63	11.58	0.93
2.417	1.40	5.500	5.60	8.583	1.63	11.67	0.93
2.500	1.40	5.583	5.60	8.667	1.63	11.75	0.93
2.583	1.40	5.667	5.60	8.750	1.63	11.83	0.93
2.667	1.40	5.750	5.60	8.833	1.63	11.92	0.93
2.750	1.40	5.833	22.42	8.917	1.63	12.00	0.93
2.833	1.40	5.917	22.42	9.000	1.63	12.08	0.93
2.917	1.40	6.000	22.42	9.083	1.63	12.17	0.93
3.000	1.40	6.083	61.64	9.167	1.63	12.25	0.93
3.083	1.40	6.167	61.64	9.250	1.63		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.068 (i)
TIME TO PEAK (hrs)= 6.833
RUNOFF VOLUME (mm)= 6.448
TOTAL RAINFALL (mm)= 46.700
RUNOFF COEFFICIENT = 0.138

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

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

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

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\c646f18d-e34c-4a40-9727-d5c808bd0fdd\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\c646f18d-e34c-4a40-9727-d5c808bd0fdd\scen

DATE: 10-31-2019 TIME: 10:44:55

USER:

COMMENTS: _____

** SIMULATION : 1-2-Year-24-Hour-SCS-Type-II **

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\2c00b23f-5338-40ec-bd02-bcfe53f4e52a\4d3f0190
Ptotal= 55.00 mm	Comments: 2-Year-24-Hour-SCS-Type-II

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.25	0.00	6.50	1.10	12.75	7.92	19.00	0.99
0.50	0.55	6.75	1.10	13.00	4.07	19.25	0.99
0.75	0.55	7.00	1.10	13.25	4.07	19.50	0.99
1.00	0.55	7.25	1.10	13.50	0.77	19.75	0.99
1.25	0.55	7.50	1.10	13.75	0.77	20.00	0.99
1.50	0.55	7.75	1.10	14.00	4.51	20.25	0.99
1.75	0.55	8.00	1.10	14.25	4.51	20.50	0.66
2.00	0.55	8.25	1.10	14.50	1.65	20.75	0.66
2.25	0.99	8.50	1.49	14.75	1.65	21.00	0.66
2.50	0.72	8.75	1.48	15.00	1.65	21.25	0.66
2.75	0.71	9.00	1.49	15.25	1.65	21.50	0.66
3.00	0.72	9.25	1.49	15.50	1.65	21.75	0.66
3.25	0.71	9.50	1.76	15.75	1.65	22.00	0.66
3.50	0.71	9.75	1.76	16.00	1.65	22.25	0.66
3.75	0.71	10.00	1.98	16.25	1.65	22.50	0.66
4.00	0.72	10.25	1.98	16.50	0.99	22.75	0.66
4.25	0.71	10.50	2.53	16.75	0.99	23.00	0.66
4.50	0.88	10.75	2.53	17.00	0.99	23.25	0.66
4.75	0.88	11.00	3.41	17.25	0.99	23.50	0.66
5.00	0.88	11.25	3.41	17.50	0.99	23.75	0.66
5.25	0.88	11.50	5.28	17.75	0.99	24.00	0.66
5.50	0.88	11.75	5.28	18.00	0.99	24.25	0.66
5.75	0.88	12.00	22.88	18.25	0.99		
6.00	0.88	12.25	60.72	18.50	0.99		
6.25	0.88	12.50	7.92	18.75	0.99		

CALIB	
NASHYD (0015)	Area (ha)= 8.10 Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.59

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.88	12.250	60.72	18.33	0.99
0.167	0.00	6.250	0.88	12.333	7.93	18.42	0.99
0.250	0.00	6.333	1.10	12.417	7.92	18.50	0.99
0.333	0.55	6.417	1.10	12.500	7.92	18.58	0.99
0.417	0.55	6.500	1.10	12.583	7.92	18.67	0.99
0.500	0.55	6.583	1.10	12.667	7.92	18.75	0.99
0.583	0.55	6.667	1.10	12.750	7.92	18.83	0.99
0.667	0.55	6.750	1.10	12.833	4.07	18.92	0.99
0.750	0.55	6.833	1.10	12.917	4.07	19.00	0.99
0.833	0.55	6.917	1.10	13.000	4.07	19.08	0.99
0.917	0.55	7.000	1.10	13.083	4.07	19.17	0.99
1.000	0.55	7.083	1.10	13.167	4.07	19.25	0.99
1.083	0.55	7.167	1.10	13.250	4.07	19.33	0.99
1.167	0.55	7.250	1.10	13.333	0.77	19.42	0.99
1.250	0.55	7.333	1.10	13.417	0.77	19.50	0.99
1.333	0.55	7.417	1.10	13.500	0.77	19.58	0.99
1.417	0.55	7.500	1.10	13.583	0.77	19.67	0.99
1.500	0.55	7.583	1.10	13.667	0.77	19.75	0.99
1.583	0.55	7.667	1.10	13.750	0.77	19.83	0.99
1.667	0.55	7.750	1.10	13.833	4.51	19.92	0.99
1.750	0.55	7.833	1.10	13.917	4.51	20.00	0.99
1.833	0.55	7.917	1.10	14.000	4.51	20.08	0.99
1.917	0.55	8.000	1.10	14.083	4.51	20.17	0.99
2.000	0.55	8.083	1.10	14.167	4.51	20.25	0.99
2.083	0.99	8.167	1.10	14.250	4.51	20.33	0.66
2.167	0.99	8.250	1.10	14.333	1.65	20.42	0.66
2.250	0.99	8.333	1.49	14.417	1.65	20.50	0.66
2.333	0.71	8.417	1.49	14.500	1.65	20.58	0.66
2.417	0.72	8.500	1.48	14.583	1.65	20.67	0.66
2.500	0.72	8.583	1.48	14.667	1.65	20.75	0.66
2.583	0.71	8.667	1.48	14.750	1.65	20.83	0.66
2.667	0.71	8.750	1.48	14.833	1.65	20.92	0.66
2.750	0.71	8.833	1.49	14.917	1.65	21.00	0.66
2.833	0.71	8.917	1.49	15.000	1.65	21.08	0.66
2.917	0.72	9.000	1.48	15.083	1.65	21.17	0.66
3.000	0.72	9.083	1.49	15.167	1.65	21.25	0.66
3.083	0.71	9.167	1.49	15.250	1.65	21.33	0.66
3.167	0.71	9.250	1.48	15.333	1.65	21.42	0.66
3.250	0.71	9.333	1.76	15.417	1.65	21.50	0.66
3.333	0.71	9.417	1.76	15.500	1.65	21.58	0.66
3.417	0.71	9.500	1.76	15.583	1.65	21.67	0.66
3.500	0.71	9.583	1.76	15.667	1.65	21.75	0.66
3.583	0.71	9.667	1.76	15.750	1.65	21.83	0.66
3.667	0.71	9.750	1.76	15.833	1.65	21.92	0.66
3.750	0.71	9.833	1.98	15.917	1.65	22.00	0.66
3.833	0.71	9.917	1.98	16.000	1.65	22.08	0.66
3.917	0.72	10.000	1.98	16.083	1.65	22.17	0.66
4.000	0.72	10.083	1.98	16.167	1.65	22.25	0.66
4.083	0.71	10.167	1.98	16.250	1.65	22.33	0.66
4.167	0.71	10.250	1.98	16.333	0.99	22.42	0.66
4.250	0.71	10.333	2.53	16.417	0.99	22.50	0.66
4.333	0.88	10.417	2.53	16.500	0.99	22.58	0.66
4.417	0.88	10.500	2.53	16.583	0.99	22.67	0.66
4.500	0.88	10.583	2.53	16.667	0.99	22.75	0.66
4.583	0.88	10.667	2.53	16.750	0.99	22.83	0.66
4.667	0.88	10.750	2.53	16.833	0.99	22.92	0.66
4.750	0.88	10.833	3.41	16.917	0.99	23.00	0.66
4.833	0.88	10.917	3.41	17.000	0.99	23.08	0.66
4.917	0.88	11.000	3.41	17.083	0.99	23.17	0.66
5.000	0.88	11.083	3.41	17.167	0.99	23.25	0.66
5.083	0.88	11.167	3.41	17.250	0.99	23.33	0.66
5.167	0.88	11.250	3.41	17.333	0.99	23.42	0.66
5.250	0.88	11.333	5.28	17.417	0.99	23.50	0.66
5.333	0.88	11.417	5.28	17.500	0.99	23.58	0.66
5.417	0.88	11.500	5.28	17.583	0.99	23.67	0.66
5.500	0.88	11.583	5.28	17.667	0.99	23.75	0.66
5.583	0.88	11.667	5.28	17.750	0.99	23.83	0.66
5.667	0.88	11.750	5.28	17.833	0.99	23.92	0.66
5.750	0.88	11.833	22.88	17.917	0.99	24.00	0.66
5.833	0.88	11.917	22.88	18.000	0.99	24.08	0.66
5.917	0.88	12.000	22.88	18.083	0.99	24.17	0.66
6.000	0.88	12.083	60.72	18.167	0.99	24.25	0.66
6.083	0.88	12.167	60.72	18.250	0.99		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.079 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 8.993

```
     TOTAL RAINFALL   (mm)=  55.000
     RUNOFF COEFFICIENT   =   0.164

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

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

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

***** D E T A I L E D O U T P U T *****

```
  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\48258d40-fce2-484b-b15c-aa2d57ab8521\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\48258d40-fce2-484b-b15c-aa2d57ab8521\scen

DATE: 10-31-2019                          TIME: 10:44:55

USER:

COMMENTS: _____
```

```
  ************************************************
  ** SIMULATION : 1-2-Year-4-Hour-Chicago-Barri **
  ************************************************

--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              2c00b23f-5338-40ec-bd02-bcfe53f4e52a\5aeaad13
| Ptotal= 36.96 mm |    Comments: 2-Year-4-Hour-Chicago
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.47	1.17	18.78	2.17	5.73	3.17	2.92
0.33	2.82	1.33	83.11	2.33	4.89	3.33	2.72
0.50	3.31	1.50	24.57	2.50	4.28	3.50	2.55
0.67	4.05	1.67	13.01	2.67	3.82	3.67	2.39
0.83	5.30	1.83	9.01	2.83	3.46	3.83	2.26
1.00	7.98	2.00	6.97	3.00	3.17	4.00	2.15

```
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.47	1.083	18.78	2.083	5.73	3.08	2.92
0.167	2.47	1.167	18.78	2.167	5.73	3.17	2.93
0.250	2.82	1.250	83.11	2.250	4.89	3.25	2.72
0.333	2.82	1.333	83.11	2.333	4.89	3.33	2.72
0.417	3.31	1.417	24.57	2.417	4.28	3.42	2.55
0.500	3.31	1.500	24.57	2.500	4.28	3.50	2.55
0.583	4.05	1.583	13.01	2.583	3.82	3.58	2.39
0.667	4.05	1.667	13.01	2.667	3.82	3.67	2.39
0.750	5.30	1.750	9.01	2.750	3.46	3.75	2.26
0.833	5.30	1.833	9.01	2.833	3.46	3.83	2.26
0.917	7.98	1.917	6.97	2.917	3.17	3.92	2.15
1.000	7.98	2.000	6.97	3.000	3.17	4.00	2.15

```
     Unit Hyd Qpeak  (cms)=   0.524

     PEAK FLOW       (cms)=   0.045 (i)
     TIME TO PEAK    (hrs)=   2.083
     RUNOFF VOLUME    (mm)=   3.928
     TOTAL RAINFALL   (mm)=  36.955
     RUNOFF COEFFICIENT   =   0.106

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

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

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

```
                ***** D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\8d2ff274-6c01-401c-b017-1a5f9ce9428b\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\8d2ff274-6c01-401c-b017-1a5f9ce9428b\scen


DATE: 10-31-2019                          TIME: 10:44:55

USER:



COMMENTS: _____________________________________________________________

--------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : 1-2-Year-4-Hour-Chicago-MTO   **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 384.902
| Ptotal= 33.38 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.81 |  1.17   13.28 |  2.17    5.55 |  3.17    3.23
                0.33    3.14 |  1.33   76.98 |  2.33    4.90 |  3.33    3.04
                0.50    3.58 |  1.50   16.30 |  2.50    4.41 |  3.50    2.88
                0.67    4.21 |  1.67   10.28 |  2.67    4.03 |  3.67    2.74
                0.83    5.22 |  1.83    7.84 |  2.83    3.71 |  3.83    2.61
                1.00    7.14 |  2.00    6.46 |  3.00    3.45 |  4.00    2.50


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                      ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    2.81 | 1.083   13.28 | 2.083    5.55 |  3.08    3.23
               0.167    2.81 | 1.167   13.28 | 2.167    5.55 |  3.17    3.23
               0.250    3.14 | 1.250   76.98 | 2.250    4.90 |  3.25    3.04
               0.333    3.14 | 1.333   76.98 | 2.333    4.90 |  3.33    3.04
               0.417    3.58 | 1.417   16.30 | 2.417    4.41 |  3.42    2.88
               0.500    3.58 | 1.500   16.30 | 2.500    4.41 |  3.50    2.88
               0.583    4.21 | 1.583   10.28 | 2.583    4.03 |  3.58    2.74
               0.667    4.21 | 1.667   10.28 | 2.667    4.03 |  3.67    2.74
               0.750    5.22 | 1.750    7.84 | 2.750    3.71 |  3.75    2.61
               0.833    5.22 | 1.833    7.84 | 2.833    3.71 |  3.83    2.61
               0.917    7.14 | 1.917    6.46 | 2.917    3.45 |  3.92    2.50
               1.000    7.14 | 2.000    6.46 | 3.000    3.45 |  4.00    2.50

    Unit Hyd Qpeak  (cms)=   0.524

    PEAK FLOW       (cms)=   0.032 (i)
    TIME TO PEAK    (hrs)=   2.083
    RUNOFF VOLUME    (mm)=   3.142
    TOTAL RAINFALL   (mm)=  33.380
    RUNOFF COEFFICIENT   =   0.094

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

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                ***** D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\254664ea-f147-4bbb-b25c-bf58b3dab282\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\254664ea-f147-4bbb-b25c-bf58b3dab282\scen


DATE: 10-31-2019                          TIME: 10:44:55

USER:



COMMENTS: _____________________________________________________________
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  ***********************************************
  ** SIMULATION : 1-2-Year-6-Hour-SCS-Type-II   **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              2c00b23f-5338-40ec-bd02-bcfe53f4e52a\3038ab57
| Ptotal= 42.30 mm |    Comments: 2-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    4.23 |  3.75    9.31 |  5.50    1.69
                0.50    1.69 |  2.25    4.23 |  4.00    4.23 |  5.75    1.69
                0.75    1.69 |  2.50    5.08 |  4.25    4.23 |  6.00    1.69
                1.00    2.54 |  2.75    5.08 |  4.50    3.38 |  6.25    1.69
                1.25    2.54 |  3.00   25.38 |  4.75    3.38 |
                1.50    2.54 |  3.25   65.99 |  5.00    2.54 |
                1.75    2.54 |  3.50    9.31 |  5.25    2.54 |

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

--------------------
| CALIB            |
| NASHYD   (  0015)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    2.54 | 3.250   65.99 |  4.83    2.54
               0.167    0.00 | 1.750    2.54 | 3.333    9.31 |  4.92    2.54
               0.250    0.00 | 1.833    4.23 | 3.417    9.31 |  5.00    2.54
               0.333    1.69 | 1.917    4.23 | 3.500    9.31 |  5.08    2.54
               0.417    1.69 | 2.000    4.23 | 3.583    9.31 |  5.17    2.54
               0.500    1.69 | 2.083    4.23 | 3.667    9.31 |  5.25    2.54
               0.583    1.69 | 2.167    4.23 | 3.750    9.31 |  5.33    1.69
               0.667    1.69 | 2.250    4.23 | 3.833    4.23 |  5.42    1.69
               0.750    1.69 | 2.333    5.08 | 3.917    4.23 |  5.50    1.69
               0.833    2.54 | 2.417    5.08 | 4.000    4.23 |  5.58    1.69
               0.917    2.54 | 2.500    5.08 | 4.083    4.23 |  5.67    1.69
               1.000    2.54 | 2.583    5.08 | 4.167    4.23 |  5.75    1.69
               1.083    2.54 | 2.667    5.08 | 4.250    4.23 |  5.83    1.69
               1.167    2.54 | 2.750    5.08 | 4.333    3.38 |  5.92    1.69
               1.250    2.54 | 2.833   25.38 | 4.417    3.38 |  6.00    1.69
               1.333    2.54 | 2.917   25.38 | 4.500    3.38 |  6.08    1.69
               1.417    2.54 | 3.000   25.38 | 4.583    3.38 |  6.17    1.69
               1.500    2.54 | 3.083   65.99 | 4.667    3.38 |  6.25    1.69
               1.583    2.54 | 3.167   65.99 | 4.750    3.38 |

    Unit Hyd Qpeak  (cms)=   0.524

    PEAK FLOW       (cms)=   0.065 (i)

    TIME TO PEAK    (hrs)=   3.833
    RUNOFF VOLUME    (mm)=   5.244
    TOTAL RAINFALL   (mm)=  42.300
    RUNOFF COEFFICIENT   =   0.124

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

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\7aa58cf0-d0f7-4f24-9128-034194815c34\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\7aa58cf0-d0f7-4f24-9128-034194815c34\scen


DATE: 10-31-2019                          TIME: 10:44:56

USER:



COMMENTS: _____________________________________________________________


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  ***********************************************
  ** SIMULATION : 2-5-Year-12-Hour-SCS-Type-II  **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              2c00b23f-5338-40ec-bd02-bcfe53f4e52a\8c2f7a62
| Ptotal= 64.30 mm |    Comments: 5-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
```

0.25	0.00	3.50	2.57	6.75	11.57	10.00	2.25
0.50	1.61	3.75	2.57	7.00	5.14	10.25	2.25
0.75	1.61	4.00	2.57	7.25	5.14	10.50	1.29
1.00	1.61	4.25	2.57	7.50	3.86	10.75	1.29
1.25	1.61	4.50	3.86	7.75	3.86	11.00	1.29
1.50	1.61	4.75	3.86	8.00	3.86	11.25	1.29
1.75	1.61	5.00	5.14	8.25	3.86	11.50	1.29
2.00	1.61	5.25	5.14	8.50	2.25	11.75	1.29
2.25	1.61	5.50	7.72	8.75	2.25	12.00	1.29
2.50	1.93	5.75	7.72	9.00	2.25	12.25	1.29
2.75	1.93	6.00	30.86	9.25	2.25		
3.00	1.93	6.25	84.88	9.50	2.25		
3.25	1.93	6.50	11.57	9.75	2.25		

CALIB					
NASHYD (0015)	Area (ha)=	8.10	Curve Number (CN)=	52.7	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.59			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.93	6.250	84.87	9.33	2.25
0.167	0.00	3.250	1.93	6.333	11.57	9.42	2.25
0.250	0.00	3.333	2.57	6.417	11.57	9.50	2.25
0.333	1.61	3.417	2.57	6.500	11.57	9.58	2.25
0.417	1.61	3.500	2.57	6.583	11.57	9.67	2.25
0.500	1.61	3.583	2.57	6.667	11.57	9.75	2.25
0.583	1.61	3.667	2.57	6.750	11.57	9.83	2.25
0.667	1.61	3.750	2.57	6.833	5.14	9.92	2.25
0.750	1.61	3.833	2.57	6.917	5.14	10.00	2.25
0.833	1.61	3.917	2.57	7.000	5.14	10.08	2.25
0.917	1.61	4.000	2.57	7.083	5.14	10.17	2.25
1.000	1.61	4.083	2.57	7.167	5.14	10.25	2.25
1.083	1.61	4.167	2.57	7.250	5.14	10.33	1.29
1.167	1.61	4.250	2.57	7.333	3.86	10.42	1.29
1.250	1.61	4.333	3.86	7.417	3.86	10.50	1.29
1.333	1.61	4.417	3.86	7.500	3.86	10.58	1.29
1.417	1.61	4.500	3.86	7.583	3.86	10.67	1.29
1.500	1.61	4.583	3.86	7.667	3.86	10.75	1.29
1.583	1.61	4.667	3.86	7.750	3.86	10.83	1.29
1.667	1.61	4.750	3.86	7.833	3.86	10.92	1.29
1.750	1.61	4.833	5.14	7.917	3.86	11.00	1.29
1.833	1.61	4.917	5.14	8.000	3.86	11.08	1.29
1.917	1.61	5.000	5.14	8.083	3.86	11.17	1.29
2.000	1.61	5.083	5.14	8.167	3.86	11.25	1.29
2.083	1.61	5.167	5.14	8.250	3.86	11.33	1.29
2.167	1.61	5.250	5.14	8.333	2.25	11.42	1.29
2.250	1.61	5.333	7.72	8.417	2.25	11.50	1.29
2.333	1.93	5.417	7.72	8.500	2.25	11.58	1.29
2.417	1.93	5.500	7.72	8.583	2.25	11.67	1.29
2.500	1.93	5.583	7.72	8.667	2.25	11.75	1.29
2.583	1.93	5.667	7.72	8.750	2.25	11.83	1.29
2.667	1.93	5.750	7.72	8.833	2.25	11.92	1.29
2.750	1.93	5.833	30.86	8.917	2.25	12.00	1.29
2.833	1.93	5.917	30.86	9.000	2.25	12.08	1.29
2.917	1.93	6.000	30.87	9.083	2.25	12.17	1.29
3.000	1.93	6.083	84.88	9.167	2.25	12.25	1.29
3.083	1.93	6.167	84.88	9.250	2.25		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.131 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 12.240
TOTAL RAINFALL (mm)= 64.300
RUNOFF COEFFICIENT = 0.190

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

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

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

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\a93f2a9f-90b6-438c-9cbc-efbd3ca62832\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\a93f2a9f-90b6-438c-9cbc-efbd3ca62832\scen

DATE: 10-31-2019 TIME: 10:44:56

USER:

COMMENTS: _____

```
  ************************************************
  ** SIMULATION : 2-5-Year-24-Hour-SCS-Type-II  **
  ************************************************
```

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              2c00b23f-5338-40ec-bd02-bcfe53f4e52a\361a8f55
| Ptotal= 76.00 mm |    Comments: 5-Year-24-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.52	12.75	10.94	19.00	1.37
0.50	0.76	6.75	1.52	13.00	5.62	19.25	1.37
0.75	0.76	7.00	1.52	13.25	5.62	19.50	1.37
1.00	0.76	7.25	1.52	13.50	1.06	19.75	1.37
1.25	0.76	7.50	1.52	13.75	1.06	20.00	1.37
1.50	0.76	7.75	1.52	14.00	6.23	20.25	1.37
1.75	0.76	8.00	1.52	14.25	6.23	20.50	0.91
2.00	0.76	8.25	1.52	14.50	2.28	20.75	0.91
2.25	1.37	8.50	2.05	14.75	2.28	21.00	0.91
2.50	0.99	8.75	2.05	15.00	2.28	21.25	0.91
2.75	0.99	9.00	2.05	15.25	2.28	21.50	0.91
3.00	0.99	9.25	2.05	15.50	2.28	21.75	0.91
3.25	0.99	9.50	2.43	15.75	2.28	22.00	0.91
3.50	0.99	9.75	2.43	16.00	2.28	22.25	0.91
3.75	0.99	10.00	2.74	16.25	2.28	22.50	0.91
4.00	0.99	10.25	2.74	16.50	1.37	22.75	0.91
4.25	0.99	10.50	3.50	16.75	1.37	23.00	0.91
4.50	1.22	10.75	3.50	17.00	1.37	23.25	0.91
4.75	1.22	11.00	4.71	17.25	1.37	23.50	0.91
5.00	1.22	11.25	4.71	17.50	1.37	23.75	0.91
5.25	1.22	11.50	7.30	17.75	1.37	24.00	0.91
5.50	1.22	11.75	7.30	18.00	1.37	24.25	0.91
5.75	1.22	12.00	31.62	18.25	1.37		
6.00	1.22	12.25	83.90	18.50	1.37		
6.25	1.22	12.50	10.94	18.75	1.37		

```
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.22	12.250	83.90	18.33	1.37
0.167	0.00	6.250	1.22	12.333	10.95	18.42	1.37
0.250	0.00	6.333	1.52	12.417	10.94	18.50	1.37
0.333	0.76	6.417	1.52	12.500	10.94	18.58	1.37
0.417	0.76	6.500	1.52	12.583	10.94	18.67	1.37
0.500	0.76	6.583	1.52	12.667	10.94	18.75	1.37
0.583	0.76	6.667	1.52	12.750	10.94	18.83	1.37
0.667	0.76	6.750	1.52	12.833	5.62	18.92	1.37
0.750	0.76	6.833	1.52	12.917	5.62	19.00	1.37
0.833	0.76	6.917	1.52	13.000	5.62	19.08	1.37
0.917	0.76	7.000	1.52	13.083	5.62	19.17	1.37
1.000	0.76	7.083	1.52	13.167	5.62	19.25	1.37
1.083	0.76	7.167	1.52	13.250	5.62	19.33	1.37
1.167	0.76	7.250	1.52	13.333	1.06	19.42	1.37
1.250	0.76	7.333	1.52	13.417	1.06	19.50	1.37
1.333	0.76	7.417	1.52	13.500	1.06	19.58	1.37
1.417	0.76	7.500	1.52	13.583	1.06	19.67	1.37
1.500	0.76	7.583	1.52	13.667	1.06	19.75	1.37
1.583	0.76	7.667	1.52	13.750	1.06	19.83	1.37
1.667	0.76	7.750	1.52	13.833	6.23	19.92	1.37
1.750	0.76	7.833	1.52	13.917	6.23	20.00	1.37
1.833	0.76	7.917	1.52	14.000	6.23	20.08	1.37
1.917	0.76	8.000	1.52	14.083	6.23	20.17	1.37
2.000	0.76	8.083	1.52	14.167	6.23	20.25	1.37
2.083	1.37	8.167	1.52	14.250	6.23	20.33	0.91
2.167	1.37	8.250	1.52	14.333	2.28	20.42	0.91
2.250	1.37	8.333	2.05	14.417	2.28	20.50	0.91
2.333	0.99	8.417	2.05	14.500	2.28	20.58	0.91
2.417	0.99	8.500	2.05	14.583	2.28	20.67	0.91
2.500	0.99	8.583	2.05	14.667	2.28	20.75	0.91
2.583	0.99	8.667	2.05	14.750	2.28	20.83	0.91
2.667	0.99	8.750	2.05	14.833	2.28	20.92	0.91
2.750	0.99	8.833	2.05	14.917	2.28	21.00	0.91
2.833	0.99	8.917	2.05	15.000	2.28	21.08	0.91
2.917	0.99	9.000	2.05	15.083	2.28	21.17	0.91
3.000	0.99	9.083	2.05	15.167	2.28	21.25	0.91
3.083	0.99	9.167	2.05	15.250	2.28	21.33	0.91
3.167	0.99	9.250	2.05	15.333	2.28	21.42	0.91
3.250	0.99	9.333	2.43	15.417	2.28	21.50	0.91
3.333	0.99	9.417	2.43	15.500	2.28	21.58	0.91
3.417	0.99	9.500	2.43	15.583	2.28	21.67	0.91
3.500	0.99	9.583	2.43	15.667	2.28	21.75	0.91
3.583	0.99	9.667	2.43	15.750	2.28	21.83	0.91
3.667	0.99	9.750	2.43	15.833	2.28	21.92	0.91
3.750	0.99	9.833	2.74	15.917	2.28	22.00	0.91
3.833	0.99	9.917	2.74	16.000	2.28	22.08	0.91
3.917	0.99	10.000	2.74	16.083	2.28	22.17	0.91
4.000	0.99	10.083	2.74	16.167	2.28	22.25	0.91
4.083	0.99	10.167	2.74	16.250	2.28	22.33	0.91
4.167	0.99	10.250	2.74	16.333	1.37	22.42	0.91
4.250	0.99	10.333	3.50	16.417	1.37	22.50	0.91
4.333	1.22	10.417	3.50	16.500	1.37	22.58	0.91
4.417	1.22	10.500	3.50	16.583	1.37	22.67	0.91
4.500	1.22	10.583	3.50	16.667	1.37	22.75	0.91
4.583	1.22	10.667	3.50	16.750	1.37	22.83	0.91
4.667	1.22	10.750	3.50	16.833	1.37	22.92	0.91
4.750	1.22	10.833	4.71	16.917	1.37	23.00	0.91
4.833	1.22	10.917	4.71	17.000	1.37	23.08	0.91
4.917	1.22	11.000	4.71	17.083	1.37	23.17	0.91
5.000	1.22	11.083	4.71	17.167	1.37	23.25	0.91
5.083	1.22	11.167	4.71	17.250	1.37	23.33	0.91
5.167	1.22	11.250	4.71	17.333	1.37	23.42	0.91
5.250	1.22	11.333	7.30	17.417	1.37	23.50	0.91
5.333	1.22	11.417	7.30	17.500	1.37	23.58	0.91
5.417	1.22	11.500	7.30	17.583	1.37	23.67	0.91
5.500	1.22	11.583	7.30	17.667	1.37	23.75	0.91
5.583	1.22	11.667	7.30	17.750	1.37	23.83	0.91
5.667	1.22	11.750	7.30	17.833	1.37	23.92	0.91
5.750	1.22	11.833	31.61	17.917	1.37	24.00	0.91
5.833	1.22	11.917	31.62	18.000	1.37	24.08	0.91
5.917	1.22	12.000	31.62	18.083	1.37	24.17	0.91

```
               6.000    1.22 |12.083   83.90 |18.167    1.37 | 24.25    0.91
               6.083    1.22 |12.167   83.90 |18.250    1.37 |

     Unit Hyd Qpeak  (cms)=   0.524

     PEAK FLOW       (cms)=   0.152 (i)
     TIME TO PEAK    (hrs)=  12.750
     RUNOFF VOLUME    (mm)=  16.861
     TOTAL RAINFALL   (mm)=  76.000
     RUNOFF COEFFICIENT   =   0.222

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

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================================================================================
======================

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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86e9-d1c81bbaf91e\b32efa42-920e-4326-8f78-5650bf1c6c38\scen
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DATE: 10-31-2019                          TIME: 10:44:56

USER:


COMMENTS: _____________________________________________________

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  ***********************************************
  ** SIMULATION : 2-5-Year-4-Hour-Chicago-Barri **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              2c00b23f-5338-40ec-bd02-bcfe53f4e52a\8c4d0259
| Ptotal= 50.52 mm |    Comments: New DesignStormManualInput
--------------------
                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.17    3.57 |  1.17   25.64 |  2.17    8.12 |  3.17    4.22
                  0.33    4.07 |  1.33  108.92 |  2.33    6.96 |  3.33    3.93
                  0.50    4.76 |  1.50   33.31 |  2.50    6.12 |  3.50    3.68
                  0.67    5.79 |  1.67   17.99 |  2.67    5.48 |  3.67    3.47
                  0.83    7.53 |  1.83   12.60 |  2.83    4.97 |  3.83    3.28
                  1.00   11.20 |  2.00    9.82 |  3.00    4.56 |  4.00    3.12

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

--------------------
| CALIB            |
| NASHYD   (  0015)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                ---- TRANSFORMED HYETOGRAPH ----
                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.083    3.57 | 1.083   25.64 | 2.083    8.12 |  3.08    4.22
                 0.167    3.57 | 1.167   25.64 | 2.167    8.12 |  3.17    4.22
                 0.250    4.07 | 1.250  108.92 | 2.250    6.96 |  3.25    3.93
                 0.333    4.07 | 1.333  108.92 | 2.333    6.96 |  3.33    3.93
                 0.417    4.76 | 1.417   33.31 | 2.417    6.12 |  3.42    3.68
                 0.500    4.76 | 1.500   33.31 | 2.500    6.12 |  3.50    3.68
                 0.583    5.79 | 1.583   17.99 | 2.583    5.48 |  3.58    3.47
                 0.667    5.79 | 1.667   17.99 | 2.667    5.48 |  3.67    3.47
                 0.750    7.53 | 1.750   12.60 | 2.750    4.97 |  3.75    3.28
                 0.833    7.53 | 1.833   12.60 | 2.833    4.97 |  3.83    3.28
                 0.917   11.20 | 1.917    9.82 | 2.917    4.56 |  3.92    3.12
                 1.000   11.20 | 2.000    9.82 | 3.000    4.56 |  4.00    3.12

     Unit Hyd Qpeak  (cms)=   0.524

     PEAK FLOW       (cms)=   0.086 (i)
     TIME TO PEAK    (hrs)=   2.083
     RUNOFF VOLUME    (mm)=   7.576
     TOTAL RAINFALL   (mm)=  50.521
     RUNOFF COEFFICIENT   =   0.150

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

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

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       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                *****  D E T A I L E D   O U T P U T *****


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  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
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DATE: 10-31-2019                          TIME: 10:44:56

USER:



COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 2-5-Year-4-Hour-Chicago-MTO   **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 509.121
| Ptotal= 44.15 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    3.71 |  1.17   17.57 |  2.17    7.34 |  3.17    4.28
                0.33    4.15 |  1.33  101.82 |  2.33    6.48 |  3.33    4.03
                0.50    4.73 |  1.50   21.56 |  2.50    5.83 |  3.50    3.81
                0.67    5.57 |  1.67   13.59 |  2.67    5.32 |  3.67    3.62
                0.83    6.91 |  1.83   10.37 |  2.83    4.91 |  3.83    3.45
                1.00    9.45 |  2.00    8.54 |  3.00    4.57 |  4.00    3.30


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--------------------
| CALIB            |
| NASHYD   (  0015)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

                NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                                ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    3.71 | 1.083   17.57 | 2.083    7.34 |  3.08    4.28
                0.167    3.71 | 1.167   17.57 | 2.167    7.34 |  3.17    4.28
                0.250    4.15 | 1.250  101.82 | 2.250    6.48 |  3.25    4.03
                0.333    4.15 | 1.333  101.82 | 2.333    6.48 |  3.33    4.03
                0.417    4.73 | 1.417   21.56 | 2.417    5.83 |  3.42    3.81
                0.500    4.73 | 1.500   21.56 | 2.500    5.83 |  3.50    3.81
                0.583    5.57 | 1.583   13.59 | 2.583    5.32 |  3.58    3.62
                0.667    5.57 | 1.667   13.59 | 2.667    5.32 |  3.67    3.62
                0.750    6.91 | 1.750   10.37 | 2.750    4.91 |  3.75    3.45
                0.833    6.91 | 1.833   10.37 | 2.833    4.91 |  3.83    3.45
                0.917    9.45 | 1.917    8.54 | 2.917    4.57 |  3.92    3.30
                1.000    9.45 | 2.000    8.54 | 3.000    4.57 |  4.00    3.30

            Unit Hyd Qpeak  (cms)=   0.524

            PEAK FLOW       (cms)=   0.060 (i)
            TIME TO PEAK    (hrs)=   2.083
            RUNOFF VOLUME    (mm)=   5.738
            TOTAL RAINFALL   (mm)=  44.152
            RUNOFF COEFFICIENT   =   0.130

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

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                *****  D E T A I L E D   O U T P U T *****


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DATE: 10-31-2019                          TIME: 10:44:56
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USER:

COMMENTS: _____

  ****
  ** SIMULATION : 2-5-Year-6-Hour-SCS-Type-II   **
  ****

READ STORM	Filename: C:\Users\ssoumik\AppD ata\Local\Temp\ 2c00b23f-5338-40ec-bd02-bcfe53f4e52a\d811bc74
Ptotal= 59.50 mm	Comments: 5-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	5.95	3.75	13.09	5.50	2.38
0.50	2.38	2.25	5.95	4.00	5.95	5.75	2.38
0.75	2.38	2.50	7.14	4.25	5.95	6.00	2.38
1.00	3.57	2.75	7.14	4.50	4.76	6.25	2.38
1.25	3.57	3.00	35.70	4.75	4.76		
1.50	3.57	3.25	92.82	5.00	3.57		
1.75	3.57	3.50	13.09	5.25	3.57		

CALIB	
NASHYD (0015)	Area (ha)= 8.10 Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.59

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	3.57	3.250	92.82	4.83	3.57
0.167	0.00	1.750	3.57	3.333	13.09	4.92	3.57
0.250	0.00	1.833	5.95	3.417	13.09	5.00	3.57
0.333	2.38	1.917	5.95	3.500	13.09	5.08	3.57
0.417	2.38	2.000	5.95	3.583	13.09	5.17	3.57
0.500	2.38	2.083	5.95	3.667	13.09	5.25	3.57
0.583	2.38	2.167	5.95	3.750	13.09	5.33	2.38
0.667	2.38	2.250	5.95	3.833	5.95	5.42	2.38
0.750	2.38	2.333	7.14	3.917	5.95	5.50	2.38
0.833	3.57	2.417	7.14	4.000	5.95	5.58	2.38
0.917	3.57	2.500	7.14	4.083	5.95	5.67	2.38
1.000	3.57	2.583	7.14	4.167	5.95	5.75	2.38
1.083	3.57	2.667	7.14	4.250	5.95	5.83	2.38
1.167	3.57	2.750	7.14	4.333	4.76	5.92	2.38
1.250	3.57	2.833	35.70	4.417	4.76	6.00	2.38
1.333	3.57	2.917	35.70	4.500	4.76	6.08	2.38
1.417	3.57	3.000	35.70	4.583	4.76	6.17	2.38
1.500	3.57	3.083	92.82	4.667	4.76	6.25	2.38
1.583	3.57	3.167	92.82	4.750	4.76		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.132 (i)
TIME TO PEAK (hrs)= 3.833
RUNOFF VOLUME (mm)= 10.515
TOTAL RAINFALL (mm)= 59.500
RUNOFF COEFFICIENT = 0.177

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

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

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

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\49c75fd7-53a1-49d7-ba6c-c20ba5575656\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\49c75fd7-53a1-49d7-ba6c-c20ba5575656\scen

DATE: 10-31-2019 TIME: 10:44:56

USER:

COMMENTS: _____

  ****
  ** SIMULATION : 3-10-Year-12-Hour-SCS-Type-II **
  ****

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              2c00b23f-5338-40ec-bd02-bcfe53f4e52a\6041a8cc
| Ptotal= 76.00 mm |    Comments: 10-Year-12-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.04	6.75	13.68	10.00	2.66
0.50	1.90	3.75	3.04	7.00	6.08	10.25	2.66
0.75	1.90	4.00	3.04	7.25	6.08	10.50	1.52
1.00	1.90	4.25	3.04	7.50	4.56	10.75	1.52
1.25	1.90	4.50	4.56	7.75	4.56	11.00	1.52
1.50	1.90	4.75	4.56	8.00	4.56	11.25	1.52
1.75	1.90	5.00	6.08	8.25	4.56	11.50	1.52
2.00	1.90	5.25	6.08	8.50	2.66	11.75	1.52
2.25	1.90	5.50	9.12	8.75	2.66	12.00	1.52
2.50	2.28	5.75	9.12	9.00	2.66	12.25	1.52
2.75	2.28	6.00	36.48	9.25	2.66		
3.00	2.28	6.25	100.32	9.50	2.66		
3.25	2.28	6.50	13.68	9.75	2.66		

```
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.28	6.250	100.32	9.33	2.66
0.167	0.00	3.250	2.28	6.333	13.68	9.42	2.66
0.250	0.00	3.333	3.04	6.417	13.68	9.50	2.66
0.333	1.90	3.417	3.04	6.500	13.68	9.58	2.66
0.417	1.90	3.500	3.04	6.583	13.68	9.67	2.66
0.500	1.90	3.583	3.04	6.667	13.68	9.75	2.66
0.583	1.90	3.667	3.04	6.750	13.68	9.83	2.66
0.667	1.90	3.750	3.04	6.833	6.08	9.92	2.66
0.750	1.90	3.833	3.04	6.917	6.08	10.00	2.66
0.833	1.90	3.917	3.04	7.000	6.08	10.08	2.66
0.917	1.90	4.000	3.04	7.083	6.08	10.17	2.66
1.000	1.90	4.083	3.04	7.167	6.08	10.25	2.66
1.083	1.90	4.167	3.04	7.250	6.08	10.33	1.52
1.167	1.90	4.250	3.04	7.333	4.56	10.42	1.52
1.250	1.90	4.333	4.56	7.417	4.56	10.50	1.52
1.333	1.90	4.417	4.56	7.500	4.56	10.58	1.52
1.417	1.90	4.500	4.56	7.583	4.56	10.67	1.52
1.500	1.90	4.583	4.56	7.667	4.56	10.75	1.52
1.583	1.90	4.667	4.56	7.750	4.56	10.83	1.52
1.667	1.90	4.750	4.56	7.833	4.56	10.92	1.52
1.750	1.90	4.833	6.08	7.917	4.56	11.00	1.52
1.833	1.90	4.917	6.08	8.000	4.56	11.08	1.52
1.917	1.90	5.000	6.08	8.083	4.56	11.17	1.52
2.000	1.90	5.083	6.08	8.167	4.56	11.25	1.52
2.083	1.90	5.167	6.08	8.250	4.56	11.33	1.52
2.167	1.90	5.250	6.08	8.333	2.66	11.42	1.52
2.250	1.90	5.333	9.12	8.417	2.66	11.50	1.52
2.333	2.28	5.417	9.12	8.500	2.66	11.58	1.52
2.417	2.28	5.500	9.12	8.583	2.66	11.67	1.52
2.500	2.28	5.583	9.12	8.667	2.66	11.75	1.52
2.583	2.28	5.667	9.12	8.750	2.66	11.83	1.52
2.667	2.28	5.750	9.12	8.833	2.66	11.92	1.52
2.750	2.28	5.833	36.48	8.917	2.66	12.00	1.52
2.833	2.28	5.917	36.48	9.000	2.66	12.08	1.52
2.917	2.28	6.000	36.48	9.083	2.66	12.17	1.52
3.000	2.28	6.083	100.32	9.167	2.66	12.25	1.52
3.083	2.28	6.167	100.32	9.250	2.66		

```
      Unit Hyd Qpeak  (cms)=   0.524

      PEAK FLOW       (cms)=   0.182 (i)
      TIME TO PEAK    (hrs)=   6.750
      RUNOFF VOLUME    (mm)=  16.860
      TOTAL RAINFALL   (mm)=  76.000
      RUNOFF COEFFICIENT   =   0.222

      (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
        V  V    I      SS   U   U  A   A  L
         VV     I    SSSSS  UUUUU  A   A  LLLLL

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\43cfdd1e-7f55-42a5-ad18-ed6e53c553a6\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\43cfdd1e-7f55-42a5-ad18-ed6e53c553a6\scen


DATE: 10-31-2019                          TIME: 10:44:56

USER:



COMMENTS: _____________________________________________________________
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  ***********************************************
  ** SIMULATION : 3-10-Year-24-Hour-SCS-Type-II **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              2c00b23f-5338-40ec-bd02-bcfe53f4e52a\efc9bd42
| Ptotal= 89.90 mm |    Comments: New DesignStormManualInput
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.80	12.75	12.95	19.00	1.62
0.50	0.90	6.75	1.80	13.00	6.65	19.25	1.62
0.75	0.90	7.00	1.80	13.25	6.65	19.50	1.62
1.00	0.90	7.25	1.80	13.50	1.26	19.75	1.62
1.25	0.90	7.50	1.80	13.75	1.26	20.00	1.62
1.50	0.90	7.75	1.80	14.00	7.37	20.25	1.62
1.75	0.90	8.00	1.80	14.25	7.37	20.50	1.08
2.00	0.90	8.25	1.80	14.50	2.70	20.75	1.08
2.25	1.62	8.50	2.43	14.75	2.70	21.00	1.08
2.50	1.17	8.75	2.43	15.00	2.70	21.25	1.08
2.75	1.17	9.00	2.43	15.25	2.70	21.50	1.08
3.00	1.17	9.25	2.43	15.50	2.70	21.75	1.08
3.25	1.17	9.50	2.88	15.75	2.70	22.00	1.08
3.50	1.17	9.75	2.88	16.00	2.70	22.25	1.08
3.75	1.17	10.00	3.24	16.25	2.70	22.50	1.08
4.00	1.17	10.25	3.24	16.50	1.62	22.75	1.08
4.25	1.17	10.50	4.14	16.75	1.62	23.00	1.08
4.50	1.44	10.75	4.14	17.00	1.62	23.25	1.08
4.75	1.44	11.00	5.57	17.25	1.62	23.50	1.08
5.00	1.44	11.25	5.57	17.50	1.62	23.75	1.08
5.25	1.44	11.50	8.63	17.75	1.62	24.00	1.08
5.50	1.44	11.75	8.63	18.00	1.62	24.25	1.08
5.75	1.44	12.00	37.40	18.25	1.62		
6.00	1.44	12.25	99.25	18.50	1.62		
6.25	1.44	12.50	12.95	18.75	1.62		

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--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   8.10   Curve Number   (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.44	12.250	99.25	18.33	1.62
0.167	0.00	6.250	1.44	12.333	12.96	18.42	1.62
0.250	0.00	6.333	1.80	12.417	12.95	18.50	1.62
0.333	0.90	6.417	1.80	12.500	12.95	18.58	1.62
0.417	0.90	6.500	1.80	12.583	12.95	18.67	1.62
0.500	0.90	6.583	1.80	12.667	12.95	18.75	1.62
0.583	0.90	6.667	1.80	12.750	12.95	18.83	1.62
0.667	0.90	6.750	1.80	12.833	6.65	18.92	1.62
0.750	0.90	6.833	1.80	12.917	6.65	19.00	1.62
0.833	0.90	6.917	1.80	13.000	6.65	19.08	1.62
0.917	0.90	7.000	1.80	13.083	6.65	19.17	1.62
1.000	0.90	7.083	1.80	13.167	6.65	19.25	1.62
1.083	0.90	7.167	1.80	13.250	6.65	19.33	1.62
1.167	0.90	7.250	1.80	13.333	1.26	19.42	1.62
1.250	0.90	7.333	1.80	13.417	1.26	19.50	1.62
1.333	0.90	7.417	1.80	13.500	1.26	19.58	1.62
1.417	0.90	7.500	1.80	13.583	1.26	19.67	1.62
1.500	0.90	7.583	1.80	13.667	1.26	19.75	1.62
1.583	0.90	7.667	1.80	13.750	1.26	19.83	1.62
1.667	0.90	7.750	1.80	13.833	7.37	19.92	1.62
1.750	0.90	7.833	1.80	13.917	7.37	20.00	1.62
1.833	0.90	7.917	1.80	14.000	7.37	20.08	1.62
1.917	0.90	8.000	1.80	14.083	7.37	20.17	1.62
2.000	0.90	8.083	1.80	14.167	7.37	20.25	1.62
2.083	1.62	8.167	1.80	14.250	7.37	20.33	1.08
2.167	1.62	8.250	1.80	14.333	2.70	20.42	1.08
2.250	1.62	8.333	2.43	14.417	2.70	20.50	1.08
2.333	1.17	8.417	2.43	14.500	2.70	20.58	1.08
2.417	1.17	8.500	2.43	14.583	2.70	20.67	1.08
2.500	1.17	8.583	2.43	14.667	2.70	20.75	1.08
2.583	1.17	8.667	2.43	14.750	2.70	20.83	1.08
2.667	1.17	8.750	2.43	14.833	2.70	20.92	1.08
2.750	1.17	8.833	2.43	14.917	2.70	21.00	1.08
2.833	1.17	8.917	2.43	15.000	2.70	21.08	1.08
2.917	1.17	9.000	2.43	15.083	2.70	21.17	1.08
3.000	1.17	9.083	2.43	15.167	2.70	21.25	1.08
3.083	1.17	9.167	2.43	15.250	2.70	21.33	1.08
3.167	1.17	9.250	2.43	15.333	2.70	21.42	1.08
3.250	1.17	9.333	2.88	15.417	2.70	21.50	1.08
3.333	1.17	9.417	2.88	15.500	2.70	21.58	1.08
3.417	1.17	9.500	2.88	15.583	2.70	21.67	1.08
3.500	1.17	9.583	2.88	15.667	2.70	21.75	1.08
3.583	1.17	9.667	2.88	15.750	2.70	21.83	1.08
3.667	1.17	9.750	2.88	15.833	2.70	21.92	1.08
3.750	1.17	9.833	3.24	15.917	2.70	22.00	1.08
3.833	1.17	9.917	3.24	16.000	2.70	22.08	1.08
3.917	1.17	10.000	3.24	16.083	2.70	22.17	1.08
4.000	1.17	10.083	3.24	16.167	2.70	22.25	1.08
4.083	1.17	10.167	3.24	16.250	2.70	22.33	1.08
4.167	1.17	10.250	3.24	16.333	1.62	22.42	1.08
4.250	1.17	10.333	4.14	16.417	1.62	22.50	1.08
4.333	1.44	10.417	4.14	16.500	1.62	22.58	1.08
4.417	1.44	10.500	4.14	16.583	1.62	22.67	1.08
4.500	1.44	10.583	4.14	16.667	1.62	22.75	1.08
4.583	1.44	10.667	4.14	16.750	1.62	22.83	1.08
4.667	1.44	10.750	4.14	16.833	1.62	22.92	1.08
4.750	1.44	10.833	5.57	16.917	1.62	23.00	1.08
4.833	1.44	10.917	5.57	17.000	1.62	23.08	1.08
4.917	1.44	11.000	5.57	17.083	1.62	23.17	1.08
5.000	1.44	11.083	5.57	17.167	1.62	23.25	1.08
5.083	1.44	11.167	5.57	17.250	1.62	23.33	1.08
5.167	1.44	11.250	5.57	17.333	1.62	23.42	1.08
5.250	1.44	11.333	8.63	17.417	1.62	23.50	1.08

5.333	1.44	11.417	8.63	17.500	1.62	23.58	1.08
5.417	1.44	11.500	8.63	17.583	1.62	23.67	1.08
5.500	1.44	11.583	8.63	17.667	1.62	23.75	1.08
5.583	1.44	11.667	8.63	17.750	1.62	23.83	1.08
5.667	1.44	11.750	8.63	17.833	1.62	23.92	1.08
5.750	1.44	11.833	37.40	17.917	1.62	24.00	1.08
5.833	1.44	11.917	37.40	18.000	1.62	24.08	1.08
5.917	1.44	12.000	37.40	18.083	1.62	24.17	1.08
6.000	1.44	12.083	99.24	18.167	1.62	24.25	1.08
6.083	1.44	12.167	99.25	18.250	1.62		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.209 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 23.037
TOTAL RAINFALL (mm)= 89.900
RUNOFF COEFFICIENT = 0.256

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

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

  OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
 O   O    T      T    H   H   Y Y   MM MM  O   O
 O   O    T      T    H   H    Y    M   M  O   O
  OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\cd7ebdcc-8fd7-474b-8119-51632b373041\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\cd7ebdcc-8fd7-474b-8119-51632b373041\scen

DATE: 10-31-2019 TIME: 10:44:57

USER:

COMMENTS: _____

** SIMULATION : 3-10-Year-4-Hour-Chicago-Barr **

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\2c00b23f-5338-40ec-bd02-bcfe53f4e52a\335bdce2
Ptotal= 59.69 mm	Comments: 10-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.32	1.17	30.27	2.17	9.72	3.17	5.09
0.33	4.91	1.33	126.55	2.33	8.35	3.33	4.74
0.50	5.73	1.50	39.22	2.50	7.35	3.50	4.45
0.67	6.96	1.67	21.35	2.67	6.59	3.67	4.19
0.83	9.03	1.83	15.01	2.83	5.99	3.83	3.97
1.00	13.36	2.00	11.74	3.00	5.50	4.00	3.77

CALIB NASHYD (0015)	Area (ha)= 8.10	Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.59	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.32	1.083	30.27	2.083	9.72	3.08	5.09
0.167	4.32	1.167	30.27	2.167	9.72	3.17	5.09
0.250	4.91	1.250	126.55	2.250	8.35	3.25	4.74
0.333	4.91	1.333	126.55	2.333	8.35	3.33	4.74
0.417	5.73	1.417	39.22	2.417	7.35	3.42	4.45
0.500	5.73	1.500	39.22	2.500	7.35	3.50	4.45
0.583	6.96	1.583	21.35	2.583	6.59	3.58	4.19
0.667	6.96	1.667	21.35	2.667	6.59	3.67	4.19
0.750	9.03	1.750	15.01	2.750	5.99	3.75	3.97
0.833	9.03	1.833	15.01	2.833	5.99	3.83	3.97
0.917	13.36	1.917	11.74	2.917	5.50	3.92	3.77
1.000	13.36	2.000	11.74	3.000	5.50	4.00	3.77

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.121 (i)
TIME TO PEAK (hrs)= 2.083
RUNOFF VOLUME (mm)= 10.583
TOTAL RAINFALL (mm)= 59.695
RUNOFF COEFFICIENT = 0.177

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

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\8c0bce3e-1654-471e-888d-437dd589f618\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\8c0bce3e-1654-471e-888d-437dd589f618\scen


DATE: 10-31-2019                          TIME: 10:44:57

USER:



COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 3-10-Year-4-Hour-Chicago-MTO  **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 591.350
| Ptotal= 51.28 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  = 4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    4.31 |  1.17   20.41 |  2.17    8.53 |  3.17    4.97
                0.33    4.82 |  1.33  118.26 |  2.33    7.53 |  3.33    4.68
                0.50    5.50 |  1.50   25.04 |  2.50    6.78 |  3.50    4.43
                0.67    6.47 |  1.67   15.79 |  2.67    6.18 |  3.67    4.21
                0.83    8.02 |  1.83   12.04 |  2.83    5.70 |  3.83    4.01
                1.00   10.97 |  2.00    9.92 |  3.00    5.30 |  4.00    3.83

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083   4.31 | 1.083   20.41 | 2.083    8.53 |  3.08    4.97
                0.167   4.31 | 1.167   20.41 | 2.167    8.53 |  3.17    4.97
                0.250   4.82 | 1.250  118.26 | 2.250    7.53 |  3.25    4.68
                0.333   4.82 | 1.333  118.26 | 2.333    7.53 |  3.33    4.68
                0.417   5.50 | 1.417   25.04 | 2.417    6.78 |  3.42    4.43
                0.500   5.50 | 1.500   25.04 | 2.500    6.78 |  3.50    4.43
                0.583   6.47 | 1.583   15.79 | 2.583    6.18 |  3.58    4.21
                0.667   6.47 | 1.667   15.79 | 2.667    6.18 |  3.67    4.21
                0.750   8.02 | 1.750   12.04 | 2.750    5.70 |  3.75    4.01
                0.833   8.02 | 1.833   12.04 | 2.833    5.70 |  3.83    4.01
                0.917  10.97 | 1.917    9.92 | 2.917    5.30 |  3.92    3.83
                1.000  10.97 | 2.000    9.92 | 3.000    5.30 |  4.00    3.83

    Unit Hyd Qpeak  (cms)=   0.524

    PEAK FLOW       (cms)=   0.083 (i)
    TIME TO PEAK    (hrs)=   2.083
    RUNOFF VOLUME    (mm)=   7.810
    TOTAL RAINFALL   (mm)=  51.284
    RUNOFF COEFFICIENT   =   0.152

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

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                *****  D E T A I L E D   O U T P U T *****
```

```
  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\6c5f44a5-4913-4472-b89b-a8c16a2c0318\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\6c5f44a5-4913-4472-b89b-a8c16a2c0318\scen


DATE: 10-31-2019                          TIME: 10:44:57

USER:


COMMENTS: _____________________________________________________________

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  ************************************************
  ** SIMULATION : 3-10-Year-6-Hour-SCS-Type-II  **
  ************************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              2c00b23f-5338-40ec-bd02-bcfe53f4e52a\9434984f
| Ptotal= 70.80 mm |    Comments: 10-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    7.08 |  3.75   15.58 |  5.50    2.83
                0.50    2.83 |  2.25    7.08 |  4.00    7.08 |  5.75    2.83
                0.75    2.83 |  2.50    8.50 |  4.25    7.08 |  6.00    2.83
                1.00    4.25 |  2.75    8.50 |  4.50    5.66 |  6.25    2.83
                1.25    4.25 |  3.00   42.48 |  4.75    5.66 |
                1.50    4.25 |  3.25  110.45 |  5.00    4.25 |
                1.75    4.25 |  3.50   15.58 |  5.25    4.25 |

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

--------------------
| CALIB            |
| NASHYD   (  0015)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    4.25 | 3.250  110.45 |  4.83    4.25
               0.167    0.00 | 1.750    4.25 | 3.333   15.58 |  4.92    4.25
               0.250    0.00 | 1.833    7.08 | 3.417   15.58 |  5.00    4.25
               0.333    2.83 | 1.917    7.08 | 3.500   15.58 |  5.08    4.25
               0.417    2.83 | 2.000    7.08 | 3.583   15.58 |  5.17    4.25
               0.500    2.83 | 2.083    7.08 | 3.667   15.58 |  5.25    4.25
               0.583    2.83 | 2.167    7.08 | 3.750   15.58 |  5.33    2.83
               0.667    2.83 | 2.250    7.08 | 3.833    7.08 |  5.42    2.83
               0.750    2.83 | 2.333    8.50 | 3.917    7.08 |  5.50    2.83
               0.833    4.25 | 2.417    8.50 | 4.000    7.08 |  5.58    2.83
               0.917    4.25 | 2.500    8.50 | 4.083    7.08 |  5.67    2.83
               1.000    4.25 | 2.583    8.50 | 4.167    7.08 |  5.75    2.83
               1.083    4.25 | 2.667    8.50 | 4.250    7.08 |  5.83    2.83
               1.167    4.25 | 2.750    8.50 | 4.333    5.66 |  5.92    2.83
               1.250    4.25 | 2.833   42.48 | 4.417    5.66 |  6.00    2.83
               1.333    4.25 | 2.917   42.48 | 4.500    5.66 |  6.08    2.83
               1.417    4.25 | 3.000   42.48 | 4.583    5.66 |  6.17    2.83
               1.500    4.25 | 3.083  110.45 | 4.667    5.66 |  6.25    2.83
               1.583    4.25 | 3.167  110.45 | 4.750    5.66 |

    Unit Hyd Qpeak  (cms)=   0.524

    PEAK FLOW       (cms)=   0.186 (i)
    TIME TO PEAK    (hrs)=   3.833
    RUNOFF VOLUME    (mm)=  14.738
    TOTAL RAINFALL   (mm)=  70.800
    RUNOFF COEFFICIENT   =   0.208

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

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\7484de5b-5267-4660-b619-874c6f63c858\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\7484de5b-5267-4660-b619-874c6f63c858\scen


DATE: 10-31-2019                          TIME: 10:44:57

USER:


COMMENTS: _____________________________________________________________
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  ***********************************************
  ** SIMULATION : 4-25-Year-12-Hour-SCS-Type-II **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              2c00b23f-5338-40ec-bd02-bcfe53f4e52a\5eef7ed8
| Ptotal= 90.70 mm |    Comments: 25-Year-12-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.63	6.75	16.33	10.00	3.17
0.50	2.27	3.75	3.63	7.00	7.26	10.25	3.17
0.75	2.27	4.00	3.63	7.25	7.26	10.50	1.81
1.00	2.27	4.25	3.63	7.50	5.44	10.75	1.81
1.25	2.27	4.50	5.44	7.75	5.44	11.00	1.81
1.50	2.27	4.75	5.44	8.00	5.44	11.25	1.81
1.75	2.27	5.00	7.26	8.25	5.44	11.50	1.81
2.00	2.27	5.25	7.26	8.50	3.17	11.75	1.81
2.25	2.27	5.50	10.88	8.75	3.17	12.00	1.81
2.50	2.72	5.75	10.88	9.00	3.17	12.25	1.81
2.75	2.72	6.00	43.54	9.25	3.17		
3.00	2.72	6.25	119.72	9.50	3.17		
3.25	2.72	6.50	16.33	9.75	3.17		

```
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.72	6.250	119.72	9.33	3.17
0.167	0.00	3.250	2.72	6.333	16.33	9.42	3.17
0.250	0.00	3.333	3.63	6.417	16.33	9.50	3.17
0.333	2.27	3.417	3.63	6.500	16.33	9.58	3.17
0.417	2.27	3.500	3.63	6.583	16.33	9.67	3.17
0.500	2.27	3.583	3.63	6.667	16.33	9.75	3.17
0.583	2.27	3.667	3.63	6.750	16.33	9.83	3.17
0.667	2.27	3.750	3.63	6.833	7.26	9.92	3.17
0.750	2.27	3.833	3.63	6.917	7.26	10.00	3.17
0.833	2.27	3.917	3.63	7.000	7.26	10.08	3.17
0.917	2.27	4.000	3.63	7.083	7.26	10.17	3.17
1.000	2.27	4.083	3.63	7.167	7.26	10.25	3.17
1.083	2.27	4.167	3.63	7.250	7.26	10.33	1.81
1.167	2.27	4.250	3.63	7.333	5.44	10.42	1.81
1.250	2.27	4.333	5.44	7.417	5.44	10.50	1.81
1.333	2.27	4.417	5.44	7.500	5.44	10.58	1.81
1.417	2.27	4.500	5.44	7.583	5.44	10.67	1.81
1.500	2.27	4.583	5.44	7.667	5.44	10.75	1.81
1.583	2.27	4.667	5.44	7.750	5.44	10.83	1.81
1.667	2.27	4.750	5.44	7.833	5.44	10.92	1.81
1.750	2.27	4.833	7.26	7.917	5.44	11.00	1.81
1.833	2.27	4.917	7.26	8.000	5.44	11.08	1.81
1.917	2.27	5.000	7.26	8.083	5.44	11.17	1.81
2.000	2.27	5.083	7.26	8.167	5.44	11.25	1.81
2.083	2.27	5.167	7.26	8.250	5.44	11.33	1.81
2.167	2.27	5.250	7.26	8.333	3.17	11.42	1.81
2.250	2.27	5.333	10.88	8.417	3.17	11.50	1.81
2.333	2.72	5.417	10.88	8.500	3.17	11.58	1.81
2.417	2.72	5.500	10.88	8.583	3.17	11.67	1.81
2.500	2.72	5.583	10.88	8.667	3.17	11.75	1.81
2.583	2.72	5.667	10.88	8.750	3.17	11.83	1.81
2.667	2.72	5.750	10.88	8.833	3.17	11.92	1.81
2.750	2.72	5.833	43.54	8.917	3.17	12.00	1.81
2.833	2.72	5.917	43.54	9.000	3.17	12.08	1.81
2.917	2.72	6.000	43.54	9.083	3.17	12.17	1.81
3.000	2.72	6.083	119.72	9.167	3.17	12.25	1.81
3.083	2.72	6.167	119.72	9.250	3.17		

```
    Unit Hyd Qpeak  (cms)=   0.524

    PEAK FLOW       (cms)=   0.255 (i)
    TIME TO PEAK    (hrs)=   6.750
    RUNOFF VOLUME    (mm)=  23.414
    TOTAL RAINFALL   (mm)=  90.700
    RUNOFF COEFFICIENT   =   0.258

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

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                    *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\280ddea2-40ed-4331-8738-e952e5afb152\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\280ddea2-40ed-4331-8738-e952e5afb152\scen
```

DATE: 10-31-2019 TIME: 10:44:57

USER:

COMMENTS: _____

**** SIMULATION : 4-25-Year-24-Hour-SCS-Type-II ****

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\2c00b23f-5338-40ec-bd02-bcfe53f4e52a\6b809c2e
Ptotal=107.50 mm	Comments: 25-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.48	19.00	1.93
0.50	1.07	6.75	2.15	13.00	7.95	19.25	1.94
0.75	1.07	7.00	2.15	13.25	7.96	19.50	1.93
1.00	1.07	7.25	2.15	13.50	1.50	19.75	1.94
1.25	1.07	7.50	2.15	13.75	1.50	20.00	1.93
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.07	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.22	20.75	1.29
2.25	1.93	8.50	2.90	14.75	3.22	21.00	1.29
2.50	1.40	8.75	2.90	15.00	3.22	21.25	1.29
2.75	1.40	9.00	2.90	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.90	15.50	3.22	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.22	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.22	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.22	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.66	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.32	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.32	18.00	1.93	24.25	1.29
5.75	1.72	12.00	44.72	18.25	1.94		
6.00	1.72	12.25	118.68	18.50	1.93		
6.25	1.72	12.50	15.48	18.75	1.94		

CALIB	
NASHYD (0015)	Area (ha)= 8.10 Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.59

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.68	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.49	18.42	1.93
0.250	0.00	6.333	2.15	12.417	15.48	18.50	1.93
0.333	1.08	6.417	2.15	12.500	15.48	18.58	1.94
0.417	1.07	6.500	2.15	12.583	15.48	18.67	1.94
0.500	1.07	6.583	2.15	12.667	15.48	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.48	18.83	1.94
0.667	1.07	6.750	2.15	12.833	7.96	18.92	1.93
0.750	1.07	6.833	2.15	12.917	7.95	19.00	1.93
0.833	1.07	6.917	2.15	13.000	7.95	19.08	1.94
0.917	1.07	7.000	2.15	13.083	7.95	19.17	1.94
1.000	1.07	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.07	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.07	7.250	2.15	13.333	1.51	19.42	1.93
1.250	1.07	7.333	2.15	13.417	1.50	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.50	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.50	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.50	19.75	1.94
1.583	1.07	7.667	2.15	13.750	1.50	19.83	1.93
1.667	1.07	7.750	2.15	13.833	8.81	19.92	1.93
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.81	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.93
2.083	1.93	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.93	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.93	8.333	2.90	14.417	3.22	20.50	1.29
2.333	1.40	8.417	2.90	14.500	3.22	20.58	1.29
2.417	1.40	8.500	2.90	14.583	3.22	20.67	1.29
2.500	1.40	8.583	2.90	14.667	3.22	20.75	1.29
2.583	1.40	8.667	2.90	14.750	3.22	20.83	1.29
2.667	1.40	8.750	2.90	14.833	3.22	20.92	1.29
2.750	1.40	8.833	2.90	14.917	3.22	21.00	1.29
2.833	1.40	8.917	2.90	15.000	3.22	21.08	1.29
2.917	1.40	9.000	2.90	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.90	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.90	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.90	15.333	3.22	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.22	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.22	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.22	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.22	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.22	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.22	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.22	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.22	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.22	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.22	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.22	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.94	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.94	16.667	1.93	22.75	1.29

4.583	1.72	10.667	4.95	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.66	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.66	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.66	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.66	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.32	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.32	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.32	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.32	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.32	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.32	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.72	17.917	1.93	24.00	1.29
5.833	1.72	11.917	44.72	18.000	1.93	24.08	1.29
5.917	1.72	12.000	44.72	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.67	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.68	18.250	1.94		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.291 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 31.791
TOTAL RAINFALL (mm)= 107.500
RUNOFF COEFFICIENT = 0.296

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

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

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

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\bd7b65aa-0b32-4b9e-bdc2-bcfbc48362e3\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\bd7b65aa-0b32-4b9e-bdc2-bcfbc48362e3\scen

DATE: 10-31-2019 TIME: 10:44:57

USER:

COMMENTS: _____

```
  ************************************************
  ** SIMULATION : 4-25-Year-4-Hour-Chicago-Barr **
  ************************************************
```

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\2c00b23f-5338-40ec-bd02-bcfe53f4e52a\afcaafd9
Ptotal= 71.24 mm	Comments: 25-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.22	1.17	36.37	2.17	11.74	3.17	6.15
0.33	5.94	1.33	148.15	2.33	10.09	3.33	5.74
0.50	6.93	1.50	47.06	2.50	8.89	3.50	5.38
0.67	8.42	1.67	25.72	2.67	7.96	3.67	5.08
0.83	10.91	1.83	18.11	2.83	7.24	3.83	4.80
1.00	16.13	2.00	14.17	3.00	6.65	4.00	4.57

CALIB			
NASHYD (0015)	Area (ha)= 8.10	Curve Number (CN)= 52.7	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.59		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.22	1.083	36.37	2.083	11.74	3.08	6.15
0.167	5.22	1.167	36.37	2.167	11.74	3.17	6.15
0.250	5.94	1.250	148.15	2.250	10.09	3.25	5.74
0.333	5.94	1.333	148.15	2.333	10.09	3.33	5.74
0.417	6.93	1.417	47.06	2.417	8.88	3.42	5.38
0.500	6.93	1.500	47.06	2.500	8.89	3.50	5.38
0.583	8.42	1.583	25.72	2.583	7.96	3.58	5.08
0.667	8.42	1.667	25.72	2.667	7.96	3.67	5.08
0.750	10.91	1.750	18.11	2.750	7.24	3.75	4.80
0.833	10.91	1.833	18.11	2.833	7.24	3.83	4.80
0.917	16.13	1.917	14.17	2.917	6.65	3.92	4.57
1.000	16.13	2.000	14.17	3.000	6.65	4.00	4.57

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.171 (i)

```
     TIME TO PEAK     (hrs)=   2.083
     RUNOFF VOLUME     (mm)=  14.911
     TOTAL RAINFALL    (mm)=  71.236
     RUNOFF COEFFICIENT   =   0.209

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

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

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

***** D E T A I L E D O U T P U T *****

```
  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\1248788f-c3a3-4962-aeba-cb85df2b6234\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\1248788f-c3a3-4962-aeba-cb85df2b6234\scen

DATE: 10-31-2019                          TIME: 10:44:57

USER:

COMMENTS: _____________________________________________________________
```

```
  ************************************************
  ** SIMULATION : 4-25-Year-4-Hour-Chicago-MTO  **
  ************************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 696.323
| Ptotal= 60.39 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.08	1.17	24.03	2.17	10.04	3.17	5.85
0.33	5.67	1.33	139.25	2.33	8.87	3.33	5.51
0.50	6.47	1.50	29.49	2.50	7.98	3.50	5.21
0.67	7.62	1.67	18.59	2.67	7.28	3.67	4.95
0.83	9.44	1.83	14.18	2.83	6.72	3.83	4.72
1.00	12.92	2.00	11.68	3.00	6.25	4.00	4.52

```
--------------------
| CALIB            |
| NASHYD   (  0015)|   Area     (ha)=   8.10   Curve Number   (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.08	1.083	24.03	2.083	10.04	3.08	5.85
0.167	5.08	1.167	24.03	2.167	10.04	3.17	5.85
0.250	5.67	1.250	139.25	2.250	8.87	3.25	5.51
0.333	5.67	1.333	139.25	2.333	8.87	3.33	5.51
0.417	6.47	1.417	29.49	2.417	7.98	3.42	5.21
0.500	6.47	1.500	29.49	2.500	7.98	3.50	5.21
0.583	7.62	1.583	18.59	2.583	7.28	3.58	4.95
0.667	7.62	1.667	18.59	2.667	7.28	3.67	4.95
0.750	9.44	1.750	14.18	2.750	6.72	3.75	4.72
0.833	9.44	1.833	14.18	2.833	6.72	3.83	4.72
0.917	12.92	1.917	11.68	2.917	6.25	3.92	4.52
1.000	12.92	2.000	11.68	3.000	6.25	4.00	4.52

```
     Unit Hyd Qpeak  (cms)=   0.524

     PEAK FLOW       (cms)=   0.116 (i)
     TIME TO PEAK    (hrs)=   2.083
     RUNOFF VOLUME    (mm)=  10.826
     TOTAL RAINFALL   (mm)=  60.387
     RUNOFF COEFFICIENT   =   0.179

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

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

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

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


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\0e5d0876-a16d-4319-a474-a5b5541b7696\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\0e5d0876-a16d-4319-a474-a5b5541b7696\scen


DATE: 10-31-2019                          TIME: 10:44:57

USER:


COMMENTS: _____________________________________________________________

--------------------------------------------------------------------------------
------------------------
  ***********************************************
  ** SIMULATION : 4-25-Year-6-Hour-SCS-Type-II  **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              2c00b23f-5338-40ec-bd02-bcfe53f4e52a\edbfb811
| Ptotal= 85.20 mm |    Comments: 25-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  2.00    8.52 |  3.75   18.74 |  5.50    3.41
               0.50    3.41 |  2.25    8.52 |  4.00    8.52 |  5.75    3.41
               0.75    3.41 |  2.50   10.22 |  4.25    8.52 |  6.00    3.41
               1.00    5.11 |  2.75   10.22 |  4.50    6.82 |  6.25    3.41
               1.25    5.11 |  3.00   51.12 |  4.75    6.82 |
               1.50    5.11 |  3.25  132.91 |  5.00    5.11 |
               1.75    5.11 |  3.50   18.74 |  5.25    5.11 |

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

--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
```

```
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.00 | 1.667    5.11 | 3.250  132.91 |  4.83    5.11
                0.167    0.00 | 1.750    5.11 | 3.333   18.75 |  4.92    5.11
                0.250    0.00 | 1.833    8.52 | 3.417   18.74 |  5.00    5.11
                0.333    3.41 | 1.917    8.52 | 3.500   18.74 |  5.08    5.11
                0.417    3.41 | 2.000    8.52 | 3.583   18.74 |  5.17    5.11
                0.500    3.41 | 2.083    8.52 | 3.667   18.74 |  5.25    5.11
                0.583    3.41 | 2.167    8.52 | 3.750   18.74 |  5.33    3.41
                0.667    3.41 | 2.250    8.52 | 3.833    8.52 |  5.42    3.41
                0.750    3.41 | 2.333   10.22 | 3.917    8.52 |  5.50    3.41
                0.833    5.11 | 2.417   10.22 | 4.000    8.52 |  5.58    3.41
                0.917    5.11 | 2.500   10.22 | 4.083    8.52 |  5.67    3.41
                1.000    5.11 | 2.583   10.22 | 4.167    8.52 |  5.75    3.41
                1.083    5.11 | 2.667   10.22 | 4.250    8.52 |  5.83    3.41
                1.167    5.11 | 2.750   10.22 | 4.333    6.82 |  5.92    3.41
                1.250    5.11 | 2.833   51.12 | 4.417    6.82 |  6.00    3.41
                1.333    5.11 | 2.917   51.12 | 4.500    6.82 |  6.08    3.41
                1.417    5.11 | 3.000   51.12 | 4.583    6.82 |  6.17    3.41
                1.500    5.11 | 3.083  132.91 | 4.667    6.82 |  6.25    3.41
                1.583    5.11 | 3.167  132.91 | 4.750    6.82 |
```

```
    Unit Hyd Qpeak  (cms)=   0.524

    PEAK FLOW       (cms)=   0.264 (i)
    TIME TO PEAK    (hrs)=   3.833
    RUNOFF VOLUME    (mm)=  20.871
    TOTAL RAINFALL   (mm)=  85.200
    RUNOFF COEFFICIENT   =   0.245

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

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================================================================================
======================


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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\bfc7ff97-025a-4f61-818e-454225a6e1f4\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\bfc7ff97-025a-4f61-818e-454225a6e1f4\scen
```

DATE: 10-31-2019 TIME: 10:44:58

USER:

COMMENTS: _____

*****

***** D E T A I L E D O U T P U T *****

```
  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\25d83c10-d88b-45c0-863e-11261e036225\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\25d83c10-d88b-45c0-863e-11261e036225\scen

DATE: 10-31-2019                          TIME: 10:44:58

USER:


COMMENTS: _____________________________________________________________

--------------------------------------------------------------------------------
-----------------------
  ************************************************
  ** SIMULATION : 5-50-Year-24-Hour-SCS-Type-II **
  ************************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              2c00b23f-5338-40ec-bd02-bcfe53f4e52a\ada53171
| Ptotal=120.60 mm |    Comments: 50-Year-24-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.41	12.75	17.37	19.00	2.17
0.50	1.21	6.75	2.41	13.00	8.92	19.25	2.17
0.75	1.21	7.00	2.41	13.25	8.92	19.50	2.17
1.00	1.21	7.25	2.41	13.50	1.69	19.75	2.17
1.25	1.21	7.50	2.41	13.75	1.69	20.00	2.17
1.50	1.21	7.75	2.41	14.00	9.89	20.25	2.17
1.75	1.21	8.00	2.41	14.25	9.89	20.50	1.45
2.00	1.21	8.25	2.41	14.50	3.62	20.75	1.45
2.25	2.17	8.50	3.26	14.75	3.62	21.00	1.45
2.50	1.57	8.75	3.26	15.00	3.62	21.25	1.45
2.75	1.57	9.00	3.26	15.25	3.62	21.50	1.45
3.00	1.57	9.25	3.26	15.50	3.62	21.75	1.45
3.25	1.57	9.50	3.86	15.75	3.62	22.00	1.45
3.50	1.57	9.75	3.86	16.00	3.62	22.25	1.45
3.75	1.57	10.00	4.34	16.25	3.62	22.50	1.45
4.00	1.57	10.25	4.34	16.50	2.17	22.75	1.45
4.25	1.57	10.50	5.55	16.75	2.17	23.00	1.45
4.50	1.93	10.75	5.55	17.00	2.17	23.25	1.45
4.75	1.93	11.00	7.48	17.25	2.17	23.50	1.45
5.00	1.93	11.25	7.48	17.50	2.17	23.75	1.45
5.25	1.93	11.50	11.58	17.75	2.17	24.00	1.45
5.50	1.93	11.75	11.58	18.00	2.17	24.25	1.45
5.75	1.93	12.00	50.17	18.25	2.17		
6.00	1.93	12.25	133.14	18.50	2.17		
6.25	1.93	12.50	17.37	18.75	2.17		

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

--------------------
| CALIB            |
| NASHYD   (  0015)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.93	12.250	133.14	18.33	2.17
0.167	0.00	6.250	1.93	12.333	17.38	18.42	2.17
0.250	0.00	6.333	2.41	12.417	17.37	18.50	2.17
0.333	1.21	6.417	2.41	12.500	17.37	18.58	2.17
0.417	1.21	6.500	2.41	12.583	17.37	18.67	2.17
0.500	1.21	6.583	2.41	12.667	17.37	18.75	2.17
0.583	1.21	6.667	2.41	12.750	17.37	18.83	2.17
0.667	1.21	6.750	2.41	12.833	8.93	18.92	2.17
0.750	1.21	6.833	2.41	12.917	8.92	19.00	2.17
0.833	1.21	6.917	2.41	13.000	8.92	19.08	2.17
0.917	1.21	7.000	2.41	13.083	8.92	19.17	2.17
1.000	1.21	7.083	2.41	13.167	8.92	19.25	2.17
1.083	1.21	7.167	2.41	13.250	8.92	19.33	2.17
1.167	1.21	7.250	2.41	13.333	1.69	19.42	2.17
1.250	1.21	7.333	2.41	13.417	1.69	19.50	2.17
1.333	1.21	7.417	2.41	13.500	1.69	19.58	2.17
1.417	1.21	7.500	2.41	13.583	1.69	19.67	2.17
1.500	1.21	7.583	2.41	13.667	1.69	19.75	2.17
1.583	1.21	7.667	2.41	13.750	1.69	19.83	2.17
1.667	1.21	7.750	2.41	13.833	9.89	19.92	2.17
1.750	1.21	7.833	2.41	13.917	9.89	20.00	2.17
1.833	1.21	7.917	2.41	14.000	9.89	20.08	2.17
1.917	1.21	8.000	2.41	14.083	9.89	20.17	2.17
2.000	1.21	8.083	2.41	14.167	9.89	20.25	2.17
2.083	2.17	8.167	2.41	14.250	9.89	20.33	1.45
2.167	2.17	8.250	2.41	14.333	3.62	20.42	1.45
2.250	2.17	8.333	3.26	14.417	3.62	20.50	1.45
2.333	1.57	8.417	3.26	14.500	3.62	20.58	1.45
2.417	1.57	8.500	3.26	14.583	3.62	20.67	1.45
2.500	1.57	8.583	3.26	14.667	3.62	20.75	1.45
2.583	1.57	8.667	3.26	14.750	3.62	20.83	1.45
2.667	1.57	8.750	3.26	14.833	3.62	20.92	1.45
2.750	1.57	8.833	3.26	14.917	3.62	21.00	1.45
2.833	1.57	8.917	3.26	15.000	3.62	21.08	1.45
2.917	1.57	9.000	3.26	15.083	3.62	21.17	1.45
3.000	1.57	9.083	3.26	15.167	3.62	21.25	1.45
3.083	1.57	9.167	3.26	15.250	3.62	21.33	1.45
3.167	1.57	9.250	3.26	15.333	3.62	21.42	1.45
3.250	1.57	9.333	3.86	15.417	3.62	21.50	1.45
3.333	1.57	9.417	3.86	15.500	3.62	21.58	1.45
3.417	1.57	9.500	3.86	15.583	3.62	21.67	1.45
3.500	1.57	9.583	3.86	15.667	3.62	21.75	1.45
3.583	1.57	9.667	3.86	15.750	3.62	21.83	1.45
3.667	1.57	9.750	3.86	15.833	3.62	21.92	1.45
3.750	1.57	9.833	4.34	15.917	3.62	22.00	1.45
3.833	1.57	9.917	4.34	16.000	3.62	22.08	1.45

3.917	1.57	10.000	4.34	16.083	3.62	22.17	1.45
4.000	1.57	10.083	4.34	16.167	3.62	22.25	1.45
4.083	1.57	10.167	4.34	16.250	3.62	22.33	1.45
4.167	1.57	10.250	4.34	16.333	2.17	22.42	1.45
4.250	1.57	10.333	5.55	16.417	2.17	22.50	1.45
4.333	1.93	10.417	5.55	16.500	2.17	22.58	1.45
4.417	1.93	10.500	5.55	16.583	2.17	22.67	1.45
4.500	1.93	10.583	5.55	16.667	2.17	22.75	1.45
4.583	1.93	10.667	5.55	16.750	2.17	22.83	1.45
4.667	1.93	10.750	5.55	16.833	2.17	22.92	1.45
4.750	1.93	10.833	7.48	16.917	2.17	23.00	1.45
4.833	1.93	10.917	7.48	17.000	2.17	23.08	1.45
4.917	1.93	11.000	7.48	17.083	2.17	23.17	1.45
5.000	1.93	11.083	7.48	17.167	2.17	23.25	1.45
5.083	1.93	11.167	7.48	17.250	2.17	23.33	1.45
5.167	1.93	11.250	7.48	17.333	2.17	23.42	1.45
5.250	1.93	11.333	11.58	17.417	2.17	23.50	1.45
5.333	1.93	11.417	11.58	17.500	2.17	23.58	1.45
5.417	1.93	11.500	11.58	17.583	2.17	23.67	1.45
5.500	1.93	11.583	11.58	17.667	2.17	23.75	1.45
5.583	1.93	11.667	11.58	17.750	2.17	23.83	1.45
5.667	1.93	11.750	11.58	17.833	2.17	23.92	1.45
5.750	1.93	11.833	50.17	17.917	2.17	24.00	1.45
5.833	1.93	11.917	50.17	18.000	2.17	24.08	1.45
5.917	1.93	12.000	50.17	18.083	2.17	24.17	1.45
6.000	1.93	12.083	133.13	18.167	2.17	24.25	1.45
6.083	1.93	12.167	133.14	18.250	2.17		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.358 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 38.894
TOTAL RAINFALL (mm)= 120.600
RUNOFF COEFFICIENT = 0.323

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

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\93d24044-d164-4f82-8d5a-0aa5e7a1784f\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\93d24044-d164-4f82-8d5a-0aa5e7a1784f\scen

DATE: 10-31-2019 TIME: 10:44:58

USER:

COMMENTS: _____

** SIMULATION : 5-50-Year-4-Hour-Chicago-Barr **

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\2c00b23f-5338-40ec-bd02-bcfe53f4e52a\66deb195
Ptotal= 79.45 mm	Comments: 50-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.93	1.17	40.22	2.17	13.20	3.17	6.98
0.33	6.74	1.33	164.22	2.33	11.37	3.33	6.51
0.50	7.85	1.50	51.92	2.50	10.03	3.50	6.11
0.67	9.50	1.67	28.58	2.67	9.00	3.67	5.77
0.83	12.27	1.83	20.23	2.83	8.19	3.83	5.46
1.00	18.04	2.00	15.88	3.00	7.53	4.00	5.19

CALIB					
NASHYD (0015)	Area (ha)=	8.10	Curve Number (CN)=	52.7
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	0.59		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.93	1.083	40.22	2.083	13.20	3.08	6.98
0.167	5.93	1.167	40.22	2.167	13.20	3.17	6.98
0.250	6.74	1.250	164.22	2.250	11.37	3.25	6.51
0.333	6.74	1.333	164.22	2.333	11.37	3.33	6.51
0.417	7.85	1.417	51.92	2.417	10.03	3.42	6.11
0.500	7.85	1.500	51.92	2.500	10.03	3.50	6.11
0.583	9.50	1.583	28.58	2.583	9.00	3.58	5.77
0.667	9.50	1.667	28.58	2.667	9.00	3.67	5.77

```
              0.750   12.27 | 1.750   20.23 | 2.750    8.19 |  3.75    5.46
              0.833   12.27 | 1.833   20.23 | 2.833    8.19 |  3.83    5.46
              0.917   18.04 | 1.917   15.88 | 2.917    7.53 |  3.92    5.19
              1.000   18.04 | 2.000   15.88 | 3.000    7.53 |  4.00    5.19

     Unit Hyd Qpeak  (cms)=   0.524

     PEAK FLOW       (cms)=   0.210 (i)
     TIME TO PEAK    (hrs)=   2.083
     RUNOFF VOLUME    (mm)=  18.329
     TOTAL RAINFALL   (mm)=  79.453
     RUNOFF COEFFICIENT   =   0.231

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

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\481e5180-d8cf-41b2-8043-7223f1cdf354\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\481e5180-d8cf-41b2-8043-7223f1cdf354\scen


DATE: 10-31-2019                          TIME: 10:44:58

USER:



COMMENTS: _____________________________________________________________


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  ***********************************************
  ** SIMULATION : 5-50-Year-4-Hour-Chicago-MTO  **
  ***********************************************

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| CHICAGO STORM    |
| Ptotal= 67.06 mm |
--------------------

   IDF curve parameters: A= 773.304
                         B=   0.000
                         C=   0.699
   used in:   INTENSITY =  A / (t + B)^C

   Duration of storm  =  4.00 hrs
   Storm time step    = 10.00 min
   Time to peak ratio =  0.33

    TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
     hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
    0.17    5.64 |  1.17   26.68 |  2.17   11.15 |  3.17    6.50
    0.33    6.30 |  1.33  154.65 |  2.33    9.85 |  3.33    6.12
    0.50    7.19 |  1.50   32.75 |  2.50    8.86 |  3.50    5.79
    0.67    8.47 |  1.67   20.65 |  2.67    8.09 |  3.67    5.50
    0.83   10.49 |  1.83   15.75 |  2.83    7.46 |  3.83    5.24
    1.00   14.35 |  2.00   12.97 |  3.00    6.94 |  4.00    5.01


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| CALIB            |
| NASHYD   (  0015)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
    TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
     hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
   0.083    5.64 | 1.083   26.68 | 2.083   11.15 |  3.08    6.50
   0.167    5.64 | 1.167   26.68 | 2.167   11.15 |  3.17    6.50
   0.250    6.30 | 1.250  154.65 | 2.250    9.85 |  3.25    6.12
   0.333    6.30 | 1.333  154.65 | 2.333    9.85 |  3.33    6.12
   0.417    7.19 | 1.417   32.75 | 2.417    8.86 |  3.42    5.79
   0.500    7.19 | 1.500   32.75 | 2.500    8.86 |  3.50    5.79
   0.583    8.47 | 1.583   20.65 | 2.583    8.09 |  3.58    5.50
   0.667    8.47 | 1.667   20.65 | 2.667    8.09 |  3.67    5.50
   0.750   10.49 | 1.750   15.75 | 2.750    7.46 |  3.75    5.24
   0.833   10.49 | 1.833   15.75 | 2.833    7.46 |  3.83    5.24
   0.917   14.35 | 1.917   12.97 | 2.917    6.94 |  3.92    5.01
   1.000   14.35 | 2.000   12.97 | 3.000    6.94 |  4.00    5.01

     Unit Hyd Qpeak  (cms)=   0.524

     PEAK FLOW       (cms)=   0.144 (i)
     TIME TO PEAK    (hrs)=   2.083
     RUNOFF VOLUME    (mm)=  13.280
     TOTAL RAINFALL   (mm)=  67.063
     RUNOFF COEFFICIENT   =   0.198

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

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\a261eb80-cc35-489e-a1ab-e882d43a3571\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\a261eb80-cc35-489e-a1ab-e882d43a3571\scen


DATE: 10-31-2019                          TIME: 10:44:58

USER:



COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 5-50-Year-6-Hour-SCS-Type-II  **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              2c00b23f-5338-40ec-bd02-bcfe53f4e52a\573d0df0
| Ptotal= 95.90 mm |    Comments: 50-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  2.00    9.59 |  3.75   21.10 |  5.50    3.84
               0.50    3.84 |  2.25    9.59 |  4.00    9.59 |  5.75    3.84
               0.75    3.84 |  2.50   11.51 |  4.25    9.59 |  6.00    3.84
               1.00    5.75 |  2.75   11.51 |  4.50    7.67 |  6.25    3.84
               1.25    5.75 |  3.00   57.54 |  4.75    7.67 |
               1.50    5.75 |  3.25  149.60 |  5.00    5.75 |
               1.75    5.75 |  3.50   21.10 |  5.25    5.75 |

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--------------------
| CALIB            |
| NASHYD   (  0015)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    5.75 | 3.250  149.60 |  4.83    5.75
               0.167    0.00 | 1.750    5.75 | 3.333   21.10 |  4.92    5.75
               0.250    0.00 | 1.833    9.59 | 3.417   21.10 |  5.00    5.75
               0.333    3.84 | 1.917    9.59 | 3.500   21.10 |  5.08    5.75
               0.417    3.84 | 2.000    9.59 | 3.583   21.10 |  5.17    5.75
               0.500    3.84 | 2.083    9.59 | 3.667   21.10 |  5.25    5.75
               0.583    3.84 | 2.167    9.59 | 3.750   21.10 |  5.33    3.84
               0.667    3.84 | 2.250    9.59 | 3.833    9.59 |  5.42    3.84
               0.750    3.84 | 2.333   11.51 | 3.917    9.59 |  5.50    3.84
               0.833    5.75 | 2.417   11.51 | 4.000    9.59 |  5.58    3.84
               0.917    5.75 | 2.500   11.51 | 4.083    9.59 |  5.67    3.84
               1.000    5.75 | 2.583   11.51 | 4.167    9.59 |  5.75    3.84
               1.083    5.75 | 2.667   11.51 | 4.250    9.59 |  5.83    3.84
               1.167    5.75 | 2.750   11.51 | 4.333    7.67 |  5.92    3.84
               1.250    5.75 | 2.833   57.54 | 4.417    7.67 |  6.00    3.84
               1.333    5.75 | 2.917   57.54 | 4.500    7.67 |  6.08    3.84
               1.417    5.75 | 3.000   57.54 | 4.583    7.67 |  6.17    3.84
               1.500    5.75 | 3.083  149.60 | 4.667    7.67 |  6.25    3.84
               1.583    5.75 | 3.167  149.60 | 4.750    7.67 |

    Unit Hyd Qpeak  (cms)=   0.524

    PEAK FLOW       (cms)=   0.329 (i)
    TIME TO PEAK    (hrs)=   3.833
    RUNOFF VOLUME    (mm)=  25.912
    TOTAL RAINFALL   (mm)=  95.900
    RUNOFF COEFFICIENT   =   0.270

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

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================================================================================
======================

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                *****  D E T A I L E D   O U T P U T *****
```

```
  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\c12082c7-aa2d-4b4a-a369-8ed2a5d3d286\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\c12082c7-aa2d-4b4a-a369-8ed2a5d3d286\scen

DATE: 10-31-2019                          TIME: 10:44:58

USER:


COMMENTS: _____________________________________________________

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  ***********************************************
  ** SIMULATION : 6-100-Year-12-Hour-SCS-Type-I **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              2c00b23f-5338-40ec-bd02-bcfe53f4e52a\aa0b6fb5
| Ptotal=112.50 mm |    Comments: 100-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    4.50 |  6.75   20.25 | 10.00    3.94
                0.50    2.81 |  3.75    4.50 |  7.00    9.00 | 10.25    3.94
                0.75    2.81 |  4.00    4.50 |  7.25    9.00 | 10.50    2.25
                1.00    2.81 |  4.25    4.50 |  7.50    6.75 | 10.75    2.25
                1.25    2.81 |  4.50    6.75 |  7.75    6.75 | 11.00    2.25
                1.50    2.81 |  4.75    6.75 |  8.00    6.75 | 11.25    2.25
                1.75    2.81 |  5.00    9.00 |  8.25    6.75 | 11.50    2.25
                2.00    2.81 |  5.25    9.00 |  8.50    3.94 | 11.75    2.25
                2.25    2.81 |  5.50   13.50 |  8.75    3.94 | 12.00    2.25
                2.50    3.38 |  5.75   13.50 |  9.00    3.94 | 12.25    2.25
                2.75    3.37 |  6.00   54.00 |  9.25    3.94 |
                3.00    3.38 |  6.25  148.50 |  9.50    3.94 |
                3.25    3.38 |  6.50   20.25 |  9.75    3.94 |

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--------------------
| CALIB            |
| NASHYD   (  0015)|   Area    (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.00 | 3.167    3.38 | 6.250  148.50 |  9.33    3.94
                0.167    0.00 | 3.250    3.38 | 6.333   20.25 |  9.42    3.94
                0.250    0.00 | 3.333    4.50 | 6.417   20.25 |  9.50    3.94
                0.333    2.81 | 3.417    4.50 | 6.500   20.25 |  9.58    3.94
                0.417    2.81 | 3.500    4.50 | 6.583   20.25 |  9.67    3.94
                0.500    2.81 | 3.583    4.50 | 6.667   20.25 |  9.75    3.94
                0.583    2.81 | 3.667    4.50 | 6.750   20.25 |  9.83    3.94
                0.667    2.81 | 3.750    4.50 | 6.833    9.00 |  9.92    3.94
                0.750    2.81 | 3.833    4.50 | 6.917    9.00 | 10.00    3.94
                0.833    2.81 | 3.917    4.50 | 7.000    9.00 | 10.08    3.94
                0.917    2.81 | 4.000    4.50 | 7.083    9.00 | 10.17    3.94
                1.000    2.81 | 4.083    4.50 | 7.167    9.00 | 10.25    3.94
                1.083    2.81 | 4.167    4.50 | 7.250    9.00 | 10.33    2.25
                1.167    2.81 | 4.250    4.50 | 7.333    6.75 | 10.42    2.25
                1.250    2.81 | 4.333    6.75 | 7.417    6.75 | 10.50    2.25
                1.333    2.81 | 4.417    6.75 | 7.500    6.75 | 10.58    2.25
                1.417    2.81 | 4.500    6.75 | 7.583    6.75 | 10.67    2.25
                1.500    2.81 | 4.583    6.75 | 7.667    6.75 | 10.75    2.25
                1.583    2.81 | 4.667    6.75 | 7.750    6.75 | 10.83    2.25
                1.667    2.81 | 4.750    6.75 | 7.833    6.75 | 10.92    2.25
                1.750    2.81 | 4.833    9.00 | 7.917    6.75 | 11.00    2.25
                1.833    2.81 | 4.917    9.00 | 8.000    6.75 | 11.08    2.25
                1.917    2.81 | 5.000    9.00 | 8.083    6.75 | 11.17    2.25
                2.000    2.81 | 5.083    9.00 | 8.167    6.75 | 11.25    2.25
                2.083    2.81 | 5.167    9.00 | 8.250    6.75 | 11.33    2.25
                2.167    2.81 | 5.250    9.00 | 8.333    3.94 | 11.42    2.25
                2.250    2.81 | 5.333   13.50 | 8.417    3.94 | 11.50    2.25
                2.333    3.37 | 5.417   13.50 | 8.500    3.94 | 11.58    2.25
                2.417    3.38 | 5.500   13.50 | 8.583    3.94 | 11.67    2.25
                2.500    3.38 | 5.583   13.50 | 8.667    3.94 | 11.75    2.25
                2.583    3.37 | 5.667   13.50 | 8.750    3.94 | 11.83    2.25
                2.667    3.37 | 5.750   13.50 | 8.833    3.94 | 11.92    2.25
                2.750    3.37 | 5.833   54.00 | 8.917    3.94 | 12.00    2.25
                2.833    3.37 | 5.917   54.00 | 9.000    3.94 | 12.08    2.25
                2.917    3.38 | 6.000   54.00 | 9.083    3.94 | 12.17    2.25
                3.000    3.38 | 6.083  148.50 | 9.167    3.94 | 12.25    2.25
                3.083    3.37 | 6.167  148.50 | 9.250    3.94 |

        Unit Hyd Qpeak  (cms)=   0.524

        PEAK FLOW       (cms)=   0.379 (i)
        TIME TO PEAK    (hrs)=   6.750
        RUNOFF VOLUME    (mm)=  34.447
        TOTAL RAINFALL   (mm)= 112.500
        RUNOFF COEFFICIENT   =   0.306

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

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

         OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
```

```
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M  M  O   O
       OOO     T      T    H   H    Y    M  M   OOO
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```

***** D E T A I L E D O U T P U T *****

```
  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\ac9520d6-7ea0-43c4-a307-d0aba7027946\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\ac9520d6-7ea0-43c4-a307-d0aba7027946\scen

DATE: 10-31-2019                          TIME: 10:44:58

USER:


COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 6-100-Year-24-Hour-SCS-Type-I **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              2c00b23f-5338-40ec-bd02-bcfe53f4e52a\04046152
| Ptotal=133.60 mm |    Comments: 100-Year-24-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.67	12.75	19.24	19.00	2.40
0.50	1.34	6.75	2.67	13.00	9.89	19.25	2.40
0.75	1.34	7.00	2.67	13.25	9.89	19.50	2.40
1.00	1.34	7.25	2.67	13.50	1.87	19.75	2.40
1.25	1.34	7.50	2.67	13.75	1.87	20.00	2.40
1.50	1.34	7.75	2.67	14.00	10.96	20.25	2.40
1.75	1.34	8.00	2.67	14.25	10.96	20.50	1.60
2.00	1.34	8.25	2.67	14.50	4.01	20.75	1.60
2.25	2.40	8.50	3.61	14.75	4.01	21.00	1.60
2.50	1.74	8.75	3.61	15.00	4.01	21.25	1.60
2.75	1.74	9.00	3.61	15.25	4.01	21.50	1.60
3.00	1.74	9.25	3.61	15.50	4.01	21.75	1.60
3.25	1.74	9.50	4.28	15.75	4.01	22.00	1.60
3.50	1.74	9.75	4.28	16.00	4.01	22.25	1.60
3.75	1.74	10.00	4.81	16.25	4.01	22.50	1.60
4.00	1.74	10.25	4.81	16.50	2.40	22.75	1.60
4.25	1.74	10.50	6.15	16.75	2.40	23.00	1.60
4.50	2.14	10.75	6.15	17.00	2.40	23.25	1.60
4.75	2.14	11.00	8.28	17.25	2.40	23.50	1.60
5.00	2.14	11.25	8.28	17.50	2.40	23.75	1.60
5.25	2.14	11.50	12.83	17.75	2.40	24.00	1.60
5.50	2.14	11.75	12.83	18.00	2.40	24.25	1.60
5.75	2.14	12.00	55.58	18.25	2.40		
6.00	2.14	12.25	147.49	18.50	2.40		
6.25	2.14	12.50	19.24	18.75	2.40		

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--------------------
| CALIB              |
| NASHYD   (  0015)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

       NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.14	12.250	147.49	18.33	2.40
0.167	0.00	6.250	2.14	12.333	19.25	18.42	2.40
0.250	0.00	6.333	2.67	12.417	19.24	18.50	2.40
0.333	1.34	6.417	2.67	12.500	19.24	18.58	2.40
0.417	1.34	6.500	2.67	12.583	19.24	18.67	2.40
0.500	1.34	6.583	2.67	12.667	19.24	18.75	2.40
0.583	1.34	6.667	2.67	12.750	19.24	18.83	2.40
0.667	1.34	6.750	2.67	12.833	9.89	18.92	2.40
0.750	1.34	6.833	2.67	12.917	9.89	19.00	2.40
0.833	1.34	6.917	2.67	13.000	9.89	19.08	2.40
0.917	1.34	7.000	2.67	13.083	9.89	19.17	2.40
1.000	1.34	7.083	2.67	13.167	9.89	19.25	2.40
1.083	1.34	7.167	2.67	13.250	9.89	19.33	2.40
1.167	1.34	7.250	2.67	13.333	1.87	19.42	2.40
1.250	1.34	7.333	2.67	13.417	1.87	19.50	2.40
1.333	1.34	7.417	2.67	13.500	1.87	19.58	2.40
1.417	1.34	7.500	2.67	13.583	1.87	19.67	2.40
1.500	1.34	7.583	2.67	13.667	1.87	19.75	2.40
1.583	1.34	7.667	2.67	13.750	1.87	19.83	2.40
1.667	1.34	7.750	2.67	13.833	10.95	19.92	2.40
1.750	1.34	7.833	2.67	13.917	10.96	20.00	2.40
1.833	1.34	7.917	2.67	14.000	10.96	20.08	2.40
1.917	1.34	8.000	2.67	14.083	10.96	20.17	2.40
2.000	1.34	8.083	2.67	14.167	10.96	20.25	2.40
2.083	2.40	8.167	2.67	14.250	10.96	20.33	1.60
2.167	2.40	8.250	2.67	14.333	4.01	20.42	1.60
2.250	2.40	8.333	3.61	14.417	4.01	20.50	1.60
2.333	1.74	8.417	3.61	14.500	4.01	20.58	1.60
2.417	1.74	8.500	3.61	14.583	4.01	20.67	1.60
2.500	1.74	8.583	3.61	14.667	4.01	20.75	1.60
2.583	1.74	8.667	3.61	14.750	4.01	20.83	1.60
2.667	1.74	8.750	3.61	14.833	4.01	20.92	1.60
2.750	1.74	8.833	3.61	14.917	4.01	21.00	1.60
2.833	1.74	8.917	3.61	15.000	4.01	21.08	1.60
2.917	1.74	9.000	3.61	15.083	4.01	21.17	1.60
3.000	1.74	9.083	3.61	15.167	4.01	21.25	1.60
3.083	1.74	9.167	3.61	15.250	4.01	21.33	1.60
3.167	1.74	9.250	3.61	15.333	4.01	21.42	1.60

3.250	1.74	9.333	4.28	15.417	4.01	21.50	1.60
3.333	1.74	9.417	4.28	15.500	4.01	21.58	1.60
3.417	1.74	9.500	4.28	15.583	4.01	21.67	1.60
3.500	1.74	9.583	4.28	15.667	4.01	21.75	1.60
3.583	1.74	9.667	4.28	15.750	4.01	21.83	1.60
3.667	1.74	9.750	4.28	15.833	4.01	21.92	1.60
3.750	1.74	9.833	4.81	15.917	4.01	22.00	1.60
3.833	1.74	9.917	4.81	16.000	4.01	22.08	1.60
3.917	1.74	10.000	4.81	16.083	4.01	22.17	1.60
4.000	1.74	10.083	4.81	16.167	4.01	22.25	1.60
4.083	1.74	10.167	4.81	16.250	4.01	22.33	1.60
4.167	1.74	10.250	4.81	16.333	2.41	22.42	1.60
4.250	1.74	10.333	6.15	16.417	2.40	22.50	1.60
4.333	2.14	10.417	6.15	16.500	2.40	22.58	1.60
4.417	2.14	10.500	6.15	16.583	2.40	22.67	1.60
4.500	2.14	10.583	6.15	16.667	2.40	22.75	1.60
4.583	2.14	10.667	6.15	16.750	2.40	22.83	1.60
4.667	2.14	10.750	6.15	16.833	2.40	22.92	1.60
4.750	2.14	10.833	8.28	16.917	2.40	23.00	1.60
4.833	2.14	10.917	8.28	17.000	2.40	23.08	1.60
4.917	2.14	11.000	8.28	17.083	2.40	23.17	1.60
5.000	2.14	11.083	8.28	17.167	2.40	23.25	1.60
5.083	2.14	11.167	8.28	17.250	2.40	23.33	1.60
5.167	2.14	11.250	8.28	17.333	2.40	23.42	1.60
5.250	2.14	11.333	12.83	17.417	2.40	23.50	1.60
5.333	2.14	11.417	12.83	17.500	2.40	23.58	1.60
5.417	2.14	11.500	12.83	17.583	2.40	23.67	1.60
5.500	2.14	11.583	12.83	17.667	2.40	23.75	1.60
5.583	2.14	11.667	12.83	17.750	2.40	23.83	1.60
5.667	2.14	11.750	12.83	17.833	2.40	23.92	1.60
5.750	2.14	11.833	55.57	17.917	2.40	24.00	1.60
5.833	2.14	11.917	55.58	18.000	2.40	24.08	1.60
5.917	2.14	12.000	55.58	18.083	2.40	24.17	1.60
6.000	2.14	12.083	147.48	18.167	2.40	24.25	1.60
6.083	2.14	12.167	147.49	18.250	2.40		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.429 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 46.379
TOTAL RAINFALL (mm)= 133.600
RUNOFF COEFFICIENT = 0.347

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

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

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

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\e579ec24-a924-476b-a838-d1439c72d3b3\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\e579ec24-a924-476b-a838-d1439c72d3b3\scen

DATE: 10-31-2019 TIME: 10:44:58

USER:

COMMENTS: _____

** SIMULATION : 6-100-Year-4-Hour-Chicago-Bar **

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\2c00b23f-5338-40ec-bd02-bcfe53f4e52a\3fa9f526
Ptotal= 87.58 mm	Comments: 100-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.41	1.17	45.22	2.17	14.50	3.17	7.56
0.33	7.29	1.33	180.15	2.33	12.44	3.33	7.04
0.50	8.52	1.50	58.54	2.50	10.94	3.50	6.60
0.67	10.36	1.67	31.96	2.67	9.80	3.67	6.22
0.83	13.45	1.83	22.45	2.83	8.90	3.83	5.89
1.00	19.96	2.00	17.52	3.00	8.16	4.00	5.59

CALIB	
NASHYD (0015)	Area (ha)= 8.10 Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.59

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr

0.083	6.41	1.083	45.22	2.083	14.50	3.08	7.56
0.167	6.41	1.167	45.22	2.167	14.50	3.17	7.56
0.250	7.29	1.250	180.15	2.250	12.44	3.25	7.04
0.333	7.29	1.333	180.15	2.333	12.44	3.33	7.04
0.417	8.52	1.417	58.54	2.417	10.94	3.42	6.60
0.500	8.52	1.500	58.54	2.500	10.94	3.50	6.60
0.583	10.36	1.583	31.96	2.583	9.80	3.58	6.22
0.667	10.36	1.667	31.96	2.667	9.80	3.67	6.22
0.750	13.45	1.750	22.45	2.750	8.90	3.75	5.89
0.833	13.45	1.833	22.45	2.833	8.90	3.83	5.89
0.917	19.96	1.917	17.52	2.917	8.16	3.92	5.59
1.000	19.96	2.000	17.52	3.000	8.16	4.00	5.59

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.255 (i)
TIME TO PEAK (hrs)= 2.083
RUNOFF VOLUME (mm)= 21.958
TOTAL RAINFALL (mm)= 87.580
RUNOFF COEFFICIENT = 0.251

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

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

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

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\lac3a395-7a7b-4655-a75b-b444fcf549f9\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\lac3a395-7a7b-4655-a75b-b444fcf549f9\scen

DATE: 10-31-2019 TIME: 10:44:59

USER:

COMMENTS: _____

```
  ************************************************
  ** SIMULATION : 6-100-Year-4-Hour-Chicago-MTO **
  ************************************************
```

CHICAGO STORM
Ptotal= 73.59 mm

IDF curve parameters: A= 848.534
B= 0.000
C= 0.699
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.19	1.17	29.28	2.17	12.23	3.17	7.13
0.33	6.91	1.33	169.70	2.33	10.80	3.33	6.71
0.50	7.89	1.50	35.93	2.50	9.72	3.50	6.35
0.67	9.29	1.67	22.66	2.67	8.87	3.67	6.03
0.83	11.51	1.83	17.28	2.83	8.18	3.83	5.75
1.00	15.74	2.00	14.23	3.00	7.61	4.00	5.50

CALIB
NASHYD (0015)
ID= 1 DT= 5.0 min

Area (ha)= 8.10 Curve Number (CN)= 52.7
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.59

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.19	1.083	29.28	2.083	12.23	3.08	7.13
0.167	6.19	1.167	29.28	2.167	12.23	3.17	7.13
0.250	6.91	1.250	169.69	2.250	10.80	3.25	6.71
0.333	6.91	1.333	169.70	2.333	10.80	3.33	6.71
0.417	7.89	1.417	35.93	2.417	9.72	3.42	6.35
0.500	7.89	1.500	35.93	2.500	9.72	3.50	6.35
0.583	9.29	1.583	22.66	2.583	8.87	3.58	6.03
0.667	9.29	1.667	22.66	2.667	8.87	3.67	6.03
0.750	11.51	1.750	17.28	2.750	8.18	3.75	5.75
0.833	11.51	1.833	17.28	2.833	8.18	3.83	5.75
0.917	15.74	1.917	14.23	2.917	7.61	3.92	5.50
1.000	15.74	2.000	14.23	3.000	7.61	4.00	5.50

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.173 (i)
TIME TO PEAK (hrs)= 2.083
RUNOFF VOLUME (mm)= 15.862
TOTAL RAINFALL (mm)= 73.587
RUNOFF COEFFICIENT = 0.216

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

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\5bad9dbe-c0c1-4e6b-bbf2-cdd96433ad24\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\5bad9dbe-c0c1-4e6b-bbf2-cdd96433ad24\scen


DATE: 10-31-2019                          TIME: 10:44:59

USER:


COMMENTS: _____________________________________________________________


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  ***********************************************
  ** SIMULATION : 6-100-Year-6-Hour-SCS-Type-II **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              2c00b23f-5338-40ec-bd02-bcfe53f4e52a\a340cffa
| Ptotal=106.50 mm |    Comments: 100-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   10.65 |  3.75   23.43 |  5.50    4.26
                0.50    4.26 |  2.25   10.65 |  4.00   10.65 |  5.75    4.26
                0.75    4.26 |  2.50   12.78 |  4.25   10.65 |  6.00    4.26
                1.00    6.39 |  2.75   12.78 |  4.50    8.52 |  6.25    4.26
                1.25    6.39 |  3.00   63.90 |  4.75    8.52 |
                1.50    6.39 |  3.25  166.14 |  5.00    6.39 |
                1.75    6.39 |  3.50   23.43 |  5.25    6.39 |

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


--------------------
| CALIB            |
| NASHYD   (  0015)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    6.39 | 3.250  166.14 |  4.83    6.39
               0.167    0.00 | 1.750    6.39 | 3.333   23.43 |  4.92    6.39
               0.250    0.00 | 1.833   10.65 | 3.417   23.43 |  5.00    6.39
               0.333    4.26 | 1.917   10.65 | 3.500   23.43 |  5.08    6.39
               0.417    4.26 | 2.000   10.65 | 3.583   23.43 |  5.17    6.39
               0.500    4.26 | 2.083   10.65 | 3.667   23.43 |  5.25    6.39
               0.583    4.26 | 2.167   10.65 | 3.750   23.43 |  5.33    4.26
               0.667    4.26 | 2.250   10.65 | 3.833   10.65 |  5.42    4.26
               0.750    4.26 | 2.333   12.78 | 3.917   10.65 |  5.50    4.26
               0.833    6.39 | 2.417   12.78 | 4.000   10.65 |  5.58    4.26
               0.917    6.39 | 2.500   12.78 | 4.083   10.65 |  5.67    4.26
               1.000    6.39 | 2.583   12.78 | 4.167   10.65 |  5.75    4.26
               1.083    6.39 | 2.667   12.78 | 4.250   10.65 |  5.83    4.26
               1.167    6.39 | 2.750   12.78 | 4.333    8.52 |  5.92    4.26
               1.250    6.39 | 2.833   63.90 | 4.417    8.52 |  6.00    4.26
               1.333    6.39 | 2.917   63.90 | 4.500    8.52 |  6.08    4.26
               1.417    6.39 | 3.000   63.90 | 4.583    8.52 |  6.17    4.26
               1.500    6.39 | 3.083  166.14 | 4.667    8.52 |  6.25    4.26
               1.583    6.39 | 3.167  166.14 | 4.750    8.52 |

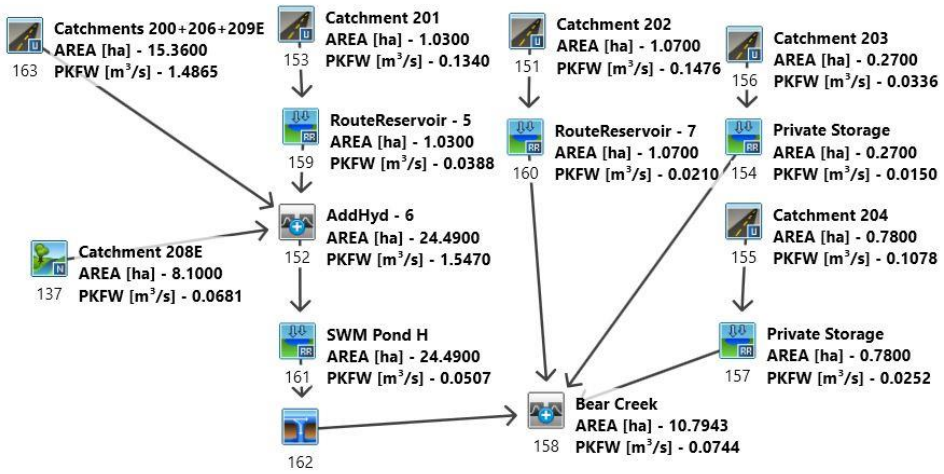
    Unit Hyd Qpeak  (cms)=   0.524

    PEAK FLOW       (cms)=   0.399 (i)
    TIME TO PEAK    (hrs)=   3.833
    RUNOFF VOLUME    (mm)=  31.268
    TOTAL RAINFALL   (mm)= 106.500
    RUNOFF COEFFICIENT   =   0.294

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

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

 FINISH
```



SCHAEFFERS
CONSULTING ENGINEERS

Visual OTTHYMO™ Schematic

POST-DEVELOPMENT SCENIARO
(INTERIM)

Job #: 4560 | Date: OCTOBER 2019

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

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

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

***** D E T A I L E D O U T P U T *****

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  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\c2eec5db-ab05-4561-a38f-1968faba54c3\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\c2eec5db-ab05-4561-a38f-1968faba54c3\scen

DATE: 10-31-2019                          TIME: 10:47:14

USER:

COMMENTS: ____________________________________________________________

--------------------------------------------------------------------------------
----------------------
  ***********************************************
  ** SIMULATION : 1-2-Year-12-Hour-SCS-Type-II  **
  ***********************************************

--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\926f0257
| Ptotal= 46.70 mm |    Comments: 2-Year-12-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	1.87	6.75	8.41	10.00	1.63
0.50	1.17	3.75	1.87	7.00	3.74	10.25	1.63
0.75	1.17	4.00	1.87	7.25	3.74	10.50	0.93
1.00	1.17	4.25	1.87	7.50	2.80	10.75	0.93
1.25	1.17	4.50	2.80	7.75	2.80	11.00	0.93
1.50	1.17	4.75	2.80	8.00	2.80	11.25	0.93
1.75	1.17	5.00	3.74	8.25	2.80	11.50	0.93
2.00	1.17	5.25	3.74	8.50	1.63	11.75	0.93
2.25	1.17	5.50	5.60	8.75	1.63	12.00	0.93
2.50	1.40	5.75	5.60	9.00	1.63	12.25	0.93
2.75	1.40	6.00	22.42	9.25	1.63		
3.00	1.40	6.25	61.64	9.50	1.63		
3.25	1.40	6.50	8.41	9.75	1.63		

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

--------------------
| CALIB            |
| NASHYD   (  0137)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.40	6.250	61.64	9.33	1.63
0.167	0.00	3.250	1.40	6.333	8.41	9.42	1.63
0.250	0.00	3.333	1.87	6.417	8.41	9.50	1.63
0.333	1.17	3.417	1.87	6.500	8.41	9.58	1.63
0.417	1.17	3.500	1.87	6.583	8.41	9.67	1.63
0.500	1.17	3.583	1.87	6.667	8.41	9.75	1.63
0.583	1.17	3.667	1.87	6.750	8.41	9.83	1.63
0.667	1.17	3.750	1.87	6.833	3.74	9.92	1.63
0.750	1.17	3.833	1.87	6.917	3.74	10.00	1.63
0.833	1.17	3.917	1.87	7.000	3.74	10.08	1.63
0.917	1.17	4.000	1.87	7.083	3.74	10.17	1.63
1.000	1.17	4.083	1.87	7.167	3.74	10.25	1.63
1.083	1.17	4.167	1.87	7.250	3.74	10.33	0.93
1.167	1.17	4.250	1.87	7.333	2.80	10.42	0.93
1.250	1.17	4.333	2.80	7.417	2.80	10.50	0.93
1.333	1.17	4.417	2.80	7.500	2.80	10.58	0.93
1.417	1.17	4.500	2.80	7.583	2.80	10.67	0.93
1.500	1.17	4.583	2.80	7.667	2.80	10.75	0.93
1.583	1.17	4.667	2.80	7.750	2.80	10.83	0.93
1.667	1.17	4.750	2.80	7.833	2.80	10.92	0.93
1.750	1.17	4.833	3.74	7.917	2.80	11.00	0.93
1.833	1.17	4.917	3.74	8.000	2.80	11.08	0.93
1.917	1.17	5.000	3.74	8.083	2.80	11.17	0.93
2.000	1.17	5.083	3.74	8.167	2.80	11.25	0.93
2.083	1.17	5.167	3.74	8.250	2.80	11.33	0.93
2.167	1.17	5.250	3.74	8.333	1.63	11.42	0.93
2.250	1.17	5.333	5.60	8.417	1.63	11.50	0.93
2.333	1.40	5.417	5.60	8.500	1.63	11.58	0.93
2.417	1.40	5.500	5.60	8.583	1.63	11.67	0.93
2.500	1.40	5.583	5.60	8.667	1.63	11.75	0.93
2.583	1.40	5.667	5.60	8.750	1.63	11.83	0.93
2.667	1.40	5.750	5.60	8.833	1.63	11.92	0.93
2.750	1.40	5.833	22.42	8.917	1.63	12.00	0.93
2.833	1.40	5.917	22.42	9.000	1.63	12.08	0.93
2.917	1.40	6.000	22.42	9.083	1.63	12.17	0.93
3.000	1.40	6.083	61.64	9.167	1.63	12.25	0.93
3.083	1.40	6.167	61.64	9.250	1.63		

```
    Unit Hyd Qpeak  (cms)=   0.524
```

```
     PEAK FLOW       (cms)=   0.068 (i)
     TIME TO PEAK    (hrs)=   6.833
     RUNOFF VOLUME    (mm)=   6.448
     TOTAL RAINFALL   (mm)=  46.700
     RUNOFF COEFFICIENT   =   0.138

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

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\926f0257
| Ptotal= 46.70 mm |    Comments: 2-Year-12-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	1.87	6.75	8.41	10.00	1.63
0.50	1.17	3.75	1.87	7.00	3.74	10.25	1.63
0.75	1.17	4.00	1.87	7.25	3.74	10.50	0.93
1.00	1.17	4.25	1.87	7.50	2.80	10.75	0.93
1.25	1.17	4.50	2.80	7.75	2.80	11.00	0.93
1.50	1.17	4.75	2.80	8.00	2.80	11.25	0.93
1.75	1.17	5.00	3.74	8.25	2.80	11.50	0.93
2.00	1.17	5.25	3.74	8.50	1.63	11.75	0.93
2.25	1.17	5.50	5.60	8.75	1.63	12.00	0.93
2.50	1.40	5.75	5.60	9.00	1.63	12.25	0.93
2.75	1.40	6.00	22.42	9.25	1.63		
3.00	1.40	6.25	61.64	9.50	1.63		
3.25	1.40	6.50	8.41	9.75	1.63		

```
--------------------
| CALIB            |
| STANDHYD (  0153)|   Area    (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.40	6.250	61.64	9.33	1.63
0.167	0.00	3.250	1.40	6.333	8.41	9.42	1.63
0.250	0.00	3.333	1.87	6.417	8.41	9.50	1.63
0.333	1.17	3.417	1.87	6.500	8.41	9.58	1.63
0.417	1.17	3.500	1.87	6.583	8.41	9.67	1.63
0.500	1.17	3.583	1.87	6.667	8.41	9.75	1.63
0.583	1.17	3.667	1.87	6.750	8.41	9.83	1.63
0.667	1.17	3.750	1.87	6.833	3.74	9.92	1.63
0.750	1.17	3.833	1.87	6.917	3.74	10.00	1.63
0.833	1.17	3.917	1.87	7.000	3.74	10.08	1.63
0.917	1.17	4.000	1.87	7.083	3.74	10.17	1.63
1.000	1.17	4.083	1.87	7.167	3.74	10.25	1.63
1.083	1.17	4.167	1.87	7.250	3.74	10.33	0.93
1.167	1.17	4.250	1.87	7.333	2.80	10.42	0.93
1.250	1.17	4.333	2.80	7.417	2.80	10.50	0.93
1.333	1.17	4.417	2.80	7.500	2.80	10.58	0.93
1.417	1.17	4.500	2.80	7.583	2.80	10.67	0.93
1.500	1.17	4.583	2.80	7.667	2.80	10.75	0.93
1.583	1.17	4.667	2.80	7.750	2.80	10.83	0.93
1.667	1.17	4.750	2.80	7.833	2.80	10.92	0.93
1.750	1.17	4.833	3.74	7.917	2.80	11.00	0.93
1.833	1.17	4.917	3.74	8.000	2.80	11.08	0.93
1.917	1.17	5.000	3.74	8.083	2.80	11.17	0.93
2.000	1.17	5.083	3.74	8.167	2.80	11.25	0.93
2.083	1.17	5.167	3.74	8.250	2.80	11.33	0.93
2.167	1.17	5.250	3.74	8.333	1.63	11.42	0.93
2.250	1.17	5.333	5.60	8.417	1.63	11.50	0.93
2.333	1.40	5.417	5.60	8.500	1.63	11.58	0.93
2.417	1.40	5.500	5.60	8.583	1.63	11.67	0.93
2.500	1.40	5.583	5.60	8.667	1.63	11.75	0.93
2.583	1.40	5.667	5.60	8.750	1.63	11.83	0.93
2.667	1.40	5.750	5.60	8.833	1.63	11.92	0.93
2.750	1.40	5.833	22.42	8.917	1.63	12.00	0.93
2.833	1.40	5.917	22.42	9.000	1.63	12.08	0.93
2.917	1.40	6.000	22.42	9.083	1.63	12.17	0.93
3.000	1.40	6.083	61.64	9.167	1.63	12.25	0.93
3.083	1.40	6.167	61.64	9.250	1.63		

				TOTALS
Max.Eff.Inten.(mm/hr)	=	61.64	9.52	
over	(min)	5.00	25.00	
Storage Coeff.	(min)=	2.77 (ii)	20.85 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	25.00	
Unit Hyd. peak	(cms)=	0.28	0.05	
PEAK FLOW	(cms)=	0.13	0.00	0.134 (iii)
TIME TO PEAK	(hrs)=	6.25	6.50	6.25
RUNOFF VOLUME	(mm)=	45.70	7.97	36.25
TOTAL RAINFALL	(mm)=	46.70	46.70	46.70
RUNOFF COEFFICIENT	=	0.98	0.17	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| RESERVOIR(  0159)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |
--------------------
```

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

```
   INFLOW : ID= 2 (  0153)      1.030      0.134      6.25      36.25
   OUTFLOW: ID= 1 (  0159)      1.030      0.039      6.33      36.16

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.97
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0153
```

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\926f0257
| Ptotal= 46.70 mm |    Comments: 2-Year-12-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	1.87	6.75	8.41	10.00	1.63
0.50	1.17	3.75	1.87	7.00	3.74	10.25	1.63
0.75	1.17	4.00	1.87	7.25	3.74	10.50	0.93
1.00	1.17	4.25	1.87	7.50	2.80	10.75	0.93
1.25	1.17	4.50	2.80	7.75	2.80	11.00	0.93
1.50	1.17	4.75	2.80	8.00	2.80	11.25	0.93
1.75	1.17	5.00	3.74	8.25	2.80	11.50	0.93
2.00	1.17	5.25	3.74	8.50	1.63	11.75	0.93
2.25	1.17	5.50	5.60	8.75	1.63	12.00	0.93
2.50	1.40	5.75	5.60	9.00	1.63	12.25	0.93
2.75	1.40	6.00	22.42	9.25	1.63		
3.00	1.40	6.25	61.64	9.50	1.63		
3.25	1.40	6.50	8.41	9.75	1.63		

```
--------------------
| CALIB            |
| STANDHYD (  0163)|   Area     (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.40	6.250	61.64	9.33	1.63
0.167	0.00	3.250	1.40	6.333	8.41	9.42	1.63
0.250	0.00	3.333	1.87	6.417	8.41	9.50	1.63
0.333	1.17	3.417	1.87	6.500	8.41	9.58	1.63
0.417	1.17	3.500	1.87	6.583	8.41	9.67	1.63
0.500	1.17	3.583	1.87	6.667	8.41	9.75	1.63
0.583	1.17	3.667	1.87	6.750	8.41	9.83	1.63
0.667	1.17	3.750	1.87	6.833	3.74	9.92	1.63
0.750	1.17	3.833	1.87	6.917	3.74	10.00	1.63
0.833	1.17	3.917	1.87	7.000	3.74	10.08	1.63
0.917	1.17	4.000	1.87	7.083	3.74	10.17	1.63
1.000	1.17	4.083	1.87	7.167	3.74	10.25	1.63
1.083	1.17	4.167	1.87	7.250	3.74	10.33	0.93
1.167	1.17	4.250	1.87	7.333	2.80	10.42	0.93
1.250	1.17	4.333	2.80	7.417	2.80	10.50	0.93
1.333	1.17	4.417	2.80	7.500	2.80	10.58	0.93
1.417	1.17	4.500	2.80	7.583	2.80	10.67	0.93
1.500	1.17	4.583	2.80	7.667	2.80	10.75	0.93
1.583	1.17	4.667	2.80	7.750	2.80	10.83	0.93
1.667	1.17	4.750	2.80	7.833	2.80	10.92	0.93
1.750	1.17	4.833	3.74	7.917	2.80	11.00	0.93
1.833	1.17	4.917	3.74	8.000	2.80	11.08	0.93
1.917	1.17	5.000	3.74	8.083	2.80	11.17	0.93
2.000	1.17	5.083	3.74	8.167	2.80	11.25	0.93
2.083	1.17	5.167	3.74	8.250	2.80	11.33	0.93
2.167	1.17	5.250	3.74	8.333	1.63	11.42	0.93
2.250	1.17	5.333	5.60	8.417	1.63	11.50	0.93
2.333	1.40	5.417	5.60	8.500	1.63	11.58	0.93
2.417	1.40	5.500	5.60	8.583	1.63	11.67	0.93
2.500	1.40	5.583	5.60	8.667	1.63	11.75	0.93
2.583	1.40	5.667	5.60	8.750	1.63	11.83	0.93
2.667	1.40	5.750	5.60	8.833	1.63	11.92	0.93
2.750	1.40	5.833	22.42	8.917	1.63	12.00	0.93
2.833	1.40	5.917	22.42	9.000	1.63	12.08	0.93
2.917	1.40	6.000	22.42	9.083	1.63	12.17	0.93
3.000	1.40	6.083	61.64	9.167	1.63	12.25	0.93
3.083	1.40	6.167	61.64	9.250	1.63		

				TOTALS
Max.Eff.Inten.	(mm/hr)=	61.64	10.08	
over	(min)	5.00	25.00	
Storage Coeff.	(min)=	6.23 (ii)	23.90 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	25.00	
Unit Hyd. peak	(cms)=	0.19	0.05	
PEAK FLOW	(cms)=	1.43	0.10	1.486 (iii)
TIME TO PEAK	(hrs)=	6.25	6.58	6.25
RUNOFF VOLUME	(mm)=	45.70	8.41	30.04
TOTAL RAINFALL	(mm)=	46.70	46.70	46.70
RUNOFF COEFFICIENT	=	0.98	0.18	0.64

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD  (  0152)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0137):      8.10    0.068     6.83     6.45
     + ID2= 2 (  0159):      1.03    0.039     6.33    36.16
       ==========================================================
       ID = 3 (  0152):      9.13    0.102     6.75     9.80
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0152)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0152):      9.13   0.102     6.75     9.80
     + ID2= 2 (  0163):     15.36   1.486     6.25    30.04
       ================================================
       ID = 1 (  0152):     24.49   1.547     6.25    22.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0161)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.4045     0.7000
                         0.0151     0.0001    |   0.5514     0.8000
                         0.0151     0.1301    |   0.7611     0.9000
                         0.0440     0.4217    |   0.9325     0.9500
                         0.2194     0.6000    |   1.1147     1.0500

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0152)    24.490     1.547      6.25      22.49
   OUTFLOW: ID= 1 (  0161)    24.490     0.051     10.42      22.49

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.28
                  TIME SHIFT OF PEAK FLOW         (min)=250.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4285

--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0162)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.05     10.42   22.49
     ================================================
     MAJOR SYS.(ID= 2):   8.67      0.04     10.42   22.49
     MINOR SYS.(ID= 3):  15.82      0.02      6.08   22.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\926f0257
| Ptotal= 46.70 mm |    Comments: 2-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    1.87 |  6.75    8.41 | 10.00    1.63
                0.50    1.17 |  3.75    1.87 |  7.00    3.74 | 10.25    1.63
                0.75    1.17 |  4.00    1.87 |  7.25    3.74 | 10.50    0.93
                1.00    1.17 |  4.25    1.87 |  7.50    2.80 | 10.75    0.93
                1.25    1.17 |  4.50    2.80 |  7.75    2.80 | 11.00    0.93
                1.50    1.17 |  4.75    2.80 |  8.00    2.80 | 11.25    0.93
                1.75    1.17 |  5.00    3.74 |  8.25    2.80 | 11.50    0.93
                2.00    1.17 |  5.25    3.74 |  8.50    1.63 | 11.75    0.93
                2.25    1.17 |  5.50    5.60 |  8.75    1.63 | 12.00    0.93
                2.50    1.40 |  5.75    5.60 |  9.00    1.63 | 12.25    0.93
                2.75    1.40 |  6.00   22.42 |  9.25    1.63 |
                3.00    1.40 |  6.25   61.64 |  9.50    1.63 |
                3.25    1.40 |  6.50    8.41 |  9.75    1.63 |

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0151)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         0.80          0.27
     Dep. Storage     (mm)=         1.00          5.00
     Average Slope     (%)=         1.00          2.00
     Length            (m)=        84.46         40.00
     Mannings n             =       0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 3.167    1.40 | 6.250   61.64 |  9.33    1.63
               0.167    0.00 | 3.250    1.40 | 6.333    8.41 |  9.42    1.63
               0.250    0.00 | 3.333    1.87 | 6.417    8.41 |  9.50    1.63
               0.333    1.17 | 3.417    1.87 | 6.500    8.41 |  9.58    1.63
               0.417    1.17 | 3.500    1.87 | 6.583    8.41 |  9.67    1.63
               0.500    1.17 | 3.583    1.87 | 6.667    8.41 |  9.75    1.63
               0.583    1.17 | 3.667    1.87 | 6.750    8.41 |  9.83    1.63
               0.667    1.17 | 3.750    1.87 | 6.833    3.74 |  9.92    1.63
               0.750    1.17 | 3.833    1.87 | 6.917    3.74 | 10.00    1.63
               0.833    1.17 | 3.917    1.87 | 7.000    3.74 | 10.08    1.63
               0.917    1.17 | 4.000    1.87 | 7.083    3.74 | 10.17    1.63
               1.000    1.17 | 4.083    1.87 | 7.167    3.74 | 10.25    1.63
               1.083    1.17 | 4.167    1.87 | 7.250    3.74 | 10.33    0.93
               1.167    1.17 | 4.250    1.87 | 7.333    2.80 | 10.42    0.93
               1.250    1.17 | 4.333    2.80 | 7.417    2.80 | 10.50    0.93
               1.333    1.17 | 4.417    2.80 | 7.500    2.80 | 10.58    0.93
               1.417    1.17 | 4.500    2.80 | 7.583    2.80 | 10.67    0.93
               1.500    1.17 | 4.583    2.80 | 7.667    2.80 | 10.75    0.93
               1.583    1.17 | 4.667    2.80 | 7.750    2.80 | 10.83    0.93
               1.667    1.17 | 4.750    2.80 | 7.833    2.80 | 10.92    0.93
               1.750    1.17 | 4.833    3.74 | 7.917    2.80 | 11.00    0.93
               1.833    1.17 | 4.917    3.74 | 8.000    2.80 | 11.08    0.93
               1.917    1.17 | 5.000    3.74 | 8.083    2.80 | 11.17    0.93
               2.000    1.17 | 5.083    3.74 | 8.167    2.80 | 11.25    0.93
               2.083    1.17 | 5.167    3.74 | 8.250    2.80 | 11.33    0.93
               2.167    1.17 | 5.250    3.74 | 8.333    1.63 | 11.42    0.93
               2.250    1.17 | 5.333    5.60 | 8.417    1.63 | 11.50    0.93
```

2.333	1.40	5.417	5.60	8.500	1.63	11.58	0.93
2.417	1.40	5.500	5.60	8.583	1.63	11.67	0.93
2.500	1.40	5.583	5.60	8.667	1.63	11.75	0.93
2.583	1.40	5.667	5.60	8.750	1.63	11.83	0.93
2.667	1.40	5.750	5.60	8.833	1.63	11.92	0.93
2.750	1.40	5.833	22.42	8.917	1.63	12.00	0.93
2.833	1.40	5.917	22.42	9.000	1.63	12.08	0.93
2.917	1.40	6.000	22.42	9.083	1.63	12.17	0.93
3.000	1.40	6.083	61.64	9.167	1.63	12.25	0.93
3.083	1.40	6.167	61.64	9.250	1.63		

			TOTALS
Max.Eff.Inten.(mm/hr)=	61.64	27.89	
over (min)	5.00	15.00	
Storage Coeff. (min)=	2.80 (ii)	14.56 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.28	0.08	
PEAK FLOW (cms)=	0.14	0.01	0.148 (iii)
TIME TO PEAK (hrs)=	6.25	6.33	6.25
RUNOFF VOLUME (mm)=	45.70	17.84	38.73
TOTAL RAINFALL (mm)=	46.70	46.70	46.70
RUNOFF COEFFICIENT =	0.98	0.38	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0160)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	1.070	0.148	6.25	38.73
OUTFLOW: ID= 1 (0160)	1.070	0.021	6.75	38.48

PEAK FLOW REDUCTION [Qout/Qin](%)= 14.21
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0226

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\926f0257
Ptotal= 46.70 mm	Comments: 2-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	1.87	6.75	8.41	10.00	1.63
0.50	1.17	3.75	1.87	7.00	3.74	10.25	1.63
0.75	1.17	4.00	1.87	7.25	3.74	10.50	0.93
1.00	1.17	4.25	1.87	7.50	2.80	10.75	0.93
1.25	1.17	4.50	2.80	7.75	2.80	11.00	0.93
1.50	1.17	4.75	2.80	8.00	2.80	11.25	0.93
1.75	1.17	5.00	3.74	8.25	2.80	11.50	0.93
2.00	1.17	5.25	3.74	8.50	1.63	11.75	0.93
2.25	1.17	5.50	5.60	8.75	1.63	12.00	0.93
2.50	1.40	5.75	5.60	9.00	1.63	12.25	0.93
2.75	1.40	6.00	22.42	9.25	1.63		
3.00	1.40	6.25	61.64	9.50	1.63		
3.25	1.40	6.50	8.41	9.75	1.63		

CALIB			
STANDHYD (0155)	Area (ha)= 0.78		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	0.58	0.19	
Dep. Storage (mm)=	1.00	5.00	
Average Slope (%)=	1.00	2.00	
Length (m)=	72.11	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.40	6.250	61.64	9.33	1.63
0.167	0.00	3.250	1.40	6.333	8.41	9.42	1.63
0.250	0.00	3.333	1.87	6.417	8.41	9.50	1.63
0.333	1.17	3.417	1.87	6.500	8.41	9.58	1.63
0.417	1.17	3.500	1.87	6.583	8.41	9.67	1.63
0.500	1.17	3.583	1.87	6.667	8.41	9.75	1.63
0.583	1.17	3.667	1.87	6.750	8.41	9.83	1.63
0.667	1.17	3.750	1.87	6.833	3.74	9.92	1.63
0.750	1.17	3.833	1.87	6.917	3.74	10.00	1.63
0.833	1.17	3.917	1.87	7.000	3.74	10.08	1.63
0.917	1.17	4.000	1.87	7.083	3.74	10.17	1.63
1.000	1.17	4.083	1.87	7.167	3.74	10.25	1.63
1.083	1.17	4.167	1.87	7.250	3.74	10.33	0.93
1.167	1.17	4.250	1.87	7.333	2.80	10.42	0.93
1.250	1.17	4.333	2.80	7.417	2.80	10.50	0.93
1.333	1.17	4.417	2.80	7.500	2.80	10.58	0.93
1.417	1.17	4.500	2.80	7.583	2.80	10.67	0.93
1.500	1.17	4.583	2.80	7.667	2.80	10.75	0.93
1.583	1.17	4.667	2.80	7.750	2.80	10.83	0.93
1.667	1.17	4.750	2.80	7.833	2.80	10.92	0.93
1.750	1.17	4.833	3.74	7.917	2.80	11.00	0.93
1.833	1.17	4.917	3.74	8.000	2.80	11.08	0.93
1.917	1.17	5.000	3.74	8.083	2.80	11.17	0.93
2.000	1.17	5.083	3.74	8.167	2.80	11.25	0.93
2.083	1.17	5.167	3.74	8.250	2.80	11.33	0.93
2.167	1.17	5.250	3.74	8.333	1.63	11.42	0.93
2.250	1.17	5.333	5.60	8.417	1.63	11.50	0.93
2.333	1.40	5.417	5.60	8.500	1.63	11.58	0.93

2.417	1.40	5.500	5.60	8.583	1.63	11.67	0.93
2.500	1.40	5.583	5.60	8.667	1.63	11.75	0.93
2.583	1.40	5.667	5.60	8.750	1.63	11.83	0.93
2.667	1.40	5.750	5.60	8.833	1.63	11.92	0.93
2.750	1.40	5.833	22.42	8.917	1.63	12.00	0.93
2.833	1.40	5.917	22.42	9.000	1.63	12.08	0.93
2.917	1.40	6.000	22.42	9.083	1.63	12.17	0.93
3.000	1.40	6.083	61.64	9.167	1.63	12.25	0.93
3.083	1.40	6.167	61.64	9.250	1.63		

			TOTALS
Max.Eff.Inten.(mm/hr)=	61.64	27.89	
over (min)	5.00	15.00	
Storage Coeff. (min)=	2.55 (ii)	14.31 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.29	0.08	
PEAK FLOW (cms)=	0.10	0.01	0.108 (iii)
TIME TO PEAK (hrs)=	6.25	6.33	6.25
RUNOFF VOLUME (mm)=	45.70	17.84	38.72
TOTAL RAINFALL (mm)=	46.70	46.70	46.70
RUNOFF COEFFICIENT =	0.98	0.38	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0157)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.108	6.25	38.72
OUTFLOW: ID= 1 (0157)	0.780	0.025	6.42	38.56

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.41
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0133

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\926f0257
Ptotal= 46.70 mm	Comments: 2-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	1.87	6.75	8.41	10.00	1.63
0.50	1.17	3.75	1.87	7.00	3.74	10.25	1.63
0.75	1.17	4.00	1.87	7.25	3.74	10.50	0.93
1.00	1.17	4.25	1.87	7.50	2.80	10.75	0.93
1.25	1.17	4.50	2.80	7.75	2.80	11.00	0.93
1.50	1.17	4.75	2.80	8.00	2.80	11.25	0.93
1.75	1.17	5.00	3.74	8.25	2.80	11.50	0.93
2.00	1.17	5.25	3.74	8.50	1.63	11.75	0.93
2.25	1.17	5.50	5.60	8.75	1.63	12.00	0.93
2.50	1.40	5.75	5.60	9.00	1.63	12.25	0.93
2.75	1.40	6.00	22.42	9.25	1.63		
3.00	1.40	6.25	61.64	9.50	1.63		
3.25	1.40	6.50	8.41	9.75	1.63		

CALIB			
STANDHYD (0156)	Area (ha)= 0.27		
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00	Dir. Conn.(%)= 71.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.40	6.250	61.64	9.33	1.63
0.167	0.00	3.250	1.40	6.333	8.41	9.42	1.63
0.250	0.00	3.333	1.87	6.417	8.41	9.50	1.63
0.333	1.17	3.417	1.87	6.500	8.41	9.58	1.63
0.417	1.17	3.500	1.87	6.583	8.41	9.67	1.63
0.500	1.17	3.583	1.87	6.667	8.41	9.75	1.63
0.583	1.17	3.667	1.87	6.750	8.41	9.83	1.63
0.667	1.17	3.750	1.87	6.833	3.74	9.92	1.63
0.750	1.17	3.833	1.87	6.917	3.74	10.00	1.63
0.833	1.17	3.917	1.87	7.000	3.74	10.08	1.63
0.917	1.17	4.000	1.87	7.083	3.74	10.17	1.63
1.000	1.17	4.083	1.87	7.167	3.74	10.25	1.63
1.083	1.17	4.167	1.87	7.250	3.74	10.33	0.93
1.167	1.17	4.250	1.87	7.333	2.80	10.42	0.93
1.250	1.17	4.333	2.80	7.417	2.80	10.50	0.93
1.333	1.17	4.417	2.80	7.500	2.80	10.58	0.93
1.417	1.17	4.500	2.80	7.583	2.80	10.67	0.93
1.500	1.17	4.583	2.80	7.667	2.80	10.75	0.93
1.583	1.17	4.667	2.80	7.750	2.80	10.83	0.93
1.667	1.17	4.750	2.80	7.833	2.80	10.92	0.93
1.750	1.17	4.833	3.74	7.917	2.80	11.00	0.93
1.833	1.17	4.917	3.74	8.000	2.80	11.08	0.93
1.917	1.17	5.000	3.74	8.083	2.80	11.17	0.93
2.000	1.17	5.083	3.74	8.167	2.80	11.25	0.93
2.083	1.17	5.167	3.74	8.250	2.80	11.33	0.93
2.167	1.17	5.250	3.74	8.333	1.63	11.42	0.93
2.250	1.17	5.333	5.60	8.417	1.63	11.50	0.93
2.333	1.40	5.417	5.60	8.500	1.63	11.58	0.93
2.417	1.40	5.500	5.60	8.583	1.63	11.67	0.93

```
               2.500    1.40 | 5.583    5.60 | 8.667    1.63 | 11.75    0.93
               2.583    1.40 | 5.667    5.60 | 8.750    1.63 | 11.83    0.93
               2.667    1.40 | 5.750    5.60 | 8.833    1.63 | 11.92    0.93
               2.750    1.40 | 5.833   22.42 | 8.917    1.63 | 12.00    0.93
               2.833    1.40 | 5.917   22.42 | 9.000    1.63 | 12.08    0.93
               2.917    1.40 | 6.000   22.42 | 9.083    1.63 | 12.17    0.93
               3.000    1.40 | 6.083   61.64 | 9.167    1.63 | 12.25    0.93
               3.083    1.40 | 6.167   61.64 | 9.250    1.63 |

     Max.Eff.Inten.(mm/hr)=      61.64         9.52
                 over (min)        5.00        20.00
     Storage Coeff.  (min)=       1.85 (ii)   19.93 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.32         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.00          0.034 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.50          6.25
     RUNOFF VOLUME    (mm)=      45.70         7.97         34.72
     TOTAL RAINFALL   (mm)=      46.70        46.70         46.70
     RUNOFF COEFFICIENT   =       0.98         0.17          0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0460     0.0093

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)      0.270     0.034      6.25      34.72
   OUTFLOW: ID= 1 (  0154)      0.270     0.015      6.33      34.57

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.73
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0032

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0154):     0.27   0.015     6.33    34.57
     + ID2= 2 (  0157):     0.78   0.025     6.42    38.56
       ================================================
       ID = 3 (  0158):     1.05   0.040     6.33    37.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0158):     1.05   0.040     6.33    37.53
     + ID2= 2 (  0160):     1.07   0.021     6.75    38.48
       ================================================
       ID = 1 (  0158):     2.12   0.060     6.33    38.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0158):     2.12   0.060     6.33    38.01
     + ID2= 2 (  0162):     8.67   0.036    10.42    22.49
       ================================================
       ID = 3 (  0158):    10.79   0.074     6.75    25.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\294a5b06-2706-4552-ae64-5d344d787464\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\294a5b06-2706-4552-ae64-5d344d787464\scen

DATE: 10-31-2019                          TIME: 10:47:14

USER:
```

COMMENTS: _____

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  ************************************************
  ** SIMULATION : 1-2-Year-24-Hour-SCS-Type-II  **
  ************************************************
```

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\4d3f0190
Ptotal= 55.00 mm	Comments: 2-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.10	12.75	7.92	19.00	0.99
0.50	0.55	6.75	1.10	13.00	4.07	19.25	0.99
0.75	0.55	7.00	1.10	13.25	4.07	19.50	0.99
1.00	0.55	7.25	1.10	13.50	0.77	19.75	0.99
1.25	0.55	7.50	1.10	13.75	0.77	20.00	0.99
1.50	0.55	7.75	1.10	14.00	4.51	20.25	0.99
1.75	0.55	8.00	1.10	14.25	4.51	20.50	0.66
2.00	0.55	8.25	1.10	14.50	1.65	20.75	0.66
2.25	0.99	8.50	1.49	14.75	1.65	21.00	0.66
2.50	0.72	8.75	1.48	15.00	1.65	21.25	0.66
2.75	0.71	9.00	1.49	15.25	1.65	21.50	0.66
3.00	0.72	9.25	1.49	15.50	1.65	21.75	0.66
3.25	0.71	9.50	1.76	15.75	1.65	22.00	0.66
3.50	0.71	9.75	1.76	16.00	1.65	22.25	0.66
3.75	0.71	10.00	1.98	16.25	1.65	22.50	0.66
4.00	0.72	10.25	1.98	16.50	0.99	22.75	0.66
4.25	0.71	10.50	2.53	16.75	0.99	23.00	0.66
4.50	0.88	10.75	2.53	17.00	0.99	23.25	0.66
4.75	0.88	11.00	3.41	17.25	0.99	23.50	0.66
5.00	0.88	11.25	3.41	17.50	0.99	23.75	0.66
5.25	0.88	11.50	5.28	17.75	0.99	24.00	0.66
5.50	0.88	11.75	5.28	18.00	0.99	24.25	0.66
5.75	0.88	12.00	22.88	18.25	0.99		
6.00	0.88	12.25	60.72	18.50	0.99		
6.25	0.88	12.50	7.92	18.75	0.99		

CALIB	
NASHYD (0137)	Area (ha)= 8.10 Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.59

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.88	12.250	60.72	18.33	0.99
0.167	0.00	6.250	0.88	12.333	7.93	18.42	0.99
0.250	0.00	6.333	1.10	12.417	7.92	18.50	0.99
0.333	0.55	6.417	1.10	12.500	7.92	18.58	0.99
0.417	0.55	6.500	1.10	12.583	7.92	18.67	0.99
0.500	0.55	6.583	1.10	12.667	7.92	18.75	0.99
0.583	0.55	6.667	1.10	12.750	7.92	18.83	0.99
0.667	0.55	6.750	1.10	12.833	4.07	18.92	0.99
0.750	0.55	6.833	1.10	12.917	4.07	19.00	0.99
0.833	0.55	6.917	1.10	13.000	4.07	19.08	0.99
0.917	0.55	7.000	1.10	13.083	4.07	19.17	0.99
1.000	0.55	7.083	1.10	13.167	4.07	19.25	0.99
1.083	0.55	7.167	1.10	13.250	4.07	19.33	0.99
1.167	0.55	7.250	1.10	13.333	0.77	19.42	0.99
1.250	0.55	7.333	1.10	13.417	0.77	19.50	0.99
1.333	0.55	7.417	1.10	13.500	0.77	19.58	0.99
1.417	0.55	7.500	1.10	13.583	0.77	19.67	0.99
1.500	0.55	7.583	1.10	13.667	0.77	19.75	0.99
1.583	0.55	7.667	1.10	13.750	0.77	19.83	0.99
1.667	0.55	7.750	1.10	13.833	4.51	19.92	0.99
1.750	0.55	7.833	1.10	13.917	4.51	20.00	0.99
1.833	0.55	7.917	1.10	14.000	4.51	20.08	0.99
1.917	0.55	8.000	1.10	14.083	4.51	20.17	0.99
2.000	0.55	8.083	1.10	14.167	4.51	20.25	0.99
2.083	0.99	8.167	1.10	14.250	4.51	20.33	0.66
2.167	0.99	8.250	1.10	14.333	1.65	20.42	0.66
2.250	0.99	8.333	1.49	14.417	1.65	20.50	0.66
2.333	0.71	8.417	1.49	14.500	1.65	20.58	0.66
2.417	0.72	8.500	1.48	14.583	1.65	20.67	0.66
2.500	0.72	8.583	1.48	14.667	1.65	20.75	0.66
2.583	0.71	8.667	1.48	14.750	1.65	20.83	0.66
2.667	0.71	8.750	1.48	14.833	1.65	20.92	0.66
2.750	0.71	8.833	1.49	14.917	1.65	21.00	0.66
2.833	0.71	8.917	1.49	15.000	1.65	21.08	0.66
2.917	0.72	9.000	1.48	15.083	1.65	21.17	0.66
3.000	0.72	9.083	1.49	15.167	1.65	21.25	0.66
3.083	0.71	9.167	1.49	15.250	1.65	21.33	0.66
3.167	0.71	9.250	1.48	15.333	1.65	21.42	0.66
3.250	0.71	9.333	1.76	15.417	1.65	21.50	0.66
3.333	0.71	9.417	1.76	15.500	1.65	21.58	0.66
3.417	0.71	9.500	1.76	15.583	1.65	21.67	0.66
3.500	0.71	9.583	1.76	15.667	1.65	21.75	0.66
3.583	0.71	9.667	1.76	15.750	1.65	21.83	0.66
3.667	0.71	9.750	1.76	15.833	1.65	21.92	0.66
3.750	0.71	9.833	1.98	15.917	1.65	22.00	0.66
3.833	0.71	9.917	1.98	16.000	1.65	22.08	0.66
3.917	0.72	10.000	1.98	16.083	1.65	22.17	0.66
4.000	0.72	10.083	1.98	16.167	1.65	22.25	0.66
4.083	0.71	10.167	1.98	16.250	1.65	22.33	0.66
4.167	0.71	10.250	1.98	16.333	0.99	22.42	0.66
4.250	0.71	10.333	2.53	16.417	0.99	22.50	0.66
4.333	0.88	10.417	2.53	16.500	0.99	22.58	0.66
4.417	0.88	10.500	2.53	16.583	0.99	22.67	0.66
4.500	0.88	10.583	2.53	16.667	0.99	22.75	0.66
4.583	0.88	10.667	2.53	16.750	0.99	22.83	0.66
4.667	0.88	10.750	2.53	16.833	0.99	22.92	0.66
4.750	0.88	10.833	3.41	16.917	0.99	23.00	0.66
4.833	0.88	10.917	3.41	17.000	0.99	23.08	0.66
4.917	0.88	11.000	3.41	17.083	0.99	23.17	0.66
5.000	0.88	11.083	3.41	17.167	0.99	23.25	0.66
5.083	0.88	11.167	3.41	17.250	0.99	23.33	0.66
5.167	0.88	11.250	3.41	17.333	0.99	23.42	0.66

5.250	0.88	11.333	5.28	17.417	0.99	23.50	0.66
5.333	0.88	11.417	5.28	17.500	0.99	23.58	0.66
5.417	0.88	11.500	5.28	17.583	0.99	23.67	0.66
5.500	0.88	11.583	5.28	17.667	0.99	23.75	0.66
5.583	0.88	11.667	5.28	17.750	0.99	23.83	0.66
5.667	0.88	11.750	5.28	17.833	0.99	23.92	0.66
5.750	0.88	11.833	22.88	17.917	0.99	24.00	0.66
5.833	0.88	11.917	22.88	18.000	0.99	24.08	0.66
5.917	0.88	12.000	22.88	18.083	0.99	24.17	0.66
6.000	0.88	12.083	60.72	18.167	0.99	24.25	0.66
6.083	0.88	12.167	60.72	18.250	0.99		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.079 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 8.993
TOTAL RAINFALL (mm)= 55.000
RUNOFF COEFFICIENT = 0.164

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

READ STORM | Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\4d3f0190
Ptotal= 55.00 mm | Comments: 2-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.10	12.75	7.92	19.00	0.99
0.50	0.55	6.75	1.10	13.00	4.07	19.25	0.99
0.75	0.55	7.00	1.10	13.25	4.07	19.50	0.99
1.00	0.55	7.25	1.10	13.50	0.77	19.75	0.99
1.25	0.55	7.50	1.10	13.75	0.77	20.00	0.99
1.50	0.55	7.75	1.10	14.00	4.51	20.25	0.99
1.75	0.55	8.00	1.10	14.25	4.51	20.50	0.66
2.00	0.55	8.25	1.10	14.50	1.65	20.75	0.66
2.25	0.99	8.50	1.49	14.75	1.65	21.00	0.66
2.50	0.72	8.75	1.48	15.00	1.65	21.25	0.66
2.75	0.71	9.00	1.49	15.25	1.65	21.50	0.66
3.00	0.72	9.25	1.49	15.50	1.65	21.75	0.66
3.25	0.71	9.50	1.76	15.75	1.65	22.00	0.66
3.50	0.71	9.75	1.76	16.00	1.65	22.25	0.66
3.75	0.71	10.00	1.98	16.25	1.65	22.50	0.66
4.00	0.72	10.25	1.98	16.50	0.99	22.75	0.66
4.25	0.71	10.50	2.53	16.75	0.99	23.00	0.66
4.50	0.88	10.75	2.53	17.00	0.99	23.25	0.66
4.75	0.88	11.00	3.41	17.25	0.99	23.50	0.66
5.00	0.88	11.25	3.41	17.50	0.99	23.75	0.66
5.25	0.88	11.50	5.28	17.75	0.99	24.00	0.66
5.50	0.88	11.75	5.28	18.00	0.99	24.25	0.66
5.75	0.88	12.00	22.88	18.25	0.99		
6.00	0.88	12.25	60.72	18.50	0.99		
6.25	0.88	12.50	7.92	18.75	0.99		

CALIB
STANDHYD (0153) | Area (ha)= 1.03
ID= 1 DT= 5.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.88	12.250	60.72	18.33	0.99
0.167	0.00	6.250	0.88	12.333	7.93	18.42	0.99
0.250	0.00	6.333	1.10	12.417	7.92	18.50	0.99
0.333	0.55	6.417	1.10	12.500	7.92	18.58	0.99
0.417	0.55	6.500	1.10	12.583	7.92	18.67	0.99
0.500	0.55	6.583	1.10	12.667	7.92	18.75	0.99
0.583	0.55	6.667	1.10	12.750	7.92	18.83	0.99
0.667	0.55	6.750	1.10	12.833	4.07	18.92	0.99
0.750	0.55	6.833	1.10	12.917	4.07	19.00	0.99
0.833	0.55	6.917	1.10	13.000	4.07	19.08	0.99
0.917	0.55	7.000	1.10	13.083	4.07	19.17	0.99
1.000	0.55	7.083	1.10	13.167	4.07	19.25	0.99
1.083	0.55	7.167	1.10	13.250	4.07	19.33	0.99
1.167	0.55	7.250	1.10	13.333	0.77	19.42	0.99
1.250	0.55	7.333	1.10	13.417	0.77	19.50	0.99
1.333	0.55	7.417	1.10	13.500	0.77	19.58	0.99
1.417	0.55	7.500	1.10	13.583	0.77	19.67	0.99
1.500	0.55	7.583	1.10	13.667	0.77	19.75	0.99
1.583	0.55	7.667	1.10	13.750	0.77	19.83	0.99
1.667	0.55	7.750	1.10	13.833	4.51	19.92	0.99
1.750	0.55	7.833	1.10	13.917	4.51	20.00	0.99
1.833	0.55	7.917	1.10	14.000	4.51	20.08	0.99
1.917	0.55	8.000	1.10	14.083	4.51	20.17	0.99
2.000	0.55	8.083	1.10	14.167	4.51	20.25	0.99
2.083	0.99	8.167	1.10	14.250	4.51	20.33	0.66
2.167	0.99	8.250	1.10	14.333	1.65	20.42	0.66
2.250	0.99	8.333	1.49	14.417	1.65	20.50	0.66
2.333	0.71	8.417	1.49	14.500	1.65	20.58	0.66
2.417	0.72	8.500	1.48	14.583	1.65	20.67	0.66
2.500	0.72	8.583	1.48	14.667	1.65	20.75	0.66
2.583	0.71	8.667	1.48	14.750	1.65	20.83	0.66
2.667	0.71	8.750	1.48	14.833	1.65	20.92	0.66
2.750	0.71	8.833	1.49	14.917	1.65	21.00	0.66
2.833	0.71	8.917	1.49	15.000	1.65	21.08	0.66
2.917	0.72	9.000	1.48	15.083	1.65	21.17	0.66
3.000	0.72	9.083	1.49	15.167	1.65	21.25	0.66
3.083	0.71	9.167	1.49	15.250	1.65	21.33	0.66
3.167	0.71	9.250	1.48	15.333	1.65	21.42	0.66
3.250	0.71	9.333	1.76	15.417	1.65	21.50	0.66
3.333	0.71	9.417	1.76	15.500	1.65	21.58	0.66
3.417	0.71	9.500	1.76	15.583	1.65	21.67	0.66
3.500	0.71	9.583	1.76	15.667	1.65	21.75	0.66

3.583	0.71	9.667	1.76	15.750	1.65	21.83	0.66
3.667	0.71	9.750	1.76	15.833	1.65	21.92	0.66
3.750	0.71	9.833	1.98	15.917	1.65	22.00	0.66
3.833	0.71	9.917	1.98	16.000	1.65	22.08	0.66
3.917	0.72	10.000	1.98	16.083	1.65	22.17	0.66
4.000	0.72	10.083	1.98	16.167	1.65	22.25	0.66
4.083	0.71	10.167	1.98	16.250	1.65	22.33	0.66
4.167	0.71	10.250	1.98	16.333	0.99	22.42	0.66
4.250	0.71	10.333	2.53	16.417	0.99	22.50	0.66
4.333	0.88	10.417	2.53	16.500	0.99	22.58	0.66
4.417	0.88	10.500	2.53	16.583	0.99	22.67	0.66
4.500	0.88	10.583	2.53	16.667	0.99	22.75	0.66
4.583	0.88	10.667	2.53	16.750	0.99	22.83	0.66
4.667	0.88	10.750	2.53	16.833	0.99	22.92	0.66
4.750	0.88	10.833	3.41	16.917	0.99	23.00	0.66
4.833	0.88	10.917	3.41	17.000	0.99	23.08	0.66
4.917	0.88	11.000	3.41	17.083	0.99	23.17	0.66
5.000	0.88	11.083	3.41	17.167	0.99	23.25	0.66
5.083	0.88	11.167	3.41	17.250	0.99	23.33	0.66
5.167	0.88	11.250	3.41	17.333	0.99	23.42	0.66
5.250	0.88	11.333	5.28	17.417	0.99	23.50	0.66
5.333	0.88	11.417	5.28	17.500	0.99	23.58	0.66
5.417	0.88	11.500	5.28	17.583	0.99	23.67	0.66
5.500	0.88	11.583	5.28	17.667	0.99	23.75	0.66
5.583	0.88	11.667	5.28	17.750	0.99	23.83	0.66
5.667	0.88	11.750	5.28	17.833	0.99	23.92	0.66
5.750	0.88	11.833	22.88	17.917	0.99	24.00	0.66
5.833	0.88	11.917	22.88	18.000	0.99	24.08	0.66
5.917	0.88	12.000	22.88	18.083	0.99	24.17	0.66
6.000	0.88	12.083	60.72	18.167	0.99	24.25	0.66
6.083	0.88	12.167	60.72	18.250	0.99		

Max.Eff.Inten.(mm/hr)=	60.72	11.03	
over (min)	5.00	20.00	
Storage Coeff. (min)=	2.79 (ii)	19.83 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.28	0.06	
			TOTALS
PEAK FLOW (cms)=	0.13	0.00	0.133 (iii)
TIME TO PEAK (hrs)=	12.25	12.42	12.25
RUNOFF VOLUME (mm)=	54.00	11.04	43.25
TOTAL RAINFALL (mm)=	55.00	55.00	55.00
RUNOFF COEFFICIENT =	0.98	0.20	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.133	12.25	43.25
OUTFLOW: ID= 1 (0159)	1.030	0.039	12.33	43.16

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.97
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0153

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\4d3f0190
Ptotal= 55.00 mm	Comments: 2-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.10	12.75	7.92	19.00	0.99
0.50	0.55	6.75	1.10	13.00	4.07	19.25	0.99
0.75	0.55	7.00	1.10	13.25	4.07	19.50	0.99
1.00	0.55	7.25	1.10	13.50	0.77	19.75	0.99
1.25	0.55	7.50	1.10	13.75	0.77	20.00	0.99
1.50	0.55	7.75	1.10	14.00	4.51	20.25	0.99
1.75	0.55	8.00	1.10	14.25	4.51	20.50	0.66
2.00	0.55	8.25	1.10	14.50	1.65	20.75	0.66
2.25	0.99	8.50	1.49	14.75	1.65	21.00	0.66
2.50	0.72	8.75	1.48	15.00	1.65	21.25	0.66
2.75	0.71	9.00	1.49	15.25	1.65	21.50	0.66
3.00	0.72	9.25	1.49	15.50	1.65	21.75	0.66
3.25	0.71	9.50	1.76	15.75	1.65	22.00	0.66
3.50	0.71	9.75	1.76	16.00	1.65	22.25	0.66
3.75	0.71	10.00	1.98	16.25	1.65	22.50	0.66
4.00	0.72	10.25	1.98	16.50	0.99	22.75	0.66
4.25	0.71	10.50	2.53	16.75	0.99	23.00	0.66
4.50	0.88	10.75	2.53	17.00	0.99	23.25	0.66
4.75	0.88	11.00	3.41	17.25	0.99	23.50	0.66
5.00	0.88	11.25	3.41	17.50	0.99	23.75	0.66
5.25	0.88	11.50	5.28	17.75	0.99	24.00	0.66
5.50	0.88	11.75	5.28	18.00	0.99	24.25	0.66
5.75	0.88	12.00	22.88	18.25	0.99		
6.00	0.88	12.25	60.72	18.50	0.99		
6.25	0.88	12.50	7.92	18.75	0.99		

CALIB			
STANDHYD (0163)	Area (ha)= 15.36		
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00	Dir. Conn.(%)= 58.00	
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.88	12.250	60.72	18.33	0.99
0.167	0.00	6.250	0.88	12.333	7.93	18.42	0.99
0.250	0.00	6.333	1.10	12.417	7.92	18.50	0.99
0.333	0.55	6.417	1.10	12.500	7.92	18.58	0.99
0.417	0.55	6.500	1.10	12.583	7.92	18.67	0.99
0.500	0.55	6.583	1.10	12.667	7.92	18.75	0.99
0.583	0.55	6.667	1.10	12.750	7.92	18.83	0.99
0.667	0.55	6.750	1.10	12.833	4.07	18.92	0.99
0.750	0.55	6.833	1.10	12.917	4.07	19.00	0.99
0.833	0.55	6.917	1.10	13.000	4.07	19.08	0.99
0.917	0.55	7.000	1.10	13.083	4.07	19.17	0.99
1.000	0.55	7.083	1.10	13.167	4.07	19.25	0.99
1.083	0.55	7.167	1.10	13.250	4.07	19.33	0.99
1.167	0.55	7.250	1.10	13.333	0.77	19.42	0.99
1.250	0.55	7.333	1.10	13.417	0.77	19.50	0.99
1.333	0.55	7.417	1.10	13.500	0.77	19.58	0.99
1.417	0.55	7.500	1.10	13.583	0.77	19.67	0.99
1.500	0.55	7.583	1.10	13.667	0.77	19.75	0.99
1.583	0.55	7.667	1.10	13.750	0.77	19.83	0.99
1.667	0.55	7.750	1.10	13.833	4.51	19.92	0.99
1.750	0.55	7.833	1.10	13.917	4.51	20.00	0.99
1.833	0.55	7.917	1.10	14.000	4.51	20.08	0.99
1.917	0.55	8.000	1.10	14.083	4.51	20.17	0.99
2.000	0.55	8.083	1.10	14.167	4.51	20.25	0.99
2.083	0.99	8.167	1.10	14.250	4.51	20.33	0.66
2.167	0.99	8.250	1.10	14.333	1.65	20.42	0.66
2.250	0.99	8.333	1.49	14.417	1.65	20.50	0.66
2.333	0.71	8.417	1.49	14.500	1.65	20.58	0.66
2.417	0.72	8.500	1.48	14.583	1.65	20.67	0.66
2.500	0.72	8.583	1.48	14.667	1.65	20.75	0.66
2.583	0.71	8.667	1.48	14.750	1.65	20.83	0.66
2.667	0.71	8.750	1.48	14.833	1.65	20.92	0.66
2.750	0.71	8.833	1.49	14.917	1.65	21.00	0.66
2.833	0.71	8.917	1.49	15.000	1.65	21.08	0.66
2.917	0.72	9.000	1.48	15.083	1.65	21.17	0.66
3.000	0.72	9.083	1.49	15.167	1.65	21.25	0.66
3.083	0.71	9.167	1.49	15.250	1.65	21.33	0.66
3.167	0.71	9.250	1.48	15.333	1.65	21.42	0.66
3.250	0.71	9.333	1.76	15.417	1.65	21.50	0.66
3.333	0.71	9.417	1.76	15.500	1.65	21.58	0.66
3.417	0.71	9.500	1.76	15.583	1.65	21.67	0.66
3.500	0.71	9.583	1.76	15.667	1.65	21.75	0.66
3.583	0.71	9.667	1.76	15.750	1.65	21.83	0.66
3.667	0.71	9.750	1.76	15.833	1.65	21.92	0.66
3.750	0.71	9.833	1.98	15.917	1.65	22.00	0.66
3.833	0.71	9.917	1.98	16.000	1.65	22.08	0.66
3.917	0.72	10.000	1.98	16.083	1.65	22.17	0.66
4.000	0.72	10.083	1.98	16.167	1.65	22.25	0.66
4.083	0.71	10.167	1.98	16.250	1.65	22.33	0.66
4.167	0.71	10.250	1.98	16.333	0.99	22.42	0.66
4.250	0.71	10.333	2.53	16.417	0.99	22.50	0.66
4.333	0.88	10.417	2.53	16.500	0.99	22.58	0.66
4.417	0.88	10.500	2.53	16.583	0.99	22.67	0.66
4.500	0.88	10.583	2.53	16.667	0.99	22.75	0.66
4.583	0.88	10.667	2.53	16.750	0.99	22.83	0.66
4.667	0.88	10.750	2.53	16.833	0.99	22.92	0.66
4.750	0.88	10.833	3.41	16.917	0.99	23.00	0.66
4.833	0.88	10.917	3.41	17.000	0.99	23.08	0.66
4.917	0.88	11.000	3.41	17.083	0.99	23.17	0.66
5.000	0.88	11.083	3.41	17.167	0.99	23.25	0.66
5.083	0.88	11.167	3.41	17.250	0.99	23.33	0.66
5.167	0.88	11.250	3.41	17.333	0.99	23.42	0.66
5.250	0.88	11.333	5.28	17.417	0.99	23.50	0.66
5.333	0.88	11.417	5.28	17.500	0.99	23.58	0.66
5.417	0.88	11.500	5.28	17.583	0.99	23.67	0.66
5.500	0.88	11.583	5.28	17.667	0.99	23.75	0.66
5.583	0.88	11.667	5.28	17.750	0.99	23.83	0.66
5.667	0.88	11.750	5.28	17.833	0.99	23.92	0.66
5.750	0.88	11.833	22.88	17.917	0.99	24.00	0.66
5.833	0.88	11.917	22.88	18.000	0.99	24.08	0.66
5.917	0.88	12.000	22.88	18.083	0.99	24.17	0.66
6.000	0.88	12.083	60.72	18.167	0.99	24.25	0.66
6.083	0.88	12.167	60.72	18.250	0.99		

Max.Eff.Inten.(mm/hr)=	60.72	11.65		
over (min)	5.00	25.00		
Storage Coeff. (min)=	6.27 (ii)	22.94 (ii)		
Unit Hyd. Tpeak (min)=	5.00	25.00		
Unit Hyd. peak (cms)=	0.19	0.05		
			TOTALS	
PEAK FLOW (cms)=	1.41	0.12	1.480 (iii)	
TIME TO PEAK (hrs)=	12.25	12.50	12.25	
RUNOFF VOLUME (mm)=	54.00	11.62	36.20	
TOTAL RAINFALL (mm)=	55.00	55.00	55.00	
RUNOFF COEFFICIENT =	0.98	0.21	0.66	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0152)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0137):	8.10	0.079	12.75	8.99
+ ID2= 2 (0159):	1.03	0.039	12.33	43.16
ID = 3 (0152):	9.13	0.113	12.75	12.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0152)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0152):	9.13	0.113	12.75	12.85
+ ID2= 2 (0163):	15.36	1.480	12.25	36.20

```
        ID = 1 (  0152):    24.49   1.548    12.25    27.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR(  0161)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.4045      0.7000
                          0.0151     0.0001   |  0.5514      0.8000
                          0.0151     0.1301   |  0.7611      0.9000
                          0.0440     0.4217   |  0.9325      0.9500
                          0.2194     0.6000   |  1.1147      1.0500

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0152)     24.490     1.548     12.25      27.49
   OUTFLOW: ID= 1 (  0161)     24.490     0.063     16.33      27.50

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  4.07
                  TIME SHIFT OF PEAK FLOW          (min)=245.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4410

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--------------------
| DUHYD    (  0162)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.06     16.33   27.50
     ================================================
     MAJOR SYS.(ID= 2):   9.63      0.05     16.33   27.50
     MINOR SYS.(ID= 3):  14.86      0.02     12.08   27.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\4d3f0190
| Ptotal= 55.00 mm |    Comments: 2-Year-24-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    1.10 | 12.75    7.92 | 19.00    0.99
                0.50    0.55 |  6.75    1.10 | 13.00    4.07 | 19.25    0.99
                0.75    0.55 |  7.00    1.10 | 13.25    4.07 | 19.50    0.99
                1.00    0.55 |  7.25    1.10 | 13.50    0.77 | 19.75    0.99
                1.25    0.55 |  7.50    1.10 | 13.75    0.77 | 20.00    0.99
                1.50    0.55 |  7.75    1.10 | 14.00    4.51 | 20.25    0.99
                1.75    0.55 |  8.00    1.10 | 14.25    4.51 | 20.50    0.66
                2.00    0.55 |  8.25    1.10 | 14.50    1.65 | 20.75    0.66
                2.25    0.99 |  8.50    1.49 | 14.75    1.65 | 21.00    0.66
                2.50    0.72 |  8.75    1.48 | 15.00    1.65 | 21.25    0.66
                2.75    0.71 |  9.00    1.49 | 15.25    1.65 | 21.50    0.66
                3.00    0.72 |  9.25    1.49 | 15.50    1.65 | 21.75    0.66
                3.25    0.71 |  9.50    1.76 | 15.75    1.65 | 22.00    0.66
                3.50    0.71 |  9.75    1.76 | 16.00    1.65 | 22.25    0.66
                3.75    0.71 | 10.00    1.98 | 16.25    1.65 | 22.50    0.66
                4.00    0.72 | 10.25    1.98 | 16.50    0.99 | 22.75    0.66
                4.25    0.71 | 10.50    2.53 | 16.75    0.99 | 23.00    0.66
                4.50    0.88 | 10.75    2.53 | 17.00    0.99 | 23.25    0.66
                4.75    0.88 | 11.00    3.41 | 17.25    0.99 | 23.50    0.66
                5.00    0.88 | 11.25    3.41 | 17.50    0.99 | 23.75    0.66
                5.25    0.88 | 11.50    5.28 | 17.75    0.99 | 24.00    0.66
                5.50    0.88 | 11.75    5.28 | 18.00    0.99 | 24.25    0.66
                5.75    0.88 | 12.00   22.88 | 18.25    0.99 |
                6.00    0.88 | 12.25   60.72 | 18.50    0.99 |
                6.25    0.88 | 12.50    7.92 | 18.75    0.99 |

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| CALIB            |
| STANDHYD (  0151)|   Area    (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n           =      0.013        0.250

     NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
      TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
       hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
     0.083    0.00 | 6.167    0.88 |12.250   60.72 | 18.33    0.99
     0.167    0.00 | 6.250    0.88 |12.333    7.93 | 18.42    0.99
     0.250    0.00 | 6.333    1.10 |12.417    7.92 | 18.50    0.99
     0.333    0.55 | 6.417    1.10 |12.500    7.92 | 18.58    0.99
     0.417    0.55 | 6.500    1.10 |12.583    7.92 | 18.67    0.99
     0.500    0.55 | 6.583    1.10 |12.667    7.92 | 18.75    0.99
     0.583    0.55 | 6.667    1.10 |12.750    7.92 | 18.83    0.99
     0.667    0.55 | 6.750    1.10 |12.833    4.07 | 18.92    0.99
     0.750    0.55 | 6.833    1.10 |12.917    4.07 | 19.00    0.99
     0.833    0.55 | 6.917    1.10 |13.000    4.07 | 19.08    0.99
     0.917    0.55 | 7.000    1.10 |13.083    4.07 | 19.17    0.99
     1.000    0.55 | 7.083    1.10 |13.167    4.07 | 19.25    0.99
     1.083    0.55 | 7.167    1.10 |13.250    4.07 | 19.33    0.99
     1.167    0.55 | 7.250    1.10 |13.333    0.77 | 19.42    0.99
     1.250    0.55 | 7.333    1.10 |13.417    0.77 | 19.50    0.99
     1.333    0.55 | 7.417    1.10 |13.500    0.77 | 19.58    0.99
     1.417    0.55 | 7.500    1.10 |13.583    0.77 | 19.67    0.99
     1.500    0.55 | 7.583    1.10 |13.667    0.77 | 19.75    0.99
     1.583    0.55 | 7.667    1.10 |13.750    0.77 | 19.83    0.99
     1.667    0.55 | 7.750    1.10 |13.833    4.51 | 19.92    0.99
     1.750    0.55 | 7.833    1.10 |13.917    4.51 | 20.00    0.99
     1.833    0.55 | 7.917    1.10 |14.000    4.51 | 20.08    0.99
     1.917    0.55 | 8.000    1.10 |14.083    4.51 | 20.17    0.99
     2.000    0.55 | 8.083    1.10 |14.167    4.51 | 20.25    0.99
     2.083    0.99 | 8.167    1.10 |14.250    4.51 | 20.33    0.66
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2.167	0.99	8.250	1.10	14.333	1.65	20.42	0.66
2.250	0.99	8.333	1.49	14.417	1.65	20.50	0.66
2.333	0.71	8.417	1.49	14.500	1.65	20.58	0.66
2.417	0.72	8.500	1.48	14.583	1.65	20.67	0.66
2.500	0.72	8.583	1.48	14.667	1.65	20.75	0.66
2.583	0.71	8.667	1.48	14.750	1.65	20.83	0.66
2.667	0.71	8.750	1.48	14.833	1.65	20.92	0.66
2.750	0.71	8.833	1.49	14.917	1.65	21.00	0.66
2.833	0.71	8.917	1.49	15.000	1.65	21.08	0.66
2.917	0.72	9.000	1.48	15.083	1.65	21.17	0.66
3.000	0.72	9.083	1.49	15.167	1.65	21.25	0.66
3.083	0.71	9.167	1.49	15.250	1.65	21.33	0.66
3.167	0.71	9.250	1.48	15.333	1.65	21.42	0.66
3.250	0.71	9.333	1.76	15.417	1.65	21.50	0.66
3.333	0.71	9.417	1.76	15.500	1.65	21.58	0.66
3.417	0.71	9.500	1.76	15.583	1.65	21.67	0.66
3.500	0.71	9.583	1.76	15.667	1.65	21.75	0.66
3.583	0.71	9.667	1.76	15.750	1.65	21.83	0.66
3.667	0.71	9.750	1.76	15.833	1.65	21.92	0.66
3.750	0.71	9.833	1.98	15.917	1.65	22.00	0.66
3.833	0.71	9.917	1.98	16.000	1.65	22.08	0.66
3.917	0.72	10.000	1.98	16.083	1.65	22.17	0.66
4.000	0.72	10.083	1.98	16.167	1.65	22.25	0.66
4.083	0.71	10.167	1.98	16.250	1.65	22.33	0.66
4.167	0.71	10.250	1.98	16.333	0.99	22.42	0.66
4.250	0.71	10.333	2.53	16.417	0.99	22.50	0.66
4.333	0.88	10.417	2.53	16.500	0.99	22.58	0.66
4.417	0.88	10.500	2.53	16.583	0.99	22.67	0.66
4.500	0.88	10.583	2.53	16.667	0.99	22.75	0.66
4.583	0.88	10.667	2.53	16.750	0.99	22.83	0.66
4.667	0.88	10.750	2.53	16.833	0.99	22.92	0.66
4.750	0.88	10.833	3.41	16.917	0.99	23.00	0.66
4.833	0.88	10.917	3.41	17.000	0.99	23.08	0.66
4.917	0.88	11.000	3.41	17.083	0.99	23.17	0.66
5.000	0.88	11.083	3.41	17.167	0.99	23.25	0.66
5.083	0.88	11.167	3.41	17.250	0.99	23.33	0.66
5.167	0.88	11.250	3.41	17.333	0.99	23.42	0.66
5.250	0.88	11.333	5.28	17.417	0.99	23.50	0.66
5.333	0.88	11.417	5.28	17.500	0.99	23.58	0.66
5.417	0.88	11.500	5.28	17.583	0.99	23.67	0.66
5.500	0.88	11.583	5.28	17.667	0.99	23.75	0.66
5.583	0.88	11.667	5.28	17.750	0.99	23.83	0.66
5.667	0.88	11.750	5.28	17.833	0.99	23.92	0.66
5.750	0.88	11.833	22.88	17.917	0.99	24.00	0.66
5.833	0.88	11.917	22.88	18.000	0.99	24.08	0.66
5.917	0.88	12.000	22.88	18.083	0.99	24.17	0.66
6.000	0.88	12.083	60.72	18.167	0.99	24.25	0.66
6.083	0.88	12.167	60.72	18.250	0.99		

Max.Eff.Inten.(mm/hr)=	60.72	30.68		
over (min)	5.00	15.00		
Storage Coeff. (min)=	2.82 (ii)	14.14 (ii)		
Unit Hyd. Tpeak (min)=	5.00	15.00		
Unit Hyd. peak (cms)=	0.28	0.08		
			TOTALS	
PEAK FLOW (cms)=	0.13	0.01	0.147 (iii)	
TIME TO PEAK (hrs)=	12.25	12.33	12.25	
RUNOFF VOLUME (mm)=	54.00	23.64	46.40	
TOTAL RAINFALL (mm)=	55.00	55.00	55.00	
RUNOFF COEFFICIENT =	0.98	0.43	0.84	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0160)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	1.070	0.147	12.25	46.40
OUTFLOW: ID= 1 (0160)	1.070	0.021	12.75	46.15

PEAK FLOW REDUCTION [Qout/Qin](%)= 14.38
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0228

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\4d3f0190
Ptotal= 55.00 mm	Comments: 2-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.10	12.75	7.92	19.00	0.99
0.50	0.55	6.75	1.10	13.00	4.07	19.25	0.99
0.75	0.55	7.00	1.10	13.25	4.07	19.50	0.99
1.00	0.55	7.25	1.10	13.50	0.77	19.75	0.99
1.25	0.55	7.50	1.10	13.75	0.77	20.00	0.99
1.50	0.55	7.75	1.10	14.00	4.51	20.25	0.99
1.75	0.55	8.00	1.10	14.25	4.51	20.50	0.66
2.00	0.55	8.25	1.10	14.50	1.65	20.75	0.66
2.25	0.99	8.50	1.49	14.75	1.65	21.00	0.66
2.50	0.72	8.75	1.48	15.00	1.65	21.25	0.66
2.75	0.71	9.00	1.49	15.25	1.65	21.50	0.66
3.00	0.72	9.25	1.49	15.50	1.65	21.75	0.66
3.25	0.71	9.50	1.76	15.75	1.65	22.00	0.66
3.50	0.71	9.75	1.76	16.00	1.65	22.25	0.66
3.75	0.71	10.00	1.98	16.25	1.65	22.50	0.66
4.00	0.72	10.25	1.98	16.50	0.99	22.75	0.66
4.25	0.71	10.50	2.53	16.75	0.99	23.00	0.66
4.50	0.88	10.75	2.53	17.00	0.99	23.25	0.66
4.75	0.88	11.00	3.41	17.25	0.99	23.50	0.66
5.00	0.88	11.25	3.41	17.50	0.99	23.75	0.66
5.25	0.88	11.50	5.28	17.75	0.99	24.00	0.66
5.50	0.88	11.75	5.28	18.00	0.99	24.25	0.66
5.75	0.88	12.00	22.88	18.25	0.99		
6.00	0.88	12.25	60.72	18.50	0.99		

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                6.25    0.88 | 12.50    7.92 | 18.75    0.99 |

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| CALIB            |
| STANDHYD (  0155)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n             =    0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.083    0.00 | 6.167    0.88 |12.250   60.72 | 18.33    0.99
0.167    0.00 | 6.250    0.88 |12.333    7.93 | 18.42    0.99
0.250    0.00 | 6.333    1.10 |12.417    7.92 | 18.50    0.99
0.333    0.55 | 6.417    1.10 |12.500    7.92 | 18.58    0.99
0.417    0.55 | 6.500    1.10 |12.583    7.92 | 18.67    0.99
0.500    0.55 | 6.583    1.10 |12.667    7.92 | 18.75    0.99
0.583    0.55 | 6.667    1.10 |12.750    7.92 | 18.83    0.99
0.667    0.55 | 6.750    1.10 |12.833    4.07 | 18.92    0.99
0.750    0.55 | 6.833    1.10 |12.917    4.07 | 19.00    0.99
0.833    0.55 | 6.917    1.10 |13.000    4.07 | 19.08    0.99
0.917    0.55 | 7.000    1.10 |13.083    4.07 | 19.17    0.99
1.000    0.55 | 7.083    1.10 |13.167    4.07 | 19.25    0.99
1.083    0.55 | 7.167    1.10 |13.250    4.07 | 19.33    0.99
1.167    0.55 | 7.250    1.10 |13.333    0.77 | 19.42    0.99
1.250    0.55 | 7.333    1.10 |13.417    0.77 | 19.50    0.99
1.333    0.55 | 7.417    1.10 |13.500    0.77 | 19.58    0.99
1.417    0.55 | 7.500    1.10 |13.583    0.77 | 19.67    0.99
1.500    0.55 | 7.583    1.10 |13.667    0.77 | 19.75    0.99
1.583    0.55 | 7.667    1.10 |13.750    0.77 | 19.83    0.99
1.667    0.55 | 7.750    1.10 |13.833    4.51 | 19.92    0.99
1.750    0.55 | 7.833    1.10 |13.917    4.51 | 20.00    0.99
1.833    0.55 | 7.917    1.10 |14.000    4.51 | 20.08    0.99
1.917    0.55 | 8.000    1.10 |14.083    4.51 | 20.17    0.99
2.000    0.55 | 8.083    1.10 |14.167    4.51 | 20.25    0.99
2.083    0.99 | 8.167    1.10 |14.250    4.51 | 20.33    0.66
2.167    0.99 | 8.250    1.10 |14.333    1.65 | 20.42    0.66
2.250    0.99 | 8.333    1.49 |14.417    1.65 | 20.50    0.66
2.333    0.71 | 8.417    1.49 |14.500    1.65 | 20.58    0.66
2.417    0.72 | 8.500    1.48 |14.583    1.65 | 20.67    0.66
2.500    0.72 | 8.583    1.48 |14.667    1.65 | 20.75    0.66
2.583    0.71 | 8.667    1.48 |14.750    1.65 | 20.83    0.66
2.667    0.71 | 8.750    1.48 |14.833    1.65 | 20.92    0.66
2.750    0.71 | 8.833    1.49 |14.917    1.65 | 21.00    0.66
2.833    0.71 | 8.917    1.49 |15.000    1.65 | 21.08    0.66
2.917    0.72 | 9.000    1.48 |15.083    1.65 | 21.17    0.66
3.000    0.72 | 9.083    1.49 |15.167    1.65 | 21.25    0.66
3.083    0.71 | 9.167    1.49 |15.250    1.65 | 21.33    0.66
3.167    0.71 | 9.250    1.48 |15.333    1.65 | 21.42    0.66
3.250    0.71 | 9.333    1.76 |15.417    1.65 | 21.50    0.66
3.333    0.71 | 9.417    1.76 |15.500    1.65 | 21.58    0.66
3.417    0.71 | 9.500    1.76 |15.583    1.65 | 21.67    0.66
3.500    0.71 | 9.583    1.76 |15.667    1.65 | 21.75    0.66
3.583    0.71 | 9.667    1.76 |15.750    1.65 | 21.83    0.66
3.667    0.71 | 9.750    1.76 |15.833    1.65 | 21.92    0.66
3.750    0.71 | 9.833    1.98 |15.917    1.65 | 22.00    0.66
3.833    0.71 | 9.917    1.98 |16.000    1.65 | 22.08    0.66
3.917    0.72 |10.000    1.98 |16.083    1.65 | 22.17    0.66
4.000    0.72 |10.083    1.98 |16.167    1.65 | 22.25    0.66
4.083    0.71 |10.167    1.98 |16.250    1.65 | 22.33    0.66
4.167    0.71 |10.250    1.98 |16.333    0.99 | 22.42    0.66
4.250    0.71 |10.333    2.53 |16.417    0.99 | 22.50    0.66
4.333    0.88 |10.417    2.53 |16.500    0.99 | 22.58    0.66
4.417    0.88 |10.500    2.53 |16.583    0.99 | 22.67    0.66
4.500    0.88 |10.583    2.53 |16.667    0.99 | 22.75    0.66
4.583    0.88 |10.667    2.53 |16.750    0.99 | 22.83    0.66
4.667    0.88 |10.750    2.53 |16.833    0.99 | 22.92    0.66
4.750    0.88 |10.833    3.41 |16.917    0.99 | 23.00    0.66
4.833    0.88 |10.917    3.41 |17.000    0.99 | 23.08    0.66
4.917    0.88 |11.000    3.41 |17.083    0.99 | 23.17    0.66
5.000    0.88 |11.083    3.41 |17.167    0.99 | 23.25    0.66
5.083    0.88 |11.167    3.41 |17.250    0.99 | 23.33    0.66
5.167    0.88 |11.250    3.41 |17.333    0.99 | 23.42    0.66
5.250    0.88 |11.333    5.28 |17.417    0.99 | 23.50    0.66
5.333    0.88 |11.417    5.28 |17.500    0.99 | 23.58    0.66
5.417    0.88 |11.500    5.28 |17.583    0.99 | 23.67    0.66
5.500    0.88 |11.583    5.28 |17.667    0.99 | 23.75    0.66
5.583    0.88 |11.667    5.28 |17.750    0.99 | 23.83    0.66
5.667    0.88 |11.750    5.28 |17.833    0.99 | 23.92    0.66
5.750    0.88 |11.833   22.88 |17.917    0.99 | 24.00    0.66
5.833    0.88 |11.917   22.88 |18.000    0.99 | 24.08    0.66
5.917    0.88 |12.000   22.88 |18.083    0.99 | 24.17    0.66
6.000    0.88 |12.083   60.72 |18.167    0.99 | 24.25    0.66
6.083    0.88 |12.167   60.72 |18.250    0.99 |

     Max.Eff.Inten.(mm/hr)=      60.72        30.68
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       2.56 (ii)   13.89 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.29         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.10         0.01          0.108 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.33          12.25
     RUNOFF VOLUME    (mm)=      54.00        23.64          46.40
     TOTAL RAINFALL   (mm)=      55.00        55.00          55.00
     RUNOFF COEFFICIENT   =       0.98         0.43           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0157)|
| IN= 2---> OUT= 1 |
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DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.108	12.25	46.40
OUTFLOW: ID= 1 (0157)	0.780	0.025	12.42	46.23

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.51
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0134

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\4d3f0190
Ptotal= 55.00 mm	Comments: 2-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.10	12.75	7.92	19.00	0.99
0.50	0.55	6.75	1.10	13.00	4.07	19.25	0.99
0.75	0.55	7.00	1.10	13.25	4.07	19.50	0.99
1.00	0.55	7.25	1.10	13.50	0.77	19.75	0.99
1.25	0.55	7.50	1.10	13.75	0.77	20.00	0.99
1.50	0.55	7.75	1.10	14.00	4.51	20.25	0.99
1.75	0.55	8.00	1.10	14.25	4.51	20.50	0.66
2.00	0.55	8.25	1.10	14.50	1.65	20.75	0.66
2.25	0.99	8.50	1.49	14.75	1.65	21.00	0.66
2.50	0.72	8.75	1.48	15.00	1.65	21.25	0.66
2.75	0.71	9.00	1.49	15.25	1.65	21.50	0.66
3.00	0.72	9.25	1.49	15.50	1.65	21.75	0.66
3.25	0.71	9.50	1.76	15.75	1.65	22.00	0.66
3.50	0.71	9.75	1.76	16.00	1.65	22.25	0.66
3.75	0.71	10.00	1.98	16.25	1.65	22.50	0.66
4.00	0.72	10.25	1.98	16.50	0.99	22.75	0.66
4.25	0.71	10.50	2.53	16.75	0.99	23.00	0.66
4.50	0.88	10.75	2.53	17.00	0.99	23.25	0.66
4.75	0.88	11.00	3.41	17.25	0.99	23.50	0.66
5.00	0.88	11.25	3.41	17.50	0.99	23.75	0.66
5.25	0.88	11.50	5.28	17.75	0.99	24.00	0.66
5.50	0.88	11.75	5.28	18.00	0.99	24.25	0.66
5.75	0.88	12.00	22.88	18.25	0.99		
6.00	0.88	12.25	60.72	18.50	0.99		
6.25	0.88	12.50	7.92	18.75	0.99		

CALIB	
STANDHYD (0156)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.19	0.08
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	42.43	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.88	12.250	60.72	18.33	0.99
0.167	0.00	6.250	0.88	12.333	7.93	18.42	0.99
0.250	0.00	6.333	1.10	12.417	7.92	18.50	0.99
0.333	0.55	6.417	1.10	12.500	7.92	18.58	0.99
0.417	0.55	6.500	1.10	12.583	7.92	18.67	0.99
0.500	0.55	6.583	1.10	12.667	7.92	18.75	0.99
0.583	0.55	6.667	1.10	12.750	7.92	18.83	0.99
0.667	0.55	6.750	1.10	12.833	4.07	18.92	0.99
0.750	0.55	6.833	1.10	12.917	4.07	19.00	0.99
0.833	0.55	6.917	1.10	13.000	4.07	19.08	0.99
0.917	0.55	7.000	1.10	13.083	4.07	19.17	0.99
1.000	0.55	7.083	1.10	13.167	4.07	19.25	0.99
1.083	0.55	7.167	1.10	13.250	4.07	19.33	0.99
1.167	0.55	7.250	1.10	13.333	0.77	19.42	0.99
1.250	0.55	7.333	1.10	13.417	0.77	19.50	0.99
1.333	0.55	7.417	1.10	13.500	0.77	19.58	0.99
1.417	0.55	7.500	1.10	13.583	0.77	19.67	0.99
1.500	0.55	7.583	1.10	13.667	0.77	19.75	0.99
1.583	0.55	7.667	1.10	13.750	0.77	19.83	0.99
1.667	0.55	7.750	1.10	13.833	4.51	19.92	0.99
1.750	0.55	7.833	1.10	13.917	4.51	20.00	0.99
1.833	0.55	7.917	1.10	14.000	4.51	20.08	0.99
1.917	0.55	8.000	1.10	14.083	4.51	20.17	0.99
2.000	0.55	8.083	1.10	14.167	4.51	20.25	0.99
2.083	0.99	8.167	1.10	14.250	4.51	20.33	0.66
2.167	0.99	8.250	1.10	14.333	1.65	20.42	0.66
2.250	0.99	8.333	1.49	14.417	1.65	20.50	0.66
2.333	0.71	8.417	1.49	14.500	1.65	20.58	0.66
2.417	0.72	8.500	1.48	14.583	1.65	20.67	0.66
2.500	0.72	8.583	1.48	14.667	1.65	20.75	0.66
2.583	0.71	8.667	1.48	14.750	1.65	20.83	0.66
2.667	0.71	8.750	1.48	14.833	1.65	20.92	0.66
2.750	0.71	8.833	1.49	14.917	1.65	21.00	0.66
2.833	0.71	8.917	1.49	15.000	1.65	21.08	0.66
2.917	0.72	9.000	1.48	15.083	1.65	21.17	0.66
3.000	0.72	9.083	1.49	15.167	1.65	21.25	0.66
3.083	0.71	9.167	1.49	15.250	1.65	21.33	0.66
3.167	0.71	9.250	1.48	15.333	1.65	21.42	0.66
3.250	0.71	9.333	1.76	15.417	1.65	21.50	0.66
3.333	0.71	9.417	1.76	15.500	1.65	21.58	0.66
3.417	0.71	9.500	1.76	15.583	1.65	21.67	0.66
3.500	0.71	9.583	1.76	15.667	1.65	21.75	0.66
3.583	0.71	9.667	1.76	15.750	1.65	21.83	0.66
3.667	0.71	9.750	1.76	15.833	1.65	21.92	0.66
3.750	0.71	9.833	1.98	15.917	1.65	22.00	0.66
3.833	0.71	9.917	1.98	16.000	1.65	22.08	0.66
3.917	0.72	10.000	1.98	16.083	1.65	22.17	0.66
4.000	0.72	10.083	1.98	16.167	1.65	22.25	0.66
4.083	0.71	10.167	1.98	16.250	1.65	22.33	0.66
4.167	0.71	10.250	1.98	16.333	0.99	22.42	0.66
4.250	0.71	10.333	2.53	16.417	0.99	22.50	0.66

4.333	0.88	10.417	2.53	16.500	0.99	22.58	0.66
4.417	0.88	10.500	2.53	16.583	0.99	22.67	0.66
4.500	0.88	10.583	2.53	16.667	0.99	22.75	0.66
4.583	0.88	10.667	2.53	16.750	0.99	22.83	0.66
4.667	0.88	10.750	2.53	16.833	0.99	22.92	0.66
4.750	0.88	10.833	3.41	16.917	0.99	23.00	0.66
4.833	0.88	10.917	3.41	17.000	0.99	23.08	0.66
4.917	0.88	11.000	3.41	17.083	0.99	23.17	0.66
5.000	0.88	11.083	3.41	17.167	0.99	23.25	0.66
5.083	0.88	11.167	3.41	17.250	0.99	23.33	0.66
5.167	0.88	11.250	3.41	17.333	0.99	23.42	0.66
5.250	0.88	11.333	5.28	17.417	0.99	23.50	0.66
5.333	0.88	11.417	5.28	17.500	0.99	23.58	0.66
5.417	0.88	11.500	5.28	17.583	0.99	23.67	0.66
5.500	0.88	11.583	5.28	17.667	0.99	23.75	0.66
5.583	0.88	11.667	5.28	17.750	0.99	23.83	0.66
5.667	0.88	11.750	5.28	17.833	0.99	23.92	0.66
5.750	0.88	11.833	22.88	17.917	0.99	24.00	0.66
5.833	0.88	11.917	22.88	18.000	0.99	24.08	0.66
5.917	0.88	12.000	22.88	18.083	0.99	24.17	0.66
6.000	0.88	12.083	60.72	18.167	0.99	24.25	0.66
6.083	0.88	12.167	60.72	18.250	0.99		

			TOTALS
Max.Eff.Inten.(mm/hr)=	60.72	11.03	
over (min)	5.00	20.00	
Storage Coeff. (min)=	1.86 (ii)	18.91 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.32	0.06	
PEAK FLOW (cms)=	0.03	0.00	0.033 (iii)
TIME TO PEAK (hrs)=	12.25	12.42	12.25
RUNOFF VOLUME (mm)=	54.00	11.04	41.51
TOTAL RAINFALL (mm)=	55.00	55.00	55.00
RUNOFF COEFFICIENT =	0.98	0.20	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0154)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0156)	0.270	0.033	12.25	41.51
OUTFLOW: ID= 1 (0154)	0.270	0.015	12.33	41.34

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.84
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0031

ADD HYD (0158)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0154):	0.27	0.015	12.33	41.34
+ ID2= 2 (0157):	0.78	0.025	12.42	46.23
ID = 3 (0158):	1.05	0.040	12.33	44.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0158)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0158):	1.05	0.040	12.33	44.97
+ ID2= 2 (0160):	1.07	0.021	12.75	46.15
ID = 1 (0158):	2.12	0.060	12.33	45.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0158)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0158):	2.12	0.060	12.33	45.57
+ ID2= 2 (0162):	9.63	0.048	16.33	27.50
ID = 3 (0158):	11.75	0.076	12.75	30.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

 OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
O   O    T      T    H   H   Y Y   MM MM  O   O
O   O    T      T    H   H    Y    M   M  O   O
 OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

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DATE: 10-31-2019                          TIME: 10:47:15

USER:


COMMENTS: _____________________________________________________________
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****
** SIMULATION : 1-2-Year-4-Hour-Chicago-Barri **
****

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\5aeaad13
Ptotal= 36.96 mm	Comments: 2-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.47	1.17	18.78	2.17	5.73	3.17	2.92
0.33	2.82	1.33	83.11	2.33	4.89	3.33	2.72
0.50	3.31	1.50	24.57	2.50	4.28	3.50	2.55
0.67	4.05	1.67	13.01	2.67	3.82	3.67	2.39
0.83	5.30	1.83	9.01	2.83	3.46	3.83	2.26
1.00	7.98	2.00	6.97	3.00	3.17	4.00	2.15

CALIB	
NASHYD (0137)	Area (ha)= 8.10 Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.59

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.47	1.083	18.78	2.083	5.73	3.08	2.92
0.167	2.47	1.167	18.78	2.167	5.73	3.17	2.93
0.250	2.82	1.250	83.11	2.250	4.89	3.25	2.72
0.333	2.82	1.333	83.11	2.333	4.89	3.33	2.72
0.417	3.31	1.417	24.57	2.417	4.28	3.42	2.55
0.500	3.31	1.500	24.57	2.500	4.28	3.50	2.55
0.583	4.05	1.583	13.01	2.583	3.82	3.58	2.39
0.667	4.05	1.667	13.01	2.667	3.82	3.67	2.39
0.750	5.30	1.750	9.01	2.750	3.46	3.75	2.26
0.833	5.30	1.833	9.01	2.833	3.46	3.83	2.26
0.917	7.98	1.917	6.97	2.917	3.17	3.92	2.15
1.000	7.98	2.000	6.97	3.000	3.17	4.00	2.15

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.045 (i)
TIME TO PEAK (hrs)= 2.083
RUNOFF VOLUME (mm)= 3.928
TOTAL RAINFALL (mm)= 36.955
RUNOFF COEFFICIENT = 0.106

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\5aeaad13
Ptotal= 36.96 mm	Comments: 2-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.47	1.17	18.78	2.17	5.73	3.17	2.92
0.33	2.82	1.33	83.11	2.33	4.89	3.33	2.72
0.50	3.31	1.50	24.57	2.50	4.28	3.50	2.55
0.67	4.05	1.67	13.01	2.67	3.82	3.67	2.39
0.83	5.30	1.83	9.01	2.83	3.46	3.83	2.26
1.00	7.98	2.00	6.97	3.00	3.17	4.00	2.15

CALIB	
STANDHYD (0153)	Area (ha)= 1.03
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.77	0.26
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	82.87	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.47	1.083	18.78	2.083	5.73	3.08	2.92
0.167	2.47	1.167	18.78	2.167	5.73	3.17	2.93
0.250	2.82	1.250	83.11	2.250	4.89	3.25	2.72
0.333	2.82	1.333	83.11	2.333	4.89	3.33	2.72
0.417	3.31	1.417	24.57	2.417	4.28	3.42	2.55
0.500	3.31	1.500	24.57	2.500	4.28	3.50	2.55
0.583	4.05	1.583	13.01	2.583	3.82	3.58	2.39

0.667	4.05	1.667	13.01	2.667	3.82	3.67	2.39
0.750	5.30	1.750	9.01	2.750	3.46	3.75	2.26
0.833	5.30	1.833	9.01	2.833	3.46	3.83	2.26
0.917	7.98	1.917	6.97	2.917	3.17	3.92	2.15
1.000	7.98	2.000	6.97	3.000	3.17	4.00	2.15

Max.Eff.Inten.(mm/hr)=	83.11	8.07	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.46 (ii)	7.36 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.30	0.13	
			TOTALS
PEAK FLOW (cms)=	0.18	0.00	0.179 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	35.96	4.90	28.19
TOTAL RAINFALL (mm)=	36.96	36.96	36.96
RUNOFF COEFFICIENT =	0.97	0.13	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.179	1.33	28.19
OUTFLOW: ID= 1 (0159)	1.030	0.037	1.58	28.09

PEAK FLOW REDUCTION [Qout/Qin](%)= 20.70
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0147

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\5aeaad13
Ptotal= 36.96 mm	Comments: 2-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.47	1.17	18.78	2.17	5.73	3.17	2.92
0.33	2.82	1.33	83.11	2.33	4.89	3.33	2.72
0.50	3.31	1.50	24.57	2.50	4.28	3.50	2.55
0.67	4.05	1.67	13.01	2.67	3.82	3.67	2.39
0.83	5.30	1.83	9.01	2.83	3.46	3.83	2.26
1.00	7.98	2.00	6.97	3.00	3.17	4.00	2.15

CALIB			
STANDHYD (0163)	Area (ha)= 15.36		
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00	Dir. Conn.(%)= 58.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	8.91	6.45	
Dep. Storage (mm)=	1.00	5.00	
Average Slope (%)=	1.00	2.00	
Length (m)=	320.00	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.47	1.083	18.78	2.083	5.73	3.08	2.92
0.167	2.47	1.167	18.78	2.167	5.73	3.17	2.93
0.250	2.82	1.250	83.11	2.250	4.89	3.25	2.72
0.333	2.82	1.333	83.11	2.333	4.89	3.33	2.72
0.417	3.31	1.417	24.57	2.417	4.28	3.42	2.55
0.500	3.31	1.500	24.57	2.500	4.28	3.50	2.55
0.583	4.05	1.583	13.01	2.583	3.82	3.58	2.39
0.667	4.05	1.667	13.01	2.667	3.82	3.67	2.39
0.750	5.30	1.750	9.01	2.750	3.46	3.75	2.26
0.833	5.30	1.833	9.01	2.833	3.46	3.83	2.26
0.917	7.98	1.917	6.97	2.917	3.17	3.92	2.15
1.000	7.98	2.000	6.97	3.000	3.17	4.00	2.15

Max.Eff.Inten.(mm/hr)=	83.11	5.85	
over (min)	5.00	30.00	
Storage Coeff. (min)=	5.53 (ii)	27.50 (ii)	
Unit Hyd. Tpeak (min)=	5.00	30.00	
Unit Hyd. peak (cms)=	0.20	0.04	
			TOTALS
PEAK FLOW (cms)=	1.79	0.06	1.797 (iii)
TIME TO PEAK (hrs)=	1.33	1.83	1.33
RUNOFF VOLUME (mm)=	35.96	5.18	23.03
TOTAL RAINFALL (mm)=	36.96	36.96	36.96
RUNOFF COEFFICIENT =	0.97	0.14	0.62

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0152)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3				
ID1= 1 (0137):	8.10	0.045	2.08	3.93
+ ID2= 2 (0159):	1.03	0.037	1.58	28.09

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       ================================================
       ID = 3 (  0152):     9.13   0.077     2.00     6.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  0152)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0152):     9.13   0.077     2.00     6.65
     + ID2= 2 (  0163):    15.36   1.797     1.33    23.03
       ================================================
       ID = 1 (  0152):    24.49   1.828     1.33    16.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR(  0161)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.4045     0.7000
                         0.0151     0.0001    |   0.5514     0.8000
                         0.0151     0.1301    |   0.7611     0.9000
                         0.0440     0.4217    |   0.9325     0.9500
                         0.2194     0.6000    |   1.1147     1.0500

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0152)    24.490     1.828      1.33      16.92
   OUTFLOW: ID= 1 (  0161)    24.490     0.039      4.25      16.93

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.11
                  TIME SHIFT OF PEAK FLOW         (min)=175.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.3664

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| DUHYD    (  0162)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.04      4.25   16.93
     ================================================
     MAJOR SYS.(ID= 2):   6.92      0.02      4.25   16.93
     MINOR SYS.(ID= 3):  17.57      0.02      1.42   16.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\5aeaad13
| Ptotal= 36.96 mm |    Comments: 2-Year-4-Hour-Chicago
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                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.47 |  1.17   18.78 |  2.17    5.73 |  3.17    2.92
                0.33    2.82 |  1.33   83.11 |  2.33    4.89 |  3.33    2.72
                0.50    3.31 |  1.50   24.57 |  2.50    4.28 |  3.50    2.55
                0.67    4.05 |  1.67   13.01 |  2.67    3.82 |  3.67    2.39
                0.83    5.30 |  1.83    9.01 |  2.83    3.46 |  3.83    2.26
                1.00    7.98 |  2.00    6.97 |  3.00    3.17 |  4.00    2.15

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| CALIB            |
| STANDHYD (  0151)|   Area    (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    2.47 | 1.083   18.78 | 2.083    5.73 |  3.08    2.92
               0.167    2.47 | 1.167   18.78 | 2.167    5.73 |  3.17    2.93
               0.250    2.82 | 1.250   83.11 | 2.250    4.89 |  3.25    2.72
               0.333    2.82 | 1.333   83.11 | 2.333    4.89 |  3.33    2.72
               0.417    3.31 | 1.417   24.57 | 2.417    4.28 |  3.42    2.55
               0.500    3.31 | 1.500   24.57 | 2.500    4.28 |  3.50    2.55
               0.583    4.05 | 1.583   13.01 | 2.583    3.82 |  3.58    2.39
               0.667    4.05 | 1.667   13.01 | 2.667    3.82 |  3.67    2.39
               0.750    5.30 | 1.750    9.01 | 2.750    3.46 |  3.75    2.26
               0.833    5.30 | 1.833    9.01 | 2.833    3.46 |  3.83    2.26
               0.917    7.98 | 1.917    6.97 | 2.917    3.17 |  3.92    2.15
               1.000    7.98 | 2.000    6.97 | 3.000    3.17 |  4.00    2.15

     Max.Eff.Inten.(mm/hr)=      83.11        21.51
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.49 (ii)    7.38 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.18         0.01          0.191 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      35.96        11.64          29.87
     TOTAL RAINFALL   (mm)=      36.96        36.96          36.96
     RUNOFF COEFFICIENT   =       0.97         0.32           0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0160)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0600     0.0645

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0151)     1.070     0.191      1.33      29.87
   OUTFLOW: ID= 1 (  0160)     1.070     0.019      2.00      29.62

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.80
                  TIME SHIFT OF PEAK FLOW          (min)= 40.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0202

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\5aeaad13
| Ptotal= 36.96 mm |    Comments: 2-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.47 |  1.17   18.78 |  2.17    5.73 |  3.17    2.92
                0.33    2.82 |  1.33   83.11 |  2.33    4.89 |  3.33    2.72
                0.50    3.31 |  1.50   24.57 |  2.50    4.28 |  3.50    2.55
                0.67    4.05 |  1.67   13.01 |  2.67    3.82 |  3.67    2.39
                0.83    5.30 |  1.83    9.01 |  2.83    3.46 |  3.83    2.26
                1.00    7.98 |  2.00    6.97 |  3.00    3.17 |  4.00    2.15

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--------------------
| CALIB            |
| STANDHYD (  0155)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    2.47 | 1.083   18.78 | 2.083    5.73 |  3.08    2.92
               0.167    2.47 | 1.167   18.78 | 2.167    5.73 |  3.17    2.93
               0.250    2.82 | 1.250   83.11 | 2.250    4.89 |  3.25    2.72
               0.333    2.82 | 1.333   83.11 | 2.333    4.89 |  3.33    2.72
               0.417    3.31 | 1.417   24.57 | 2.417    4.28 |  3.42    2.55
               0.500    3.31 | 1.500   24.57 | 2.500    4.28 |  3.50    2.55
               0.583    4.05 | 1.583   13.01 | 2.583    3.82 |  3.58    2.39
               0.667    4.05 | 1.667   13.01 | 2.667    3.82 |  3.67    2.39
               0.750    5.30 | 1.750    9.01 | 2.750    3.46 |  3.75    2.26
               0.833    5.30 | 1.833    9.01 | 2.833    3.46 |  3.83    2.26
               0.917    7.98 | 1.917    6.97 | 2.917    3.17 |  3.92    2.15
               1.000    7.98 | 2.000    6.97 | 3.000    3.17 |  4.00    2.15

     Max.Eff.Inten.(mm/hr)=      83.11        21.51
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.26 (ii)    7.16 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.30         0.14
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.13         0.01          0.140 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.42          1.33
     RUNOFF VOLUME    (mm)=     35.96        11.64         29.87
     TOTAL RAINFALL   (mm)=     36.96        36.96         36.96
     RUNOFF COEFFICIENT   =      0.97         0.32          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0157)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0750     0.0396

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0155)     0.780     0.140      1.33      29.87
   OUTFLOW: ID= 1 (  0157)     0.780     0.024      1.67      29.71

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 16.84
                  TIME SHIFT OF PEAK FLOW          (min)= 20.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0125

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\5aeaad13
| Ptotal= 36.96 mm |    Comments: 2-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.47 |  1.17   18.78 |  2.17    5.73 |  3.17    2.92
                0.33    2.82 |  1.33   83.11 |  2.33    4.89 |  3.33    2.72
                0.50    3.31 |  1.50   24.57 |  2.50    4.28 |  3.50    2.55
```

0.67	4.05	1.67	13.01	2.67	3.82	3.67	2.39
0.83	5.30	1.83	9.01	2.83	3.46	3.83	2.26
1.00	7.98	2.00	6.97	3.00	3.17	4.00	2.15

CALIB			
STANDHYD (0156)	Area (ha)= 0.27		
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00	Dir. Conn.(%)= 71.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.19	0.08
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	42.43	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.47	1.083	18.78	2.083	5.73	3.08	2.92
0.167	2.47	1.167	18.78	2.167	5.73	3.17	2.93
0.250	2.82	1.250	83.11	2.250	4.89	3.25	2.72
0.333	2.82	1.333	83.11	2.333	4.89	3.33	2.72
0.417	3.31	1.417	24.57	2.417	4.28	3.42	2.55
0.500	3.31	1.500	24.57	2.500	4.28	3.50	2.55
0.583	4.05	1.583	13.01	2.583	3.82	3.58	2.39
0.667	4.05	1.667	13.01	2.667	3.82	3.67	2.39
0.750	5.30	1.750	9.01	2.750	3.46	3.75	2.26
0.833	5.30	1.833	9.01	2.833	3.46	3.83	2.26
0.917	7.98	1.917	6.97	2.917	3.17	3.92	2.15
1.000	7.98	2.000	6.97	3.000	3.17	4.00	2.15

			TOTALS
Max.Eff.Inten.(mm/hr)=	83.11	5.51	
over (min)	5.00	25.00	
Storage Coeff. (min)=	1.64 (ii)	24.14 (ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00	
Unit Hyd. peak (cms)=	0.32	0.05	
PEAK FLOW (cms)=	0.04	0.00	0.044 (iii)
TIME TO PEAK (hrs)=	1.33	1.75	1.33
RUNOFF VOLUME (mm)=	35.96	4.90	26.90
TOTAL RAINFALL (mm)=	36.96	36.96	36.96
RUNOFF COEFFICIENT =	0.97	0.13	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0154)	IN= 2---> OUT= 1			
	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
		0.0000	0.0000	0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0156)	0.270	0.044	1.33	26.90
OUTFLOW: ID= 1 (0154)	0.270	0.014	1.42	26.74

PEAK FLOW REDUCTION [Qout/Qin](%)= 32.20
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0029

ADD HYD (0158)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0154):	0.27	0.014	1.42	26.74
	+ ID2= 2 (0157):	0.78	0.024	1.67	29.71
	ID = 3 (0158):	1.05	0.037	1.58	28.95

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0158)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0158):	1.05	0.037	1.58	28.95
	+ ID2= 2 (0160):	1.07	0.019	2.00	29.62
	ID = 1 (0158):	2.12	0.055	1.58	29.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0158)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0158):	2.12	0.055	1.58	29.29
	+ ID2= 2 (0162):	6.92	0.023	4.25	16.93
	ID = 3 (0158):	9.04	0.065	1.83	19.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
V    V   I    SSSSS  U   U    A    L
V    V   I    SS     U   U   A A   L
 V  V    I     SS    U   U  AAAAA  L
```

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
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DATE: 10-31-2019                          TIME: 10:47:15

USER:


COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 1-2-Year-4-Hour-Chicago-MTO   **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 384.902
| Ptotal= 33.38 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.81 |  1.17   13.28 |  2.17    5.55 |  3.17    3.23
                0.33    3.14 |  1.33   76.98 |  2.33    4.90 |  3.33    3.04
                0.50    3.58 |  1.50   16.30 |  2.50    4.41 |  3.50    2.88
                0.67    4.21 |  1.67   10.28 |  2.67    4.03 |  3.67    2.74
                0.83    5.22 |  1.83    7.84 |  2.83    3.71 |  3.83    2.61
                1.00    7.14 |  2.00    6.46 |  3.00    3.45 |  4.00    2.50


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0137)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                                ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    2.81 | 1.083   13.28 | 2.083    5.55 |  3.08    3.23
                0.167    2.81 | 1.167   13.28 | 2.167    5.55 |  3.17    3.23
                0.250    3.14 | 1.250   76.98 | 2.250    4.90 |  3.25    3.04
                0.333    3.14 | 1.333   76.98 | 2.333    4.90 |  3.33    3.04
                0.417    3.58 | 1.417   16.30 | 2.417    4.41 |  3.42    2.88
                0.500    3.58 | 1.500   16.30 | 2.500    4.41 |  3.50    2.88
                0.583    4.21 | 1.583   10.28 | 2.583    4.03 |  3.58    2.74
                0.667    4.21 | 1.667   10.28 | 2.667    4.03 |  3.67    2.74
                0.750    5.22 | 1.750    7.84 | 2.750    3.71 |  3.75    2.61
                0.833    5.22 | 1.833    7.84 | 2.833    3.71 |  3.83    2.61
                0.917    7.14 | 1.917    6.46 | 2.917    3.45 |  3.92    2.50
                1.000    7.14 | 2.000    6.46 | 3.000    3.45 |  4.00    2.50

     Unit Hyd Qpeak  (cms)=   0.524

     PEAK FLOW       (cms)=   0.032 (i)
     TIME TO PEAK    (hrs)=   2.083
     RUNOFF VOLUME    (mm)=   3.142
     TOTAL RAINFALL   (mm)=  33.380
     RUNOFF COEFFICIENT   =   0.094

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

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 384.902
| Ptotal= 33.38 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.17    2.81 |  1.17   13.28 |  2.17    5.55 |  3.17    3.23
                 0.33    3.14 |  1.33   76.98 |  2.33    4.90 |  3.33    3.04
                 0.50    3.58 |  1.50   16.30 |  2.50    4.41 |  3.50    2.88
                 0.67    4.21 |  1.67   10.28 |  2.67    4.03 |  3.67    2.74
                 0.83    5.22 |  1.83    7.84 |  2.83    3.71 |  3.83    2.61
                 1.00    7.14 |  2.00    6.46 |  3.00    3.45 |  4.00    2.50


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--------------------
| CALIB            |
| STANDHYD (  0153)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.81	1.083	13.28	2.083	5.55	3.08	3.23
0.167	2.81	1.167	13.28	2.167	5.55	3.17	3.23
0.250	3.14	1.250	76.98	2.250	4.90	3.25	3.04
0.333	3.14	1.333	76.98	2.333	4.90	3.33	3.04
0.417	3.58	1.417	16.30	2.417	4.41	3.42	2.88
0.500	3.58	1.500	16.30	2.500	4.41	3.50	2.88
0.583	4.21	1.583	10.28	2.583	4.03	3.58	2.74
0.667	4.21	1.667	10.28	2.667	4.03	3.67	2.74
0.750	5.22	1.750	7.84	2.750	3.71	3.75	2.61
0.833	5.22	1.833	7.84	2.833	3.71	3.83	2.61
0.917	7.14	1.917	6.46	2.917	3.45	3.92	2.50
1.000	7.14	2.000	6.46	3.000	3.45	4.00	2.50

				TOTALS
Max.Eff.Inten.	(mm/hr)=	76.98	3.60	
	over (min)	5.00	30.00	
Storage Coeff.	(min)=	2.53 (ii)	29.21 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	30.00	
Unit Hyd. peak	(cms)=	0.29	0.04	
PEAK FLOW	(cms)=	0.16	0.00	0.163 (iii)
TIME TO PEAK	(hrs)=	1.33	1.83	1.33
RUNOFF VOLUME	(mm)=	32.38	3.93	25.25
TOTAL RAINFALL	(mm)=	33.38	33.38	33.38
RUNOFF COEFFICIENT	=	0.97	0.12	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)
IN= 2---> OUT= 1

DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2	(0153)	1.030	0.163	1.33	25.25
OUTFLOW: ID= 1	(0159)	1.030	0.031	1.58	25.16

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.03

TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0123

CHICAGO STORM
Ptotal= 33.38 mm

IDF curve parameters: A= 384.902
B= 0.000
C= 0.699
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.81	1.17	13.28	2.17	5.55	3.17	3.23
0.33	3.14	1.33	76.98	2.33	4.90	3.33	3.04
0.50	3.58	1.50	16.30	2.50	4.41	3.50	2.88
0.67	4.21	1.67	10.28	2.67	4.03	3.67	2.74
0.83	5.22	1.83	7.84	2.83	3.71	3.83	2.61
1.00	7.14	2.00	6.46	3.00	3.45	4.00	2.50

CALIB	
STANDHYD (0163)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.81	1.083	13.28	2.083	5.55	3.08	3.23
0.167	2.81	1.167	13.28	2.167	5.55	3.17	3.23
0.250	3.14	1.250	76.98	2.250	4.90	3.25	3.04
0.333	3.14	1.333	76.98	2.333	4.90	3.33	3.04
0.417	3.58	1.417	16.30	2.417	4.41	3.42	2.88
0.500	3.58	1.500	16.30	2.500	4.41	3.50	2.88
0.583	4.21	1.583	10.28	2.583	4.03	3.58	2.74
0.667	4.21	1.667	10.28	2.667	4.03	3.67	2.74
0.750	5.22	1.750	7.84	2.750	3.71	3.75	2.61
0.833	5.22	1.833	7.84	2.833	3.71	3.83	2.61
0.917	7.14	1.917	6.46	2.917	3.45	3.92	2.50
1.000	7.14	2.000	6.46	3.000	3.45	4.00	2.50

Max.Eff.Inten.	(mm/hr)=	76.98	3.82
	over (min)	5.00	35.00
Storage Coeff.	(min)=	5.70 (ii)	31.75 (ii)
Unit Hyd. Tpeak	(min)=	5.00	35.00

```
     Unit Hyd. peak  (cms)=       0.20         0.03
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.63         0.04          1.632 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.92           1.33
     RUNOFF VOLUME    (mm)=      32.38         4.16          20.53
     TOTAL RAINFALL   (mm)=      33.38        33.38          33.38
     RUNOFF COEFFICIENT   =       0.97         0.12           0.61


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0152)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0137):      8.10    0.032     2.08     3.14
     + ID2= 2 (  0159):      1.03    0.031     1.58    25.16
       ================================================
       ID = 3 (  0152):      9.13    0.059     2.00     5.63

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

```
--------------------
| ADD HYD  (  0152)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0152):      9.13    0.059     2.00     5.63
     + ID2= 2 (  0163):     15.36    1.632     1.33    20.53
       ================================================
       ID = 1 (  0152):     24.49    1.659     1.33    14.97

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

```
--------------------
| RESERVOIR(  0161)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.4045      0.7000
                         0.0151     0.0001    |  0.5514      0.8000
                         0.0151     0.1301    |  0.7611      0.9000
                         0.0440     0.4217    |  0.9325      0.9500
                         0.2194     0.6000    |  1.1147      1.0500

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0152)    24.490     1.659      1.33      14.97
   OUTFLOW: ID= 1 (  0161)    24.490     0.034      4.33      14.98

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.06
                  TIME SHIFT OF PEAK FLOW         (min)=180.00
```

```
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.3224
```

```
--------------------
| DUHYD    (  0162)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK     R.V.
--------------------       (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):  24.49      0.03      4.33    14.98
     ================================================
     MAJOR SYS.(ID= 2):   5.81      0.02      4.33    14.98
     MINOR SYS.(ID= 3):  18.68      0.02      1.42    14.98

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

```
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 384.902
| Ptotal= 33.38 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.81 |  1.17   13.28 |  2.17    5.55 |  3.17    3.23
                0.33    3.14 |  1.33   76.98 |  2.33    4.90 |  3.33    3.04
                0.50    3.58 |  1.50   16.30 |  2.50    4.41 |  3.50    2.88
                0.67    4.21 |  1.67   10.28 |  2.67    4.03 |  3.67    2.74
                0.83    5.22 |  1.83    7.84 |  2.83    3.71 |  3.83    2.61
                1.00    7.14 |  2.00    6.46 |  3.00    3.45 |  4.00    2.50
```

```
--------------------
| CALIB            |
| STANDHYD (  0151)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                   IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=           0.80          0.27
     Dep. Storage     (mm)=           1.00          5.00
     Average Slope     (%)=           1.00          2.00
     Length            (m)=          84.46         40.00
     Mannings n           =          0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    2.81 | 1.083   13.28 | 2.083    5.55 |  3.08    3.23
               0.167    2.81 | 1.167   13.28 | 2.167    5.55 |  3.17    3.23
               0.250    3.14 | 1.250   76.98 | 2.250    4.90 |  3.25    3.04
               0.333    3.14 | 1.333   76.98 | 2.333    4.90 |  3.33    3.04
```

```
               0.417    3.58 | 1.417   16.30 | 2.417    4.41 |  3.42    2.88
               0.500    3.58 | 1.500   16.30 | 2.500    4.41 |  3.50    2.88
               0.583    4.21 | 1.583   10.28 | 2.583    4.03 |  3.58    2.74
               0.667    4.21 | 1.667   10.28 | 2.667    4.03 |  3.67    2.74
               0.750    5.22 | 1.750    7.84 | 2.750    3.71 |  3.75    2.61
               0.833    5.22 | 1.833    7.84 | 2.833    3.71 |  3.83    2.61
               0.917    7.14 | 1.917    6.46 | 2.917    3.45 |  3.92    2.50
               1.000    7.14 | 2.000    6.46 | 3.000    3.45 |  4.00    2.50

     Max.Eff.Inten.(mm/hr)=      76.98        11.92
               over (min)         5.00        20.00
     Storage Coeff.  (min)=       2.56 (ii)   19.09 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.29         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.17         0.01          0.170 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      32.38         9.57          26.67
     TOTAL RAINFALL   (mm)=      33.38        33.38          33.38
     RUNOFF COEFFICIENT   =       0.97         0.29           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0160)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.0600      0.0645

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0151)     1.070     0.170      1.33      26.67
   OUTFLOW: ID= 1 (  0160)     1.070     0.016      2.17      26.42

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.20
                  TIME SHIFT OF PEAK FLOW         (min)= 50.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0168

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 384.902
| Ptotal= 33.38 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.81 |  1.17   13.28 |  2.17    5.55 |  3.17    3.23
                0.33    3.14 |  1.33   76.98 |  2.33    4.90 |  3.33    3.04
                0.50    3.58 |  1.50   16.30 |  2.50    4.41 |  3.50    2.88
                0.67    4.21 |  1.67   10.28 |  2.67    4.03 |  3.67    2.74
                0.83    5.22 |  1.83    7.84 |  2.83    3.71 |  3.83    2.61
                1.00    7.14 |  2.00    6.46 |  3.00    3.45 |  4.00    2.50

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0155)|   Area    (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.58          0.19
     Dep. Storage     (mm)=        1.00          5.00
     Average Slope     (%)=        1.00          2.00
     Length            (m)=       72.11         40.00
     Mannings n           =       0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    2.81 | 1.083   13.28 | 2.083    5.55 |  3.08    3.23
               0.167    2.81 | 1.167   13.28 | 2.167    5.55 |  3.17    3.23
               0.250    3.14 | 1.250   76.98 | 2.250    4.90 |  3.25    3.04
               0.333    3.14 | 1.333   76.98 | 2.333    4.90 |  3.33    3.04
               0.417    3.58 | 1.417   16.30 | 2.417    4.41 |  3.42    2.88
               0.500    3.58 | 1.500   16.30 | 2.500    4.41 |  3.50    2.88
               0.583    4.21 | 1.583   10.28 | 2.583    4.03 |  3.58    2.74
               0.667    4.21 | 1.667   10.28 | 2.667    4.03 |  3.67    2.74
               0.750    5.22 | 1.750    7.84 | 2.750    3.71 |  3.75    2.61
               0.833    5.22 | 1.833    7.84 | 2.833    3.71 |  3.83    2.61
               0.917    7.14 | 1.917    6.46 | 2.917    3.45 |  3.92    2.50
               1.000    7.14 | 2.000    6.46 | 3.000    3.45 |  4.00    2.50

     Max.Eff.Inten.(mm/hr)=      76.98        11.92
               over (min)         5.00        20.00
     Storage Coeff.  (min)=       2.33 (ii)   18.85 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.30         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.12         0.00          0.125 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      32.38         9.57          26.66
     TOTAL RAINFALL   (mm)=      33.38        33.38          33.38
     RUNOFF COEFFICIENT   =       0.97         0.29           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

```
--------------------
| RESERVOIR(  0157)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0750     0.0396

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0155)    0.780     0.125      1.33      26.66
   OUTFLOW: ID= 1 (  0157)    0.780     0.019      1.67      26.50

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.51
                  TIME SHIFT OF PEAK FLOW          (min)= 20.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0102

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 384.902
| Ptotal= 33.38 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    2.81 |  1.17   13.28 |  2.17    5.55 |  3.17    3.23
               0.33    3.14 |  1.33   76.98 |  2.33    4.90 |  3.33    3.04
               0.50    3.58 |  1.50   16.30 |  2.50    4.41 |  3.50    2.88
               0.67    4.21 |  1.67   10.28 |  2.67    4.03 |  3.67    2.74
               0.83    5.22 |  1.83    7.84 |  2.83    3.71 |  3.83    2.61
               1.00    7.14 |  2.00    6.46 |  3.00    3.45 |  4.00    2.50


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0156)|   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    2.81 | 1.083   13.28 | 2.083    5.55 |  3.08    3.23
              0.167    2.81 | 1.167   13.28 | 2.167    5.55 |  3.17    3.23
              0.250    3.14 | 1.250   76.98 | 2.250    4.90 |  3.25    3.04
              0.333    3.14 | 1.333   76.98 | 2.333    4.90 |  3.33    3.04
              0.417    3.58 | 1.417   16.30 | 2.417    4.41 |  3.42    2.88
              0.500    3.58 | 1.500   16.30 | 2.500    4.41 |  3.50    2.88
              0.583    4.21 | 1.583   10.28 | 2.583    4.03 |  3.58    2.74
              0.667    4.21 | 1.667   10.28 | 2.667    4.03 |  3.67    2.74
              0.750    5.22 | 1.750    7.84 | 2.750    3.71 |  3.75    2.61
              0.833    5.22 | 1.833    7.84 | 2.833    3.71 |  3.83    2.61
              0.917    7.14 | 1.917    6.46 | 2.917    3.45 |  3.92    2.50
              1.000    7.14 | 2.000    6.46 | 3.000    3.45 |  4.00    2.50

     Max.Eff.Inten.(mm/hr)=      76.98         3.60
                  over (min)      5.00        30.00
     Storage Coeff.  (min)=       1.70 (ii)   28.37 (ii)
     Unit Hyd. Tpeak (min)=       5.00        30.00
     Unit Hyd. peak  (cms)=       0.32         0.04
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.00          0.041 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.75           1.33
     RUNOFF VOLUME    (mm)=      32.38         3.93          24.07
     TOTAL RAINFALL   (mm)=      33.38        33.38          33.38
     RUNOFF COEFFICIENT   =       0.97         0.12           0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0460     0.0093

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)    0.270     0.041      1.33      24.07
   OUTFLOW: ID= 1 (  0154)    0.270     0.013      1.42      23.90

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.80
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0026

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0154):     0.27   0.013     1.42    23.90
      + ID2= 2 (  0157):     0.78   0.019     1.67    26.50
        ================================================
        ID = 3 (  0158):     1.05   0.031     1.50    25.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

```
--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0158):     1.05   0.031     1.50    25.83
      + ID2= 2 (  0160):     1.07   0.016     2.17    26.42
        ====================================================
        ID = 1 (  0158):     2.12   0.045     1.58    26.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0158):     2.12   0.045     1.58    26.13
      + ID2= 2 (  0162):     5.81   0.019     4.33    14.98
        ====================================================
        ID = 3 (  0158):     7.93   0.052     1.92    17.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\73509d0a-3cd2-4770-b1fe-77f7289626d1\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\73509d0a-3cd2-4770-b1fe-77f7289626d1\scen


DATE: 10-31-2019                          TIME: 10:47:16

USER:

COMMENTS: _____

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  ***********************************************
  ** SIMULATION : 1-2-Year-6-Hour-SCS-Type-II   **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\3038ab57
| Ptotal= 42.30 mm |    Comments: 2-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    4.23 |  3.75    9.31 |  5.50    1.69
                0.50    1.69 |  2.25    4.23 |  4.00    4.23 |  5.75    1.69
                0.75    1.69 |  2.50    5.08 |  4.25    4.23 |  6.00    1.69
                1.00    2.54 |  2.75    5.08 |  4.50    3.38 |  6.25    1.69
                1.25    2.54 |  3.00   25.38 |  4.75    3.38 |
                1.50    2.54 |  3.25   65.99 |  5.00    2.54 |
                1.75    2.54 |  3.50    9.31 |  5.25    2.54 |

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--------------------
| CALIB            |
| NASHYD   (  0137)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.083    0.00 | 1.667    2.54 | 3.250   65.99 |  4.83    2.54
0.167    0.00 | 1.750    2.54 | 3.333    9.31 |  4.92    2.54
0.250    0.00 | 1.833    4.23 | 3.417    9.31 |  5.00    2.54
0.333    1.69 | 1.917    4.23 | 3.500    9.31 |  5.08    2.54
0.417    1.69 | 2.000    4.23 | 3.583    9.31 |  5.17    2.54
0.500    1.69 | 2.083    4.23 | 3.667    9.31 |  5.25    2.54
0.583    1.69 | 2.167    4.23 | 3.750    9.31 |  5.33    1.69
0.667    1.69 | 2.250    4.23 | 3.833    4.23 |  5.42    1.69
0.750    1.69 | 2.333    5.08 | 3.917    4.23 |  5.50    1.69
0.833    2.54 | 2.417    5.08 | 4.000    4.23 |  5.58    1.69
0.917    2.54 | 2.500    5.08 | 4.083    4.23 |  5.67    1.69
1.000    2.54 | 2.583    5.08 | 4.167    4.23 |  5.75    1.69
1.083    2.54 | 2.667    5.08 | 4.250    4.23 |  5.83    1.69
1.167    2.54 | 2.750    5.08 | 4.333    3.38 |  5.92    1.69
1.250    2.54 | 2.833   25.38 | 4.417    3.38 |  6.00    1.69
1.333    2.54 | 2.917   25.38 | 4.500    3.38 |  6.08    1.69
1.417    2.54 | 3.000   25.38 | 4.583    3.38 |  6.17    1.69
1.500    2.54 | 3.083   65.99 | 4.667    3.38 |  6.25    1.69
1.583    2.54 | 3.167   65.99 | 4.750    3.38 |
```

```
     Unit Hyd Qpeak  (cms)=   0.524

     PEAK FLOW       (cms)=   0.065 (i)
     TIME TO PEAK    (hrs)=   3.833
     RUNOFF VOLUME    (mm)=   5.244
     TOTAL RAINFALL   (mm)=  42.300
     RUNOFF COEFFICIENT   =   0.124

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

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\3038ab57
| Ptotal= 42.30 mm |    Comments: 2-Year-6-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	4.23	3.75	9.31	5.50	1.69
0.50	1.69	2.25	4.23	4.00	4.23	5.75	1.69
0.75	1.69	2.50	5.08	4.25	4.23	6.00	1.69
1.00	2.54	2.75	5.08	4.50	3.38	6.25	1.69
1.25	2.54	3.00	25.38	4.75	3.38		
1.50	2.54	3.25	65.99	5.00	2.54		
1.75	2.54	3.50	9.31	5.25	2.54		

```
--------------------
| CALIB            |
| STANDHYD (  0153)|   Area    (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.77         0.26
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     82.87        40.00
     Mannings n             =    0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.54	3.250	65.99	4.83	2.54
0.167	0.00	1.750	2.54	3.333	9.31	4.92	2.54
0.250	0.00	1.833	4.23	3.417	9.31	5.00	2.54
0.333	1.69	1.917	4.23	3.500	9.31	5.08	2.54
0.417	1.69	2.000	4.23	3.583	9.31	5.17	2.54
0.500	1.69	2.083	4.23	3.667	9.31	5.25	2.54
0.583	1.69	2.167	4.23	3.750	9.31	5.33	1.69
0.667	1.69	2.250	4.23	3.833	4.23	5.42	1.69
0.750	1.69	2.333	5.08	3.917	4.23	5.50	1.69
0.833	2.54	2.417	5.08	4.000	4.23	5.58	1.69
0.917	2.54	2.500	5.08	4.083	4.23	5.67	1.69
1.000	2.54	2.583	5.08	4.167	4.23	5.75	1.69
1.083	2.54	2.667	5.08	4.250	4.23	5.83	1.69
1.167	2.54	2.750	5.08	4.333	3.38	5.92	1.69
1.250	2.54	2.833	25.38	4.417	3.38	6.00	1.69
1.333	2.54	2.917	25.38	4.500	3.38	6.08	1.69
1.417	2.54	3.000	25.38	4.583	3.38	6.17	1.69
1.500	2.54	3.083	65.99	4.667	3.38	6.25	1.69
1.583	2.54	3.167	65.99	4.750	3.38		

```
     Max.Eff.Inten.(mm/hr)=      65.99          9.07
               over (min)         5.00         25.00
     Storage Coeff.  (min)=      2.70 (ii)    21.13 (ii)
     Unit Hyd. Tpeak (min)=      5.00         25.00
     Unit Hyd. peak  (cms)=      0.29          0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=      0.14          0.00          0.143 (iii)
     TIME TO PEAK    (hrs)=      3.25          3.58          3.25
     RUNOFF VOLUME    (mm)=     41.30          6.51         32.59
     TOTAL RAINFALL   (mm)=     42.30         42.30         42.30
     RUNOFF COEFFICIENT   =      0.98          0.15          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| RESERVOIR(  0159)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.1120      0.0442

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0153)    1.030     0.143      3.25      32.59
   OUTFLOW: ID= 1 (  0159)    1.030     0.041      3.33      32.50

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.79
                TIME SHIFT OF PEAK FLOW         (min)=  5.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0163
```

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\3038ab57
| Ptotal= 42.30 mm |    Comments: 2-Year-6-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	4.23	3.75	9.31	5.50	1.69
0.50	1.69	2.25	4.23	4.00	4.23	5.75	1.69
0.75	1.69	2.50	5.08	4.25	4.23	6.00	1.69
1.00	2.54	2.75	5.08	4.50	3.38	6.25	1.69
1.25	2.54	3.00	25.38	4.75	3.38		

1.50	2.54	3.25	65.99	5.00	2.54
1.75	2.54	3.50	9.31	5.25	2.54

CALIB	
STANDHYD (0163)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.54	3.250	65.99	4.83	2.54
0.167	0.00	1.750	2.54	3.333	9.31	4.92	2.54
0.250	0.00	1.833	4.23	3.417	9.31	5.00	2.54
0.333	1.69	1.917	4.23	3.500	9.31	5.08	2.54
0.417	1.69	2.000	4.23	3.583	9.31	5.17	2.54
0.500	1.69	2.083	4.23	3.667	9.31	5.25	2.54
0.583	1.69	2.167	4.23	3.750	9.31	5.33	1.69
0.667	1.69	2.250	4.23	3.833	4.23	5.42	1.69
0.750	1.69	2.333	5.08	3.917	4.23	5.50	1.69
0.833	2.54	2.417	5.08	4.000	4.23	5.58	1.69
0.917	2.54	2.500	5.08	4.083	4.23	5.67	1.69
1.000	2.54	2.583	5.08	4.167	4.23	5.75	1.69
1.083	2.54	2.667	5.08	4.250	4.23	5.83	1.69
1.167	2.54	2.750	5.08	4.333	3.38	5.92	1.69
1.250	2.54	2.833	25.38	4.417	3.38	6.00	1.69
1.333	2.54	2.917	25.38	4.500	3.38	6.08	1.69
1.417	2.54	3.000	25.38	4.583	3.38	6.17	1.69
1.500	2.54	3.083	65.99	4.667	3.38	6.25	1.69
1.583	2.54	3.167	65.99	4.750	3.38		

				TOTALS
Max.Eff.Inten.(mm/hr)=		65.99	9.60	
over (min)		5.00	25.00	
Storage Coeff. (min)=		6.06 (ii)	24.08 (ii)	
Unit Hyd. Tpeak (min)=		5.00	25.00	
Unit Hyd. peak (cms)=		0.19	0.05	
PEAK FLOW	(cms)=	1.54	0.09	1.589 (iii)
TIME TO PEAK	(hrs)=	3.25	3.58	3.25
RUNOFF VOLUME	(mm)=	41.30	6.87	26.84
TOTAL RAINFALL	(mm)=	42.30	42.30	42.30
RUNOFF COEFFICIENT	=	0.98	0.16	0.63

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

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

ADD HYD (0152)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0137):	8.10	0.065	3.83	5.24
	+ ID2= 2 (0159):	1.03	0.041	3.33	32.50
	ID = 3 (0152):	9.13	0.100	3.75	8.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0152)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0152):	9.13	0.100	3.75	8.32
	+ ID2= 2 (0163):	15.36	1.589	3.25	26.84
	ID = 1 (0152):	24.49	1.647	3.25	19.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0161)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.4045	0.7000
	0.0151	0.0001	0.5514	0.8000
	0.0151	0.1301	0.7611	0.9000
	0.0440	0.4217	0.9325	0.9500
	0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0152)	24.490	1.647	3.25	19.94
OUTFLOW: ID= 1 (0161)	24.490	0.045	6.33	19.94

PEAK FLOW REDUCTION [Qout/Qin](%)= 2.73
TIME SHIFT OF PEAK FLOW (min)=185.00
MAXIMUM STORAGE USED (ha.m.)= 0.4227

DUHYD (0162)					
Inlet Cap.= 0.015					
#of Inlets= 1					
Total(cms)= 0.0		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	TOTAL HYD.(ID= 1):	24.49	0.04	6.33	19.94
	MAJOR SYS.(ID= 2):	8.12	0.03	6.33	19.94
	MINOR SYS.(ID= 3):	16.37	0.02	3.17	19.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\3038ab57
Ptotal= 42.30 mm	Comments: 2-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	4.23	3.75	9.31	5.50	1.69
0.50	1.69	2.25	4.23	4.00	4.23	5.75	1.69
0.75	1.69	2.50	5.08	4.25	4.23	6.00	1.69
1.00	2.54	2.75	5.08	4.50	3.38	6.25	1.69
1.25	2.54	3.00	25.38	4.75	3.38		
1.50	2.54	3.25	65.99	5.00	2.54		
1.75	2.54	3.50	9.31	5.25	2.54		

CALIB	
STANDHYD (0151)	Area (ha)= 1.07
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.54	3.250	65.99	4.83	2.54
0.167	0.00	1.750	2.54	3.333	9.31	4.92	2.54
0.250	0.00	1.833	4.23	3.417	9.31	5.00	2.54
0.333	1.69	1.917	4.23	3.500	9.31	5.08	2.54
0.417	1.69	2.000	4.23	3.583	9.31	5.17	2.54
0.500	1.69	2.083	4.23	3.667	9.31	5.25	2.54
0.583	1.69	2.167	4.23	3.750	9.31	5.33	1.69
0.667	1.69	2.250	4.23	3.833	4.23	5.42	1.69
0.750	1.69	2.333	5.08	3.917	4.23	5.50	1.69
0.833	2.54	2.417	5.08	4.000	4.23	5.58	1.69
0.917	2.54	2.500	5.08	4.083	4.23	5.67	1.69
1.000	2.54	2.583	5.08	4.167	4.23	5.75	1.69
1.083	2.54	2.667	5.08	4.250	4.23	5.83	1.69
1.167	2.54	2.750	5.08	4.333	3.38	5.92	1.69
1.250	2.54	2.833	25.38	4.417	3.38	6.00	1.69
1.333	2.54	2.917	25.38	4.500	3.38	6.08	1.69
1.417	2.54	3.000	25.38	4.583	3.38	6.17	1.69
1.500	2.54	3.083	65.99	4.667	3.38	6.25	1.69
1.583	2.54	3.167	65.99	4.750	3.38		

				TOTALS
Max.Eff.Inten.(mm/hr)=	65.99	27.41		
over (min)	5.00	15.00		
Storage Coeff. (min)=	2.73 (ii)	14.57 (ii)		
Unit Hyd. Tpeak (min)=	5.00	15.00		
Unit Hyd. peak (cms)=	0.29	0.08		
PEAK FLOW (cms)=	0.15	0.01		0.157 (iii)
TIME TO PEAK (hrs)=	3.25	3.42		3.25
RUNOFF VOLUME (mm)=	41.30	14.95		34.71
TOTAL RAINFALL (mm)=	42.30	42.30		42.30
RUNOFF COEFFICIENT =	0.98	0.35		0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0160)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	1.070	0.157	3.25	34.71
OUTFLOW: ID= 1 (0160)	1.070	0.021	3.83	34.45

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.70
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.0231

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\3038ab57
Ptotal= 42.30 mm	Comments: 2-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	4.23	3.75	9.31	5.50	1.69
0.50	1.69	2.25	4.23	4.00	4.23	5.75	1.69
0.75	1.69	2.50	5.08	4.25	4.23	6.00	1.69
1.00	2.54	2.75	5.08	4.50	3.38	6.25	1.69
1.25	2.54	3.00	25.38	4.75	3.38		
1.50	2.54	3.25	65.99	5.00	2.54		
1.75	2.54	3.50	9.31	5.25	2.54		

CALIB

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| STANDHYD (  0155)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.54	3.250	65.99	4.83	2.54
0.167	0.00	1.750	2.54	3.333	9.31	4.92	2.54
0.250	0.00	1.833	4.23	3.417	9.31	5.00	2.54
0.333	1.69	1.917	4.23	3.500	9.31	5.08	2.54
0.417	1.69	2.000	4.23	3.583	9.31	5.17	2.54
0.500	1.69	2.083	4.23	3.667	9.31	5.25	2.54
0.583	1.69	2.167	4.23	3.750	9.31	5.33	1.69
0.667	1.69	2.250	4.23	3.833	4.23	5.42	1.69
0.750	1.69	2.333	5.08	3.917	4.23	5.50	1.69
0.833	2.54	2.417	5.08	4.000	4.23	5.58	1.69
0.917	2.54	2.500	5.08	4.083	4.23	5.67	1.69
1.000	2.54	2.583	5.08	4.167	4.23	5.75	1.69
1.083	2.54	2.667	5.08	4.250	4.23	5.83	1.69
1.167	2.54	2.750	5.08	4.333	3.38	5.92	1.69
1.250	2.54	2.833	25.38	4.417	3.38	6.00	1.69
1.333	2.54	2.917	25.38	4.500	3.38	6.08	1.69
1.417	2.54	3.000	25.38	4.583	3.38	6.17	1.69
1.500	2.54	3.083	65.99	4.667	3.38	6.25	1.69
1.583	2.54	3.167	65.99	4.750	3.38		

```
     Max.Eff.Inten.(mm/hr)=      65.99        27.41
               over (min)        5.00        15.00
     Storage Coeff.  (min)=      2.48 (ii)   14.32 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=      0.29         0.08
                                                    *TOTALS*
     PEAK FLOW       (cms)=      0.11         0.01      0.114 (iii)
     TIME TO PEAK    (hrs)=      3.25         3.42       3.25
     RUNOFF VOLUME    (mm)=     41.30        14.95      34.70
     TOTAL RAINFALL   (mm)=     42.30        42.30      42.30
     RUNOFF COEFFICIENT   =      0.98         0.35       0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0157)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0750      0.0396

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0155)       0.780     0.114      3.25      34.70
   OUTFLOW: ID= 1 (  0157)       0.780     0.026      3.42      34.54

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.03
                  TIME SHIFT OF PEAK FLOW         (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0139

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\3038ab57
| Ptotal= 42.30 mm |    Comments: 2-Year-6-Hour-SCS-Type-II
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	4.23	3.75	9.31	5.50	1.69
0.50	1.69	2.25	4.23	4.00	4.23	5.75	1.69
0.75	1.69	2.50	5.08	4.25	4.23	6.00	1.69
1.00	2.54	2.75	5.08	4.50	3.38	6.25	1.69
1.25	2.54	3.00	25.38	4.75	3.38		
1.50	2.54	3.25	65.99	5.00	2.54		
1.75	2.54	3.50	9.31	5.25	2.54		

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| CALIB            |
| STANDHYD (  0156)|   Area     (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.54	3.250	65.99	4.83	2.54
0.167	0.00	1.750	2.54	3.333	9.31	4.92	2.54
0.250	0.00	1.833	4.23	3.417	9.31	5.00	2.54
0.333	1.69	1.917	4.23	3.500	9.31	5.08	2.54
0.417	1.69	2.000	4.23	3.583	9.31	5.17	2.54
0.500	1.69	2.083	4.23	3.667	9.31	5.25	2.54
0.583	1.69	2.167	4.23	3.750	9.31	5.33	1.69
0.667	1.69	2.250	4.23	3.833	4.23	5.42	1.69
0.750	1.69	2.333	5.08	3.917	4.23	5.50	1.69

```
               0.833    2.54 | 2.417    5.08 | 4.000    4.23 |  5.58    1.69
               0.917    2.54 | 2.500    5.08 | 4.083    4.23 |  5.67    1.69
               1.000    2.54 | 2.583    5.08 | 4.167    4.23 |  5.75    1.69
               1.083    2.54 | 2.667    5.08 | 4.250    4.23 |  5.83    1.69
               1.167    2.54 | 2.750    5.08 | 4.333    3.38 |  5.92    1.69
               1.250    2.54 | 2.833   25.38 | 4.417    3.38 |  6.00    1.69
               1.333    2.54 | 2.917   25.38 | 4.500    3.38 |  6.08    1.69
               1.417    2.54 | 3.000   25.38 | 4.583    3.38 |  6.17    1.69
               1.500    2.54 | 3.083   65.99 | 4.667    3.38 |  6.25    1.69
               1.583    2.54 | 3.167   65.99 | 4.750    3.38 |

     Max.Eff.Inten.(mm/hr)=      65.99         9.07
               over (min)         5.00        25.00
     Storage Coeff.  (min)=       1.80 (ii)   20.24 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.32         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.00          0.036 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.58           3.25
     RUNOFF VOLUME    (mm)=      41.30         6.51          31.16
     TOTAL RAINFALL   (mm)=      42.30        42.30          42.30
     RUNOFF COEFFICIENT   =       0.98         0.15           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)    0.270     0.036      3.25      31.16
   OUTFLOW: ID= 1 (  0154)    0.270     0.016      3.33      30.99

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.91
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0034

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--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0154):     0.27   0.016     3.33    30.99
     + ID2= 2 (  0157):     0.78   0.026     3.42    34.54
       ================================================
       ID = 3 (  0158):     1.05   0.042     3.33    33.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0158):     1.05   0.042     3.33    33.63
     + ID2= 2 (  0160):     1.07   0.021     3.83    34.45
       ================================================
       ID = 1 (  0158):     2.12   0.062     3.33    34.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0158):     2.12   0.062     3.33    34.04
     + ID2= 2 (  0162):     8.12   0.030     6.33    19.94
       ================================================
       ID = 3 (  0158):    10.24   0.076     3.75    22.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
======================

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\a0188815-b779-4166-8fc9-cdc08065282c\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\a0188815-b779-4166-8fc9-cdc08065282c\scen

DATE: 10-31-2019                          TIME: 10:47:16

USER:
```

COMMENTS: _____

```
  ***********************************************
  ** SIMULATION : 2-5-Year-12-Hour-SCS-Type-II  **
  ***********************************************
```

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\8c2f7a62
Ptotal= 64.30 mm	Comments: 5-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.57	6.75	11.57	10.00	2.25
0.50	1.61	3.75	2.57	7.00	5.14	10.25	2.25
0.75	1.61	4.00	2.57	7.25	5.14	10.50	1.29
1.00	1.61	4.25	2.57	7.50	3.86	10.75	1.29
1.25	1.61	4.50	3.86	7.75	3.86	11.00	1.29
1.50	1.61	4.75	3.86	8.00	3.86	11.25	1.29
1.75	1.61	5.00	5.14	8.25	3.86	11.50	1.29
2.00	1.61	5.25	5.14	8.50	2.25	11.75	1.29
2.25	1.61	5.50	7.72	8.75	2.25	12.00	1.29
2.50	1.93	5.75	7.72	9.00	2.25	12.25	1.29
2.75	1.93	6.00	30.86	9.25	2.25		
3.00	1.93	6.25	84.88	9.50	2.25		
3.25	1.93	6.50	11.57	9.75	2.25		

CALIB			
NASHYD (0137)	Area (ha)= 8.10	Curve Number (CN)= 52.7	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.59		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.93	6.250	84.87	9.33	2.25
0.167	0.00	3.250	1.93	6.333	11.57	9.42	2.25
0.250	0.00	3.333	2.57	6.417	11.57	9.50	2.25
0.333	1.61	3.417	2.57	6.500	11.57	9.58	2.25
0.417	1.61	3.500	2.57	6.583	11.57	9.67	2.25
0.500	1.61	3.583	2.57	6.667	11.57	9.75	2.25
0.583	1.61	3.667	2.57	6.750	11.57	9.83	2.25
0.667	1.61	3.750	2.57	6.833	5.14	9.92	2.25
0.750	1.61	3.833	2.57	6.917	5.14	10.00	2.25
0.833	1.61	3.917	2.57	7.000	5.14	10.08	2.25
0.917	1.61	4.000	2.57	7.083	5.14	10.17	2.25
1.000	1.61	4.083	2.57	7.167	5.14	10.25	2.25
1.083	1.61	4.167	2.57	7.250	5.14	10.33	1.29
1.167	1.61	4.250	2.57	7.333	3.86	10.42	1.29
1.250	1.61	4.333	3.86	7.417	3.86	10.50	1.29
1.333	1.61	4.417	3.86	7.500	3.86	10.58	1.29
1.417	1.61	4.500	3.86	7.583	3.86	10.67	1.29
1.500	1.61	4.583	3.86	7.667	3.86	10.75	1.29
1.583	1.61	4.667	3.86	7.750	3.86	10.83	1.29
1.667	1.61	4.750	3.86	7.833	3.86	10.92	1.29
1.750	1.61	4.833	5.14	7.917	3.86	11.00	1.29
1.833	1.61	4.917	5.14	8.000	3.86	11.08	1.29
1.917	1.61	5.000	5.14	8.083	3.86	11.17	1.29
2.000	1.61	5.083	5.14	8.167	3.86	11.25	1.29
2.083	1.61	5.167	5.14	8.250	3.86	11.33	1.29
2.167	1.61	5.250	5.14	8.333	2.25	11.42	1.29
2.250	1.61	5.333	7.72	8.417	2.25	11.50	1.29
2.333	1.93	5.417	7.72	8.500	2.25	11.58	1.29
2.417	1.93	5.500	7.72	8.583	2.25	11.67	1.29
2.500	1.93	5.583	7.72	8.667	2.25	11.75	1.29
2.583	1.93	5.667	7.72	8.750	2.25	11.83	1.29
2.667	1.93	5.750	7.72	8.833	2.25	11.92	1.29
2.750	1.93	5.833	30.86	8.917	2.25	12.00	1.29
2.833	1.93	5.917	30.86	9.000	2.25	12.08	1.29
2.917	1.93	6.000	30.87	9.083	2.25	12.17	1.29
3.000	1.93	6.083	84.88	9.167	2.25	12.25	1.29
3.083	1.93	6.167	84.88	9.250	2.25		

Unit Hyd Qpeak	(cms)=	0.524	
PEAK FLOW	(cms)=	0.131	(i)
TIME TO PEAK	(hrs)=	6.750	
RUNOFF VOLUME	(mm)=	12.240	
TOTAL RAINFALL	(mm)=	64.300	
RUNOFF COEFFICIENT	=	0.190	

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\8c2f7a62
Ptotal= 64.30 mm	Comments: 5-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.57	6.75	11.57	10.00	2.25
0.50	1.61	3.75	2.57	7.00	5.14	10.25	2.25
0.75	1.61	4.00	2.57	7.25	5.14	10.50	1.29
1.00	1.61	4.25	2.57	7.50	3.86	10.75	1.29
1.25	1.61	4.50	3.86	7.75	3.86	11.00	1.29
1.50	1.61	4.75	3.86	8.00	3.86	11.25	1.29
1.75	1.61	5.00	5.14	8.25	3.86	11.50	1.29
2.00	1.61	5.25	5.14	8.50	2.25	11.75	1.29
2.25	1.61	5.50	7.72	8.75	2.25	12.00	1.29
2.50	1.93	5.75	7.72	9.00	2.25	12.25	1.29
2.75	1.93	6.00	30.86	9.25	2.25		
3.00	1.93	6.25	84.88	9.50	2.25		
3.25	1.93	6.50	11.57	9.75	2.25		

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--------------------
| CALIB            |
| STANDHYD (  0153)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                         IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.26
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      82.87        40.00
     Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.93	6.250	84.87	9.33	2.25
0.167	0.00	3.250	1.93	6.333	11.57	9.42	2.25
0.250	0.00	3.333	2.57	6.417	11.57	9.50	2.25
0.333	1.61	3.417	2.57	6.500	11.57	9.58	2.25
0.417	1.61	3.500	2.57	6.583	11.57	9.67	2.25
0.500	1.61	3.583	2.57	6.667	11.57	9.75	2.25
0.583	1.61	3.667	2.57	6.750	11.57	9.83	2.25
0.667	1.61	3.750	2.57	6.833	5.14	9.92	2.25
0.750	1.61	3.833	2.57	6.917	5.14	10.00	2.25
0.833	1.61	3.917	2.57	7.000	5.14	10.08	2.25
0.917	1.61	4.000	2.57	7.083	5.14	10.17	2.25
1.000	1.61	4.083	2.57	7.167	5.14	10.25	2.25
1.083	1.61	4.167	2.57	7.250	5.14	10.33	1.29
1.167	1.61	4.250	2.57	7.333	3.86	10.42	1.29
1.250	1.61	4.333	3.86	7.417	3.86	10.50	1.29
1.333	1.61	4.417	3.86	7.500	3.86	10.58	1.29
1.417	1.61	4.500	3.86	7.583	3.86	10.67	1.29
1.500	1.61	4.583	3.86	7.667	3.86	10.75	1.29
1.583	1.61	4.667	3.86	7.750	3.86	10.83	1.29
1.667	1.61	4.750	3.86	7.833	3.86	10.92	1.29
1.750	1.61	4.833	5.14	7.917	3.86	11.00	1.29
1.833	1.61	4.917	5.14	8.000	3.86	11.08	1.29
1.917	1.61	5.000	5.14	8.083	3.86	11.17	1.29
2.000	1.61	5.083	5.14	8.167	3.86	11.25	1.29
2.083	1.61	5.167	5.14	8.250	3.86	11.33	1.29
2.167	1.61	5.250	5.14	8.333	2.25	11.42	1.29
2.250	1.61	5.333	7.72	8.417	2.25	11.50	1.29
2.333	1.93	5.417	7.72	8.500	2.25	11.58	1.29
2.417	1.93	5.500	7.72	8.583	2.25	11.67	1.29
2.500	1.93	5.583	7.72	8.667	2.25	11.75	1.29
2.583	1.93	5.667	7.72	8.750	2.25	11.83	1.29
2.667	1.93	5.750	7.72	8.833	2.25	11.92	1.29
2.750	1.93	5.833	30.86	8.917	2.25	12.00	1.29
2.833	1.93	5.917	30.86	9.000	2.25	12.08	1.29
2.917	1.93	6.000	30.87	9.083	2.25	12.17	1.29
3.000	1.93	6.083	84.88	9.167	2.25	12.25	1.29
3.083	1.93	6.167	84.88	9.250	2.25		

```
     Max.Eff.Inten.(mm/hr)=      84.88        24.53
                over (min)        5.00        10.00

     Storage Coeff.  (min)=       2.44 (ii)    7.29 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.18         0.01          0.195 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.25           6.25
     RUNOFF VOLUME    (mm)=      63.30        14.91          51.20
     TOTAL RAINFALL   (mm)=      64.30        64.30          64.30
     RUNOFF COEFFICIENT   =       0.98         0.23           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0159)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.1120     0.0442

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0153)      1.030     0.195      6.25      51.20
   OUTFLOW: ID= 1 (  0159)      1.030     0.056      6.33      51.11

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.63
                TIME SHIFT OF PEAK FLOW         (min)=  5.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0221

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\8c2f7a62
| Ptotal= 64.30 mm |    Comments: 5-Year-12-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.57	6.75	11.57	10.00	2.25
0.50	1.61	3.75	2.57	7.00	5.14	10.25	2.25
0.75	1.61	4.00	2.57	7.25	5.14	10.50	1.29
1.00	1.61	4.25	2.57	7.50	3.86	10.75	1.29
1.25	1.61	4.50	3.86	7.75	3.86	11.00	1.29
1.50	1.61	4.75	3.86	8.00	3.86	11.25	1.29
1.75	1.61	5.00	5.14	8.25	3.86	11.50	1.29
2.00	1.61	5.25	5.14	8.50	2.25	11.75	1.29
2.25	1.61	5.50	7.72	8.75	2.25	12.00	1.29
2.50	1.93	5.75	7.72	9.00	2.25	12.25	1.29
2.75	1.93	6.00	30.86	9.25	2.25		
3.00	1.93	6.25	84.88	9.50	2.25		
3.25	1.93	6.50	11.57	9.75	2.25		

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--------------------
| CALIB            |
| STANDHYD (  0163)|   Area    (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91         6.45
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     320.00        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.93	6.250	84.87	9.33	2.25
0.167	0.00	3.250	1.93	6.333	11.57	9.42	2.25
0.250	0.00	3.333	2.57	6.417	11.57	9.50	2.25
0.333	1.61	3.417	2.57	6.500	11.57	9.58	2.25
0.417	1.61	3.500	2.57	6.583	11.57	9.67	2.25
0.500	1.61	3.583	2.57	6.667	11.57	9.75	2.25
0.583	1.61	3.667	2.57	6.750	11.57	9.83	2.25
0.667	1.61	3.750	2.57	6.833	5.14	9.92	2.25
0.750	1.61	3.833	2.57	6.917	5.14	10.00	2.25
0.833	1.61	3.917	2.57	7.000	5.14	10.08	2.25
0.917	1.61	4.000	2.57	7.083	5.14	10.17	2.25
1.000	1.61	4.083	2.57	7.167	5.14	10.25	2.25
1.083	1.61	4.167	2.57	7.250	5.14	10.33	1.29
1.167	1.61	4.250	2.57	7.333	3.86	10.42	1.29
1.250	1.61	4.333	3.86	7.417	3.86	10.50	1.29
1.333	1.61	4.417	3.86	7.500	3.86	10.58	1.29
1.417	1.61	4.500	3.86	7.583	3.86	10.67	1.29
1.500	1.61	4.583	3.86	7.667	3.86	10.75	1.29
1.583	1.61	4.667	3.86	7.750	3.86	10.83	1.29
1.667	1.61	4.750	3.86	7.833	3.86	10.92	1.29
1.750	1.61	4.833	5.14	7.917	3.86	11.00	1.29
1.833	1.61	4.917	5.14	8.000	3.86	11.08	1.29
1.917	1.61	5.000	5.14	8.083	3.86	11.17	1.29
2.000	1.61	5.083	5.14	8.167	3.86	11.25	1.29
2.083	1.61	5.167	5.14	8.250	3.86	11.33	1.29
2.167	1.61	5.250	5.14	8.333	2.25	11.42	1.29
2.250	1.61	5.333	7.72	8.417	2.25	11.50	1.29
2.333	1.93	5.417	7.72	8.500	2.25	11.58	1.29
2.417	1.93	5.500	7.72	8.583	2.25	11.67	1.29
2.500	1.93	5.583	7.72	8.667	2.25	11.75	1.29
2.583	1.93	5.667	7.72	8.750	2.25	11.83	1.29
2.667	1.93	5.750	7.72	8.833	2.25	11.92	1.29
2.750	1.93	5.833	30.86	8.917	2.25	12.00	1.29
2.833	1.93	5.917	30.86	9.000	2.25	12.08	1.29
2.917	1.93	6.000	30.87	9.083	2.25	12.17	1.29
3.000	1.93	6.083	84.88	9.167	2.25	12.25	1.29
3.083	1.93	6.167	84.88	9.250	2.25		

```
    Max.Eff.Inten.(mm/hr)=      84.88        23.53
                over (min)        5.00        20.00
    Storage Coeff.  (min)=       5.48 (ii)   18.07 (ii)

    Unit Hyd. Tpeak (min)=       5.00        20.00
    Unit Hyd. peak  (cms)=       0.20         0.06
                                                          *TOTALS*
    PEAK FLOW       (cms)=       2.01         0.22          2.158 (iii)
    TIME TO PEAK    (hrs)=       6.25         6.42          6.25
    RUNOFF VOLUME    (mm)=      63.30        15.67         43.29
    TOTAL RAINFALL   (mm)=      64.30        64.30         64.30
    RUNOFF COEFFICIENT   =       0.98         0.24          0.67

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  60.6    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0152)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0137):     8.10   0.131     6.75    12.24
     + ID2= 2 (  0159):     1.03   0.056     6.33    51.11
       ==========================================================
       ID = 3 (  0152):     9.13   0.180     6.75    16.63

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

```
--------------------
| ADD HYD  (  0152)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0152):     9.13   0.180     6.75    16.63
     + ID2= 2 (  0163):    15.36   2.158     6.25    43.29
       ==========================================================
       ID = 1 (  0152):    24.49   2.260     6.25    33.35

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

```
--------------------
| RESERVOIR(  0161)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000     |   0.4045     0.7000
                         0.0151     0.0001     |   0.5514     0.8000
                         0.0151     0.1301     |   0.7611     0.9000
                         0.0440     0.4217     |   0.9325     0.9500
                         0.2194     0.6000     |   1.1147     1.0500

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0152)     24.490     2.260      6.25      33.35
   OUTFLOW: ID= 1 (  0161)     24.490     0.175      8.25      33.35

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.75
```

TIME SHIFT OF PEAK FLOW (min)=120.00
MAXIMUM STORAGE USED (ha.m.)= 0.5553

DUHYD (0162)
Inlet Cap.= 0.015
#of Inlets= 1
Total(cms)= 0.0

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.49	0.18	8.25	33.35
MAJOR SYS.(ID= 2):	13.43	0.16	8.25	33.35
MINOR SYS.(ID= 3):	11.06	0.02	5.92	33.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\8c2f7a62
Ptotal= 64.30 mm	Comments: 5-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.57	6.75	11.57	10.00	2.25
0.50	1.61	3.75	2.57	7.00	5.14	10.25	2.25
0.75	1.61	4.00	2.57	7.25	5.14	10.50	1.29
1.00	1.61	4.25	2.57	7.50	3.86	10.75	1.29
1.25	1.61	4.50	3.86	7.75	3.86	11.00	1.29
1.50	1.61	4.75	3.86	8.00	3.86	11.25	1.29
1.75	1.61	5.00	5.14	8.25	3.86	11.50	1.29
2.00	1.61	5.25	5.14	8.50	2.25	11.75	1.29
2.25	1.61	5.50	7.72	8.75	2.25	12.00	1.29
2.50	1.93	5.75	7.72	9.00	2.25	12.25	1.29
2.75	1.93	6.00	30.86	9.25	2.25		
3.00	1.93	6.25	84.88	9.50	2.25		
3.25	1.93	6.50	11.57	9.75	2.25		

CALIB	
STANDHYD (0151)	Area (ha)= 1.07
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.93	6.250	84.87	9.33	2.25
0.167	0.00	3.250	1.93	6.333	11.57	9.42	2.25
0.250	0.00	3.333	2.57	6.417	11.57	9.50	2.25
0.333	1.61	3.417	2.57	6.500	11.57	9.58	2.25
0.417	1.61	3.500	2.57	6.583	11.57	9.67	2.25
0.500	1.61	3.583	2.57	6.667	11.57	9.75	2.25
0.583	1.61	3.667	2.57	6.750	11.57	9.83	2.25
0.667	1.61	3.750	2.57	6.833	5.14	9.92	2.25
0.750	1.61	3.833	2.57	6.917	5.14	10.00	2.25
0.833	1.61	3.917	2.57	7.000	5.14	10.08	2.25
0.917	1.61	4.000	2.57	7.083	5.14	10.17	2.25
1.000	1.61	4.083	2.57	7.167	5.14	10.25	2.25
1.083	1.61	4.167	2.57	7.250	5.14	10.33	1.29
1.167	1.61	4.250	2.57	7.333	3.86	10.42	1.29
1.250	1.61	4.333	3.86	7.417	3.86	10.50	1.29
1.333	1.61	4.417	3.86	7.500	3.86	10.58	1.29
1.417	1.61	4.500	3.86	7.583	3.86	10.67	1.29
1.500	1.61	4.583	3.86	7.667	3.86	10.75	1.29
1.583	1.61	4.667	3.86	7.750	3.86	10.83	1.29
1.667	1.61	4.750	3.86	7.833	3.86	10.92	1.29
1.750	1.61	4.833	5.14	7.917	3.86	11.00	1.29
1.833	1.61	4.917	5.14	8.000	3.86	11.08	1.29
1.917	1.61	5.000	5.14	8.083	3.86	11.17	1.29
2.000	1.61	5.083	5.14	8.167	3.86	11.25	1.29
2.083	1.61	5.167	5.14	8.250	3.86	11.33	1.29
2.167	1.61	5.250	5.14	8.333	2.25	11.42	1.29
2.250	1.61	5.333	7.72	8.417	2.25	11.50	1.29
2.333	1.93	5.417	7.72	8.500	2.25	11.58	1.29
2.417	1.93	5.500	7.72	8.583	2.25	11.67	1.29
2.500	1.93	5.583	7.72	8.667	2.25	11.75	1.29
2.583	1.93	5.667	7.72	8.750	2.25	11.83	1.29
2.667	1.93	5.750	7.72	8.833	2.25	11.92	1.29
2.750	1.93	5.833	30.86	8.917	2.25	12.00	1.29
2.833	1.93	5.917	30.86	9.000	2.25	12.08	1.29
2.917	1.93	6.000	30.87	9.083	2.25	12.17	1.29
3.000	1.93	6.083	84.88	9.167	2.25	12.25	1.29
3.083	1.93	6.167	84.88	9.250	2.25		

				TOTALS
Max.Eff.Inten.(mm/hr)=		84.88	51.12	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.47 (ii)	7.32 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.30	0.13	
PEAK FLOW	(cms)=	0.19	0.03	0.219 (iii)
TIME TO PEAK	(hrs)=	6.25	6.25	6.25
RUNOFF VOLUME	(mm)=	63.30	30.56	55.11
TOTAL RAINFALL	(mm)=	64.30	64.30	64.30
RUNOFF COEFFICIENT	=	0.98	0.48	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0160)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0600     0.0645

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0151)    1.070     0.219      6.25      55.11
   OUTFLOW: ID= 1 (  0160)    1.070     0.030      6.75      54.86

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.77
                  TIME SHIFT OF PEAK FLOW          (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0325

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\8c2f7a62
| Ptotal= 64.30 mm |    Comments: 5-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    2.57 |  6.75   11.57 | 10.00    2.25
                0.50    1.61 |  3.75    2.57 |  7.00    5.14 | 10.25    2.25
                0.75    1.61 |  4.00    2.57 |  7.25    5.14 | 10.50    1.29
                1.00    1.61 |  4.25    2.57 |  7.50    3.86 | 10.75    1.29
                1.25    1.61 |  4.50    3.86 |  7.75    3.86 | 11.00    1.29
                1.50    1.61 |  4.75    3.86 |  8.00    3.86 | 11.25    1.29
                1.75    1.61 |  5.00    5.14 |  8.25    3.86 | 11.50    1.29
                2.00    1.61 |  5.25    5.14 |  8.50    2.25 | 11.75    1.29
                2.25    1.61 |  5.50    7.72 |  8.75    2.25 | 12.00    1.29
                2.50    1.93 |  5.75    7.72 |  9.00    2.25 | 12.25    1.29
                2.75    1.93 |  6.00   30.86 |  9.25    2.25 |
                3.00    1.93 |  6.25   84.88 |  9.50    2.25 |
                3.25    1.93 |  6.50   11.57 |  9.75    2.25 |

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| CALIB            |
| STANDHYD (  0155)|   Area    (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083   0.00 | 3.167    1.93 | 6.250   84.87 |  9.33    2.25
                0.167   0.00 | 3.250    1.93 | 6.333   11.57 |  9.42    2.25
                0.250   0.00 | 3.333    2.57 | 6.417   11.57 |  9.50    2.25
                0.333   1.61 | 3.417    2.57 | 6.500   11.57 |  9.58    2.25
                0.417   1.61 | 3.500    2.57 | 6.583   11.57 |  9.67    2.25
                0.500   1.61 | 3.583    2.57 | 6.667   11.57 |  9.75    2.25
                0.583   1.61 | 3.667    2.57 | 6.750   11.57 |  9.83    2.25
                0.667   1.61 | 3.750    2.57 | 6.833    5.14 |  9.92    2.25
                0.750   1.61 | 3.833    2.57 | 6.917    5.14 | 10.00    2.25
                0.833   1.61 | 3.917    2.57 | 7.000    5.14 | 10.08    2.25
                0.917   1.61 | 4.000    2.57 | 7.083    5.14 | 10.17    2.25
                1.000   1.61 | 4.083    2.57 | 7.167    5.14 | 10.25    2.25
                1.083   1.61 | 4.167    2.57 | 7.250    5.14 | 10.33    1.29
                1.167   1.61 | 4.250    2.57 | 7.333    3.86 | 10.42    1.29
                1.250   1.61 | 4.333    3.86 | 7.417    3.86 | 10.50    1.29
                1.333   1.61 | 4.417    3.86 | 7.500    3.86 | 10.58    1.29
                1.417   1.61 | 4.500    3.86 | 7.583    3.86 | 10.67    1.29
                1.500   1.61 | 4.583    3.86 | 7.667    3.86 | 10.75    1.29
                1.583   1.61 | 4.667    3.86 | 7.750    3.86 | 10.83    1.29
                1.667   1.61 | 4.750    3.86 | 7.833    3.86 | 10.92    1.29
                1.750   1.61 | 4.833    5.14 | 7.917    3.86 | 11.00    1.29
                1.833   1.61 | 4.917    5.14 | 8.000    3.86 | 11.08    1.29
                1.917   1.61 | 5.000    5.14 | 8.083    3.86 | 11.17    1.29
                2.000   1.61 | 5.083    5.14 | 8.167    3.86 | 11.25    1.29
                2.083   1.61 | 5.167    5.14 | 8.250    3.86 | 11.33    1.29
                2.167   1.61 | 5.250    5.14 | 8.333    2.25 | 11.42    1.29
                2.250   1.61 | 5.333    7.72 | 8.417    2.25 | 11.50    1.29
                2.333   1.93 | 5.417    7.72 | 8.500    2.25 | 11.58    1.29
                2.417   1.93 | 5.500    7.72 | 8.583    2.25 | 11.67    1.29
                2.500   1.93 | 5.583    7.72 | 8.667    2.25 | 11.75    1.29
                2.583   1.93 | 5.667    7.72 | 8.750    2.25 | 11.83    1.29
                2.667   1.93 | 5.750    7.72 | 8.833    2.25 | 11.92    1.29
                2.750   1.93 | 5.833   30.86 | 8.917    2.25 | 12.00    1.29
                2.833   1.93 | 5.917   30.86 | 9.000    2.25 | 12.08    1.29
                2.917   1.93 | 6.000   30.87 | 9.083    2.25 | 12.17    1.29
                3.000   1.93 | 6.083   84.88 | 9.167    2.25 | 12.25    1.29
                3.083   1.93 | 6.167   84.88 | 9.250    2.25 |

     Max.Eff.Inten.(mm/hr)=      84.88        51.12
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.24 (ii)    7.10 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.30         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=      0.14         0.02          0.160 (iii)
     TIME TO PEAK    (hrs)=      6.25         6.25           6.25
     RUNOFF VOLUME    (mm)=     63.30        30.56          55.11
     TOTAL RAINFALL   (mm)=     64.30        64.30          64.30
     RUNOFF COEFFICIENT   =      0.98         0.48           0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0157)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0750     0.0396

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0155)      0.780     0.160      6.25      55.11
   OUTFLOW: ID= 1 (  0157)      0.780     0.037      6.42      54.95

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.07
                  TIME SHIFT OF PEAK FLOW         (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0196

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\8c2f7a62
| Ptotal= 64.30 mm |    Comments: 5-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    2.57 |  6.75   11.57 | 10.00    2.25
                0.50    1.61 |  3.75    2.57 |  7.00    5.14 | 10.25    2.25
                0.75    1.61 |  4.00    2.57 |  7.25    5.14 | 10.50    1.29
                1.00    1.61 |  4.25    2.57 |  7.50    3.86 | 10.75    1.29
                1.25    1.61 |  4.50    3.86 |  7.75    3.86 | 11.00    1.29
                1.50    1.61 |  4.75    3.86 |  8.00    3.86 | 11.25    1.29
                1.75    1.61 |  5.00    5.14 |  8.25    3.86 | 11.50    1.29
                2.00    1.61 |  5.25    5.14 |  8.50    2.25 | 11.75    1.29
                2.25    1.61 |  5.50    7.72 |  8.75    2.25 | 12.00    1.29
                2.50    1.93 |  5.75    7.72 |  9.00    2.25 | 12.25    1.29
                2.75    1.93 |  6.00   30.86 |  9.25    2.25 |
                3.00    1.93 |  6.25   84.88 |  9.50    2.25 |
                3.25    1.93 |  6.50   11.57 |  9.75    2.25 |

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| CALIB            |
| STANDHYD (  0156)|   Area     (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 3.167    1.93 | 6.250   84.87 |  9.33    2.25
               0.167    0.00 | 3.250    1.93 | 6.333   11.57 |  9.42    2.25
               0.250    0.00 | 3.333    2.57 | 6.417   11.57 |  9.50    2.25
               0.333    1.61 | 3.417    2.57 | 6.500   11.57 |  9.58    2.25
               0.417    1.61 | 3.500    2.57 | 6.583   11.57 |  9.67    2.25
               0.500    1.61 | 3.583    2.57 | 6.667   11.57 |  9.75    2.25
               0.583    1.61 | 3.667    2.57 | 6.750   11.57 |  9.83    2.25
               0.667    1.61 | 3.750    2.57 | 6.833    5.14 |  9.92    2.25
               0.750    1.61 | 3.833    2.57 | 6.917    5.14 | 10.00    2.25
               0.833    1.61 | 3.917    2.57 | 7.000    5.14 | 10.08    2.25
               0.917    1.61 | 4.000    2.57 | 7.083    5.14 | 10.17    2.25
               1.000    1.61 | 4.083    2.57 | 7.167    5.14 | 10.25    2.25
               1.083    1.61 | 4.167    2.57 | 7.250    5.14 | 10.33    1.29
               1.167    1.61 | 4.250    2.57 | 7.333    3.86 | 10.42    1.29
               1.250    1.61 | 4.333    3.86 | 7.417    3.86 | 10.50    1.29
               1.333    1.61 | 4.417    3.86 | 7.500    3.86 | 10.58    1.29
               1.417    1.61 | 4.500    3.86 | 7.583    3.86 | 10.67    1.29
               1.500    1.61 | 4.583    3.86 | 7.667    3.86 | 10.75    1.29
               1.583    1.61 | 4.667    3.86 | 7.750    3.86 | 10.83    1.29
               1.667    1.61 | 4.750    3.86 | 7.833    3.86 | 10.92    1.29
               1.750    1.61 | 4.833    5.14 | 7.917    3.86 | 11.00    1.29
               1.833    1.61 | 4.917    5.14 | 8.000    3.86 | 11.08    1.29
               1.917    1.61 | 5.000    5.14 | 8.083    3.86 | 11.17    1.29
               2.000    1.61 | 5.083    5.14 | 8.167    3.86 | 11.25    1.29
               2.083    1.61 | 5.167    5.14 | 8.250    3.86 | 11.33    1.29
               2.167    1.61 | 5.250    5.14 | 8.333    2.25 | 11.42    1.29
               2.250    1.61 | 5.333    7.72 | 8.417    2.25 | 11.50    1.29
               2.333    1.93 | 5.417    7.72 | 8.500    2.25 | 11.58    1.29
               2.417    1.93 | 5.500    7.72 | 8.583    2.25 | 11.67    1.29
               2.500    1.93 | 5.583    7.72 | 8.667    2.25 | 11.75    1.29
               2.583    1.93 | 5.667    7.72 | 8.750    2.25 | 11.83    1.29
               2.667    1.93 | 5.750    7.72 | 8.833    2.25 | 11.92    1.29
               2.750    1.93 | 5.833   30.86 | 8.917    2.25 | 12.00    1.29
               2.833    1.93 | 5.917   30.86 | 9.000    2.25 | 12.08    1.29
               2.917    1.93 | 6.000   30.87 | 9.083    2.25 | 12.17    1.29
               3.000    1.93 | 6.083   84.88 | 9.167    2.25 | 12.25    1.29
               3.083    1.93 | 6.167   84.88 | 9.250    2.25 |

     Max.Eff.Inten.(mm/hr)=      84.88        22.34
               over (min)        5.00        15.00
     Storage Coeff.  (min)=      1.63 (ii)   14.48 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=      0.32         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.05         0.00          0.048 (iii)
     TIME TO PEAK    (hrs)=      6.25         6.33          6.25
     RUNOFF VOLUME    (mm)=     63.30        14.91         49.23
     TOTAL RAINFALL   (mm)=     64.30        64.30         64.30
     RUNOFF COEFFICIENT   =      0.98         0.23          0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0154)|
```

```
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0460      0.0093

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)      0.270     0.048      6.25      49.23
   OUTFLOW: ID= 1 (  0154)      0.270     0.021      6.33      49.06

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.52
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0044

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0154):     0.27   0.021     6.33    49.06
      + ID2= 2 (  0157):     0.78   0.037     6.42    54.95
        ================================================
        ID = 3 (  0158):     1.05   0.058     6.33    53.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0158):     1.05   0.058     6.33    53.44
      + ID2= 2 (  0160):     1.07   0.030     6.75    54.86
        ================================================
        ID = 1 (  0158):     2.12   0.086     6.33    54.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0158):     2.12   0.086     6.33    54.16
      + ID2= 2 (  0162):    13.43   0.160     8.25    33.35
        ================================================
        ID = 3 (  0158):    15.55   0.208     7.67    36.19

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

         OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
        O   O    T      T    H   H   Y Y   MM MM  O   O
        O   O    T      T    H   H    Y    M M M  O   O
         OOO     T      T    H   H    Y    M   M   OOO
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                    *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\aa228f8c-1f49-4083-b439-ba00be7a1cf6\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\aa228f8c-1f49-4083-b439-ba00be7a1cf6\scen


DATE: 10-31-2019                              TIME: 10:47:17

USER:


COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 2-5-Year-24-Hour-SCS-Type-II  **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\361a8f55
| Ptotal= 76.00 mm |    Comments: 5-Year-24-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.52	12.75	10.94	19.00	1.37
0.50	0.76	6.75	1.52	13.00	5.62	19.25	1.37
0.75	0.76	7.00	1.52	13.25	5.62	19.50	1.37
1.00	0.76	7.25	1.52	13.50	1.06	19.75	1.37
1.25	0.76	7.50	1.52	13.75	1.06	20.00	1.37
1.50	0.76	7.75	1.52	14.00	6.23	20.25	1.37
1.75	0.76	8.00	1.52	14.25	6.23	20.50	0.91
2.00	0.76	8.25	1.52	14.50	2.28	20.75	0.91
2.25	1.37	8.50	2.05	14.75	2.28	21.00	0.91
2.50	0.99	8.75	2.05	15.00	2.28	21.25	0.91
2.75	0.99	9.00	2.05	15.25	2.28	21.50	0.91
3.00	0.99	9.25	2.05	15.50	2.28	21.75	0.91
3.25	0.99	9.50	2.43	15.75	2.28	22.00	0.91
3.50	0.99	9.75	2.43	16.00	2.28	22.25	0.91

3.75	0.99	10.00	2.74	16.25	2.28	22.50	0.91
4.00	0.99	10.25	2.74	16.50	1.37	22.75	0.91
4.25	0.99	10.50	3.50	16.75	1.37	23.00	0.91
4.50	1.22	10.75	3.50	17.00	1.37	23.25	0.91
4.75	1.22	11.00	4.71	17.25	1.37	23.50	0.91
5.00	1.22	11.25	4.71	17.50	1.37	23.75	0.91
5.25	1.22	11.50	7.30	17.75	1.37	24.00	0.91
5.50	1.22	11.75	7.30	18.00	1.37	24.25	0.91
5.75	1.22	12.00	31.62	18.25	1.37		
6.00	1.22	12.25	83.90	18.50	1.37		
6.25	1.22	12.50	10.94	18.75	1.37		

CALIB			
NASHYD (0137)	Area (ha)=	8.10	Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.59	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.22	12.250	83.90	18.33	1.37
0.167	0.00	6.250	1.22	12.333	10.95	18.42	1.37
0.250	0.00	6.333	1.52	12.417	10.94	18.50	1.37
0.333	0.76	6.417	1.52	12.500	10.94	18.58	1.37
0.417	0.76	6.500	1.52	12.583	10.94	18.67	1.37
0.500	0.76	6.583	1.52	12.667	10.94	18.75	1.37
0.583	0.76	6.667	1.52	12.750	10.94	18.83	1.37
0.667	0.76	6.750	1.52	12.833	5.62	18.92	1.37
0.750	0.76	6.833	1.52	12.917	5.62	19.00	1.37
0.833	0.76	6.917	1.52	13.000	5.62	19.08	1.37
0.917	0.76	7.000	1.52	13.083	5.62	19.17	1.37
1.000	0.76	7.083	1.52	13.167	5.62	19.25	1.37
1.083	0.76	7.167	1.52	13.250	5.62	19.33	1.37
1.167	0.76	7.250	1.52	13.333	1.06	19.42	1.37
1.250	0.76	7.333	1.52	13.417	1.06	19.50	1.37
1.333	0.76	7.417	1.52	13.500	1.06	19.58	1.37
1.417	0.76	7.500	1.52	13.583	1.06	19.67	1.37
1.500	0.76	7.583	1.52	13.667	1.06	19.75	1.37
1.583	0.76	7.667	1.52	13.750	1.06	19.83	1.37
1.667	0.76	7.750	1.52	13.833	6.23	19.92	1.37
1.750	0.76	7.833	1.52	13.917	6.23	20.00	1.37
1.833	0.76	7.917	1.52	14.000	6.23	20.08	1.37
1.917	0.76	8.000	1.52	14.083	6.23	20.17	1.37
2.000	0.76	8.083	1.52	14.167	6.23	20.25	1.37
2.083	1.37	8.167	1.52	14.250	6.23	20.33	0.91
2.167	1.37	8.250	1.52	14.333	2.28	20.42	0.91
2.250	1.37	8.333	2.05	14.417	2.28	20.50	0.91
2.333	0.99	8.417	2.05	14.500	2.28	20.58	0.91
2.417	0.99	8.500	2.05	14.583	2.28	20.67	0.91
2.500	0.99	8.583	2.05	14.667	2.28	20.75	0.91
2.583	0.99	8.667	2.05	14.750	2.28	20.83	0.91
2.667	0.99	8.750	2.05	14.833	2.28	20.92	0.91
2.750	0.99	8.833	2.05	14.917	2.28	21.00	0.91
2.833	0.99	8.917	2.05	15.000	2.28	21.08	0.91
2.917	0.99	9.000	2.05	15.083	2.28	21.17	0.91
3.000	0.99	9.083	2.05	15.167	2.28	21.25	0.91
3.083	0.99	9.167	2.05	15.250	2.28	21.33	0.91
3.167	0.99	9.250	2.05	15.333	2.28	21.42	0.91
3.250	0.99	9.333	2.43	15.417	2.28	21.50	0.91
3.333	0.99	9.417	2.43	15.500	2.28	21.58	0.91
3.417	0.99	9.500	2.43	15.583	2.28	21.67	0.91
3.500	0.99	9.583	2.43	15.667	2.28	21.75	0.91
3.583	0.99	9.667	2.43	15.750	2.28	21.83	0.91
3.667	0.99	9.750	2.43	15.833	2.28	21.92	0.91
3.750	0.99	9.833	2.74	15.917	2.28	22.00	0.91
3.833	0.99	9.917	2.74	16.000	2.28	22.08	0.91
3.917	0.99	10.000	2.74	16.083	2.28	22.17	0.91
4.000	0.99	10.083	2.74	16.167	2.28	22.25	0.91
4.083	0.99	10.167	2.74	16.250	2.28	22.33	0.91
4.167	0.99	10.250	2.74	16.333	1.37	22.42	0.91
4.250	0.99	10.333	3.50	16.417	1.37	22.50	0.91
4.333	1.22	10.417	3.50	16.500	1.37	22.58	0.91
4.417	1.22	10.500	3.50	16.583	1.37	22.67	0.91
4.500	1.22	10.583	3.50	16.667	1.37	22.75	0.91
4.583	1.22	10.667	3.50	16.750	1.37	22.83	0.91
4.667	1.22	10.750	3.50	16.833	1.37	22.92	0.91
4.750	1.22	10.833	4.71	16.917	1.37	23.00	0.91
4.833	1.22	10.917	4.71	17.000	1.37	23.08	0.91
4.917	1.22	11.000	4.71	17.083	1.37	23.17	0.91
5.000	1.22	11.083	4.71	17.167	1.37	23.25	0.91
5.083	1.22	11.167	4.71	17.250	1.37	23.33	0.91
5.167	1.22	11.250	4.71	17.333	1.37	23.42	0.91
5.250	1.22	11.333	7.30	17.417	1.37	23.50	0.91
5.333	1.22	11.417	7.30	17.500	1.37	23.58	0.91
5.417	1.22	11.500	7.30	17.583	1.37	23.67	0.91
5.500	1.22	11.583	7.30	17.667	1.37	23.75	0.91
5.583	1.22	11.667	7.30	17.750	1.37	23.83	0.91
5.667	1.22	11.750	7.30	17.833	1.37	23.92	0.91
5.750	1.22	11.833	31.61	17.917	1.37	24.00	0.91
5.833	1.22	11.917	31.62	18.000	1.37	24.08	0.91
5.917	1.22	12.000	31.62	18.083	1.37	24.17	0.91
6.000	1.22	12.083	83.90	18.167	1.37	24.25	0.91
6.083	1.22	12.167	83.90	18.250	1.37		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.152 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 16.861
TOTAL RAINFALL (mm)= 76.000
RUNOFF COEFFICIENT = 0.222

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\361a8f55
Ptotal= 76.00 mm	Comments: 5-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr

0.25	0.00	6.50	1.52	12.75	10.94	19.00	1.37
0.50	0.76	6.75	1.52	13.00	5.62	19.25	1.37
0.75	0.76	7.00	1.52	13.25	5.62	19.50	1.37
1.00	0.76	7.25	1.52	13.50	1.06	19.75	1.37
1.25	0.76	7.50	1.52	13.75	1.06	20.00	1.37
1.50	0.76	7.75	1.52	14.00	6.23	20.25	1.37
1.75	0.76	8.00	1.52	14.25	6.23	20.50	0.91
2.00	0.76	8.25	1.52	14.50	2.28	20.75	0.91
2.25	1.37	8.50	2.05	14.75	2.28	21.00	0.91
2.50	0.99	8.75	2.05	15.00	2.28	21.25	0.91
2.75	0.99	9.00	2.05	15.25	2.28	21.50	0.91
3.00	0.99	9.25	2.05	15.50	2.28	21.75	0.91
3.25	0.99	9.50	2.43	15.75	2.28	22.00	0.91
3.50	0.99	9.75	2.43	16.00	2.28	22.25	0.91
3.75	0.99	10.00	2.74	16.25	2.28	22.50	0.91
4.00	0.99	10.25	2.74	16.50	1.37	22.75	0.91
4.25	0.99	10.50	3.50	16.75	1.37	23.00	0.91
4.50	1.22	10.75	3.50	17.00	1.37	23.25	0.91
4.75	1.22	11.00	4.71	17.25	1.37	23.50	0.91
5.00	1.22	11.25	4.71	17.50	1.37	23.75	0.91
5.25	1.22	11.50	7.30	17.75	1.37	24.00	0.91
5.50	1.22	11.75	7.30	18.00	1.37	24.25	0.91
5.75	1.22	12.00	31.62	18.25	1.37		
6.00	1.22	12.25	83.90	18.50	1.37		
6.25	1.22	12.50	10.94	18.75	1.37		

CALIB	
STANDHYD (0153)	Area (ha)= 1.03
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.22	12.250	83.90	18.33	1.37
0.167	0.00	6.250	1.22	12.333	10.95	18.42	1.37
0.250	0.00	6.333	1.52	12.417	10.94	18.50	1.37
0.333	0.76	6.417	1.52	12.500	10.94	18.58	1.37
0.417	0.76	6.500	1.52	12.583	10.94	18.67	1.37
0.500	0.76	6.583	1.52	12.667	10.94	18.75	1.37
0.583	0.76	6.667	1.52	12.750	10.94	18.83	1.37
0.667	0.76	6.750	1.52	12.833	5.62	18.92	1.37
0.750	0.76	6.833	1.52	12.917	5.62	19.00	1.37
0.833	0.76	6.917	1.52	13.000	5.62	19.08	1.37
0.917	0.76	7.000	1.52	13.083	5.62	19.17	1.37
1.000	0.76	7.083	1.52	13.167	5.62	19.25	1.37
1.083	0.76	7.167	1.52	13.250	5.62	19.33	1.37
1.167	0.76	7.250	1.52	13.333	1.06	19.42	1.37
1.250	0.76	7.333	1.52	13.417	1.06	19.50	1.37
1.333	0.76	7.417	1.52	13.500	1.06	19.58	1.37
1.417	0.76	7.500	1.52	13.583	1.06	19.67	1.37
1.500	0.76	7.583	1.52	13.667	1.06	19.75	1.37
1.583	0.76	7.667	1.52	13.750	1.06	19.83	1.37
1.667	0.76	7.750	1.52	13.833	6.23	19.92	1.37
1.750	0.76	7.833	1.52	13.917	6.23	20.00	1.37
1.833	0.76	7.917	1.52	14.000	6.23	20.08	1.37
1.917	0.76	8.000	1.52	14.083	6.23	20.17	1.37
2.000	0.76	8.083	1.52	14.167	6.23	20.25	1.37
2.083	1.37	8.167	1.52	14.250	6.23	20.33	0.91
2.167	1.37	8.250	1.52	14.333	2.28	20.42	0.91
2.250	1.37	8.333	2.05	14.417	2.28	20.50	0.91
2.333	0.99	8.417	2.05	14.500	2.28	20.58	0.91
2.417	0.99	8.500	2.05	14.583	2.28	20.67	0.91
2.500	0.99	8.583	2.05	14.667	2.28	20.75	0.91
2.583	0.99	8.667	2.05	14.750	2.28	20.83	0.91
2.667	0.99	8.750	2.05	14.833	2.28	20.92	0.91
2.750	0.99	8.833	2.05	14.917	2.28	21.00	0.91
2.833	0.99	8.917	2.05	15.000	2.28	21.08	0.91
2.917	0.99	9.000	2.05	15.083	2.28	21.17	0.91
3.000	0.99	9.083	2.05	15.167	2.28	21.25	0.91
3.083	0.99	9.167	2.05	15.250	2.28	21.33	0.91
3.167	0.99	9.250	2.05	15.333	2.28	21.42	0.91
3.250	0.99	9.333	2.43	15.417	2.28	21.50	0.91
3.333	0.99	9.417	2.43	15.500	2.28	21.58	0.91
3.417	0.99	9.500	2.43	15.583	2.28	21.67	0.91
3.500	0.99	9.583	2.43	15.667	2.28	21.75	0.91
3.583	0.99	9.667	2.43	15.750	2.28	21.83	0.91
3.667	0.99	9.750	2.43	15.833	2.28	21.92	0.91
3.750	0.99	9.833	2.74	15.917	2.28	22.00	0.91
3.833	0.99	9.917	2.74	16.000	2.28	22.08	0.91
3.917	0.99	10.000	2.74	16.083	2.28	22.17	0.91
4.000	0.99	10.083	2.74	16.167	2.28	22.25	0.91
4.083	0.99	10.167	2.74	16.250	2.28	22.33	0.91
4.167	0.99	10.250	2.74	16.333	1.37	22.42	0.91
4.250	0.99	10.333	3.50	16.417	1.37	22.50	0.91
4.333	1.22	10.417	3.50	16.500	1.37	22.58	0.91
4.417	1.22	10.500	3.50	16.583	1.37	22.67	0.91
4.500	1.22	10.583	3.50	16.667	1.37	22.75	0.91
4.583	1.22	10.667	3.50	16.750	1.37	22.83	0.91
4.667	1.22	10.750	3.50	16.833	1.37	22.92	0.91
4.750	1.22	10.833	4.71	16.917	1.37	23.00	0.91
4.833	1.22	10.917	4.71	17.000	1.37	23.08	0.91
4.917	1.22	11.000	4.71	17.083	1.37	23.17	0.91
5.000	1.22	11.083	4.71	17.167	1.37	23.25	0.91
5.083	1.22	11.167	4.71	17.250	1.37	23.33	0.91
5.167	1.22	11.250	4.71	17.333	1.37	23.42	0.91
5.250	1.22	11.333	7.30	17.417	1.37	23.50	0.91
5.333	1.22	11.417	7.30	17.500	1.37	23.58	0.91
5.417	1.22	11.500	7.30	17.583	1.37	23.67	0.91
5.500	1.22	11.583	7.30	17.667	1.37	23.75	0.91
5.583	1.22	11.667	7.30	17.750	1.37	23.83	0.91
5.667	1.22	11.750	7.30	17.833	1.37	23.92	0.91
5.750	1.22	11.833	31.61	17.917	1.37	24.00	0.91
5.833	1.22	11.917	31.62	18.000	1.37	24.08	0.91
5.917	1.22	12.000	31.62	18.083	1.37	24.17	0.91
6.000	1.22	12.083	83.90	18.167	1.37	24.25	0.91
6.083	1.22	12.167	83.90	18.250	1.37		

Max.Eff.Inten.(mm/hr)=	83.90	27.24		
over (min)	5.00	10.00		
Storage Coeff. (min)=	2.45 (ii)	7.33 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.30	0.13		
			TOTALS	
PEAK FLOW (cms)=	0.18	0.02	0.195 (iii)	
TIME TO PEAK (hrs)=	12.25	12.25	12.25	
RUNOFF VOLUME (mm)=	75.00	20.37	61.34	
TOTAL RAINFALL (mm)=	76.00	76.00	76.00	
RUNOFF COEFFICIENT =	0.99	0.27	0.81	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.195	12.25	61.34
OUTFLOW: ID= 1 (0159)	1.030	0.056	12.33	61.25

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.67
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0221

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\361a8f55
Ptotal= 76.00 mm	Comments: 5-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.52	12.75	10.94	19.00	1.37
0.50	0.76	6.75	1.52	13.00	5.62	19.25	1.37
0.75	0.76	7.00	1.52	13.25	5.62	19.50	1.37
1.00	0.76	7.25	1.52	13.50	1.06	19.75	1.37
1.25	0.76	7.50	1.52	13.75	1.06	20.00	1.37
1.50	0.76	7.75	1.52	14.00	6.23	20.25	1.37
1.75	0.76	8.00	1.52	14.25	6.23	20.50	0.91
2.00	0.76	8.25	1.52	14.50	2.28	20.75	0.91
2.25	1.37	8.50	2.05	14.75	2.28	21.00	0.91
2.50	0.99	8.75	2.05	15.00	2.28	21.25	0.91
2.75	0.99	9.00	2.05	15.25	2.28	21.50	0.91
3.00	0.99	9.25	2.05	15.50	2.28	21.75	0.91
3.25	0.99	9.50	2.43	15.75	2.28	22.00	0.91
3.50	0.99	9.75	2.43	16.00	2.28	22.25	0.91
3.75	0.99	10.00	2.74	16.25	2.28	22.50	0.91
4.00	0.99	10.25	2.74	16.50	1.37	22.75	0.91
4.25	0.99	10.50	3.50	16.75	1.37	23.00	0.91
4.50	1.22	10.75	3.50	17.00	1.37	23.25	0.91
4.75	1.22	11.00	4.71	17.25	1.37	23.50	0.91
5.00	1.22	11.25	4.71	17.50	1.37	23.75	0.91
5.25	1.22	11.50	7.30	17.75	1.37	24.00	0.91
5.50	1.22	11.75	7.30	18.00	1.37	24.25	0.91
5.75	1.22	12.00	31.62	18.25	1.37		
6.00	1.22	12.25	83.90	18.50	1.37		
6.25	1.22	12.50	10.94	18.75	1.37		

CALIB	
STANDHYD (0163)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.22	12.250	83.90	18.33	1.37
0.167	0.00	6.250	1.22	12.333	10.95	18.42	1.37
0.250	0.00	6.333	1.52	12.417	10.94	18.50	1.37
0.333	0.76	6.417	1.52	12.500	10.94	18.58	1.37
0.417	0.76	6.500	1.52	12.583	10.94	18.67	1.37
0.500	0.76	6.583	1.52	12.667	10.94	18.75	1.37
0.583	0.76	6.667	1.52	12.750	10.94	18.83	1.37
0.667	0.76	6.750	1.52	12.833	5.62	18.92	1.37
0.750	0.76	6.833	1.52	12.917	5.62	19.00	1.37
0.833	0.76	6.917	1.52	13.000	5.62	19.08	1.37
0.917	0.76	7.000	1.52	13.083	5.62	19.17	1.37
1.000	0.76	7.083	1.52	13.167	5.62	19.25	1.37
1.083	0.76	7.167	1.52	13.250	5.62	19.33	1.37
1.167	0.76	7.250	1.52	13.333	1.06	19.42	1.37
1.250	0.76	7.333	1.52	13.417	1.06	19.50	1.37
1.333	0.76	7.417	1.52	13.500	1.06	19.58	1.37
1.417	0.76	7.500	1.52	13.583	1.06	19.67	1.37
1.500	0.76	7.583	1.52	13.667	1.06	19.75	1.37
1.583	0.76	7.667	1.52	13.750	1.06	19.83	1.37
1.667	0.76	7.750	1.52	13.833	6.23	19.92	1.37
1.750	0.76	7.833	1.52	13.917	6.23	20.00	1.37
1.833	0.76	7.917	1.52	14.000	6.23	20.08	1.37
1.917	0.76	8.000	1.52	14.083	6.23	20.17	1.37
2.000	0.76	8.083	1.52	14.167	6.23	20.25	1.37
2.083	1.37	8.167	1.52	14.250	6.23	20.33	0.91
2.167	1.37	8.250	1.52	14.333	2.28	20.42	0.91
2.250	1.37	8.333	2.05	14.417	2.28	20.50	0.91

2.333	0.99	8.417	2.05	14.500	2.28	20.58	0.91
2.417	0.99	8.500	2.05	14.583	2.28	20.67	0.91
2.500	0.99	8.583	2.05	14.667	2.28	20.75	0.91
2.583	0.99	8.667	2.05	14.750	2.28	20.83	0.91
2.667	0.99	8.750	2.05	14.833	2.28	20.92	0.91
2.750	0.99	8.833	2.05	14.917	2.28	21.00	0.91
2.833	0.99	8.917	2.05	15.000	2.28	21.08	0.91
2.917	0.99	9.000	2.05	15.083	2.28	21.17	0.91
3.000	0.99	9.083	2.05	15.167	2.28	21.25	0.91
3.083	0.99	9.167	2.05	15.250	2.28	21.33	0.91
3.167	0.99	9.250	2.05	15.333	2.28	21.42	0.91
3.250	0.99	9.333	2.43	15.417	2.28	21.50	0.91
3.333	0.99	9.417	2.43	15.500	2.28	21.58	0.91
3.417	0.99	9.500	2.43	15.583	2.28	21.67	0.91
3.500	0.99	9.583	2.43	15.667	2.28	21.75	0.91
3.583	0.99	9.667	2.43	15.750	2.28	21.83	0.91
3.667	0.99	9.750	2.43	15.833	2.28	21.92	0.91
3.750	0.99	9.833	2.74	15.917	2.28	22.00	0.91
3.833	0.99	9.917	2.74	16.000	2.28	22.08	0.91
3.917	0.99	10.000	2.74	16.083	2.28	22.17	0.91
4.000	0.99	10.083	2.74	16.167	2.28	22.25	0.91
4.083	0.99	10.167	2.74	16.250	2.28	22.33	0.91
4.167	0.99	10.250	2.74	16.333	1.37	22.42	0.91
4.250	0.99	10.333	3.50	16.417	1.37	22.50	0.91
4.333	1.22	10.417	3.50	16.500	1.37	22.58	0.91
4.417	1.22	10.500	3.50	16.583	1.37	22.67	0.91
4.500	1.22	10.583	3.50	16.667	1.37	22.75	0.91
4.583	1.22	10.667	3.50	16.750	1.37	22.83	0.91
4.667	1.22	10.750	3.50	16.833	1.37	22.92	0.91
4.750	1.22	10.833	4.71	16.917	1.37	23.00	0.91
4.833	1.22	10.917	4.71	17.000	1.37	23.08	0.91
4.917	1.22	11.000	4.71	17.083	1.37	23.17	0.91
5.000	1.22	11.083	4.71	17.167	1.37	23.25	0.91
5.083	1.22	11.167	4.71	17.250	1.37	23.33	0.91
5.167	1.22	11.250	4.71	17.333	1.37	23.42	0.91
5.250	1.22	11.333	7.30	17.417	1.37	23.50	0.91
5.333	1.22	11.417	7.30	17.500	1.37	23.58	0.91
5.417	1.22	11.500	7.30	17.583	1.37	23.67	0.91
5.500	1.22	11.583	7.30	17.667	1.37	23.75	0.91
5.583	1.22	11.667	7.30	17.750	1.37	23.83	0.91
5.667	1.22	11.750	7.30	17.833	1.37	23.92	0.91
5.750	1.22	11.833	31.61	17.917	1.37	24.00	0.91
5.833	1.22	11.917	31.62	18.000	1.37	24.08	0.91
5.917	1.22	12.000	31.62	18.083	1.37	24.17	0.91
6.000	1.22	12.083	83.90	18.167	1.37	24.25	0.91
6.083	1.22	12.167	83.90	18.250	1.37		

Max.Eff.Inten.(mm/hr)=	83.90		26.56	
over (min)	5.00		20.00	
Storage Coeff. (min)=	5.51	(ii)	17.50	(ii)
Unit Hyd. Tpeak (min)=	5.00		20.00	
Unit Hyd. peak (cms)=	0.20		0.06	
				TOTALS
PEAK FLOW (cms)=	1.99		0.26	2.168 (iii)
TIME TO PEAK (hrs)=	12.25		12.42	12.25
RUNOFF VOLUME (mm)=	75.00		21.35	52.47
TOTAL RAINFALL (mm)=	76.00		76.00	76.00
RUNOFF COEFFICIENT =	0.99		0.28	0.69

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0152)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0137):	8.10	0.152	12.75	16.86
+ ID2= 2 (0159):	1.03	0.056	12.33	61.25
ID = 3 (0152):	9.13	0.200	12.75	21.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0152)

3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0152):	9.13	0.200	12.75	21.87
+ ID2= 2 (0163):	15.36	2.168	12.25	52.47
ID = 1 (0152):	24.49	2.285	12.25	41.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0161)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.4045	0.7000
0.0151	0.0001	0.5514	0.8000
0.0151	0.1301	0.7611	0.9000
0.0440	0.4217	0.9325	0.9500
0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0152)	24.490	2.285	12.25	41.06
OUTFLOW: ID= 1 (0161)	24.490	0.199	14.33	41.06

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.70
TIME SHIFT OF PEAK FLOW (min)=125.00
MAXIMUM STORAGE USED (ha.m.)= 0.5783

DUHYD (0162)
Inlet Cap.= 0.015
#of Inlets= 1
Total(cms)= 0.0

AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)

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     TOTAL HYD.(ID= 1):  24.49      0.20     14.33   41.06
     ================================================
     MAJOR SYS.(ID= 2):  14.25      0.18     14.33   41.06
     MINOR SYS.(ID= 3):  10.24      0.02     11.58   41.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\361a8f55
| Ptotal= 76.00 mm |    Comments: 5-Year-24-Hour-SCS-Type-II
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.52	12.75	10.94	19.00	1.37
0.50	0.76	6.75	1.52	13.00	5.62	19.25	1.37
0.75	0.76	7.00	1.52	13.25	5.62	19.50	1.37
1.00	0.76	7.25	1.52	13.50	1.06	19.75	1.37
1.25	0.76	7.50	1.52	13.75	1.06	20.00	1.37
1.50	0.76	7.75	1.52	14.00	6.23	20.25	1.37
1.75	0.76	8.00	1.52	14.25	6.23	20.50	0.91
2.00	0.76	8.25	1.52	14.50	2.28	20.75	0.91
2.25	1.37	8.50	2.05	14.75	2.28	21.00	0.91
2.50	0.99	8.75	2.05	15.00	2.28	21.25	0.91
2.75	0.99	9.00	2.05	15.25	2.28	21.50	0.91
3.00	0.99	9.25	2.05	15.50	2.28	21.75	0.91
3.25	0.99	9.50	2.43	15.75	2.28	22.00	0.91
3.50	0.99	9.75	2.43	16.00	2.28	22.25	0.91
3.75	0.99	10.00	2.74	16.25	2.28	22.50	0.91
4.00	0.99	10.25	2.74	16.50	1.37	22.75	0.91
4.25	0.99	10.50	3.50	16.75	1.37	23.00	0.91
4.50	1.22	10.75	3.50	17.00	1.37	23.25	0.91
4.75	1.22	11.00	4.71	17.25	1.37	23.50	0.91
5.00	1.22	11.25	4.71	17.50	1.37	23.75	0.91
5.25	1.22	11.50	7.30	17.75	1.37	24.00	0.91
5.50	1.22	11.75	7.30	18.00	1.37	24.25	0.91
5.75	1.22	12.00	31.62	18.25	1.37		
6.00	1.22	12.25	83.90	18.50	1.37		
6.25	1.22	12.50	10.94	18.75	1.37		

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| CALIB            |
| STANDHYD (  0151)|   Area    (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
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---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.22	12.250	83.90	18.33	1.37
0.167	0.00	6.250	1.22	12.333	10.95	18.42	1.37
0.250	0.00	6.333	1.52	12.417	10.94	18.50	1.37
0.333	0.76	6.417	1.52	12.500	10.94	18.58	1.37
0.417	0.76	6.500	1.52	12.583	10.94	18.67	1.37
0.500	0.76	6.583	1.52	12.667	10.94	18.75	1.37
0.583	0.76	6.667	1.52	12.750	10.94	18.83	1.37
0.667	0.76	6.750	1.52	12.833	5.62	18.92	1.37
0.750	0.76	6.833	1.52	12.917	5.62	19.00	1.37
0.833	0.76	6.917	1.52	13.000	5.62	19.08	1.37
0.917	0.76	7.000	1.52	13.083	5.62	19.17	1.37
1.000	0.76	7.083	1.52	13.167	5.62	19.25	1.37
1.083	0.76	7.167	1.52	13.250	5.62	19.33	1.37
1.167	0.76	7.250	1.52	13.333	1.06	19.42	1.37
1.250	0.76	7.333	1.52	13.417	1.06	19.50	1.37
1.333	0.76	7.417	1.52	13.500	1.06	19.58	1.37
1.417	0.76	7.500	1.52	13.583	1.06	19.67	1.37
1.500	0.76	7.583	1.52	13.667	1.06	19.75	1.37
1.583	0.76	7.667	1.52	13.750	1.06	19.83	1.37
1.667	0.76	7.750	1.52	13.833	6.23	19.92	1.37
1.750	0.76	7.833	1.52	13.917	6.23	20.00	1.37
1.833	0.76	7.917	1.52	14.000	6.23	20.08	1.37
1.917	0.76	8.000	1.52	14.083	6.23	20.17	1.37
2.000	0.76	8.083	1.52	14.167	6.23	20.25	1.37
2.083	1.37	8.167	1.52	14.250	6.23	20.33	0.91
2.167	1.37	8.250	1.52	14.333	2.28	20.42	0.91
2.250	1.37	8.333	2.05	14.417	2.28	20.50	0.91
2.333	0.99	8.417	2.05	14.500	2.28	20.58	0.91
2.417	0.99	8.500	2.05	14.583	2.28	20.67	0.91
2.500	0.99	8.583	2.05	14.667	2.28	20.75	0.91
2.583	0.99	8.667	2.05	14.750	2.28	20.83	0.91
2.667	0.99	8.750	2.05	14.833	2.28	20.92	0.91
2.750	0.99	8.833	2.05	14.917	2.28	21.00	0.91
2.833	0.99	8.917	2.05	15.000	2.28	21.08	0.91
2.917	0.99	9.000	2.05	15.083	2.28	21.17	0.91
3.000	0.99	9.083	2.05	15.167	2.28	21.25	0.91
3.083	0.99	9.167	2.05	15.250	2.28	21.33	0.91
3.167	0.99	9.250	2.05	15.333	2.28	21.42	0.91
3.250	0.99	9.333	2.43	15.417	2.28	21.50	0.91
3.333	0.99	9.417	2.43	15.500	2.28	21.58	0.91
3.417	0.99	9.500	2.43	15.583	2.28	21.67	0.91
3.500	0.99	9.583	2.43	15.667	2.28	21.75	0.91
3.583	0.99	9.667	2.43	15.750	2.28	21.83	0.91
3.667	0.99	9.750	2.43	15.833	2.28	21.92	0.91
3.750	0.99	9.833	2.74	15.917	2.28	22.00	0.91
3.833	0.99	9.917	2.74	16.000	2.28	22.08	0.91
3.917	0.99	10.000	2.74	16.083	2.28	22.17	0.91
4.000	0.99	10.083	2.74	16.167	2.28	22.25	0.91
4.083	0.99	10.167	2.74	16.250	2.28	22.33	0.91
4.167	0.99	10.250	2.74	16.333	1.37	22.42	0.91
4.250	0.99	10.333	3.50	16.417	1.37	22.50	0.91
4.333	1.22	10.417	3.50	16.500	1.37	22.58	0.91
4.417	1.22	10.500	3.50	16.583	1.37	22.67	0.91
4.500	1.22	10.583	3.50	16.667	1.37	22.75	0.91
4.583	1.22	10.667	3.50	16.750	1.37	22.83	0.91
4.667	1.22	10.750	3.50	16.833	1.37	22.92	0.91
4.750	1.22	10.833	4.71	16.917	1.37	23.00	0.91

4.833	1.22	10.917	4.71	17.000	1.37	23.08	0.91
4.917	1.22	11.000	4.71	17.083	1.37	23.17	0.91
5.000	1.22	11.083	4.71	17.167	1.37	23.25	0.91
5.083	1.22	11.167	4.71	17.250	1.37	23.33	0.91
5.167	1.22	11.250	4.71	17.333	1.37	23.42	0.91
5.250	1.22	11.333	7.30	17.417	1.37	23.50	0.91
5.333	1.22	11.417	7.30	17.500	1.37	23.58	0.91
5.417	1.22	11.500	7.30	17.583	1.37	23.67	0.91
5.500	1.22	11.583	7.30	17.667	1.37	23.75	0.91
5.583	1.22	11.667	7.30	17.750	1.37	23.83	0.91
5.667	1.22	11.750	7.30	17.833	1.37	23.92	0.91
5.750	1.22	11.833	31.61	17.917	1.37	24.00	0.91
5.833	1.22	11.917	31.62	18.000	1.37	24.08	0.91
5.917	1.22	12.000	31.62	18.083	1.37	24.17	0.91
6.000	1.22	12.083	83.90	18.167	1.37	24.25	0.91
6.083	1.22	12.167	83.90	18.250	1.37		

			TOTALS
Max.Eff.Inten.(mm/hr)=	83.90	54.32	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.48 (ii)	7.36 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.29	0.13	
PEAK FLOW (cms)=	0.19	0.03	0.219 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	75.00	39.77	66.19
TOTAL RAINFALL (mm)=	76.00	76.00	76.00
RUNOFF COEFFICIENT =	0.99	0.52	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0160)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	1.070	0.219	12.25	66.19
OUTFLOW: ID= 1 (0160)	1.070	0.031	12.75	65.94

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.92
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0328

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\361a8f55

Ptotal= 76.00 mm	Comments: 5-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.52	12.75	10.94	19.00	1.37
0.50	0.76	6.75	1.52	13.00	5.62	19.25	1.37
0.75	0.76	7.00	1.52	13.25	5.62	19.50	1.37
1.00	0.76	7.25	1.52	13.50	1.06	19.75	1.37
1.25	0.76	7.50	1.52	13.75	1.06	20.00	1.37
1.50	0.76	7.75	1.52	14.00	6.23	20.25	1.37
1.75	0.76	8.00	1.52	14.25	6.23	20.50	0.91
2.00	0.76	8.25	1.52	14.50	2.28	20.75	0.91
2.25	1.37	8.50	2.05	14.75	2.28	21.00	0.91
2.50	0.99	8.75	2.05	15.00	2.28	21.25	0.91
2.75	0.99	9.00	2.05	15.25	2.28	21.50	0.91
3.00	0.99	9.25	2.05	15.50	2.28	21.75	0.91
3.25	0.99	9.50	2.43	15.75	2.28	22.00	0.91
3.50	0.99	9.75	2.43	16.00	2.28	22.25	0.91
3.75	0.99	10.00	2.74	16.25	2.28	22.50	0.91
4.00	0.99	10.25	2.74	16.50	1.37	22.75	0.91
4.25	0.99	10.50	3.50	16.75	1.37	23.00	0.91
4.50	1.22	10.75	3.50	17.00	1.37	23.25	0.91
4.75	1.22	11.00	4.71	17.25	1.37	23.50	0.91
5.00	1.22	11.25	4.71	17.50	1.37	23.75	0.91
5.25	1.22	11.50	7.30	17.75	1.37	24.00	0.91
5.50	1.22	11.75	7.30	18.00	1.37	24.25	0.91
5.75	1.22	12.00	31.62	18.25	1.37		
6.00	1.22	12.25	83.90	18.50	1.37		
6.25	1.22	12.50	10.94	18.75	1.37		

CALIB	
STANDHYD (0155)	Area (ha)= 0.78
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.22	12.250	83.90	18.33	1.37
0.167	0.00	6.250	1.22	12.333	10.95	18.42	1.37
0.250	0.00	6.333	1.52	12.417	10.94	18.50	1.37
0.333	0.76	6.417	1.52	12.500	10.94	18.58	1.37
0.417	0.76	6.500	1.52	12.583	10.94	18.67	1.37
0.500	0.76	6.583	1.52	12.667	10.94	18.75	1.37
0.583	0.76	6.667	1.52	12.750	10.94	18.83	1.37
0.667	0.76	6.750	1.52	12.833	5.62	18.92	1.37
0.750	0.76	6.833	1.52	12.917	5.62	19.00	1.37
0.833	0.76	6.917	1.52	13.000	5.62	19.08	1.37

0.917	0.76	7.000	1.52	13.083	5.62	19.17	1.37
1.000	0.76	7.083	1.52	13.167	5.62	19.25	1.37
1.083	0.76	7.167	1.52	13.250	5.62	19.33	1.37
1.167	0.76	7.250	1.52	13.333	1.06	19.42	1.37
1.250	0.76	7.333	1.52	13.417	1.06	19.50	1.37
1.333	0.76	7.417	1.52	13.500	1.06	19.58	1.37
1.417	0.76	7.500	1.52	13.583	1.06	19.67	1.37
1.500	0.76	7.583	1.52	13.667	1.06	19.75	1.37
1.583	0.76	7.667	1.52	13.750	1.06	19.83	1.37
1.667	0.76	7.750	1.52	13.833	6.23	19.92	1.37
1.750	0.76	7.833	1.52	13.917	6.23	20.00	1.37
1.833	0.76	7.917	1.52	14.000	6.23	20.08	1.37
1.917	0.76	8.000	1.52	14.083	6.23	20.17	1.37
2.000	0.76	8.083	1.52	14.167	6.23	20.25	1.37
2.083	1.37	8.167	1.52	14.250	6.23	20.33	0.91
2.167	1.37	8.250	1.52	14.333	2.28	20.42	0.91
2.250	1.37	8.333	2.05	14.417	2.28	20.50	0.91
2.333	0.99	8.417	2.05	14.500	2.28	20.58	0.91
2.417	0.99	8.500	2.05	14.583	2.28	20.67	0.91
2.500	0.99	8.583	2.05	14.667	2.28	20.75	0.91
2.583	0.99	8.667	2.05	14.750	2.28	20.83	0.91
2.667	0.99	8.750	2.05	14.833	2.28	20.92	0.91
2.750	0.99	8.833	2.05	14.917	2.28	21.00	0.91
2.833	0.99	8.917	2.05	15.000	2.28	21.08	0.91
2.917	0.99	9.000	2.05	15.083	2.28	21.17	0.91
3.000	0.99	9.083	2.05	15.167	2.28	21.25	0.91
3.083	0.99	9.167	2.05	15.250	2.28	21.33	0.91
3.167	0.99	9.250	2.05	15.333	2.28	21.42	0.91
3.250	0.99	9.333	2.43	15.417	2.28	21.50	0.91
3.333	0.99	9.417	2.43	15.500	2.28	21.58	0.91
3.417	0.99	9.500	2.43	15.583	2.28	21.67	0.91
3.500	0.99	9.583	2.43	15.667	2.28	21.75	0.91
3.583	0.99	9.667	2.43	15.750	2.28	21.83	0.91
3.667	0.99	9.750	2.43	15.833	2.28	21.92	0.91
3.750	0.99	9.833	2.74	15.917	2.28	22.00	0.91
3.833	0.99	9.917	2.74	16.000	2.28	22.08	0.91
3.917	0.99	10.000	2.74	16.083	2.28	22.17	0.91
4.000	0.99	10.083	2.74	16.167	2.28	22.25	0.91
4.083	0.99	10.167	2.74	16.250	2.28	22.33	0.91
4.167	0.99	10.250	2.74	16.333	1.37	22.42	0.91
4.250	0.99	10.333	3.50	16.417	1.37	22.50	0.91
4.333	1.22	10.417	3.50	16.500	1.37	22.58	0.91
4.417	1.22	10.500	3.50	16.583	1.37	22.67	0.91
4.500	1.22	10.583	3.50	16.667	1.37	22.75	0.91
4.583	1.22	10.667	3.50	16.750	1.37	22.83	0.91
4.667	1.22	10.750	3.50	16.833	1.37	22.92	0.91
4.750	1.22	10.833	4.71	16.917	1.37	23.00	0.91
4.833	1.22	10.917	4.71	17.000	1.37	23.08	0.91
4.917	1.22	11.000	4.71	17.083	1.37	23.17	0.91
5.000	1.22	11.083	4.71	17.167	1.37	23.25	0.91
5.083	1.22	11.167	4.71	17.250	1.37	23.33	0.91
5.167	1.22	11.250	4.71	17.333	1.37	23.42	0.91
5.250	1.22	11.333	7.30	17.417	1.37	23.50	0.91
5.333	1.22	11.417	7.30	17.500	1.37	23.58	0.91
5.417	1.22	11.500	7.30	17.583	1.37	23.67	0.91
5.500	1.22	11.583	7.30	17.667	1.37	23.75	0.91
5.583	1.22	11.667	7.30	17.750	1.37	23.83	0.91
5.667	1.22	11.750	7.30	17.833	1.37	23.92	0.91
5.750	1.22	11.833	31.61	17.917	1.37	24.00	0.91
5.833	1.22	11.917	31.62	18.000	1.37	24.08	0.91
5.917	1.22	12.000	31.62	18.083	1.37	24.17	0.91
6.000	1.22	12.083	83.90	18.167	1.37	24.25	0.91
6.083	1.22	12.167	83.90	18.250	1.37		

Max.Eff.Inten.(mm/hr)=	83.90	54.32	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.25 (ii)	7.13 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.30	0.14	
			TOTALS
PEAK FLOW (cms)=	0.14	0.02	0.160 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	75.00	39.77	66.19
TOTAL RAINFALL (mm)=	76.00	76.00	76.00
RUNOFF COEFFICIENT =	0.99	0.52	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0157)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.160	12.25	66.19
OUTFLOW: ID= 1 (0157)	0.780	0.037	12.42	66.02

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.21
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0197

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\361a8f55
Ptotal= 76.00 mm	Comments: 5-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.52	12.75	10.94	19.00	1.37
0.50	0.76	6.75	1.52	13.00	5.62	19.25	1.37
0.75	0.76	7.00	1.52	13.25	5.62	19.50	1.37
1.00	0.76	7.25	1.52	13.50	1.06	19.75	1.37
1.25	0.76	7.50	1.52	13.75	1.06	20.00	1.37
1.50	0.76	7.75	1.52	14.00	6.23	20.25	1.37
1.75	0.76	8.00	1.52	14.25	6.23	20.50	0.91
2.00	0.76	8.25	1.52	14.50	2.28	20.75	0.91
2.25	1.37	8.50	2.05	14.75	2.28	21.00	0.91

2.50	0.99	8.75	2.05	15.00	2.28	21.25	0.91
2.75	0.99	9.00	2.05	15.25	2.28	21.50	0.91
3.00	0.99	9.25	2.05	15.50	2.28	21.75	0.91
3.25	0.99	9.50	2.43	15.75	2.28	22.00	0.91
3.50	0.99	9.75	2.43	16.00	2.28	22.25	0.91
3.75	0.99	10.00	2.74	16.25	2.28	22.50	0.91
4.00	0.99	10.25	2.74	16.50	1.37	22.75	0.91
4.25	0.99	10.50	3.50	16.75	1.37	23.00	0.91
4.50	1.22	10.75	3.50	17.00	1.37	23.25	0.91
4.75	1.22	11.00	4.71	17.25	1.37	23.50	0.91
5.00	1.22	11.25	4.71	17.50	1.37	23.75	0.91
5.25	1.22	11.50	7.30	17.75	1.37	24.00	0.91
5.50	1.22	11.75	7.30	18.00	1.37	24.25	0.91
5.75	1.22	12.00	31.62	18.25	1.37		
6.00	1.22	12.25	83.90	18.50	1.37		
6.25	1.22	12.50	10.94	18.75	1.37		

CALIB	
STANDHYD (0156)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.22	12.250	83.90	18.33	1.37
0.167	0.00	6.250	1.22	12.333	10.95	18.42	1.37
0.250	0.00	6.333	1.52	12.417	10.94	18.50	1.37
0.333	0.76	6.417	1.52	12.500	10.94	18.58	1.37
0.417	0.76	6.500	1.52	12.583	10.94	18.67	1.37
0.500	0.76	6.583	1.52	12.667	10.94	18.75	1.37
0.583	0.76	6.667	1.52	12.750	10.94	18.83	1.37
0.667	0.76	6.750	1.52	12.833	5.62	18.92	1.37
0.750	0.76	6.833	1.52	12.917	5.62	19.00	1.37
0.833	0.76	6.917	1.52	13.000	5.62	19.08	1.37
0.917	0.76	7.000	1.52	13.083	5.62	19.17	1.37
1.000	0.76	7.083	1.52	13.167	5.62	19.25	1.37
1.083	0.76	7.167	1.52	13.250	5.62	19.33	1.37
1.167	0.76	7.250	1.52	13.333	1.06	19.42	1.37
1.250	0.76	7.333	1.52	13.417	1.06	19.50	1.37
1.333	0.76	7.417	1.52	13.500	1.06	19.58	1.37
1.417	0.76	7.500	1.52	13.583	1.06	19.67	1.37
1.500	0.76	7.583	1.52	13.667	1.06	19.75	1.37
1.583	0.76	7.667	1.52	13.750	1.06	19.83	1.37
1.667	0.76	7.750	1.52	13.833	6.23	19.92	1.37
1.750	0.76	7.833	1.52	13.917	6.23	20.00	1.37
1.833	0.76	7.917	1.52	14.000	6.23	20.08	1.37
1.917	0.76	8.000	1.52	14.083	6.23	20.17	1.37
2.000	0.76	8.083	1.52	14.167	6.23	20.25	1.37
2.083	1.37	8.167	1.52	14.250	6.23	20.33	0.91
2.167	1.37	8.250	1.52	14.333	2.28	20.42	0.91
2.250	1.37	8.333	2.05	14.417	2.28	20.50	0.91
2.333	0.99	8.417	2.05	14.500	2.28	20.58	0.91
2.417	0.99	8.500	2.05	14.583	2.28	20.67	0.91
2.500	0.99	8.583	2.05	14.667	2.28	20.75	0.91
2.583	0.99	8.667	2.05	14.750	2.28	20.83	0.91
2.667	0.99	8.750	2.05	14.833	2.28	20.92	0.91
2.750	0.99	8.833	2.05	14.917	2.28	21.00	0.91
2.833	0.99	8.917	2.05	15.000	2.28	21.08	0.91
2.917	0.99	9.000	2.05	15.083	2.28	21.17	0.91
3.000	0.99	9.083	2.05	15.167	2.28	21.25	0.91
3.083	0.99	9.167	2.05	15.250	2.28	21.33	0.91
3.167	0.99	9.250	2.05	15.333	2.28	21.42	0.91
3.250	0.99	9.333	2.43	15.417	2.28	21.50	0.91
3.333	0.99	9.417	2.43	15.500	2.28	21.58	0.91
3.417	0.99	9.500	2.43	15.583	2.28	21.67	0.91
3.500	0.99	9.583	2.43	15.667	2.28	21.75	0.91
3.583	0.99	9.667	2.43	15.750	2.28	21.83	0.91
3.667	0.99	9.750	2.43	15.833	2.28	21.92	0.91
3.750	0.99	9.833	2.74	15.917	2.28	22.00	0.91
3.833	0.99	9.917	2.74	16.000	2.28	22.08	0.91
3.917	0.99	10.000	2.74	16.083	2.28	22.17	0.91
4.000	0.99	10.083	2.74	16.167	2.28	22.25	0.91
4.083	0.99	10.167	2.74	16.250	2.28	22.33	0.91
4.167	0.99	10.250	2.74	16.333	1.37	22.42	0.91
4.250	0.99	10.333	3.50	16.417	1.37	22.50	0.91
4.333	1.22	10.417	3.50	16.500	1.37	22.58	0.91
4.417	1.22	10.500	3.50	16.583	1.37	22.67	0.91
4.500	1.22	10.583	3.50	16.667	1.37	22.75	0.91
4.583	1.22	10.667	3.50	16.750	1.37	22.83	0.91
4.667	1.22	10.750	3.50	16.833	1.37	22.92	0.91
4.750	1.22	10.833	4.71	16.917	1.37	23.00	0.91
4.833	1.22	10.917	4.71	17.000	1.37	23.08	0.91
4.917	1.22	11.000	4.71	17.083	1.37	23.17	0.91
5.000	1.22	11.083	4.71	17.167	1.37	23.25	0.91
5.083	1.22	11.167	4.71	17.250	1.37	23.33	0.91
5.167	1.22	11.250	4.71	17.333	1.37	23.42	0.91
5.250	1.22	11.333	7.30	17.417	1.37	23.50	0.91
5.333	1.22	11.417	7.30	17.500	1.37	23.58	0.91
5.417	1.22	11.500	7.30	17.583	1.37	23.67	0.91
5.500	1.22	11.583	7.30	17.667	1.37	23.75	0.91
5.583	1.22	11.667	7.30	17.750	1.37	23.83	0.91
5.667	1.22	11.750	7.30	17.833	1.37	23.92	0.91
5.750	1.22	11.833	31.61	17.917	1.37	24.00	0.91
5.833	1.22	11.917	31.62	18.000	1.37	24.08	0.91
5.917	1.22	12.000	31.62	18.083	1.37	24.17	0.91
6.000	1.22	12.083	83.90	18.167	1.37	24.25	0.91
6.083	1.22	12.167	83.90	18.250	1.37		

Max.Eff.Inten.(mm/hr)=		83.90	25.27	
over (min)		5.00	15.00	
Storage Coeff. (min)=		1.64 (ii)	13.87 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.32	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.04	0.00	0.048 (iii)
TIME TO PEAK	(hrs)=	12.25	12.33	12.25
RUNOFF VOLUME	(mm)=	75.00	20.37	59.13

```
     TOTAL RAINFALL   (mm)=      76.00        76.00          76.00
     RUNOFF COEFFICIENT   =       0.99         0.27           0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)    0.270     0.048     12.25      59.13
   OUTFLOW: ID= 1 (  0154)    0.270     0.021     12.33      58.97

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.61
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0044

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0154):     0.27   0.021    12.33    58.97
     + ID2= 2 (  0157):     0.78   0.037    12.42    66.02
       ==================================================
       ID = 3 (  0158):     1.05   0.058    12.33    64.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0158):     1.05   0.058    12.33    64.21
     + ID2= 2 (  0160):     1.07   0.031    12.75    65.94
       ==================================================
       ID = 1 (  0158):     2.12   0.087    12.33    65.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0158):     2.12   0.087    12.33    65.08
     + ID2= 2 (  0162):    14.25   0.184    14.33    41.06
       ==================================================
       ID = 3 (  0158):    16.37   0.241    13.33    44.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\a4ba5651-ce7e-472b-b55c-3bc754bd5cea\scen
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86e9-d1c81bbaf91e\a4ba5651-ce7e-472b-b55c-3bc754bd5cea\scen


DATE: 10-31-2019                          TIME: 10:47:18

USER:


COMMENTS: _____________________________________________________________


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  ***********************************************
  ** SIMULATION : 2-5-Year-4-Hour-Chicago-Barri **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\8c4d0259
| Ptotal= 50.52 mm |    Comments: New DesignStormManualInput
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
```

0.17	3.57	1.17	25.64	2.17	8.12	3.17	4.22
0.33	4.07	1.33	108.92	2.33	6.96	3.33	3.93
0.50	4.76	1.50	33.31	2.50	6.12	3.50	3.68
0.67	5.79	1.67	17.99	2.67	5.48	3.67	3.47
0.83	7.53	1.83	12.60	2.83	4.97	3.83	3.28
1.00	11.20	2.00	9.82	3.00	4.56	4.00	3.12

CALIB			
NASHYD (0137)	Area (ha)=	8.10	Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.59	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.57	1.083	25.64	2.083	8.12	3.08	4.22
0.167	3.57	1.167	25.64	2.167	8.12	3.17	4.22
0.250	4.07	1.250	108.92	2.250	6.96	3.25	3.93
0.333	4.07	1.333	108.92	2.333	6.96	3.33	3.93
0.417	4.76	1.417	33.31	2.417	6.12	3.42	3.68
0.500	4.76	1.500	33.31	2.500	6.12	3.50	3.68
0.583	5.79	1.583	17.99	2.583	5.48	3.58	3.47
0.667	5.79	1.667	17.99	2.667	5.48	3.67	3.47
0.750	7.53	1.750	12.60	2.750	4.97	3.75	3.28
0.833	7.53	1.833	12.60	2.833	4.97	3.83	3.28
0.917	11.20	1.917	9.82	2.917	4.56	3.92	3.12
1.000	11.20	2.000	9.82	3.000	4.56	4.00	3.12

Unit Hyd Qpeak	(cms)=	0.524	
PEAK FLOW	(cms)=	0.086	(i)
TIME TO PEAK	(hrs)=	2.083	
RUNOFF VOLUME	(mm)=	7.576	
TOTAL RAINFALL	(mm)=	50.521	
RUNOFF COEFFICIENT	=	0.150	

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\8c4d0259
Ptotal= 50.52 mm	Comments: New DesignStormManualInput

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.57	1.17	25.64	2.17	8.12	3.17	4.22
0.33	4.07	1.33	108.92	2.33	6.96	3.33	3.93
0.50	4.76	1.50	33.31	2.50	6.12	3.50	3.68
0.67	5.79	1.67	17.99	2.67	5.48	3.67	3.47
0.83	7.53	1.83	12.60	2.83	4.97	3.83	3.28
1.00	11.20	2.00	9.82	3.00	4.56	4.00	3.12

CALIB			
STANDHYD (0153)	Area (ha)=	1.03	
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.57	1.083	25.64	2.083	8.12	3.08	4.22
0.167	3.57	1.167	25.64	2.167	8.12	3.17	4.22
0.250	4.07	1.250	108.92	2.250	6.96	3.25	3.93
0.333	4.07	1.333	108.92	2.333	6.96	3.33	3.93
0.417	4.76	1.417	33.31	2.417	6.12	3.42	3.68
0.500	4.76	1.500	33.31	2.500	6.12	3.50	3.68
0.583	5.79	1.583	17.99	2.583	5.48	3.58	3.47
0.667	5.79	1.667	17.99	2.667	5.48	3.67	3.47
0.750	7.53	1.750	12.60	2.750	4.97	3.75	3.28
0.833	7.53	1.833	12.60	2.833	4.97	3.83	3.28
0.917	11.20	1.917	9.82	2.917	4.56	3.92	3.12
1.000	11.20	2.000	9.82	3.000	4.56	4.00	3.12

Max.Eff.Inten.	(mm/hr)=	108.92	15.70	
over	(min)	5.00	10.00	
Storage Coeff.	(min)=	2.21 (ii)	6.60 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.30	0.14	
				TOTALS
PEAK FLOW	(cms)=	0.23	0.01	0.238 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	49.52	9.33	39.47
TOTAL RAINFALL	(mm)=	50.52	50.52	50.52
RUNOFF COEFFICIENT	=	0.98	0.18	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)

```
                        0.0000     0.0000   |   0.1120      0.0442

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0153)     1.030     0.238      1.33      39.47
   OUTFLOW: ID= 1 (  0159)     1.030     0.050      1.58      39.38

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.18
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0200
```

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\8c4d0259
| Ptotal= 50.52 mm |    Comments: New DesignStormManualInput
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.57	1.17	25.64	2.17	8.12	3.17	4.22
0.33	4.07	1.33	108.92	2.33	6.96	3.33	3.93
0.50	4.76	1.50	33.31	2.50	6.12	3.50	3.68
0.67	5.79	1.67	17.99	2.67	5.48	3.67	3.47
0.83	7.53	1.83	12.60	2.83	4.97	3.83	3.28
1.00	11.20	2.00	9.82	3.00	4.56	4.00	3.12

```
--------------------
| CALIB            |
| STANDHYD (  0163)|   Area    (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      8.91         6.45
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    320.00        40.00
     Mannings n           =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.57	1.083	25.64	2.083	8.12	3.08	4.22
0.167	3.57	1.167	25.64	2.167	8.12	3.17	4.22
0.250	4.07	1.250	108.92	2.250	6.96	3.25	3.93
0.333	4.07	1.333	108.92	2.333	6.96	3.33	3.93
0.417	4.76	1.417	33.31	2.417	6.12	3.42	3.68
0.500	4.76	1.500	33.31	2.500	6.12	3.50	3.68
0.583	5.79	1.583	17.99	2.583	5.48	3.58	3.47
0.667	5.79	1.667	17.99	2.667	5.48	3.67	3.47
0.750	7.53	1.750	12.60	2.750	4.97	3.75	3.28
0.833	7.53	1.833	12.60	2.833	4.97	3.83	3.28
0.917	11.20	1.917	9.82	2.917	4.56	3.92	3.12
1.000	11.20	2.000	9.82	3.000	4.56	4.00	3.12

```
     Max.Eff.Inten.(mm/hr)=     108.92        12.59
               over (min)         5.00        25.00
     Storage Coeff.  (min)=       4.96 (ii)   21.13 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.22         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.41         0.12          2.442 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.67           1.33
     RUNOFF VOLUME    (mm)=      49.52         9.84          32.85
     TOTAL RAINFALL   (mm)=      50.52        50.52          50.52
     RUNOFF COEFFICIENT   =       0.98         0.19           0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0152)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0137):      8.10    0.086     2.08     7.58
     + ID2= 2 (  0159):      1.03    0.050     1.58    39.38
       ================================================
       ID = 3 (  0152):      9.13    0.130     2.00    11.16

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

```
--------------------
| ADD HYD  (  0152)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0152):      9.13    0.130     2.00    11.16
     + ID2= 2 (  0163):     15.36    2.442     1.33    32.85
       ================================================
       ID = 1 (  0152):     24.49    2.489     1.33    24.77

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

```
--------------------
| RESERVOIR(  0161)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |      OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000    |  0.4045     0.7000
                          0.0151     0.0001    |  0.5514     0.8000
                          0.0151     0.1301    |  0.7611     0.9000
                          0.0440     0.4217    |  0.9325     0.9500
                          0.2194     0.6000    |  1.1147     1.0500

                                AREA     QPEAK     TPEAK       R.V.
```

```
                            (ha)      (cms)      (hrs)       (mm)
   INFLOW : ID= 2 (  0152)     24.490      2.489      1.33      24.77
   OUTFLOW: ID= 1 (  0161)     24.490      0.126      4.00      24.77

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.05
                  TIME SHIFT OF PEAK FLOW          (min)=160.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5052

--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0162)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.13      4.00   24.77
     ================================================
     MAJOR SYS.(ID= 2):  11.07      0.11      4.00   24.77
     MINOR SYS.(ID= 3):  13.42      0.02      1.33   24.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\8c4d0259
| Ptotal= 50.52 mm |    Comments: New DesignStormManualInput
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    3.57 |  1.17   25.64 |  2.17    8.12 |  3.17    4.22
                0.33    4.07 |  1.33  108.92 |  2.33    6.96 |  3.33    3.93
                0.50    4.76 |  1.50   33.31 |  2.50    6.12 |  3.50    3.68
                0.67    5.79 |  1.67   17.99 |  2.67    5.48 |  3.67    3.47
                0.83    7.53 |  1.83   12.60 |  2.83    4.97 |  3.83    3.28
                1.00   11.20 |  2.00    9.82 |  3.00    4.56 |  4.00    3.12

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--------------------
| CALIB            |
| STANDHYD (  0151)|   Area    (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    3.57 | 1.083   25.64 | 2.083    8.12 |  3.08    4.22
               0.167    3.57 | 1.167   25.64 | 2.167    8.12 |  3.17    4.22
               0.250    4.07 | 1.250  108.92 | 2.250    6.96 |  3.25    3.93
               0.333    4.07 | 1.333  108.92 | 2.333    6.96 |  3.33    3.93
               0.417    4.76 | 1.417   33.31 | 2.417    6.12 |  3.42    3.68
               0.500    4.76 | 1.500   33.31 | 2.500    6.12 |  3.50    3.68
               0.583    5.79 | 1.583   17.99 | 2.583    5.48 |  3.58    3.47
               0.667    5.79 | 1.667   17.99 | 2.667    5.48 |  3.67    3.47
               0.750    7.53 | 1.750   12.60 | 2.750    4.97 |  3.75    3.28
               0.833    7.53 | 1.833   12.60 | 2.833    4.97 |  3.83    3.28
               0.917   11.20 | 1.917    9.82 | 2.917    4.56 |  3.92    3.12
               1.000   11.20 | 2.000    9.82 | 3.000    4.56 |  4.00    3.12

     Max.Eff.Inten.(mm/hr)=     108.92        39.16
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.23 (ii)    6.63 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.24         0.02          0.258 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      49.52        20.46          42.25
     TOTAL RAINFALL   (mm)=      50.52        50.52          50.52
     RUNOFF COEFFICIENT   =       0.98         0.40           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0160)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.0600     0.0645

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0151)     1.070     0.258      1.33      42.25
   OUTFLOW: ID= 1 (  0160)     1.070     0.026      2.00      42.01

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.13
                  TIME SHIFT OF PEAK FLOW          (min)= 40.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0281

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\8c4d0259
| Ptotal= 50.52 mm |    Comments: New DesignStormManualInput
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    3.57 |  1.17   25.64 |  2.17    8.12 |  3.17    4.22
```

0.33	4.07	1.33	108.92	2.33	6.96	3.33	3.93
0.50	4.76	1.50	33.31	2.50	6.12	3.50	3.68
0.67	5.79	1.67	17.99	2.67	5.48	3.67	3.47
0.83	7.53	1.83	12.60	2.83	4.97	3.83	3.28
1.00	11.20	2.00	9.82	3.00	4.56	4.00	3.12

CALIB	
STANDHYD (0155)	Area (ha)= 0.78
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.57	1.083	25.64	2.083	8.12	3.08	4.22
0.167	3.57	1.167	25.64	2.167	8.12	3.17	4.22
0.250	4.07	1.250	108.92	2.250	6.96	3.25	3.93
0.333	4.07	1.333	108.92	2.333	6.96	3.33	3.93
0.417	4.76	1.417	33.31	2.417	6.12	3.42	3.68
0.500	4.76	1.500	33.31	2.500	6.12	3.50	3.68
0.583	5.79	1.583	17.99	2.583	5.48	3.58	3.47
0.667	5.79	1.667	17.99	2.667	5.48	3.67	3.47
0.750	7.53	1.750	12.60	2.750	4.97	3.75	3.28
0.833	7.53	1.833	12.60	2.833	4.97	3.83	3.28
0.917	11.20	1.917	9.82	2.917	4.56	3.92	3.12
1.000	11.20	2.000	9.82	3.000	4.56	4.00	3.12

				TOTALS
Max.Eff.Inten.(mm/hr)=		108.92	39.16	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.03 (ii)	6.42 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.31	0.14	
PEAK FLOW	(cms)=	0.18	0.02	0.189 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	49.52	20.46	42.25
TOTAL RAINFALL	(mm)=	50.52	50.52	50.52
RUNOFF COEFFICIENT	=	0.98	0.40	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0157)		
IN= 2---> OUT= 1		
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000
	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0750	0.0396

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2	(0155)	0.780	0.189	1.33	42.25
OUTFLOW: ID= 1	(0157)	0.780	0.033	1.67	42.09

PEAK FLOW REDUCTION [Qout/Qin](%)= 17.31
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.0173

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\8c4d0259
Ptotal= 50.52 mm	Comments: New DesignStormManualInput

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.57	1.17	25.64	2.17	8.12	3.17	4.22
0.33	4.07	1.33	108.92	2.33	6.96	3.33	3.93
0.50	4.76	1.50	33.31	2.50	6.12	3.50	3.68
0.67	5.79	1.67	17.99	2.67	5.48	3.67	3.47
0.83	7.53	1.83	12.60	2.83	4.97	3.83	3.28
1.00	11.20	2.00	9.82	3.00	4.56	4.00	3.12

CALIB	
STANDHYD (0156)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.57	1.083	25.64	2.083	8.12	3.08	4.22
0.167	3.57	1.167	25.64	2.167	8.12	3.17	4.22
0.250	4.07	1.250	108.92	2.250	6.96	3.25	3.93
0.333	4.07	1.333	108.92	2.333	6.96	3.33	3.93
0.417	4.76	1.417	33.31	2.417	6.12	3.42	3.68
0.500	4.76	1.500	33.31	2.500	6.12	3.50	3.68
0.583	5.79	1.583	17.99	2.583	5.48	3.58	3.47

```
               0.667    5.79 | 1.667   17.99 | 2.667    5.48 |  3.67    3.47
               0.750    7.53 | 1.750   12.60 | 2.750    4.97 |  3.75    3.28
               0.833    7.53 | 1.833   12.60 | 2.833    4.97 |  3.83    3.28
               0.917   11.20 | 1.917    9.82 | 2.917    4.56 |  3.92    3.12
               1.000   11.20 | 2.000    9.82 | 3.000    4.56 |  4.00    3.12

     Max.Eff.Inten.(mm/hr)=     108.92        15.70
               over (min)          5.00        10.00
     Storage Coeff.  (min)=        1.48 (ii)    6.24 (ii)
     Unit Hyd. Tpeak (min)=        5.00        10.00
     Unit Hyd. peak  (cms)=        0.33         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.06         0.00          0.060 (iii)
     TIME TO PEAK    (hrs)=        1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=       49.52         9.33          37.85
     TOTAL RAINFALL   (mm)=       50.52        50.52          50.52
     RUNOFF COEFFICIENT   =        0.98         0.18           0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)      0.270     0.060      1.33      37.85
   OUTFLOW: ID= 1 (  0154)      0.270     0.020      1.50      37.69

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.90
                  TIME SHIFT OF PEAK FLOW         (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0040

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0154):     0.27   0.020     1.50    37.69
     + ID2= 2 (  0157):     0.78   0.033     1.67    42.09
       ================================================
       ID = 3 (  0158):     1.05   0.052     1.58    40.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0158):     1.05   0.052     1.58    40.96
     + ID2= 2 (  0160):     1.07   0.026     2.00    42.01
       ================================================
       ID = 1 (  0158):     2.12   0.076     1.67    41.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0158):     2.12   0.076     1.67    41.49
     + ID2= 2 (  0162):    11.07   0.111     4.00    24.77
       ================================================
       ID = 3 (  0158):    13.19   0.148     3.83    27.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\1c3ef64d-c3e4-45c1-963c-a901cc575111\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\1c3ef64d-c3e4-45c1-963c-a901cc575111\scen


DATE: 10-31-2019                          TIME: 10:47:18

USER:


COMMENTS: _____
```

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-----------------------
  ***********************************************
  ** SIMULATION : 2-5-Year-4-Hour-Chicago-MTO   **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 509.121
| Ptotal= 44.15 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.71	1.17	17.57	2.17	7.34	3.17	4.28
0.33	4.15	1.33	101.82	2.33	6.48	3.33	4.03
0.50	4.73	1.50	21.56	2.50	5.83	3.50	3.81
0.67	5.57	1.67	13.59	2.67	5.32	3.67	3.62
0.83	6.91	1.83	10.37	2.83	4.91	3.83	3.45
1.00	9.45	2.00	8.54	3.00	4.57	4.00	3.30

```
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--------------------
| CALIB            |
| NASHYD   (  0137)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.71	1.083	17.57	2.083	7.34	3.08	4.28
0.167	3.71	1.167	17.57	2.167	7.34	3.17	4.28
0.250	4.15	1.250	101.82	2.250	6.48	3.25	4.03
0.333	4.15	1.333	101.82	2.333	6.48	3.33	4.03
0.417	4.73	1.417	21.56	2.417	5.83	3.42	3.81
0.500	4.73	1.500	21.56	2.500	5.83	3.50	3.81
0.583	5.57	1.583	13.59	2.583	5.32	3.58	3.62
0.667	5.57	1.667	13.59	2.667	5.32	3.67	3.62
0.750	6.91	1.750	10.37	2.750	4.91	3.75	3.45
0.833	6.91	1.833	10.37	2.833	4.91	3.83	3.45
0.917	9.45	1.917	8.54	2.917	4.57	3.92	3.30
1.000	9.45	2.000	8.54	3.000	4.57	4.00	3.30

```
     Unit Hyd Qpeak  (cms)=   0.524

     PEAK FLOW       (cms)=   0.060 (i)
     TIME TO PEAK    (hrs)=   2.083
     RUNOFF VOLUME    (mm)=   5.738
     TOTAL RAINFALL   (mm)=  44.152
     RUNOFF COEFFICIENT   =   0.130

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

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 509.121
| Ptotal= 44.15 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.71	1.17	17.57	2.17	7.34	3.17	4.28
0.33	4.15	1.33	101.82	2.33	6.48	3.33	4.03
0.50	4.73	1.50	21.56	2.50	5.83	3.50	3.81
0.67	5.57	1.67	13.59	2.67	5.32	3.67	3.62
0.83	6.91	1.83	10.37	2.83	4.91	3.83	3.45
1.00	9.45	2.00	8.54	3.00	4.57	4.00	3.30

```
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0153)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.26
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      82.87        40.00
     Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.71	1.083	17.57	2.083	7.34	3.08	4.28
0.167	3.71	1.167	17.57	2.167	7.34	3.17	4.28
0.250	4.15	1.250	101.82	2.250	6.48	3.25	4.03
0.333	4.15	1.333	101.82	2.333	6.48	3.33	4.03
0.417	4.73	1.417	21.56	2.417	5.83	3.42	3.81
0.500	4.73	1.500	21.56	2.500	5.83	3.50	3.81
0.583	5.57	1.583	13.59	2.583	5.32	3.58	3.62
0.667	5.57	1.667	13.59	2.667	5.32	3.67	3.62
0.750	6.91	1.750	10.37	2.750	4.91	3.75	3.45
0.833	6.91	1.833	10.37	2.833	4.91	3.83	3.45
0.917	9.45	1.917	8.54	2.917	4.57	3.92	3.30
1.000	9.45	2.000	8.54	3.000	4.57	4.00	3.30

```
     Max.Eff.Inten.(mm/hr)=     101.82        12.53
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.27 (ii)    6.78 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.14
```

				TOTALS
PEAK FLOW	(cms)=	0.22	0.01	0.221 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	43.15	7.11	34.14
TOTAL RAINFALL	(mm)=	44.15	44.15	44.15
RUNOFF COEFFICIENT	=	0.98	0.16	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)|	OUTFLOW	STORAGE	OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)	(cms)	(ha.m.)
DT= 5.0 min		0.0000	0.0000	0.1120	0.0442

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)		1.030	0.221	1.33	34.14
OUTFLOW: ID= 1 (0159)		1.030	0.042	1.58	34.05

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.13
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0168

CHICAGO STORM	IDF curve parameters: A= 509.121
Ptotal= 44.15 mm	B= 0.000
	C= 0.699

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.71	1.17	17.57	2.17	7.34	3.17	4.28
0.33	4.15	1.33	101.82	2.33	6.48	3.33	4.03
0.50	4.73	1.50	21.56	2.50	5.83	3.50	3.81
0.67	5.57	1.67	13.59	2.67	5.32	3.67	3.62
0.83	6.91	1.83	10.37	2.83	4.91	3.83	3.45
1.00	9.45	2.00	8.54	3.00	4.57	4.00	3.30

CALIB			
STANDHYD (0163)	Area (ha)= 15.36		
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00	Dir. Conn.(%)= 58.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)= 8.91	6.45	
Dep. Storage	(mm)= 1.00	5.00	
Average Slope	(%)= 1.00	2.00	
Length	(m)= 320.00	40.00	
Mannings n	= 0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.71	1.083	17.57	2.083	7.34	3.08	4.28
0.167	3.71	1.167	17.57	2.167	7.34	3.17	4.28
0.250	4.15	1.250	101.82	2.250	6.48	3.25	4.03
0.333	4.15	1.333	101.82	2.333	6.48	3.33	4.03
0.417	4.73	1.417	21.56	2.417	5.83	3.42	3.81
0.500	4.73	1.500	21.56	2.500	5.83	3.50	3.81
0.583	5.57	1.583	13.59	2.583	5.32	3.58	3.62
0.667	5.57	1.667	13.59	2.667	5.32	3.67	3.62
0.750	6.91	1.750	10.37	2.750	4.91	3.75	3.45
0.833	6.91	1.833	10.37	2.833	4.91	3.83	3.45
0.917	9.45	1.917	8.54	2.917	4.57	3.92	3.30
1.000	9.45	2.000	8.54	3.000	4.57	4.00	3.30

				TOTALS
Max.Eff.Inten.	(mm/hr)=	101.82	9.07	
	over (min)	5.00	25.00	
Storage Coeff.	(min)=	5.10 (ii)	23.53 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	25.00	
Unit Hyd. peak	(cms)=	0.21	0.05	
PEAK FLOW	(cms)=	2.22	0.08	2.242 (iii)
TIME TO PEAK	(hrs)=	1.33	1.67	1.33
RUNOFF VOLUME	(mm)=	43.15	7.50	28.18
TOTAL RAINFALL	(mm)=	44.15	44.15	44.15
RUNOFF COEFFICIENT	=	0.98	0.17	0.64

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0152)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0137):		8.10	0.060	2.08	5.74
+ ID2= 2 (0159):		1.03	0.042	1.58	34.05
ID = 3 (0152):		9.13	0.097	2.00	8.93

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ADD HYD  (  0152)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0152):      9.13   0.097     2.00     8.93
     + ID2= 2 (  0163):     15.36   2.242     1.33    28.18
       ================================================
       ID = 1 (  0152):     24.49   2.281     1.33    21.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| RESERVOIR(  0161)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
-------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |  0.4045      0.7000
                        0.0151     0.0001    |  0.5514      0.8000
                        0.0151     0.1301    |  0.7611      0.9000
                        0.0440     0.4217    |  0.9325      0.9500
                        0.2194     0.6000    |  1.1147      1.0500

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0152)    24.490     2.281      1.33      21.00
   OUTFLOW: ID= 1 (  0161)    24.490     0.072      4.17      21.01

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.15
                  TIME SHIFT OF PEAK FLOW         (min)=170.00
                  MAXIMUM  STORAGE   USED        (ha.m.)=  0.4502

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-------------------
| DUHYD    (  0162)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.07      4.17   21.01
     ================================================
     MAJOR SYS.(ID= 2):   9.01      0.06      4.17   21.01
     MINOR SYS.(ID= 3):  15.48      0.02      1.33   21.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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-------------------
| CHICAGO STORM    |    IDF curve parameters: A= 509.121
| Ptotal= 44.15 mm |                          B=   0.000
-------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    3.71 |  1.17   17.57 |  2.17    7.34 |  3.17    4.28
                0.33    4.15 |  1.33  101.82 |  2.33    6.48 |  3.33    4.03
                0.50    4.73 |  1.50   21.56 |  2.50    5.83 |  3.50    3.81
                0.67    5.57 |  1.67   13.59 |  2.67    5.32 |  3.67    3.62
                0.83    6.91 |  1.83   10.37 |  2.83    4.91 |  3.83    3.45
                1.00    9.45 |  2.00    8.54 |  3.00    4.57 |  4.00    3.30

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-------------------
| CALIB            |
| STANDHYD (  0151)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
-------------------

                                    IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=           0.80          0.27
     Dep. Storage     (mm)=           1.00          5.00
     Average Slope     (%)=           1.00          2.00
     Length            (m)=          84.46         40.00
     Mannings n           =          0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    3.71 | 1.083   17.57 | 2.083    7.34 |  3.08    4.28
                0.167    3.71 | 1.167   17.57 | 2.167    7.34 |  3.17    4.28
                0.250    4.15 | 1.250  101.82 | 2.250    6.48 |  3.25    4.03
                0.333    4.15 | 1.333  101.82 | 2.333    6.48 |  3.33    4.03
                0.417    4.73 | 1.417   21.56 | 2.417    5.83 |  3.42    3.81
                0.500    4.73 | 1.500   21.56 | 2.500    5.83 |  3.50    3.81
                0.583    5.57 | 1.583   13.59 | 2.583    5.32 |  3.58    3.62
                0.667    5.57 | 1.667   13.59 | 2.667    5.32 |  3.67    3.62
                0.750    6.91 | 1.750   10.37 | 2.750    4.91 |  3.75    3.45
                0.833    6.91 | 1.833   10.37 | 2.833    4.91 |  3.83    3.45
                0.917    9.45 | 1.917    8.54 | 2.917    4.57 |  3.92    3.30
                1.000    9.45 | 2.000    8.54 | 3.000    4.57 |  4.00    3.30

     Max.Eff.Inten.(mm/hr)=     101.82        32.12
               over (min)          5.00        10.00
     Storage Coeff.  (min)=        2.29 (ii)    6.81 (ii)
     Unit Hyd. Tpeak (min)=        5.00        10.00
     Unit Hyd. peak  (cms)=        0.30         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.22         0.02        0.238 (iii)
     TIME TO PEAK    (hrs)=        1.33         1.42         1.33
     RUNOFF VOLUME    (mm)=       43.15        16.15        36.40
     TOTAL RAINFALL   (mm)=       44.15        44.15        44.15
     RUNOFF COEFFICIENT   =        0.98         0.37         0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0160)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0600      0.0645

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0151)     1.070     0.238      1.33      36.40
   OUTFLOW: ID= 1 (  0160)     1.070     0.022      2.08      36.15

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.09
                  TIME SHIFT OF PEAK FLOW          (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0233
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| CHICAGO STORM    |    IDF curve parameters: A= 509.121
| Ptotal= 44.15 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.71	1.17	17.57	2.17	7.34	3.17	4.28
0.33	4.15	1.33	101.82	2.33	6.48	3.33	4.03
0.50	4.73	1.50	21.56	2.50	5.83	3.50	3.81
0.67	5.57	1.67	13.59	2.67	5.32	3.67	3.62
0.83	6.91	1.83	10.37	2.83	4.91	3.83	3.45
1.00	9.45	2.00	8.54	3.00	4.57	4.00	3.30

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--------------------
| CALIB            |
| STANDHYD (  0155)|   Area    (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
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---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.71	1.083	17.57	2.083	7.34	3.08	4.28
0.167	3.71	1.167	17.57	2.167	7.34	3.17	4.28
0.250	4.15	1.250	101.82	2.250	6.48	3.25	4.03
0.333	4.15	1.333	101.82	2.333	6.48	3.33	4.03
0.417	4.73	1.417	21.56	2.417	5.83	3.42	3.81
0.500	4.73	1.500	21.56	2.500	5.83	3.50	3.81
0.583	5.57	1.583	13.59	2.583	5.32	3.58	3.62
0.667	5.57	1.667	13.59	2.667	5.32	3.67	3.62
0.750	6.91	1.750	10.37	2.750	4.91	3.75	3.45
0.833	6.91	1.833	10.37	2.833	4.91	3.83	3.45
0.917	9.45	1.917	8.54	2.917	4.57	3.92	3.30
1.000	9.45	2.000	8.54	3.000	4.57	4.00	3.30

```
     Max.Eff.Inten.(mm/hr)=     101.82        32.12
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.08 (ii)    6.60 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.16         0.01          0.175 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      43.15        16.15          36.40
     TOTAL RAINFALL   (mm)=      44.15        44.15          44.15
     RUNOFF COEFFICIENT   =       0.98         0.37           0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| RESERVOIR(  0157)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0750      0.0396

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0155)     0.780     0.175      1.33      36.40
   OUTFLOW: ID= 1 (  0157)     0.780     0.027      1.67      36.23

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.55
                  TIME SHIFT OF PEAK FLOW          (min)= 20.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0143
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--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 509.121
| Ptotal= 44.15 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.71	1.17	17.57	2.17	7.34	3.17	4.28
0.33	4.15	1.33	101.82	2.33	6.48	3.33	4.03

0.50	4.73	1.50	21.56	2.50	5.83	3.50	3.81
0.67	5.57	1.67	13.59	2.67	5.32	3.67	3.62
0.83	6.91	1.83	10.37	2.83	4.91	3.83	3.45
1.00	9.45	2.00	8.54	3.00	4.57	4.00	3.30

CALIB	
STANDHYD (0156)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.71	1.083	17.57	2.083	7.34	3.08	4.28
0.167	3.71	1.167	17.57	2.167	7.34	3.17	4.28
0.250	4.15	1.250	101.82	2.250	6.48	3.25	4.03
0.333	4.15	1.333	101.82	2.333	6.48	3.33	4.03
0.417	4.73	1.417	21.56	2.417	5.83	3.42	3.81
0.500	4.73	1.500	21.56	2.500	5.83	3.50	3.81
0.583	5.57	1.583	13.59	2.583	5.32	3.58	3.62
0.667	5.57	1.667	13.59	2.667	5.32	3.67	3.62
0.750	6.91	1.750	10.37	2.750	4.91	3.75	3.45
0.833	6.91	1.833	10.37	2.833	4.91	3.83	3.45
0.917	9.45	1.917	8.54	2.917	4.57	3.92	3.30
1.000	9.45	2.000	8.54	3.000	4.57	4.00	3.30

Max.Eff.Inten.(mm/hr)=		101.82	12.53	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.52 (ii)	6.41 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.33	0.14	
				TOTALS
PEAK FLOW	(cms)=	0.05	0.00	0.056 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	43.15	7.11	32.68
TOTAL RAINFALL	(mm)=	44.15	44.15	44.15
RUNOFF COEFFICIENT	=	0.98	0.16	0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0154)			
IN= 2---> OUT= 1			
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0156)	0.270	0.056	1.33	32.68
OUTFLOW: ID= 1 (0154)	0.270	0.017	1.42	32.53

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.79
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0035

ADD HYD (0158)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0154):	0.27	0.017	1.42	32.53
+ ID2= 2 (0157):	0.78	0.027	1.67	36.23
ID = 3 (0158):	1.05	0.043	1.50	35.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0158)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0158):	1.05	0.043	1.50	35.28
+ ID2= 2 (0160):	1.07	0.022	2.08	36.15
ID = 1 (0158):	2.12	0.063	1.58	35.72

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0158)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0158):	2.12	0.063	1.58	35.72
+ ID2= 2 (0162):	9.01	0.057	4.17	21.01
ID = 3 (0158):	11.13	0.088	4.08	23.81

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L
V V I SS U U A A L

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\502357eb-271a-414c-ad1e-3542344ea7aa\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\502357eb-271a-414c-ad1e-3542344ea7aa\scen


DATE: 10-31-2019                          TIME: 10:47:18

USER:


COMMENTS: _____________________________________________________________

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  ************************************************
  ** SIMULATION : 2-5-Year-6-Hour-SCS-Type-II   **
  ************************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\d811bc74
| Ptotal= 59.50 mm |    Comments: 5-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    5.95 |  3.75   13.09 |  5.50    2.38
                0.50    2.38 |  2.25    5.95 |  4.00    5.95 |  5.75    2.38
                0.75    2.38 |  2.50    7.14 |  4.25    5.95 |  6.00    2.38
                1.00    3.57 |  2.75    7.14 |  4.50    4.76 |  6.25    2.38
                1.25    3.57 |  3.00   35.70 |  4.75    4.76 |
                1.50    3.57 |  3.25   92.82 |  5.00    3.57 |
                1.75    3.57 |  3.50   13.09 |  5.25    3.57 |

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--------------------
| CALIB            |
| NASHYD   (  0137)|   Area    (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                                  ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    3.57 | 3.250   92.82 |  4.83    3.57
               0.167    0.00 | 1.750    3.57 | 3.333   13.09 |  4.92    3.57
               0.250    0.00 | 1.833    5.95 | 3.417   13.09 |  5.00    3.57
               0.333    2.38 | 1.917    5.95 | 3.500   13.09 |  5.08    3.57
               0.417    2.38 | 2.000    5.95 | 3.583   13.09 |  5.17    3.57
               0.500    2.38 | 2.083    5.95 | 3.667   13.09 |  5.25    3.57
               0.583    2.38 | 2.167    5.95 | 3.750   13.09 |  5.33    2.38
               0.667    2.38 | 2.250    5.95 | 3.833    5.95 |  5.42    2.38
               0.750    2.38 | 2.333    7.14 | 3.917    5.95 |  5.50    2.38
               0.833    3.57 | 2.417    7.14 | 4.000    5.95 |  5.58    2.38
               0.917    3.57 | 2.500    7.14 | 4.083    5.95 |  5.67    2.38
               1.000    3.57 | 2.583    7.14 | 4.167    5.95 |  5.75    2.38
               1.083    3.57 | 2.667    7.14 | 4.250    5.95 |  5.83    2.38
               1.167    3.57 | 2.750    7.14 | 4.333    4.76 |  5.92    2.38
               1.250    3.57 | 2.833   35.70 | 4.417    4.76 |  6.00    2.38
               1.333    3.57 | 2.917   35.70 | 4.500    4.76 |  6.08    2.38
               1.417    3.57 | 3.000   35.70 | 4.583    4.76 |  6.17    2.38
               1.500    3.57 | 3.083   92.82 | 4.667    4.76 |  6.25    2.38
               1.583    3.57 | 3.167   92.82 | 4.750    4.76 |

    Unit Hyd Qpeak  (cms)=   0.524

    PEAK FLOW       (cms)=   0.132 (i)
    TIME TO PEAK    (hrs)=   3.833
    RUNOFF VOLUME    (mm)=  10.515
    TOTAL RAINFALL   (mm)=  59.500
    RUNOFF COEFFICIENT   =   0.177

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

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\d811bc74
| Ptotal= 59.50 mm |    Comments: 5-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    5.95 |  3.75   13.09 |  5.50    2.38
                0.50    2.38 |  2.25    5.95 |  4.00    5.95 |  5.75    2.38
                0.75    2.38 |  2.50    7.14 |  4.25    5.95 |  6.00    2.38
                1.00    3.57 |  2.75    7.14 |  4.50    4.76 |  6.25    2.38
                1.25    3.57 |  3.00   35.70 |  4.75    4.76 |
                1.50    3.57 |  3.25   92.82 |  5.00    3.57 |
                1.75    3.57 |  3.50   13.09 |  5.25    3.57 |

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| CALIB            |
| STANDHYD (  0153)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.26
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      82.87        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	3.57	3.250	92.82	4.83	3.57
0.167	0.00	1.750	3.57	3.333	13.09	4.92	3.57
0.250	0.00	1.833	5.95	3.417	13.09	5.00	3.57
0.333	2.38	1.917	5.95	3.500	13.09	5.08	3.57
0.417	2.38	2.000	5.95	3.583	13.09	5.17	3.57
0.500	2.38	2.083	5.95	3.667	13.09	5.25	3.57
0.583	2.38	2.167	5.95	3.750	13.09	5.33	2.38
0.667	2.38	2.250	5.95	3.833	5.95	5.42	2.38
0.750	2.38	2.333	7.14	3.917	5.95	5.50	2.38
0.833	3.57	2.417	7.14	4.000	5.95	5.58	2.38
0.917	3.57	2.500	7.14	4.083	5.95	5.67	2.38
1.000	3.57	2.583	7.14	4.167	5.95	5.75	2.38
1.083	3.57	2.667	7.14	4.250	5.95	5.83	2.38
1.167	3.57	2.750	7.14	4.333	4.76	5.92	2.38
1.250	3.57	2.833	35.70	4.417	4.76	6.00	2.38
1.333	3.57	2.917	35.70	4.500	4.76	6.08	2.38
1.417	3.57	3.000	35.70	4.583	4.76	6.17	2.38
1.500	3.57	3.083	92.82	4.667	4.76	6.25	2.38
1.583	3.57	3.167	92.82	4.750	4.76		

```
     Max.Eff.Inten.(mm/hr)=      92.82        25.37
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.35 (ii)    7.04 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.14
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.20         0.01        0.213 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25         3.25
     RUNOFF VOLUME    (mm)=      58.50        12.86        47.09
     TOTAL RAINFALL   (mm)=      59.50        59.50        59.50
     RUNOFF COEFFICIENT   =       0.98         0.22         0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0159)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1120     0.0442

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0153)      1.030     0.213      3.25      47.09
   OUTFLOW: ID= 1 (  0159)      1.030     0.061      3.33      47.00

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.45
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0239

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\d811bc74
| Ptotal= 59.50 mm |    Comments: 5-Year-6-Hour-SCS-Type-II
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	5.95	3.75	13.09	5.50	2.38
0.50	2.38	2.25	5.95	4.00	5.95	5.75	2.38
0.75	2.38	2.50	7.14	4.25	5.95	6.00	2.38
1.00	3.57	2.75	7.14	4.50	4.76	6.25	2.38
1.25	3.57	3.00	35.70	4.75	4.76		
1.50	3.57	3.25	92.82	5.00	3.57		
1.75	3.57	3.50	13.09	5.25	3.57		

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--------------------
| CALIB            |
| STANDHYD (  0163)|   Area     (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91         6.45
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     320.00        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	3.57	3.250	92.82	4.83	3.57
0.167	0.00	1.750	3.57	3.333	13.09	4.92	3.57
0.250	0.00	1.833	5.95	3.417	13.09	5.00	3.57
0.333	2.38	1.917	5.95	3.500	13.09	5.08	3.57
0.417	2.38	2.000	5.95	3.583	13.09	5.17	3.57
0.500	2.38	2.083	5.95	3.667	13.09	5.25	3.57
0.583	2.38	2.167	5.95	3.750	13.09	5.33	2.38
0.667	2.38	2.250	5.95	3.833	5.95	5.42	2.38

0.750	2.38	2.333	7.14	3.917	5.95	5.50	2.38
0.833	3.57	2.417	7.14	4.000	5.95	5.58	2.38
0.917	3.57	2.500	7.14	4.083	5.95	5.67	2.38
1.000	3.57	2.583	7.14	4.167	5.95	5.75	2.38
1.083	3.57	2.667	7.14	4.250	5.95	5.83	2.38
1.167	3.57	2.750	7.14	4.333	4.76	5.92	2.38
1.250	3.57	2.833	35.70	4.417	4.76	6.00	2.38
1.333	3.57	2.917	35.70	4.500	4.76	6.08	2.38
1.417	3.57	3.000	35.70	4.583	4.76	6.17	2.38
1.500	3.57	3.083	92.82	4.667	4.76	6.25	2.38
1.583	3.57	3.167	92.82	4.750	4.76		

			TOTALS
Max.Eff.Inten.(mm/hr)=	92.82	23.88	
over (min)	5.00	20.00	
Storage Coeff. (min)=	5.29 (ii)	17.80 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.21	0.06	
PEAK FLOW (cms)=	2.21	0.22	2.353 (iii)
TIME TO PEAK (hrs)=	3.25	3.50	3.25
RUNOFF VOLUME (mm)=	58.50	13.52	39.61
TOTAL RAINFALL (mm)=	59.50	59.50	59.50
RUNOFF COEFFICIENT =	0.98	0.23	0.67

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0152)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0137):	8.10	0.132	3.83	10.51
+ ID2= 2 (0159):	1.03	0.061	3.33	47.00
ID = 3 (0152):	9.13	0.183	3.75	14.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0152)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0152):	9.13	0.183	3.75	14.63
+ ID2= 2 (0163):	15.36	2.353	3.25	39.61
ID = 1 (0152):	24.49	2.452	3.25	30.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0161)	IN= 2---> OUT= 1			
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.4045	0.7000
	0.0151	0.0001	0.5514	0.8000
	0.0151	0.1301	0.7611	0.9000
	0.0440	0.4217	0.9325	0.9500
	0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0152)	24.490	2.452	3.25	30.30
OUTFLOW: ID= 1 (0161)	24.490	0.185	5.25	30.30

PEAK FLOW REDUCTION [Qout/Qin](%)= 7.54
TIME SHIFT OF PEAK FLOW (min)=120.00
MAXIMUM STORAGE USED (ha.m.)= 0.5650

DUHYD (0162)				
Inlet Cap.= 0.015				
#of Inlets= 1				
Total(cms)= 0.0	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.49	0.18	5.25	30.30
MAJOR SYS.(ID= 2):	13.08	0.17	5.25	30.30
MINOR SYS.(ID= 3):	11.41	0.02	3.00	30.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\d811bc74
Ptotal= 59.50 mm	Comments: 5-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	5.95	3.75	13.09	5.50	2.38
0.50	2.38	2.25	5.95	4.00	5.95	5.75	2.38
0.75	2.38	2.50	7.14	4.25	5.95	6.00	2.38
1.00	3.57	2.75	7.14	4.50	4.76	6.25	2.38
1.25	3.57	3.00	35.70	4.75	4.76		
1.50	3.57	3.25	92.82	5.00	3.57		
1.75	3.57	3.50	13.09	5.25	3.57		

CALIB		
STANDHYD (0151)	Area (ha)= 1.07	
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00

Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	3.57	3.250	92.82	4.83	3.57
0.167	0.00	1.750	3.57	3.333	13.09	4.92	3.57
0.250	0.00	1.833	5.95	3.417	13.09	5.00	3.57
0.333	2.38	1.917	5.95	3.500	13.09	5.08	3.57
0.417	2.38	2.000	5.95	3.583	13.09	5.17	3.57
0.500	2.38	2.083	5.95	3.667	13.09	5.25	3.57
0.583	2.38	2.167	5.95	3.750	13.09	5.33	2.38
0.667	2.38	2.250	5.95	3.833	5.95	5.42	2.38
0.750	2.38	2.333	7.14	3.917	5.95	5.50	2.38
0.833	3.57	2.417	7.14	4.000	5.95	5.58	2.38
0.917	3.57	2.500	7.14	4.083	5.95	5.67	2.38
1.000	3.57	2.583	7.14	4.167	5.95	5.75	2.38
1.083	3.57	2.667	7.14	4.250	5.95	5.83	2.38
1.167	3.57	2.750	7.14	4.333	4.76	5.92	2.38
1.250	3.57	2.833	35.70	4.417	4.76	6.00	2.38
1.333	3.57	2.917	35.70	4.500	4.76	6.08	2.38
1.417	3.57	3.000	35.70	4.583	4.76	6.17	2.38
1.500	3.57	3.083	92.82	4.667	4.76	6.25	2.38
1.583	3.57	3.167	92.82	4.750	4.76		

Max.Eff.Inten.(mm/hr)	=	92.82	53.90	
over (min)		5.00	10.00	
Storage Coeff. (min)	=	2.38 (ii)	7.06 (ii)	
Unit Hyd. Tpeak (min)	=	5.00	10.00	
Unit Hyd. peak (cms)	=	0.30	0.14	
				TOTALS
PEAK FLOW (cms)	=	0.21	0.03	0.238 (iii)
TIME TO PEAK (hrs)	=	3.25	3.25	3.25
RUNOFF VOLUME (mm)	=	58.50	26.94	50.61
TOTAL RAINFALL (mm)	=	59.50	59.50	59.50
RUNOFF COEFFICIENT	=	0.98	0.45	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0160)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	1.070	0.238	3.25	50.61
OUTFLOW: ID= 1 (0160)	1.070	0.032	3.75	50.35

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.29
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0341

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\d811bc74
Ptotal= 59.50 mm	Comments: 5-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	5.95	3.75	13.09	5.50	2.38
0.50	2.38	2.25	5.95	4.00	5.95	5.75	2.38
0.75	2.38	2.50	7.14	4.25	5.95	6.00	2.38
1.00	3.57	2.75	7.14	4.50	4.76	6.25	2.38
1.25	3.57	3.00	35.70	4.75	4.76		
1.50	3.57	3.25	92.82	5.00	3.57		
1.75	3.57	3.50	13.09	5.25	3.57		

CALIB			
STANDHYD (0155)	Area (ha)= 0.78		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	3.57	3.250	92.82	4.83	3.57
0.167	0.00	1.750	3.57	3.333	13.09	4.92	3.57
0.250	0.00	1.833	5.95	3.417	13.09	5.00	3.57
0.333	2.38	1.917	5.95	3.500	13.09	5.08	3.57
0.417	2.38	2.000	5.95	3.583	13.09	5.17	3.57
0.500	2.38	2.083	5.95	3.667	13.09	5.25	3.57
0.583	2.38	2.167	5.95	3.750	13.09	5.33	2.38
0.667	2.38	2.250	5.95	3.833	5.95	5.42	2.38
0.750	2.38	2.333	7.14	3.917	5.95	5.50	2.38
0.833	3.57	2.417	7.14	4.000	5.95	5.58	2.38
0.917	3.57	2.500	7.14	4.083	5.95	5.67	2.38
1.000	3.57	2.583	7.14	4.167	5.95	5.75	2.38
1.083	3.57	2.667	7.14	4.250	5.95	5.83	2.38
1.167	3.57	2.750	7.14	4.333	4.76	5.92	2.38
1.250	3.57	2.833	35.70	4.417	4.76	6.00	2.38

1.333	3.57	2.917	35.70	4.500	4.76	6.08	2.38
1.417	3.57	3.000	35.70	4.583	4.76	6.17	2.38
1.500	3.57	3.083	92.82	4.667	4.76	6.25	2.38
1.583	3.57	3.167	92.82	4.750	4.76		

Max.Eff.Inten.(mm/hr)=	92.82	53.90		
over (min)	5.00	10.00		
Storage Coeff. (min)=	2.16 (ii)	6.85 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.31	0.14		
			TOTALS	
PEAK FLOW (cms)=	0.15	0.02	0.174 (iii)	
TIME TO PEAK (hrs)=	3.25	3.25	3.25	
RUNOFF VOLUME (mm)=	58.50	26.94	50.60	
TOTAL RAINFALL (mm)=	59.50	59.50	59.50	
RUNOFF COEFFICIENT =	0.98	0.45	0.85	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0157)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.174	3.25	50.60
OUTFLOW: ID= 1 (0157)	0.780	0.039	3.42	50.44

PEAK FLOW REDUCTION [Qout/Qin](%)= 22.68
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0209

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\d811bc74
Ptotal= 59.50 mm	Comments: 5-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	5.95	3.75	13.09	5.50	2.38
0.50	2.38	2.25	5.95	4.00	5.95	5.75	2.38
0.75	2.38	2.50	7.14	4.25	5.95	6.00	2.38
1.00	3.57	2.75	7.14	4.50	4.76	6.25	2.38
1.25	3.57	3.00	35.70	4.75	4.76		
1.50	3.57	3.25	92.82	5.00	3.57		
1.75	3.57	3.50	13.09	5.25	3.57		

CALIB			
STANDHYD (0156)	Area (ha)= 0.27		
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00	Dir. Conn.(%)= 71.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.19	0.08
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	42.43	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	3.57	3.250	92.82	4.83	3.57
0.167	0.00	1.750	3.57	3.333	13.09	4.92	3.57
0.250	0.00	1.833	5.95	3.417	13.09	5.00	3.57
0.333	2.38	1.917	5.95	3.500	13.09	5.08	3.57
0.417	2.38	2.000	5.95	3.583	13.09	5.17	3.57
0.500	2.38	2.083	5.95	3.667	13.09	5.25	3.57
0.583	2.38	2.167	5.95	3.750	13.09	5.33	2.38
0.667	2.38	2.250	5.95	3.833	5.95	5.42	2.38
0.750	2.38	2.333	7.14	3.917	5.95	5.50	2.38
0.833	3.57	2.417	7.14	4.000	5.95	5.58	2.38
0.917	3.57	2.500	7.14	4.083	5.95	5.67	2.38
1.000	3.57	2.583	7.14	4.167	5.95	5.75	2.38
1.083	3.57	2.667	7.14	4.250	5.95	5.83	2.38
1.167	3.57	2.750	7.14	4.333	4.76	5.92	2.38
1.250	3.57	2.833	35.70	4.417	4.76	6.00	2.38
1.333	3.57	2.917	35.70	4.500	4.76	6.08	2.38
1.417	3.57	3.000	35.70	4.583	4.76	6.17	2.38
1.500	3.57	3.083	92.82	4.667	4.76	6.25	2.38
1.583	3.57	3.167	92.82	4.750	4.76		

Max.Eff.Inten.(mm/hr)=	92.82	22.65		
over (min)	5.00	15.00		
Storage Coeff. (min)=	1.57 (ii)	14.36 (ii)		
Unit Hyd. Tpeak (min)=	5.00	15.00		
Unit Hyd. peak (cms)=	0.33	0.08		
			TOTALS	
PEAK FLOW (cms)=	0.05	0.00	0.052 (iii)	
TIME TO PEAK (hrs)=	3.25	3.42	3.25	
RUNOFF VOLUME (mm)=	58.50	12.86	45.23	
TOTAL RAINFALL (mm)=	59.50	59.50	59.50	
RUNOFF COEFFICIENT =	0.98	0.22	0.76	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)      0.270     0.052      3.25      45.23
   OUTFLOW: ID= 1 (  0154)      0.270     0.023      3.33      45.08

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.63
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0048

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0154):     0.27   0.023     3.33    45.08
      + ID2= 2 (  0157):     0.78   0.039     3.42    50.44
        ================================================
        ID = 3 (  0158):     1.05   0.062     3.33    49.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0158):     1.05   0.062     3.33    49.06
      + ID2= 2 (  0160):     1.07   0.032     3.75    50.35
        ================================================
        ID = 1 (  0158):     2.12   0.092     3.33    49.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0158):     2.12   0.092     3.33    49.71
      + ID2= 2 (  0162):    13.08   0.170     5.25    30.30
        ================================================
        ID = 3 (  0158):    15.20   0.223     4.83    33.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
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DATE: 10-31-2019                          TIME: 10:47:19

USER:


COMMENTS: _____________________________________________________

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  ********************************************
  ** SIMULATION : 3-10-Year-12-Hour-SCS-Type-II **
  ********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\6041a8cc
| Ptotal= 76.00 mm |    Comments: 10-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    3.04 |  6.75   13.68 | 10.00    2.66
                0.50    1.90 |  3.75    3.04 |  7.00    6.08 | 10.25    2.66
                0.75    1.90 |  4.00    3.04 |  7.25    6.08 | 10.50    1.52
                1.00    1.90 |  4.25    3.04 |  7.50    4.56 | 10.75    1.52
                1.25    1.90 |  4.50    4.56 |  7.75    4.56 | 11.00    1.52
                1.50    1.90 |  4.75    4.56 |  8.00    4.56 | 11.25    1.52
                1.75    1.90 |  5.00    6.08 |  8.25    4.56 | 11.50    1.52
                2.00    1.90 |  5.25    6.08 |  8.50    2.66 | 11.75    1.52
                2.25    1.90 |  5.50    9.12 |  8.75    2.66 | 12.00    1.52
                2.50    2.28 |  5.75    9.12 |  9.00    2.66 | 12.25    1.52
                2.75    2.28 |  6.00   36.48 |  9.25    2.66 |
```

3.00	2.28	6.25	100.32	9.50	2.66
3.25	2.28	6.50	13.68	9.75	2.66

CALIB			
NASHYD (0137)	Area (ha)=	8.10	Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.59	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.28	6.250	100.32	9.33	2.66
0.167	0.00	3.250	2.28	6.333	13.68	9.42	2.66
0.250	0.00	3.333	3.04	6.417	13.68	9.50	2.66
0.333	1.90	3.417	3.04	6.500	13.68	9.58	2.66
0.417	1.90	3.500	3.04	6.583	13.68	9.67	2.66
0.500	1.90	3.583	3.04	6.667	13.68	9.75	2.66
0.583	1.90	3.667	3.04	6.750	13.68	9.83	2.66
0.667	1.90	3.750	3.04	6.833	6.08	9.92	2.66
0.750	1.90	3.833	3.04	6.917	6.08	10.00	2.66
0.833	1.90	3.917	3.04	7.000	6.08	10.08	2.66
0.917	1.90	4.000	3.04	7.083	6.08	10.17	2.66
1.000	1.90	4.083	3.04	7.167	6.08	10.25	2.66
1.083	1.90	4.167	3.04	7.250	6.08	10.33	1.52
1.167	1.90	4.250	3.04	7.333	4.56	10.42	1.52
1.250	1.90	4.333	4.56	7.417	4.56	10.50	1.52
1.333	1.90	4.417	4.56	7.500	4.56	10.58	1.52
1.417	1.90	4.500	4.56	7.583	4.56	10.67	1.52
1.500	1.90	4.583	4.56	7.667	4.56	10.75	1.52
1.583	1.90	4.667	4.56	7.750	4.56	10.83	1.52
1.667	1.90	4.750	4.56	7.833	4.56	10.92	1.52
1.750	1.90	4.833	6.08	7.917	4.56	11.00	1.52
1.833	1.90	4.917	6.08	8.000	4.56	11.08	1.52
1.917	1.90	5.000	6.08	8.083	4.56	11.17	1.52
2.000	1.90	5.083	6.08	8.167	4.56	11.25	1.52
2.083	1.90	5.167	6.08	8.250	4.56	11.33	1.52
2.167	1.90	5.250	6.08	8.333	2.66	11.42	1.52
2.250	1.90	5.333	9.12	8.417	2.66	11.50	1.52
2.333	2.28	5.417	9.12	8.500	2.66	11.58	1.52
2.417	2.28	5.500	9.12	8.583	2.66	11.67	1.52
2.500	2.28	5.583	9.12	8.667	2.66	11.75	1.52
2.583	2.28	5.667	9.12	8.750	2.66	11.83	1.52
2.667	2.28	5.750	9.12	8.833	2.66	11.92	1.52
2.750	2.28	5.833	36.48	8.917	2.66	12.00	1.52
2.833	2.28	5.917	36.48	9.000	2.66	12.08	1.52
2.917	2.28	6.000	36.48	9.083	2.66	12.17	1.52
3.000	2.28	6.083	100.32	9.167	2.66	12.25	1.52
3.083	2.28	6.167	100.32	9.250	2.66		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.182 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 16.860

TOTAL RAINFALL (mm)= 76.000
RUNOFF COEFFICIENT = 0.222

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\6041a8cc
Ptotal= 76.00 mm	Comments: 10-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.04	6.75	13.68	10.00	2.66
0.50	1.90	3.75	3.04	7.00	6.08	10.25	2.66
0.75	1.90	4.00	3.04	7.25	6.08	10.50	1.52
1.00	1.90	4.25	3.04	7.50	4.56	10.75	1.52
1.25	1.90	4.50	4.56	7.75	4.56	11.00	1.52
1.50	1.90	4.75	4.56	8.00	4.56	11.25	1.52
1.75	1.90	5.00	6.08	8.25	4.56	11.50	1.52
2.00	1.90	5.25	6.08	8.50	2.66	11.75	1.52
2.25	1.90	5.50	9.12	8.75	2.66	12.00	1.52
2.50	2.28	5.75	9.12	9.00	2.66	12.25	1.52
2.75	2.28	6.00	36.48	9.25	2.66		
3.00	2.28	6.25	100.32	9.50	2.66		
3.25	2.28	6.50	13.68	9.75	2.66		

CALIB			
STANDHYD (0153)	Area (ha)=	1.03	
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.28	6.250	100.32	9.33	2.66
0.167	0.00	3.250	2.28	6.333	13.68	9.42	2.66
0.250	0.00	3.333	3.04	6.417	13.68	9.50	2.66
0.333	1.90	3.417	3.04	6.500	13.68	9.58	2.66
0.417	1.90	3.500	3.04	6.583	13.68	9.67	2.66
0.500	1.90	3.583	3.04	6.667	13.68	9.75	2.66
0.583	1.90	3.667	3.04	6.750	13.68	9.83	2.66
0.667	1.90	3.750	3.04	6.833	6.08	9.92	2.66
0.750	1.90	3.833	3.04	6.917	6.08	10.00	2.66
0.833	1.90	3.917	3.04	7.000	6.08	10.08	2.66
0.917	1.90	4.000	3.04	7.083	6.08	10.17	2.66

1.000	1.90	4.083	3.04	7.167	6.08	10.25	2.66
1.083	1.90	4.167	3.04	7.250	6.08	10.33	1.52
1.167	1.90	4.250	3.04	7.333	4.56	10.42	1.52
1.250	1.90	4.333	4.56	7.417	4.56	10.50	1.52
1.333	1.90	4.417	4.56	7.500	4.56	10.58	1.52
1.417	1.90	4.500	4.56	7.583	4.56	10.67	1.52
1.500	1.90	4.583	4.56	7.667	4.56	10.75	1.52
1.583	1.90	4.667	4.56	7.750	4.56	10.83	1.52
1.667	1.90	4.750	4.56	7.833	4.56	10.92	1.52
1.750	1.90	4.833	6.08	7.917	4.56	11.00	1.52
1.833	1.90	4.917	6.08	8.000	4.56	11.08	1.52
1.917	1.90	5.000	6.08	8.083	4.56	11.17	1.52
2.000	1.90	5.083	6.08	8.167	4.56	11.25	1.52
2.083	1.90	5.167	6.08	8.250	4.56	11.33	1.52
2.167	1.90	5.250	6.08	8.333	2.66	11.42	1.52
2.250	1.90	5.333	9.12	8.417	2.66	11.50	1.52
2.333	2.28	5.417	9.12	8.500	2.66	11.58	1.52
2.417	2.28	5.500	9.12	8.583	2.66	11.67	1.52
2.500	2.28	5.583	9.12	8.667	2.66	11.75	1.52
2.583	2.28	5.667	9.12	8.750	2.66	11.83	1.52
2.667	2.28	5.750	9.12	8.833	2.66	11.92	1.52
2.750	2.28	5.833	36.48	8.917	2.66	12.00	1.52
2.833	2.28	5.917	36.48	9.000	2.66	12.08	1.52
2.917	2.28	6.000	36.48	9.083	2.66	12.17	1.52
3.000	2.28	6.083	100.32	9.167	2.66	12.25	1.52
3.083	2.28	6.167	100.32	9.250	2.66		

			TOTALS
Max.Eff.Inten.(mm/hr)=	100.32	33.45	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.28 (ii)	6.82 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.30	0.14	
PEAK FLOW (cms)=	0.22	0.02	0.234 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	75.00	20.37	61.34
TOTAL RAINFALL (mm)=	76.00	76.00	76.00
RUNOFF COEFFICIENT =	0.99	0.27	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.234	6.25	61.34
OUTFLOW: ID= 1 (0159)	1.030	0.067	6.33	61.25

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.60
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0264

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\6041a8cc
Ptotal= 76.00 mm	Comments: 10-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.04	6.75	13.68	10.00	2.66
0.50	1.90	3.75	3.04	7.00	6.08	10.25	2.66
0.75	1.90	4.00	3.04	7.25	6.08	10.50	1.52
1.00	1.90	4.25	3.04	7.50	4.56	10.75	1.52
1.25	1.90	4.50	4.56	7.75	4.56	11.00	1.52
1.50	1.90	4.75	4.56	8.00	4.56	11.25	1.52
1.75	1.90	5.00	6.08	8.25	4.56	11.50	1.52
2.00	1.90	5.25	6.08	8.50	2.66	11.75	1.52
2.25	1.90	5.50	9.12	8.75	2.66	12.00	1.52
2.50	2.28	5.75	9.12	9.00	2.66	12.25	1.52
2.75	2.28	6.00	36.48	9.25	2.66		
3.00	2.28	6.25	100.32	9.50	2.66		
3.25	2.28	6.50	13.68	9.75	2.66		

CALIB	
STANDHYD (0163)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.28	6.250	100.32	9.33	2.66
0.167	0.00	3.250	2.28	6.333	13.68	9.42	2.66
0.250	0.00	3.333	3.04	6.417	13.68	9.50	2.66
0.333	1.90	3.417	3.04	6.500	13.68	9.58	2.66
0.417	1.90	3.500	3.04	6.583	13.68	9.67	2.66
0.500	1.90	3.583	3.04	6.667	13.68	9.75	2.66
0.583	1.90	3.667	3.04	6.750	13.68	9.83	2.66
0.667	1.90	3.750	3.04	6.833	6.08	9.92	2.66
0.750	1.90	3.833	3.04	6.917	6.08	10.00	2.66
0.833	1.90	3.917	3.04	7.000	6.08	10.08	2.66
0.917	1.90	4.000	3.04	7.083	6.08	10.17	2.66
1.000	1.90	4.083	3.04	7.167	6.08	10.25	2.66

1.083	1.90	4.167	3.04	7.250	6.08	10.33	1.52
1.167	1.90	4.250	3.04	7.333	4.56	10.42	1.52
1.250	1.90	4.333	4.56	7.417	4.56	10.50	1.52
1.333	1.90	4.417	4.56	7.500	4.56	10.58	1.52
1.417	1.90	4.500	4.56	7.583	4.56	10.67	1.52
1.500	1.90	4.583	4.56	7.667	4.56	10.75	1.52
1.583	1.90	4.667	4.56	7.750	4.56	10.83	1.52
1.667	1.90	4.750	4.56	7.833	4.56	10.92	1.52
1.750	1.90	4.833	6.08	7.917	4.56	11.00	1.52
1.833	1.90	4.917	6.08	8.000	4.56	11.08	1.52
1.917	1.90	5.000	6.08	8.083	4.56	11.17	1.52
2.000	1.90	5.083	6.08	8.167	4.56	11.25	1.52
2.083	1.90	5.167	6.08	8.250	4.56	11.33	1.52
2.167	1.90	5.250	6.08	8.333	2.66	11.42	1.52
2.250	1.90	5.333	9.12	8.417	2.66	11.50	1.52
2.333	2.28	5.417	9.12	8.500	2.66	11.58	1.52
2.417	2.28	5.500	9.12	8.583	2.66	11.67	1.52
2.500	2.28	5.583	9.12	8.667	2.66	11.75	1.52
2.583	2.28	5.667	9.12	8.750	2.66	11.83	1.52
2.667	2.28	5.750	9.12	8.833	2.66	11.92	1.52
2.750	2.28	5.833	36.48	8.917	2.66	12.00	1.52
2.833	2.28	5.917	36.48	9.000	2.66	12.08	1.52
2.917	2.28	6.000	36.48	9.083	2.66	12.17	1.52
3.000	2.28	6.083	100.32	9.167	2.66	12.25	1.52
3.083	2.28	6.167	100.32	9.250	2.66		

			TOTALS
Max.Eff.Inten.(mm/hr)=	100.32	32.20	
over (min)	5.00	20.00	
Storage Coeff. (min)=	5.13 (ii)	16.23 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.21	0.06	
PEAK FLOW (cms)=	2.40	0.32	2.612 (iii)
TIME TO PEAK (hrs)=	6.25	6.42	6.25
RUNOFF VOLUME (mm)=	75.00	21.35	52.47
TOTAL RAINFALL (mm)=	76.00	76.00	76.00
RUNOFF COEFFICIENT =	0.99	0.28	0.69

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0152)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0137):	8.10	0.182	6.75	16.86
+ ID2= 2 (0159):	1.03	0.067	6.33	61.25
ID = 3 (0152):	9.13	0.240	6.75	21.87

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0152)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0152):	9.13	0.240	6.75	21.87
+ ID2= 2 (0163):	15.36	2.612	6.25	52.47
ID = 1 (0152):	24.49	2.746	6.25	41.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0161)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.4045	0.7000
0.0151	0.0001	0.5514	0.8000
0.0151	0.1301	0.7611	0.9000
0.0440	0.4217	0.9325	0.9500
0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0152)	24.490	2.746	6.25	41.06
OUTFLOW: ID= 1 (0161)	24.490	0.293	7.58	41.06

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.68
TIME SHIFT OF PEAK FLOW (min)= 80.00
MAXIMUM STORAGE USED (ha.m.)= 0.6400

DUHYD (0162)
Inlet Cap.= 0.015
#of Inlets= 1
Total(cms)= 0.0

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.49	0.29	7.58	41.06
MAJOR SYS.(ID= 2):	15.39	0.28	7.58	41.06
MINOR SYS.(ID= 3):	9.10	0.02	5.67	41.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM
Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\6041a8cc
Ptotal= 76.00 mm
Comments: 10-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.04	6.75	13.68	10.00	2.66
0.50	1.90	3.75	3.04	7.00	6.08	10.25	2.66
0.75	1.90	4.00	3.04	7.25	6.08	10.50	1.52
1.00	1.90	4.25	3.04	7.50	4.56	10.75	1.52

1.25	1.90	4.50	4.56	7.75	4.56	11.00	1.52
1.50	1.90	4.75	4.56	8.00	4.56	11.25	1.52
1.75	1.90	5.00	6.08	8.25	4.56	11.50	1.52
2.00	1.90	5.25	6.08	8.50	2.66	11.75	1.52
2.25	1.90	5.50	9.12	8.75	2.66	12.00	1.52
2.50	2.28	5.75	9.12	9.00	2.66	12.25	1.52
2.75	2.28	6.00	36.48	9.25	2.66		
3.00	2.28	6.25	100.32	9.50	2.66		
3.25	2.28	6.50	13.68	9.75	2.66		

CALIB	
STANDHYD (0151)	Area (ha)= 1.07
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.28	6.250	100.32	9.33	2.66
0.167	0.00	3.250	2.28	6.333	13.68	9.42	2.66
0.250	0.00	3.333	3.04	6.417	13.68	9.50	2.66
0.333	1.90	3.417	3.04	6.500	13.68	9.58	2.66
0.417	1.90	3.500	3.04	6.583	13.68	9.67	2.66
0.500	1.90	3.583	3.04	6.667	13.68	9.75	2.66
0.583	1.90	3.667	3.04	6.750	13.68	9.83	2.66
0.667	1.90	3.750	3.04	6.833	6.08	9.92	2.66
0.750	1.90	3.833	3.04	6.917	6.08	10.00	2.66
0.833	1.90	3.917	3.04	7.000	6.08	10.08	2.66
0.917	1.90	4.000	3.04	7.083	6.08	10.17	2.66
1.000	1.90	4.083	3.04	7.167	6.08	10.25	2.66
1.083	1.90	4.167	3.04	7.250	6.08	10.33	1.52
1.167	1.90	4.250	3.04	7.333	4.56	10.42	1.52
1.250	1.90	4.333	4.56	7.417	4.56	10.50	1.52
1.333	1.90	4.417	4.56	7.500	4.56	10.58	1.52
1.417	1.90	4.500	4.56	7.583	4.56	10.67	1.52
1.500	1.90	4.583	4.56	7.667	4.56	10.75	1.52
1.583	1.90	4.667	4.56	7.750	4.56	10.83	1.52
1.667	1.90	4.750	4.56	7.833	4.56	10.92	1.52
1.750	1.90	4.833	6.08	7.917	4.56	11.00	1.52
1.833	1.90	4.917	6.08	8.000	4.56	11.08	1.52
1.917	1.90	5.000	6.08	8.083	4.56	11.17	1.52
2.000	1.90	5.083	6.08	8.167	4.56	11.25	1.52
2.083	1.90	5.167	6.08	8.250	4.56	11.33	1.52
2.167	1.90	5.250	6.08	8.333	2.66	11.42	1.52
2.250	1.90	5.333	9.12	8.417	2.66	11.50	1.52
2.333	2.28	5.417	9.12	8.500	2.66	11.58	1.52
2.417	2.28	5.500	9.12	8.583	2.66	11.67	1.52
2.500	2.28	5.583	9.12	8.667	2.66	11.75	1.52
2.583	2.28	5.667	9.12	8.750	2.66	11.83	1.52
2.667	2.28	5.750	9.12	8.833	2.66	11.92	1.52
2.750	2.28	5.833	36.48	8.917	2.66	12.00	1.52
2.833	2.28	5.917	36.48	9.000	2.66	12.08	1.52
2.917	2.28	6.000	36.48	9.083	2.66	12.17	1.52
3.000	2.28	6.083	100.32	9.167	2.66	12.25	1.52
3.083	2.28	6.167	100.32	9.250	2.66		

				TOTALS
Max.Eff.Inten.(mm/hr)=		100.32	65.93	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.31 (ii)	6.85 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.30	0.14	
PEAK FLOW	(cms)=	0.22	0.04	0.263 (iii)
TIME TO PEAK	(hrs)=	6.25	6.25	6.25
RUNOFF VOLUME	(mm)=	75.00	39.77	66.19
TOTAL RAINFALL	(mm)=	76.00	76.00	76.00
RUNOFF COEFFICIENT	=	0.99	0.52	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0160)			
IN= 2---> OUT= 1			
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms) / STORAGE (ha.m.)
	0.0000	0.0000	0.0600 / 0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	1.070	0.263	6.25	66.19
OUTFLOW: ID= 1 (0160)	1.070	0.036	6.75	65.94

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.75
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0390

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\6041a8cc
Ptotal= 76.00 mm	Comments: 10-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.04	6.75	13.68	10.00	2.66
0.50	1.90	3.75	3.04	7.00	6.08	10.25	2.66
0.75	1.90	4.00	3.04	7.25	6.08	10.50	1.52
1.00	1.90	4.25	3.04	7.50	4.56	10.75	1.52
1.25	1.90	4.50	4.56	7.75	4.56	11.00	1.52

1.50	1.90	4.75	4.56	8.00	4.56	11.25	1.52
1.75	1.90	5.00	6.08	8.25	4.56	11.50	1.52
2.00	1.90	5.25	6.08	8.50	2.66	11.75	1.52
2.25	1.90	5.50	9.12	8.75	2.66	12.00	1.52
2.50	2.28	5.75	9.12	9.00	2.66	12.25	1.52
2.75	2.28	6.00	36.48	9.25	2.66		
3.00	2.28	6.25	100.32	9.50	2.66		
3.25	2.28	6.50	13.68	9.75	2.66		

CALIB	
STANDHYD (0155)	Area (ha)= 0.78
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.28	6.250	100.32	9.33	2.66
0.167	0.00	3.250	2.28	6.333	13.68	9.42	2.66
0.250	0.00	3.333	3.04	6.417	13.68	9.50	2.66
0.333	1.90	3.417	3.04	6.500	13.68	9.58	2.66
0.417	1.90	3.500	3.04	6.583	13.68	9.67	2.66
0.500	1.90	3.583	3.04	6.667	13.68	9.75	2.66
0.583	1.90	3.667	3.04	6.750	13.68	9.83	2.66
0.667	1.90	3.750	3.04	6.833	6.08	9.92	2.66
0.750	1.90	3.833	3.04	6.917	6.08	10.00	2.66
0.833	1.90	3.917	3.04	7.000	6.08	10.08	2.66
0.917	1.90	4.000	3.04	7.083	6.08	10.17	2.66
1.000	1.90	4.083	3.04	7.167	6.08	10.25	2.66
1.083	1.90	4.167	3.04	7.250	6.08	10.33	1.52
1.167	1.90	4.250	3.04	7.333	4.56	10.42	1.52
1.250	1.90	4.333	4.56	7.417	4.56	10.50	1.52
1.333	1.90	4.417	4.56	7.500	4.56	10.58	1.52
1.417	1.90	4.500	4.56	7.583	4.56	10.67	1.52
1.500	1.90	4.583	4.56	7.667	4.56	10.75	1.52
1.583	1.90	4.667	4.56	7.750	4.56	10.83	1.52
1.667	1.90	4.750	4.56	7.833	4.56	10.92	1.52
1.750	1.90	4.833	6.08	7.917	4.56	11.00	1.52
1.833	1.90	4.917	6.08	8.000	4.56	11.08	1.52
1.917	1.90	5.000	6.08	8.083	4.56	11.17	1.52
2.000	1.90	5.083	6.08	8.167	4.56	11.25	1.52
2.083	1.90	5.167	6.08	8.250	4.56	11.33	1.52
2.167	1.90	5.250	6.08	8.333	2.66	11.42	1.52
2.250	1.90	5.333	9.12	8.417	2.66	11.50	1.52
2.333	2.28	5.417	9.12	8.500	2.66	11.58	1.52
2.417	2.28	5.500	9.12	8.583	2.66	11.67	1.52
2.500	2.28	5.583	9.12	8.667	2.66	11.75	1.52
2.583	2.28	5.667	9.12	8.750	2.66	11.83	1.52
2.667	2.28	5.750	9.12	8.833	2.66	11.92	1.52
2.750	2.28	5.833	36.48	8.917	2.66	12.00	1.52
2.833	2.28	5.917	36.48	9.000	2.66	12.08	1.52
2.917	2.28	6.000	36.48	9.083	2.66	12.17	1.52
3.000	2.28	6.083	100.32	9.167	2.66	12.25	1.52
3.083	2.28	6.167	100.32	9.250	2.66		

				TOTALS
Max.Eff.Inten.(mm/hr)=		100.32	65.93	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.10 (ii)	6.64 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.31	0.14	
PEAK FLOW	(cms)=	0.16	0.03	0.192 (iii)
TIME TO PEAK	(hrs)=	6.25	6.25	6.25
RUNOFF VOLUME	(mm)=	75.00	39.77	66.19
TOTAL RAINFALL	(mm)=	76.00	76.00	76.00
RUNOFF COEFFICIENT	=	0.99	0.52	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0157)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.192	6.25	66.19
OUTFLOW: ID= 1 (0157)	0.780	0.044	6.42	66.03

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.07
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0235

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\6041a8cc
Ptotal= 76.00 mm	Comments: 10-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.04	6.75	13.68	10.00	2.66
0.50	1.90	3.75	3.04	7.00	6.08	10.25	2.66
0.75	1.90	4.00	3.04	7.25	6.08	10.50	1.52
1.00	1.90	4.25	3.04	7.50	4.56	10.75	1.52
1.25	1.90	4.50	4.56	7.75	4.56	11.00	1.52
1.50	1.90	4.75	4.56	8.00	4.56	11.25	1.52

1.75	1.90	5.00	6.08	8.25	4.56	11.50	1.52
2.00	1.90	5.25	6.08	8.50	2.66	11.75	1.52
2.25	1.90	5.50	9.12	8.75	2.66	12.00	1.52
2.50	2.28	5.75	9.12	9.00	2.66	12.25	1.52
2.75	2.28	6.00	36.48	9.25	2.66		
3.00	2.28	6.25	100.32	9.50	2.66		
3.25	2.28	6.50	13.68	9.75	2.66		

```
--------------------
| CALIB            |
| STANDHYD (  0156)|   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.28	6.250	100.32	9.33	2.66
0.167	0.00	3.250	2.28	6.333	13.68	9.42	2.66
0.250	0.00	3.333	3.04	6.417	13.68	9.50	2.66
0.333	1.90	3.417	3.04	6.500	13.68	9.58	2.66
0.417	1.90	3.500	3.04	6.583	13.68	9.67	2.66
0.500	1.90	3.583	3.04	6.667	13.68	9.75	2.66
0.583	1.90	3.667	3.04	6.750	13.68	9.83	2.66
0.667	1.90	3.750	3.04	6.833	6.08	9.92	2.66
0.750	1.90	3.833	3.04	6.917	6.08	10.00	2.66
0.833	1.90	3.917	3.04	7.000	6.08	10.08	2.66
0.917	1.90	4.000	3.04	7.083	6.08	10.17	2.66
1.000	1.90	4.083	3.04	7.167	6.08	10.25	2.66
1.083	1.90	4.167	3.04	7.250	6.08	10.33	1.52
1.167	1.90	4.250	3.04	7.333	4.56	10.42	1.52
1.250	1.90	4.333	4.56	7.417	4.56	10.50	1.52
1.333	1.90	4.417	4.56	7.500	4.56	10.58	1.52
1.417	1.90	4.500	4.56	7.583	4.56	10.67	1.52
1.500	1.90	4.583	4.56	7.667	4.56	10.75	1.52
1.583	1.90	4.667	4.56	7.750	4.56	10.83	1.52
1.667	1.90	4.750	4.56	7.833	4.56	10.92	1.52
1.750	1.90	4.833	6.08	7.917	4.56	11.00	1.52
1.833	1.90	4.917	6.08	8.000	4.56	11.08	1.52
1.917	1.90	5.000	6.08	8.083	4.56	11.17	1.52
2.000	1.90	5.083	6.08	8.167	4.56	11.25	1.52
2.083	1.90	5.167	6.08	8.250	4.56	11.33	1.52
2.167	1.90	5.250	6.08	8.333	2.66	11.42	1.52
2.250	1.90	5.333	9.12	8.417	2.66	11.50	1.52
2.333	2.28	5.417	9.12	8.500	2.66	11.58	1.52
2.417	2.28	5.500	9.12	8.583	2.66	11.67	1.52
2.500	2.28	5.583	9.12	8.667	2.66	11.75	1.52
2.583	2.28	5.667	9.12	8.750	2.66	11.83	1.52
2.667	2.28	5.750	9.12	8.833	2.66	11.92	1.52
2.750	2.28	5.833	36.48	8.917	2.66	12.00	1.52
2.833	2.28	5.917	36.48	9.000	2.66	12.08	1.52
2.917	2.28	6.000	36.48	9.083	2.66	12.17	1.52
3.000	2.28	6.083	100.32	9.167	2.66	12.25	1.52
3.083	2.28	6.167	100.32	9.250	2.66		

Max.Eff.Inten.(mm/hr)=		100.32	33.45	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.53 (ii)	6.45 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.33	0.14	
				TOTALS
PEAK FLOW	(cms)=	0.05	0.01	0.059 (iii)
TIME TO PEAK	(hrs)=	6.25	6.25	6.25
RUNOFF VOLUME	(mm)=	75.00	20.37	59.14
TOTAL RAINFALL	(mm)=	76.00	76.00	76.00
RUNOFF COEFFICIENT	=	0.99	0.27	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.0460      0.0093

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)      0.270     0.059      6.25      59.14
   OUTFLOW: ID= 1 (  0154)      0.270     0.026      6.33      58.97

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.08
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0055
```

```
--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0154):     0.27   0.026     6.33    58.97
     + ID2= 2 (  0157):     0.78   0.044     6.42    66.03
       ================================================
       ID = 3 (  0158):     1.05   0.070     6.33    64.21
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
--------------------
| ADD HYD  (  0158)|
```

```
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0158):     1.05   0.070     6.33    64.21
      + ID2= 2 (  0160):     1.07   0.036     6.75    65.94
        ====================================================
        ID = 1 (  0158):     2.12   0.105     6.33    65.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0158):     2.12   0.105     6.33    65.08
      + ID2= 2 (  0162):    15.39   0.278     7.58    41.06
        ====================================================
        ID = 3 (  0158):    17.51   0.347     7.42    43.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
================================================================================
======================

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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DATE: 10-31-2019                          TIME: 10:47:19

USER:



COMMENTS: _____________________________________________________________
```

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  ***********************************************
  ** SIMULATION : 3-10-Year-24-Hour-SCS-Type-II **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\efc9bd42
| Ptotal= 89.90 mm |    Comments: New DesignStormManualInput
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    1.80 | 12.75   12.95 | 19.00    1.62
                0.50    0.90 |  6.75    1.80 | 13.00    6.65 | 19.25    1.62
                0.75    0.90 |  7.00    1.80 | 13.25    6.65 | 19.50    1.62
                1.00    0.90 |  7.25    1.80 | 13.50    1.26 | 19.75    1.62
                1.25    0.90 |  7.50    1.80 | 13.75    1.26 | 20.00    1.62
                1.50    0.90 |  7.75    1.80 | 14.00    7.37 | 20.25    1.62
                1.75    0.90 |  8.00    1.80 | 14.25    7.37 | 20.50    1.08
                2.00    0.90 |  8.25    1.80 | 14.50    2.70 | 20.75    1.08
                2.25    1.62 |  8.50    2.43 | 14.75    2.70 | 21.00    1.08
                2.50    1.17 |  8.75    2.43 | 15.00    2.70 | 21.25    1.08
                2.75    1.17 |  9.00    2.43 | 15.25    2.70 | 21.50    1.08
                3.00    1.17 |  9.25    2.43 | 15.50    2.70 | 21.75    1.08
                3.25    1.17 |  9.50    2.88 | 15.75    2.70 | 22.00    1.08
                3.50    1.17 |  9.75    2.88 | 16.00    2.70 | 22.25    1.08
                3.75    1.17 | 10.00    3.24 | 16.25    2.70 | 22.50    1.08
                4.00    1.17 | 10.25    3.24 | 16.50    1.62 | 22.75    1.08
                4.25    1.17 | 10.50    4.14 | 16.75    1.62 | 23.00    1.08
                4.50    1.44 | 10.75    4.14 | 17.00    1.62 | 23.25    1.08
                4.75    1.44 | 11.00    5.57 | 17.25    1.62 | 23.50    1.08
                5.00    1.44 | 11.25    5.57 | 17.50    1.62 | 23.75    1.08
                5.25    1.44 | 11.50    8.63 | 17.75    1.62 | 24.00    1.08
                5.50    1.44 | 11.75    8.63 | 18.00    1.62 | 24.25    1.08
                5.75    1.44 | 12.00   37.40 | 18.25    1.62 |
                6.00    1.44 | 12.25   99.25 | 18.50    1.62 |
                6.25    1.44 | 12.50   12.95 | 18.75    1.62 |

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--------------------
| CALIB            |
| NASHYD   (  0137)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 6.167    1.44 |12.250   99.25 | 18.33    1.62
               0.167    0.00 | 6.250    1.44 |12.333   12.96 | 18.42    1.62
               0.250    0.00 | 6.333    1.80 |12.417   12.95 | 18.50    1.62
               0.333    0.90 | 6.417    1.80 |12.500   12.95 | 18.58    1.62
               0.417    0.90 | 6.500    1.80 |12.583   12.95 | 18.67    1.62
```

0.500	0.90	6.583	1.80	12.667	12.95	18.75	1.62
0.583	0.90	6.667	1.80	12.750	12.95	18.83	1.62
0.667	0.90	6.750	1.80	12.833	6.65	18.92	1.62
0.750	0.90	6.833	1.80	12.917	6.65	19.00	1.62
0.833	0.90	6.917	1.80	13.000	6.65	19.08	1.62
0.917	0.90	7.000	1.80	13.083	6.65	19.17	1.62
1.000	0.90	7.083	1.80	13.167	6.65	19.25	1.62
1.083	0.90	7.167	1.80	13.250	6.65	19.33	1.62
1.167	0.90	7.250	1.80	13.333	1.26	19.42	1.62
1.250	0.90	7.333	1.80	13.417	1.26	19.50	1.62
1.333	0.90	7.417	1.80	13.500	1.26	19.58	1.62
1.417	0.90	7.500	1.80	13.583	1.26	19.67	1.62
1.500	0.90	7.583	1.80	13.667	1.26	19.75	1.62
1.583	0.90	7.667	1.80	13.750	1.26	19.83	1.62
1.667	0.90	7.750	1.80	13.833	7.37	19.92	1.62
1.750	0.90	7.833	1.80	13.917	7.37	20.00	1.62
1.833	0.90	7.917	1.80	14.000	7.37	20.08	1.62
1.917	0.90	8.000	1.80	14.083	7.37	20.17	1.62
2.000	0.90	8.083	1.80	14.167	7.37	20.25	1.62
2.083	1.62	8.167	1.80	14.250	7.37	20.33	1.08
2.167	1.62	8.250	1.80	14.333	2.70	20.42	1.08
2.250	1.62	8.333	2.43	14.417	2.70	20.50	1.08
2.333	1.17	8.417	2.43	14.500	2.70	20.58	1.08
2.417	1.17	8.500	2.43	14.583	2.70	20.67	1.08
2.500	1.17	8.583	2.43	14.667	2.70	20.75	1.08
2.583	1.17	8.667	2.43	14.750	2.70	20.83	1.08
2.667	1.17	8.750	2.43	14.833	2.70	20.92	1.08
2.750	1.17	8.833	2.43	14.917	2.70	21.00	1.08
2.833	1.17	8.917	2.43	15.000	2.70	21.08	1.08
2.917	1.17	9.000	2.43	15.083	2.70	21.17	1.08
3.000	1.17	9.083	2.43	15.167	2.70	21.25	1.08
3.083	1.17	9.167	2.43	15.250	2.70	21.33	1.08
3.167	1.17	9.250	2.43	15.333	2.70	21.42	1.08
3.250	1.17	9.333	2.88	15.417	2.70	21.50	1.08
3.333	1.17	9.417	2.88	15.500	2.70	21.58	1.08
3.417	1.17	9.500	2.88	15.583	2.70	21.67	1.08
3.500	1.17	9.583	2.88	15.667	2.70	21.75	1.08
3.583	1.17	9.667	2.88	15.750	2.70	21.83	1.08
3.667	1.17	9.750	2.88	15.833	2.70	21.92	1.08
3.750	1.17	9.833	3.24	15.917	2.70	22.00	1.08
3.833	1.17	9.917	3.24	16.000	2.70	22.08	1.08
3.917	1.17	10.000	3.24	16.083	2.70	22.17	1.08
4.000	1.17	10.083	3.24	16.167	2.70	22.25	1.08
4.083	1.17	10.167	3.24	16.250	2.70	22.33	1.08
4.167	1.17	10.250	3.24	16.333	1.62	22.42	1.08
4.250	1.17	10.333	4.14	16.417	1.62	22.50	1.08
4.333	1.44	10.417	4.14	16.500	1.62	22.58	1.08
4.417	1.44	10.500	4.14	16.583	1.62	22.67	1.08
4.500	1.44	10.583	4.14	16.667	1.62	22.75	1.08
4.583	1.44	10.667	4.14	16.750	1.62	22.83	1.08
4.667	1.44	10.750	4.14	16.833	1.62	22.92	1.08
4.750	1.44	10.833	5.57	16.917	1.62	23.00	1.08
4.833	1.44	10.917	5.57	17.000	1.62	23.08	1.08
4.917	1.44	11.000	5.57	17.083	1.62	23.17	1.08
5.000	1.44	11.083	5.57	17.167	1.62	23.25	1.08
5.083	1.44	11.167	5.57	17.250	1.62	23.33	1.08
5.167	1.44	11.250	5.57	17.333	1.62	23.42	1.08
5.250	1.44	11.333	8.63	17.417	1.62	23.50	1.08
5.333	1.44	11.417	8.63	17.500	1.62	23.58	1.08
5.417	1.44	11.500	8.63	17.583	1.62	23.67	1.08
5.500	1.44	11.583	8.63	17.667	1.62	23.75	1.08
5.583	1.44	11.667	8.63	17.750	1.62	23.83	1.08
5.667	1.44	11.750	8.63	17.833	1.62	23.92	1.08
5.750	1.44	11.833	37.40	17.917	1.62	24.00	1.08
5.833	1.44	11.917	37.40	18.000	1.62	24.08	1.08
5.917	1.44	12.000	37.40	18.083	1.62	24.17	1.08
6.000	1.44	12.083	99.24	18.167	1.62	24.25	1.08
6.083	1.44	12.167	99.25	18.250	1.62		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.209 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 23.037
TOTAL RAINFALL (mm)= 89.900
RUNOFF COEFFICIENT = 0.256

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\efc9bd42
Ptotal= 89.90 mm	Comments: New DesignStormManualInput

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.80	12.75	12.95	19.00	1.62
0.50	0.90	6.75	1.80	13.00	6.65	19.25	1.62
0.75	0.90	7.00	1.80	13.25	6.65	19.50	1.62
1.00	0.90	7.25	1.80	13.50	1.26	19.75	1.62
1.25	0.90	7.50	1.80	13.75	1.26	20.00	1.62
1.50	0.90	7.75	1.80	14.00	7.37	20.25	1.62
1.75	0.90	8.00	1.80	14.25	7.37	20.50	1.08
2.00	0.90	8.25	1.80	14.50	2.70	20.75	1.08
2.25	1.62	8.50	2.43	14.75	2.70	21.00	1.08
2.50	1.17	8.75	2.43	15.00	2.70	21.25	1.08
2.75	1.17	9.00	2.43	15.25	2.70	21.50	1.08
3.00	1.17	9.25	2.43	15.50	2.70	21.75	1.08
3.25	1.17	9.50	2.88	15.75	2.70	22.00	1.08
3.50	1.17	9.75	2.88	16.00	2.70	22.25	1.08
3.75	1.17	10.00	3.24	16.25	2.70	22.50	1.08
4.00	1.17	10.25	3.24	16.50	1.62	22.75	1.08
4.25	1.17	10.50	4.14	16.75	1.62	23.00	1.08
4.50	1.44	10.75	4.14	17.00	1.62	23.25	1.08
4.75	1.44	11.00	5.57	17.25	1.62	23.50	1.08
5.00	1.44	11.25	5.57	17.50	1.62	23.75	1.08
5.25	1.44	11.50	8.63	17.75	1.62	24.00	1.08
5.50	1.44	11.75	8.63	18.00	1.62	24.25	1.08
5.75	1.44	12.00	37.40	18.25	1.62		
6.00	1.44	12.25	99.25	18.50	1.62		
6.25	1.44	12.50	12.95	18.75	1.62		

CALIB	
STANDHYD (0153)	Area (ha)= 1.03

|ID= 1 DT= 5.0 min | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.44	12.250	99.25	18.33	1.62
0.167	0.00	6.250	1.44	12.333	12.96	18.42	1.62
0.250	0.00	6.333	1.80	12.417	12.95	18.50	1.62
0.333	0.90	6.417	1.80	12.500	12.95	18.58	1.62
0.417	0.90	6.500	1.80	12.583	12.95	18.67	1.62
0.500	0.90	6.583	1.80	12.667	12.95	18.75	1.62
0.583	0.90	6.667	1.80	12.750	12.95	18.83	1.62
0.667	0.90	6.750	1.80	12.833	6.65	18.92	1.62
0.750	0.90	6.833	1.80	12.917	6.65	19.00	1.62
0.833	0.90	6.917	1.80	13.000	6.65	19.08	1.62
0.917	0.90	7.000	1.80	13.083	6.65	19.17	1.62
1.000	0.90	7.083	1.80	13.167	6.65	19.25	1.62
1.083	0.90	7.167	1.80	13.250	6.65	19.33	1.62
1.167	0.90	7.250	1.80	13.333	1.26	19.42	1.62
1.250	0.90	7.333	1.80	13.417	1.26	19.50	1.62
1.333	0.90	7.417	1.80	13.500	1.26	19.58	1.62
1.417	0.90	7.500	1.80	13.583	1.26	19.67	1.62
1.500	0.90	7.583	1.80	13.667	1.26	19.75	1.62
1.583	0.90	7.667	1.80	13.750	1.26	19.83	1.62
1.667	0.90	7.750	1.80	13.833	7.37	19.92	1.62
1.750	0.90	7.833	1.80	13.917	7.37	20.00	1.62
1.833	0.90	7.917	1.80	14.000	7.37	20.08	1.62
1.917	0.90	8.000	1.80	14.083	7.37	20.17	1.62
2.000	0.90	8.083	1.80	14.167	7.37	20.25	1.62
2.083	1.62	8.167	1.80	14.250	7.37	20.33	1.08
2.167	1.62	8.250	1.80	14.333	2.70	20.42	1.08
2.250	1.62	8.333	2.43	14.417	2.70	20.50	1.08
2.333	1.17	8.417	2.43	14.500	2.70	20.58	1.08
2.417	1.17	8.500	2.43	14.583	2.70	20.67	1.08
2.500	1.17	8.583	2.43	14.667	2.70	20.75	1.08
2.583	1.17	8.667	2.43	14.750	2.70	20.83	1.08
2.667	1.17	8.750	2.43	14.833	2.70	20.92	1.08
2.750	1.17	8.833	2.43	14.917	2.70	21.00	1.08
2.833	1.17	8.917	2.43	15.000	2.70	21.08	1.08
2.917	1.17	9.000	2.43	15.083	2.70	21.17	1.08
3.000	1.17	9.083	2.43	15.167	2.70	21.25	1.08
3.083	1.17	9.167	2.43	15.250	2.70	21.33	1.08
3.167	1.17	9.250	2.43	15.333	2.70	21.42	1.08
3.250	1.17	9.333	2.88	15.417	2.70	21.50	1.08
3.333	1.17	9.417	2.88	15.500	2.70	21.58	1.08
3.417	1.17	9.500	2.88	15.583	2.70	21.67	1.08
3.500	1.17	9.583	2.88	15.667	2.70	21.75	1.08
3.583	1.17	9.667	2.88	15.750	2.70	21.83	1.08
3.667	1.17	9.750	2.88	15.833	2.70	21.92	1.08
3.750	1.17	9.833	3.24	15.917	2.70	22.00	1.08
3.833	1.17	9.917	3.24	16.000	2.70	22.08	1.08
3.917	1.17	10.000	3.24	16.083	2.70	22.17	1.08
4.000	1.17	10.083	3.24	16.167	2.70	22.25	1.08
4.083	1.17	10.167	3.24	16.250	2.70	22.33	1.08
4.167	1.17	10.250	3.24	16.333	1.62	22.42	1.08
4.250	1.17	10.333	4.14	16.417	1.62	22.50	1.08
4.333	1.44	10.417	4.14	16.500	1.62	22.58	1.08
4.417	1.44	10.500	4.14	16.583	1.62	22.67	1.08
4.500	1.44	10.583	4.14	16.667	1.62	22.75	1.08
4.583	1.44	10.667	4.14	16.750	1.62	22.83	1.08
4.667	1.44	10.750	4.14	16.833	1.62	22.92	1.08
4.750	1.44	10.833	5.57	16.917	1.62	23.00	1.08
4.833	1.44	10.917	5.57	17.000	1.62	23.08	1.08
4.917	1.44	11.000	5.57	17.083	1.62	23.17	1.08
5.000	1.44	11.083	5.57	17.167	1.62	23.25	1.08
5.083	1.44	11.167	5.57	17.250	1.62	23.33	1.08
5.167	1.44	11.250	5.57	17.333	1.62	23.42	1.08
5.250	1.44	11.333	8.63	17.417	1.62	23.50	1.08
5.333	1.44	11.417	8.63	17.500	1.62	23.58	1.08
5.417	1.44	11.500	8.63	17.583	1.62	23.67	1.08
5.500	1.44	11.583	8.63	17.667	1.62	23.75	1.08
5.583	1.44	11.667	8.63	17.750	1.62	23.83	1.08
5.667	1.44	11.750	8.63	17.833	1.62	23.92	1.08
5.750	1.44	11.833	37.40	17.917	1.62	24.00	1.08
5.833	1.44	11.917	37.40	18.000	1.62	24.08	1.08
5.917	1.44	12.000	37.40	18.083	1.62	24.17	1.08
6.000	1.44	12.083	99.24	18.167	1.62	24.25	1.08
6.083	1.44	12.167	99.25	18.250	1.62		

				TOTALS
Max.Eff.Inten.	(mm/hr)=	99.25	36.89	
	over (min)	5.00	10.00	
Storage Coeff.	(min)=	2.29 (ii)	6.85 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.30	0.14	
PEAK FLOW	(cms)=	0.21	0.02	0.234 (iii)
TIME TO PEAK	(hrs)=	12.25	12.25	12.25
RUNOFF VOLUME	(mm)=	88.90	27.57	73.56
TOTAL RAINFALL	(mm)=	89.90	89.90	89.90
RUNOFF COEFFICIENT	=	0.99	0.31	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.234	12.25	73.56

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   OUTFLOW: ID= 1 (  0159)      1.030      0.067     12.33      73.48

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.66
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0265

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\efc9bd42
| Ptotal= 89.90 mm |    Comments: New DesignStormManualInput
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.80	12.75	12.95	19.00	1.62
0.50	0.90	6.75	1.80	13.00	6.65	19.25	1.62
0.75	0.90	7.00	1.80	13.25	6.65	19.50	1.62
1.00	0.90	7.25	1.80	13.50	1.26	19.75	1.62
1.25	0.90	7.50	1.80	13.75	1.26	20.00	1.62
1.50	0.90	7.75	1.80	14.00	7.37	20.25	1.62
1.75	0.90	8.00	1.80	14.25	7.37	20.50	1.08
2.00	0.90	8.25	1.80	14.50	2.70	20.75	1.08
2.25	1.62	8.50	2.43	14.75	2.70	21.00	1.08
2.50	1.17	8.75	2.43	15.00	2.70	21.25	1.08
2.75	1.17	9.00	2.43	15.25	2.70	21.50	1.08
3.00	1.17	9.25	2.43	15.50	2.70	21.75	1.08
3.25	1.17	9.50	2.88	15.75	2.70	22.00	1.08
3.50	1.17	9.75	2.88	16.00	2.70	22.25	1.08
3.75	1.17	10.00	3.24	16.25	2.70	22.50	1.08
4.00	1.17	10.25	3.24	16.50	1.62	22.75	1.08
4.25	1.17	10.50	4.14	16.75	1.62	23.00	1.08
4.50	1.44	10.75	4.14	17.00	1.62	23.25	1.08
4.75	1.44	11.00	5.57	17.25	1.62	23.50	1.08
5.00	1.44	11.25	5.57	17.50	1.62	23.75	1.08
5.25	1.44	11.50	8.63	17.75	1.62	24.00	1.08
5.50	1.44	11.75	8.63	18.00	1.62	24.25	1.08
5.75	1.44	12.00	37.40	18.25	1.62		
6.00	1.44	12.25	99.25	18.50	1.62		
6.25	1.44	12.50	12.95	18.75	1.62		

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| CALIB            |
| STANDHYD (  0163)|   Area    (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
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                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91         6.45
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     320.00        40.00
     Mannings n            =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.44	12.250	99.25	18.33	1.62
0.167	0.00	6.250	1.44	12.333	12.96	18.42	1.62
0.250	0.00	6.333	1.80	12.417	12.95	18.50	1.62
0.333	0.90	6.417	1.80	12.500	12.95	18.58	1.62
0.417	0.90	6.500	1.80	12.583	12.95	18.67	1.62
0.500	0.90	6.583	1.80	12.667	12.95	18.75	1.62
0.583	0.90	6.667	1.80	12.750	12.95	18.83	1.62
0.667	0.90	6.750	1.80	12.833	6.65	18.92	1.62
0.750	0.90	6.833	1.80	12.917	6.65	19.00	1.62
0.833	0.90	6.917	1.80	13.000	6.65	19.08	1.62
0.917	0.90	7.000	1.80	13.083	6.65	19.17	1.62
1.000	0.90	7.083	1.80	13.167	6.65	19.25	1.62
1.083	0.90	7.167	1.80	13.250	6.65	19.33	1.62
1.167	0.90	7.250	1.80	13.333	1.26	19.42	1.62
1.250	0.90	7.333	1.80	13.417	1.26	19.50	1.62
1.333	0.90	7.417	1.80	13.500	1.26	19.58	1.62
1.417	0.90	7.500	1.80	13.583	1.26	19.67	1.62
1.500	0.90	7.583	1.80	13.667	1.26	19.75	1.62
1.583	0.90	7.667	1.80	13.750	1.26	19.83	1.62
1.667	0.90	7.750	1.80	13.833	7.37	19.92	1.62
1.750	0.90	7.833	1.80	13.917	7.37	20.00	1.62
1.833	0.90	7.917	1.80	14.000	7.37	20.08	1.62
1.917	0.90	8.000	1.80	14.083	7.37	20.17	1.62
2.000	0.90	8.083	1.80	14.167	7.37	20.25	1.62
2.083	1.62	8.167	1.80	14.250	7.37	20.33	1.08
2.167	1.62	8.250	1.80	14.333	2.70	20.42	1.08
2.250	1.62	8.333	2.43	14.417	2.70	20.50	1.08
2.333	1.17	8.417	2.43	14.500	2.70	20.58	1.08
2.417	1.17	8.500	2.43	14.583	2.70	20.67	1.08
2.500	1.17	8.583	2.43	14.667	2.70	20.75	1.08
2.583	1.17	8.667	2.43	14.750	2.70	20.83	1.08
2.667	1.17	8.750	2.43	14.833	2.70	20.92	1.08
2.750	1.17	8.833	2.43	14.917	2.70	21.00	1.08
2.833	1.17	8.917	2.43	15.000	2.70	21.08	1.08
2.917	1.17	9.000	2.43	15.083	2.70	21.17	1.08
3.000	1.17	9.083	2.43	15.167	2.70	21.25	1.08
3.083	1.17	9.167	2.43	15.250	2.70	21.33	1.08
3.167	1.17	9.250	2.43	15.333	2.70	21.42	1.08
3.250	1.17	9.333	2.88	15.417	2.70	21.50	1.08
3.333	1.17	9.417	2.88	15.500	2.70	21.58	1.08
3.417	1.17	9.500	2.88	15.583	2.70	21.67	1.08
3.500	1.17	9.583	2.88	15.667	2.70	21.75	1.08
3.583	1.17	9.667	2.88	15.750	2.70	21.83	1.08
3.667	1.17	9.750	2.88	15.833	2.70	21.92	1.08
3.750	1.17	9.833	3.24	15.917	2.70	22.00	1.08
3.833	1.17	9.917	3.24	16.000	2.70	22.08	1.08
3.917	1.17	10.000	3.24	16.083	2.70	22.17	1.08
4.000	1.17	10.083	3.24	16.167	2.70	22.25	1.08
4.083	1.17	10.167	3.24	16.250	2.70	22.33	1.08
4.167	1.17	10.250	3.24	16.333	1.62	22.42	1.08
4.250	1.17	10.333	4.14	16.417	1.62	22.50	1.08
4.333	1.44	10.417	4.14	16.500	1.62	22.58	1.08
4.417	1.44	10.500	4.14	16.583	1.62	22.67	1.08
4.500	1.44	10.583	4.14	16.667	1.62	22.75	1.08
4.583	1.44	10.667	4.14	16.750	1.62	22.83	1.08
4.667	1.44	10.750	4.14	16.833	1.62	22.92	1.08
4.750	1.44	10.833	5.57	16.917	1.62	23.00	1.08
4.833	1.44	10.917	5.57	17.000	1.62	23.08	1.08

4.917	1.44	11.000	5.57	17.083	1.62	23.17	1.08
5.000	1.44	11.083	5.57	17.167	1.62	23.25	1.08
5.083	1.44	11.167	5.57	17.250	1.62	23.33	1.08
5.167	1.44	11.250	5.57	17.333	1.62	23.42	1.08
5.250	1.44	11.333	8.63	17.417	1.62	23.50	1.08
5.333	1.44	11.417	8.63	17.500	1.62	23.58	1.08
5.417	1.44	11.500	8.63	17.583	1.62	23.67	1.08
5.500	1.44	11.583	8.63	17.667	1.62	23.75	1.08
5.583	1.44	11.667	8.63	17.750	1.62	23.83	1.08
5.667	1.44	11.750	8.63	17.833	1.62	23.92	1.08
5.750	1.44	11.833	37.40	17.917	1.62	24.00	1.08
5.833	1.44	11.917	37.40	18.000	1.62	24.08	1.08
5.917	1.44	12.000	37.40	18.083	1.62	24.17	1.08
6.000	1.44	12.083	99.24	18.167	1.62	24.25	1.08
6.083	1.44	12.167	99.25	18.250	1.62		

			TOTALS
Max.Eff.Inten.(mm/hr)=	99.25	36.06	
over (min)	5.00	20.00	
Storage Coeff. (min)=	5.15 (ii)	15.76 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.21	0.07	
PEAK FLOW (cms)=	2.37	0.37	2.630 (iii)
TIME TO PEAK (hrs)=	12.25	12.42	12.25
RUNOFF VOLUME (mm)=	88.90	28.83	63.67
TOTAL RAINFALL (mm)=	89.90	89.90	89.90
RUNOFF COEFFICIENT =	0.99	0.32	0.71

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0152)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0137):	8.10	0.209	12.75	23.04
+ ID2= 2 (0159):	1.03	0.067	12.33	73.48
ID = 3 (0152):	9.13	0.267	12.75	28.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0152)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0152):	9.13	0.267	12.75	28.73
+ ID2= 2 (0163):	15.36	2.630	12.25	63.67
ID = 1 (0152):	24.49	2.784	12.25	50.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0161)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.4045	0.7000
	0.0151	0.0001	0.5514	0.8000
	0.0151	0.1301	0.7611	0.9000
	0.0440	0.4217	0.9325	0.9500
	0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0152)	24.490	2.784	12.25	50.64
OUTFLOW: ID= 1 (0161)	24.490	0.358	13.33	50.65

PEAK FLOW REDUCTION [Qout/Qin](%)= 12.86
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.6752

DUHYD (0162)				
Inlet Cap.= 0.015				
#of Inlets= 1				
Total(cms)= 0.0	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.49	0.36	13.33	50.65
MAJOR SYS.(ID= 2):	16.09	0.34	13.33	50.65
MINOR SYS.(ID= 3):	8.40	0.02	11.00	50.65

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\efc9bd42
Ptotal= 89.90 mm	Comments: New DesignStormManualInput

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.80	12.75	12.95	19.00	1.62
0.50	0.90	6.75	1.80	13.00	6.65	19.25	1.62
0.75	0.90	7.00	1.80	13.25	6.65	19.50	1.62
1.00	0.90	7.25	1.80	13.50	1.26	19.75	1.62
1.25	0.90	7.50	1.80	13.75	1.26	20.00	1.62
1.50	0.90	7.75	1.80	14.00	7.37	20.25	1.62
1.75	0.90	8.00	1.80	14.25	7.37	20.50	1.08
2.00	0.90	8.25	1.80	14.50	2.70	20.75	1.08
2.25	1.62	8.50	2.43	14.75	2.70	21.00	1.08
2.50	1.17	8.75	2.43	15.00	2.70	21.25	1.08
2.75	1.17	9.00	2.43	15.25	2.70	21.50	1.08
3.00	1.17	9.25	2.43	15.50	2.70	21.75	1.08
3.25	1.17	9.50	2.88	15.75	2.70	22.00	1.08
3.50	1.17	9.75	2.88	16.00	2.70	22.25	1.08

3.75	1.17	10.00	3.24	16.25	2.70	22.50	1.08
4.00	1.17	10.25	3.24	16.50	1.62	22.75	1.08
4.25	1.17	10.50	4.14	16.75	1.62	23.00	1.08
4.50	1.44	10.75	4.14	17.00	1.62	23.25	1.08
4.75	1.44	11.00	5.57	17.25	1.62	23.50	1.08
5.00	1.44	11.25	5.57	17.50	1.62	23.75	1.08
5.25	1.44	11.50	8.63	17.75	1.62	24.00	1.08
5.50	1.44	11.75	8.63	18.00	1.62	24.25	1.08
5.75	1.44	12.00	37.40	18.25	1.62		
6.00	1.44	12.25	99.25	18.50	1.62		
6.25	1.44	12.50	12.95	18.75	1.62		

CALIB			
STANDHYD (0151)	Area (ha)=	1.07	
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.44	12.250	99.25	18.33	1.62
0.167	0.00	6.250	1.44	12.333	12.96	18.42	1.62
0.250	0.00	6.333	1.80	12.417	12.95	18.50	1.62
0.333	0.90	6.417	1.80	12.500	12.95	18.58	1.62
0.417	0.90	6.500	1.80	12.583	12.95	18.67	1.62
0.500	0.90	6.583	1.80	12.667	12.95	18.75	1.62
0.583	0.90	6.667	1.80	12.750	12.95	18.83	1.62
0.667	0.90	6.750	1.80	12.833	6.65	18.92	1.62
0.750	0.90	6.833	1.80	12.917	6.65	19.00	1.62
0.833	0.90	6.917	1.80	13.000	6.65	19.08	1.62
0.917	0.90	7.000	1.80	13.083	6.65	19.17	1.62
1.000	0.90	7.083	1.80	13.167	6.65	19.25	1.62
1.083	0.90	7.167	1.80	13.250	6.65	19.33	1.62
1.167	0.90	7.250	1.80	13.333	1.26	19.42	1.62
1.250	0.90	7.333	1.80	13.417	1.26	19.50	1.62
1.333	0.90	7.417	1.80	13.500	1.26	19.58	1.62
1.417	0.90	7.500	1.80	13.583	1.26	19.67	1.62
1.500	0.90	7.583	1.80	13.667	1.26	19.75	1.62
1.583	0.90	7.667	1.80	13.750	1.26	19.83	1.62
1.667	0.90	7.750	1.80	13.833	7.37	19.92	1.62
1.750	0.90	7.833	1.80	13.917	7.37	20.00	1.62
1.833	0.90	7.917	1.80	14.000	7.37	20.08	1.62
1.917	0.90	8.000	1.80	14.083	7.37	20.17	1.62
2.000	0.90	8.083	1.80	14.167	7.37	20.25	1.62
2.083	1.62	8.167	1.80	14.250	7.37	20.33	1.08
2.167	1.62	8.250	1.80	14.333	2.70	20.42	1.08
2.250	1.62	8.333	2.43	14.417	2.70	20.50	1.08
2.333	1.17	8.417	2.43	14.500	2.70	20.58	1.08
2.417	1.17	8.500	2.43	14.583	2.70	20.67	1.08
2.500	1.17	8.583	2.43	14.667	2.70	20.75	1.08
2.583	1.17	8.667	2.43	14.750	2.70	20.83	1.08
2.667	1.17	8.750	2.43	14.833	2.70	20.92	1.08
2.750	1.17	8.833	2.43	14.917	2.70	21.00	1.08
2.833	1.17	8.917	2.43	15.000	2.70	21.08	1.08
2.917	1.17	9.000	2.43	15.083	2.70	21.17	1.08
3.000	1.17	9.083	2.43	15.167	2.70	21.25	1.08
3.083	1.17	9.167	2.43	15.250	2.70	21.33	1.08
3.167	1.17	9.250	2.43	15.333	2.70	21.42	1.08
3.250	1.17	9.333	2.88	15.417	2.70	21.50	1.08
3.333	1.17	9.417	2.88	15.500	2.70	21.58	1.08
3.417	1.17	9.500	2.88	15.583	2.70	21.67	1.08
3.500	1.17	9.583	2.88	15.667	2.70	21.75	1.08
3.583	1.17	9.667	2.88	15.750	2.70	21.83	1.08
3.667	1.17	9.750	2.88	15.833	2.70	21.92	1.08
3.750	1.17	9.833	3.24	15.917	2.70	22.00	1.08
3.833	1.17	9.917	3.24	16.000	2.70	22.08	1.08
3.917	1.17	10.000	3.24	16.083	2.70	22.17	1.08
4.000	1.17	10.083	3.24	16.167	2.70	22.25	1.08
4.083	1.17	10.167	3.24	16.250	2.70	22.33	1.08
4.167	1.17	10.250	3.24	16.333	1.62	22.42	1.08
4.250	1.17	10.333	4.14	16.417	1.62	22.50	1.08
4.333	1.44	10.417	4.14	16.500	1.62	22.58	1.08
4.417	1.44	10.500	4.14	16.583	1.62	22.67	1.08
4.500	1.44	10.583	4.14	16.667	1.62	22.75	1.08
4.583	1.44	10.667	4.14	16.750	1.62	22.83	1.08
4.667	1.44	10.750	4.14	16.833	1.62	22.92	1.08
4.750	1.44	10.833	5.57	16.917	1.62	23.00	1.08
4.833	1.44	10.917	5.57	17.000	1.62	23.08	1.08
4.917	1.44	11.000	5.57	17.083	1.62	23.17	1.08
5.000	1.44	11.083	5.57	17.167	1.62	23.25	1.08
5.083	1.44	11.167	5.57	17.250	1.62	23.33	1.08
5.167	1.44	11.250	5.57	17.333	1.62	23.42	1.08
5.250	1.44	11.333	8.63	17.417	1.62	23.50	1.08
5.333	1.44	11.417	8.63	17.500	1.62	23.58	1.08
5.417	1.44	11.500	8.63	17.583	1.62	23.67	1.08
5.500	1.44	11.583	8.63	17.667	1.62	23.75	1.08
5.583	1.44	11.667	8.63	17.750	1.62	23.83	1.08
5.667	1.44	11.750	8.63	17.833	1.62	23.92	1.08
5.750	1.44	11.833	37.40	17.917	1.62	24.00	1.08
5.833	1.44	11.917	37.40	18.000	1.62	24.08	1.08
5.917	1.44	12.000	37.40	18.083	1.62	24.17	1.08
6.000	1.44	12.083	99.24	18.167	1.62	24.25	1.08
6.083	1.44	12.167	99.25	18.250	1.62		

				TOTALS
Max.Eff.Inten.(mm/hr)=		99.25	69.45	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.32 (ii)	6.88 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.30	0.14	
PEAK FLOW	(cms)=	0.22	0.04	0.264 (iii)
TIME TO PEAK	(hrs)=	12.25	12.25	12.25
RUNOFF VOLUME	(mm)=	88.90	51.25	79.48
TOTAL RAINFALL	(mm)=	89.90	89.90	89.90
RUNOFF COEFFICIENT	=	0.99	0.57	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

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       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| RESERVOIR(  0160)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0600      0.0645

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0151)      1.070     0.264     12.25      79.48
   OUTFLOW: ID= 1 (  0160)      1.070     0.037     12.75      79.23

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.91
                  TIME SHIFT OF PEAK FLOW          (min)= 30.00
                  MAXIMUM  STORAGE   USED        (ha.m.)=  0.0395
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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\efc9bd42
| Ptotal= 89.90 mm |    Comments: New DesignStormManualInput
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.80	12.75	12.95	19.00	1.62
0.50	0.90	6.75	1.80	13.00	6.65	19.25	1.62
0.75	0.90	7.00	1.80	13.25	6.65	19.50	1.62
1.00	0.90	7.25	1.80	13.50	1.26	19.75	1.62
1.25	0.90	7.50	1.80	13.75	1.26	20.00	1.62
1.50	0.90	7.75	1.80	14.00	7.37	20.25	1.62
1.75	0.90	8.00	1.80	14.25	7.37	20.50	1.08
2.00	0.90	8.25	1.80	14.50	2.70	20.75	1.08
2.25	1.62	8.50	2.43	14.75	2.70	21.00	1.08
2.50	1.17	8.75	2.43	15.00	2.70	21.25	1.08
2.75	1.17	9.00	2.43	15.25	2.70	21.50	1.08
3.00	1.17	9.25	2.43	15.50	2.70	21.75	1.08
3.25	1.17	9.50	2.88	15.75	2.70	22.00	1.08
3.50	1.17	9.75	2.88	16.00	2.70	22.25	1.08
3.75	1.17	10.00	3.24	16.25	2.70	22.50	1.08
4.00	1.17	10.25	3.24	16.50	1.62	22.75	1.08
4.25	1.17	10.50	4.14	16.75	1.62	23.00	1.08
4.50	1.44	10.75	4.14	17.00	1.62	23.25	1.08
4.75	1.44	11.00	5.57	17.25	1.62	23.50	1.08
5.00	1.44	11.25	5.57	17.50	1.62	23.75	1.08
5.25	1.44	11.50	8.63	17.75	1.62	24.00	1.08
5.50	1.44	11.75	8.63	18.00	1.62	24.25	1.08
5.75	1.44	12.00	37.40	18.25	1.62		
6.00	1.44	12.25	99.25	18.50	1.62		
6.25	1.44	12.50	12.95	18.75	1.62		

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| CALIB            |
| STANDHYD (  0155)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
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                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.58          0.19
     Dep. Storage     (mm)=        1.00          5.00
     Average Slope     (%)=        1.00          2.00
     Length            (m)=       72.11         40.00
     Mannings n           =       0.013         0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.44	12.250	99.25	18.33	1.62
0.167	0.00	6.250	1.44	12.333	12.96	18.42	1.62
0.250	0.00	6.333	1.80	12.417	12.95	18.50	1.62
0.333	0.90	6.417	1.80	12.500	12.95	18.58	1.62
0.417	0.90	6.500	1.80	12.583	12.95	18.67	1.62
0.500	0.90	6.583	1.80	12.667	12.95	18.75	1.62
0.583	0.90	6.667	1.80	12.750	12.95	18.83	1.62
0.667	0.90	6.750	1.80	12.833	6.65	18.92	1.62
0.750	0.90	6.833	1.80	12.917	6.65	19.00	1.62
0.833	0.90	6.917	1.80	13.000	6.65	19.08	1.62
0.917	0.90	7.000	1.80	13.083	6.65	19.17	1.62
1.000	0.90	7.083	1.80	13.167	6.65	19.25	1.62
1.083	0.90	7.167	1.80	13.250	6.65	19.33	1.62
1.167	0.90	7.250	1.80	13.333	1.26	19.42	1.62
1.250	0.90	7.333	1.80	13.417	1.26	19.50	1.62
1.333	0.90	7.417	1.80	13.500	1.26	19.58	1.62
1.417	0.90	7.500	1.80	13.583	1.26	19.67	1.62
1.500	0.90	7.583	1.80	13.667	1.26	19.75	1.62
1.583	0.90	7.667	1.80	13.750	1.26	19.83	1.62
1.667	0.90	7.750	1.80	13.833	7.37	19.92	1.62
1.750	0.90	7.833	1.80	13.917	7.37	20.00	1.62
1.833	0.90	7.917	1.80	14.000	7.37	20.08	1.62
1.917	0.90	8.000	1.80	14.083	7.37	20.17	1.62
2.000	0.90	8.083	1.80	14.167	7.37	20.25	1.62
2.083	1.62	8.167	1.80	14.250	7.37	20.33	1.08
2.167	1.62	8.250	1.80	14.333	2.70	20.42	1.08
2.250	1.62	8.333	2.43	14.417	2.70	20.50	1.08
2.333	1.17	8.417	2.43	14.500	2.70	20.58	1.08
2.417	1.17	8.500	2.43	14.583	2.70	20.67	1.08
2.500	1.17	8.583	2.43	14.667	2.70	20.75	1.08
2.583	1.17	8.667	2.43	14.750	2.70	20.83	1.08
2.667	1.17	8.750	2.43	14.833	2.70	20.92	1.08
2.750	1.17	8.833	2.43	14.917	2.70	21.00	1.08
2.833	1.17	8.917	2.43	15.000	2.70	21.08	1.08
2.917	1.17	9.000	2.43	15.083	2.70	21.17	1.08
3.000	1.17	9.083	2.43	15.167	2.70	21.25	1.08
3.083	1.17	9.167	2.43	15.250	2.70	21.33	1.08
3.167	1.17	9.250	2.43	15.333	2.70	21.42	1.08
3.250	1.17	9.333	2.88	15.417	2.70	21.50	1.08
3.333	1.17	9.417	2.88	15.500	2.70	21.58	1.08
3.417	1.17	9.500	2.88	15.583	2.70	21.67	1.08

3.500	1.17	9.583	2.88	15.667	2.70	21.75	1.08
3.583	1.17	9.667	2.88	15.750	2.70	21.83	1.08
3.667	1.17	9.750	2.88	15.833	2.70	21.92	1.08
3.750	1.17	9.833	3.24	15.917	2.70	22.00	1.08
3.833	1.17	9.917	3.24	16.000	2.70	22.08	1.08
3.917	1.17	10.000	3.24	16.083	2.70	22.17	1.08
4.000	1.17	10.083	3.24	16.167	2.70	22.25	1.08
4.083	1.17	10.167	3.24	16.250	2.70	22.33	1.08
4.167	1.17	10.250	3.24	16.333	1.62	22.42	1.08
4.250	1.17	10.333	4.14	16.417	1.62	22.50	1.08
4.333	1.44	10.417	4.14	16.500	1.62	22.58	1.08
4.417	1.44	10.500	4.14	16.583	1.62	22.67	1.08
4.500	1.44	10.583	4.14	16.667	1.62	22.75	1.08
4.583	1.44	10.667	4.14	16.750	1.62	22.83	1.08
4.667	1.44	10.750	4.14	16.833	1.62	22.92	1.08
4.750	1.44	10.833	5.57	16.917	1.62	23.00	1.08
4.833	1.44	10.917	5.57	17.000	1.62	23.08	1.08
4.917	1.44	11.000	5.57	17.083	1.62	23.17	1.08
5.000	1.44	11.083	5.57	17.167	1.62	23.25	1.08
5.083	1.44	11.167	5.57	17.250	1.62	23.33	1.08
5.167	1.44	11.250	5.57	17.333	1.62	23.42	1.08
5.250	1.44	11.333	8.63	17.417	1.62	23.50	1.08
5.333	1.44	11.417	8.63	17.500	1.62	23.58	1.08
5.417	1.44	11.500	8.63	17.583	1.62	23.67	1.08
5.500	1.44	11.583	8.63	17.667	1.62	23.75	1.08
5.583	1.44	11.667	8.63	17.750	1.62	23.83	1.08
5.667	1.44	11.750	8.63	17.833	1.62	23.92	1.08
5.750	1.44	11.833	37.40	17.917	1.62	24.00	1.08
5.833	1.44	11.917	37.40	18.000	1.62	24.08	1.08
5.917	1.44	12.000	37.40	18.083	1.62	24.17	1.08
6.000	1.44	12.083	99.24	18.167	1.62	24.25	1.08
6.083	1.44	12.167	99.25	18.250	1.62		

Max.Eff.Inten.(mm/hr)=	99.25	69.45		
over (min)	5.00	10.00		
Storage Coeff. (min)=	2.11 (ii)	6.67 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.31	0.14		
			TOTALS	
PEAK FLOW (cms)=	0.16	0.03	0.193 (iii)	
TIME TO PEAK (hrs)=	12.25	12.25	12.25	
RUNOFF VOLUME (mm)=	88.90	51.25	79.48	
TOTAL RAINFALL (mm)=	89.90	89.90	89.90	
RUNOFF COEFFICIENT =	0.99	0.57	0.88	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0157)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.193	12.25	79.48
OUTFLOW: ID= 1 (0157)	0.780	0.045	12.42	79.31

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.21
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0237

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\efc9bd42
Ptotal= 89.90 mm	Comments: New DesignStormManualInput

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.80	12.75	12.95	19.00	1.62
0.50	0.90	6.75	1.80	13.00	6.65	19.25	1.62
0.75	0.90	7.00	1.80	13.25	6.65	19.50	1.62
1.00	0.90	7.25	1.80	13.50	1.26	19.75	1.62
1.25	0.90	7.50	1.80	13.75	1.26	20.00	1.62
1.50	0.90	7.75	1.80	14.00	7.37	20.25	1.62
1.75	0.90	8.00	1.80	14.25	7.37	20.50	1.08
2.00	0.90	8.25	1.80	14.50	2.70	20.75	1.08
2.25	1.62	8.50	2.43	14.75	2.70	21.00	1.08
2.50	1.17	8.75	2.43	15.00	2.70	21.25	1.08
2.75	1.17	9.00	2.43	15.25	2.70	21.50	1.08
3.00	1.17	9.25	2.43	15.50	2.70	21.75	1.08
3.25	1.17	9.50	2.88	15.75	2.70	22.00	1.08
3.50	1.17	9.75	2.88	16.00	2.70	22.25	1.08
3.75	1.17	10.00	3.24	16.25	2.70	22.50	1.08
4.00	1.17	10.25	3.24	16.50	1.62	22.75	1.08
4.25	1.17	10.50	4.14	16.75	1.62	23.00	1.08
4.50	1.44	10.75	4.14	17.00	1.62	23.25	1.08
4.75	1.44	11.00	5.57	17.25	1.62	23.50	1.08
5.00	1.44	11.25	5.57	17.50	1.62	23.75	1.08
5.25	1.44	11.50	8.63	17.75	1.62	24.00	1.08
5.50	1.44	11.75	8.63	18.00	1.62	24.25	1.08
5.75	1.44	12.00	37.40	18.25	1.62		
6.00	1.44	12.25	99.25	18.50	1.62		
6.25	1.44	12.50	12.95	18.75	1.62		

CALIB	
STANDHYD (0156)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.44	12.250	99.25	18.33	1.62
0.167	0.00	6.250	1.44	12.333	12.96	18.42	1.62
0.250	0.00	6.333	1.80	12.417	12.95	18.50	1.62
0.333	0.90	6.417	1.80	12.500	12.95	18.58	1.62
0.417	0.90	6.500	1.80	12.583	12.95	18.67	1.62
0.500	0.90	6.583	1.80	12.667	12.95	18.75	1.62
0.583	0.90	6.667	1.80	12.750	12.95	18.83	1.62
0.667	0.90	6.750	1.80	12.833	6.65	18.92	1.62
0.750	0.90	6.833	1.80	12.917	6.65	19.00	1.62
0.833	0.90	6.917	1.80	13.000	6.65	19.08	1.62
0.917	0.90	7.000	1.80	13.083	6.65	19.17	1.62
1.000	0.90	7.083	1.80	13.167	6.65	19.25	1.62
1.083	0.90	7.167	1.80	13.250	6.65	19.33	1.62
1.167	0.90	7.250	1.80	13.333	1.26	19.42	1.62
1.250	0.90	7.333	1.80	13.417	1.26	19.50	1.62
1.333	0.90	7.417	1.80	13.500	1.26	19.58	1.62
1.417	0.90	7.500	1.80	13.583	1.26	19.67	1.62
1.500	0.90	7.583	1.80	13.667	1.26	19.75	1.62
1.583	0.90	7.667	1.80	13.750	1.26	19.83	1.62
1.667	0.90	7.750	1.80	13.833	7.37	19.92	1.62
1.750	0.90	7.833	1.80	13.917	7.37	20.00	1.62
1.833	0.90	7.917	1.80	14.000	7.37	20.08	1.62
1.917	0.90	8.000	1.80	14.083	7.37	20.17	1.62
2.000	0.90	8.083	1.80	14.167	7.37	20.25	1.62
2.083	1.62	8.167	1.80	14.250	7.37	20.33	1.08
2.167	1.62	8.250	1.80	14.333	2.70	20.42	1.08
2.250	1.62	8.333	2.43	14.417	2.70	20.50	1.08
2.333	1.17	8.417	2.43	14.500	2.70	20.58	1.08
2.417	1.17	8.500	2.43	14.583	2.70	20.67	1.08
2.500	1.17	8.583	2.43	14.667	2.70	20.75	1.08
2.583	1.17	8.667	2.43	14.750	2.70	20.83	1.08
2.667	1.17	8.750	2.43	14.833	2.70	20.92	1.08
2.750	1.17	8.833	2.43	14.917	2.70	21.00	1.08
2.833	1.17	8.917	2.43	15.000	2.70	21.08	1.08
2.917	1.17	9.000	2.43	15.083	2.70	21.17	1.08
3.000	1.17	9.083	2.43	15.167	2.70	21.25	1.08
3.083	1.17	9.167	2.43	15.250	2.70	21.33	1.08
3.167	1.17	9.250	2.43	15.333	2.70	21.42	1.08
3.250	1.17	9.333	2.88	15.417	2.70	21.50	1.08
3.333	1.17	9.417	2.88	15.500	2.70	21.58	1.08
3.417	1.17	9.500	2.88	15.583	2.70	21.67	1.08
3.500	1.17	9.583	2.88	15.667	2.70	21.75	1.08
3.583	1.17	9.667	2.88	15.750	2.70	21.83	1.08
3.667	1.17	9.750	2.88	15.833	2.70	21.92	1.08
3.750	1.17	9.833	3.24	15.917	2.70	22.00	1.08
3.833	1.17	9.917	3.24	16.000	2.70	22.08	1.08
3.917	1.17	10.000	3.24	16.083	2.70	22.17	1.08
4.000	1.17	10.083	3.24	16.167	2.70	22.25	1.08
4.083	1.17	10.167	3.24	16.250	2.70	22.33	1.08
4.167	1.17	10.250	3.24	16.333	1.62	22.42	1.08
4.250	1.17	10.333	4.14	16.417	1.62	22.50	1.08
4.333	1.44	10.417	4.14	16.500	1.62	22.58	1.08
4.417	1.44	10.500	4.14	16.583	1.62	22.67	1.08
4.500	1.44	10.583	4.14	16.667	1.62	22.75	1.08
4.583	1.44	10.667	4.14	16.750	1.62	22.83	1.08
4.667	1.44	10.750	4.14	16.833	1.62	22.92	1.08
4.750	1.44	10.833	5.57	16.917	1.62	23.00	1.08
4.833	1.44	10.917	5.57	17.000	1.62	23.08	1.08
4.917	1.44	11.000	5.57	17.083	1.62	23.17	1.08
5.000	1.44	11.083	5.57	17.167	1.62	23.25	1.08
5.083	1.44	11.167	5.57	17.250	1.62	23.33	1.08
5.167	1.44	11.250	5.57	17.333	1.62	23.42	1.08
5.250	1.44	11.333	8.63	17.417	1.62	23.50	1.08
5.333	1.44	11.417	8.63	17.500	1.62	23.58	1.08
5.417	1.44	11.500	8.63	17.583	1.62	23.67	1.08
5.500	1.44	11.583	8.63	17.667	1.62	23.75	1.08
5.583	1.44	11.667	8.63	17.750	1.62	23.83	1.08
5.667	1.44	11.750	8.63	17.833	1.62	23.92	1.08
5.750	1.44	11.833	37.40	17.917	1.62	24.00	1.08
5.833	1.44	11.917	37.40	18.000	1.62	24.08	1.08
5.917	1.44	12.000	37.40	18.083	1.62	24.17	1.08
6.000	1.44	12.083	99.24	18.167	1.62	24.25	1.08
6.083	1.44	12.167	99.25	18.250	1.62		

				TOTALS
Max.Eff.Inten.(mm/hr)=	99.25	36.89		
over (min)	5.00	10.00		
Storage Coeff. (min)=	1.53 (ii)	6.48 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.33	0.14		
PEAK FLOW (cms)=	0.05	0.01	0.059 (iii)	
TIME TO PEAK (hrs)=	12.25	12.25	12.25	
RUNOFF VOLUME (mm)=	88.90	27.57	71.11	
TOTAL RAINFALL (mm)=	89.90	89.90	89.90	
RUNOFF COEFFICIENT =	0.99	0.31	0.79	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0154)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0156)	0.270	0.059	12.25	71.11
OUTFLOW: ID= 1 (0154)	0.270	0.026	12.33	70.94

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.22
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0055

```
| ADD HYD  (  0158)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0154):     0.27   0.026    12.33    70.94
     + ID2= 2 (  0157):     0.78   0.045    12.42    79.31
       ================================================
       ID = 3 (  0158):     1.05   0.071    12.33    77.16

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

```
--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0158):     1.05   0.071    12.33    77.16
     + ID2= 2 (  0160):     1.07   0.037    12.75    79.23
       ================================================
       ID = 1 (  0158):     2.12   0.106    12.33    78.21

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

```
--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0158):     2.12   0.106    12.33    78.21
     + ID2= 2 (  0162):    16.09   0.343    13.33    50.65
       ================================================
       ID = 3 (  0158):    18.21   0.419    13.25    53.85

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

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                 *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\7b038ce1-6243-4dee-b8c6-916b0b38bacb\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\7b038ce1-6243-4dee-b8c6-916b0b38bacb\scen

DATE: 10-31-2019                          TIME: 10:47:20

USER:


COMMENTS: _____________________________________________________

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  ***********************************************
  ** SIMULATION : 3-10-Year-4-Hour-Chicago-Barr **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\335bdce2
| Ptotal= 59.69 mm |    Comments: 10-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    4.32 |  1.17   30.27 |'  2.17    9.72 |  3.17    5.09
                0.33    4.91 |  1.33  126.55 |'  2.33    8.35 |  3.33    4.74
                0.50    5.73 |  1.50   39.22 |'  2.50    7.35 |  3.50    4.45
                0.67    6.96 |  1.67   21.35 |'  2.67    6.59 |  3.67    4.19
                0.83    9.03 |  1.83   15.01 |'  2.83    5.99 |  3.83    3.97
                1.00   13.36 |  2.00   11.74 |'  3.00    5.50 |  4.00    3.77

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| CALIB            |
| NASHYD   (  0137)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
              TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
             0.083    4.32 | 1.083   30.27 | 2.083    9.72 |  3.08    5.09
             0.167    4.32 | 1.167   30.27 | 2.167    9.72 |  3.17    5.09
             0.250    4.91 | 1.250  126.55 | 2.250    8.35 |  3.25    4.74
             0.333    4.91 | 1.333  126.55 | 2.333    8.35 |  3.33    4.74
             0.417    5.73 | 1.417   39.22 | 2.417    7.35 |  3.42    4.45
             0.500    5.73 | 1.500   39.22 | 2.500    7.35 |  3.50    4.45
             0.583    6.96 | 1.583   21.35 | 2.583    6.59 |  3.58    4.19
             0.667    6.96 | 1.667   21.35 | 2.667    6.59 |  3.67    4.19
             0.750    9.03 | 1.750   15.01 | 2.750    5.99 |  3.75    3.97
```

0.833	9.03	1.833	15.01	2.833	5.99	3.83	3.97
0.917	13.36	1.917	11.74	2.917	5.50	3.92	3.77
1.000	13.36	2.000	11.74	3.000	5.50	4.00	3.77

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.121 (i)
TIME TO PEAK (hrs)= 2.083
RUNOFF VOLUME (mm)= 10.583
TOTAL RAINFALL (mm)= 59.695
RUNOFF COEFFICIENT = 0.177

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\335bdce2
Ptotal= 59.69 mm	Comments: 10-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.32	1.17	30.27	2.17	9.72	3.17	5.09
0.33	4.91	1.33	126.55	2.33	8.35	3.33	4.74
0.50	5.73	1.50	39.22	2.50	7.35	3.50	4.45
0.67	6.96	1.67	21.35	2.67	6.59	3.67	4.19
0.83	9.03	1.83	15.01	2.83	5.99	3.83	3.97
1.00	13.36	2.00	11.74	3.00	5.50	4.00	3.77

CALIB STANDHYD (0153)	Area (ha)= 1.03
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.77	0.26
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	82.87	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.32	1.083	30.27	2.083	9.72	3.08	5.09
0.167	4.32	1.167	30.27	2.167	9.72	3.17	5.09
0.250	4.91	1.250	126.55	2.250	8.35	3.25	4.74
0.333	4.91	1.333	126.55	2.333	8.35	3.33	4.74
0.417	5.73	1.417	39.22	2.417	7.35	3.42	4.45
0.500	5.73	1.500	39.22	2.500	7.35	3.50	4.45
0.583	6.96	1.583	21.35	2.583	6.59	3.58	4.19
0.667	6.96	1.667	21.35	2.667	6.59	3.67	4.19
0.750	9.03	1.750	15.01	2.750	5.99	3.75	3.97

0.833	9.03	1.833	15.01	2.833	5.99	3.83	3.97
0.917	13.36	1.917	11.74	2.917	5.50	3.92	3.77
1.000	13.36	2.000	11.74	3.000	5.50	4.00	3.77

			TOTALS
Max.Eff.Inten.(mm/hr)=	126.55	22.00	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.08 (ii)	6.22 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
PEAK FLOW (cms)=	0.27	0.01	0.280 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	58.69	12.94	47.25
TOTAL RAINFALL (mm)=	59.69	59.69	59.69
RUNOFF COEFFICIENT =	0.98	0.22	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.280	1.33	47.25
OUTFLOW: ID= 1 (0159)	1.030	0.060	1.58	47.16

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.38
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0236

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\335bdce2
Ptotal= 59.69 mm	Comments: 10-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.32	1.17	30.27	2.17	9.72	3.17	5.09
0.33	4.91	1.33	126.55	2.33	8.35	3.33	4.74
0.50	5.73	1.50	39.22	2.50	7.35	3.50	4.45
0.67	6.96	1.67	21.35	2.67	6.59	3.67	4.19
0.83	9.03	1.83	15.01	2.83	5.99	3.83	3.97
1.00	13.36	2.00	11.74	3.00	5.50	4.00	3.77

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| CALIB            |
| STANDHYD (  0163)|   Area    (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91         6.45
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     320.00        40.00
     Mannings n            =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    4.32 | 1.083   30.27 | 2.083    9.72 |  3.08    5.09
              0.167    4.32 | 1.167   30.27 | 2.167    9.72 |  3.17    5.09
              0.250    4.91 | 1.250  126.55 | 2.250    8.35 |  3.25    4.74
              0.333    4.91 | 1.333  126.55 | 2.333    8.35 |  3.33    4.74
              0.417    5.73 | 1.417   39.22 | 2.417    7.35 |  3.42    4.45
              0.500    5.73 | 1.500   39.22 | 2.500    7.35 |  3.50    4.45
              0.583    6.96 | 1.583   21.35 | 2.583    6.59 |  3.58    4.19
              0.667    6.96 | 1.667   21.35 | 2.667    6.59 |  3.67    4.19
              0.750    9.03 | 1.750   15.01 | 2.750    5.99 |  3.75    3.97
              0.833    9.03 | 1.833   15.01 | 2.833    5.99 |  3.83    3.97
              0.917   13.36 | 1.917   11.74 | 2.917    5.50 |  3.92    3.77
              1.000   13.36 | 2.000   11.74 | 3.000    5.50 |  4.00    3.77

     Max.Eff.Inten.(mm/hr)=     126.55        19.25
               over (min)          5.00        20.00
     Storage Coeff.  (min)=       4.67 (ii)   18.32 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.22         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.85         0.19       2.906 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58        1.33
     RUNOFF VOLUME    (mm)=      58.69        13.61       39.76
     TOTAL RAINFALL   (mm)=      59.69        59.69       59.69
     RUNOFF COEFFICIENT   =       0.98         0.23        0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0152)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0137):     8.10   0.121     2.08    10.58
     + ID2= 2 (  0159):     1.03   0.060     1.58    47.16
       ================================================
       ID = 3 (  0152):     9.13   0.173     2.00    14.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0152)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0152):     9.13   0.173     2.00    14.71
     + ID2= 2 (  0163):    15.36   2.906     1.33    39.76
       ================================================
       ID = 1 (  0152):    24.49   2.964     1.33    30.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR(  0161)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.4045     0.7000
                         0.0151     0.0001    |   0.5514     0.8000
                         0.0151     0.1301    |   0.7611     0.9000
                         0.0440     0.4217    |   0.9325     0.9500
                         0.2194     0.6000    |   1.1147     1.0500

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0152)    24.490     2.964     1.33       30.42
   OUTFLOW: ID= 1 (  0161)    24.490     0.198     3.83       30.42

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.67
                TIME SHIFT OF PEAK FLOW          (min)=150.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5781

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--------------------
| DUHYD    (  0162)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.20      3.83   30.42
     ================================================
     MAJOR SYS.(ID= 2):  13.34      0.18      3.83   30.42
     MINOR SYS.(ID= 3):  11.15      0.02      1.33   30.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\335bdce2
| Ptotal= 59.69 mm |    Comments: 10-Year-4-Hour-Chicago
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.32	1.17	30.27	2.17	9.72	3.17	5.09
0.33	4.91	1.33	126.55	2.33	8.35	3.33	4.74
0.50	5.73	1.50	39.22	2.50	7.35	3.50	4.45
0.67	6.96	1.67	21.35	2.67	6.59	3.67	4.19
0.83	9.03	1.83	15.01	2.83	5.99	3.83	3.97
1.00	13.36	2.00	11.74	3.00	5.50	4.00	3.77

CALIB	
STANDHYD (0151)	Area (ha)= 1.07
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.32	1.083	30.27	2.083	9.72	3.08	5.09
0.167	4.32	1.167	30.27	2.167	9.72	3.17	5.09
0.250	4.91	1.250	126.55	2.250	8.35	3.25	4.74
0.333	4.91	1.333	126.55	2.333	8.35	3.33	4.74
0.417	5.73	1.417	39.22	2.417	7.35	3.42	4.45
0.500	5.73	1.500	39.22	2.500	7.35	3.50	4.45
0.583	6.96	1.583	21.35	2.583	6.59	3.58	4.19
0.667	6.96	1.667	21.35	2.667	6.59	3.67	4.19
0.750	9.03	1.750	15.01	2.750	5.99	3.75	3.97
0.833	9.03	1.833	15.01	2.833	5.99	3.83	3.97
0.917	13.36	1.917	11.74	2.917	5.50	3.92	3.77
1.000	13.36	2.000	11.74	3.000	5.50	4.00	3.77

				TOTALS
Max.Eff.Inten.(mm/hr)=		126.55	52.67	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.10 (ii)	6.24 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.31	0.15	
PEAK FLOW	(cms)=	0.28	0.03	0.305 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	58.69	27.08	50.79
TOTAL RAINFALL	(mm)=	59.69	59.69	59.69
RUNOFF COEFFICIENT	=	0.98	0.45	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

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

RESERVOIR(0160)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	1.070	0.305	1.33	50.79
OUTFLOW: ID= 1 (0160)	1.070	0.031	2.00	50.54

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.26
TIME SHIFT OF PEAK FLOW (min)= 40.00
MAXIMUM STORAGE USED (ha.m.)= 0.0337

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\335bdce2
Ptotal= 59.69 mm	Comments: 10-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.32	1.17	30.27	2.17	9.72	3.17	5.09
0.33	4.91	1.33	126.55	2.33	8.35	3.33	4.74
0.50	5.73	1.50	39.22	2.50	7.35	3.50	4.45
0.67	6.96	1.67	21.35	2.67	6.59	3.67	4.19
0.83	9.03	1.83	15.01	2.83	5.99	3.83	3.97
1.00	13.36	2.00	11.74	3.00	5.50	4.00	3.77

CALIB	
STANDHYD (0155)	Area (ha)= 0.78
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.32	1.083	30.27	2.083	9.72	3.08	5.09
0.167	4.32	1.167	30.27	2.167	9.72	3.17	5.09
0.250	4.91	1.250	126.55	2.250	8.35	3.25	4.74
0.333	4.91	1.333	126.55	2.333	8.35	3.33	4.74

0.417	5.73	1.417	39.22	2.417	7.35	3.42	4.45
0.500	5.73	1.500	39.22	2.500	7.35	3.50	4.45
0.583	6.96	1.583	21.35	2.583	6.59	3.58	4.19
0.667	6.96	1.667	21.35	2.667	6.59	3.67	4.19
0.750	9.03	1.750	15.01	2.750	5.99	3.75	3.97
0.833	9.03	1.833	15.01	2.833	5.99	3.83	3.97
0.917	13.36	1.917	11.74	2.917	5.50	3.92	3.77
1.000	13.36	2.000	11.74	3.000	5.50	4.00	3.77

Max.Eff.Inten.(mm/hr)=	126.55	52.67	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.91 (ii)	6.05 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
			TOTALS
PEAK FLOW (cms)=	0.20	0.02	0.223 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	58.69	27.08	50.79
TOTAL RAINFALL (mm)=	59.69	59.69	59.69
RUNOFF COEFFICIENT =	0.98	0.45	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0157)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.223	1.33	50.79
OUTFLOW: ID= 1 (0157)	0.780	0.039	1.75	50.62

PEAK FLOW REDUCTION [Qout/Qin](%)= 17.49
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 0.0207

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\335bdce2
Ptotal= 59.69 mm	Comments: 10-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.32	1.17	30.27	2.17	9.72	3.17	5.09
0.33	4.91	1.33	126.55	2.33	8.35	3.33	4.74
0.50	5.73	1.50	39.22	2.50	7.35	3.50	4.45
0.67	6.96	1.67	21.35	2.67	6.59	3.67	4.19
0.83	9.03	1.83	15.01	2.83	5.99	3.83	3.97
1.00	13.36	2.00	11.74	3.00	5.50	4.00	3.77

CALIB	
STANDHYD (0156)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.32	1.083	30.27	2.083	9.72	3.08	5.09
0.167	4.32	1.167	30.27	2.167	9.72	3.17	5.09
0.250	4.91	1.250	126.55	2.250	8.35	3.25	4.74
0.333	4.91	1.333	126.55	2.333	8.35	3.33	4.74
0.417	5.73	1.417	39.22	2.417	7.35	3.42	4.45
0.500	5.73	1.500	39.22	2.500	7.35	3.50	4.45
0.583	6.96	1.583	21.35	2.583	6.59	3.58	4.19
0.667	6.96	1.667	21.35	2.667	6.59	3.67	4.19
0.750	9.03	1.750	15.01	2.750	5.99	3.75	3.97
0.833	9.03	1.833	15.01	2.833	5.99	3.83	3.97
0.917	13.36	1.917	11.74	2.917	5.50	3.92	3.77
1.000	13.36	2.000	11.74	3.000	5.50	4.00	3.77

Max.Eff.Inten.(mm/hr)=	126.55	22.00	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.39 (ii)	5.88 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.33	0.15	
			TOTALS
PEAK FLOW (cms)=	0.07	0.00	0.070 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	58.69	12.94	45.42
TOTAL RAINFALL (mm)=	59.69	59.69	59.69
RUNOFF COEFFICIENT =	0.98	0.22	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0154)	
IN= 2---> OUT= 1	

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| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0460      0.0093

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)      0.270     0.070      1.33      45.42
   OUTFLOW: ID= 1 (  0154)      0.270     0.023      1.50      45.25

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.16
                  TIME SHIFT OF PEAK FLOW         (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0047

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--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0154):     0.27   0.023     1.50    45.25
     + ID2= 2 (  0157):     0.78   0.039     1.75    50.62
       ================================================
       ID = 3 (  0158):     1.05   0.061     1.58    49.24

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0158):     1.05   0.061     1.58    49.24
     + ID2= 2 (  0160):     1.07   0.031     2.00    50.54
       ================================================
       ID = 1 (  0158):     2.12   0.090     1.67    49.89

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0158):     2.12   0.090     1.67    49.89
     + ID2= 2 (  0162):    13.34   0.183     3.83    30.42
       ================================================
       ID = 3 (  0158):    15.46   0.233     3.33    33.09

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M M M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\1920d394-fbe8-47e8-8135-2f23f7b24cb5\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\1920d394-fbe8-47e8-8135-2f23f7b24cb5\scen

DATE: 10-31-2019                          TIME: 10:47:20

USER:

COMMENTS: _____

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  **********************************************
  ** SIMULATION : 3-10-Year-4-Hour-Chicago-MTO  **
  **********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 591.350
| Ptotal= 51.28 mm |                          B=   0.000
--------------------                          C=   0.699
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

      TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
       hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
      0.17    4.31 |  1.17   20.41 |  2.17    8.53 |  3.17    4.97
      0.33    4.82 |  1.33  118.26 |  2.33    7.53 |  3.33    4.68
      0.50    5.50 |  1.50   25.04 |  2.50    6.78 |  3.50    4.43
      0.67    6.47 |  1.67   15.79 |  2.67    6.18 |  3.67    4.21
      0.83    8.02 |  1.83   12.04 |  2.83    5.70 |  3.83    4.01
      1.00   10.97 |  2.00    9.92 |  3.00    5.30 |  4.00    3.83

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0137)|   Area    (ha)=   8.10   Curve Number   (CN)= 52.7
```

```
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
-------------------   U.H. Tp(hrs)=   0.59

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.31	1.083	20.41	2.083	8.53	3.08	4.97
0.167	4.31	1.167	20.41	2.167	8.53	3.17	4.97
0.250	4.82	1.250	118.26	2.250	7.53	3.25	4.68
0.333	4.82	1.333	118.26	2.333	7.53	3.33	4.68
0.417	5.50	1.417	25.04	2.417	6.78	3.42	4.43
0.500	5.50	1.500	25.04	2.500	6.78	3.50	4.43
0.583	6.47	1.583	15.79	2.583	6.18	3.58	4.21
0.667	6.47	1.667	15.79	2.667	6.18	3.67	4.21
0.750	8.02	1.750	12.04	2.750	5.70	3.75	4.01
0.833	8.02	1.833	12.04	2.833	5.70	3.83	4.01
0.917	10.97	1.917	9.92	2.917	5.30	3.92	3.83
1.000	10.97	2.000	9.92	3.000	5.30	4.00	3.83

```
     Unit Hyd Qpeak  (cms)=   0.524

     PEAK FLOW       (cms)=   0.083 (i)
     TIME TO PEAK    (hrs)=   2.083
     RUNOFF VOLUME    (mm)=   7.810
     TOTAL RAINFALL   (mm)=  51.284
     RUNOFF COEFFICIENT   =   0.152

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

```
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 591.350
| Ptotal= 51.28 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.31	1.17	20.41	2.17	8.53	3.17	4.97
0.33	4.82	1.33	118.26	2.33	7.53	3.33	4.68
0.50	5.50	1.50	25.04	2.50	6.78	3.50	4.43
0.67	6.47	1.67	15.79	2.67	6.18	3.67	4.21
0.83	8.02	1.83	12.04	2.83	5.70	3.83	4.01
1.00	10.97	2.00	9.92	3.00	5.30	4.00	3.83

```
--------------------
| CALIB            |
| STANDHYD (  0153)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.26
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      82.87        40.00
     Mannings n             =    0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.31	1.083	20.41	2.083	8.53	3.08	4.97
0.167	4.31	1.167	20.41	2.167	8.53	3.17	4.97
0.250	4.82	1.250	118.26	2.250	7.53	3.25	4.68
0.333	4.82	1.333	118.26	2.333	7.53	3.33	4.68
0.417	5.50	1.417	25.04	2.417	6.78	3.42	4.43
0.500	5.50	1.500	25.04	2.500	6.78	3.50	4.43
0.583	6.47	1.583	15.79	2.583	6.18	3.58	4.21
0.667	6.47	1.667	15.79	2.667	6.18	3.67	4.21
0.750	8.02	1.750	12.04	2.750	5.70	3.75	4.01
0.833	8.02	1.833	12.04	2.833	5.70	3.83	4.01
0.917	10.97	1.917	9.92	2.917	5.30	3.92	3.83
1.000	10.97	2.000	9.92	3.000	5.30	4.00	3.83

```
     Max.Eff.Inten.(mm/hr)=     118.26        17.47
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.13 (ii)    6.39 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.25         0.01          0.259 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      50.28         9.62          40.11
     TOTAL RAINFALL   (mm)=      51.28        51.28          51.28
     RUNOFF COEFFICIENT   =       0.98         0.19           0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  59.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| RESERVOIR(  0159)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000    |  0.1120      0.0442

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0153)      1.030     0.259      1.33      40.11
   OUTFLOW: ID= 1 (  0159)      1.030     0.050      1.58      40.02

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.15
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
```

```
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0197

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 591.350
| Ptotal= 51.28 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    4.31 |  1.17   20.41 |  2.17    8.53 |  3.17    4.97
                0.33    4.82 |  1.33  118.26 |  2.33    7.53 |  3.33    4.68
                0.50    5.50 |  1.50   25.04 |  2.50    6.78 |  3.50    4.43
                0.67    6.47 |  1.67   15.79 |  2.67    6.18 |  3.67    4.21
                0.83    8.02 |  1.83   12.04 |  2.83    5.70 |  3.83    4.01
                1.00   10.97 |  2.00    9.92 |  3.00    5.30 |  4.00    3.83


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0163)|   Area    (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91         6.45
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     320.00        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    4.31 | 1.083   20.41 | 2.083    8.53 |  3.08    4.97
               0.167    4.31 | 1.167   20.41 | 2.167    8.53 |  3.17    4.97
               0.250    4.82 | 1.250  118.26 | 2.250    7.53 |  3.25    4.68
               0.333    4.82 | 1.333  118.26 | 2.333    7.53 |  3.33    4.68
               0.417    5.50 | 1.417   25.04 | 2.417    6.78 |  3.42    4.43
               0.500    5.50 | 1.500   25.04 | 2.500    6.78 |  3.50    4.43
               0.583    6.47 | 1.583   15.79 | 2.583    6.18 |  3.58    4.21
               0.667    6.47 | 1.667   15.79 | 2.667    6.18 |  3.67    4.21
               0.750    8.02 | 1.750   12.04 | 2.750    5.70 |  3.75    4.01
               0.833    8.02 | 1.833   12.04 | 2.833    5.70 |  3.83    4.01
               0.917   10.97 | 1.917    9.92 | 2.917    5.30 |  3.92    3.83
               1.000   10.97 | 2.000    9.92 | 3.000    5.30 |  4.00    3.83

     Max.Eff.Inten.(mm/hr)=     118.26        12.51
               over (min)          5.00        25.00
     Storage Coeff.  (min)=       4.80 (ii)   21.01 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.22         0.05

                                                                  *TOTALS*
     PEAK FLOW       (cms)=       2.62         0.13          2.651 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.67           1.33
     RUNOFF VOLUME    (mm)=      50.28        10.13          33.42
     TOTAL RAINFALL   (mm)=      51.28        51.28          51.28
     RUNOFF COEFFICIENT   =       0.98         0.20           0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

--------------------
| ADD HYD  (  0152)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0137):      8.10    0.083     2.08     7.81
     + ID2= 2 (  0159):      1.03    0.050     1.58    40.02
       ================================================
       ID = 3 (  0152):      9.13    0.126     2.00    11.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0152)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0152):      9.13    0.126     2.00    11.44
     + ID2= 2 (  0163):     15.36    2.651     1.33    33.42
       ================================================
       ID = 1 (  0152):     24.49    2.700     1.33    25.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0161)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.4045     0.7000
                         0.0151     0.0001    |   0.5514     0.8000
                         0.0151     0.1301    |   0.7611     0.9000
                         0.0440     0.4217    |   0.9325     0.9500
                         0.2194     0.6000    |   1.1147     1.0500

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0152)     24.490     2.700      1.33      25.23
   OUTFLOW: ID= 1 (  0161)     24.490     0.133      4.08      25.23

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  4.94
                  TIME SHIFT OF PEAK FLOW         (min)=165.00
```

```
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5128

--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0162)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):  24.49      0.13      4.08    25.23
     ================================================
     MAJOR SYS.(ID= 2):  11.25      0.12      4.08    25.23
     MINOR SYS.(ID= 3):  13.24      0.02      1.33    25.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 591.350
| Ptotal= 51.28 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    4.31 |  1.17   20.41 |  2.17    8.53 |  3.17    4.97
                0.33    4.82 |  1.33  118.26 |  2.33    7.53 |  3.33    4.68
                0.50    5.50 |  1.50   25.04 |  2.50    6.78 |  3.50    4.43
                0.67    6.47 |  1.67   15.79 |  2.67    6.18 |  3.67    4.21
                0.83    8.02 |  1.83   12.04 |  2.83    5.70 |  3.83    4.01
                1.00   10.97 |  2.00    9.92 |  3.00    5.30 |  4.00    3.83


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0151)|   Area    (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.80         0.27
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     84.46        40.00
     Mannings n           =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    4.31 | 1.083   20.41 | 2.083    8.53 |  3.08    4.97
               0.167    4.31 | 1.167   20.41 | 2.167    8.53 |  3.17    4.97
               0.250    4.82 | 1.250  118.26 | 2.250    7.53 |  3.25    4.68
               0.333    4.82 | 1.333  118.26 | 2.333    7.53 |  3.33    4.68
               0.417    5.50 | 1.417   25.04 | 2.417    6.78 |  3.42    4.43
               0.500    5.50 | 1.500   25.04 | 2.500    6.78 |  3.50    4.43
               0.583    6.47 | 1.583   15.79 | 2.583    6.18 |  3.58    4.21
               0.667    6.47 | 1.667   15.79 | 2.667    6.18 |  3.67    4.21
               0.750    8.02 | 1.750   12.04 | 2.750    5.70 |  3.75    4.01
               0.833    8.02 | 1.833   12.04 | 2.833    5.70 |  3.83    4.01
               0.917   10.97 | 1.917    9.92 | 2.917    5.30 |  3.92    3.83
               1.000   10.97 | 2.000    9.92 | 3.000    5.30 |  4.00    3.83

     Max.Eff.Inten.(mm/hr)=     118.26        43.24
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.16 (ii)    6.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.26         0.02          0.281 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42          1.33
     RUNOFF VOLUME    (mm)=      50.28        20.99         42.96
     TOTAL RAINFALL   (mm)=      51.28        51.28         51.28
     RUNOFF COEFFICIENT   =       0.98         0.41          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0160)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.0600     0.0645

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0151)     1.070     0.281      1.33      42.96
   OUTFLOW: ID= 1 (  0160)     1.070     0.026      2.08      42.71

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.11
                  TIME SHIFT OF PEAK FLOW          (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0275

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 591.350
| Ptotal= 51.28 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    4.31 |  1.17   20.41 |  2.17    8.53 |  3.17    4.97
```

0.33	4.82	1.33	118.26	2.33	7.53	3.33	4.68
0.50	5.50	1.50	25.04	2.50	6.78	3.50	4.43
0.67	6.47	1.67	15.79	2.67	6.18	3.67	4.21
0.83	8.02	1.83	12.04	2.83	5.70	3.83	4.01
1.00	10.97	2.00	9.92	3.00	5.30	4.00	3.83

CALIB			
STANDHYD (0155)	Area (ha)= 0.78		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.31	1.083	20.41	2.083	8.53	3.08	4.97
0.167	4.31	1.167	20.41	2.167	8.53	3.17	4.97
0.250	4.82	1.250	118.26	2.250	7.53	3.25	4.68
0.333	4.82	1.333	118.26	2.333	7.53	3.33	4.68
0.417	5.50	1.417	25.04	2.417	6.78	3.42	4.43
0.500	5.50	1.500	25.04	2.500	6.78	3.50	4.43
0.583	6.47	1.583	15.79	2.583	6.18	3.58	4.21
0.667	6.47	1.667	15.79	2.667	6.18	3.67	4.21
0.750	8.02	1.750	12.04	2.750	5.70	3.75	4.01
0.833	8.02	1.833	12.04	2.833	5.70	3.83	4.01
0.917	10.97	1.917	9.92	2.917	5.30	3.92	3.83
1.000	10.97	2.000	9.92	3.000	5.30	4.00	3.83

Max.Eff.Inten.(mm/hr)=		118.26	43.24	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.96 (ii)	6.22 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.31	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.19	0.02	0.206 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	50.28	20.99	42.96
TOTAL RAINFALL	(mm)=	51.28	51.28	51.28
RUNOFF COEFFICIENT	=	0.98	0.41	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0157)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.206	1.33	42.96
OUTFLOW: ID= 1 (0157)	0.780	0.032	1.67	42.79

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.57
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.0169

CHICAGO STORM	IDF curve parameters: A= 591.350
Ptotal= 51.28 mm	B= 0.000
	C= 0.699

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.31	1.17	20.41	2.17	8.53	3.17	4.97
0.33	4.82	1.33	118.26	2.33	7.53	3.33	4.68
0.50	5.50	1.50	25.04	2.50	6.78	3.50	4.43
0.67	6.47	1.67	15.79	2.67	6.18	3.67	4.21
0.83	8.02	1.83	12.04	2.83	5.70	3.83	4.01
1.00	10.97	2.00	9.92	3.00	5.30	4.00	3.83

CALIB			
STANDHYD (0156)	Area (ha)= 0.27		
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00	Dir. Conn.(%)= 71.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.31	1.083	20.41	2.083	8.53	3.08	4.97
0.167	4.31	1.167	20.41	2.167	8.53	3.17	4.97
0.250	4.82	1.250	118.26	2.250	7.53	3.25	4.68
0.333	4.82	1.333	118.26	2.333	7.53	3.33	4.68

```
               0.417    5.50 | 1.417   25.04 | 2.417    6.78 |  3.42    4.43
               0.500    5.50 | 1.500   25.04 | 2.500    6.78 |  3.50    4.43
               0.583    6.47 | 1.583   15.79 | 2.583    6.18 |  3.58    4.21
               0.667    6.47 | 1.667   15.79 | 2.667    6.18 |  3.67    4.21
               0.750    8.02 | 1.750   12.04 | 2.750    5.70 |  3.75    4.01
               0.833    8.02 | 1.833   12.04 | 2.833    5.70 |  3.83    4.01
               0.917   10.97 | 1.917    9.92 | 2.917    5.30 |  3.92    3.83
               1.000   10.97 | 2.000    9.92 | 3.000    5.30 |  4.00    3.83

     Max.Eff.Inten.(mm/hr)=     118.26        17.47
                 over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.43 (ii)    6.04 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.00          0.065 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      50.28         9.62          38.48
     TOTAL RAINFALL   (mm)=      51.28        51.28          51.28
     RUNOFF COEFFICIENT   =       0.98         0.19           0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0460     0.0093

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)      0.270     0.065      1.33      38.48
   OUTFLOW: ID= 1 (  0154)      0.270     0.020      1.42      38.32

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.81
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0041

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0154):      0.27   0.020     1.42    38.32
     + ID2= 2 (  0157):      0.78   0.032     1.67    42.79
       ================================================
       ID = 3 (  0158):      1.05   0.051     1.50    41.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0158):      1.05   0.051     1.50    41.64
     + ID2= 2 (  0160):      1.07   0.026     2.08    42.71
       ================================================
       ID = 1 (  0158):      2.12   0.075     1.58    42.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0158):      2.12   0.075     1.58    42.18
     + ID2= 2 (  0162):     11.25   0.118     4.08    25.23
       ================================================
       ID = 3 (  0158):     13.37   0.157     4.00    27.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\4f39c303-37a1-4b80-a112-f7a6a2506b45\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
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DATE: 10-31-2019                          TIME: 10:47:21

USER:
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COMMENTS: _____

```
  ************************************************
  ** SIMULATION : 3-10-Year-6-Hour-SCS-Type-II  **
  ************************************************
```

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\9434984f
Ptotal= 70.80 mm	Comments: 10-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	7.08	3.75	15.58	5.50	2.83
0.50	2.83	2.25	7.08	4.00	7.08	5.75	2.83
0.75	2.83	2.50	8.50	4.25	7.08	6.00	2.83
1.00	4.25	2.75	8.50	4.50	5.66	6.25	2.83
1.25	4.25	3.00	42.48	4.75	5.66		
1.50	4.25	3.25	110.45	5.00	4.25		
1.75	4.25	3.50	15.58	5.25	4.25		

CALIB			
NASHYD (0137)	Area (ha)= 8.10	Curve Number (CN)= 52.7	
ID= 1 DT= 5.0 min	Ia (mm)= 5.00	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.59		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.25	3.250	110.45	4.83	4.25
0.167	0.00	1.750	4.25	3.333	15.58	4.92	4.25
0.250	0.00	1.833	7.08	3.417	15.58	5.00	4.25
0.333	2.83	1.917	7.08	3.500	15.58	5.08	4.25
0.417	2.83	2.000	7.08	3.583	15.58	5.17	4.25
0.500	2.83	2.083	7.08	3.667	15.58	5.25	4.25
0.583	2.83	2.167	7.08	3.750	15.58	5.33	2.83
0.667	2.83	2.250	7.08	3.833	7.08	5.42	2.83
0.750	2.83	2.333	8.50	3.917	7.08	5.50	2.83
0.833	4.25	2.417	8.50	4.000	7.08	5.58	2.83
0.917	4.25	2.500	8.50	4.083	7.08	5.67	2.83
1.000	4.25	2.583	8.50	4.167	7.08	5.75	2.83
1.083	4.25	2.667	8.50	4.250	7.08	5.83	2.83
1.167	4.25	2.750	8.50	4.333	5.66	5.92	2.83
1.250	4.25	2.833	42.48	4.417	5.66	6.00	2.83
1.333	4.25	2.917	42.48	4.500	5.66	6.08	2.83
1.417	4.25	3.000	42.48	4.583	5.66	6.17	2.83
1.500	4.25	3.083	110.45	4.667	5.66	6.25	2.83
1.583	4.25	3.167	110.45	4.750	5.66		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.186 (i)
TIME TO PEAK (hrs)= 3.833
RUNOFF VOLUME (mm)= 14.738
TOTAL RAINFALL (mm)= 70.800
RUNOFF COEFFICIENT = 0.208

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\9434984f
Ptotal= 70.80 mm	Comments: 10-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	7.08	3.75	15.58	5.50	2.83
0.50	2.83	2.25	7.08	4.00	7.08	5.75	2.83
0.75	2.83	2.50	8.50	4.25	7.08	6.00	2.83
1.00	4.25	2.75	8.50	4.50	5.66	6.25	2.83
1.25	4.25	3.00	42.48	4.75	5.66		
1.50	4.25	3.25	110.45	5.00	4.25		
1.75	4.25	3.50	15.58	5.25	4.25		

CALIB			
STANDHYD (0153)	Area (ha)= 1.03		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.25	3.250	110.45	4.83	4.25
0.167	0.00	1.750	4.25	3.333	15.58	4.92	4.25
0.250	0.00	1.833	7.08	3.417	15.58	5.00	4.25
0.333	2.83	1.917	7.08	3.500	15.58	5.08	4.25
0.417	2.83	2.000	7.08	3.583	15.58	5.17	4.25
0.500	2.83	2.083	7.08	3.667	15.58	5.25	4.25
0.583	2.83	2.167	7.08	3.750	15.58	5.33	2.83
0.667	2.83	2.250	7.08	3.833	7.08	5.42	2.83
0.750	2.83	2.333	8.50	3.917	7.08	5.50	2.83
0.833	4.25	2.417	8.50	4.000	7.08	5.58	2.83
0.917	4.25	2.500	8.50	4.083	7.08	5.67	2.83
1.000	4.25	2.583	8.50	4.167	7.08	5.75	2.83

1.083	4.25	2.667	8.50	4.250	7.08	5.83	2.83
1.167	4.25	2.750	8.50	4.333	5.66	5.92	2.83
1.250	4.25	2.833	42.48	4.417	5.66	6.00	2.83
1.333	4.25	2.917	42.48	4.500	5.66	6.08	2.83
1.417	4.25	3.000	42.48	4.583	5.66	6.17	2.83
1.500	4.25	3.083	110.45	4.667	5.66	6.25	2.83
1.583	4.25	3.167	110.45	4.750	5.66		

			TOTALS
Max.Eff.Inten.(mm/hr)=	110.45	35.16	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.19 (ii)	6.56 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.14	
PEAK FLOW (cms)=	0.24	0.02	0.256 (iii)
TIME TO PEAK (hrs)=	3.25	3.25	3.25
RUNOFF VOLUME (mm)=	69.80	17.87	56.81
TOTAL RAINFALL (mm)=	70.80	70.80	70.80
RUNOFF COEFFICIENT =	0.99	0.25	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)	
IN= 2---> OUT= 1	
DT= 5.0 min	OUTFLOW (cms) / STORAGE (ha.m.)
	0.0000 / 0.0000
	OUTFLOW (cms) / STORAGE (ha.m.)
	0.1120 / 0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.256	3.25	56.81
OUTFLOW: ID= 1 (0159)	1.030	0.073	3.33	56.72

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.43
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0288

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\9434984f
Ptotal= 70.80 mm	Comments: 10-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	7.08	3.75	15.58	5.50	2.83
0.50	2.83	2.25	7.08	4.00	7.08	5.75	2.83
0.75	2.83	2.50	8.50	4.25	7.08	6.00	2.83
1.00	4.25	2.75	8.50	4.50	5.66	6.25	2.83
1.25	4.25	3.00	42.48	4.75	5.66		
1.50	4.25	3.25	110.45	5.00	4.25		
1.75	4.25	3.50	15.58	5.25	4.25		

CALIB	
STANDHYD (0163)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.25	3.250	110.45	4.83	4.25
0.167	0.00	1.750	4.25	3.333	15.58	4.92	4.25
0.250	0.00	1.833	7.08	3.417	15.58	5.00	4.25
0.333	2.83	1.917	7.08	3.500	15.58	5.08	4.25
0.417	2.83	2.000	7.08	3.583	15.58	5.17	4.25
0.500	2.83	2.083	7.08	3.667	15.58	5.25	4.25
0.583	2.83	2.167	7.08	3.750	15.58	5.33	2.83
0.667	2.83	2.250	7.08	3.833	7.08	5.42	2.83
0.750	2.83	2.333	8.50	3.917	7.08	5.50	2.83
0.833	4.25	2.417	8.50	4.000	7.08	5.58	2.83
0.917	4.25	2.500	8.50	4.083	7.08	5.67	2.83
1.000	4.25	2.583	8.50	4.167	7.08	5.75	2.83
1.083	4.25	2.667	8.50	4.250	7.08	5.83	2.83
1.167	4.25	2.750	8.50	4.333	5.66	5.92	2.83
1.250	4.25	2.833	42.48	4.417	5.66	6.00	2.83
1.333	4.25	2.917	42.48	4.500	5.66	6.08	2.83
1.417	4.25	3.000	42.48	4.583	5.66	6.17	2.83
1.500	4.25	3.083	110.45	4.667	5.66	6.25	2.83
1.583	4.25	3.167	110.45	4.750	5.66		

			TOTALS
Max.Eff.Inten.(mm/hr)=	110.45	33.26	
over (min)	5.00	20.00	
Storage Coeff. (min)=	4.93 (ii)	15.90 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.22	0.07	
PEAK FLOW (cms)=	2.65	0.33	2.864 (iii)
TIME TO PEAK (hrs)=	3.25	3.42	3.25
RUNOFF VOLUME (mm)=	69.80	18.75	48.36
TOTAL RAINFALL (mm)=	70.80	70.80	70.80
RUNOFF COEFFICIENT =	0.99	0.26	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0152)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0137):		8.10	0.186	3.83	14.74
+ ID2= 2 (0159):		1.03	0.073	3.33	56.72
ID = 3 (0152):		9.13	0.248	3.75	19.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0152)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0152):		9.13	0.248	3.75	19.47
+ ID2= 2 (0163):		15.36	2.864	3.25	48.36
ID = 1 (0152):		24.49	2.996	3.25	37.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0161)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.4045	0.7000
0.0151	0.0001	0.5514	0.8000
0.0151	0.1301	0.7611	0.9000
0.0440	0.4217	0.9325	0.9500
0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0152)	24.490	2.996	3.25	37.59
OUTFLOW: ID= 1 (0161)	24.490	0.317	4.75	37.59

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.57
TIME SHIFT OF PEAK FLOW (min)= 90.00
MAXIMUM STORAGE USED (ha.m.)= 0.6526

DUHYD (0162)
Inlet Cap.= 0.015
#of Inlets= 1
Total(cms)= 0.0

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.49	0.32	4.75	37.59
MAJOR SYS.(ID= 2):	15.17	0.30	4.75	37.59
MINOR SYS.(ID= 3):	9.32	0.02	2.92	37.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM | Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\9434984f
Ptotal= 70.80 mm | Comments: 10-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	7.08	3.75	15.58	5.50	2.83
0.50	2.83	2.25	7.08	4.00	7.08	5.75	2.83
0.75	2.83	2.50	8.50	4.25	7.08	6.00	2.83
1.00	4.25	2.75	8.50	4.50	5.66	6.25	2.83
1.25	4.25	3.00	42.48	4.75	5.66		
1.50	4.25	3.25	110.45	5.00	4.25		
1.75	4.25	3.50	15.58	5.25	4.25		

CALIB
STANDHYD (0151)
ID= 1 DT= 5.0 min
Area (ha)= 1.07
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.25	3.250	110.45	4.83	4.25
0.167	0.00	1.750	4.25	3.333	15.58	4.92	4.25
0.250	0.00	1.833	7.08	3.417	15.58	5.00	4.25
0.333	2.83	1.917	7.08	3.500	15.58	5.08	4.25
0.417	2.83	2.000	7.08	3.583	15.58	5.17	4.25
0.500	2.83	2.083	7.08	3.667	15.58	5.25	4.25
0.583	2.83	2.167	7.08	3.750	15.58	5.33	2.83
0.667	2.83	2.250	7.08	3.833	7.08	5.42	2.83
0.750	2.83	2.333	8.50	3.917	7.08	5.50	2.83
0.833	4.25	2.417	8.50	4.000	7.08	5.58	2.83
0.917	4.25	2.500	8.50	4.083	7.08	5.67	2.83
1.000	4.25	2.583	8.50	4.167	7.08	5.75	2.83
1.083	4.25	2.667	8.50	4.250	7.08	5.83	2.83
1.167	4.25	2.750	8.50	4.333	5.66	5.92	2.83
1.250	4.25	2.833	42.48	4.417	5.66	6.00	2.83
1.333	4.25	2.917	42.48	4.500	5.66	6.08	2.83
1.417	4.25	3.000	42.48	4.583	5.66	6.17	2.83
1.500	4.25	3.083	110.45	4.667	5.66	6.25	2.83

```
               1.583    4.25 | 3.167  110.45 | 4.750    5.66 |

     Max.Eff.Inten.(mm/hr)=     110.45        70.56
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.22 (ii)    6.59 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.25         0.04          0.289 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=      69.80        35.62          61.25
     TOTAL RAINFALL   (mm)=      70.80        70.80          70.80
     RUNOFF COEFFICIENT   =       0.99         0.50           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0160)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0600     0.0645

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0151)      1.070     0.289      3.25      61.25
   OUTFLOW: ID= 1 (  0160)      1.070     0.038      3.75      61.00

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.28
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0413

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\9434984f
| Ptotal= 70.80 mm |    Comments: 10-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    7.08 |  3.75   15.58 |  5.50    2.83
                0.50    2.83 |  2.25    7.08 |  4.00    7.08 |  5.75    2.83
                0.75    2.83 |  2.50    8.50 |  4.25    7.08 |  6.00    2.83
                1.00    4.25 |  2.75    8.50 |  4.50    5.66 |  6.25    2.83
                1.25    4.25 |  3.00   42.48 |  4.75    5.66 |
                1.50    4.25 |  3.25  110.45 |  5.00    4.25 |
                1.75    4.25 |  3.50   15.58 |  5.25    4.25 |

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| CALIB            |
| STANDHYD (  0155)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         0.58          0.19
     Dep. Storage     (mm)=         1.00          5.00
     Average Slope     (%)=         1.00          2.00
     Length            (m)=        72.11         40.00
     Mannings n             =       0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    4.25 | 3.250  110.45 |  4.83    4.25
               0.167    0.00 | 1.750    4.25 | 3.333   15.58 |  4.92    4.25
               0.250    0.00 | 1.833    7.08 | 3.417   15.58 |  5.00    4.25
               0.333    2.83 | 1.917    7.08 | 3.500   15.58 |  5.08    4.25
               0.417    2.83 | 2.000    7.08 | 3.583   15.58 |  5.17    4.25
               0.500    2.83 | 2.083    7.08 | 3.667   15.58 |  5.25    4.25
               0.583    2.83 | 2.167    7.08 | 3.750   15.58 |  5.33    2.83
               0.667    2.83 | 2.250    7.08 | 3.833    7.08 |  5.42    2.83
               0.750    2.83 | 2.333    8.50 | 3.917    7.08 |  5.50    2.83
               0.833    4.25 | 2.417    8.50 | 4.000    7.08 |  5.58    2.83
               0.917    4.25 | 2.500    8.50 | 4.083    7.08 |  5.67    2.83
               1.000    4.25 | 2.583    8.50 | 4.167    7.08 |  5.75    2.83
               1.083    4.25 | 2.667    8.50 | 4.250    7.08 |  5.83    2.83
               1.167    4.25 | 2.750    8.50 | 4.333    5.66 |  5.92    2.83
               1.250    4.25 | 2.833   42.48 | 4.417    5.66 |  6.00    2.83
               1.333    4.25 | 2.917   42.48 | 4.500    5.66 |  6.08    2.83
               1.417    4.25 | 3.000   42.48 | 4.583    5.66 |  6.17    2.83
               1.500    4.25 | 3.083  110.45 | 4.667    5.66 |  6.25    2.83
               1.583    4.25 | 3.167  110.45 | 4.750    5.66 |

     Max.Eff.Inten.(mm/hr)=     110.45        70.56
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.02 (ii)    6.39 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.18         0.03          0.211 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=      69.80        35.62          61.25
     TOTAL RAINFALL   (mm)=      70.80        70.80          70.80
     RUNOFF COEFFICIENT   =       0.99         0.50           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0157)|
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IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.211	3.25	61.25
OUTFLOW: ID= 1 (0157)	0.780	0.048	3.42	61.08

PEAK FLOW REDUCTION [Qout/Qin](%)= 22.66
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0253

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\9434984f
Ptotal= 70.80 mm	Comments: 10-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	7.08	3.75	15.58	5.50	2.83
0.50	2.83	2.25	7.08	4.00	7.08	5.75	2.83
0.75	2.83	2.50	8.50	4.25	7.08	6.00	2.83
1.00	4.25	2.75	8.50	4.50	5.66	6.25	2.83
1.25	4.25	3.00	42.48	4.75	5.66		
1.50	4.25	3.25	110.45	5.00	4.25		
1.75	4.25	3.50	15.58	5.25	4.25		

CALIB	
STANDHYD (0156)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.19	0.08
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	42.43	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.25	3.250	110.45	4.83	4.25
0.167	0.00	1.750	4.25	3.333	15.58	4.92	4.25
0.250	0.00	1.833	7.08	3.417	15.58	5.00	4.25
0.333	2.83	1.917	7.08	3.500	15.58	5.08	4.25
0.417	2.83	2.000	7.08	3.583	15.58	5.17	4.25
0.500	2.83	2.083	7.08	3.667	15.58	5.25	4.25
0.583	2.83	2.167	7.08	3.750	15.58	5.33	2.83
0.667	2.83	2.250	7.08	3.833	7.08	5.42	2.83
0.750	2.83	2.333	8.50	3.917	7.08	5.50	2.83
0.833	4.25	2.417	8.50	4.000	7.08	5.58	2.83
0.917	4.25	2.500	8.50	4.083	7.08	5.67	2.83
1.000	4.25	2.583	8.50	4.167	7.08	5.75	2.83
1.083	4.25	2.667	8.50	4.250	7.08	5.83	2.83
1.167	4.25	2.750	8.50	4.333	5.66	5.92	2.83
1.250	4.25	2.833	42.48	4.417	5.66	6.00	2.83
1.333	4.25	2.917	42.48	4.500	5.66	6.08	2.83
1.417	4.25	3.000	42.48	4.583	5.66	6.17	2.83
1.500	4.25	3.083	110.45	4.667	5.66	6.25	2.83
1.583	4.25	3.167	110.45	4.750	5.66		

Max.Eff.Inten.(mm/hr)=	110.45	35.16	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.47 (ii)	6.21 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.33	0.15	
			TOTALS
PEAK FLOW (cms)=	0.06	0.01	0.065 (iii)
TIME TO PEAK (hrs)=	3.25	3.25	3.25
RUNOFF VOLUME (mm)=	69.80	17.87	54.73
TOTAL RAINFALL (mm)=	70.80	70.80	70.80
RUNOFF COEFFICIENT =	0.99	0.25	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0154)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0156)	0.270	0.065	3.25	54.73
OUTFLOW: ID= 1 (0154)	0.270	0.029	3.33	54.57

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.13
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0060

ADD HYD (0158)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0154):	0.27	0.029	3.33	54.57
+ ID2= 2 (0157):	0.78	0.048	3.42	61.08
ID = 3 (0158):	1.05	0.076	3.33	59.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0158)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0158):		1.05	0.076	3.33	59.41
+ ID2= 2 (0160):		1.07	0.038	3.75	61.00
ID = 1 (0158):		2.12	0.112	3.33	60.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0158)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0158):		2.12	0.112	3.33	60.21
+ ID2= 2 (0162):		15.17	0.301	4.75	37.59
ID = 3 (0158):		17.29	0.373	4.58	40.37

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

 OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
O   O    T      T    H   H   Y Y   MM MM  O   O
O   O    T      T    H   H    Y    M   M  O   O
 OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\8384dcd3-6fff-433e-9d60-03c5f377bbe7\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\8384dcd3-6fff-433e-9d60-03c5f377bbe7\scen

DATE: 10-31-2019 TIME: 10:47:21

USER:

COMMENTS: _____

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**********************************************
** SIMULATION : 4-25-Year-12-Hour-SCS-Type-II **
**********************************************
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READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\5eef7ed8
Ptotal= 90.70 mm	Comments: 25-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.63	6.75	16.33	10.00	3.17
0.50	2.27	3.75	3.63	7.00	7.26	10.25	3.17
0.75	2.27	4.00	3.63	7.25	7.26	10.50	1.81
1.00	2.27	4.25	3.63	7.50	5.44	10.75	1.81
1.25	2.27	4.50	5.44	7.75	5.44	11.00	1.81
1.50	2.27	4.75	5.44	8.00	5.44	11.25	1.81
1.75	2.27	5.00	7.26	8.25	5.44	11.50	1.81
2.00	2.27	5.25	7.26	8.50	3.17	11.75	1.81
2.25	2.27	5.50	10.88	8.75	3.17	12.00	1.81
2.50	2.72	5.75	10.88	9.00	3.17	12.25	1.81
2.75	2.72	6.00	43.54	9.25	3.17		
3.00	2.72	6.25	119.72	9.50	3.17		
3.25	2.72	6.50	16.33	9.75	3.17		

CALIB					
NASHYD (0137)	Area (ha)=	8.10	Curve Number (CN)=	52.7
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	0.59		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.72	6.250	119.72	9.33	3.17
0.167	0.00	3.250	2.72	6.333	16.33	9.42	3.17
0.250	0.00	3.333	3.63	6.417	16.33	9.50	3.17
0.333	2.27	3.417	3.63	6.500	16.33	9.58	3.17
0.417	2.27	3.500	3.63	6.583	16.33	9.67	3.17
0.500	2.27	3.583	3.63	6.667	16.33	9.75	3.17
0.583	2.27	3.667	3.63	6.750	16.33	9.83	3.17
0.667	2.27	3.750	3.63	6.833	7.26	9.92	3.17
0.750	2.27	3.833	3.63	6.917	7.26	10.00	3.17
0.833	2.27	3.917	3.63	7.000	7.26	10.08	3.17
0.917	2.27	4.000	3.63	7.083	7.26	10.17	3.17

1.000	2.27	4.083	3.63	7.167	7.26	10.25	3.17
1.083	2.27	4.167	3.63	7.250	7.26	10.33	1.81
1.167	2.27	4.250	3.63	7.333	5.44	10.42	1.81
1.250	2.27	4.333	5.44	7.417	5.44	10.50	1.81
1.333	2.27	4.417	5.44	7.500	5.44	10.58	1.81
1.417	2.27	4.500	5.44	7.583	5.44	10.67	1.81
1.500	2.27	4.583	5.44	7.667	5.44	10.75	1.81
1.583	2.27	4.667	5.44	7.750	5.44	10.83	1.81
1.667	2.27	4.750	5.44	7.833	5.44	10.92	1.81
1.750	2.27	4.833	7.26	7.917	5.44	11.00	1.81
1.833	2.27	4.917	7.26	8.000	5.44	11.08	1.81
1.917	2.27	5.000	7.26	8.083	5.44	11.17	1.81
2.000	2.27	5.083	7.26	8.167	5.44	11.25	1.81
2.083	2.27	5.167	7.26	8.250	5.44	11.33	1.81
2.167	2.27	5.250	7.26	8.333	3.17	11.42	1.81
2.250	2.27	5.333	10.88	8.417	3.17	11.50	1.81
2.333	2.72	5.417	10.88	8.500	3.17	11.58	1.81
2.417	2.72	5.500	10.88	8.583	3.17	11.67	1.81
2.500	2.72	5.583	10.88	8.667	3.17	11.75	1.81
2.583	2.72	5.667	10.88	8.750	3.17	11.83	1.81
2.667	2.72	5.750	10.88	8.833	3.17	11.92	1.81
2.750	2.72	5.833	43.54	8.917	3.17	12.00	1.81
2.833	2.72	5.917	43.54	9.000	3.17	12.08	1.81
2.917	2.72	6.000	43.54	9.083	3.17	12.17	1.81
3.000	2.72	6.083	119.72	9.167	3.17	12.25	1.81
3.083	2.72	6.167	119.72	9.250	3.17		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.255 (i)
TIME TO PEAK (hrs)= 6.750
RUNOFF VOLUME (mm)= 23.414
TOTAL RAINFALL (mm)= 90.700
RUNOFF COEFFICIENT = 0.258

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\5eef7ed8
Ptotal= 90.70 mm	Comments: 25-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.63	6.75	16.33	10.00	3.17
0.50	2.27	3.75	3.63	7.00	7.26	10.25	3.17
0.75	2.27	4.00	3.63	7.25	7.26	10.50	1.81
1.00	2.27	4.25	3.63	7.50	5.44	10.75	1.81
1.25	2.27	4.50	5.44	7.75	5.44	11.00	1.81
1.50	2.27	4.75	5.44	8.00	5.44	11.25	1.81
1.75	2.27	5.00	7.26	8.25	5.44	11.50	1.81
2.00	2.27	5.25	7.26	8.50	3.17	11.75	1.81
2.25	2.27	5.50	10.88	8.75	3.17	12.00	1.81
2.50	2.72	5.75	10.88	9.00	3.17	12.25	1.81
2.75	2.72	6.00	43.54	9.25	3.17		
3.00	2.72	6.25	119.72	9.50	3.17		
3.25	2.72	6.50	16.33	9.75	3.17		

CALIB	
STANDHYD (0153)	Area (ha)= 1.03
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.72	6.250	119.72	9.33	3.17
0.167	0.00	3.250	2.72	6.333	16.33	9.42	3.17
0.250	0.00	3.333	3.63	6.417	16.33	9.50	3.17
0.333	2.27	3.417	3.63	6.500	16.33	9.58	3.17
0.417	2.27	3.500	3.63	6.583	16.33	9.67	3.17
0.500	2.27	3.583	3.63	6.667	16.33	9.75	3.17
0.583	2.27	3.667	3.63	6.750	16.33	9.83	3.17
0.667	2.27	3.750	3.63	6.833	7.26	9.92	3.17
0.750	2.27	3.833	3.63	6.917	7.26	10.00	3.17
0.833	2.27	3.917	3.63	7.000	7.26	10.08	3.17
0.917	2.27	4.000	3.63	7.083	7.26	10.17	3.17
1.000	2.27	4.083	3.63	7.167	7.26	10.25	3.17
1.083	2.27	4.167	3.63	7.250	7.26	10.33	1.81
1.167	2.27	4.250	3.63	7.333	5.44	10.42	1.81
1.250	2.27	4.333	5.44	7.417	5.44	10.50	1.81
1.333	2.27	4.417	5.44	7.500	5.44	10.58	1.81
1.417	2.27	4.500	5.44	7.583	5.44	10.67	1.81
1.500	2.27	4.583	5.44	7.667	5.44	10.75	1.81
1.583	2.27	4.667	5.44	7.750	5.44	10.83	1.81
1.667	2.27	4.750	5.44	7.833	5.44	10.92	1.81
1.750	2.27	4.833	7.26	7.917	5.44	11.00	1.81
1.833	2.27	4.917	7.26	8.000	5.44	11.08	1.81
1.917	2.27	5.000	7.26	8.083	5.44	11.17	1.81
2.000	2.27	5.083	7.26	8.167	5.44	11.25	1.81
2.083	2.27	5.167	7.26	8.250	5.44	11.33	1.81
2.167	2.27	5.250	7.26	8.333	3.17	11.42	1.81
2.250	2.27	5.333	10.88	8.417	3.17	11.50	1.81
2.333	2.72	5.417	10.88	8.500	3.17	11.58	1.81
2.417	2.72	5.500	10.88	8.583	3.17	11.67	1.81
2.500	2.72	5.583	10.88	8.667	3.17	11.75	1.81
2.583	2.72	5.667	10.88	8.750	3.17	11.83	1.81
2.667	2.72	5.750	10.88	8.833	3.17	11.92	1.81
2.750	2.72	5.833	43.54	8.917	3.17	12.00	1.81
2.833	2.72	5.917	43.54	9.000	3.17	12.08	1.81
2.917	2.72	6.000	43.54	9.083	3.17	12.17	1.81
3.000	2.72	6.083	119.72	9.167	3.17	12.25	1.81
3.083	2.72	6.167	119.72	9.250	3.17		

Max.Eff.Inten.(mm/hr)= 119.72 45.91

over (min)		5.00	10.00	
Storage Coeff. (min)=		2.12 (ii)	6.36 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.31	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.26	0.03	0.283 (iii)
TIME TO PEAK	(hrs)=	6.25	6.25	6.25
RUNOFF VOLUME	(mm)=	89.70	28.01	74.27
TOTAL RAINFALL	(mm)=	90.70	90.70	90.70
RUNOFF COEFFICIENT	=	0.99	0.31	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.283	6.25	74.27
OUTFLOW: ID= 1 (0159)	1.030	0.081	6.33	74.18

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.57
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0319

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\5eef7ed8
Ptotal= 90.70 mm	Comments: 25-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.63	6.75	16.33	10.00	3.17
0.50	2.27	3.75	3.63	7.00	7.26	10.25	3.17
0.75	2.27	4.00	3.63	7.25	7.26	10.50	1.81
1.00	2.27	4.25	3.63	7.50	5.44	10.75	1.81
1.25	2.27	4.50	5.44	7.75	5.44	11.00	1.81
1.50	2.27	4.75	5.44	8.00	5.44	11.25	1.81
1.75	2.27	5.00	7.26	8.25	5.44	11.50	1.81
2.00	2.27	5.25	7.26	8.50	3.17	11.75	1.81
2.25	2.27	5.50	10.88	8.75	3.17	12.00	1.81
2.50	2.72	5.75	10.88	9.00	3.17	12.25	1.81
2.75	2.72	6.00	43.54	9.25	3.17		
3.00	2.72	6.25	119.72	9.50	3.17		
3.25	2.72	6.50	16.33	9.75	3.17		

CALIB			
STANDHYD (0163)	Area (ha)= 15.36		
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00	Dir. Conn.(%)= 58.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)= 8.91	6.45	
Dep. Storage	(mm)= 1.00	5.00	
Average Slope	(%)= 1.00	2.00	
Length	(m)= 320.00	40.00	
Mannings n	= 0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.72	6.250	119.72	9.33	3.17
0.167	0.00	3.250	2.72	6.333	16.33	9.42	3.17
0.250	0.00	3.333	3.63	6.417	16.33	9.50	3.17
0.333	2.27	3.417	3.63	6.500	16.33	9.58	3.17
0.417	2.27	3.500	3.63	6.583	16.33	9.67	3.17
0.500	2.27	3.583	3.63	6.667	16.33	9.75	3.17
0.583	2.27	3.667	3.63	6.750	16.33	9.83	3.17
0.667	2.27	3.750	3.63	6.833	7.26	9.92	3.17
0.750	2.27	3.833	3.63	6.917	7.26	10.00	3.17
0.833	2.27	3.917	3.63	7.000	7.26	10.08	3.17
0.917	2.27	4.000	3.63	7.083	7.26	10.17	3.17
1.000	2.27	4.083	3.63	7.167	7.26	10.25	3.17
1.083	2.27	4.167	3.63	7.250	7.26	10.33	1.81
1.167	2.27	4.250	3.63	7.333	5.44	10.42	1.81
1.250	2.27	4.333	5.44	7.417	5.44	10.50	1.81
1.333	2.27	4.417	5.44	7.500	5.44	10.58	1.81
1.417	2.27	4.500	5.44	7.583	5.44	10.67	1.81
1.500	2.27	4.583	5.44	7.667	5.44	10.75	1.81
1.583	2.27	4.667	5.44	7.750	5.44	10.83	1.81
1.667	2.27	4.750	5.44	7.833	5.44	10.92	1.81
1.750	2.27	4.833	7.26	7.917	5.44	11.00	1.81
1.833	2.27	4.917	7.26	8.000	5.44	11.08	1.81
1.917	2.27	5.000	7.26	8.083	5.44	11.17	1.81
2.000	2.27	5.083	7.26	8.167	5.44	11.25	1.81
2.083	2.27	5.167	7.26	8.250	5.44	11.33	1.81
2.167	2.27	5.250	7.26	8.333	3.17	11.42	1.81
2.250	2.27	5.333	10.88	8.417	3.17	11.50	1.81
2.333	2.72	5.417	10.88	8.500	3.17	11.58	1.81
2.417	2.72	5.500	10.88	8.583	3.17	11.67	1.81
2.500	2.72	5.583	10.88	8.667	3.17	11.75	1.81
2.583	2.72	5.667	10.88	8.750	3.17	11.83	1.81
2.667	2.72	5.750	10.88	8.833	3.17	11.92	1.81
2.750	2.72	5.833	43.54	8.917	3.17	12.00	1.81
2.833	2.72	5.917	43.54	9.000	3.17	12.08	1.81
2.917	2.72	6.000	43.54	9.083	3.17	12.17	1.81
3.000	2.72	6.083	119.72	9.167	3.17	12.25	1.81
3.083	2.72	6.167	119.72	9.250	3.17		

Max.Eff.Inten.(mm/hr)=		119.72	48.04
over (min)		5.00	15.00

```
     Storage Coeff.  (min)=       4.78 (ii)   14.24 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.22         0.08
                                                      *TOTALS*
     PEAK FLOW       (cms)=       2.88         0.49          3.294 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.33          6.25
     RUNOFF VOLUME    (mm)=      89.70        29.28         64.32
     TOTAL RAINFALL   (mm)=      90.70        90.70         90.70
     RUNOFF COEFFICIENT   =       0.99         0.32          0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (0152)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0137):	8.10	0.255	6.75	23.41
	+ ID2= 2 (0159):	1.03	0.081	6.33	74.18
	ID = 3 (0152):	9.13	0.325	6.75	29.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0152)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0152):	9.13	0.325	6.75	29.14
	+ ID2= 2 (0163):	15.36	3.294	6.25	64.32
	ID = 1 (0152):	24.49	3.473	6.25	51.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0161)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.4045	0.7000
	0.0151	0.0001	0.5514	0.8000
	0.0151	0.1301	0.7611	0.9000
	0.0440	0.4217	0.9325	0.9500
	0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0152)	24.490	3.473	6.25	51.21
OUTFLOW: ID= 1 (0161)	24.490	0.471	7.33	51.21

```
                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.56
                  TIME SHIFT OF PEAK FLOW          (min)= 65.00
                  MAXIMUM  STORAGE   USED        (ha.m.)=  0.7454
```

DUHYD (0162)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.= 0.015		(ha)	(cms)	(hrs)	(mm)
#of Inlets= 1					
Total(cms)= 0.0	TOTAL HYD.(ID= 1):	24.49	0.47	7.33	51.21
	MAJOR SYS.(ID= 2):	17.12	0.46	7.33	51.21
	MINOR SYS.(ID= 3):	7.37	0.02	5.33	51.21

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\5eef7ed8
Ptotal= 90.70 mm	Comments: 25-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.63	6.75	16.33	10.00	3.17
0.50	2.27	3.75	3.63	7.00	7.26	10.25	3.17
0.75	2.27	4.00	3.63	7.25	7.26	10.50	1.81
1.00	2.27	4.25	3.63	7.50	5.44	10.75	1.81
1.25	2.27	4.50	5.44	7.75	5.44	11.00	1.81
1.50	2.27	4.75	5.44	8.00	5.44	11.25	1.81
1.75	2.27	5.00	7.26	8.25	5.44	11.50	1.81
2.00	2.27	5.25	7.26	8.50	3.17	11.75	1.81
2.25	2.27	5.50	10.88	8.75	3.17	12.00	1.81
2.50	2.72	5.75	10.88	9.00	3.17	12.25	1.81
2.75	2.72	6.00	43.54	9.25	3.17		
3.00	2.72	6.25	119.72	9.50	3.17		
3.25	2.72	6.50	16.33	9.75	3.17		

CALIB			
STANDHYD (0151)	Area (ha)= 1.07		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	
		IMPERVIOUS	PERVIOUS (i)
	Surface Area (ha)=	0.80	0.27
	Dep. Storage (mm)=	1.00	5.00
	Average Slope (%)=	1.00	2.00
	Length (m)=	84.46	40.00
	Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.72	6.250	119.72	9.33	3.17
0.167	0.00	3.250	2.72	6.333	16.33	9.42	3.17
0.250	0.00	3.333	3.63	6.417	16.33	9.50	3.17
0.333	2.27	3.417	3.63	6.500	16.33	9.58	3.17
0.417	2.27	3.500	3.63	6.583	16.33	9.67	3.17
0.500	2.27	3.583	3.63	6.667	16.33	9.75	3.17
0.583	2.27	3.667	3.63	6.750	16.33	9.83	3.17
0.667	2.27	3.750	3.63	6.833	7.26	9.92	3.17
0.750	2.27	3.833	3.63	6.917	7.26	10.00	3.17
0.833	2.27	3.917	3.63	7.000	7.26	10.08	3.17
0.917	2.27	4.000	3.63	7.083	7.26	10.17	3.17
1.000	2.27	4.083	3.63	7.167	7.26	10.25	3.17
1.083	2.27	4.167	3.63	7.250	7.26	10.33	1.81
1.167	2.27	4.250	3.63	7.333	5.44	10.42	1.81
1.250	2.27	4.333	5.44	7.417	5.44	10.50	1.81
1.333	2.27	4.417	5.44	7.500	5.44	10.58	1.81
1.417	2.27	4.500	5.44	7.583	5.44	10.67	1.81
1.500	2.27	4.583	5.44	7.667	5.44	10.75	1.81
1.583	2.27	4.667	5.44	7.750	5.44	10.83	1.81
1.667	2.27	4.750	5.44	7.833	5.44	10.92	1.81
1.750	2.27	4.833	7.26	7.917	5.44	11.00	1.81
1.833	2.27	4.917	7.26	8.000	5.44	11.08	1.81
1.917	2.27	5.000	7.26	8.083	5.44	11.17	1.81
2.000	2.27	5.083	7.26	8.167	5.44	11.25	1.81
2.083	2.27	5.167	7.26	8.250	5.44	11.33	1.81
2.167	2.27	5.250	7.26	8.333	3.17	11.42	1.81
2.250	2.27	5.333	10.88	8.417	3.17	11.50	1.81
2.333	2.72	5.417	10.88	8.500	3.17	11.58	1.81
2.417	2.72	5.500	10.88	8.583	3.17	11.67	1.81
2.500	2.72	5.583	10.88	8.667	3.17	11.75	1.81
2.583	2.72	5.667	10.88	8.750	3.17	11.83	1.81
2.667	2.72	5.750	10.88	8.833	3.17	11.92	1.81
2.750	2.72	5.833	43.54	8.917	3.17	12.00	1.81
2.833	2.72	5.917	43.54	9.000	3.17	12.08	1.81
2.917	2.72	6.000	43.54	9.083	3.17	12.17	1.81
3.000	2.72	6.083	119.72	9.167	3.17	12.25	1.81
3.083	2.72	6.167	119.72	9.250	3.17		

			TOTALS
Max.Eff.Inten.(mm/hr)=	119.72	85.17	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.15 (ii)	6.38 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
PEAK FLOW (cms)=	0.27	0.05	0.320 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	89.70	51.92	80.25
TOTAL RAINFALL (mm)=	90.70	90.70	90.70
RUNOFF COEFFICIENT =	0.99	0.57	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0160)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1				
DT= 5.0 min	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	1.070	0.320	6.25	80.25
OUTFLOW: ID= 1 (0160)	1.070	0.044	6.75	80.00

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.74
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0473

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\5eef7ed8
Ptotal= 90.70 mm	Comments: 25-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.63	6.75	16.33	10.00	3.17
0.50	2.27	3.75	3.63	7.00	7.26	10.25	3.17
0.75	2.27	4.00	3.63	7.25	7.26	10.50	1.81
1.00	2.27	4.25	3.63	7.50	5.44	10.75	1.81
1.25	2.27	4.50	5.44	7.75	5.44	11.00	1.81
1.50	2.27	4.75	5.44	8.00	5.44	11.25	1.81
1.75	2.27	5.00	7.26	8.25	5.44	11.50	1.81
2.00	2.27	5.25	7.26	8.50	3.17	11.75	1.81
2.25	2.27	5.50	10.88	8.75	3.17	12.00	1.81
2.50	2.72	5.75	10.88	9.00	3.17	12.25	1.81
2.75	2.72	6.00	43.54	9.25	3.17		
3.00	2.72	6.25	119.72	9.50	3.17		
3.25	2.72	6.50	16.33	9.75	3.17		

CALIB			
STANDHYD (0155)	Area (ha)= 0.78		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.72	6.250	119.72	9.33	3.17
0.167	0.00	3.250	2.72	6.333	16.33	9.42	3.17
0.250	0.00	3.333	3.63	6.417	16.33	9.50	3.17
0.333	2.27	3.417	3.63	6.500	16.33	9.58	3.17
0.417	2.27	3.500	3.63	6.583	16.33	9.67	3.17
0.500	2.27	3.583	3.63	6.667	16.33	9.75	3.17
0.583	2.27	3.667	3.63	6.750	16.33	9.83	3.17
0.667	2.27	3.750	3.63	6.833	7.26	9.92	3.17
0.750	2.27	3.833	3.63	6.917	7.26	10.00	3.17
0.833	2.27	3.917	3.63	7.000	7.26	10.08	3.17
0.917	2.27	4.000	3.63	7.083	7.26	10.17	3.17
1.000	2.27	4.083	3.63	7.167	7.26	10.25	3.17
1.083	2.27	4.167	3.63	7.250	7.26	10.33	1.81
1.167	2.27	4.250	3.63	7.333	5.44	10.42	1.81
1.250	2.27	4.333	5.44	7.417	5.44	10.50	1.81
1.333	2.27	4.417	5.44	7.500	5.44	10.58	1.81
1.417	2.27	4.500	5.44	7.583	5.44	10.67	1.81
1.500	2.27	4.583	5.44	7.667	5.44	10.75	1.81
1.583	2.27	4.667	5.44	7.750	5.44	10.83	1.81
1.667	2.27	4.750	5.44	7.833	5.44	10.92	1.81
1.750	2.27	4.833	7.26	7.917	5.44	11.00	1.81
1.833	2.27	4.917	7.26	8.000	5.44	11.08	1.81
1.917	2.27	5.000	7.26	8.083	5.44	11.17	1.81
2.000	2.27	5.083	7.26	8.167	5.44	11.25	1.81
2.083	2.27	5.167	7.26	8.250	5.44	11.33	1.81
2.167	2.27	5.250	7.26	8.333	3.17	11.42	1.81
2.250	2.27	5.333	10.88	8.417	3.17	11.50	1.81
2.333	2.72	5.417	10.88	8.500	3.17	11.58	1.81
2.417	2.72	5.500	10.88	8.583	3.17	11.67	1.81
2.500	2.72	5.583	10.88	8.667	3.17	11.75	1.81
2.583	2.72	5.667	10.88	8.750	3.17	11.83	1.81
2.667	2.72	5.750	10.88	8.833	3.17	11.92	1.81
2.750	2.72	5.833	43.54	8.917	3.17	12.00	1.81
2.833	2.72	5.917	43.54	9.000	3.17	12.08	1.81
2.917	2.72	6.000	43.54	9.083	3.17	12.17	1.81
3.000	2.72	6.083	119.72	9.167	3.17	12.25	1.81
3.083	2.72	6.167	119.72	9.250	3.17		

			TOTALS
Max.Eff.Inten.(mm/hr)=	119.72	85.17	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.95 (ii)	6.19 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
PEAK FLOW (cms)=	0.19	0.04	0.234 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	89.70	51.92	80.25
TOTAL RAINFALL (mm)=	90.70	90.70	90.70
RUNOFF COEFFICIENT =	0.99	0.57	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0157)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.234	6.25	80.25
OUTFLOW: ID= 1 (0157)	0.780	0.054	6.42	80.09

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.06
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0285

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\5eef7ed8
Ptotal= 90.70 mm	Comments: 25-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.63	6.75	16.33	10.00	3.17
0.50	2.27	3.75	3.63	7.00	7.26	10.25	3.17
0.75	2.27	4.00	3.63	7.25	7.26	10.50	1.81
1.00	2.27	4.25	3.63	7.50	5.44	10.75	1.81
1.25	2.27	4.50	5.44	7.75	5.44	11.00	1.81
1.50	2.27	4.75	5.44	8.00	5.44	11.25	1.81
1.75	2.27	5.00	7.26	8.25	5.44	11.50	1.81
2.00	2.27	5.25	7.26	8.50	3.17	11.75	1.81
2.25	2.27	5.50	10.88	8.75	3.17	12.00	1.81
2.50	2.72	5.75	10.88	9.00	3.17	12.25	1.81
2.75	2.72	6.00	43.54	9.25	3.17		
3.00	2.72	6.25	119.72	9.50	3.17		
3.25	2.72	6.50	16.33	9.75	3.17		

CALIB			
STANDHYD (0156)	Area (ha)= 0.27		
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00	Dir. Conn.(%)= 71.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	0.19	0.08	
Dep. Storage (mm)=	1.00	5.00	
Average Slope (%)=	1.00	2.00	
Length (m)=	42.43	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	3.167	2.72	6.250	119.72	9.33	3.17
0.167	0.00	3.250	2.72	6.333	16.33	9.42	3.17
0.250	0.00	3.333	3.63	6.417	16.33	9.50	3.17
0.333	2.27	3.417	3.63	6.500	16.33	9.58	3.17
0.417	2.27	3.500	3.63	6.583	16.33	9.67	3.17
0.500	2.27	3.583	3.63	6.667	16.33	9.75	3.17
0.583	2.27	3.667	3.63	6.750	16.33	9.83	3.17
0.667	2.27	3.750	3.63	6.833	7.26	9.92	3.17
0.750	2.27	3.833	3.63	6.917	7.26	10.00	3.17
0.833	2.27	3.917	3.63	7.000	7.26	10.08	3.17
0.917	2.27	4.000	3.63	7.083	7.26	10.17	3.17
1.000	2.27	4.083	3.63	7.167	7.26	10.25	3.17
1.083	2.27	4.167	3.63	7.250	7.26	10.33	1.81
1.167	2.27	4.250	3.63	7.333	5.44	10.42	1.81
1.250	2.27	4.333	5.44	7.417	5.44	10.50	1.81
1.333	2.27	4.417	5.44	7.500	5.44	10.58	1.81
1.417	2.27	4.500	5.44	7.583	5.44	10.67	1.81
1.500	2.27	4.583	5.44	7.667	5.44	10.75	1.81
1.583	2.27	4.667	5.44	7.750	5.44	10.83	1.81
1.667	2.27	4.750	5.44	7.833	5.44	10.92	1.81
1.750	2.27	4.833	7.26	7.917	5.44	11.00	1.81
1.833	2.27	4.917	7.26	8.000	5.44	11.08	1.81
1.917	2.27	5.000	7.26	8.083	5.44	11.17	1.81
2.000	2.27	5.083	7.26	8.167	5.44	11.25	1.81
2.083	2.27	5.167	7.26	8.250	5.44	11.33	1.81
2.167	2.27	5.250	7.26	8.333	3.17	11.42	1.81
2.250	2.27	5.333	10.88	8.417	3.17	11.50	1.81
2.333	2.72	5.417	10.88	8.500	3.17	11.58	1.81
2.417	2.72	5.500	10.88	8.583	3.17	11.67	1.81
2.500	2.72	5.583	10.88	8.667	3.17	11.75	1.81
2.583	2.72	5.667	10.88	8.750	3.17	11.83	1.81
2.667	2.72	5.750	10.88	8.833	3.17	11.92	1.81
2.750	2.72	5.833	43.54	8.917	3.17	12.00	1.81
2.833	2.72	5.917	43.54	9.000	3.17	12.08	1.81
2.917	2.72	6.000	43.54	9.083	3.17	12.17	1.81
3.000	2.72	6.083	119.72	9.167	3.17	12.25	1.81
3.083	2.72	6.167	119.72	9.250	3.17		

			TOTALS
Max.Eff.Inten.(mm/hr)=	119.72	45.91	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.42 (ii)	6.01 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.33	0.15	
PEAK FLOW (cms)=	0.06	0.01	0.072 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	89.70	28.01	71.80
TOTAL RAINFALL (mm)=	90.70	90.70	90.70
RUNOFF COEFFICIENT =	0.99	0.31	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0154)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0156)	0.270	0.072	6.25	71.80
OUTFLOW: ID= 1 (0154)	0.270	0.032	6.33	71.64

PEAK FLOW REDUCTION [Qout/Qin](%)= 43.99
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0066

ADD HYD (0158)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0154):	0.27	0.032	6.33	71.64
+ ID2= 2 (0157):	0.78	0.054	6.42	80.09
ID = 3 (0158):	1.05	0.085	6.33	77.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0158)					
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0158):	1.05	0.085	6.33	77.91
+ ID2= 2 (0160):	1.07	0.044	6.75	80.00
ID = 1 (0158):	2.12	0.127	6.33	78.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0158)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0158):	2.12	0.127	6.33	78.97
+ ID2= 2 (0162):	17.12	0.456	7.33	51.21
ID = 3 (0158):	19.24	0.549	7.17	54.27

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSS U U A L

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
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DATE: 10-31-2019 TIME: 10:47:21

USER:

COMMENTS: _____

****
**** SIMULATION : 4-25-Year-24-Hour-SCS-Type-II ****
****

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\6b809c2e
Ptotal=107.50 mm	Comments: 25-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.48	19.00	1.93
0.50	1.07	6.75	2.15	13.00	7.95	19.25	1.94
0.75	1.07	7.00	2.15	13.25	7.96	19.50	1.93
1.00	1.07	7.25	2.15	13.50	1.50	19.75	1.94
1.25	1.07	7.50	2.15	13.75	1.50	20.00	1.93
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.07	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.22	20.75	1.29
2.25	1.93	8.50	2.90	14.75	3.22	21.00	1.29
2.50	1.40	8.75	2.90	15.00	3.22	21.25	1.29
2.75	1.40	9.00	2.90	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.90	15.50	3.22	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.22	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.22	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.22	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.66	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.32	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.32	18.00	1.93	24.25	1.29
5.75	1.72	12.00	44.72	18.25	1.94		
6.00	1.72	12.25	118.68	18.50	1.93		
6.25	1.72	12.50	15.48	18.75	1.94		

CALIB	NASHYD (0137)	ID= 1 DT= 5.0 min

Area (ha)= 8.10 Curve Number (CN)= 52.7
Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.59

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.68	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.49	18.42	1.93
0.250	0.00	6.333	2.15	12.417	15.48	18.50	1.93
0.333	1.08	6.417	2.15	12.500	15.48	18.58	1.94
0.417	1.07	6.500	2.15	12.583	15.48	18.67	1.94
0.500	1.07	6.583	2.15	12.667	15.48	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.48	18.83	1.94
0.667	1.07	6.750	2.15	12.833	7.96	18.92	1.93
0.750	1.07	6.833	2.15	12.917	7.95	19.00	1.93
0.833	1.07	6.917	2.15	13.000	7.95	19.08	1.94
0.917	1.07	7.000	2.15	13.083	7.95	19.17	1.94
1.000	1.07	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.07	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.07	7.250	2.15	13.333	1.51	19.42	1.93
1.250	1.07	7.333	2.15	13.417	1.50	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.50	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.50	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.50	19.75	1.94
1.583	1.07	7.667	2.15	13.750	1.50	19.83	1.93
1.667	1.07	7.750	2.15	13.833	8.81	19.92	1.93
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.81	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.93
2.083	1.93	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.93	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.93	8.333	2.90	14.417	3.22	20.50	1.29
2.333	1.40	8.417	2.90	14.500	3.22	20.58	1.29
2.417	1.40	8.500	2.90	14.583	3.22	20.67	1.29
2.500	1.40	8.583	2.90	14.667	3.22	20.75	1.29
2.583	1.40	8.667	2.90	14.750	3.22	20.83	1.29
2.667	1.40	8.750	2.90	14.833	3.22	20.92	1.29

2.750	1.40	8.833	2.90	14.917	3.22	21.00	1.29
2.833	1.40	8.917	2.90	15.000	3.22	21.08	1.29
2.917	1.40	9.000	2.90	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.90	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.90	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.90	15.333	3.22	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.22	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.22	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.22	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.22	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.22	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.22	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.22	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.22	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.22	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.22	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.22	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.94	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.94	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.66	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.66	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.66	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.66	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.32	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.32	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.32	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.32	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.32	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.32	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.72	17.917	1.93	24.00	1.29
5.833	1.72	11.917	44.72	18.000	1.93	24.08	1.29
5.917	1.72	12.000	44.72	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.67	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.68	18.250	1.94		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.291 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 31.791
TOTAL RAINFALL (mm)= 107.500
RUNOFF COEFFICIENT = 0.296

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\6b809c2e
Ptotal=107.50 mm	Comments: 25-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.48	19.00	1.93
0.50	1.07	6.75	2.15	13.00	7.95	19.25	1.94
0.75	1.07	7.00	2.15	13.25	7.96	19.50	1.93
1.00	1.07	7.25	2.15	13.50	1.50	19.75	1.94
1.25	1.07	7.50	2.15	13.75	1.50	20.00	1.93
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.07	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.22	20.75	1.29
2.25	1.93	8.50	2.90	14.75	3.22	21.00	1.29
2.50	1.40	8.75	2.90	15.00	3.22	21.25	1.29
2.75	1.40	9.00	2.90	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.90	15.50	3.22	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.22	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.22	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.22	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.66	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.32	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.32	18.00	1.93	24.25	1.29
5.75	1.72	12.00	44.72	18.25	1.94		
6.00	1.72	12.25	118.68	18.50	1.93		
6.25	1.72	12.50	15.48	18.75	1.94		

CALIB	Area (ha)= 1.03
STANDHYD (0153)	
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.68	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.49	18.42	1.93
0.250	0.00	6.333	2.15	12.417	15.48	18.50	1.93
0.333	1.08	6.417	2.15	12.500	15.48	18.58	1.94
0.417	1.07	6.500	2.15	12.583	15.48	18.67	1.94
0.500	1.07	6.583	2.15	12.667	15.48	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.48	18.83	1.94
0.667	1.07	6.750	2.15	12.833	7.96	18.92	1.93
0.750	1.07	6.833	2.15	12.917	7.95	19.00	1.93
0.833	1.07	6.917	2.15	13.000	7.95	19.08	1.94
0.917	1.07	7.000	2.15	13.083	7.95	19.17	1.94
1.000	1.07	7.083	2.15	13.167	7.96	19.25	1.94

1.083	1.07	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.07	7.250	2.15	13.333	1.51	19.42	1.93
1.250	1.07	7.333	2.15	13.417	1.50	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.50	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.50	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.50	19.75	1.94
1.583	1.07	7.667	2.15	13.750	1.50	19.83	1.93
1.667	1.07	7.750	2.15	13.833	8.81	19.92	1.93
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.81	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.93
2.083	1.93	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.93	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.93	8.333	2.90	14.417	3.22	20.50	1.29
2.333	1.40	8.417	2.90	14.500	3.22	20.58	1.29
2.417	1.40	8.500	2.90	14.583	3.22	20.67	1.29
2.500	1.40	8.583	2.90	14.667	3.22	20.75	1.29
2.583	1.40	8.667	2.90	14.750	3.22	20.83	1.29
2.667	1.40	8.750	2.90	14.833	3.22	20.92	1.29
2.750	1.40	8.833	2.90	14.917	3.22	21.00	1.29
2.833	1.40	8.917	2.90	15.000	3.22	21.08	1.29
2.917	1.40	9.000	2.90	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.90	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.90	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.90	15.333	3.22	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.22	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.22	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.22	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.22	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.22	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.22	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.22	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.22	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.22	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.22	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.22	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.94	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.94	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.66	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.66	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.66	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.66	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.32	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.32	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.32	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.32	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.32	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.32	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.72	17.917	1.93	24.00	1.29
5.833	1.72	11.917	44.72	18.000	1.93	24.08	1.29
5.917	1.72	12.000	44.72	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.67	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.68	18.250	1.94		

Max.Eff.Inten.(mm/hr)=	118.68	50.38	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.13 (ii)	6.38 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
			TOTALS
PEAK FLOW (cms)=	0.25	0.03	0.284 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	106.50	37.66	89.28
TOTAL RAINFALL (mm)=	107.50	107.50	107.50
RUNOFF COEFFICIENT =	0.99	0.35	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159) IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.284	12.25	89.28
OUTFLOW: ID= 1 (0159)	1.030	0.081	12.33	89.19

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.63
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0321

READ STORM Ptotal=107.50 mm	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\6b809c2e Comments: 25-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.48	19.00	1.93
0.50	1.07	6.75	2.15	13.00	7.95	19.25	1.94
0.75	1.07	7.00	2.15	13.25	7.96	19.50	1.93
1.00	1.07	7.25	2.15	13.50	1.50	19.75	1.94
1.25	1.07	7.50	2.15	13.75	1.50	20.00	1.93
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.07	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.22	20.75	1.29
2.25	1.93	8.50	2.90	14.75	3.22	21.00	1.29
2.50	1.40	8.75	2.90	15.00	3.22	21.25	1.29
2.75	1.40	9.00	2.90	15.25	3.23	21.50	1.29

3.00	1.40	9.25	2.90	15.50	3.22	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.22	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.22	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.22	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.66	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.32	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.32	18.00	1.93	24.25	1.29
5.75	1.72	12.00	44.72	18.25	1.94		
6.00	1.72	12.25	118.68	18.50	1.93		
6.25	1.72	12.50	15.48	18.75	1.94		

CALIB	
STANDHYD (0163)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.68	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.49	18.42	1.93
0.250	0.00	6.333	2.15	12.417	15.48	18.50	1.93
0.333	1.08	6.417	2.15	12.500	15.48	18.58	1.94
0.417	1.07	6.500	2.15	12.583	15.48	18.67	1.94
0.500	1.07	6.583	2.15	12.667	15.48	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.48	18.83	1.94
0.667	1.07	6.750	2.15	12.833	7.96	18.92	1.93
0.750	1.07	6.833	2.15	12.917	7.95	19.00	1.93
0.833	1.07	6.917	2.15	13.000	7.95	19.08	1.94
0.917	1.07	7.000	2.15	13.083	7.95	19.17	1.94
1.000	1.07	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.07	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.07	7.250	2.15	13.333	1.51	19.42	1.93
1.250	1.07	7.333	2.15	13.417	1.50	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.50	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.50	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.50	19.75	1.94
1.583	1.07	7.667	2.15	13.750	1.50	19.83	1.93
1.667	1.07	7.750	2.15	13.833	8.81	19.92	1.93
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.81	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.93
2.083	1.93	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.93	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.93	8.333	2.90	14.417	3.22	20.50	1.29
2.333	1.40	8.417	2.90	14.500	3.22	20.58	1.29
2.417	1.40	8.500	2.90	14.583	3.22	20.67	1.29
2.500	1.40	8.583	2.90	14.667	3.22	20.75	1.29
2.583	1.40	8.667	2.90	14.750	3.22	20.83	1.29
2.667	1.40	8.750	2.90	14.833	3.22	20.92	1.29
2.750	1.40	8.833	2.90	14.917	3.22	21.00	1.29
2.833	1.40	8.917	2.90	15.000	3.22	21.08	1.29
2.917	1.40	9.000	2.90	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.90	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.90	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.90	15.333	3.22	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.22	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.22	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.22	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.22	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.22	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.22	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.22	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.22	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.22	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.22	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.22	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.94	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.94	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.66	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.66	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.66	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.66	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.32	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.32	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.32	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.32	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.32	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.32	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.72	17.917	1.93	24.00	1.29
5.833	1.72	11.917	44.72	18.000	1.93	24.08	1.29
5.917	1.72	12.000	44.72	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.67	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.68	18.250	1.94		

Max.Eff.Inten.	(mm/hr)=	118.68	52.59	
over	(min)	5.00	15.00	
Storage Coeff.	(min)=	4.79 (ii)	13.92 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	15.00	
Unit Hyd. peak	(cms)=	0.22	0.08	
				TOTALS
PEAK FLOW	(cms)=	2.86	0.56	3.339 (iii)
TIME TO PEAK	(hrs)=	12.25	12.33	12.25
RUNOFF VOLUME	(mm)=	106.50	39.25	78.26
TOTAL RAINFALL	(mm)=	107.50	107.50	107.50
RUNOFF COEFFICIENT	=	0.99	0.37	0.73

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0152)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0137):      8.10   0.291    12.75    31.79
     + ID2= 2 (  0159):      1.03   0.081    12.33    89.19
       ================================================
       ID = 3 (  0152):      9.13   0.361    12.75    38.27

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

```
--------------------
| ADD HYD  (  0152)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0152):      9.13   0.361    12.75    38.27
     + ID2= 2 (  0163):     15.36   3.339    12.25    78.26
       ================================================
       ID = 1 (  0152):     24.49   3.545    12.25    63.35

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

```
--------------------
| RESERVOIR(  0161)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.4045      0.7000
                         0.0151     0.0001    |  0.5514      0.8000
                         0.0151     0.1301    |  0.7611      0.9000
                         0.0440     0.4217    |  0.9325      0.9500
                         0.2194     0.6000    |  1.1147      1.0500

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0152)    24.490     3.545     12.25      63.35
   OUTFLOW: ID= 1 (  0161)    24.490     0.549     13.25      63.35

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.48
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7984
```

```
--------------------
| DUHYD    (  0162)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):  24.49      0.55     13.25    63.35
     ================================================
     MAJOR SYS.(ID= 2):  17.71      0.53     13.25    63.35
     MINOR SYS.(ID= 3):   6.78      0.02     10.17    63.35

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

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\6b809c2e
| Ptotal=107.50 mm |    Comments: 25-Year-24-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.48	19.00	1.93
0.50	1.07	6.75	2.15	13.00	7.95	19.25	1.94
0.75	1.07	7.00	2.15	13.25	7.96	19.50	1.93
1.00	1.07	7.25	2.15	13.50	1.50	19.75	1.94
1.25	1.07	7.50	2.15	13.75	1.50	20.00	1.93
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.07	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.22	20.75	1.29
2.25	1.93	8.50	2.90	14.75	3.22	21.00	1.29
2.50	1.40	8.75	2.90	15.00	3.22	21.25	1.29
2.75	1.40	9.00	2.90	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.90	15.50	3.22	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.22	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.22	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.22	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.66	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.32	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.32	18.00	1.93	24.25	1.29
5.75	1.72	12.00	44.72	18.25	1.94		
6.00	1.72	12.25	118.68	18.50	1.93		
6.25	1.72	12.50	15.48	18.75	1.94		

```
--------------------
| CALIB            |
| STANDHYD (  0151)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80          0.27
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      84.46         40.00
     Mannings n           =      0.013         0.250
```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.68	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.49	18.42	1.93
0.250	0.00	6.333	2.15	12.417	15.48	18.50	1.93
0.333	1.08	6.417	2.15	12.500	15.48	18.58	1.94
0.417	1.07	6.500	2.15	12.583	15.48	18.67	1.94
0.500	1.07	6.583	2.15	12.667	15.48	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.48	18.83	1.94
0.667	1.07	6.750	2.15	12.833	7.96	18.92	1.93
0.750	1.07	6.833	2.15	12.917	7.95	19.00	1.93
0.833	1.07	6.917	2.15	13.000	7.95	19.08	1.94
0.917	1.07	7.000	2.15	13.083	7.95	19.17	1.94
1.000	1.07	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.07	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.07	7.250	2.15	13.333	1.51	19.42	1.93
1.250	1.07	7.333	2.15	13.417	1.50	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.50	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.50	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.50	19.75	1.94
1.583	1.07	7.667	2.15	13.750	1.50	19.83	1.93
1.667	1.07	7.750	2.15	13.833	8.81	19.92	1.93
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.81	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.93
2.083	1.93	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.93	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.93	8.333	2.90	14.417	3.22	20.50	1.29
2.333	1.40	8.417	2.90	14.500	3.22	20.58	1.29
2.417	1.40	8.500	2.90	14.583	3.22	20.67	1.29
2.500	1.40	8.583	2.90	14.667	3.22	20.75	1.29
2.583	1.40	8.667	2.90	14.750	3.22	20.83	1.29
2.667	1.40	8.750	2.90	14.833	3.22	20.92	1.29
2.750	1.40	8.833	2.90	14.917	3.22	21.00	1.29
2.833	1.40	8.917	2.90	15.000	3.22	21.08	1.29
2.917	1.40	9.000	2.90	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.90	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.90	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.90	15.333	3.22	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.22	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.22	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.22	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.22	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.22	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.22	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.22	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.22	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.22	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.22	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.22	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.94	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.94	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.66	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.66	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.66	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.66	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.32	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.32	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.32	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.32	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.32	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.32	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.72	17.917	1.93	24.00	1.29
5.833	1.72	11.917	44.72	18.000	1.93	24.08	1.29
5.917	1.72	12.000	44.72	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.67	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.68	18.250	1.94		

Max.Eff.Inten.(mm/hr)=	118.68	89.11		
over (min)	5.00	10.00		
Storage Coeff. (min)=	2.16 (ii)	6.40 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.31	0.14		
				TOTALS
PEAK FLOW (cms)=	0.26	0.06		0.321 (iii)
TIME TO PEAK (hrs)=	12.25	12.25		12.25
RUNOFF VOLUME (mm)=	106.50	66.39		96.47
TOTAL RAINFALL (mm)=	107.50	107.50		107.50
RUNOFF COEFFICIENT =	0.99	0.62		0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0160)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	1.070	0.321	12.25	96.47
OUTFLOW: ID= 1 (0160)	1.070	0.045	12.75	96.22

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.89
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0479

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\6b809c2e
Ptotal=107.50 mm	Comments: 25-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.48	19.00	1.93
0.50	1.07	6.75	2.15	13.00	7.95	19.25	1.94
0.75	1.07	7.00	2.15	13.25	7.96	19.50	1.93
1.00	1.07	7.25	2.15	13.50	1.50	19.75	1.94
1.25	1.07	7.50	2.15	13.75	1.50	20.00	1.93
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.07	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.22	20.75	1.29
2.25	1.93	8.50	2.90	14.75	3.22	21.00	1.29
2.50	1.40	8.75	2.90	15.00	3.22	21.25	1.29
2.75	1.40	9.00	2.90	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.90	15.50	3.22	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.22	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.22	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.22	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.66	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.32	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.32	18.00	1.93	24.25	1.29
5.75	1.72	12.00	44.72	18.25	1.94		
6.00	1.72	12.25	118.68	18.50	1.93		
6.25	1.72	12.50	15.48	18.75	1.94		

CALIB	
STANDHYD (0155)	Area (ha)= 0.78
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.68	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.49	18.42	1.93
0.250	0.00	6.333	2.15	12.417	15.48	18.50	1.93
0.333	1.08	6.417	2.15	12.500	15.48	18.58	1.94
0.417	1.07	6.500	2.15	12.583	15.48	18.67	1.94
0.500	1.07	6.583	2.15	12.667	15.48	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.48	18.83	1.94
0.667	1.07	6.750	2.15	12.833	7.96	18.92	1.93
0.750	1.07	6.833	2.15	12.917	7.95	19.00	1.93
0.833	1.07	6.917	2.15	13.000	7.95	19.08	1.94
0.917	1.07	7.000	2.15	13.083	7.95	19.17	1.94
1.000	1.07	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.07	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.07	7.250	2.15	13.333	1.51	19.42	1.93
1.250	1.07	7.333	2.15	13.417	1.50	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.50	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.50	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.50	19.75	1.94
1.583	1.07	7.667	2.15	13.750	1.50	19.83	1.93
1.667	1.07	7.750	2.15	13.833	8.81	19.92	1.93
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.81	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.93
2.083	1.93	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.93	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.93	8.333	2.90	14.417	3.22	20.50	1.29
2.333	1.40	8.417	2.90	14.500	3.22	20.58	1.29
2.417	1.40	8.500	2.90	14.583	3.22	20.67	1.29
2.500	1.40	8.583	2.90	14.667	3.22	20.75	1.29
2.583	1.40	8.667	2.90	14.750	3.22	20.83	1.29
2.667	1.40	8.750	2.90	14.833	3.22	20.92	1.29
2.750	1.40	8.833	2.90	14.917	3.22	21.00	1.29
2.833	1.40	8.917	2.90	15.000	3.22	21.08	1.29
2.917	1.40	9.000	2.90	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.90	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.90	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.90	15.333	3.22	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.22	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.22	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.22	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.22	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.22	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.22	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.22	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.22	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.22	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.22	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.22	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.94	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.94	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.66	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.66	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.66	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.66	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.32	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.32	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.32	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.32	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.32	17.750	1.94	23.83	1.29

5.667	1.72	11.750	10.32	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.72	17.917	1.93	24.00	1.29
5.833	1.72	11.917	44.72	18.000	1.93	24.08	1.29
5.917	1.72	12.000	44.72	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.67	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.68	18.250	1.94		

			TOTALS
Max.Eff.Inten.(mm/hr)=	118.68	89.11	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.96 (ii)	6.21 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
PEAK FLOW (cms)=	0.19	0.04	0.234 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	106.50	66.39	96.47
TOTAL RAINFALL (mm)=	107.50	107.50	107.50
RUNOFF COEFFICIENT =	0.99	0.62	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0157)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.234	12.25	96.47
OUTFLOW: ID= 1 (0157)	0.780	0.054	12.42	96.31

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.22
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0289

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\6b809c2e
Ptotal=107.50 mm	Comments: 25-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.48	19.00	1.93
0.50	1.07	6.75	2.15	13.00	7.95	19.25	1.94
0.75	1.07	7.00	2.15	13.25	7.96	19.50	1.93
1.00	1.07	7.25	2.15	13.50	1.50	19.75	1.94
1.25	1.07	7.50	2.15	13.75	1.50	20.00	1.93
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.07	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.22	20.75	1.29
2.25	1.93	8.50	2.90	14.75	3.22	21.00	1.29
2.50	1.40	8.75	2.90	15.00	3.22	21.25	1.29
2.75	1.40	9.00	2.90	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.90	15.50	3.22	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.22	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.22	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.22	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.66	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.32	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.32	18.00	1.93	24.25	1.29
5.75	1.72	12.00	44.72	18.25	1.94		
6.00	1.72	12.25	118.68	18.50	1.93		
6.25	1.72	12.50	15.48	18.75	1.94		

CALIB	
STANDHYD (0156)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.19	0.08
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	42.43	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.68	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.49	18.42	1.93
0.250	0.00	6.333	2.15	12.417	15.48	18.50	1.93
0.333	1.08	6.417	2.15	12.500	15.48	18.58	1.94
0.417	1.07	6.500	2.15	12.583	15.48	18.67	1.94
0.500	1.07	6.583	2.15	12.667	15.48	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.48	18.83	1.94
0.667	1.07	6.750	2.15	12.833	7.96	18.92	1.93
0.750	1.07	6.833	2.15	12.917	7.95	19.00	1.93
0.833	1.07	6.917	2.15	13.000	7.95	19.08	1.94
0.917	1.07	7.000	2.15	13.083	7.95	19.17	1.94
1.000	1.07	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.07	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.07	7.250	2.15	13.333	1.51	19.42	1.93
1.250	1.07	7.333	2.15	13.417	1.50	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.50	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.50	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.50	19.75	1.94
1.583	1.07	7.667	2.15	13.750	1.50	19.83	1.93
1.667	1.07	7.750	2.15	13.833	8.81	19.92	1.93

1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.81	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.93
2.083	1.93	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.93	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.93	8.333	2.90	14.417	3.22	20.50	1.29
2.333	1.40	8.417	2.90	14.500	3.22	20.58	1.29
2.417	1.40	8.500	2.90	14.583	3.22	20.67	1.29
2.500	1.40	8.583	2.90	14.667	3.22	20.75	1.29
2.583	1.40	8.667	2.90	14.750	3.22	20.83	1.29
2.667	1.40	8.750	2.90	14.833	3.22	20.92	1.29
2.750	1.40	8.833	2.90	14.917	3.22	21.00	1.29
2.833	1.40	8.917	2.90	15.000	3.22	21.08	1.29
2.917	1.40	9.000	2.90	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.90	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.90	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.90	15.333	3.22	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.22	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.22	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.22	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.22	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.22	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.22	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.22	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.22	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.22	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.22	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.22	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.94	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.94	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.66	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.66	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.66	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.66	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.32	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.32	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.32	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.32	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.32	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.32	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.72	17.917	1.93	24.00	1.29
5.833	1.72	11.917	44.72	18.000	1.93	24.08	1.29
5.917	1.72	12.000	44.72	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.67	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.68	18.250	1.94		

Max.Eff.Inten.(mm/hr)=	118.68	50.38	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.43 (ii)	6.03 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.33	0.15	
			TOTALS

PEAK FLOW (cms)=	0.06	0.01	0.072 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	106.50	37.66	86.52
TOTAL RAINFALL (mm)=	107.50	107.50	107.50
RUNOFF COEFFICIENT =	0.99	0.35	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0154)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0156)	0.270	0.072	12.25	86.52
OUTFLOW: ID= 1 (0154)	0.270	0.032	12.33	86.35

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.15
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0067

ADD HYD (0158)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0154):	0.27	0.032	12.33	86.35
+ ID2= 2 (0157):	0.78	0.054	12.42	96.31
ID = 3 (0158):	1.05	0.086	12.33	93.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0158)					
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0158):	1.05	0.086	12.33	93.75
+ ID2= 2 (0160):	1.07	0.045	12.75	96.22
ID = 1 (0158):	2.12	0.129	12.33	94.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| ADD HYD  (  0158)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0158):      2.12    0.129    12.33    94.99
     + ID2= 2 (  0162):     17.71    0.534    13.25    63.35
       ================================================
       ID = 3 (  0158):     19.83    0.631    13.08    66.73

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

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

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

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***** D E T A I L E D O U T P U T *****

```
  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\877f9e7d-ceac-4a2d-a7b0-48cf2aec7609\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\877f9e7d-ceac-4a2d-a7b0-48cf2aec7609\scen

DATE: 10-31-2019                          TIME: 10:47:22

USER:

COMMENTS: _____
```

```
  ************************************************
  ** SIMULATION : 4-25-Year-4-Hour-Chicago-Barr **
  ************************************************

--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\afcaafd9
| Ptotal= 71.24 mm |    Comments: 25-Year-4-Hour-Chicago
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.22	1.17	36.37	2.17	11.74	3.17	6.15
0.33	5.94	1.33	148.15	2.33	10.09	3.33	5.74
0.50	6.93	1.50	47.06	2.50	8.89	3.50	5.38
0.67	8.42	1.67	25.72	2.67	7.96	3.67	5.08
0.83	10.91	1.83	18.11	2.83	7.24	3.83	4.80
1.00	16.13	2.00	14.17	3.00	6.65	4.00	4.57

```
--------------------
| CALIB            |
| NASHYD   (  0137)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.22	1.083	36.37	2.083	11.74	3.08	6.15
0.167	5.22	1.167	36.37	2.167	11.74	3.17	6.15
0.250	5.94	1.250	148.15	2.250	10.09	3.25	5.74
0.333	5.94	1.333	148.15	2.333	10.09	3.33	5.74
0.417	6.93	1.417	47.06	2.417	8.88	3.42	5.38
0.500	6.93	1.500	47.06	2.500	8.89	3.50	5.38
0.583	8.42	1.583	25.72	2.583	7.96	3.58	5.08
0.667	8.42	1.667	25.72	2.667	7.96	3.67	5.08
0.750	10.91	1.750	18.11	2.750	7.24	3.75	4.80
0.833	10.91	1.833	18.11	2.833	7.24	3.83	4.80
0.917	16.13	1.917	14.17	2.917	6.65	3.92	4.57
1.000	16.13	2.000	14.17	3.000	6.65	4.00	4.57

```
    Unit Hyd Qpeak  (cms)=   0.524

    PEAK FLOW       (cms)=   0.171 (i)
    TIME TO PEAK    (hrs)=   2.083
    RUNOFF VOLUME    (mm)=  14.911
    TOTAL RAINFALL   (mm)=  71.236
    RUNOFF COEFFICIENT   =   0.209

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

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\afcaafd9
| Ptotal= 71.24 mm |    Comments: 25-Year-4-Hour-Chicago
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.22	1.17	36.37	2.17	11.74	3.17	6.15
0.33	5.94	1.33	148.15	2.33	10.09	3.33	5.74
0.50	6.93	1.50	47.06	2.50	8.89	3.50	5.38

0.67	8.42	1.67	25.72	2.67	7.96	3.67	5.08
0.83	10.91	1.83	18.11	2.83	7.24	3.83	4.80
1.00	16.13	2.00	14.17	3.00	6.65	4.00	4.57

CALIB			
STANDHYD (0153)	Area (ha)= 1.03		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.22	1.083	36.37	2.083	11.74	3.08	6.15
0.167	5.22	1.167	36.37	2.167	11.74	3.17	6.15
0.250	5.94	1.250	148.15	2.250	10.09	3.25	5.74
0.333	5.94	1.333	148.15	2.333	10.09	3.33	5.74
0.417	6.93	1.417	47.06	2.417	8.88	3.42	5.38
0.500	6.93	1.500	47.06	2.500	8.89	3.50	5.38
0.583	8.42	1.583	25.72	2.583	7.96	3.58	5.08
0.667	8.42	1.667	25.72	2.667	7.96	3.67	5.08
0.750	10.91	1.750	18.11	2.750	7.24	3.75	4.80
0.833	10.91	1.833	18.11	2.833	7.24	3.83	4.80
0.917	16.13	1.917	14.17	2.917	6.65	3.92	4.57
1.000	16.13	2.000	14.17	3.000	6.65	4.00	4.57

Max.Eff.Inten.(mm/hr)=		148.15	30.96	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.95 (ii)	5.84 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.31	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.32	0.02	0.331 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	70.24	18.07	57.19
TOTAL RAINFALL	(mm)=	71.24	71.24	71.24
RUNOFF COEFFICIENT	=	0.99	0.25	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)	IN= 2---> OUT= 1			
	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
		0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.331	1.33	57.19
OUTFLOW: ID= 1 (0159)	1.030	0.072	1.58	57.10

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.66
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0283

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\afcaafd9
Ptotal= 71.24 mm	Comments: 25-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.22	1.17	36.37	2.17	11.74	3.17	6.15
0.33	5.94	1.33	148.15	2.33	10.09	3.33	5.74
0.50	6.93	1.50	47.06	2.50	8.89	3.50	5.38
0.67	8.42	1.67	25.72	2.67	7.96	3.67	5.08
0.83	10.91	1.83	18.11	2.83	7.24	3.83	4.80
1.00	16.13	2.00	14.17	3.00	6.65	4.00	4.57

CALIB			
STANDHYD (0163)	Area (ha)= 15.36		
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00	Dir. Conn.(%)= 58.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.22	1.083	36.37	2.083	11.74	3.08	6.15
0.167	5.22	1.167	36.37	2.167	11.74	3.17	6.15
0.250	5.94	1.250	148.15	2.250	10.09	3.25	5.74
0.333	5.94	1.333	148.15	2.333	10.09	3.33	5.74
0.417	6.93	1.417	47.06	2.417	8.88	3.42	5.38
0.500	6.93	1.500	47.06	2.500	8.89	3.50	5.38
0.583	8.42	1.583	25.72	2.583	7.96	3.58	5.08
0.667	8.42	1.667	25.72	2.667	7.96	3.67	5.08
0.750	10.91	1.750	18.11	2.750	7.24	3.75	4.80

```
               0.833   10.91 | 1.833   18.11 | 2.833    7.24 |  3.83    4.80
               0.917   16.13 | 1.917   14.17 | 2.917    6.65 |  3.92    4.57
               1.000   16.13 | 2.000   14.17 | 3.000    6.65 |  4.00    4.57

     Max.Eff.Inten.(mm/hr)=     148.15        26.97
               over (min)         5.00        20.00
     Storage Coeff.  (min)=       4.39 (ii)   16.31 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.23         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.38         0.29          3.473 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      70.24        18.96          48.70
     TOTAL RAINFALL   (mm)=      71.24        71.24          71.24
     RUNOFF COEFFICIENT   =       0.99         0.27           0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

--------------------
| ADD HYD  (  0152)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0137):     8.10   0.171     2.08    14.91
     + ID2= 2 (  0159):     1.03   0.072     1.58    57.10
       ================================================
       ID = 3 (  0152):     9.13   0.234     2.00    19.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0152)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0152):     9.13   0.234     2.00    19.67
     + ID2= 2 (  0163):    15.36   3.473     1.33    48.70
       ================================================
       ID = 1 (  0152):    24.49   3.548     1.33    37.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0161)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |  0.4045     0.7000
                        0.0151     0.0001    |  0.5514     0.8000
                        0.0151     0.1301    |  0.7611     0.9000
                        0.0440     0.4217    |  0.9325     0.9500
                                 0.2194     0.6000    |   1.1147      1.0500

                                      AREA     QPEAK     TPEAK       R.V.
                                      (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0152)     24.490      3.548      1.33      37.88
   OUTFLOW: ID= 1 (  0161)     24.490      0.332      3.25      37.88

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.36
                  TIME SHIFT OF PEAK FLOW         (min)=115.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6610

--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0162)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.33      3.25   37.88
     ================================================
     MAJOR SYS.(ID= 2):  15.43      0.32      3.25   37.88
     MINOR SYS.(ID= 3):   9.06      0.02      1.25   37.88

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\afcaafd9
| Ptotal= 71.24 mm |    Comments: 25-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.22 |  1.17   36.37 |  2.17   11.74 |  3.17    6.15
                0.33    5.94 |  1.33  148.15 |  2.33   10.09 |  3.33    5.74
                0.50    6.93 |  1.50   47.06 |  2.50    8.89 |  3.50    5.38
                0.67    8.42 |  1.67   25.72 |  2.67    7.96 |  3.67    5.08
                0.83   10.91 |  1.83   18.11 |  2.83    7.24 |  3.83    4.80
                1.00   16.13 |  2.00   14.17 |  3.00    6.65 |  4.00    4.57

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

--------------------
| CALIB            |
| STANDHYD (  0151)|   Area    (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80          0.27
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      84.46         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.22	1.083	36.37	2.083	11.74	3.08	6.15
0.167	5.22	1.167	36.37	2.167	11.74	3.17	6.15
0.250	5.94	1.250	148.15	2.250	10.09	3.25	5.74
0.333	5.94	1.333	148.15	2.333	10.09	3.33	5.74
0.417	6.93	1.417	47.06	2.417	8.88	3.42	5.38
0.500	6.93	1.500	47.06	2.500	8.89	3.50	5.38
0.583	8.42	1.583	25.72	2.583	7.96	3.58	5.08
0.667	8.42	1.667	25.72	2.667	7.96	3.67	5.08
0.750	10.91	1.750	18.11	2.750	7.24	3.75	4.80
0.833	10.91	1.833	18.11	2.833	7.24	3.83	4.80
0.917	16.13	1.917	14.17	2.917	6.65	3.92	4.57
1.000	16.13	2.000	14.17	3.000	6.65	4.00	4.57

			TOTALS
Max.Eff.Inten.(mm/hr)=	148.15	70.68	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.97 (ii)	5.86 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
PEAK FLOW (cms)=	0.33	0.04	0.363 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	70.24	35.96	61.66
TOTAL RAINFALL (mm)=	71.24	71.24	71.24
RUNOFF COEFFICIENT =	0.99	0.50	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0160)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	1.070	0.363	1.33	61.66
OUTFLOW: ID= 1 (0160)	1.070	0.038	2.00	61.41

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.42
TIME SHIFT OF PEAK FLOW (min)= 40.00
MAXIMUM STORAGE USED (ha.m.)= 0.0407

READ STORM
Ptotal= 71.24 mm

Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\afcaafd9
Comments: 25-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.22	1.17	36.37	2.17	11.74	3.17	6.15
0.33	5.94	1.33	148.15	2.33	10.09	3.33	5.74
0.50	6.93	1.50	47.06	2.50	8.89	3.50	5.38
0.67	8.42	1.67	25.72	2.67	7.96	3.67	5.08
0.83	10.91	1.83	18.11	2.83	7.24	3.83	4.80
1.00	16.13	2.00	14.17	3.00	6.65	4.00	4.57

CALIB
STANDHYD (0155)
ID= 1 DT= 5.0 min

Area (ha)= 0.78
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.22	1.083	36.37	2.083	11.74	3.08	6.15
0.167	5.22	1.167	36.37	2.167	11.74	3.17	6.15
0.250	5.94	1.250	148.15	2.250	10.09	3.25	5.74
0.333	5.94	1.333	148.15	2.333	10.09	3.33	5.74
0.417	6.93	1.417	47.06	2.417	8.88	3.42	5.38
0.500	6.93	1.500	47.06	2.500	8.89	3.50	5.38
0.583	8.42	1.583	25.72	2.583	7.96	3.58	5.08
0.667	8.42	1.667	25.72	2.667	7.96	3.67	5.08
0.750	10.91	1.750	18.11	2.750	7.24	3.75	4.80
0.833	10.91	1.833	18.11	2.833	7.24	3.83	4.80
0.917	16.13	1.917	14.17	2.917	6.65	3.92	4.57
1.000	16.13	2.000	14.17	3.000	6.65	4.00	4.57

			TOTALS
Max.Eff.Inten.(mm/hr)=	148.15	70.68	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.79 (ii)	5.68 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.32	0.15	
PEAK FLOW (cms)=	0.24	0.03	0.266 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	70.24	35.96	61.66
TOTAL RAINFALL (mm)=	71.24	71.24	71.24
RUNOFF COEFFICIENT =	0.99	0.50	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

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

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0157)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |  0.0750      0.0396

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0155)      0.780     0.266      1.33      61.66
   OUTFLOW: ID= 1 (  0157)      0.780     0.047      1.75      61.50

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.74
                  TIME SHIFT OF PEAK FLOW          (min)= 25.00
                  MAXIMUM  STORAGE   USED        (ha.m.)=  0.0250

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

--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\afcaafd9
| Ptotal= 71.24 mm |    Comments: 25-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.22 |  1.17   36.37 |  2.17   11.74 |  3.17    6.15
                0.33    5.94 |  1.33  148.15 |  2.33   10.09 |  3.33    5.74
                0.50    6.93 |  1.50   47.06 |  2.50    8.89 |  3.50    5.38
                0.67    8.42 |  1.67   25.72 |  2.67    7.96 |  3.67    5.08
                0.83   10.91 |  1.83   18.11 |  2.83    7.24 |  3.83    4.80
                1.00   16.13 |  2.00   14.17 |  3.00    6.65 |  4.00    4.57

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

--------------------
| CALIB            |
| STANDHYD (  0156)|   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    5.22 | 1.083   36.37 | 2.083   11.74 |  3.08    6.15
               0.167    5.22 | 1.167   36.37 | 2.167   11.74 |  3.17    6.15
               0.250    5.94 | 1.250  148.15 | 2.250   10.09 |  3.25    5.74
               0.333    5.94 | 1.333  148.15 | 2.333   10.09 |  3.33    5.74
               0.417    6.93 | 1.417   47.06 | 2.417    8.88 |  3.42    5.38
               0.500    6.93 | 1.500   47.06 | 2.500    8.89 |  3.50    5.38
               0.583    8.42 | 1.583   25.72 | 2.583    7.96 |  3.58    5.08
               0.667    8.42 | 1.667   25.72 | 2.667    7.96 |  3.67    5.08
               0.750   10.91 | 1.750   18.11 | 2.750    7.24 |  3.75    4.80
               0.833   10.91 | 1.833   18.11 | 2.833    7.24 |  3.83    4.80
               0.917   16.13 | 1.917   14.17 | 2.917    6.65 |  3.92    4.57
               1.000   16.13 | 2.000   14.17 | 3.000    6.65 |  4.00    4.57

     Max.Eff.Inten.(mm/hr)=     148.15        30.96
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.31 (ii)    5.52 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.08         0.01          0.083 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      70.24        18.07          55.10
     TOTAL RAINFALL   (mm)=      71.24        71.24          71.24
     RUNOFF COEFFICIENT   =       0.99         0.25           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |  0.0460      0.0093

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)      0.270     0.083      1.33      55.10
   OUTFLOW: ID= 1 (  0154)      0.270     0.028      1.50      54.94

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.53
                  TIME SHIFT OF PEAK FLOW          (min)= 10.00
                  MAXIMUM  STORAGE   USED        (ha.m.)=  0.0057

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--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0154):     0.27   0.028     1.50    54.94
      + ID2= 2 (  0157):     0.78   0.047     1.75    61.50
        ================================================
        ID = 3 (  0158):     1.05   0.074     1.58    59.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

```
--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0158):     1.05   0.074     1.58    59.82
      + ID2= 2 (  0160):     1.07   0.038     2.00    61.41
        ================================================
        ID = 1 (  0158):     2.12   0.109     1.67    60.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0158):     2.12   0.109     1.67    60.62
      + ID2= 2 (  0162):    15.43   0.317     3.25    37.88
        ================================================
        ID = 3 (  0158):    17.55   0.388     3.00    40.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\0dade9a1-eae8-4a1d-af03-cd0df1db1959\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\0dade9a1-eae8-4a1d-af03-cd0df1db1959\scen


DATE: 10-31-2019                          TIME: 10:47:22

USER:
```

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COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 4-25-Year-4-Hour-Chicago-MTO  **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 696.323
| Ptotal= 60.39 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

      TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
       hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
      0.17    5.08 |  1.17   24.03 |  2.17   10.04 |  3.17    5.85
      0.33    5.67 |  1.33  139.25 |  2.33    8.87 |  3.33    5.51
      0.50    6.47 |  1.50   29.49 |  2.50    7.98 |  3.50    5.21
      0.67    7.62 |  1.67   18.59 |  2.67    7.28 |  3.67    4.95
      0.83    9.44 |  1.83   14.18 |  2.83    6.72 |  3.83    4.72
      1.00   12.92 |  2.00   11.68 |  3.00    6.25 |  4.00    4.52

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--------------------
| CALIB            |
| NASHYD   (  0137)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
      TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
       hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
     0.083    5.08 | 1.083   24.03 | 2.083   10.04 |  3.08    5.85
     0.167    5.08 | 1.167   24.03 | 2.167   10.04 |  3.17    5.85
     0.250    5.67 | 1.250  139.25 | 2.250    8.87 |  3.25    5.51
     0.333    5.67 | 1.333  139.25 | 2.333    8.87 |  3.33    5.51
     0.417    6.47 | 1.417   29.49 | 2.417    7.98 |  3.42    5.21
     0.500    6.47 | 1.500   29.49 | 2.500    7.98 |  3.50    5.21
     0.583    7.62 | 1.583   18.59 | 2.583    7.28 |  3.58    4.95
     0.667    7.62 | 1.667   18.59 | 2.667    7.28 |  3.67    4.95
     0.750    9.44 | 1.750   14.18 | 2.750    6.72 |  3.75    4.72
     0.833    9.44 | 1.833   14.18 | 2.833    6.72 |  3.83    4.72
     0.917   12.92 | 1.917   11.68 | 2.917    6.25 |  3.92    4.52
     1.000   12.92 | 2.000   11.68 | 3.000    6.25 |  4.00    4.52

  Unit Hyd Qpeak  (cms)=   0.524

  PEAK FLOW       (cms)=   0.116 (i)
  TIME TO PEAK    (hrs)=   2.083
  RUNOFF VOLUME    (mm)=  10.826
```

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     TOTAL RAINFALL   (mm)=  60.387
     RUNOFF COEFFICIENT   =   0.179

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

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 696.323
| Ptotal= 60.39 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.08 |  1.17   24.03 |  2.17   10.04 |  3.17    5.85
                0.33    5.67 |  1.33  139.25 |  2.33    8.87 |  3.33    5.51
                0.50    6.47 |  1.50   29.49 |  2.50    7.98 |  3.50    5.21
                0.67    7.62 |  1.67   18.59 |  2.67    7.28 |  3.67    4.95
                0.83    9.44 |  1.83   14.18 |  2.83    6.72 |  3.83    4.72
                1.00   12.92 |  2.00   11.68 |  3.00    6.25 |  4.00    4.52


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0153)|   Area    (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.26
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      82.87        40.00
     Mannings n             =    0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    5.08 | 1.083   24.03 | 2.083   10.04 |  3.08    5.85
               0.167    5.08 | 1.167   24.03 | 2.167   10.04 |  3.17    5.85
               0.250    5.67 | 1.250  139.25 | 2.250    8.87 |  3.25    5.51
               0.333    5.67 | 1.333  139.25 | 2.333    8.87 |  3.33    5.51
               0.417    6.47 | 1.417   29.49 | 2.417    7.98 |  3.42    5.21
               0.500    6.47 | 1.500   29.49 | 2.500    7.98 |  3.50    5.21
               0.583    7.62 | 1.583   18.59 | 2.583    7.28 |  3.58    4.95
               0.667    7.62 | 1.667   18.59 | 2.667    7.28 |  3.67    4.95
               0.750    9.44 | 1.750   14.18 | 2.750    6.72 |  3.75    4.72
               0.833    9.44 | 1.833   14.18 | 2.833    6.72 |  3.83    4.72
               0.917   12.92 | 1.917   11.68 | 2.917    6.25 |  3.92    4.52
               1.000   12.92 | 2.000   11.68 | 3.000    6.25 |  4.00    4.52

     Max.Eff.Inten.(mm/hr)=     139.26        24.74
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.00 (ii)    5.98 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.30         0.01          0.308 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      59.39        13.23          47.84
     TOTAL RAINFALL   (mm)=      60.39        60.39          60.39
     RUNOFF COEFFICIENT   =       0.98         0.22           0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0159)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.1120     0.0442

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0153)      1.030     0.308      1.33      47.84
   OUTFLOW: ID= 1 (  0159)      1.030     0.059      1.58      47.75

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.17
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0235

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 696.323
| Ptotal= 60.39 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.08 |  1.17   24.03 |  2.17   10.04 |  3.17    5.85
                0.33    5.67 |  1.33  139.25 |  2.33    8.87 |  3.33    5.51
                0.50    6.47 |  1.50   29.49 |  2.50    7.98 |  3.50    5.21
                0.67    7.62 |  1.67   18.59 |  2.67    7.28 |  3.67    4.95
                0.83    9.44 |  1.83   14.18 |  2.83    6.72 |  3.83    4.72
                1.00   12.92 |  2.00   11.68 |  3.00    6.25 |  4.00    4.52


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0163)|   Area    (ha)=  15.36
```

```
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91         6.45
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     320.00        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
              TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
             0.083    5.08 | 1.083   24.03 | 2.083   10.04 |  3.08    5.85
             0.167    5.08 | 1.167   24.03 | 2.167   10.04 |  3.17    5.85
             0.250    5.67 | 1.250  139.25 | 2.250    8.87 |  3.25    5.51
             0.333    5.67 | 1.333  139.25 | 2.333    8.87 |  3.33    5.51
             0.417    6.47 | 1.417   29.49 | 2.417    7.98 |  3.42    5.21
             0.500    6.47 | 1.500   29.49 | 2.500    7.98 |  3.50    5.21
             0.583    7.62 | 1.583   18.59 | 2.583    7.28 |  3.58    4.95
             0.667    7.62 | 1.667   18.59 | 2.667    7.28 |  3.67    4.95
             0.750    9.44 | 1.750   14.18 | 2.750    6.72 |  3.75    4.72
             0.833    9.44 | 1.833   14.18 | 2.833    6.72 |  3.83    4.72
             0.917   12.92 | 1.917   11.68 | 2.917    6.25 |  3.92    4.52
             1.000   12.92 | 2.000   11.68 | 3.000    6.25 |  4.00    4.52

     Max.Eff.Inten.(mm/hr)=     139.25        20.33
                  over (min)       5.00        20.00
     Storage Coeff.  (min)=       4.50 (ii)   17.85 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.23         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       3.13         0.20          3.200 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      59.39        13.91          40.29
     TOTAL RAINFALL   (mm)=      60.39        60.39          60.39
     RUNOFF COEFFICIENT   =       0.98         0.23           0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

--------------------
| ADD HYD  (  0152)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0137):     8.10   0.116     2.08    10.83
     + ID2= 2 (  0159):     1.03   0.059     1.58    47.75
       ================================================
       ID = 3 (  0152):     9.13   0.168     2.00    14.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0152)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0152):     9.13   0.168     2.00    14.99
     + ID2= 2 (  0163):    15.36   3.200     1.33    40.29
       ================================================
       ID = 1 (  0152):    24.49   3.261     1.33    30.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| RESERVOIR(  0161)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000     |   0.4045     0.7000
                         0.0151     0.0001     |   0.5514     0.8000
                         0.0151     0.1301     |   0.7611     0.9000
                         0.0440     0.4217     |   0.9325     0.9500
                         0.2194     0.6000     |   1.1147     1.0500

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0152)     24.490     3.261      1.33      30.86
   OUTFLOW: ID= 1 (  0161)     24.490     0.205      4.00      30.86

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.29
                TIME SHIFT OF PEAK FLOW          (min)=160.00
                MAXIMUM  STORAGE   USED        (ha.m.)=  0.5856

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--------------------
| DUHYD    (  0162)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK     R.V.
--------------------       (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):  24.49      0.21      4.00    30.86
     ================================================
     MAJOR SYS.(ID= 2):  13.47      0.19      4.00    30.86
     MINOR SYS.(ID= 3):  11.02      0.02      1.33    30.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CHICAGO STORM    |    IDF curve parameters: A= 696.323
| Ptotal= 60.39 mm |                          B=   0.000
--------------------                          C=   0.699
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.08	1.17	24.03	2.17	10.04	3.17	5.85
0.33	5.67	1.33	139.25	2.33	8.87	3.33	5.51
0.50	6.47	1.50	29.49	2.50	7.98	3.50	5.21
0.67	7.62	1.67	18.59	2.67	7.28	3.67	4.95
0.83	9.44	1.83	14.18	2.83	6.72	3.83	4.72
1.00	12.92	2.00	11.68	3.00	6.25	4.00	4.52

CALIB	
STANDHYD (0151)	Area (ha)= 1.07
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.08	1.083	24.03	2.083	10.04	3.08	5.85
0.167	5.08	1.167	24.03	2.167	10.04	3.17	5.85
0.250	5.67	1.250	139.25	2.250	8.87	3.25	5.51
0.333	5.67	1.333	139.25	2.333	8.87	3.33	5.51
0.417	6.47	1.417	29.49	2.417	7.98	3.42	5.21
0.500	6.47	1.500	29.49	2.500	7.98	3.50	5.21
0.583	7.62	1.583	18.59	2.583	7.28	3.58	4.95
0.667	7.62	1.667	18.59	2.667	7.28	3.67	4.95
0.750	9.44	1.750	14.18	2.750	6.72	3.75	4.72
0.833	9.44	1.833	14.18	2.833	6.72	3.83	4.72
0.917	12.92	1.917	11.68	2.917	6.25	3.92	4.52
1.000	12.92	2.000	11.68	3.000	6.25	4.00	4.52

Max.Eff.Inten.(mm/hr)=		139.26	58.73	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.02 (ii)	6.01 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.31	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.31	0.03	0.336 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	59.39	27.60	51.44
TOTAL RAINFALL	(mm)=	60.39	60.39	60.39
RUNOFF COEFFICIENT	=	0.98	0.46	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

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

RESERVOIR(0160)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	1.070	0.336	1.33	51.44
OUTFLOW: ID= 1 (0160)	1.070	0.031	2.00	51.19

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.12
TIME SHIFT OF PEAK FLOW (min)= 40.00
MAXIMUM STORAGE USED (ha.m.)= 0.0330

CHICAGO STORM	IDF curve parameters: A= 696.323
Ptotal= 60.39 mm	B= 0.000
	C= 0.699
	used in: INTENSITY = A / (t + B)^C
	Duration of storm = 4.00 hrs
	Storm time step = 10.00 min
	Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.08	1.17	24.03	2.17	10.04	3.17	5.85
0.33	5.67	1.33	139.25	2.33	8.87	3.33	5.51
0.50	6.47	1.50	29.49	2.50	7.98	3.50	5.21
0.67	7.62	1.67	18.59	2.67	7.28	3.67	4.95
0.83	9.44	1.83	14.18	2.83	6.72	3.83	4.72
1.00	12.92	2.00	11.68	3.00	6.25	4.00	4.52

CALIB	
STANDHYD (0155)	Area (ha)= 0.78
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.08	1.083	24.03	2.083	10.04	3.08	5.85

0.167	5.08	1.167	24.03	2.167	10.04	3.17	5.85
0.250	5.67	1.250	139.25	2.250	8.87	3.25	5.51
0.333	5.67	1.333	139.25	2.333	8.87	3.33	5.51
0.417	6.47	1.417	29.49	2.417	7.98	3.42	5.21
0.500	6.47	1.500	29.49	2.500	7.98	3.50	5.21
0.583	7.62	1.583	18.59	2.583	7.28	3.58	4.95
0.667	7.62	1.667	18.59	2.667	7.28	3.67	4.95
0.750	9.44	1.750	14.18	2.750	6.72	3.75	4.72
0.833	9.44	1.833	14.18	2.833	6.72	3.83	4.72
0.917	12.92	1.917	11.68	2.917	6.25	3.92	4.52
1.000	12.92	2.000	11.68	3.000	6.25	4.00	4.52

			TOTALS
Max.Eff.Inten.(mm/hr)=	139.26	58.73	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.84 (ii)	5.82 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.32	0.15	
PEAK FLOW (cms)=	0.23	0.02	0.246 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	59.39	27.60	51.44
TOTAL RAINFALL (mm)=	60.39	60.39	60.39
RUNOFF COEFFICIENT =	0.98	0.46	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0157)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.246	1.33	51.44
OUTFLOW: ID= 1 (0157)	0.780	0.038	1.67	51.27

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.60
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.0203

CHICAGO STORM	IDF curve parameters: A= 696.323
Ptotal= 60.39 mm	B= 0.000
	C= 0.699

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.08	1.17	24.03	2.17	10.04	3.17	5.85
0.33	5.67	1.33	139.25	2.33	8.87	3.33	5.51
0.50	6.47	1.50	29.49	2.50	7.98	3.50	5.21
0.67	7.62	1.67	18.59	2.67	7.28	3.67	4.95
0.83	9.44	1.83	14.18	2.83	6.72	3.83	4.72
1.00	12.92	2.00	11.68	3.00	6.25	4.00	4.52

CALIB	
STANDHYD (0156)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.19	0.08
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	42.43	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.08	1.083	24.03	2.083	10.04	3.08	5.85
0.167	5.08	1.167	24.03	2.167	10.04	3.17	5.85
0.250	5.67	1.250	139.25	2.250	8.87	3.25	5.51
0.333	5.67	1.333	139.25	2.333	8.87	3.33	5.51
0.417	6.47	1.417	29.49	2.417	7.98	3.42	5.21
0.500	6.47	1.500	29.49	2.500	7.98	3.50	5.21
0.583	7.62	1.583	18.59	2.583	7.28	3.58	4.95
0.667	7.62	1.667	18.59	2.667	7.28	3.67	4.95
0.750	9.44	1.750	14.18	2.750	6.72	3.75	4.72
0.833	9.44	1.833	14.18	2.833	6.72	3.83	4.72
0.917	12.92	1.917	11.68	2.917	6.25	3.92	4.52
1.000	12.92	2.000	11.68	3.000	6.25	4.00	4.52

			TOTALS
Max.Eff.Inten.(mm/hr)=	139.25	24.74	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.34 (ii)	5.66 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.33	0.15	
PEAK FLOW (cms)=	0.07	0.00	0.078 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	59.39	13.23	45.99
TOTAL RAINFALL (mm)=	60.39	60.39	60.39
RUNOFF COEFFICIENT =	0.98	0.22	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

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

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| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0460      0.0093

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)     0.270     0.078      1.33      45.99
   OUTFLOW: ID= 1 (  0154)     0.270     0.024      1.42      45.83

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.83
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0049

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--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0154):     0.27   0.024     1.42    45.83
     + ID2= 2 (  0157):     0.78   0.038     1.67    51.27
       ================================================
       ID = 3 (  0158):     1.05   0.061     1.50    49.87

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0158):     1.05   0.061     1.50    49.87
     + ID2= 2 (  0160):     1.07   0.031     2.00    51.19
       ================================================
       ID = 1 (  0158):     2.12   0.089     1.58    50.54

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0158):     2.12   0.089     1.58    50.54
     + ID2= 2 (  0162):    13.47   0.190     4.00    30.86
       ================================================
       ID = 3 (  0158):    15.59   0.238     3.67    33.54

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\7480ba16-d283-46ad-adae-5ac7571b1979\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\7480ba16-d283-46ad-adae-5ac7571b1979\scen


DATE: 10-31-2019                          TIME: 10:47:23

USER:


COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 4-25-Year-6-Hour-SCS-Type-II  **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\edbfb811
| Ptotal= 85.20 mm |    Comments: 25-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    8.52 |  3.75   18.74 |  5.50    3.41
                0.50    3.41 |  2.25    8.52 |  4.00    8.52 |  5.75    3.41
                0.75    3.41 |  2.50   10.22 |  4.25    8.52 |  6.00    3.41
                1.00    5.11 |  2.75   10.22 |  4.50    6.82 |  6.25    3.41
                1.25    5.11 |  3.00   51.12 |  4.75    6.82 |
                1.50    5.11 |  3.25  132.91 |  5.00    5.11 |
                1.75    5.11 |  3.50   18.74 |  5.25    5.11 |
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| CALIB            |
| NASHYD   (  0137)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
    TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
     hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
   0.083    0.00 | 1.667    5.11 | 3.250  132.91 |  4.83    5.11
   0.167    0.00 | 1.750    5.11 | 3.333   18.75 |  4.92    5.11
   0.250    0.00 | 1.833    8.52 | 3.417   18.74 |  5.00    5.11
   0.333    3.41 | 1.917    8.52 | 3.500   18.74 |  5.08    5.11
   0.417    3.41 | 2.000    8.52 | 3.583   18.74 |  5.17    5.11
   0.500    3.41 | 2.083    8.52 | 3.667   18.74 |  5.25    5.11
   0.583    3.41 | 2.167    8.52 | 3.750   18.74 |  5.33    3.41
   0.667    3.41 | 2.250    8.52 | 3.833    8.52 |  5.42    3.41
   0.750    3.41 | 2.333   10.22 | 3.917    8.52 |  5.50    3.41
   0.833    5.11 | 2.417   10.22 | 4.000    8.52 |  5.58    3.41
   0.917    5.11 | 2.500   10.22 | 4.083    8.52 |  5.67    3.41
   1.000    5.11 | 2.583   10.22 | 4.167    8.52 |  5.75    3.41
   1.083    5.11 | 2.667   10.22 | 4.250    8.52 |  5.83    3.41
   1.167    5.11 | 2.750   10.22 | 4.333    6.82 |  5.92    3.41
   1.250    5.11 | 2.833   51.12 | 4.417    6.82 |  6.00    3.41
   1.333    5.11 | 2.917   51.12 | 4.500    6.82 |  6.08    3.41
   1.417    5.11 | 3.000   51.12 | 4.583    6.82 |  6.17    3.41
   1.500    5.11 | 3.083  132.91 | 4.667    6.82 |  6.25    3.41
   1.583    5.11 | 3.167  132.91 | 4.750    6.82 |

     Unit Hyd Qpeak  (cms)=   0.524

     PEAK FLOW       (cms)=   0.264 (i)
     TIME TO PEAK    (hrs)=   3.833
     RUNOFF VOLUME    (mm)=  20.871
     TOTAL RAINFALL   (mm)=  85.200
     RUNOFF COEFFICIENT   =   0.245

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

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\edbfb811
| Ptotal= 85.20 mm |    Comments: 25-Year-6-Hour-SCS-Type-II
--------------------
    TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
     hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
   0.25    0.00 |  2.00    8.52 |  3.75   18.74 |  5.50    3.41
   0.50    3.41 |  2.25    8.52 |  4.00    8.52 |  5.75    3.41
   0.75    3.41 |  2.50   10.22 |  4.25    8.52 |  6.00    3.41
   1.00    5.11 |  2.75   10.22 |  4.50    6.82 |  6.25    3.41
   1.25    5.11 |  3.00   51.12 |  4.75    6.82 |
   1.50    5.11 |  3.25  132.91 |  5.00    5.11 |
   1.75    5.11 |  3.50   18.74 |  5.25    5.11 |

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--------------------
| CALIB            |
| STANDHYD (  0153)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.26
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      82.87        40.00
     Mannings n             =    0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
    TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
     hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
   0.083    0.00 | 1.667    5.11 | 3.250  132.91 |  4.83    5.11
   0.167    0.00 | 1.750    5.11 | 3.333   18.75 |  4.92    5.11
   0.250    0.00 | 1.833    8.52 | 3.417   18.74 |  5.00    5.11
   0.333    3.41 | 1.917    8.52 | 3.500   18.74 |  5.08    5.11
   0.417    3.41 | 2.000    8.52 | 3.583   18.74 |  5.17    5.11
   0.500    3.41 | 2.083    8.52 | 3.667   18.74 |  5.25    5.11
   0.583    3.41 | 2.167    8.52 | 3.750   18.74 |  5.33    3.41
   0.667    3.41 | 2.250    8.52 | 3.833    8.52 |  5.42    3.41
   0.750    3.41 | 2.333   10.22 | 3.917    8.52 |  5.50    3.41
   0.833    5.11 | 2.417   10.22 | 4.000    8.52 |  5.58    3.41
   0.917    5.11 | 2.500   10.22 | 4.083    8.52 |  5.67    3.41
   1.000    5.11 | 2.583   10.22 | 4.167    8.52 |  5.75    3.41
   1.083    5.11 | 2.667   10.22 | 4.250    8.52 |  5.83    3.41
   1.167    5.11 | 2.750   10.22 | 4.333    6.82 |  5.92    3.41
   1.250    5.11 | 2.833   51.12 | 4.417    6.82 |  6.00    3.41
   1.333    5.11 | 2.917   51.12 | 4.500    6.82 |  6.08    3.41
   1.417    5.11 | 3.000   51.12 | 4.583    6.82 |  6.17    3.41
   1.500    5.11 | 3.083  132.91 | 4.667    6.82 |  6.25    3.41
   1.583    5.11 | 3.167  132.91 | 4.750    6.82 |

     Max.Eff.Inten.(mm/hr)=     132.91        49.16
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.04 (ii)    6.10 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.29         0.03          0.313 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=      84.20        25.06          69.41
     TOTAL RAINFALL   (mm)=      85.20        85.20          85.20
     RUNOFF COEFFICIENT   =       0.99         0.29           0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
```

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

RESERVOIR(0159)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.313	3.25	69.41
OUTFLOW: ID= 1 (0159)	1.030	0.089	3.33	69.32

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.38
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0351

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\edbfb811
Ptotal= 85.20 mm	Comments: 25-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	8.52	3.75	18.74	5.50	3.41
0.50	3.41	2.25	8.52	4.00	8.52	5.75	3.41
0.75	3.41	2.50	10.22	4.25	8.52	6.00	3.41
1.00	5.11	2.75	10.22	4.50	6.82	6.25	3.41
1.25	5.11	3.00	51.12	4.75	6.82		
1.50	5.11	3.25	132.91	5.00	5.11		
1.75	5.11	3.50	18.74	5.25	5.11		

CALIB	
STANDHYD (0163)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	8.91	6.45
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	320.00	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.11	3.250	132.91	4.83	5.11
0.167	0.00	1.750	5.11	3.333	18.75	4.92	5.11
0.250	0.00	1.833	8.52	3.417	18.74	5.00	5.11
0.333	3.41	1.917	8.52	3.500	18.74	5.08	5.11
0.417	3.41	2.000	8.52	3.583	18.74	5.17	5.11
0.500	3.41	2.083	8.52	3.667	18.74	5.25	5.11
0.583	3.41	2.167	8.52	3.750	18.74	5.33	3.41
0.667	3.41	2.250	8.52	3.833	8.52	5.42	3.41
0.750	3.41	2.333	10.22	3.917	8.52	5.50	3.41
0.833	5.11	2.417	10.22	4.000	8.52	5.58	3.41
0.917	5.11	2.500	10.22	4.083	8.52	5.67	3.41
1.000	5.11	2.583	10.22	4.167	8.52	5.75	3.41
1.083	5.11	2.667	10.22	4.250	8.52	5.83	3.41
1.167	5.11	2.750	10.22	4.333	6.82	5.92	3.41
1.250	5.11	2.833	51.12	4.417	6.82	6.00	3.41
1.333	5.11	2.917	51.12	4.500	6.82	6.08	3.41
1.417	5.11	3.000	51.12	4.583	6.82	6.17	3.41
1.500	5.11	3.083	132.91	4.667	6.82	6.25	3.41
1.583	5.11	3.167	132.91	4.750	6.82		

			TOTALS
Max.Eff.Inten.(mm/hr)=	132.91	51.47	
over (min)	5.00	15.00	
Storage Coeff. (min)=	4.58 (ii)	13.79 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.23	0.08	
PEAK FLOW (cms)=	3.21	0.52	3.641 (iii)
TIME TO PEAK (hrs)=	3.25	3.33	3.25
RUNOFF VOLUME (mm)=	84.20	26.22	59.85
TOTAL RAINFALL (mm)=	85.20	85.20	85.20
RUNOFF COEFFICIENT =	0.99	0.31	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0152)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0137):	8.10	0.264	3.83	20.87
+ ID2= 2 (0159):	1.03	0.089	3.33	69.32
ID = 3 (0152):	9.13	0.341	3.75	26.34

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0152)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0152):	9.13	0.341	3.75	26.34
+ ID2= 2 (0163):	15.36	3.641	3.25	59.85
ID = 1 (0152):	24.49	3.818	3.25	47.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| RESERVOIR(0161)|
| IN= 2---> OUT= 1 |
| DT= 5.0 min |

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.4045	0.7000
0.0151	0.0001	0.5514	0.8000
0.0151	0.1301	0.7611	0.9000
0.0440	0.4217	0.9325	0.9500
0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0152)	24.490	3.818	3.25	47.35
OUTFLOW: ID= 1 (0161)	24.490	0.495	4.42	47.36

PEAK FLOW REDUCTION [Qout/Qin](%)= 12.97
TIME SHIFT OF PEAK FLOW (min)= 70.00
MAXIMUM STORAGE USED (ha.m.)= 0.7619

| DUHYD (0162)|
| Inlet Cap.= 0.015|
| #of Inlets= 1|
| Total(cms)= 0.0|

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.49	0.50	4.42	47.36
MAJOR SYS.(ID= 2):	17.02	0.48	4.42	47.36
MINOR SYS.(ID= 3):	7.47	0.02	2.83	47.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| READ STORM |
| Ptotal= 85.20 mm |

Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\edbfb811
Comments: 25-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	8.52	3.75	18.74	5.50	3.41
0.50	3.41	2.25	8.52	4.00	8.52	5.75	3.41
0.75	3.41	2.50	10.22	4.25	8.52	6.00	3.41
1.00	5.11	2.75	10.22	4.50	6.82	6.25	3.41
1.25	5.11	3.00	51.12	4.75	6.82		
1.50	5.11	3.25	132.91	5.00	5.11		
1.75	5.11	3.50	18.74	5.25	5.11		

| CALIB |

| STANDHYD (0151)|
|ID= 1 DT= 5.0 min |

Area (ha)= 1.07
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.80	0.27
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	84.46	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.11	3.250	132.91	4.83	5.11
0.167	0.00	1.750	5.11	3.333	18.75	4.92	5.11
0.250	0.00	1.833	8.52	3.417	18.74	5.00	5.11
0.333	3.41	1.917	8.52	3.500	18.74	5.08	5.11
0.417	3.41	2.000	8.52	3.583	18.74	5.17	5.11
0.500	3.41	2.083	8.52	3.667	18.74	5.25	5.11
0.583	3.41	2.167	8.52	3.750	18.74	5.33	3.41
0.667	3.41	2.250	8.52	3.833	8.52	5.42	3.41
0.750	3.41	2.333	10.22	3.917	8.52	5.50	3.41
0.833	5.11	2.417	10.22	4.000	8.52	5.58	3.41
0.917	5.11	2.500	10.22	4.083	8.52	5.67	3.41
1.000	5.11	2.583	10.22	4.167	8.52	5.75	3.41
1.083	5.11	2.667	10.22	4.250	8.52	5.83	3.41
1.167	5.11	2.750	10.22	4.333	6.82	5.92	3.41
1.250	5.11	2.833	51.12	4.417	6.82	6.00	3.41
1.333	5.11	2.917	51.12	4.500	6.82	6.08	3.41
1.417	5.11	3.000	51.12	4.583	6.82	6.17	3.41
1.500	5.11	3.083	132.91	4.667	6.82	6.25	3.41
1.583	5.11	3.167	132.91	4.750	6.82		

Max.Eff.Inten.(mm/hr)=		132.91	92.62	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.06 (ii)	6.12 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.31	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.30	0.06	0.354 (iii)
TIME TO PEAK	(hrs)=	3.25	3.25	3.25
RUNOFF VOLUME	(mm)=	84.20	47.31	74.97
TOTAL RAINFALL	(mm)=	85.20	85.20	85.20
RUNOFF COEFFICIENT	=	0.99	0.56	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(0160)|
| IN= 2---> OUT= 1 |

DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	1.070	0.354	3.25	74.97
OUTFLOW: ID= 1 (0160)	1.070	0.047	3.75	74.72

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.26
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0505

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\edbfb811
Ptotal= 85.20 mm	Comments: 25-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	8.52	3.75	18.74	5.50	3.41
0.50	3.41	2.25	8.52	4.00	8.52	5.75	3.41
0.75	3.41	2.50	10.22	4.25	8.52	6.00	3.41
1.00	5.11	2.75	10.22	4.50	6.82	6.25	3.41
1.25	5.11	3.00	51.12	4.75	6.82		
1.50	5.11	3.25	132.91	5.00	5.11		
1.75	5.11	3.50	18.74	5.25	5.11		

CALIB	
STANDHYD (0155)	Area (ha)= 0.78
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.11	3.250	132.91	4.83	5.11
0.167	0.00	1.750	5.11	3.333	18.75	4.92	5.11
0.250	0.00	1.833	8.52	3.417	18.74	5.00	5.11
0.333	3.41	1.917	8.52	3.500	18.74	5.08	5.11
0.417	3.41	2.000	8.52	3.583	18.74	5.17	5.11
0.500	3.41	2.083	8.52	3.667	18.74	5.25	5.11
0.583	3.41	2.167	8.52	3.750	18.74	5.33	3.41
0.667	3.41	2.250	8.52	3.833	8.52	5.42	3.41
0.750	3.41	2.333	10.22	3.917	8.52	5.50	3.41
0.833	5.11	2.417	10.22	4.000	8.52	5.58	3.41
0.917	5.11	2.500	10.22	4.083	8.52	5.67	3.41
1.000	5.11	2.583	10.22	4.167	8.52	5.75	3.41
1.083	5.11	2.667	10.22	4.250	8.52	5.83	3.41
1.167	5.11	2.750	10.22	4.333	6.82	5.92	3.41
1.250	5.11	2.833	51.12	4.417	6.82	6.00	3.41
1.333	5.11	2.917	51.12	4.500	6.82	6.08	3.41
1.417	5.11	3.000	51.12	4.583	6.82	6.17	3.41
1.500	5.11	3.083	132.91	4.667	6.82	6.25	3.41
1.583	5.11	3.167	132.91	4.750	6.82		

				TOTALS
Max.Eff.Inten.(mm/hr)=	132.91	92.62		
over (min)	5.00	10.00		
Storage Coeff. (min)=	1.87 (ii)	5.93 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.32	0.15		
PEAK FLOW (cms)=	0.22	0.04		0.258 (iii)
TIME TO PEAK (hrs)=	3.25	3.25		3.25
RUNOFF VOLUME (mm)=	84.20	47.31		74.97
TOTAL RAINFALL (mm)=	85.20	85.20		85.20
RUNOFF COEFFICIENT =	0.99	0.56		0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0157)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.258	3.25	74.97
OUTFLOW: ID= 1 (0157)	0.780	0.059	3.42	74.81

PEAK FLOW REDUCTION [Qout/Qin](%)= 22.66
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0310

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\edbfb811
Ptotal= 85.20 mm	Comments: 25-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	8.52	3.75	18.74	5.50	3.41
0.50	3.41	2.25	8.52	4.00	8.52	5.75	3.41

0.75	3.41	2.50	10.22	4.25	8.52	6.00	3.41
1.00	5.11	2.75	10.22	4.50	6.82	6.25	3.41
1.25	5.11	3.00	51.12	4.75	6.82		
1.50	5.11	3.25	132.91	5.00	5.11		
1.75	5.11	3.50	18.74	5.25	5.11		

CALIB	
STANDHYD (0156)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.11	3.250	132.91	4.83	5.11
0.167	0.00	1.750	5.11	3.333	18.75	4.92	5.11
0.250	0.00	1.833	8.52	3.417	18.74	5.00	5.11
0.333	3.41	1.917	8.52	3.500	18.74	5.08	5.11
0.417	3.41	2.000	8.52	3.583	18.74	5.17	5.11
0.500	3.41	2.083	8.52	3.667	18.74	5.25	5.11
0.583	3.41	2.167	8.52	3.750	18.74	5.33	3.41
0.667	3.41	2.250	8.52	3.833	8.52	5.42	3.41
0.750	3.41	2.333	10.22	3.917	8.52	5.50	3.41
0.833	5.11	2.417	10.22	4.000	8.52	5.58	3.41
0.917	5.11	2.500	10.22	4.083	8.52	5.67	3.41
1.000	5.11	2.583	10.22	4.167	8.52	5.75	3.41
1.083	5.11	2.667	10.22	4.250	8.52	5.83	3.41
1.167	5.11	2.750	10.22	4.333	6.82	5.92	3.41
1.250	5.11	2.833	51.12	4.417	6.82	6.00	3.41
1.333	5.11	2.917	51.12	4.500	6.82	6.08	3.41
1.417	5.11	3.000	51.12	4.583	6.82	6.17	3.41
1.500	5.11	3.083	132.91	4.667	6.82	6.25	3.41
1.583	5.11	3.167	132.91	4.750	6.82		

Max.Eff.Inten.(mm/hr)=		132.91	49.16	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.36 (ii)	5.77 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.33	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.07	0.01	0.080 (iii)
TIME TO PEAK	(hrs)=	3.25	3.25	3.25
RUNOFF VOLUME	(mm)=	84.20	25.06	67.04
TOTAL RAINFALL	(mm)=	85.20	85.20	85.20
RUNOFF COEFFICIENT	=	0.99	0.29	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0154)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0156)	0.270	0.080	3.25	67.04
OUTFLOW: ID= 1 (0154)	0.270	0.035	3.33	66.87

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.01
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0073

ADD HYD (0158)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0154):	0.27	0.035	3.33	66.87
+ ID2= 2 (0157):	0.78	0.059	3.42	74.81
ID = 3 (0158):	1.05	0.093	3.33	72.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0158)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0158):	1.05	0.093	3.33	72.77
+ ID2= 2 (0160):	1.07	0.047	3.75	74.72
ID = 1 (0158):	2.12	0.137	3.33	73.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0158)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0158):	2.12	0.137	3.33	73.75
+ ID2= 2 (0162):	17.02	0.480	4.42	47.36
ID = 3 (0158):	19.14	0.579	4.25	50.28

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

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

```
  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\89b9f768-e42b-4ead-beed-8997ee4464ea\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\89b9f768-e42b-4ead-beed-8997ee4464ea\scen

DATE: 10-31-2019                          TIME: 10:47:23

USER:


COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 5-50-Year-12-Hour-SCS-Type-II **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\69aab664
| Ptotal=101.70 mm |    Comments: 50-Year-12-Hour-SCS-Type-II
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.07	6.75	18.31	10.00	3.56
0.50	2.54	3.75	4.07	7.00	8.14	10.25	3.56
0.75	2.54	4.00	4.07	7.25	8.14	10.50	2.03
1.00	2.54	4.25	4.07	7.50	6.10	10.75	2.03
1.25	2.54	4.50	6.10	7.75	6.10	11.00	2.03
1.50	2.54	4.75	6.10	8.00	6.10	11.25	2.03
1.75	2.54	5.00	8.14	8.25	6.10	11.50	2.03
2.00	2.54	5.25	8.14	8.50	3.56	11.75	2.03
2.25	2.54	5.50	12.20	8.75	3.56	12.00	2.03
2.50	3.05	5.75	12.20	9.00	3.56	12.25	2.03
2.75	3.05	6.00	48.82	9.25	3.56		
3.00	3.05	6.25	134.24	9.50	3.56		
3.25	3.05	6.50	18.31	9.75	3.56		

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--------------------
| CALIB            |
| NASHYD   (  0137)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.05	6.250	134.24	9.33	3.56
0.167	0.00	3.250	3.05	6.333	18.31	9.42	3.56
0.250	0.00	3.333	4.07	6.417	18.31	9.50	3.56
0.333	2.54	3.417	4.07	6.500	18.31	9.58	3.56
0.417	2.54	3.500	4.07	6.583	18.31	9.67	3.56
0.500	2.54	3.583	4.07	6.667	18.31	9.75	3.56
0.583	2.54	3.667	4.07	6.750	18.31	9.83	3.56
0.667	2.54	3.750	4.07	6.833	8.14	9.92	3.56
0.750	2.54	3.833	4.07	6.917	8.14	10.00	3.56
0.833	2.54	3.917	4.07	7.000	8.14	10.08	3.56
0.917	2.54	4.000	4.07	7.083	8.14	10.17	3.56
1.000	2.54	4.083	4.07	7.167	8.14	10.25	3.56
1.083	2.54	4.167	4.07	7.250	8.14	10.33	2.03
1.167	2.54	4.250	4.07	7.333	6.10	10.42	2.03
1.250	2.54	4.333	6.10	7.417	6.10	10.50	2.03
1.333	2.54	4.417	6.10	7.500	6.10	10.58	2.03
1.417	2.54	4.500	6.10	7.583	6.10	10.67	2.03
1.500	2.54	4.583	6.10	7.667	6.10	10.75	2.03
1.583	2.54	4.667	6.10	7.750	6.10	10.83	2.03
1.667	2.54	4.750	6.10	7.833	6.10	10.92	2.03
1.750	2.54	4.833	8.14	7.917	6.10	11.00	2.03
1.833	2.54	4.917	8.14	8.000	6.10	11.08	2.03
1.917	2.54	5.000	8.14	8.083	6.10	11.17	2.03
2.000	2.54	5.083	8.14	8.167	6.10	11.25	2.03
2.083	2.54	5.167	8.14	8.250	6.10	11.33	2.03
2.167	2.54	5.250	8.14	8.333	3.56	11.42	2.03
2.250	2.54	5.333	12.20	8.417	3.56	11.50	2.03
2.333	3.05	5.417	12.20	8.500	3.56	11.58	2.03
2.417	3.05	5.500	12.20	8.583	3.56	11.67	2.03
2.500	3.05	5.583	12.20	8.667	3.56	11.75	2.03
2.583	3.05	5.667	12.20	8.750	3.56	11.83	2.03
2.667	3.05	5.750	12.20	8.833	3.56	11.92	2.03
2.750	3.05	5.833	48.82	8.917	3.56	12.00	2.03
2.833	3.05	5.917	48.82	9.000	3.56	12.08	2.03
2.917	3.05	6.000	48.82	9.083	3.56	12.17	2.03
3.000	3.05	6.083	134.24	9.167	3.56	12.25	2.03
3.083	3.05	6.167	134.24	9.250	3.56		

```
     Unit Hyd Qpeak  (cms)=   0.524

     PEAK FLOW       (cms)=   0.315 (i)
     TIME TO PEAK    (hrs)=   6.750
     RUNOFF VOLUME    (mm)=  28.800
     TOTAL RAINFALL   (mm)= 101.700
     RUNOFF COEFFICIENT   =   0.283

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

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\69aab664
| Ptotal=101.70 mm |    Comments: 50-Year-12-Hour-SCS-Type-II
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.07	6.75	18.31	10.00	3.56
0.50	2.54	3.75	4.07	7.00	8.14	10.25	3.56
0.75	2.54	4.00	4.07	7.25	8.14	10.50	2.03
1.00	2.54	4.25	4.07	7.50	6.10	10.75	2.03
1.25	2.54	4.50	6.10	7.75	6.10	11.00	2.03
1.50	2.54	4.75	6.10	8.00	6.10	11.25	2.03
1.75	2.54	5.00	8.14	8.25	6.10	11.50	2.03
2.00	2.54	5.25	8.14	8.50	3.56	11.75	2.03
2.25	2.54	5.50	12.20	8.75	3.56	12.00	2.03
2.50	3.05	5.75	12.20	9.00	3.56	12.25	2.03
2.75	3.05	6.00	48.82	9.25	3.56		
3.00	3.05	6.25	134.24	9.50	3.56		
3.25	3.05	6.50	18.31	9.75	3.56		

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--------------------
| CALIB            |
| STANDHYD (  0153)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.26
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      82.87        40.00
     Mannings n             =    0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.05	6.250	134.24	9.33	3.56
0.167	0.00	3.250	3.05	6.333	18.31	9.42	3.56
0.250	0.00	3.333	4.07	6.417	18.31	9.50	3.56
0.333	2.54	3.417	4.07	6.500	18.31	9.58	3.56
0.417	2.54	3.500	4.07	6.583	18.31	9.67	3.56
0.500	2.54	3.583	4.07	6.667	18.31	9.75	3.56
0.583	2.54	3.667	4.07	6.750	18.31	9.83	3.56
0.667	2.54	3.750	4.07	6.833	8.14	9.92	3.56
0.750	2.54	3.833	4.07	6.917	8.14	10.00	3.56
0.833	2.54	3.917	4.07	7.000	8.14	10.08	3.56
0.917	2.54	4.000	4.07	7.083	8.14	10.17	3.56
1.000	2.54	4.083	4.07	7.167	8.14	10.25	3.56
1.083	2.54	4.167	4.07	7.250	8.14	10.33	2.03
1.167	2.54	4.250	4.07	7.333	6.10	10.42	2.03
1.250	2.54	4.333	6.10	7.417	6.10	10.50	2.03
1.333	2.54	4.417	6.10	7.500	6.10	10.58	2.03
1.417	2.54	4.500	6.10	7.583	6.10	10.67	2.03
1.500	2.54	4.583	6.10	7.667	6.10	10.75	2.03
1.583	2.54	4.667	6.10	7.750	6.10	10.83	2.03
1.667	2.54	4.750	6.10	7.833	6.10	10.92	2.03
1.750	2.54	4.833	8.14	7.917	6.10	11.00	2.03
1.833	2.54	4.917	8.14	8.000	6.10	11.08	2.03
1.917	2.54	5.000	8.14	8.083	6.10	11.17	2.03
2.000	2.54	5.083	8.14	8.167	6.10	11.25	2.03
2.083	2.54	5.167	8.14	8.250	6.10	11.33	2.03
2.167	2.54	5.250	8.14	8.333	3.56	11.42	2.03
2.250	2.54	5.333	12.20	8.417	3.56	11.50	2.03
2.333	3.05	5.417	12.20	8.500	3.56	11.58	2.03
2.417	3.05	5.500	12.20	8.583	3.56	11.67	2.03
2.500	3.05	5.583	12.20	8.667	3.56	11.75	2.03
2.583	3.05	5.667	12.20	8.750	3.56	11.83	2.03
2.667	3.05	5.750	12.20	8.833	3.56	11.92	2.03
2.750	3.05	5.833	48.82	8.917	3.56	12.00	2.03
2.833	3.05	5.917	48.82	9.000	3.56	12.08	2.03
2.917	3.05	6.000	48.82	9.083	3.56	12.17	2.03
3.000	3.05	6.083	134.24	9.167	3.56	12.25	2.03
3.083	3.05	6.167	134.24	9.250	3.56		

```
     Max.Eff.Inten.(mm/hr)=     134.24        56.03
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.03 (ii)    6.07 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.29         0.03          0.321 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.25           6.25
     RUNOFF VOLUME    (mm)=     100.70        34.23          84.08
     TOTAL RAINFALL   (mm)=     101.70       101.70         101.70
     RUNOFF COEFFICIENT   =       0.99         0.34           0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0159)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.1120     0.0442
```

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.321	6.25	84.08
OUTFLOW: ID= 1 (0159)	1.030	0.092	6.33	83.99

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.55
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0362

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\69aab664
Ptotal=101.70 mm	Comments: 50-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.07	6.75	18.31	10.00	3.56
0.50	2.54	3.75	4.07	7.00	8.14	10.25	3.56
0.75	2.54	4.00	4.07	7.25	8.14	10.50	2.03
1.00	2.54	4.25	4.07	7.50	6.10	10.75	2.03
1.25	2.54	4.50	6.10	7.75	6.10	11.00	2.03
1.50	2.54	4.75	6.10	8.00	6.10	11.25	2.03
1.75	2.54	5.00	8.14	8.25	6.10	11.50	2.03
2.00	2.54	5.25	8.14	8.50	3.56	11.75	2.03
2.25	2.54	5.50	12.20	8.75	3.56	12.00	2.03
2.50	3.05	5.75	12.20	9.00	3.56	12.25	2.03
2.75	3.05	6.00	48.82	9.25	3.56		
3.00	3.05	6.25	134.24	9.50	3.56		
3.25	3.05	6.50	18.31	9.75	3.56		

CALIB	
STANDHYD (0163)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.05	6.250	134.24	9.33	3.56
0.167	0.00	3.250	3.05	6.333	18.31	9.42	3.56
0.250	0.00	3.333	4.07	6.417	18.31	9.50	3.56
0.333	2.54	3.417	4.07	6.500	18.31	9.58	3.56
0.417	2.54	3.500	4.07	6.583	18.31	9.67	3.56
0.500	2.54	3.583	4.07	6.667	18.31	9.75	3.56
0.583	2.54	3.667	4.07	6.750	18.31	9.83	3.56
0.667	2.54	3.750	4.07	6.833	8.14	9.92	3.56
0.750	2.54	3.833	4.07	6.917	8.14	10.00	3.56
0.833	2.54	3.917	4.07	7.000	8.14	10.08	3.56
0.917	2.54	4.000	4.07	7.083	8.14	10.17	3.56
1.000	2.54	4.083	4.07	7.167	8.14	10.25	3.56
1.083	2.54	4.167	4.07	7.250	8.14	10.33	2.03
1.167	2.54	4.250	4.07	7.333	6.10	10.42	2.03
1.250	2.54	4.333	6.10	7.417	6.10	10.50	2.03
1.333	2.54	4.417	6.10	7.500	6.10	10.58	2.03
1.417	2.54	4.500	6.10	7.583	6.10	10.67	2.03
1.500	2.54	4.583	6.10	7.667	6.10	10.75	2.03
1.583	2.54	4.667	6.10	7.750	6.10	10.83	2.03
1.667	2.54	4.750	6.10	7.833	6.10	10.92	2.03
1.750	2.54	4.833	8.14	7.917	6.10	11.00	2.03
1.833	2.54	4.917	8.14	8.000	6.10	11.08	2.03
1.917	2.54	5.000	8.14	8.083	6.10	11.17	2.03
2.000	2.54	5.083	8.14	8.167	6.10	11.25	2.03
2.083	2.54	5.167	8.14	8.250	6.10	11.33	2.03
2.167	2.54	5.250	8.14	8.333	3.56	11.42	2.03
2.250	2.54	5.333	12.20	8.417	3.56	11.50	2.03
2.333	3.05	5.417	12.20	8.500	3.56	11.58	2.03
2.417	3.05	5.500	12.20	8.583	3.56	11.67	2.03
2.500	3.05	5.583	12.20	8.667	3.56	11.75	2.03
2.583	3.05	5.667	12.20	8.750	3.56	11.83	2.03
2.667	3.05	5.750	12.20	8.833	3.56	11.92	2.03
2.750	3.05	5.833	48.82	8.917	3.56	12.00	2.03
2.833	3.05	5.917	48.82	9.000	3.56	12.08	2.03
2.917	3.05	6.000	48.82	9.083	3.56	12.17	2.03
3.000	3.05	6.083	134.24	9.167	3.56	12.25	2.03
3.083	3.05	6.167	134.24	9.250	3.56		

			TOTALS
Max.Eff.Inten.(mm/hr)=	134.24	58.51	
over (min)	5.00	15.00	
Storage Coeff. (min)=	4.56 (ii)	13.31 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.23	0.08	
PEAK FLOW (cms)=	3.24	0.62	3.770 (iii)
TIME TO PEAK (hrs)=	6.25	6.33	6.25
RUNOFF VOLUME (mm)=	100.70	35.71	73.40
TOTAL RAINFALL (mm)=	101.70	101.70	101.70
RUNOFF COEFFICIENT =	0.99	0.35	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0152)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0137):	8.10	0.315	6.75	28.80
	+ ID2= 2 (0159):	1.03	0.092	6.33	83.99

```
       ================================================
       ID = 3 (  0152):     9.13   0.395     6.75    35.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0152)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0152):     9.13   0.395     6.75    35.03
     + ID2= 2 (  0163):    15.36   3.770     6.25    73.40
       ================================================
       ID = 1 (  0152):    24.49   3.986     6.25    59.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR(  0161)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.4045     0.7000
                         0.0151     0.0001    |   0.5514     0.8000
                         0.0151     0.1301    |   0.7611     0.9000
                         0.0440     0.4217    |   0.9325     0.9500
                         0.2194     0.6000    |   1.1147     1.0500

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0152)    24.490     3.986      6.25      59.10
   OUTFLOW: ID= 1 (  0161)    24.490     0.613      7.25      59.10

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.38
                  TIME SHIFT OF PEAK FLOW         (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8295

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--------------------
| DUHYD    (  0162)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.61      7.25   59.10
     ================================================
     MAJOR SYS.(ID= 2):  18.07      0.60      7.25   59.10
     MINOR SYS.(ID= 3):   6.42      0.02      5.08   59.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\69aab664
| Ptotal=101.70 mm |    Comments: 50-Year-12-Hour-SCS-Type-II
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.07	6.75	18.31	10.00	3.56
0.50	2.54	3.75	4.07	7.00	8.14	10.25	3.56
0.75	2.54	4.00	4.07	7.25	8.14	10.50	2.03
1.00	2.54	4.25	4.07	7.50	6.10	10.75	2.03
1.25	2.54	4.50	6.10	7.75	6.10	11.00	2.03
1.50	2.54	4.75	6.10	8.00	6.10	11.25	2.03
1.75	2.54	5.00	8.14	8.25	6.10	11.50	2.03
2.00	2.54	5.25	8.14	8.50	3.56	11.75	2.03
2.25	2.54	5.50	12.20	8.75	3.56	12.00	2.03
2.50	3.05	5.75	12.20	9.00	3.56	12.25	2.03
2.75	3.05	6.00	48.82	9.25	3.56		
3.00	3.05	6.25	134.24	9.50	3.56		
3.25	3.05	6.50	18.31	9.75	3.56		

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| CALIB            |
| STANDHYD (  0151)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         0.80          0.27
     Dep. Storage     (mm)=         1.00          5.00
     Average Slope     (%)=         1.00          2.00
     Length            (m)=        84.46         40.00
     Mannings n             =       0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
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---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.05	6.250	134.24	9.33	3.56
0.167	0.00	3.250	3.05	6.333	18.31	9.42	3.56
0.250	0.00	3.333	4.07	6.417	18.31	9.50	3.56
0.333	2.54	3.417	4.07	6.500	18.31	9.58	3.56
0.417	2.54	3.500	4.07	6.583	18.31	9.67	3.56
0.500	2.54	3.583	4.07	6.667	18.31	9.75	3.56
0.583	2.54	3.667	4.07	6.750	18.31	9.83	3.56
0.667	2.54	3.750	4.07	6.833	8.14	9.92	3.56
0.750	2.54	3.833	4.07	6.917	8.14	10.00	3.56
0.833	2.54	3.917	4.07	7.000	8.14	10.08	3.56
0.917	2.54	4.000	4.07	7.083	8.14	10.17	3.56
1.000	2.54	4.083	4.07	7.167	8.14	10.25	3.56
1.083	2.54	4.167	4.07	7.250	8.14	10.33	2.03
1.167	2.54	4.250	4.07	7.333	6.10	10.42	2.03
1.250	2.54	4.333	6.10	7.417	6.10	10.50	2.03
1.333	2.54	4.417	6.10	7.500	6.10	10.58	2.03
1.417	2.54	4.500	6.10	7.583	6.10	10.67	2.03
1.500	2.54	4.583	6.10	7.667	6.10	10.75	2.03
1.583	2.54	4.667	6.10	7.750	6.10	10.83	2.03
1.667	2.54	4.750	6.10	7.833	6.10	10.92	2.03
1.750	2.54	4.833	8.14	7.917	6.10	11.00	2.03
1.833	2.54	4.917	8.14	8.000	6.10	11.08	2.03
1.917	2.54	5.000	8.14	8.083	6.10	11.17	2.03

2.000	2.54	5.083	8.14	8.167	6.10	11.25	2.03
2.083	2.54	5.167	8.14	8.250	6.10	11.33	2.03
2.167	2.54	5.250	8.14	8.333	3.56	11.42	2.03
2.250	2.54	5.333	12.20	8.417	3.56	11.50	2.03
2.333	3.05	5.417	12.20	8.500	3.56	11.58	2.03
2.417	3.05	5.500	12.20	8.583	3.56	11.67	2.03
2.500	3.05	5.583	12.20	8.667	3.56	11.75	2.03
2.583	3.05	5.667	12.20	8.750	3.56	11.83	2.03
2.667	3.05	5.750	12.20	8.833	3.56	11.92	2.03
2.750	3.05	5.833	48.82	8.917	3.56	12.00	2.03
2.833	3.05	5.917	48.82	9.000	3.56	12.08	2.03
2.917	3.05	6.000	48.82	9.083	3.56	12.17	2.03
3.000	3.05	6.083	134.24	9.167	3.56	12.25	2.03
3.083	3.05	6.167	134.24	9.250	3.56		

Max.Eff.Inten.(mm/hr)=	134.24	99.87	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.05 (ii)	6.09 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
			TOTALS
PEAK FLOW (cms)=	0.30	0.06	0.363 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	100.70	61.33	90.85
TOTAL RAINFALL (mm)=	101.70	101.70	101.70
RUNOFF COEFFICIENT =	0.99	0.60	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0160)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	1.070	0.363	6.25	90.85
OUTFLOW: ID= 1 (0160)	1.070	0.050	6.75	90.61

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.73
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0536

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\69aab664
Ptotal=101.70 mm	Comments: 50-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.07	6.75	18.31	10.00	3.56
0.50	2.54	3.75	4.07	7.00	8.14	10.25	3.56
0.75	2.54	4.00	4.07	7.25	8.14	10.50	2.03
1.00	2.54	4.25	4.07	7.50	6.10	10.75	2.03
1.25	2.54	4.50	6.10	7.75	6.10	11.00	2.03
1.50	2.54	4.75	6.10	8.00	6.10	11.25	2.03
1.75	2.54	5.00	8.14	8.25	6.10	11.50	2.03
2.00	2.54	5.25	8.14	8.50	3.56	11.75	2.03
2.25	2.54	5.50	12.20	8.75	3.56	12.00	2.03
2.50	3.05	5.75	12.20	9.00	3.56	12.25	2.03
2.75	3.05	6.00	48.82	9.25	3.56		
3.00	3.05	6.25	134.24	9.50	3.56		
3.25	3.05	6.50	18.31	9.75	3.56		

CALIB	
STANDHYD (0155)	Area (ha)= 0.78
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.05	6.250	134.24	9.33	3.56
0.167	0.00	3.250	3.05	6.333	18.31	9.42	3.56
0.250	0.00	3.333	4.07	6.417	18.31	9.50	3.56
0.333	2.54	3.417	4.07	6.500	18.31	9.58	3.56
0.417	2.54	3.500	4.07	6.583	18.31	9.67	3.56
0.500	2.54	3.583	4.07	6.667	18.31	9.75	3.56
0.583	2.54	3.667	4.07	6.750	18.31	9.83	3.56
0.667	2.54	3.750	4.07	6.833	8.14	9.92	3.56
0.750	2.54	3.833	4.07	6.917	8.14	10.00	3.56
0.833	2.54	3.917	4.07	7.000	8.14	10.08	3.56
0.917	2.54	4.000	4.07	7.083	8.14	10.17	3.56
1.000	2.54	4.083	4.07	7.167	8.14	10.25	3.56
1.083	2.54	4.167	4.07	7.250	8.14	10.33	2.03
1.167	2.54	4.250	4.07	7.333	6.10	10.42	2.03
1.250	2.54	4.333	6.10	7.417	6.10	10.50	2.03
1.333	2.54	4.417	6.10	7.500	6.10	10.58	2.03
1.417	2.54	4.500	6.10	7.583	6.10	10.67	2.03
1.500	2.54	4.583	6.10	7.667	6.10	10.75	2.03
1.583	2.54	4.667	6.10	7.750	6.10	10.83	2.03
1.667	2.54	4.750	6.10	7.833	6.10	10.92	2.03
1.750	2.54	4.833	8.14	7.917	6.10	11.00	2.03
1.833	2.54	4.917	8.14	8.000	6.10	11.08	2.03
1.917	2.54	5.000	8.14	8.083	6.10	11.17	2.03
2.000	2.54	5.083	8.14	8.167	6.10	11.25	2.03

2.083	2.54	5.167	8.14	8.250	6.10	11.33	2.03
2.167	2.54	5.250	8.14	8.333	3.56	11.42	2.03
2.250	2.54	5.333	12.20	8.417	3.56	11.50	2.03
2.333	3.05	5.417	12.20	8.500	3.56	11.58	2.03
2.417	3.05	5.500	12.20	8.583	3.56	11.67	2.03
2.500	3.05	5.583	12.20	8.667	3.56	11.75	2.03
2.583	3.05	5.667	12.20	8.750	3.56	11.83	2.03
2.667	3.05	5.750	12.20	8.833	3.56	11.92	2.03
2.750	3.05	5.833	48.82	8.917	3.56	12.00	2.03
2.833	3.05	5.917	48.82	9.000	3.56	12.08	2.03
2.917	3.05	6.000	48.82	9.083	3.56	12.17	2.03
3.000	3.05	6.083	134.24	9.167	3.56	12.25	2.03
3.083	3.05	6.167	134.24	9.250	3.56		

Max.Eff.Inten.(mm/hr)=	134.24	99.87	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.87 (ii)	5.91 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.32	0.15	
			TOTALS
PEAK FLOW (cms)=	0.22	0.05	0.265 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	100.70	61.33	90.85
TOTAL RAINFALL (mm)=	101.70	101.70	101.70
RUNOFF COEFFICIENT =	0.99	0.60	0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0157)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.265	6.25	90.85
OUTFLOW: ID= 1 (0157)	0.780	0.061	6.42	90.69

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.07
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0324

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\69aab664
Ptotal=101.70 mm	Comments: 50-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.07	6.75	18.31	10.00	3.56
0.50	2.54	3.75	4.07	7.00	8.14	10.25	3.56
0.75	2.54	4.00	4.07	7.25	8.14	10.50	2.03
1.00	2.54	4.25	4.07	7.50	6.10	10.75	2.03
1.25	2.54	4.50	6.10	7.75	6.10	11.00	2.03
1.50	2.54	4.75	6.10	8.00	6.10	11.25	2.03
1.75	2.54	5.00	8.14	8.25	6.10	11.50	2.03
2.00	2.54	5.25	8.14	8.50	3.56	11.75	2.03
2.25	2.54	5.50	12.20	8.75	3.56	12.00	2.03
2.50	3.05	5.75	12.20	9.00	3.56	12.25	2.03
2.75	3.05	6.00	48.82	9.25	3.56		
3.00	3.05	6.25	134.24	9.50	3.56		
3.25	3.05	6.50	18.31	9.75	3.56		

CALIB			
STANDHYD (0156)	Area (ha)= 0.27		
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00	Dir. Conn.(%)= 71.00	
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.05	6.250	134.24	9.33	3.56
0.167	0.00	3.250	3.05	6.333	18.31	9.42	3.56
0.250	0.00	3.333	4.07	6.417	18.31	9.50	3.56
0.333	2.54	3.417	4.07	6.500	18.31	9.58	3.56
0.417	2.54	3.500	4.07	6.583	18.31	9.67	3.56
0.500	2.54	3.583	4.07	6.667	18.31	9.75	3.56
0.583	2.54	3.667	4.07	6.750	18.31	9.83	3.56
0.667	2.54	3.750	4.07	6.833	8.14	9.92	3.56
0.750	2.54	3.833	4.07	6.917	8.14	10.00	3.56
0.833	2.54	3.917	4.07	7.000	8.14	10.08	3.56
0.917	2.54	4.000	4.07	7.083	8.14	10.17	3.56
1.000	2.54	4.083	4.07	7.167	8.14	10.25	3.56
1.083	2.54	4.167	4.07	7.250	8.14	10.33	2.03
1.167	2.54	4.250	4.07	7.333	6.10	10.42	2.03
1.250	2.54	4.333	6.10	7.417	6.10	10.50	2.03
1.333	2.54	4.417	6.10	7.500	6.10	10.58	2.03
1.417	2.54	4.500	6.10	7.583	6.10	10.67	2.03
1.500	2.54	4.583	6.10	7.667	6.10	10.75	2.03
1.583	2.54	4.667	6.10	7.750	6.10	10.83	2.03
1.667	2.54	4.750	6.10	7.833	6.10	10.92	2.03
1.750	2.54	4.833	8.14	7.917	6.10	11.00	2.03
1.833	2.54	4.917	8.14	8.000	6.10	11.08	2.03
1.917	2.54	5.000	8.14	8.083	6.10	11.17	2.03
2.000	2.54	5.083	8.14	8.167	6.10	11.25	2.03
2.083	2.54	5.167	8.14	8.250	6.10	11.33	2.03

```
               2.167    2.54 | 5.250    8.14 | 8.333    3.56 | 11.42    2.03
               2.250    2.54 | 5.333   12.20 | 8.417    3.56 | 11.50    2.03
               2.333    3.05 | 5.417   12.20 | 8.500    3.56 | 11.58    2.03
               2.417    3.05 | 5.500   12.20 | 8.583    3.56 | 11.67    2.03
               2.500    3.05 | 5.583   12.20 | 8.667    3.56 | 11.75    2.03
               2.583    3.05 | 5.667   12.20 | 8.750    3.56 | 11.83    2.03
               2.667    3.05 | 5.750   12.20 | 8.833    3.56 | 11.92    2.03
               2.750    3.05 | 5.833   48.82 | 8.917    3.56 | 12.00    2.03
               2.833    3.05 | 5.917   48.82 | 9.000    3.56 | 12.08    2.03
               2.917    3.05 | 6.000   48.82 | 9.083    3.56 | 12.17    2.03
               3.000    3.05 | 6.083  134.24 | 9.167    3.56 | 12.25    2.03
               3.083    3.05 | 6.167  134.24 | 9.250    3.56 |

     Max.Eff.Inten.(mm/hr)=     134.24        56.03
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.36 (ii)    5.74 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.15
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.01          0.082 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.25           6.25
     RUNOFF VOLUME    (mm)=     100.70        34.23          81.41
     TOTAL RAINFALL   (mm)=     101.70       101.70         101.70
     RUNOFF COEFFICIENT   =       0.99         0.34           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0460     0.0093

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)      0.270     0.082      6.25      81.41
   OUTFLOW: ID= 1 (  0154)      0.270     0.036      6.33      81.25

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.93
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0075

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0154):     0.27   0.036     6.33    81.25
     + ID2= 2 (  0157):     0.78   0.061     6.42    90.69
       ================================================
       ID = 3 (  0158):     1.05   0.097     6.33    88.26

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0158):     1.05   0.097     6.33    88.26
     + ID2= 2 (  0160):     1.07   0.050     6.75    90.61
       ================================================
       ID = 1 (  0158):     2.12   0.144     6.33    89.45

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0158):     2.12   0.144     6.33    89.45
     + ID2= 2 (  0162):    18.07   0.598     7.25    59.10
       ================================================
       ID = 3 (  0158):    20.19   0.708     7.08    62.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
================================================================================
======================

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\262946b4-6ea0-429a-9cd9-035f0442eb74\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\262946b4-6ea0-429a-9cd9-035f0442eb74\scen

DATE: 10-31-2019                          TIME: 10:47:23
```

USER:

COMMENTS: _____

```
  **********************************************
  ** SIMULATION : 5-50-Year-24-Hour-SCS-Type-II **
  **********************************************
```

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\ada53171
Ptotal=120.60 mm	Comments: 50-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.41	12.75	17.37	19.00	2.17
0.50	1.21	6.75	2.41	13.00	8.92	19.25	2.17
0.75	1.21	7.00	2.41	13.25	8.92	19.50	2.17
1.00	1.21	7.25	2.41	13.50	1.69	19.75	2.17
1.25	1.21	7.50	2.41	13.75	1.69	20.00	2.17
1.50	1.21	7.75	2.41	14.00	9.89	20.25	2.17
1.75	1.21	8.00	2.41	14.25	9.89	20.50	1.45
2.00	1.21	8.25	2.41	14.50	3.62	20.75	1.45
2.25	2.17	8.50	3.26	14.75	3.62	21.00	1.45
2.50	1.57	8.75	3.26	15.00	3.62	21.25	1.45
2.75	1.57	9.00	3.26	15.25	3.62	21.50	1.45
3.00	1.57	9.25	3.26	15.50	3.62	21.75	1.45
3.25	1.57	9.50	3.86	15.75	3.62	22.00	1.45
3.50	1.57	9.75	3.86	16.00	3.62	22.25	1.45
3.75	1.57	10.00	4.34	16.25	3.62	22.50	1.45
4.00	1.57	10.25	4.34	16.50	2.17	22.75	1.45
4.25	1.57	10.50	5.55	16.75	2.17	23.00	1.45
4.50	1.93	10.75	5.55	17.00	2.17	23.25	1.45
4.75	1.93	11.00	7.48	17.25	2.17	23.50	1.45
5.00	1.93	11.25	7.48	17.50	2.17	23.75	1.45
5.25	1.93	11.50	11.58	17.75	2.17	24.00	1.45
5.50	1.93	11.75	11.58	18.00	2.17	24.25	1.45
5.75	1.93	12.00	50.17	18.25	2.17		
6.00	1.93	12.25	133.14	18.50	2.17		
6.25	1.93	12.50	17.37	18.75	2.17		

CALIB					
NASHYD (0137)	Area (ha)=	8.10	Curve Number (CN)=	52.7	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.59			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.93	12.250	133.14	18.33	2.17
0.167	0.00	6.250	1.93	12.333	17.38	18.42	2.17
0.250	0.00	6.333	2.41	12.417	17.37	18.50	2.17
0.333	1.21	6.417	2.41	12.500	17.37	18.58	2.17
0.417	1.21	6.500	2.41	12.583	17.37	18.67	2.17
0.500	1.21	6.583	2.41	12.667	17.37	18.75	2.17
0.583	1.21	6.667	2.41	12.750	17.37	18.83	2.17
0.667	1.21	6.750	2.41	12.833	8.93	18.92	2.17
0.750	1.21	6.833	2.41	12.917	8.92	19.00	2.17
0.833	1.21	6.917	2.41	13.000	8.92	19.08	2.17
0.917	1.21	7.000	2.41	13.083	8.92	19.17	2.17
1.000	1.21	7.083	2.41	13.167	8.92	19.25	2.17
1.083	1.21	7.167	2.41	13.250	8.92	19.33	2.17
1.167	1.21	7.250	2.41	13.333	1.69	19.42	2.17
1.250	1.21	7.333	2.41	13.417	1.69	19.50	2.17
1.333	1.21	7.417	2.41	13.500	1.69	19.58	2.17
1.417	1.21	7.500	2.41	13.583	1.69	19.67	2.17
1.500	1.21	7.583	2.41	13.667	1.69	19.75	2.17
1.583	1.21	7.667	2.41	13.750	1.69	19.83	2.17
1.667	1.21	7.750	2.41	13.833	9.89	19.92	2.17
1.750	1.21	7.833	2.41	13.917	9.89	20.00	2.17
1.833	1.21	7.917	2.41	14.000	9.89	20.08	2.17
1.917	1.21	8.000	2.41	14.083	9.89	20.17	2.17
2.000	1.21	8.083	2.41	14.167	9.89	20.25	2.17
2.083	2.17	8.167	2.41	14.250	9.89	20.33	1.45
2.167	2.17	8.250	2.41	14.333	3.62	20.42	1.45
2.250	2.17	8.333	3.26	14.417	3.62	20.50	1.45
2.333	1.57	8.417	3.26	14.500	3.62	20.58	1.45
2.417	1.57	8.500	3.26	14.583	3.62	20.67	1.45
2.500	1.57	8.583	3.26	14.667	3.62	20.75	1.45
2.583	1.57	8.667	3.26	14.750	3.62	20.83	1.45
2.667	1.57	8.750	3.26	14.833	3.62	20.92	1.45
2.750	1.57	8.833	3.26	14.917	3.62	21.00	1.45
2.833	1.57	8.917	3.26	15.000	3.62	21.08	1.45
2.917	1.57	9.000	3.26	15.083	3.62	21.17	1.45
3.000	1.57	9.083	3.26	15.167	3.62	21.25	1.45
3.083	1.57	9.167	3.26	15.250	3.62	21.33	1.45
3.167	1.57	9.250	3.26	15.333	3.62	21.42	1.45
3.250	1.57	9.333	3.86	15.417	3.62	21.50	1.45
3.333	1.57	9.417	3.86	15.500	3.62	21.58	1.45
3.417	1.57	9.500	3.86	15.583	3.62	21.67	1.45
3.500	1.57	9.583	3.86	15.667	3.62	21.75	1.45
3.583	1.57	9.667	3.86	15.750	3.62	21.83	1.45
3.667	1.57	9.750	3.86	15.833	3.62	21.92	1.45
3.750	1.57	9.833	4.34	15.917	3.62	22.00	1.45
3.833	1.57	9.917	4.34	16.000	3.62	22.08	1.45
3.917	1.57	10.000	4.34	16.083	3.62	22.17	1.45
4.000	1.57	10.083	4.34	16.167	3.62	22.25	1.45
4.083	1.57	10.167	4.34	16.250	3.62	22.33	1.45
4.167	1.57	10.250	4.34	16.333	2.17	22.42	1.45
4.250	1.57	10.333	5.55	16.417	2.17	22.50	1.45
4.333	1.93	10.417	5.55	16.500	2.17	22.58	1.45
4.417	1.93	10.500	5.55	16.583	2.17	22.67	1.45
4.500	1.93	10.583	5.55	16.667	2.17	22.75	1.45
4.583	1.93	10.667	5.55	16.750	2.17	22.83	1.45
4.667	1.93	10.750	5.55	16.833	2.17	22.92	1.45
4.750	1.93	10.833	7.48	16.917	2.17	23.00	1.45
4.833	1.93	10.917	7.48	17.000	2.17	23.08	1.45

4.917	1.93	11.000	7.48	17.083	2.17	23.17	1.45
5.000	1.93	11.083	7.48	17.167	2.17	23.25	1.45
5.083	1.93	11.167	7.48	17.250	2.17	23.33	1.45
5.167	1.93	11.250	7.48	17.333	2.17	23.42	1.45
5.250	1.93	11.333	11.58	17.417	2.17	23.50	1.45
5.333	1.93	11.417	11.58	17.500	2.17	23.58	1.45
5.417	1.93	11.500	11.58	17.583	2.17	23.67	1.45
5.500	1.93	11.583	11.58	17.667	2.17	23.75	1.45
5.583	1.93	11.667	11.58	17.750	2.17	23.83	1.45
5.667	1.93	11.750	11.58	17.833	2.17	23.92	1.45
5.750	1.93	11.833	50.17	17.917	2.17	24.00	1.45
5.833	1.93	11.917	50.17	18.000	2.17	24.08	1.45
5.917	1.93	12.000	50.17	18.083	2.17	24.17	1.45
6.000	1.93	12.083	133.13	18.167	2.17	24.25	1.45
6.083	1.93	12.167	133.14	18.250	2.17		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.358 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 38.894
TOTAL RAINFALL (mm)= 120.600
RUNOFF COEFFICIENT = 0.323

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

READ STORM | Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\ada53171
Ptotal=120.60 mm | Comments: 50-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.41	12.75	17.37	19.00	2.17
0.50	1.21	6.75	2.41	13.00	8.92	19.25	2.17
0.75	1.21	7.00	2.41	13.25	8.92	19.50	2.17
1.00	1.21	7.25	2.41	13.50	1.69	19.75	2.17
1.25	1.21	7.50	2.41	13.75	1.69	20.00	2.17
1.50	1.21	7.75	2.41	14.00	9.89	20.25	2.17
1.75	1.21	8.00	2.41	14.25	9.89	20.50	1.45
2.00	1.21	8.25	2.41	14.50	3.62	20.75	1.45
2.25	2.17	8.50	3.26	14.75	3.62	21.00	1.45
2.50	1.57	8.75	3.26	15.00	3.62	21.25	1.45
2.75	1.57	9.00	3.26	15.25	3.62	21.50	1.45
3.00	1.57	9.25	3.26	15.50	3.62	21.75	1.45
3.25	1.57	9.50	3.86	15.75	3.62	22.00	1.45
3.50	1.57	9.75	3.86	16.00	3.62	22.25	1.45
3.75	1.57	10.00	4.34	16.25	3.62	22.50	1.45
4.00	1.57	10.25	4.34	16.50	2.17	22.75	1.45
4.25	1.57	10.50	5.55	16.75	2.17	23.00	1.45
4.50	1.93	10.75	5.55	17.00	2.17	23.25	1.45
4.75	1.93	11.00	7.48	17.25	2.17	23.50	1.45
5.00	1.93	11.25	7.48	17.50	2.17	23.75	1.45
5.25	1.93	11.50	11.58	17.75	2.17	24.00	1.45
5.50	1.93	11.75	11.58	18.00	2.17	24.25	1.45
5.75	1.93	12.00	50.17	18.25	2.17		
6.00	1.93	12.25	133.14	18.50	2.17		
6.25	1.93	12.50	17.37	18.75	2.17		

CALIB | STANDHYD (0153) | ID= 1 DT= 5.0 min | Area (ha)= 1.03 | Total Imp(%)= 75.00 | Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.93	12.250	133.14	18.33	2.17
0.167	0.00	6.250	1.93	12.333	17.38	18.42	2.17
0.250	0.00	6.333	2.41	12.417	17.37	18.50	2.17
0.333	1.21	6.417	2.41	12.500	17.37	18.58	2.17
0.417	1.21	6.500	2.41	12.583	17.37	18.67	2.17
0.500	1.21	6.583	2.41	12.667	17.37	18.75	2.17
0.583	1.21	6.667	2.41	12.750	17.37	18.83	2.17
0.667	1.21	6.750	2.41	12.833	8.93	18.92	2.17
0.750	1.21	6.833	2.41	12.917	8.92	19.00	2.17
0.833	1.21	6.917	2.41	13.000	8.92	19.08	2.17
0.917	1.21	7.000	2.41	13.083	8.92	19.17	2.17
1.000	1.21	7.083	2.41	13.167	8.92	19.25	2.17
1.083	1.21	7.167	2.41	13.250	8.92	19.33	2.17
1.167	1.21	7.250	2.41	13.333	1.69	19.42	2.17
1.250	1.21	7.333	2.41	13.417	1.69	19.50	2.17
1.333	1.21	7.417	2.41	13.500	1.69	19.58	2.17
1.417	1.21	7.500	2.41	13.583	1.69	19.67	2.17
1.500	1.21	7.583	2.41	13.667	1.69	19.75	2.17
1.583	1.21	7.667	2.41	13.750	1.69	19.83	2.17
1.667	1.21	7.750	2.41	13.833	9.89	19.92	2.17
1.750	1.21	7.833	2.41	13.917	9.89	20.00	2.17
1.833	1.21	7.917	2.41	14.000	9.89	20.08	2.17
1.917	1.21	8.000	2.41	14.083	9.89	20.17	2.17
2.000	1.21	8.083	2.41	14.167	9.89	20.25	2.17
2.083	2.17	8.167	2.41	14.250	9.89	20.33	1.45
2.167	2.17	8.250	2.41	14.333	3.62	20.42	1.45
2.250	2.17	8.333	3.26	14.417	3.62	20.50	1.45
2.333	1.57	8.417	3.26	14.500	3.62	20.58	1.45
2.417	1.57	8.500	3.26	14.583	3.62	20.67	1.45
2.500	1.57	8.583	3.26	14.667	3.62	20.75	1.45
2.583	1.57	8.667	3.26	14.750	3.62	20.83	1.45
2.667	1.57	8.750	3.26	14.833	3.62	20.92	1.45
2.750	1.57	8.833	3.26	14.917	3.62	21.00	1.45
2.833	1.57	8.917	3.26	15.000	3.62	21.08	1.45
2.917	1.57	9.000	3.26	15.083	3.62	21.17	1.45
3.000	1.57	9.083	3.26	15.167	3.62	21.25	1.45
3.083	1.57	9.167	3.26	15.250	3.62	21.33	1.45
3.167	1.57	9.250	3.26	15.333	3.62	21.42	1.45

3.250	1.57	9.333	3.86	15.417	3.62	21.50	1.45
3.333	1.57	9.417	3.86	15.500	3.62	21.58	1.45
3.417	1.57	9.500	3.86	15.583	3.62	21.67	1.45
3.500	1.57	9.583	3.86	15.667	3.62	21.75	1.45
3.583	1.57	9.667	3.86	15.750	3.62	21.83	1.45
3.667	1.57	9.750	3.86	15.833	3.62	21.92	1.45
3.750	1.57	9.833	4.34	15.917	3.62	22.00	1.45
3.833	1.57	9.917	4.34	16.000	3.62	22.08	1.45
3.917	1.57	10.000	4.34	16.083	3.62	22.17	1.45
4.000	1.57	10.083	4.34	16.167	3.62	22.25	1.45
4.083	1.57	10.167	4.34	16.250	3.62	22.33	1.45
4.167	1.57	10.250	4.34	16.333	2.17	22.42	1.45
4.250	1.57	10.333	5.55	16.417	2.17	22.50	1.45
4.333	1.93	10.417	5.55	16.500	2.17	22.58	1.45
4.417	1.93	10.500	5.55	16.583	2.17	22.67	1.45
4.500	1.93	10.583	5.55	16.667	2.17	22.75	1.45
4.583	1.93	10.667	5.55	16.750	2.17	22.83	1.45
4.667	1.93	10.750	5.55	16.833	2.17	22.92	1.45
4.750	1.93	10.833	7.48	16.917	2.17	23.00	1.45
4.833	1.93	10.917	7.48	17.000	2.17	23.08	1.45
4.917	1.93	11.000	7.48	17.083	2.17	23.17	1.45
5.000	1.93	11.083	7.48	17.167	2.17	23.25	1.45
5.083	1.93	11.167	7.48	17.250	2.17	23.33	1.45
5.167	1.93	11.250	7.48	17.333	2.17	23.42	1.45
5.250	1.93	11.333	11.58	17.417	2.17	23.50	1.45
5.333	1.93	11.417	11.58	17.500	2.17	23.58	1.45
5.417	1.93	11.500	11.58	17.583	2.17	23.67	1.45
5.500	1.93	11.583	11.58	17.667	2.17	23.75	1.45
5.583	1.93	11.667	11.58	17.750	2.17	23.83	1.45
5.667	1.93	11.750	11.58	17.833	2.17	23.92	1.45
5.750	1.93	11.833	50.17	17.917	2.17	24.00	1.45
5.833	1.93	11.917	50.17	18.000	2.17	24.08	1.45
5.917	1.93	12.000	50.17	18.083	2.17	24.17	1.45
6.000	1.93	12.083	133.13	18.167	2.17	24.25	1.45
6.083	1.93	12.167	133.14	18.250	2.17		

Max.Eff.Inten.(mm/hr)=	133.14	61.20	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.04 (ii)	6.09 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
			TOTALS
PEAK FLOW (cms)=	0.29	0.04	0.322 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	119.60	45.75	101.13
TOTAL RAINFALL (mm)=	120.60	120.60	120.60
RUNOFF COEFFICIENT =	0.99	0.38	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)
IN= 2---> OUT= 1

DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.322	12.25	101.13
OUTFLOW: ID= 1 (0159)	1.030	0.092	12.33	101.05

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.62
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0364

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\ada53171
Ptotal=120.60 mm	Comments: 50-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.41	12.75	17.37	19.00	2.17
0.50	1.21	6.75	2.41	13.00	8.92	19.25	2.17
0.75	1.21	7.00	2.41	13.25	8.92	19.50	2.17
1.00	1.21	7.25	2.41	13.50	1.69	19.75	2.17
1.25	1.21	7.50	2.41	13.75	1.69	20.00	2.17
1.50	1.21	7.75	2.41	14.00	9.89	20.25	2.17
1.75	1.21	8.00	2.41	14.25	9.89	20.50	1.45
2.00	1.21	8.25	2.41	14.50	3.62	20.75	1.45
2.25	2.17	8.50	3.26	14.75	3.62	21.00	1.45
2.50	1.57	8.75	3.26	15.00	3.62	21.25	1.45
2.75	1.57	9.00	3.26	15.25	3.62	21.50	1.45
3.00	1.57	9.25	3.26	15.50	3.62	21.75	1.45
3.25	1.57	9.50	3.86	15.75	3.62	22.00	1.45
3.50	1.57	9.75	3.86	16.00	3.62	22.25	1.45
3.75	1.57	10.00	4.34	16.25	3.62	22.50	1.45
4.00	1.57	10.25	4.34	16.50	2.17	22.75	1.45
4.25	1.57	10.50	5.55	16.75	2.17	23.00	1.45
4.50	1.93	10.75	5.55	17.00	2.17	23.25	1.45
4.75	1.93	11.00	7.48	17.25	2.17	23.50	1.45
5.00	1.93	11.25	7.48	17.50	2.17	23.75	1.45
5.25	1.93	11.50	11.58	17.75	2.17	24.00	1.45
5.50	1.93	11.75	11.58	18.00	2.17	24.25	1.45
5.75	1.93	12.00	50.17	18.25	2.17		
6.00	1.93	12.25	133.14	18.50	2.17		
6.25	1.93	12.50	17.37	18.75	2.17		

CALIB	
STANDHYD (0163)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00

```
Length            (m)=     320.00        40.00
Mannings n            =      0.013        0.250

    NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.93	12.250	133.14	18.33	2.17
0.167	0.00	6.250	1.93	12.333	17.38	18.42	2.17
0.250	0.00	6.333	2.41	12.417	17.37	18.50	2.17
0.333	1.21	6.417	2.41	12.500	17.37	18.58	2.17
0.417	1.21	6.500	2.41	12.583	17.37	18.67	2.17
0.500	1.21	6.583	2.41	12.667	17.37	18.75	2.17
0.583	1.21	6.667	2.41	12.750	17.37	18.83	2.17
0.667	1.21	6.750	2.41	12.833	8.93	18.92	2.17
0.750	1.21	6.833	2.41	12.917	8.92	19.00	2.17
0.833	1.21	6.917	2.41	13.000	8.92	19.08	2.17
0.917	1.21	7.000	2.41	13.083	8.92	19.17	2.17
1.000	1.21	7.083	2.41	13.167	8.92	19.25	2.17
1.083	1.21	7.167	2.41	13.250	8.92	19.33	2.17
1.167	1.21	7.250	2.41	13.333	1.69	19.42	2.17
1.250	1.21	7.333	2.41	13.417	1.69	19.50	2.17
1.333	1.21	7.417	2.41	13.500	1.69	19.58	2.17
1.417	1.21	7.500	2.41	13.583	1.69	19.67	2.17
1.500	1.21	7.583	2.41	13.667	1.69	19.75	2.17
1.583	1.21	7.667	2.41	13.750	1.69	19.83	2.17
1.667	1.21	7.750	2.41	13.833	9.89	19.92	2.17
1.750	1.21	7.833	2.41	13.917	9.89	20.00	2.17
1.833	1.21	7.917	2.41	14.000	9.89	20.08	2.17
1.917	1.21	8.000	2.41	14.083	9.89	20.17	2.17
2.000	1.21	8.083	2.41	14.167	9.89	20.25	2.17
2.083	2.17	8.167	2.41	14.250	9.89	20.33	1.45
2.167	2.17	8.250	2.41	14.333	3.62	20.42	1.45
2.250	2.17	8.333	3.26	14.417	3.62	20.50	1.45
2.333	1.57	8.417	3.26	14.500	3.62	20.58	1.45
2.417	1.57	8.500	3.26	14.583	3.62	20.67	1.45
2.500	1.57	8.583	3.26	14.667	3.62	20.75	1.45
2.583	1.57	8.667	3.26	14.750	3.62	20.83	1.45
2.667	1.57	8.750	3.26	14.833	3.62	20.92	1.45
2.750	1.57	8.833	3.26	14.917	3.62	21.00	1.45
2.833	1.57	8.917	3.26	15.000	3.62	21.08	1.45
2.917	1.57	9.000	3.26	15.083	3.62	21.17	1.45
3.000	1.57	9.083	3.26	15.167	3.62	21.25	1.45
3.083	1.57	9.167	3.26	15.250	3.62	21.33	1.45
3.167	1.57	9.250	3.26	15.333	3.62	21.42	1.45
3.250	1.57	9.333	3.86	15.417	3.62	21.50	1.45
3.333	1.57	9.417	3.86	15.500	3.62	21.58	1.45
3.417	1.57	9.500	3.86	15.583	3.62	21.67	1.45
3.500	1.57	9.583	3.86	15.667	3.62	21.75	1.45
3.583	1.57	9.667	3.86	15.750	3.62	21.83	1.45
3.667	1.57	9.750	3.86	15.833	3.62	21.92	1.45
3.750	1.57	9.833	4.34	15.917	3.62	22.00	1.45
3.833	1.57	9.917	4.34	16.000	3.62	22.08	1.45
3.917	1.57	10.000	4.34	16.083	3.62	22.17	1.45
4.000	1.57	10.083	4.34	16.167	3.62	22.25	1.45
4.083	1.57	10.167	4.34	16.250	3.62	22.33	1.45
4.167	1.57	10.250	4.34	16.333	2.17	22.42	1.45
4.250	1.57	10.333	5.55	16.417	2.17	22.50	1.45
4.333	1.93	10.417	5.55	16.500	2.17	22.58	1.45
4.417	1.93	10.500	5.55	16.583	2.17	22.67	1.45
4.500	1.93	10.583	5.55	16.667	2.17	22.75	1.45
4.583	1.93	10.667	5.55	16.750	2.17	22.83	1.45
4.667	1.93	10.750	5.55	16.833	2.17	22.92	1.45
4.750	1.93	10.833	7.48	16.917	2.17	23.00	1.45
4.833	1.93	10.917	7.48	17.000	2.17	23.08	1.45
4.917	1.93	11.000	7.48	17.083	2.17	23.17	1.45
5.000	1.93	11.083	7.48	17.167	2.17	23.25	1.45
5.083	1.93	11.167	7.48	17.250	2.17	23.33	1.45
5.167	1.93	11.250	7.48	17.333	2.17	23.42	1.45
5.250	1.93	11.333	11.58	17.417	2.17	23.50	1.45
5.333	1.93	11.417	11.58	17.500	2.17	23.58	1.45
5.417	1.93	11.500	11.58	17.583	2.17	23.67	1.45
5.500	1.93	11.583	11.58	17.667	2.17	23.75	1.45
5.583	1.93	11.667	11.58	17.750	2.17	23.83	1.45
5.667	1.93	11.750	11.58	17.833	2.17	23.92	1.45
5.750	1.93	11.833	50.17	17.917	2.17	24.00	1.45
5.833	1.93	11.917	50.17	18.000	2.17	24.08	1.45
5.917	1.93	12.000	50.17	18.083	2.17	24.17	1.45
6.000	1.93	12.083	133.13	18.167	2.17	24.25	1.45
6.083	1.93	12.167	133.14	18.250	2.17		

```
     Max.Eff.Inten.(mm/hr)=     133.14        63.74
               over (min)          5.00        15.00
     Storage Coeff.  (min)=        4.58 (ii)   13.03 (ii)
     Unit Hyd. Tpeak (min)=        5.00        15.00
     Unit Hyd. peak  (cms)=        0.23         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=        3.22         0.70        3.828 (iii)
     TIME TO PEAK    (hrs)=       12.25        12.33         12.25
     RUNOFF VOLUME    (mm)=      119.60        47.60         89.36
     TOTAL RAINFALL   (mm)=      120.60       120.60        120.60
     RUNOFF COEFFICIENT   =        0.99         0.39          0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

--------------------
| ADD HYD  (  0152)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0137):      8.10    0.358    12.75    38.89
     + ID2= 2 (  0159):      1.03    0.092    12.33   101.05
       ================================================
       ID = 3 (  0152):      9.13    0.438    12.75    45.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0152)|
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```
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)     (cms)    (hrs)     (mm)
        ID1= 3 (  0152):      9.13   0.438    12.75    45.91
      + ID2= 2 (  0163):     15.36   3.828    12.25    89.36
        ================================================
        ID = 1 (  0152):     24.49   4.075    12.25    73.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0161)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.4045     0.7000
                          0.0151     0.0001   |   0.5514     0.8000
                          0.0151     0.1301   |   0.7611     0.9000
                          0.0440     0.4217   |   0.9325     0.9500
                          0.2194     0.6000   |   1.1147     1.0500

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0152)     24.490     4.075     12.25      73.16
   OUTFLOW: ID= 1 (  0161)     24.490     0.734     13.08      73.16

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 18.01
                  TIME SHIFT OF PEAK FLOW         (min)= 50.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8872

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--------------------
| DUHYD    (  0162)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)      (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.73     13.08   73.16
     ================================================
     MAJOR SYS.(ID= 2):  18.58      0.72     13.08   73.16
     MINOR SYS.(ID= 3):   5.91      0.02      9.50   73.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\ada53171
| Ptotal=120.60 mm |    Comments: 50-Year-24-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    2.41 | 12.75   17.37 | 19.00    2.17
                0.50    1.21 |  6.75    2.41 | 13.00    8.92 | 19.25    2.17
                0.75    1.21 |  7.00    2.41 | 13.25    8.92 | 19.50    2.17
                1.00    1.21 |  7.25    2.41 | 13.50    1.69 | 19.75    2.17
                1.25    1.21 |  7.50    2.41 | 13.75    1.69 | 20.00    2.17
                1.50    1.21 |  7.75    2.41 | 14.00    9.89 | 20.25    2.17
                1.75    1.21 |  8.00    2.41 | 14.25    9.89 | 20.50    1.45
                2.00    1.21 |  8.25    2.41 | 14.50    3.62 | 20.75    1.45
                2.25    2.17 |  8.50    3.26 | 14.75    3.62 | 21.00    1.45
                2.50    1.57 |  8.75    3.26 | 15.00    3.62 | 21.25    1.45
                2.75    1.57 |  9.00    3.26 | 15.25    3.62 | 21.50    1.45
                3.00    1.57 |  9.25    3.26 | 15.50    3.62 | 21.75    1.45
                3.25    1.57 |  9.50    3.86 | 15.75    3.62 | 22.00    1.45
                3.50    1.57 |  9.75    3.86 | 16.00    3.62 | 22.25    1.45
                3.75    1.57 | 10.00    4.34 | 16.25    3.62 | 22.50    1.45
                4.00    1.57 | 10.25    4.34 | 16.50    2.17 | 22.75    1.45
                4.25    1.57 | 10.50    5.55 | 16.75    2.17 | 23.00    1.45
                4.50    1.93 | 10.75    5.55 | 17.00    2.17 | 23.25    1.45
                4.75    1.93 | 11.00    7.48 | 17.25    2.17 | 23.50    1.45
                5.00    1.93 | 11.25    7.48 | 17.50    2.17 | 23.75    1.45
                5.25    1.93 | 11.50   11.58 | 17.75    2.17 | 24.00    1.45
                5.50    1.93 | 11.75   11.58 | 18.00    2.17 | 24.25    1.45
                5.75    1.93 | 12.00   50.17 | 18.25    2.17 |
                6.00    1.93 | 12.25  133.14 | 18.50    2.17 |
                6.25    1.93 | 12.50   17.37 | 18.75    2.17 |

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| CALIB            |
| STANDHYD (  0151)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80          0.27
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      84.46         40.00
     Mannings n           =      0.013         0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083   0.00 | 6.167    1.93 |12.250  133.14 | 18.33    2.17
                0.167   0.00 | 6.250    1.93 |12.333   17.38 | 18.42    2.17
                0.250   0.00 | 6.333    2.41 |12.417   17.37 | 18.50    2.17
                0.333   1.21 | 6.417    2.41 |12.500   17.37 | 18.58    2.17
                0.417   1.21 | 6.500    2.41 |12.583   17.37 | 18.67    2.17
                0.500   1.21 | 6.583    2.41 |12.667   17.37 | 18.75    2.17
                0.583   1.21 | 6.667    2.41 |12.750   17.37 | 18.83    2.17
                0.667   1.21 | 6.750    2.41 |12.833    8.93 | 18.92    2.17
                0.750   1.21 | 6.833    2.41 |12.917    8.92 | 19.00    2.17
                0.833   1.21 | 6.917    2.41 |13.000    8.92 | 19.08    2.17
                0.917   1.21 | 7.000    2.41 |13.083    8.92 | 19.17    2.17
                1.000   1.21 | 7.083    2.41 |13.167    8.92 | 19.25    2.17
                1.083   1.21 | 7.167    2.41 |13.250    8.92 | 19.33    2.17
                1.167   1.21 | 7.250    2.41 |13.333    1.69 | 19.42    2.17
                1.250   1.21 | 7.333    2.41 |13.417    1.69 | 19.50    2.17
                1.333   1.21 | 7.417    2.41 |13.500    1.69 | 19.58    2.17
                1.417   1.21 | 7.500    2.41 |13.583    1.69 | 19.67    2.17
                1.500   1.21 | 7.583    2.41 |13.667    1.69 | 19.75    2.17
                1.583   1.21 | 7.667    2.41 |13.750    1.69 | 19.83    2.17
                1.667   1.21 | 7.750    2.41 |13.833    9.89 | 19.92    2.17
```

1.750	1.21	7.833	2.41	13.917	9.89	20.00	2.17
1.833	1.21	7.917	2.41	14.000	9.89	20.08	2.17
1.917	1.21	8.000	2.41	14.083	9.89	20.17	2.17
2.000	1.21	8.083	2.41	14.167	9.89	20.25	2.17
2.083	2.17	8.167	2.41	14.250	9.89	20.33	1.45
2.167	2.17	8.250	2.41	14.333	3.62	20.42	1.45
2.250	2.17	8.333	3.26	14.417	3.62	20.50	1.45
2.333	1.57	8.417	3.26	14.500	3.62	20.58	1.45
2.417	1.57	8.500	3.26	14.583	3.62	20.67	1.45
2.500	1.57	8.583	3.26	14.667	3.62	20.75	1.45
2.583	1.57	8.667	3.26	14.750	3.62	20.83	1.45
2.667	1.57	8.750	3.26	14.833	3.62	20.92	1.45
2.750	1.57	8.833	3.26	14.917	3.62	21.00	1.45
2.833	1.57	8.917	3.26	15.000	3.62	21.08	1.45
2.917	1.57	9.000	3.26	15.083	3.62	21.17	1.45
3.000	1.57	9.083	3.26	15.167	3.62	21.25	1.45
3.083	1.57	9.167	3.26	15.250	3.62	21.33	1.45
3.167	1.57	9.250	3.26	15.333	3.62	21.42	1.45
3.250	1.57	9.333	3.86	15.417	3.62	21.50	1.45
3.333	1.57	9.417	3.86	15.500	3.62	21.58	1.45
3.417	1.57	9.500	3.86	15.583	3.62	21.67	1.45
3.500	1.57	9.583	3.86	15.667	3.62	21.75	1.45
3.583	1.57	9.667	3.86	15.750	3.62	21.83	1.45
3.667	1.57	9.750	3.86	15.833	3.62	21.92	1.45
3.750	1.57	9.833	4.34	15.917	3.62	22.00	1.45
3.833	1.57	9.917	4.34	16.000	3.62	22.08	1.45
3.917	1.57	10.000	4.34	16.083	3.62	22.17	1.45
4.000	1.57	10.083	4.34	16.167	3.62	22.25	1.45
4.083	1.57	10.167	4.34	16.250	3.62	22.33	1.45
4.167	1.57	10.250	4.34	16.333	2.17	22.42	1.45
4.250	1.57	10.333	5.55	16.417	2.17	22.50	1.45
4.333	1.93	10.417	5.55	16.500	2.17	22.58	1.45
4.417	1.93	10.500	5.55	16.583	2.17	22.67	1.45
4.500	1.93	10.583	5.55	16.667	2.17	22.75	1.45
4.583	1.93	10.667	5.55	16.750	2.17	22.83	1.45
4.667	1.93	10.750	5.55	16.833	2.17	22.92	1.45
4.750	1.93	10.833	7.48	16.917	2.17	23.00	1.45
4.833	1.93	10.917	7.48	17.000	2.17	23.08	1.45
4.917	1.93	11.000	7.48	17.083	2.17	23.17	1.45
5.000	1.93	11.083	7.48	17.167	2.17	23.25	1.45
5.083	1.93	11.167	7.48	17.250	2.17	23.33	1.45
5.167	1.93	11.250	7.48	17.333	2.17	23.42	1.45
5.250	1.93	11.333	11.58	17.417	2.17	23.50	1.45
5.333	1.93	11.417	11.58	17.500	2.17	23.58	1.45
5.417	1.93	11.500	11.58	17.583	2.17	23.67	1.45
5.500	1.93	11.583	11.58	17.667	2.17	23.75	1.45
5.583	1.93	11.667	11.58	17.750	2.17	23.83	1.45
5.667	1.93	11.750	11.58	17.833	2.17	23.92	1.45
5.750	1.93	11.833	50.17	17.917	2.17	24.00	1.45
5.833	1.93	11.917	50.17	18.000	2.17	24.08	1.45
5.917	1.93	12.000	50.17	18.083	2.17	24.17	1.45
6.000	1.93	12.083	133.13	18.167	2.17	24.25	1.45
6.083	1.93	12.167	133.14	18.250	2.17		

Max.Eff.Inten.(mm/hr)=	133.14	103.96	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.06 (ii)	6.11 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
			TOTALS

PEAK FLOW (cms)=	0.30	0.07	0.364 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	119.60	77.98	109.19
TOTAL RAINFALL (mm)=	120.60	120.60	120.60
RUNOFF COEFFICIENT =	0.99	0.65	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0160) IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	1.070	0.364	12.25	109.19
OUTFLOW: ID= 1 (0160)	1.070	0.050	12.75	108.95

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.89
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0543

READ STORM Ptotal=120.60 mm	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\ada53171 Comments: 50-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.41	12.75	17.37	19.00	2.17
0.50	1.21	6.75	2.41	13.00	8.92	19.25	2.17
0.75	1.21	7.00	2.41	13.25	8.92	19.50	2.17
1.00	1.21	7.25	2.41	13.50	1.69	19.75	2.17
1.25	1.21	7.50	2.41	13.75	1.69	20.00	2.17
1.50	1.21	7.75	2.41	14.00	9.89	20.25	2.17
1.75	1.21	8.00	2.41	14.25	9.89	20.50	1.45
2.00	1.21	8.25	2.41	14.50	3.62	20.75	1.45
2.25	2.17	8.50	3.26	14.75	3.62	21.00	1.45
2.50	1.57	8.75	3.26	15.00	3.62	21.25	1.45
2.75	1.57	9.00	3.26	15.25	3.62	21.50	1.45
3.00	1.57	9.25	3.26	15.50	3.62	21.75	1.45
3.25	1.57	9.50	3.86	15.75	3.62	22.00	1.45
3.50	1.57	9.75	3.86	16.00	3.62	22.25	1.45
3.75	1.57	10.00	4.34	16.25	3.62	22.50	1.45
4.00	1.57	10.25	4.34	16.50	2.17	22.75	1.45
4.25	1.57	10.50	5.55	16.75	2.17	23.00	1.45
4.50	1.93	10.75	5.55	17.00	2.17	23.25	1.45
4.75	1.93	11.00	7.48	17.25	2.17	23.50	1.45

5.00	1.93	11.25	7.48	17.50	2.17	23.75	1.45
5.25	1.93	11.50	11.58	17.75	2.17	24.00	1.45
5.50	1.93	11.75	11.58	18.00	2.17	24.25	1.45
5.75	1.93	12.00	50.17	18.25	2.17		
6.00	1.93	12.25	133.14	18.50	2.17		
6.25	1.93	12.50	17.37	18.75	2.17		

CALIB	
STANDHYD (0155)	Area (ha)= 0.78
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.93	12.250	133.14	18.33	2.17
0.167	0.00	6.250	1.93	12.333	17.38	18.42	2.17
0.250	0.00	6.333	2.41	12.417	17.37	18.50	2.17
0.333	1.21	6.417	2.41	12.500	17.37	18.58	2.17
0.417	1.21	6.500	2.41	12.583	17.37	18.67	2.17
0.500	1.21	6.583	2.41	12.667	17.37	18.75	2.17
0.583	1.21	6.667	2.41	12.750	17.37	18.83	2.17
0.667	1.21	6.750	2.41	12.833	8.93	18.92	2.17
0.750	1.21	6.833	2.41	12.917	8.92	19.00	2.17
0.833	1.21	6.917	2.41	13.000	8.92	19.08	2.17
0.917	1.21	7.000	2.41	13.083	8.92	19.17	2.17
1.000	1.21	7.083	2.41	13.167	8.92	19.25	2.17
1.083	1.21	7.167	2.41	13.250	8.92	19.33	2.17
1.167	1.21	7.250	2.41	13.333	1.69	19.42	2.17
1.250	1.21	7.333	2.41	13.417	1.69	19.50	2.17
1.333	1.21	7.417	2.41	13.500	1.69	19.58	2.17
1.417	1.21	7.500	2.41	13.583	1.69	19.67	2.17
1.500	1.21	7.583	2.41	13.667	1.69	19.75	2.17
1.583	1.21	7.667	2.41	13.750	1.69	19.83	2.17
1.667	1.21	7.750	2.41	13.833	9.89	19.92	2.17
1.750	1.21	7.833	2.41	13.917	9.89	20.00	2.17
1.833	1.21	7.917	2.41	14.000	9.89	20.08	2.17
1.917	1.21	8.000	2.41	14.083	9.89	20.17	2.17
2.000	1.21	8.083	2.41	14.167	9.89	20.25	2.17
2.083	2.17	8.167	2.41	14.250	9.89	20.33	1.45
2.167	2.17	8.250	2.41	14.333	3.62	20.42	1.45
2.250	2.17	8.333	3.26	14.417	3.62	20.50	1.45
2.333	1.57	8.417	3.26	14.500	3.62	20.58	1.45
2.417	1.57	8.500	3.26	14.583	3.62	20.67	1.45
2.500	1.57	8.583	3.26	14.667	3.62	20.75	1.45
2.583	1.57	8.667	3.26	14.750	3.62	20.83	1.45
2.667	1.57	8.750	3.26	14.833	3.62	20.92	1.45
2.750	1.57	8.833	3.26	14.917	3.62	21.00	1.45
2.833	1.57	8.917	3.26	15.000	3.62	21.08	1.45
2.917	1.57	9.000	3.26	15.083	3.62	21.17	1.45
3.000	1.57	9.083	3.26	15.167	3.62	21.25	1.45
3.083	1.57	9.167	3.26	15.250	3.62	21.33	1.45
3.167	1.57	9.250	3.26	15.333	3.62	21.42	1.45
3.250	1.57	9.333	3.86	15.417	3.62	21.50	1.45
3.333	1.57	9.417	3.86	15.500	3.62	21.58	1.45
3.417	1.57	9.500	3.86	15.583	3.62	21.67	1.45
3.500	1.57	9.583	3.86	15.667	3.62	21.75	1.45
3.583	1.57	9.667	3.86	15.750	3.62	21.83	1.45
3.667	1.57	9.750	3.86	15.833	3.62	21.92	1.45
3.750	1.57	9.833	4.34	15.917	3.62	22.00	1.45
3.833	1.57	9.917	4.34	16.000	3.62	22.08	1.45
3.917	1.57	10.000	4.34	16.083	3.62	22.17	1.45
4.000	1.57	10.083	4.34	16.167	3.62	22.25	1.45
4.083	1.57	10.167	4.34	16.250	3.62	22.33	1.45
4.167	1.57	10.250	4.34	16.333	2.17	22.42	1.45
4.250	1.57	10.333	5.55	16.417	2.17	22.50	1.45
4.333	1.93	10.417	5.55	16.500	2.17	22.58	1.45
4.417	1.93	10.500	5.55	16.583	2.17	22.67	1.45
4.500	1.93	10.583	5.55	16.667	2.17	22.75	1.45
4.583	1.93	10.667	5.55	16.750	2.17	22.83	1.45
4.667	1.93	10.750	5.55	16.833	2.17	22.92	1.45
4.750	1.93	10.833	7.48	16.917	2.17	23.00	1.45
4.833	1.93	10.917	7.48	17.000	2.17	23.08	1.45
4.917	1.93	11.000	7.48	17.083	2.17	23.17	1.45
5.000	1.93	11.083	7.48	17.167	2.17	23.25	1.45
5.083	1.93	11.167	7.48	17.250	2.17	23.33	1.45
5.167	1.93	11.250	7.48	17.333	2.17	23.42	1.45
5.250	1.93	11.333	11.58	17.417	2.17	23.50	1.45
5.333	1.93	11.417	11.58	17.500	2.17	23.58	1.45
5.417	1.93	11.500	11.58	17.583	2.17	23.67	1.45
5.500	1.93	11.583	11.58	17.667	2.17	23.75	1.45
5.583	1.93	11.667	11.58	17.750	2.17	23.83	1.45
5.667	1.93	11.750	11.58	17.833	2.17	23.92	1.45
5.750	1.93	11.833	50.17	17.917	2.17	24.00	1.45
5.833	1.93	11.917	50.17	18.000	2.17	24.08	1.45
5.917	1.93	12.000	50.17	18.083	2.17	24.17	1.45
6.000	1.93	12.083	133.13	18.167	2.17	24.25	1.45
6.083	1.93	12.167	133.14	18.250	2.17		

Max.Eff.Inten.	(mm/hr)=	133.14	103.96	
over	(min)	5.00	10.00	
Storage Coeff.	(min)=	1.87 (ii)	5.93 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.32	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.22	0.05	0.266 (iii)
TIME TO PEAK	(hrs)=	12.25	12.25	12.25
RUNOFF VOLUME	(mm)=	119.60	77.99	109.19
TOTAL RAINFALL	(mm)=	120.60	120.60	120.60
RUNOFF COEFFICIENT	=	0.99	0.65	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0157)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0750     0.0396

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0155)    0.780     0.266     12.25     109.19
   OUTFLOW: ID= 1 (  0157)    0.780     0.062     12.42     109.03

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.23
                  TIME SHIFT OF PEAK FLOW         (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0327

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\ada53171
| Ptotal=120.60 mm |    Comments: 50-Year-24-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    2.41 | 12.75   17.37 | 19.00    2.17
                0.50    1.21 |  6.75    2.41 | 13.00    8.92 | 19.25    2.17
                0.75    1.21 |  7.00    2.41 | 13.25    8.92 | 19.50    2.17
                1.00    1.21 |  7.25    2.41 | 13.50    1.69 | 19.75    2.17
                1.25    1.21 |  7.50    2.41 | 13.75    1.69 | 20.00    2.17
                1.50    1.21 |  7.75    2.41 | 14.00    9.89 | 20.25    2.17
                1.75    1.21 |  8.00    2.41 | 14.25    9.89 | 20.50    1.45
                2.00    1.21 |  8.25    2.41 | 14.50    3.62 | 20.75    1.45
                2.25    2.17 |  8.50    3.26 | 14.75    3.62 | 21.00    1.45
                2.50    1.57 |  8.75    3.26 | 15.00    3.62 | 21.25    1.45
                2.75    1.57 |  9.00    3.26 | 15.25    3.62 | 21.50    1.45
                3.00    1.57 |  9.25    3.26 | 15.50    3.62 | 21.75    1.45
                3.25    1.57 |  9.50    3.86 | 15.75    3.62 | 22.00    1.45
                3.50    1.57 |  9.75    3.86 | 16.00    3.62 | 22.25    1.45
                3.75    1.57 | 10.00    4.34 | 16.25    3.62 | 22.50    1.45
                4.00    1.57 | 10.25    4.34 | 16.50    2.17 | 22.75    1.45
                4.25    1.57 | 10.50    5.55 | 16.75    2.17 | 23.00    1.45
                4.50    1.93 | 10.75    5.55 | 17.00    2.17 | 23.25    1.45
                4.75    1.93 | 11.00    7.48 | 17.25    2.17 | 23.50    1.45
                5.00    1.93 | 11.25    7.48 | 17.50    2.17 | 23.75    1.45
                5.25    1.93 | 11.50   11.58 | 17.75    2.17 | 24.00    1.45
                5.50    1.93 | 11.75   11.58 | 18.00    2.17 | 24.25    1.45
                5.75    1.93 | 12.00   50.17 | 18.25    2.17 |
                6.00    1.93 | 12.25  133.14 | 18.50    2.17 |
                6.25    1.93 | 12.50   17.37 | 18.75    2.17 |

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| CALIB            |
| STANDHYD (  0156)|   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00

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                                  IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=        0.19          0.08
      Dep. Storage     (mm)=        1.00          5.00
      Average Slope     (%)=        1.00          2.00
      Length            (m)=       42.43         40.00
      Mannings n           =       0.013         0.250

          NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
       TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
        hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
       0.083    0.00 | 6.167    1.93 |12.250  133.14 | 18.33    2.17
       0.167    0.00 | 6.250    1.93 |12.333   17.38 | 18.42    2.17
       0.250    0.00 | 6.333    2.41 |12.417   17.37 | 18.50    2.17
       0.333    1.21 | 6.417    2.41 |12.500   17.37 | 18.58    2.17
       0.417    1.21 | 6.500    2.41 |12.583   17.37 | 18.67    2.17
       0.500    1.21 | 6.583    2.41 |12.667   17.37 | 18.75    2.17
       0.583    1.21 | 6.667    2.41 |12.750   17.37 | 18.83    2.17
       0.667    1.21 | 6.750    2.41 |12.833    8.93 | 18.92    2.17
       0.750    1.21 | 6.833    2.41 |12.917    8.92 | 19.00    2.17
       0.833    1.21 | 6.917    2.41 |13.000    8.92 | 19.08    2.17
       0.917    1.21 | 7.000    2.41 |13.083    8.92 | 19.17    2.17
       1.000    1.21 | 7.083    2.41 |13.167    8.92 | 19.25    2.17
       1.083    1.21 | 7.167    2.41 |13.250    8.92 | 19.33    2.17
       1.167    1.21 | 7.250    2.41 |13.333    1.69 | 19.42    2.17
       1.250    1.21 | 7.333    2.41 |13.417    1.69 | 19.50    2.17
       1.333    1.21 | 7.417    2.41 |13.500    1.69 | 19.58    2.17
       1.417    1.21 | 7.500    2.41 |13.583    1.69 | 19.67    2.17
       1.500    1.21 | 7.583    2.41 |13.667    1.69 | 19.75    2.17
       1.583    1.21 | 7.667    2.41 |13.750    1.69 | 19.83    2.17
       1.667    1.21 | 7.750    2.41 |13.833    9.89 | 19.92    2.17
       1.750    1.21 | 7.833    2.41 |13.917    9.89 | 20.00    2.17
       1.833    1.21 | 7.917    2.41 |14.000    9.89 | 20.08    2.17
       1.917    1.21 | 8.000    2.41 |14.083    9.89 | 20.17    2.17
       2.000    1.21 | 8.083    2.41 |14.167    9.89 | 20.25    2.17
       2.083    2.17 | 8.167    2.41 |14.250    9.89 | 20.33    1.45
       2.167    2.17 | 8.250    2.41 |14.333    3.62 | 20.42    1.45
       2.250    2.17 | 8.333    3.26 |14.417    3.62 | 20.50    1.45
       2.333    1.57 | 8.417    3.26 |14.500    3.62 | 20.58    1.45
       2.417    1.57 | 8.500    3.26 |14.583    3.62 | 20.67    1.45
       2.500    1.57 | 8.583    3.26 |14.667    3.62 | 20.75    1.45
       2.583    1.57 | 8.667    3.26 |14.750    3.62 | 20.83    1.45
       2.667    1.57 | 8.750    3.26 |14.833    3.62 | 20.92    1.45
       2.750    1.57 | 8.833    3.26 |14.917    3.62 | 21.00    1.45
       2.833    1.57 | 8.917    3.26 |15.000    3.62 | 21.08    1.45
       2.917    1.57 | 9.000    3.26 |15.083    3.62 | 21.17    1.45
       3.000    1.57 | 9.083    3.26 |15.167    3.62 | 21.25    1.45
       3.083    1.57 | 9.167    3.26 |15.250    3.62 | 21.33    1.45
       3.167    1.57 | 9.250    3.26 |15.333    3.62 | 21.42    1.45
       3.250    1.57 | 9.333    3.86 |15.417    3.62 | 21.50    1.45
       3.333    1.57 | 9.417    3.86 |15.500    3.62 | 21.58    1.45
       3.417    1.57 | 9.500    3.86 |15.583    3.62 | 21.67    1.45
       3.500    1.57 | 9.583    3.86 |15.667    3.62 | 21.75    1.45
       3.583    1.57 | 9.667    3.86 |15.750    3.62 | 21.83    1.45
       3.667    1.57 | 9.750    3.86 |15.833    3.62 | 21.92    1.45
       3.750    1.57 | 9.833    4.34 |15.917    3.62 | 22.00    1.45
       3.833    1.57 | 9.917    4.34 |16.000    3.62 | 22.08    1.45
```

	3.917	1.57	10.000	4.34	16.083	3.62	22.17	1.45
	4.000	1.57	10.083	4.34	16.167	3.62	22.25	1.45
	4.083	1.57	10.167	4.34	16.250	3.62	22.33	1.45
	4.167	1.57	10.250	4.34	16.333	2.17	22.42	1.45
	4.250	1.57	10.333	5.55	16.417	2.17	22.50	1.45
	4.333	1.93	10.417	5.55	16.500	2.17	22.58	1.45
	4.417	1.93	10.500	5.55	16.583	2.17	22.67	1.45
	4.500	1.93	10.583	5.55	16.667	2.17	22.75	1.45
	4.583	1.93	10.667	5.55	16.750	2.17	22.83	1.45
	4.667	1.93	10.750	5.55	16.833	2.17	22.92	1.45
	4.750	1.93	10.833	7.48	16.917	2.17	23.00	1.45
	4.833	1.93	10.917	7.48	17.000	2.17	23.08	1.45
	4.917	1.93	11.000	7.48	17.083	2.17	23.17	1.45
	5.000	1.93	11.083	7.48	17.167	2.17	23.25	1.45
	5.083	1.93	11.167	7.48	17.250	2.17	23.33	1.45
	5.167	1.93	11.250	7.48	17.333	2.17	23.42	1.45
	5.250	1.93	11.333	11.58	17.417	2.17	23.50	1.45
	5.333	1.93	11.417	11.58	17.500	2.17	23.58	1.45
	5.417	1.93	11.500	11.58	17.583	2.17	23.67	1.45
	5.500	1.93	11.583	11.58	17.667	2.17	23.75	1.45
	5.583	1.93	11.667	11.58	17.750	2.17	23.83	1.45
	5.667	1.93	11.750	11.58	17.833	2.17	23.92	1.45
	5.750	1.93	11.833	50.17	17.917	2.17	24.00	1.45
	5.833	1.93	11.917	50.17	18.000	2.17	24.08	1.45
	5.917	1.93	12.000	50.17	18.083	2.17	24.17	1.45
	6.000	1.93	12.083	133.13	18.167	2.17	24.25	1.45
	6.083	1.93	12.167	133.14	18.250	2.17		

Max.Eff.Inten.(mm/hr)=	133.14	61.20	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.36 (ii)	5.76 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.33	0.15	
			TOTALS
PEAK FLOW (cms)=	0.07	0.01	0.082 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	119.60	45.75	98.17
TOTAL RAINFALL (mm)=	120.60	120.60	120.60
RUNOFF COEFFICIENT =	0.99	0.38	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0154)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000		0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0156)	0.270	0.082	12.25	98.17
OUTFLOW: ID= 1 (0154)	0.270	0.036	12.33	98.00

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.10
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0076

ADD HYD (0158)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0154):	0.27	0.036	12.33	98.00
+ ID2= 2 (0157):	0.78	0.062	12.42	109.03
ID = 3 (0158):	1.05	0.098	12.33	106.20

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0158)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0158):	1.05	0.098	12.33	106.20
+ ID2= 2 (0160):	1.07	0.050	12.75	108.95
ID = 1 (0158):	2.12	0.146	12.33	107.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0158)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0158):	2.12	0.146	12.33	107.58
+ ID2= 2 (0162):	18.58	0.719	13.08	73.16
ID = 3 (0158):	20.70	0.836	13.00	76.69

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

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

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\30fe482f-daf9-4895-ad44-288a8abd70f5\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\30fe482f-daf9-4895-ad44-288a8abd70f5\scen

DATE: 10-31-2019 TIME: 10:47:24

USER:

COMMENTS: _____

****
** SIMULATION : 5-50-Year-4-Hour-Chicago-Barr **
****

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\66deb195
Ptotal= 79.45 mm	Comments: 50-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.93	1.17	40.22	2.17	13.20	3.17	6.98
0.33	6.74	1.33	164.22	2.33	11.37	3.33	6.51
0.50	7.85	1.50	51.92	2.50	10.03	3.50	6.11
0.67	9.50	1.67	28.58	2.67	9.00	3.67	5.77
0.83	12.27	1.83	20.23	2.83	8.19	3.83	5.46
1.00	18.04	2.00	15.88	3.00	7.53	4.00	5.19

CALIB	
NASHYD (0137)	Area (ha)= 8.10 Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.59

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.93	1.083	40.22	2.083	13.20	3.08	6.98
0.167	5.93	1.167	40.22	2.167	13.20	3.17	6.98
0.250	6.74	1.250	164.22	2.250	11.37	3.25	6.51
0.333	6.74	1.333	164.22	2.333	11.37	3.33	6.51
0.417	7.85	1.417	51.92	2.417	10.03	3.42	6.11
0.500	7.85	1.500	51.92	2.500	10.03	3.50	6.11
0.583	9.50	1.583	28.58	2.583	9.00	3.58	5.77
0.667	9.50	1.667	28.58	2.667	9.00	3.67	5.77
0.750	12.27	1.750	20.23	2.750	8.19	3.75	5.46
0.833	12.27	1.833	20.23	2.833	8.19	3.83	5.46
0.917	18.04	1.917	15.88	2.917	7.53	3.92	5.19
1.000	18.04	2.000	15.88	3.000	7.53	4.00	5.19

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.210 (i)
TIME TO PEAK (hrs)= 2.083
RUNOFF VOLUME (mm)= 18.329
TOTAL RAINFALL (mm)= 79.453
RUNOFF COEFFICIENT = 0.231

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\66deb195
Ptotal= 79.45 mm	Comments: 50-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.93	1.17	40.22	2.17	13.20	3.17	6.98
0.33	6.74	1.33	164.22	2.33	11.37	3.33	6.51
0.50	7.85	1.50	51.92	2.50	10.03	3.50	6.11
0.67	9.50	1.67	28.58	2.67	9.00	3.67	5.77
0.83	12.27	1.83	20.23	2.83	8.19	3.83	5.46
1.00	18.04	2.00	15.88	3.00	7.53	4.00	5.19

CALIB	
STANDHYD (0153)	Area (ha)= 1.03
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.77	0.26
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	82.87	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.93	1.083	40.22	2.083	13.20	3.08	6.98
0.167	5.93	1.167	40.22	2.167	13.20	3.17	6.98

0.250	6.74	1.250	164.22	2.250	11.37	3.25	6.51
0.333	6.74	1.333	164.22	2.333	11.37	3.33	6.51
0.417	7.85	1.417	51.92	2.417	10.03	3.42	6.11
0.500	7.85	1.500	51.92	2.500	10.03	3.50	6.11
0.583	9.50	1.583	28.58	2.583	9.00	3.58	5.77
0.667	9.50	1.667	28.58	2.667	9.00	3.67	5.77
0.750	12.27	1.750	20.23	2.750	8.19	3.75	5.46
0.833	12.27	1.833	20.23	2.833	8.19	3.83	5.46
0.917	18.04	1.917	15.88	2.917	7.53	3.92	5.19
1.000	18.04	2.000	15.88	3.000	7.53	4.00	5.19

Max.Eff.Inten.(mm/hr)=	164.22	38.20	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.87 (ii)	5.60 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.32	0.15	
			TOTALS
PEAK FLOW (cms)=	0.35	0.02	0.369 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	78.45	22.09	64.36
TOTAL RAINFALL (mm)=	79.45	79.45	79.45
RUNOFF COEFFICIENT =	0.99	0.28	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.369	1.33	64.36
OUTFLOW: ID= 1 (0159)	1.030	0.080	1.58	64.27

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.69
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0316

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\66deb195
Ptotal= 79.45 mm	Comments: 50-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.93	1.17	40.22	2.17	13.20	3.17	6.98
0.33	6.74	1.33	164.22	2.33	11.37	3.33	6.51
0.50	7.85	1.50	51.92	2.50	10.03	3.50	6.11
0.67	9.50	1.67	28.58	2.67	9.00	3.67	5.77
0.83	12.27	1.83	20.23	2.83	8.19	3.83	5.46
1.00	18.04	2.00	15.88	3.00	7.53	4.00	5.19

CALIB	
STANDHYD (0163)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.93	1.083	40.22	2.083	13.20	3.08	6.98
0.167	5.93	1.167	40.22	2.167	13.20	3.17	6.98
0.250	6.74	1.250	164.22	2.250	11.37	3.25	6.51
0.333	6.74	1.333	164.22	2.333	11.37	3.33	6.51
0.417	7.85	1.417	51.92	2.417	10.03	3.42	6.11
0.500	7.85	1.500	51.92	2.500	10.03	3.50	6.11
0.583	9.50	1.583	28.58	2.583	9.00	3.58	5.77
0.667	9.50	1.667	28.58	2.667	9.00	3.67	5.77
0.750	12.27	1.750	20.23	2.750	8.19	3.75	5.46
0.833	12.27	1.833	20.23	2.833	8.19	3.83	5.46
0.917	18.04	1.917	15.88	2.917	7.53	3.92	5.19
1.000	18.04	2.000	15.88	3.000	7.53	4.00	5.19

Max.Eff.Inten.(mm/hr)=	164.22	33.09	
over (min)	5.00	20.00	
Storage Coeff. (min)=	4.21 (ii)	15.20 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.24	0.07	
			TOTALS
PEAK FLOW (cms)=	3.77	0.36	3.899 (iii)
TIME TO PEAK (hrs)=	1.33	1.58	1.33
RUNOFF VOLUME (mm)=	78.45	23.14	55.22
TOTAL RAINFALL (mm)=	79.45	79.45	79.45
RUNOFF COEFFICIENT =	0.99	0.29	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| ADD HYD  (  0152)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0137):     8.10   0.210     2.08    18.33
      + ID2= 2 (  0159):     1.03   0.080     1.58    64.27
        ================================================
        ID = 3 (  0152):     9.13   0.281     2.00    23.51

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

```
--------------------
| ADD HYD  (  0152)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0152):     9.13   0.281     2.00    23.51
      + ID2= 2 (  0163):    15.36   3.899     1.33    55.22
        ================================================
        ID = 1 (  0152):    24.49   3.987     1.33    43.40

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

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--------------------
| RESERVOIR(  0161)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4045     0.7000
                         0.0151     0.0001   |   0.5514     0.8000
                         0.0151     0.1301   |   0.7611     0.9000
                         0.0440     0.4217   |   0.9325     0.9500
                         0.2194     0.6000   |   1.1147     1.0500

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0152)     24.490     3.987      1.33      43.40
   OUTFLOW: ID= 1 (  0161)     24.490     0.431      3.00      43.40

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.80
                  TIME SHIFT OF PEAK FLOW          (min)=100.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7178
```

```
--------------------
| DUHYD    (  0162)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.43      3.00   43.40
     ================================================
     MAJOR SYS.(ID= 2):  16.54      0.42      3.00   43.40
     MINOR SYS.(ID= 3):   7.95      0.02      1.25   43.40

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

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\66deb195
| Ptotal= 79.45 mm |    Comments: 50-Year-4-Hour-Chicago
--------------------

                TIME     RAIN |  TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                 hrs   mm/hr |   hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
                0.17     5.93 |  1.17    40.22 |  2.17    13.20 |  3.17     6.98
                0.33     6.74 |  1.33   164.22 |  2.33    11.37 |  3.33     6.51
                0.50     7.85 |  1.50    51.92 |  2.50    10.03 |  3.50     6.11
                0.67     9.50 |  1.67    28.58 |  2.67     9.00 |  3.67     5.77
                0.83    12.27 |  1.83    20.23 |  2.83     8.19 |  3.83     5.46
                1.00    18.04 |  2.00    15.88 |  3.00     7.53 |  4.00     5.19
```

```
--------------------
| CALIB            |
| STANDHYD (  0151)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80          0.27
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      84.46         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
                TIME     RAIN |  TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                 hrs   mm/hr |   hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
               0.083     5.93 | 1.083    40.22 | 2.083    13.20 |  3.08     6.98
               0.167     5.93 | 1.167    40.22 | 2.167    13.20 |  3.17     6.98
               0.250     6.74 | 1.250   164.22 | 2.250    11.37 |  3.25     6.51
               0.333     6.74 | 1.333   164.22 | 2.333    11.37 |  3.33     6.51
               0.417     7.85 | 1.417    51.92 | 2.417    10.03 |  3.42     6.11
               0.500     7.85 | 1.500    51.92 | 2.500    10.03 |  3.50     6.11
               0.583     9.50 | 1.583    28.58 | 2.583     9.00 |  3.58     5.77
               0.667     9.50 | 1.667    28.58 | 2.667     9.00 |  3.67     5.77
               0.750    12.27 | 1.750    20.23 | 2.750     8.19 |  3.75     5.46
               0.833    12.27 | 1.833    20.23 | 2.833     8.19 |  3.83     5.46
               0.917    18.04 | 1.917    15.88 | 2.917     7.53 |  3.92     5.19
               1.000    18.04 | 2.000    15.88 | 3.000     7.53 |  4.00     5.19

     Max.Eff.Inten.(mm/hr)=     164.22        84.53
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.89 (ii)    5.62 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.36         0.05          0.407 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      78.45        42.57          69.48
     TOTAL RAINFALL   (mm)=      79.45        79.45          79.45
     RUNOFF COEFFICIENT   =       0.99         0.54           0.87
```

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0160)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0600     0.0645

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0151)      1.070     0.407      1.33      69.48
   OUTFLOW: ID= 1 (  0160)      1.070     0.043      2.00      69.23

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.44
                  TIME SHIFT OF PEAK FLOW         (min)= 40.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0457

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\66deb195
| Ptotal= 79.45 mm |    Comments: 50-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.93 |  1.17   40.22 |  2.17   13.20 |  3.17    6.98
                0.33    6.74 |  1.33  164.22 |  2.33   11.37 |  3.33    6.51
                0.50    7.85 |  1.50   51.92 |  2.50   10.03 |  3.50    6.11
                0.67    9.50 |  1.67   28.58 |  2.67    9.00 |  3.67    5.77
                0.83   12.27 |  1.83   20.23 |  2.83    8.19 |  3.83    5.46
                1.00   18.04 |  2.00   15.88 |  3.00    7.53 |  4.00    5.19

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

--------------------
| CALIB            |
| STANDHYD (  0155)|   Area    (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

```
                    ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.083    5.93 | 1.083   40.22 | 2.083   13.20 |  3.08    6.98
0.167    5.93 | 1.167   40.22 | 2.167   13.20 |  3.17    6.98
0.250    6.74 | 1.250  164.22 | 2.250   11.37 |  3.25    6.51
0.333    6.74 | 1.333  164.22 | 2.333   11.37 |  3.33    6.51
0.417    7.85 | 1.417   51.92 | 2.417   10.03 |  3.42    6.11
0.500    7.85 | 1.500   51.92 | 2.500   10.03 |  3.50    6.11
0.583    9.50 | 1.583   28.58 | 2.583    9.00 |  3.58    5.77
0.667    9.50 | 1.667   28.58 | 2.667    9.00 |  3.67    5.77
0.750   12.27 | 1.750   20.23 | 2.750    8.19 |  3.75    5.46
0.833   12.27 | 1.833   20.23 | 2.833    8.19 |  3.83    5.46
0.917   18.04 | 1.917   15.88 | 2.917    7.53 |  3.92    5.19
1.000   18.04 | 2.000   15.88 | 3.000    7.53 |  4.00    5.19

     Max.Eff.Inten.(mm/hr)=     164.22        84.53
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      1.72 (ii)    5.45 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.32         0.16
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.27         0.04          0.298 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=     78.45        42.57          69.48
     TOTAL RAINFALL   (mm)=     79.45        79.45          79.45
     RUNOFF COEFFICIENT   =      0.99         0.54           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0157)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0750     0.0396

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0155)      0.780     0.298      1.33      69.48
   OUTFLOW: ID= 1 (  0157)      0.780     0.053      1.75      69.32

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.76
                  TIME SHIFT OF PEAK FLOW         (min)= 25.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0280

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\66deb195
| Ptotal= 79.45 mm |    Comments: 50-Year-4-Hour-Chicago
```

```
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.93 |  1.17   40.22 |  2.17   13.20 |  3.17    6.98
                0.33    6.74 |  1.33  164.22 |  2.33   11.37 |  3.33    6.51
                0.50    7.85 |  1.50   51.92 |  2.50   10.03 |  3.50    6.11
                0.67    9.50 |  1.67   28.58 |  2.67    9.00 |  3.67    5.77
                0.83   12.27 |  1.83   20.23 |  2.83    8.19 |  3.83    5.46
                1.00   18.04 |  2.00   15.88 |  3.00    7.53 |  4.00    5.19

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

--------------------
| CALIB            |
| STANDHYD (  0156)|   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    5.93 | 1.083   40.22 | 2.083   13.20 |  3.08    6.98
               0.167    5.93 | 1.167   40.22 | 2.167   13.20 |  3.17    6.98
               0.250    6.74 | 1.250  164.22 | 2.250   11.37 |  3.25    6.51
               0.333    6.74 | 1.333  164.22 | 2.333   11.37 |  3.33    6.51
               0.417    7.85 | 1.417   51.92 | 2.417   10.03 |  3.42    6.11
               0.500    7.85 | 1.500   51.92 | 2.500   10.03 |  3.50    6.11
               0.583    9.50 | 1.583   28.58 | 2.583    9.00 |  3.58    5.77
               0.667    9.50 | 1.667   28.58 | 2.667    9.00 |  3.67    5.77
               0.750   12.27 | 1.750   20.23 | 2.750    8.19 |  3.75    5.46
               0.833   12.27 | 1.833   20.23 | 2.833    8.19 |  3.83    5.46
               0.917   18.04 | 1.917   15.88 | 2.917    7.53 |  3.92    5.19
               1.000   18.04 | 2.000   15.88 | 3.000    7.53 |  4.00    5.19

     Max.Eff.Inten.(mm/hr)=     164.22        38.20
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.25 (ii)    5.30 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.16
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.01       0.093 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42        1.33
     RUNOFF VOLUME    (mm)=      78.45        22.09       62.10
     TOTAL RAINFALL   (mm)=      79.45        79.45       79.45
     RUNOFF COEFFICIENT   =       0.99         0.28        0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)         0.270     0.093     1.33       62.10
   OUTFLOW: ID= 1 (  0154)         0.270     0.031     1.50       61.92

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.55
                TIME SHIFT OF PEAK FLOW          (min)= 10.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0063

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0154):     0.27    0.031     1.50    61.92
      + ID2= 2 (  0157):     0.78    0.053     1.75    69.32
        ==================================================
        ID = 3 (  0158):     1.05    0.083     1.58    67.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0158):     1.05    0.083     1.58    67.41
      + ID2= 2 (  0160):     1.07    0.043     2.00    69.23
        ==================================================
        ID = 1 (  0158):     2.12    0.122     1.67    68.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0158):     2.12    0.122     1.67    68.33
      + ID2= 2 (  0162):    16.54    0.415     3.00    43.40
        ==================================================
        ID = 3 (  0158):    18.66    0.501     2.83    46.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\91123e4d-39af-4d1f-9940-e569c9ca1ea9\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\91123e4d-39af-4d1f-9940-e569c9ca1ea9\scen


DATE: 10-31-2019                          TIME: 10:47:24

USER:



COMMENTS: _____________________________________________________________

--------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : 5-50-Year-4-Hour-Chicago-MTO  **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 773.304
| Ptotal= 67.06 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.64 |  1.17   26.68 |  2.17   11.15 |  3.17    6.50
                0.33    6.30 |  1.33  154.65 |  2.33    9.85 |  3.33    6.12
                0.50    7.19 |  1.50   32.75 |  2.50    8.86 |  3.50    5.79
                0.67    8.47 |  1.67   20.65 |  2.67    8.09 |  3.67    5.50
                0.83   10.49 |  1.83   15.75 |  2.83    7.46 |  3.83    5.24
                1.00   14.35 |  2.00   12.97 |  3.00    6.94 |  4.00    5.01

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--------------------
| CALIB            |
| NASHYD   (  0137)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    5.64 | 1.083   26.68 | 2.083   11.15 |  3.08    6.50
                0.167    5.64 | 1.167   26.68 | 2.167   11.15 |  3.17    6.50
                0.250    6.30 | 1.250  154.65 | 2.250    9.85 |  3.25    6.12
                0.333    6.30 | 1.333  154.65 | 2.333    9.85 |  3.33    6.12
                0.417    7.19 | 1.417   32.75 | 2.417    8.86 |  3.42    5.79
                0.500    7.19 | 1.500   32.75 | 2.500    8.86 |  3.50    5.79
                0.583    8.47 | 1.583   20.65 | 2.583    8.09 |  3.58    5.50
                0.667    8.47 | 1.667   20.65 | 2.667    8.09 |  3.67    5.50
                0.750   10.49 | 1.750   15.75 | 2.750    7.46 |  3.75    5.24
                0.833   10.49 | 1.833   15.75 | 2.833    7.46 |  3.83    5.24
                0.917   14.35 | 1.917   12.97 | 2.917    6.94 |  3.92    5.01
                1.000   14.35 | 2.000   12.97 | 3.000    6.94 |  4.00    5.01

    Unit Hyd Qpeak  (cms)=   0.524

    PEAK FLOW       (cms)=   0.144 (i)
    TIME TO PEAK    (hrs)=   2.083
    RUNOFF VOLUME    (mm)=  13.280
    TOTAL RAINFALL   (mm)=  67.063
    RUNOFF COEFFICIENT   =   0.198

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

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 773.304
| Ptotal= 67.06 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.17    5.64 |  1.17   26.68 |  2.17   11.15 |  3.17    6.50
                 0.33    6.30 |  1.33  154.65 |  2.33    9.85 |  3.33    6.12
                 0.50    7.19 |  1.50   32.75 |  2.50    8.86 |  3.50    5.79
                 0.67    8.47 |  1.67   20.65 |  2.67    8.09 |  3.67    5.50
                 0.83   10.49 |  1.83   15.75 |  2.83    7.46 |  3.83    5.24
                 1.00   14.35 |  2.00   12.97 |  3.00    6.94 |  4.00    5.01
```

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--------------------
| CALIB            |
| STANDHYD (  0153)|   Area    (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.26
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      82.87        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
      TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
       hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
     0.083    5.64 | 1.083   26.68 | 2.083   11.15 |  3.08    6.50
     0.167    5.64 | 1.167   26.68 | 2.167   11.15 |  3.17    6.50
     0.250    6.30 | 1.250  154.65 | 2.250    9.85 |  3.25    6.12
     0.333    6.30 | 1.333  154.65 | 2.333    9.85 |  3.33    6.12
     0.417    7.19 | 1.417   32.75 | 2.417    8.86 |  3.42    5.79
     0.500    7.19 | 1.500   32.75 | 2.500    8.86 |  3.50    5.79
     0.583    8.47 | 1.583   20.65 | 2.583    8.09 |  3.58    5.50
     0.667    8.47 | 1.667   20.65 | 2.667    8.09 |  3.67    5.50
     0.750   10.49 | 1.750   15.75 | 2.750    7.46 |  3.75    5.24
     0.833   10.49 | 1.833   15.75 | 2.833    7.46 |  3.83    5.24
     0.917   14.35 | 1.917   12.97 | 2.917    6.94 |  3.92    5.01
     1.000   14.35 | 2.000   12.97 | 3.000    6.94 |  4.00    5.01

     Max.Eff.Inten.(mm/hr)=     154.65        30.70
                  over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.92 (ii)    5.74 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.33         0.02        0.344 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42         1.33
     RUNOFF VOLUME    (mm)=      66.06        16.15        53.58
     TOTAL RAINFALL   (mm)=      67.06        67.06        67.06
     RUNOFF COEFFICIENT   =       0.99         0.24         0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0159)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1120      0.0442

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0153)    1.030     0.344      1.33      53.58
   OUTFLOW: ID= 1 (  0159)    1.030     0.066      1.58      53.49

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.18
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0262

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| CHICAGO STORM    |    IDF curve parameters: A= 773.304
| Ptotal= 67.06 mm |                          B=   0.000
--------------------                          C=   0.699
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33

      TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
       hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
      0.17    5.64 |  1.17   26.68 |  2.17   11.15 |  3.17    6.50
      0.33    6.30 |  1.33  154.65 |  2.33    9.85 |  3.33    6.12
      0.50    7.19 |  1.50   32.75 |  2.50    8.86 |  3.50    5.79
      0.67    8.47 |  1.67   20.65 |  2.67    8.09 |  3.67    5.50
      0.83   10.49 |  1.83   15.75 |  2.83    7.46 |  3.83    5.24
      1.00   14.35 |  2.00   12.97 |  3.00    6.94 |  4.00    5.01

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--------------------
| CALIB            |
| STANDHYD (  0163)|   Area    (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91         6.45
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     320.00        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
      TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
       hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
     0.083    5.64 | 1.083   26.68 | 2.083   11.15 |  3.08    6.50
     0.167    5.64 | 1.167   26.68 | 2.167   11.15 |  3.17    6.50
     0.250    6.30 | 1.250  154.65 | 2.250    9.85 |  3.25    6.12
     0.333    6.30 | 1.333  154.65 | 2.333    9.85 |  3.33    6.12
     0.417    7.19 | 1.417   32.75 | 2.417    8.86 |  3.42    5.79
     0.500    7.19 | 1.500   32.75 | 2.500    8.86 |  3.50    5.79
     0.583    8.47 | 1.583   20.65 | 2.583    8.09 |  3.58    5.50
     0.667    8.47 | 1.667   20.65 | 2.667    8.09 |  3.67    5.50
     0.750   10.49 | 1.750   15.75 | 2.750    7.46 |  3.75    5.24
     0.833   10.49 | 1.833   15.75 | 2.833    7.46 |  3.83    5.24
     0.917   14.35 | 1.917   12.97 | 2.917    6.94 |  3.92    5.01
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                1.000   14.35 | 2.000   12.97 | 3.000    6.94 |  4.00    5.01

     Max.Eff.Inten.(mm/hr)=     154.65        25.13
               over (min)          5.00        20.00
     Storage Coeff.  (min)=       4.31 (ii)   16.57 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.23         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.51         0.25          3.600 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      66.06        16.95          45.44
     TOTAL RAINFALL   (mm)=      67.06        67.06          67.06
     RUNOFF COEFFICIENT   =       0.99         0.25           0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0152)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0137):     8.10   0.144     2.08    13.28
     + ID2= 2 (  0159):     1.03   0.066     1.58    53.49
       ================================================
       ID = 3 (  0152):     9.13   0.201     2.00    17.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0152)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0152):     9.13   0.201     2.00    17.82
     + ID2= 2 (  0163):    15.36   3.600     1.33    45.44
       ================================================
       ID = 1 (  0152):    24.49   3.671     1.33    35.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR(  0161)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.4045     0.7000
                         0.0151     0.0001    |  0.5514     0.8000
                         0.0151     0.1301    |  0.7611     0.9000
                         0.0440     0.4217    |  0.9325     0.9500
                         0.2194     0.6000    |  1.1147     1.0500

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0152)     24.490      3.671      1.33      35.14
   OUTFLOW: ID= 1 (  0161)     24.490      0.278      3.67      35.14

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.57
                  TIME SHIFT OF PEAK FLOW         (min)=140.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6316

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--------------------
| DUHYD    (  0162)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):  24.49      0.28      3.67    35.14
     ================================================
     MAJOR SYS.(ID= 2):  14.74      0.26      3.67    35.14
     MINOR SYS.(ID= 3):   9.75      0.02      1.25    35.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 773.304
| Ptotal= 67.06 mm |                          B=   0.000
--------------------                          C=   0.699
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  4.00 hrs
                        Storm time step    = 10.00 min
                        Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.64 |  1.17   26.68 |'  2.17   11.15 |  3.17    6.50
                0.33    6.30 |  1.33  154.65 |'  2.33    9.85 |  3.33    6.12
                0.50    7.19 |  1.50   32.75 |'  2.50    8.86 |  3.50    5.79
                0.67    8.47 |  1.67   20.65 |'  2.67    8.09 |  3.67    5.50
                0.83   10.49 |  1.83   15.75 |'  2.83    7.46 |  3.83    5.24
                1.00   14.35 |  2.00   12.97 |'  3.00    6.94 |  4.00    5.01

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--------------------
| CALIB            |
| STANDHYD (  0151)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                   IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=           0.80          0.27
     Dep. Storage     (mm)=           1.00          5.00
     Average Slope     (%)=           1.00          2.00
     Length            (m)=          84.46         40.00
     Mannings n           =          0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.64	1.083	26.68	2.083	11.15	3.08	6.50
0.167	5.64	1.167	26.68	2.167	11.15	3.17	6.50
0.250	6.30	1.250	154.65	2.250	9.85	3.25	6.12
0.333	6.30	1.333	154.65	2.333	9.85	3.33	6.12
0.417	7.19	1.417	32.75	2.417	8.86	3.42	5.79
0.500	7.19	1.500	32.75	2.500	8.86	3.50	5.79
0.583	8.47	1.583	20.65	2.583	8.09	3.58	5.50
0.667	8.47	1.667	20.65	2.667	8.09	3.67	5.50
0.750	10.49	1.750	15.75	2.750	7.46	3.75	5.24
0.833	10.49	1.833	15.75	2.833	7.46	3.83	5.24
0.917	14.35	1.917	12.97	2.917	6.94	3.92	5.01
1.000	14.35	2.000	12.97	3.000	6.94	4.00	5.01

			TOTALS
Max.Eff.Inten.(mm/hr)=	154.65	70.84	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.94 (ii)	5.76 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
PEAK FLOW (cms)=	0.34	0.04	0.377 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	66.06	32.69	57.72
TOTAL RAINFALL (mm)=	67.06	67.06	67.06
RUNOFF COEFFICIENT =	0.99	0.49	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0160)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	1.070	0.377	1.33	57.72
OUTFLOW: ID= 1 (0160)	1.070	0.034	2.00	57.47

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.12
TIME SHIFT OF PEAK FLOW (min)= 40.00
MAXIMUM STORAGE USED (ha.m.)= 0.0370

CHICAGO STORM
Ptotal= 67.06 mm

IDF curve parameters: A= 773.304
B= 0.000
C= 0.699
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.64	1.17	26.68	2.17	11.15	3.17	6.50
0.33	6.30	1.33	154.65	2.33	9.85	3.33	6.12
0.50	7.19	1.50	32.75	2.50	8.86	3.50	5.79
0.67	8.47	1.67	20.65	2.67	8.09	3.67	5.50
0.83	10.49	1.83	15.75	2.83	7.46	3.83	5.24
1.00	14.35	2.00	12.97	3.00	6.94	4.00	5.01

CALIB
STANDHYD (0155)
ID= 1 DT= 5.0 min

Area (ha)= 0.78
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.58	0.19
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	72.11	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.64	1.083	26.68	2.083	11.15	3.08	6.50
0.167	5.64	1.167	26.68	2.167	11.15	3.17	6.50
0.250	6.30	1.250	154.65	2.250	9.85	3.25	6.12
0.333	6.30	1.333	154.65	2.333	9.85	3.33	6.12
0.417	7.19	1.417	32.75	2.417	8.86	3.42	5.79
0.500	7.19	1.500	32.75	2.500	8.86	3.50	5.79
0.583	8.47	1.583	20.65	2.583	8.09	3.58	5.50
0.667	8.47	1.667	20.65	2.667	8.09	3.67	5.50
0.750	10.49	1.750	15.75	2.750	7.46	3.75	5.24
0.833	10.49	1.833	15.75	2.833	7.46	3.83	5.24
0.917	14.35	1.917	12.97	2.917	6.94	3.92	5.01
1.000	14.35	2.000	12.97	3.000	6.94	4.00	5.01

			TOTALS
Max.Eff.Inten.(mm/hr)=	154.65	70.84	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.76 (ii)	5.58 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.32	0.16	
PEAK FLOW (cms)=	0.25	0.03	0.276 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	66.06	32.69	57.72
TOTAL RAINFALL (mm)=	67.06	67.06	67.06
RUNOFF COEFFICIENT =	0.99	0.49	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0157)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0750     0.0396

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0155)      0.780     0.276      1.33      57.72
   OUTFLOW: ID= 1 (  0157)      0.780     0.043      1.67      57.55

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.61
                  TIME SHIFT OF PEAK FLOW          (min)= 20.00
                  MAXIMUM  STORAGE   USED        (ha.m.)=  0.0227

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--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 773.304
| Ptotal= 67.06 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.64 |  1.17   26.68 |  2.17   11.15 |  3.17    6.50
                0.33    6.30 |  1.33  154.65 |  2.33    9.85 |  3.33    6.12
                0.50    7.19 |  1.50   32.75 |  2.50    8.86 |  3.50    5.79
                0.67    8.47 |  1.67   20.65 |  2.67    8.09 |  3.67    5.50
                0.83   10.49 |  1.83   15.75 |  2.83    7.46 |  3.83    5.24
                1.00   14.35 |  2.00   12.97 |  3.00    6.94 |  4.00    5.01

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--------------------
| CALIB            |
| STANDHYD (  0156)|   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    5.64 | 1.083   26.68 | 2.083   11.15 |  3.08    6.50
               0.167    5.64 | 1.167   26.68 | 2.167   11.15 |  3.17    6.50
               0.250    6.30 | 1.250  154.65 | 2.250    9.85 |  3.25    6.12
               0.333    6.30 | 1.333  154.65 | 2.333    9.85 |  3.33    6.12
               0.417    7.19 | 1.417   32.75 | 2.417    8.86 |  3.42    5.79
               0.500    7.19 | 1.500   32.75 | 2.500    8.86 |  3.50    5.79
               0.583    8.47 | 1.583   20.65 | 2.583    8.09 |  3.58    5.50
               0.667    8.47 | 1.667   20.65 | 2.667    8.09 |  3.67    5.50
               0.750   10.49 | 1.750   15.75 | 2.750    7.46 |  3.75    5.24
               0.833   10.49 | 1.833   15.75 | 2.833    7.46 |  3.83    5.24
               0.917   14.35 | 1.917   12.97 | 2.917    6.94 |  3.92    5.01
               1.000   14.35 | 2.000   12.97 | 3.000    6.94 |  4.00    5.01

     Max.Eff.Inten.(mm/hr)=     154.65        30.70
               over (min)=        5.00        10.00
     Storage Coeff.  (min)=        1.28 (ii)    5.43 (ii)
     Unit Hyd. Tpeak (min)=        5.00        10.00
     Unit Hyd. peak  (cms)=        0.33         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.08         0.01          0.087 (iii)
     TIME TO PEAK    (hrs)=        1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=       66.06        16.15          51.58
     TOTAL RAINFALL   (mm)=       67.06        67.06          67.06
     RUNOFF COEFFICIENT   =        0.99         0.24           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)      0.270     0.087      1.33      51.58
   OUTFLOW: ID= 1 (  0154)      0.270     0.027      1.42      51.42

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.83
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED        (ha.m.)=  0.0054

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0154):     0.27   0.027     1.42    51.42
```

```
      + ID2= 2 (  0157):     0.78   0.043     1.67    57.55
        ================================================
        ID = 3 (  0158):     1.05   0.068     1.50    55.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0158):     1.05   0.068     1.50    55.97
      + ID2= 2 (  0160):     1.07   0.034     2.00    57.47
        ================================================
        ID = 1 (  0158):     2.12   0.100     1.58    56.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0158):     2.12   0.100     1.58    56.73
      + ID2= 2 (  0162):    14.74   0.263     3.67    35.14
        ================================================
        ID = 3 (  0158):    16.86   0.322     3.42    37.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\73969cdb-c9c5-4dd3-b334-587b60c977df\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\73969cdb-c9c5-4dd3-b334-587b60c977df\scen

DATE: 10-31-2019                          TIME: 10:47:24

USER:


COMMENTS: _____________________________________________________

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  ********************************************
  ** SIMULATION : 5-50-Year-6-Hour-SCS-Type-II  **
  ********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\573d0df0
| Ptotal= 95.90 mm |    Comments: 50-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    9.59 |  3.75   21.10 |  5.50    3.84
                0.50    3.84 |  2.25    9.59 |  4.00    9.59 |  5.75    3.84
                0.75    3.84 |  2.50   11.51 |  4.25    9.59 |  6.00    3.84
                1.00    5.75 |  2.75   11.51 |  4.50    7.67 |  6.25    3.84
                1.25    5.75 |  3.00   57.54 |  4.75    7.67 |
                1.50    5.75 |  3.25  149.60 |  5.00    5.75 |
                1.75    5.75 |  3.50   21.10 |  5.25    5.75 |

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| CALIB            |
| NASHYD   (  0137)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    5.75 | 3.250  149.60 |  4.83    5.75
               0.167    0.00 | 1.750    5.75 | 3.333   21.10 |  4.92    5.75
               0.250    0.00 | 1.833    9.59 | 3.417   21.10 |  5.00    5.75
               0.333    3.84 | 1.917    9.59 | 3.500   21.10 |  5.08    5.75
               0.417    3.84 | 2.000    9.59 | 3.583   21.10 |  5.17    5.75
               0.500    3.84 | 2.083    9.59 | 3.667   21.10 |  5.25    5.75
               0.583    3.84 | 2.167    9.59 | 3.750   21.10 |  5.33    3.84
               0.667    3.84 | 2.250    9.59 | 3.833    9.59 |  5.42    3.84
               0.750    3.84 | 2.333   11.51 | 3.917    9.59 |  5.50    3.84
               0.833    5.75 | 2.417   11.51 | 4.000    9.59 |  5.58    3.84
               0.917    5.75 | 2.500   11.51 | 4.083    9.59 |  5.67    3.84
               1.000    5.75 | 2.583   11.51 | 4.167    9.59 |  5.75    3.84
               1.083    5.75 | 2.667   11.51 | 4.250    9.59 |  5.83    3.84
```

1.167	5.75	2.750	11.51	4.333	7.67	5.92	3.84
1.250	5.75	2.833	57.54	4.417	7.67	6.00	3.84
1.333	5.75	2.917	57.54	4.500	7.67	6.08	3.84
1.417	5.75	3.000	57.54	4.583	7.67	6.17	3.84
1.500	5.75	3.083	149.60	4.667	7.67	6.25	3.84
1.583	5.75	3.167	149.60	4.750	7.67		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.329 (i)
TIME TO PEAK (hrs)= 3.833
RUNOFF VOLUME (mm)= 25.912
TOTAL RAINFALL (mm)= 95.900
RUNOFF COEFFICIENT = 0.270

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

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\573d0df0
Ptotal= 95.90 mm	Comments: 50-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	9.59	3.75	21.10	5.50	3.84
0.50	3.84	2.25	9.59	4.00	9.59	5.75	3.84
0.75	3.84	2.50	11.51	4.25	9.59	6.00	3.84
1.00	5.75	2.75	11.51	4.50	7.67	6.25	3.84
1.25	5.75	3.00	57.54	4.75	7.67		
1.50	5.75	3.25	149.60	5.00	5.75		
1.75	5.75	3.50	21.10	5.25	5.75		

CALIB	
STANDHYD (0153)	Area (ha)= 1.03
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.75	3.250	149.60	4.83	5.75
0.167	0.00	1.750	5.75	3.333	21.10	4.92	5.75
0.250	0.00	1.833	9.59	3.417	21.10	5.00	5.75
0.333	3.84	1.917	9.59	3.500	21.10	5.08	5.75
0.417	3.84	2.000	9.59	3.583	21.10	5.17	5.75
0.500	3.84	2.083	9.59	3.667	21.10	5.25	5.75
0.583	3.84	2.167	9.59	3.750	21.10	5.33	3.84
0.667	3.84	2.250	9.59	3.833	9.59	5.42	3.84
0.750	3.84	2.333	11.51	3.917	9.59	5.50	3.84
0.833	5.75	2.417	11.51	4.000	9.59	5.58	3.84
0.917	5.75	2.500	11.51	4.083	9.59	5.67	3.84
1.000	5.75	2.583	11.51	4.167	9.59	5.75	3.84
1.083	5.75	2.667	11.51	4.250	9.59	5.83	3.84
1.167	5.75	2.750	11.51	4.333	7.67	5.92	3.84
1.250	5.75	2.833	57.54	4.417	7.67	6.00	3.84
1.333	5.75	2.917	57.54	4.500	7.67	6.08	3.84
1.417	5.75	3.000	57.54	4.583	7.67	6.17	3.84
1.500	5.75	3.083	149.60	4.667	7.67	6.25	3.84
1.583	5.75	3.167	149.60	4.750	7.67		

			TOTALS
Max.Eff.Inten.(mm/hr)=	149.60	60.50	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.94 (ii)	5.81 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
PEAK FLOW (cms)=	0.32	0.04	0.356 (iii)
TIME TO PEAK (hrs)=	3.25	3.25	3.25
RUNOFF VOLUME (mm)=	94.90	30.90	78.90
TOTAL RAINFALL (mm)=	95.90	95.90	95.90
RUNOFF COEFFICIENT =	0.99	0.32	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)		1.030	0.356	3.25	78.90
OUTFLOW: ID= 1 (0159)		1.030	0.101	3.33	78.81

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.35
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0399

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\573d0df0
Ptotal= 95.90 mm	Comments: 50-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	9.59	3.75	21.10	5.50	3.84
0.50	3.84	2.25	9.59	4.00	9.59	5.75	3.84
0.75	3.84	2.50	11.51	4.25	9.59	6.00	3.84
1.00	5.75	2.75	11.51	4.50	7.67	6.25	3.84
1.25	5.75	3.00	57.54	4.75	7.67		
1.50	5.75	3.25	149.60	5.00	5.75		
1.75	5.75	3.50	21.10	5.25	5.75		

CALIB
STANDHYD (0163)
ID= 1 DT= 5.0 min

Area (ha)= 15.36
Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.75	3.250	149.60	4.83	5.75
0.167	0.00	1.750	5.75	3.333	21.10	4.92	5.75
0.250	0.00	1.833	9.59	3.417	21.10	5.00	5.75
0.333	3.84	1.917	9.59	3.500	21.10	5.08	5.75
0.417	3.84	2.000	9.59	3.583	21.10	5.17	5.75
0.500	3.84	2.083	9.59	3.667	21.10	5.25	5.75
0.583	3.84	2.167	9.59	3.750	21.10	5.33	3.84
0.667	3.84	2.250	9.59	3.833	9.59	5.42	3.84
0.750	3.84	2.333	11.51	3.917	9.59	5.50	3.84
0.833	5.75	2.417	11.51	4.000	9.59	5.58	3.84
0.917	5.75	2.500	11.51	4.083	9.59	5.67	3.84
1.000	5.75	2.583	11.51	4.167	9.59	5.75	3.84
1.083	5.75	2.667	11.51	4.250	9.59	5.83	3.84
1.167	5.75	2.750	11.51	4.333	7.67	5.92	3.84
1.250	5.75	2.833	57.54	4.417	7.67	6.00	3.84
1.333	5.75	2.917	57.54	4.500	7.67	6.08	3.84
1.417	5.75	3.000	57.54	4.583	7.67	6.17	3.84
1.500	5.75	3.083	149.60	4.667	7.67	6.25	3.84
1.583	5.75	3.167	149.60	4.750	7.67		

Max.Eff.Inten.(mm/hr)=		149.60	63.22	
over	(min)	5.00	15.00	
Storage Coeff.	(min)=	4.37 (ii)	12.85 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	15.00	
Unit Hyd. peak	(cms)=	0.23	0.08	
				TOTALS
PEAK FLOW	(cms)=	3.63	0.66	4.182 (iii)
TIME TO PEAK	(hrs)=	3.25	3.33	3.25
RUNOFF VOLUME	(mm)=	94.90	32.27	68.60
TOTAL RAINFALL	(mm)=	95.90	95.90	95.90
RUNOFF COEFFICIENT	=	0.99	0.34	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0152)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0137):	8.10	0.329	3.83	25.91
+ ID2= 2 (0159):	1.03	0.101	3.33	78.81
ID = 3 (0152):	9.13	0.417	3.75	31.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0152)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0152):	9.13	0.417	3.75	31.88
+ ID2= 2 (0163):	15.36	4.182	3.25	68.60
ID = 1 (0152):	24.49	4.397	3.25	54.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0161)		
IN= 2---> OUT= 1		
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000
	0.0151	0.0001
	0.0151	0.1301
	0.0440	0.4217
	0.2194	0.6000

OUTFLOW (cms)	STORAGE (ha.m.)
0.4045	0.7000
0.5514	0.8000
0.7611	0.9000
0.9325	0.9500
1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0152)	24.490	4.397	3.25	54.91
OUTFLOW: ID= 1 (0161)	24.490	0.652	4.25	54.91

PEAK FLOW REDUCTION [Qout/Qin](%)= 14.83
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.8484

DUHYD (0162)

```
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)      (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):  24.49      0.65      4.25    54.91
     ==================================================
     MAJOR SYS.(ID= 2):  18.01      0.64      4.25    54.91
     MINOR SYS.(ID= 3):   6.48      0.02      2.67    54.91

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

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\573d0df0
| Ptotal= 95.90 mm |    Comments: 50-Year-6-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	9.59	3.75	21.10	5.50	3.84
0.50	3.84	2.25	9.59	4.00	9.59	5.75	3.84
0.75	3.84	2.50	11.51	4.25	9.59	6.00	3.84
1.00	5.75	2.75	11.51	4.50	7.67	6.25	3.84
1.25	5.75	3.00	57.54	4.75	7.67		
1.50	5.75	3.25	149.60	5.00	5.75		
1.75	5.75	3.50	21.10	5.25	5.75		

```
--------------------
| CALIB            |
| STANDHYD (  0151)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.80         0.27
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     84.46        40.00
     Mannings n           =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.75	3.250	149.60	4.83	5.75
0.167	0.00	1.750	5.75	3.333	21.10	4.92	5.75
0.250	0.00	1.833	9.59	3.417	21.10	5.00	5.75
0.333	3.84	1.917	9.59	3.500	21.10	5.08	5.75
0.417	3.84	2.000	9.59	3.583	21.10	5.17	5.75
0.500	3.84	2.083	9.59	3.667	21.10	5.25	5.75
0.583	3.84	2.167	9.59	3.750	21.10	5.33	3.84
0.667	3.84	2.250	9.59	3.833	9.59	5.42	3.84
0.750	3.84	2.333	11.51	3.917	9.59	5.50	3.84
0.833	5.75	2.417	11.51	4.000	9.59	5.58	3.84
0.917	5.75	2.500	11.51	4.083	9.59	5.67	3.84
1.000	5.75	2.583	11.51	4.167	9.59	5.75	3.84
1.083	5.75	2.667	11.51	4.250	9.59	5.83	3.84
1.167	5.75	2.750	11.51	4.333	7.67	5.92	3.84
1.250	5.75	2.833	57.54	4.417	7.67	6.00	3.84
1.333	5.75	2.917	57.54	4.500	7.67	6.08	3.84
1.417	5.75	3.000	57.54	4.583	7.67	6.17	3.84
1.500	5.75	3.083	149.60	4.667	7.67	6.25	3.84
1.583	5.75	3.167	149.60	4.750	7.67		

```
     Max.Eff.Inten.(mm/hr)=     149.60       109.42
                 over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.96 (ii)    5.84 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.33         0.07        0.403 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25         3.25
     RUNOFF VOLUME    (mm)=      94.90        56.34        85.26
     TOTAL RAINFALL   (mm)=      95.90        95.90        95.90
     RUNOFF COEFFICIENT   =       0.99         0.59         0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| RESERVOIR(  0160)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)      (ha.m.)    |   (cms)      (ha.m.)
                         0.0000      0.0000    |   0.0600      0.0645

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0151)     1.070     0.403      3.25      85.26
   OUTFLOW: ID= 1 (  0160)     1.070     0.053      3.75      85.01

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.25
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0575
```

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\573d0df0
| Ptotal= 95.90 mm |    Comments: 50-Year-6-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	9.59	3.75	21.10	5.50	3.84
0.50	3.84	2.25	9.59	4.00	9.59	5.75	3.84
0.75	3.84	2.50	11.51	4.25	9.59	6.00	3.84
1.00	5.75	2.75	11.51	4.50	7.67	6.25	3.84

```
                1.25    5.75 |  3.00   57.54 |  4.75    7.67 |
                1.50    5.75 |  3.25  149.60 |  5.00    5.75 |
                1.75    5.75 |  3.50   21.10 |  5.25    5.75 |

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--------------------
| CALIB            |
| STANDHYD (  0155)|   Area    (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58          0.19
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      72.11         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 | 1.667    5.75 | 3.250  149.60 |  4.83    5.75
              0.167    0.00 | 1.750    5.75 | 3.333   21.10 |  4.92    5.75
              0.250    0.00 | 1.833    9.59 | 3.417   21.10 |  5.00    5.75
              0.333    3.84 | 1.917    9.59 | 3.500   21.10 |  5.08    5.75
              0.417    3.84 | 2.000    9.59 | 3.583   21.10 |  5.17    5.75
              0.500    3.84 | 2.083    9.59 | 3.667   21.10 |  5.25    5.75
              0.583    3.84 | 2.167    9.59 | 3.750   21.10 |  5.33    3.84
              0.667    3.84 | 2.250    9.59 | 3.833    9.59 |  5.42    3.84
              0.750    3.84 | 2.333   11.51 | 3.917    9.59 |  5.50    3.84
              0.833    5.75 | 2.417   11.51 | 4.000    9.59 |  5.58    3.84
              0.917    5.75 | 2.500   11.51 | 4.083    9.59 |  5.67    3.84
              1.000    5.75 | 2.583   11.51 | 4.167    9.59 |  5.75    3.84
              1.083    5.75 | 2.667   11.51 | 4.250    9.59 |  5.83    3.84
              1.167    5.75 | 2.750   11.51 | 4.333    7.67 |  5.92    3.84
              1.250    5.75 | 2.833   57.54 | 4.417    7.67 |  6.00    3.84
              1.333    5.75 | 2.917   57.54 | 4.500    7.67 |  6.08    3.84
              1.417    5.75 | 3.000   57.54 | 4.583    7.67 |  6.17    3.84
              1.500    5.75 | 3.083  149.60 | 4.667    7.67 |  6.25    3.84
              1.583    5.75 | 3.167  149.60 | 4.750    7.67 |

     Max.Eff.Inten.(mm/hr)=     149.60       109.42
                 over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.79 (ii)    5.66 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.15
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.24         0.05       0.294 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25         3.25
     RUNOFF VOLUME    (mm)=      94.90        56.34        85.25
     TOTAL RAINFALL   (mm)=      95.90        95.90        95.90
     RUNOFF COEFFICIENT   =       0.99         0.59         0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0157)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.0750      0.0396

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (  0155)     0.780     0.294      3.25      85.25
     OUTFLOW: ID= 1 (  0157)     0.780     0.067      3.42      85.09

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.66
                    TIME SHIFT OF PEAK FLOW          (min)= 10.00
                    MAXIMUM  STORAGE   USED        (ha.m.)=  0.0353

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\573d0df0
| Ptotal= 95.90 mm |    Comments: 50-Year-6-Hour-SCS-Type-II
--------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  2.00    9.59 |  3.75   21.10 |  5.50    3.84
               0.50    3.84 |  2.25    9.59 |  4.00    9.59 |  5.75    3.84
               0.75    3.84 |  2.50   11.51 |  4.25    9.59 |  6.00    3.84
               1.00    5.75 |  2.75   11.51 |  4.50    7.67 |  6.25    3.84
               1.25    5.75 |  3.00   57.54 |  4.75    7.67 |
               1.50    5.75 |  3.25  149.60 |  5.00    5.75 |
               1.75    5.75 |  3.50   21.10 |  5.25    5.75 |

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--------------------
| CALIB            |
| STANDHYD (  0156)|   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19          0.08
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      42.43         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 | 1.667    5.75 | 3.250  149.60 |  4.83    5.75
```

```
               0.167    0.00 | 1.750    5.75 | 3.333   21.10 |  4.92    5.75
               0.250    0.00 | 1.833    9.59 | 3.417   21.10 |  5.00    5.75
               0.333    3.84 | 1.917    9.59 | 3.500   21.10 |  5.08    5.75
               0.417    3.84 | 2.000    9.59 | 3.583   21.10 |  5.17    5.75
               0.500    3.84 | 2.083    9.59 | 3.667   21.10 |  5.25    5.75
               0.583    3.84 | 2.167    9.59 | 3.750   21.10 |  5.33    3.84
               0.667    3.84 | 2.250    9.59 | 3.833    9.59 |  5.42    3.84
               0.750    3.84 | 2.333   11.51 | 3.917    9.59 |  5.50    3.84
               0.833    5.75 | 2.417   11.51 | 4.000    9.59 |  5.58    3.84
               0.917    5.75 | 2.500   11.51 | 4.083    9.59 |  5.67    3.84
               1.000    5.75 | 2.583   11.51 | 4.167    9.59 |  5.75    3.84
               1.083    5.75 | 2.667   11.51 | 4.250    9.59 |  5.83    3.84
               1.167    5.75 | 2.750   11.51 | 4.333    7.67 |  5.92    3.84
               1.250    5.75 | 2.833   57.54 | 4.417    7.67 |  6.00    3.84
               1.333    5.75 | 2.917   57.54 | 4.500    7.67 |  6.08    3.84
               1.417    5.75 | 3.000   57.54 | 4.583    7.67 |  6.17    3.84
               1.500    5.75 | 3.083  149.60 | 4.667    7.67 |  6.25    3.84
               1.583    5.75 | 3.167  149.60 | 4.750    7.67 |

     Max.Eff.Inten.(mm/hr)=     149.60        60.50
               over (min)          5.00        10.00
     Storage Coeff.  (min)=        1.30 (ii)    5.50 (ii)
     Unit Hyd. Tpeak (min)=        5.00        10.00
     Unit Hyd. peak  (cms)=        0.33         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.08         0.01          0.091 (iii)
     TIME TO PEAK    (hrs)=        3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=       94.90        30.90          76.33
     TOTAL RAINFALL   (mm)=       95.90        95.90          95.90
     RUNOFF COEFFICIENT   =        0.99         0.32           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0460     0.0093

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)      0.270     0.091      3.25      76.33
   OUTFLOW: ID= 1 (  0154)      0.270     0.040      3.33      76.17

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.94
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0083

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0154):     0.27    0.040     3.33    76.17
      + ID2= 2 (  0157):     0.78    0.067     3.42    85.09
        ================================================
        ID = 3 (  0158):     1.05    0.106     3.33    82.79

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0158):     1.05    0.106     3.33    82.79
      + ID2= 2 (  0160):     1.07    0.053     3.75    85.01
        ================================================
        ID = 1 (  0158):     2.12    0.156     3.33    83.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0158):     2.12    0.156     3.33    83.91
      + ID2= 2 (  0162):    18.01    0.637     4.25    54.91
        ================================================
        ID = 3 (  0158):    20.13    0.754     4.17    57.96

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\5bfa9b0e-b95e-482c-95ec-275c155c7e25\scen
```

```
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\5bfa9b0e-b95e-482c-95ec-275c155c7e25\scen

DATE: 10-31-2019                          TIME: 10:47:25

USER:


COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 6-100-Year-12-Hour-SCS-Type-I **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\aa0b6fb5
| Ptotal=112.50 mm |    Comments: 100-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  3.50    4.50 |  6.75   20.25 | 10.00    3.94
               0.50    2.81 |  3.75    4.50 |  7.00    9.00 | 10.25    3.94
               0.75    2.81 |  4.00    4.50 |  7.25    9.00 | 10.50    2.25
               1.00    2.81 |  4.25    4.50 |  7.50    6.75 | 10.75    2.25
               1.25    2.81 |  4.50    6.75 |  7.75    6.75 | 11.00    2.25
               1.50    2.81 |  4.75    6.75 |  8.00    6.75 | 11.25    2.25
               1.75    2.81 |  5.00    9.00 |  8.25    6.75 | 11.50    2.25
               2.00    2.81 |  5.25    9.00 |  8.50    3.94 | 11.75    2.25
               2.25    2.81 |  5.50   13.50 |  8.75    3.94 | 12.00    2.25
               2.50    3.38 |  5.75   13.50 |  9.00    3.94 | 12.25    2.25
               2.75    3.37 |  6.00   54.00 |  9.25    3.94 |
               3.00    3.38 |  6.25  148.50 |  9.50    3.94 |
               3.25    3.38 |  6.50   20.25 |  9.75    3.94 |

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--------------------
| CALIB            |
| NASHYD   (  0137)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                      ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 | 3.167    3.38 | 6.250  148.50 |  9.33    3.94
              0.167    0.00 | 3.250    3.38 | 6.333   20.25 |  9.42    3.94
              0.250    0.00 | 3.333    4.50 | 6.417   20.25 |  9.50    3.94
              0.333    2.81 | 3.417    4.50 | 6.500   20.25 |  9.58    3.94
              0.417    2.81 | 3.500    4.50 | 6.583   20.25 |  9.67    3.94
              0.500    2.81 | 3.583    4.50 | 6.667   20.25 |  9.75    3.94
              0.583    2.81 | 3.667    4.50 | 6.750   20.25 |  9.83    3.94
              0.667    2.81 | 3.750    4.50 | 6.833    9.00 |  9.92    3.94
              0.750    2.81 | 3.833    4.50 | 6.917    9.00 | 10.00    3.94
              0.833    2.81 | 3.917    4.50 | 7.000    9.00 | 10.08    3.94
              0.917    2.81 | 4.000    4.50 | 7.083    9.00 | 10.17    3.94
              1.000    2.81 | 4.083    4.50 | 7.167    9.00 | 10.25    3.94
              1.083    2.81 | 4.167    4.50 | 7.250    9.00 | 10.33    2.25
              1.167    2.81 | 4.250    4.50 | 7.333    6.75 | 10.42    2.25
              1.250    2.81 | 4.333    6.75 | 7.417    6.75 | 10.50    2.25
              1.333    2.81 | 4.417    6.75 | 7.500    6.75 | 10.58    2.25
              1.417    2.81 | 4.500    6.75 | 7.583    6.75 | 10.67    2.25
              1.500    2.81 | 4.583    6.75 | 7.667    6.75 | 10.75    2.25
              1.583    2.81 | 4.667    6.75 | 7.750    6.75 | 10.83    2.25
              1.667    2.81 | 4.750    6.75 | 7.833    6.75 | 10.92    2.25
              1.750    2.81 | 4.833    9.00 | 7.917    6.75 | 11.00    2.25
              1.833    2.81 | 4.917    9.00 | 8.000    6.75 | 11.08    2.25
              1.917    2.81 | 5.000    9.00 | 8.083    6.75 | 11.17    2.25
              2.000    2.81 | 5.083    9.00 | 8.167    6.75 | 11.25    2.25
              2.083    2.81 | 5.167    9.00 | 8.250    6.75 | 11.33    2.25
              2.167    2.81 | 5.250    9.00 | 8.333    3.94 | 11.42    2.25
              2.250    2.81 | 5.333   13.50 | 8.417    3.94 | 11.50    2.25
              2.333    3.37 | 5.417   13.50 | 8.500    3.94 | 11.58    2.25
              2.417    3.38 | 5.500   13.50 | 8.583    3.94 | 11.67    2.25
              2.500    3.38 | 5.583   13.50 | 8.667    3.94 | 11.75    2.25
              2.583    3.37 | 5.667   13.50 | 8.750    3.94 | 11.83    2.25
              2.667    3.37 | 5.750   13.50 | 8.833    3.94 | 11.92    2.25
              2.750    3.37 | 5.833   54.00 | 8.917    3.94 | 12.00    2.25
              2.833    3.37 | 5.917   54.00 | 9.000    3.94 | 12.08    2.25
              2.917    3.38 | 6.000   54.00 | 9.083    3.94 | 12.17    2.25
              3.000    3.38 | 6.083  148.50 | 9.167    3.94 | 12.25    2.25
              3.083    3.37 | 6.167  148.50 | 9.250    3.94 |

    Unit Hyd Qpeak  (cms)=   0.524

    PEAK FLOW       (cms)=   0.379 (i)
    TIME TO PEAK    (hrs)=   6.750
    RUNOFF VOLUME    (mm)=  34.447
    TOTAL RAINFALL   (mm)= 112.500
    RUNOFF COEFFICIENT   =   0.306

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

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\aa0b6fb5
| Ptotal=112.50 mm |    Comments: 100-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  3.50    4.50 |  6.75   20.25 | 10.00    3.94
               0.50    2.81 |  3.75    4.50 |  7.00    9.00 | 10.25    3.94
               0.75    2.81 |  4.00    4.50 |  7.25    9.00 | 10.50    2.25
               1.00    2.81 |  4.25    4.50 |  7.50    6.75 | 10.75    2.25
               1.25    2.81 |  4.50    6.75 |  7.75    6.75 | 11.00    2.25
               1.50    2.81 |  4.75    6.75 |  8.00    6.75 | 11.25    2.25
```

1.75	2.81	5.00	9.00	8.25	6.75	11.50	2.25
2.00	2.81	5.25	9.00	8.50	3.94	11.75	2.25
2.25	2.81	5.50	13.50	8.75	3.94	12.00	2.25
2.50	3.38	5.75	13.50	9.00	3.94	12.25	2.25
2.75	3.37	6.00	54.00	9.25	3.94		
3.00	3.38	6.25	148.50	9.50	3.94		
3.25	3.38	6.50	20.25	9.75	3.94		

CALIB	
STANDHYD (0153)	Area (ha)= 1.03
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.38	6.250	148.50	9.33	3.94
0.167	0.00	3.250	3.38	6.333	20.25	9.42	3.94
0.250	0.00	3.333	4.50	6.417	20.25	9.50	3.94
0.333	2.81	3.417	4.50	6.500	20.25	9.58	3.94
0.417	2.81	3.500	4.50	6.583	20.25	9.67	3.94
0.500	2.81	3.583	4.50	6.667	20.25	9.75	3.94
0.583	2.81	3.667	4.50	6.750	20.25	9.83	3.94
0.667	2.81	3.750	4.50	6.833	9.00	9.92	3.94
0.750	2.81	3.833	4.50	6.917	9.00	10.00	3.94
0.833	2.81	3.917	4.50	7.000	9.00	10.08	3.94
0.917	2.81	4.000	4.50	7.083	9.00	10.17	3.94
1.000	2.81	4.083	4.50	7.167	9.00	10.25	3.94
1.083	2.81	4.167	4.50	7.250	9.00	10.33	2.25
1.167	2.81	4.250	4.50	7.333	6.75	10.42	2.25
1.250	2.81	4.333	6.75	7.417	6.75	10.50	2.25
1.333	2.81	4.417	6.75	7.500	6.75	10.58	2.25
1.417	2.81	4.500	6.75	7.583	6.75	10.67	2.25
1.500	2.81	4.583	6.75	7.667	6.75	10.75	2.25
1.583	2.81	4.667	6.75	7.750	6.75	10.83	2.25
1.667	2.81	4.750	6.75	7.833	6.75	10.92	2.25
1.750	2.81	4.833	9.00	7.917	6.75	11.00	2.25
1.833	2.81	4.917	9.00	8.000	6.75	11.08	2.25
1.917	2.81	5.000	9.00	8.083	6.75	11.17	2.25
2.000	2.81	5.083	9.00	8.167	6.75	11.25	2.25
2.083	2.81	5.167	9.00	8.250	6.75	11.33	2.25
2.167	2.81	5.250	9.00	8.333	3.94	11.42	2.25
2.250	2.81	5.333	13.50	8.417	3.94	11.50	2.25
2.333	3.37	5.417	13.50	8.500	3.94	11.58	2.25
2.417	3.38	5.500	13.50	8.583	3.94	11.67	2.25
2.500	3.38	5.583	13.50	8.667	3.94	11.75	2.25
2.583	3.37	5.667	13.50	8.750	3.94	11.83	2.25
2.667	3.37	5.750	13.50	8.833	3.94	11.92	2.25
2.750	3.37	5.833	54.00	8.917	3.94	12.00	2.25
2.833	3.37	5.917	54.00	9.000	3.94	12.08	2.25
2.917	3.38	6.000	54.00	9.083	3.94	12.17	2.25
3.000	3.38	6.083	148.50	9.167	3.94	12.25	2.25
3.083	3.37	6.167	148.50	9.250	3.94		

				TOTALS
Max.Eff.Inten.(mm/hr)=		148.50	66.52	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.95 (ii)	5.83 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.31	0.15	
PEAK FLOW	(cms)=	0.32	0.04	0.358 (iii)
TIME TO PEAK	(hrs)=	6.25	6.25	6.25
RUNOFF VOLUME	(mm)=	111.50	40.69	93.79
TOTAL RAINFALL	(mm)=	112.50	112.50	112.50
RUNOFF COEFFICIENT	=	0.99	0.36	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.358	6.25	93.79
OUTFLOW: ID= 1 (0159)	1.030	0.102	6.33	93.70

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.52
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0404

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\aa0b6fb5
Ptotal=112.50 mm	Comments: 100-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.50	6.75	20.25	10.00	3.94
0.50	2.81	3.75	4.50	7.00	9.00	10.25	3.94
0.75	2.81	4.00	4.50	7.25	9.00	10.50	2.25
1.00	2.81	4.25	4.50	7.50	6.75	10.75	2.25
1.25	2.81	4.50	6.75	7.75	6.75	11.00	2.25
1.50	2.81	4.75	6.75	8.00	6.75	11.25	2.25
1.75	2.81	5.00	9.00	8.25	6.75	11.50	2.25

2.00	2.81	5.25	9.00	8.50	3.94	11.75	2.25
2.25	2.81	5.50	13.50	8.75	3.94	12.00	2.25
2.50	3.38	5.75	13.50	9.00	3.94	12.25	2.25
2.75	3.37	6.00	54.00	9.25	3.94		
3.00	3.38	6.25	148.50	9.50	3.94		
3.25	3.38	6.50	20.25	9.75	3.94		

CALIB	
STANDHYD (0163)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.38	6.250	148.50	9.33	3.94
0.167	0.00	3.250	3.38	6.333	20.25	9.42	3.94
0.250	0.00	3.333	4.50	6.417	20.25	9.50	3.94
0.333	2.81	3.417	4.50	6.500	20.25	9.58	3.94
0.417	2.81	3.500	4.50	6.583	20.25	9.67	3.94
0.500	2.81	3.583	4.50	6.667	20.25	9.75	3.94
0.583	2.81	3.667	4.50	6.750	20.25	9.83	3.94
0.667	2.81	3.750	4.50	6.833	9.00	9.92	3.94
0.750	2.81	3.833	4.50	6.917	9.00	10.00	3.94
0.833	2.81	3.917	4.50	7.000	9.00	10.08	3.94
0.917	2.81	4.000	4.50	7.083	9.00	10.17	3.94
1.000	2.81	4.083	4.50	7.167	9.00	10.25	3.94
1.083	2.81	4.167	4.50	7.250	9.00	10.33	2.25
1.167	2.81	4.250	4.50	7.333	6.75	10.42	2.25
1.250	2.81	4.333	6.75	7.417	6.75	10.50	2.25
1.333	2.81	4.417	6.75	7.500	6.75	10.58	2.25
1.417	2.81	4.500	6.75	7.583	6.75	10.67	2.25
1.500	2.81	4.583	6.75	7.667	6.75	10.75	2.25
1.583	2.81	4.667	6.75	7.750	6.75	10.83	2.25
1.667	2.81	4.750	6.75	7.833	6.75	10.92	2.25
1.750	2.81	4.833	9.00	7.917	6.75	11.00	2.25
1.833	2.81	4.917	9.00	8.000	6.75	11.08	2.25
1.917	2.81	5.000	9.00	8.083	6.75	11.17	2.25
2.000	2.81	5.083	9.00	8.167	6.75	11.25	2.25
2.083	2.81	5.167	9.00	8.250	6.75	11.33	2.25
2.167	2.81	5.250	9.00	8.333	3.94	11.42	2.25
2.250	2.81	5.333	13.50	8.417	3.94	11.50	2.25
2.333	3.37	5.417	13.50	8.500	3.94	11.58	2.25
2.417	3.38	5.500	13.50	8.583	3.94	11.67	2.25
2.500	3.38	5.583	13.50	8.667	3.94	11.75	2.25
2.583	3.37	5.667	13.50	8.750	3.94	11.83	2.25
2.667	3.37	5.750	13.50	8.833	3.94	11.92	2.25
2.750	3.37	5.833	54.00	8.917	3.94	12.00	2.25
2.833	3.37	5.917	54.00	9.000	3.94	12.08	2.25
2.917	3.38	6.000	54.00	9.083	3.94	12.17	2.25
3.000	3.38	6.083	148.50	9.167	3.94	12.25	2.25
3.083	3.37	6.167	148.50	9.250	3.94		

				TOTALS
Max.Eff.Inten.(mm/hr)=		148.50	69.33	
	over (min)	5.00	15.00	
Storage Coeff. (min)=		4.38 (ii)	12.55 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.23	0.08	
PEAK FLOW	(cms)=	3.60	0.76	4.248 (iii)
TIME TO PEAK	(hrs)=	6.25	6.33	6.25
RUNOFF VOLUME	(mm)=	111.50	42.39	82.47
TOTAL RAINFALL	(mm)=	112.50	112.50	112.50
RUNOFF COEFFICIENT	=	0.99	0.38	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0152)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0137):	8.10	0.379	6.75	34.45
	+ ID2= 2 (0159):	1.03	0.102	6.33	93.70
	ID = 3 (0152):	9.13	0.467	6.75	41.13

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0152)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0152):	9.13	0.467	6.75	41.13
	+ ID2= 2 (0163):	15.36	4.248	6.25	82.47
	ID = 1 (0152):	24.49	4.501	6.25	67.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0161)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.4045	0.7000
	0.0151	0.0001	0.5514	0.8000
	0.0151	0.1301	0.7611	0.9000

```
                        0.0440     0.4217   |   0.9325      0.9500
                        0.2194     0.6000   |   1.1147      1.0500

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0152)     24.490     4.501      6.25      67.06
   OUTFLOW: ID= 1 (  0161)     24.490     0.790      7.08      67.06

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.55
                  TIME SHIFT OF PEAK FLOW          (min)= 50.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.9086

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--------------------
| DUHYD    (  0162)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.79      7.08   67.06
     ================================================
     MAJOR SYS.(ID= 2):  18.81      0.77      7.08   67.06
     MINOR SYS.(ID= 3):   5.68      0.02      4.83   67.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\aa0b6fb5
| Ptotal=112.50 mm |    Comments: 100-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    4.50 |  6.75   20.25 | 10.00    3.94
                0.50    2.81 |  3.75    4.50 |  7.00    9.00 | 10.25    3.94
                0.75    2.81 |  4.00    4.50 |  7.25    9.00 | 10.50    2.25
                1.00    2.81 |  4.25    4.50 |  7.50    6.75 | 10.75    2.25
                1.25    2.81 |  4.50    6.75 |  7.75    6.75 | 11.00    2.25
                1.50    2.81 |  4.75    6.75 |  8.00    6.75 | 11.25    2.25
                1.75    2.81 |  5.00    9.00 |  8.25    6.75 | 11.50    2.25
                2.00    2.81 |  5.25    9.00 |  8.50    3.94 | 11.75    2.25
                2.25    2.81 |  5.50   13.50 |  8.75    3.94 | 12.00    2.25
                2.50    3.38 |  5.75   13.50 |  9.00    3.94 | 12.25    2.25
                2.75    3.37 |  6.00   54.00 |  9.25    3.94 |
                3.00    3.38 |  6.25  148.50 |  9.50    3.94 |
                3.25    3.38 |  6.50   20.25 |  9.75    3.94 |

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| CALIB            |
| STANDHYD (  0151)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00

Average Slope     (%)=       1.00         2.00
Length            (m)=      84.46        40.00
Mannings n           =      0.013        0.250

    NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.083    0.00 | 3.167    3.38 | 6.250  148.50 |  9.33    3.94
0.167    0.00 | 3.250    3.38 | 6.333   20.25 |  9.42    3.94
0.250    0.00 | 3.333    4.50 | 6.417   20.25 |  9.50    3.94
0.333    2.81 | 3.417    4.50 | 6.500   20.25 |  9.58    3.94
0.417    2.81 | 3.500    4.50 | 6.583   20.25 |  9.67    3.94
0.500    2.81 | 3.583    4.50 | 6.667   20.25 |  9.75    3.94
0.583    2.81 | 3.667    4.50 | 6.750   20.25 |  9.83    3.94
0.667    2.81 | 3.750    4.50 | 6.833    9.00 |  9.92    3.94
0.750    2.81 | 3.833    4.50 | 6.917    9.00 | 10.00    3.94
0.833    2.81 | 3.917    4.50 | 7.000    9.00 | 10.08    3.94
0.917    2.81 | 4.000    4.50 | 7.083    9.00 | 10.17    3.94
1.000    2.81 | 4.083    4.50 | 7.167    9.00 | 10.25    3.94
1.083    2.81 | 4.167    4.50 | 7.250    9.00 | 10.33    2.25
1.167    2.81 | 4.250    4.50 | 7.333    6.75 | 10.42    2.25
1.250    2.81 | 4.333    6.75 | 7.417    6.75 | 10.50    2.25
1.333    2.81 | 4.417    6.75 | 7.500    6.75 | 10.58    2.25
1.417    2.81 | 4.500    6.75 | 7.583    6.75 | 10.67    2.25
1.500    2.81 | 4.583    6.75 | 7.667    6.75 | 10.75    2.25
1.583    2.81 | 4.667    6.75 | 7.750    6.75 | 10.83    2.25
1.667    2.81 | 4.750    6.75 | 7.833    6.75 | 10.92    2.25
1.750    2.81 | 4.833    9.00 | 7.917    6.75 | 11.00    2.25
1.833    2.81 | 4.917    9.00 | 8.000    6.75 | 11.08    2.25
1.917    2.81 | 5.000    9.00 | 8.083    6.75 | 11.17    2.25
2.000    2.81 | 5.083    9.00 | 8.167    6.75 | 11.25    2.25
2.083    2.81 | 5.167    9.00 | 8.250    6.75 | 11.33    2.25
2.167    2.81 | 5.250    9.00 | 8.333    3.94 | 11.42    2.25
2.250    2.81 | 5.333   13.50 | 8.417    3.94 | 11.50    2.25
2.333    3.37 | 5.417   13.50 | 8.500    3.94 | 11.58    2.25
2.417    3.38 | 5.500   13.50 | 8.583    3.94 | 11.67    2.25
2.500    3.38 | 5.583   13.50 | 8.667    3.94 | 11.75    2.25
2.583    3.37 | 5.667   13.50 | 8.750    3.94 | 11.83    2.25
2.667    3.37 | 5.750   13.50 | 8.833    3.94 | 11.92    2.25
2.750    3.37 | 5.833   54.00 | 8.917    3.94 | 12.00    2.25
2.833    3.37 | 5.917   54.00 | 9.000    3.94 | 12.08    2.25
2.917    3.38 | 6.000   54.00 | 9.083    3.94 | 12.17    2.25
3.000    3.38 | 6.083  148.50 | 9.167    3.94 | 12.25    2.25
3.083    3.37 | 6.167  148.50 | 9.250    3.94 |

Max.Eff.Inten.(mm/hr)=     148.50       114.47
          over (min)          5.00        10.00
Storage Coeff.  (min)=       1.97 (ii)    5.85 (ii)
Unit Hyd. Tpeak (min)=       5.00        10.00
Unit Hyd. peak  (cms)=       0.31         0.15
                                                  *TOTALS*
PEAK FLOW       (cms)=       0.33         0.07        0.405 (iii)
TIME TO PEAK    (hrs)=       6.25         6.25         6.25
RUNOFF VOLUME    (mm)=     111.50        70.79       101.32
TOTAL RAINFALL   (mm)=     112.50       112.50       112.50
RUNOFF COEFFICIENT   =       0.99         0.63         0.90
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***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0160)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0600     0.0645

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0151)      1.070     0.405      6.25     101.32
   OUTFLOW: ID= 1 (  0160)      1.070     0.056      6.75     101.07

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.72
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0597

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\aa0b6fb5
| Ptotal=112.50 mm |    Comments: 100-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    4.50 |  6.75   20.25 | 10.00    3.94
                0.50    2.81 |  3.75    4.50 |  7.00    9.00 | 10.25    3.94
                0.75    2.81 |  4.00    4.50 |  7.25    9.00 | 10.50    2.25
                1.00    2.81 |  4.25    4.50 |  7.50    6.75 | 10.75    2.25
                1.25    2.81 |  4.50    6.75 |  7.75    6.75 | 11.00    2.25
                1.50    2.81 |  4.75    6.75 |  8.00    6.75 | 11.25    2.25
                1.75    2.81 |  5.00    9.00 |  8.25    6.75 | 11.50    2.25
                2.00    2.81 |  5.25    9.00 |  8.50    3.94 | 11.75    2.25
                2.25    2.81 |  5.50   13.50 |  8.75    3.94 | 12.00    2.25
                2.50    3.38 |  5.75   13.50 |  9.00    3.94 | 12.25    2.25
                2.75    3.37 |  6.00   54.00 |  9.25    3.94 |
                3.00    3.38 |  6.25  148.50 |  9.50    3.94 |
                3.25    3.38 |  6.50   20.25 |  9.75    3.94 |

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

--------------------
| CALIB            |
| STANDHYD (  0155)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n             =    0.013        0.250

     NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
      TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
       hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
     0.083    0.00 | 3.167    3.38 | 6.250  148.50 |  9.33    3.94
     0.167    0.00 | 3.250    3.38 | 6.333   20.25 |  9.42    3.94
     0.250    0.00 | 3.333    4.50 | 6.417   20.25 |  9.50    3.94
     0.333    2.81 | 3.417    4.50 | 6.500   20.25 |  9.58    3.94
     0.417    2.81 | 3.500    4.50 | 6.583   20.25 |  9.67    3.94
     0.500    2.81 | 3.583    4.50 | 6.667   20.25 |  9.75    3.94
     0.583    2.81 | 3.667    4.50 | 6.750   20.25 |  9.83    3.94
     0.667    2.81 | 3.750    4.50 | 6.833    9.00 |  9.92    3.94
     0.750    2.81 | 3.833    4.50 | 6.917    9.00 | 10.00    3.94
     0.833    2.81 | 3.917    4.50 | 7.000    9.00 | 10.08    3.94
     0.917    2.81 | 4.000    4.50 | 7.083    9.00 | 10.17    3.94
     1.000    2.81 | 4.083    4.50 | 7.167    9.00 | 10.25    3.94
     1.083    2.81 | 4.167    4.50 | 7.250    9.00 | 10.33    2.25
     1.167    2.81 | 4.250    4.50 | 7.333    6.75 | 10.42    2.25
     1.250    2.81 | 4.333    6.75 | 7.417    6.75 | 10.50    2.25
     1.333    2.81 | 4.417    6.75 | 7.500    6.75 | 10.58    2.25
     1.417    2.81 | 4.500    6.75 | 7.583    6.75 | 10.67    2.25
     1.500    2.81 | 4.583    6.75 | 7.667    6.75 | 10.75    2.25
     1.583    2.81 | 4.667    6.75 | 7.750    6.75 | 10.83    2.25
     1.667    2.81 | 4.750    6.75 | 7.833    6.75 | 10.92    2.25
     1.750    2.81 | 4.833    9.00 | 7.917    6.75 | 11.00    2.25
     1.833    2.81 | 4.917    9.00 | 8.000    6.75 | 11.08    2.25
     1.917    2.81 | 5.000    9.00 | 8.083    6.75 | 11.17    2.25
     2.000    2.81 | 5.083    9.00 | 8.167    6.75 | 11.25    2.25
     2.083    2.81 | 5.167    9.00 | 8.250    6.75 | 11.33    2.25
     2.167    2.81 | 5.250    9.00 | 8.333    3.94 | 11.42    2.25
     2.250    2.81 | 5.333   13.50 | 8.417    3.94 | 11.50    2.25
     2.333    3.37 | 5.417   13.50 | 8.500    3.94 | 11.58    2.25
     2.417    3.38 | 5.500   13.50 | 8.583    3.94 | 11.67    2.25
     2.500    3.38 | 5.583   13.50 | 8.667    3.94 | 11.75    2.25
     2.583    3.37 | 5.667   13.50 | 8.750    3.94 | 11.83    2.25
     2.667    3.37 | 5.750   13.50 | 8.833    3.94 | 11.92    2.25
     2.750    3.37 | 5.833   54.00 | 8.917    3.94 | 12.00    2.25
     2.833    3.37 | 5.917   54.00 | 9.000    3.94 | 12.08    2.25
     2.917    3.38 | 6.000   54.00 | 9.083    3.94 | 12.17    2.25
     3.000    3.38 | 6.083  148.50 | 9.167    3.94 | 12.25    2.25
     3.083    3.37 | 6.167  148.50 | 9.250    3.94 |

     Max.Eff.Inten.(mm/hr)=     148.50       114.47
               over (min)          5.00        10.00
     Storage Coeff.  (min)=       1.79 (ii)    5.68 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.24         0.05          0.295 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.25           6.25
     RUNOFF VOLUME    (mm)=     111.50        70.79         101.32
     TOTAL RAINFALL   (mm)=     112.50       112.50         112.50
     RUNOFF COEFFICIENT   =       0.99         0.63           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
```

```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

RESERVOIR(0157) / IN= 2---> OUT= 1 / DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.295	6.25	101.32
OUTFLOW: ID= 1 (0157)	0.780	0.068	6.42	101.15

```
                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.07
                  TIME SHIFT OF PEAK FLOW          (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0361
```

```
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\aa0b6fb5
| Ptotal=112.50 mm |    Comments: 100-Year-12-Hour-SCS-Type-II
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.50	6.75	20.25	10.00	3.94
0.50	2.81	3.75	4.50	7.00	9.00	10.25	3.94
0.75	2.81	4.00	4.50	7.25	9.00	10.50	2.25
1.00	2.81	4.25	4.50	7.50	6.75	10.75	2.25
1.25	2.81	4.50	6.75	7.75	6.75	11.00	2.25
1.50	2.81	4.75	6.75	8.00	6.75	11.25	2.25
1.75	2.81	5.00	9.00	8.25	6.75	11.50	2.25
2.00	2.81	5.25	9.00	8.50	3.94	11.75	2.25
2.25	2.81	5.50	13.50	8.75	3.94	12.00	2.25
2.50	3.38	5.75	13.50	9.00	3.94	12.25	2.25
2.75	3.37	6.00	54.00	9.25	3.94		
3.00	3.38	6.25	148.50	9.50	3.94		
3.25	3.38	6.50	20.25	9.75	3.94		

```
| CALIB            |
| STANDHYD ( 0156) |   Area     (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.38	6.250	148.50	9.33	3.94
0.167	0.00	3.250	3.38	6.333	20.25	9.42	3.94
0.250	0.00	3.333	4.50	6.417	20.25	9.50	3.94
0.333	2.81	3.417	4.50	6.500	20.25	9.58	3.94
0.417	2.81	3.500	4.50	6.583	20.25	9.67	3.94
0.500	2.81	3.583	4.50	6.667	20.25	9.75	3.94
0.583	2.81	3.667	4.50	6.750	20.25	9.83	3.94
0.667	2.81	3.750	4.50	6.833	9.00	9.92	3.94
0.750	2.81	3.833	4.50	6.917	9.00	10.00	3.94
0.833	2.81	3.917	4.50	7.000	9.00	10.08	3.94
0.917	2.81	4.000	4.50	7.083	9.00	10.17	3.94
1.000	2.81	4.083	4.50	7.167	9.00	10.25	3.94
1.083	2.81	4.167	4.50	7.250	9.00	10.33	2.25
1.167	2.81	4.250	4.50	7.333	6.75	10.42	2.25
1.250	2.81	4.333	6.75	7.417	6.75	10.50	2.25
1.333	2.81	4.417	6.75	7.500	6.75	10.58	2.25
1.417	2.81	4.500	6.75	7.583	6.75	10.67	2.25
1.500	2.81	4.583	6.75	7.667	6.75	10.75	2.25
1.583	2.81	4.667	6.75	7.750	6.75	10.83	2.25
1.667	2.81	4.750	6.75	7.833	6.75	10.92	2.25
1.750	2.81	4.833	9.00	7.917	6.75	11.00	2.25
1.833	2.81	4.917	9.00	8.000	6.75	11.08	2.25
1.917	2.81	5.000	9.00	8.083	6.75	11.17	2.25
2.000	2.81	5.083	9.00	8.167	6.75	11.25	2.25
2.083	2.81	5.167	9.00	8.250	6.75	11.33	2.25
2.167	2.81	5.250	9.00	8.333	3.94	11.42	2.25
2.250	2.81	5.333	13.50	8.417	3.94	11.50	2.25
2.333	3.37	5.417	13.50	8.500	3.94	11.58	2.25
2.417	3.38	5.500	13.50	8.583	3.94	11.67	2.25
2.500	3.38	5.583	13.50	8.667	3.94	11.75	2.25
2.583	3.37	5.667	13.50	8.750	3.94	11.83	2.25
2.667	3.37	5.750	13.50	8.833	3.94	11.92	2.25
2.750	3.37	5.833	54.00	8.917	3.94	12.00	2.25
2.833	3.37	5.917	54.00	9.000	3.94	12.08	2.25
2.917	3.38	6.000	54.00	9.083	3.94	12.17	2.25
3.000	3.38	6.083	148.50	9.167	3.94	12.25	2.25
3.083	3.37	6.167	148.50	9.250	3.94		

				TOTALS
Max.Eff.Inten.(mm/hr)=		148.50	66.52	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.30 (ii)	5.52 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.33	0.16	
PEAK FLOW	(cms)=	0.08	0.01	0.091 (iii)
TIME TO PEAK	(hrs)=	6.25	6.25	6.25
RUNOFF VOLUME	(mm)=	111.50	40.69	90.95
TOTAL RAINFALL	(mm)=	112.50	112.50	112.50
RUNOFF COEFFICIENT	=	0.99	0.36	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)      0.270     0.091      6.25      90.95
   OUTFLOW: ID= 1 (  0154)      0.270     0.040      6.33      90.78

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.88
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0084

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0154):     0.27   0.040     6.33    90.78
     + ID2= 2 (  0157):     0.78   0.068     6.42   101.15
       ================================================
       ID = 3 (  0158):     1.05   0.108     6.33    98.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0158):     1.05   0.108     6.33    98.49
     + ID2= 2 (  0160):     1.07   0.056     6.75   101.07
       ================================================
       ID = 1 (  0158):     2.12   0.161     6.33    99.79

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0158):     2.12   0.161     6.33    99.79
     + ID2= 2 (  0162):    18.81   0.775     7.08    67.06
       ================================================
       ID = 3 (  0158):    20.93   0.904     7.00    70.38

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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DATE: 10-31-2019                          TIME: 10:47:25

USER:


COMMENTS: _____________________________________________________________

--------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : 6-100-Year-24-Hour-SCS-Type-I **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\04046152
| Ptotal=133.60 mm |    Comments: 100-Year-24-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    2.67 | 12.75   19.24 | 19.00    2.40
                0.50    1.34 |  6.75    2.67 | 13.00    9.89 | 19.25    2.40
                0.75    1.34 |  7.00    2.67 | 13.25    9.89 | 19.50    2.40
                1.00    1.34 |  7.25    2.67 | 13.50    1.87 | 19.75    2.40
                1.25    1.34 |  7.50    2.67 | 13.75    1.87 | 20.00    2.40
```

1.50	1.34	7.75	2.67	14.00	10.96	20.25	2.40
1.75	1.34	8.00	2.67	14.25	10.96	20.50	1.60
2.00	1.34	8.25	2.67	14.50	4.01	20.75	1.60
2.25	2.40	8.50	3.61	14.75	4.01	21.00	1.60
2.50	1.74	8.75	3.61	15.00	4.01	21.25	1.60
2.75	1.74	9.00	3.61	15.25	4.01	21.50	1.60
3.00	1.74	9.25	3.61	15.50	4.01	21.75	1.60
3.25	1.74	9.50	4.28	15.75	4.01	22.00	1.60
3.50	1.74	9.75	4.28	16.00	4.01	22.25	1.60
3.75	1.74	10.00	4.81	16.25	4.01	22.50	1.60
4.00	1.74	10.25	4.81	16.50	2.40	22.75	1.60
4.25	1.74	10.50	6.15	16.75	2.40	23.00	1.60
4.50	2.14	10.75	6.15	17.00	2.40	23.25	1.60
4.75	2.14	11.00	8.28	17.25	2.40	23.50	1.60
5.00	2.14	11.25	8.28	17.50	2.40	23.75	1.60
5.25	2.14	11.50	12.83	17.75	2.40	24.00	1.60
5.50	2.14	11.75	12.83	18.00	2.40	24.25	1.60
5.75	2.14	12.00	55.58	18.25	2.40		
6.00	2.14	12.25	147.49	18.50	2.40		
6.25	2.14	12.50	19.24	18.75	2.40		

CALIB			
NASHYD (0137)	Area (ha)=	8.10	Curve Number (CN)= 52.7
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.59	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.14	12.250	147.49	18.33	2.40
0.167	0.00	6.250	2.14	12.333	19.25	18.42	2.40
0.250	0.00	6.333	2.67	12.417	19.24	18.50	2.40
0.333	1.34	6.417	2.67	12.500	19.24	18.58	2.40
0.417	1.34	6.500	2.67	12.583	19.24	18.67	2.40
0.500	1.34	6.583	2.67	12.667	19.24	18.75	2.40
0.583	1.34	6.667	2.67	12.750	19.24	18.83	2.40
0.667	1.34	6.750	2.67	12.833	9.89	18.92	2.40
0.750	1.34	6.833	2.67	12.917	9.89	19.00	2.40
0.833	1.34	6.917	2.67	13.000	9.89	19.08	2.40
0.917	1.34	7.000	2.67	13.083	9.89	19.17	2.40
1.000	1.34	7.083	2.67	13.167	9.89	19.25	2.40
1.083	1.34	7.167	2.67	13.250	9.89	19.33	2.40
1.167	1.34	7.250	2.67	13.333	1.87	19.42	2.40
1.250	1.34	7.333	2.67	13.417	1.87	19.50	2.40
1.333	1.34	7.417	2.67	13.500	1.87	19.58	2.40
1.417	1.34	7.500	2.67	13.583	1.87	19.67	2.40
1.500	1.34	7.583	2.67	13.667	1.87	19.75	2.40
1.583	1.34	7.667	2.67	13.750	1.87	19.83	2.40
1.667	1.34	7.750	2.67	13.833	10.95	19.92	2.40
1.750	1.34	7.833	2.67	13.917	10.96	20.00	2.40
1.833	1.34	7.917	2.67	14.000	10.96	20.08	2.40
1.917	1.34	8.000	2.67	14.083	10.96	20.17	2.40
2.000	1.34	8.083	2.67	14.167	10.96	20.25	2.40
2.083	2.40	8.167	2.67	14.250	10.96	20.33	1.60
2.167	2.40	8.250	2.67	14.333	4.01	20.42	1.60
2.250	2.40	8.333	3.61	14.417	4.01	20.50	1.60
2.333	1.74	8.417	3.61	14.500	4.01	20.58	1.60
2.417	1.74	8.500	3.61	14.583	4.01	20.67	1.60
2.500	1.74	8.583	3.61	14.667	4.01	20.75	1.60
2.583	1.74	8.667	3.61	14.750	4.01	20.83	1.60
2.667	1.74	8.750	3.61	14.833	4.01	20.92	1.60
2.750	1.74	8.833	3.61	14.917	4.01	21.00	1.60
2.833	1.74	8.917	3.61	15.000	4.01	21.08	1.60
2.917	1.74	9.000	3.61	15.083	4.01	21.17	1.60
3.000	1.74	9.083	3.61	15.167	4.01	21.25	1.60
3.083	1.74	9.167	3.61	15.250	4.01	21.33	1.60
3.167	1.74	9.250	3.61	15.333	4.01	21.42	1.60
3.250	1.74	9.333	4.28	15.417	4.01	21.50	1.60
3.333	1.74	9.417	4.28	15.500	4.01	21.58	1.60
3.417	1.74	9.500	4.28	15.583	4.01	21.67	1.60
3.500	1.74	9.583	4.28	15.667	4.01	21.75	1.60
3.583	1.74	9.667	4.28	15.750	4.01	21.83	1.60
3.667	1.74	9.750	4.28	15.833	4.01	21.92	1.60
3.750	1.74	9.833	4.81	15.917	4.01	22.00	1.60
3.833	1.74	9.917	4.81	16.000	4.01	22.08	1.60
3.917	1.74	10.000	4.81	16.083	4.01	22.17	1.60
4.000	1.74	10.083	4.81	16.167	4.01	22.25	1.60
4.083	1.74	10.167	4.81	16.250	4.01	22.33	1.60
4.167	1.74	10.250	4.81	16.333	2.41	22.42	1.60
4.250	1.74	10.333	6.15	16.417	2.40	22.50	1.60
4.333	2.14	10.417	6.15	16.500	2.40	22.58	1.60
4.417	2.14	10.500	6.15	16.583	2.40	22.67	1.60
4.500	2.14	10.583	6.15	16.667	2.40	22.75	1.60
4.583	2.14	10.667	6.15	16.750	2.40	22.83	1.60
4.667	2.14	10.750	6.15	16.833	2.40	22.92	1.60
4.750	2.14	10.833	8.28	16.917	2.40	23.00	1.60
4.833	2.14	10.917	8.28	17.000	2.40	23.08	1.60
4.917	2.14	11.000	8.28	17.083	2.40	23.17	1.60
5.000	2.14	11.083	8.28	17.167	2.40	23.25	1.60
5.083	2.14	11.167	8.28	17.250	2.40	23.33	1.60
5.167	2.14	11.250	8.28	17.333	2.40	23.42	1.60
5.250	2.14	11.333	12.83	17.417	2.40	23.50	1.60
5.333	2.14	11.417	12.83	17.500	2.40	23.58	1.60
5.417	2.14	11.500	12.83	17.583	2.40	23.67	1.60
5.500	2.14	11.583	12.83	17.667	2.40	23.75	1.60
5.583	2.14	11.667	12.83	17.750	2.40	23.83	1.60
5.667	2.14	11.750	12.83	17.833	2.40	23.92	1.60
5.750	2.14	11.833	55.57	17.917	2.40	24.00	1.60
5.833	2.14	11.917	55.58	18.000	2.40	24.08	1.60
5.917	2.14	12.000	55.58	18.083	2.40	24.17	1.60
6.000	2.14	12.083	147.48	18.167	2.40	24.25	1.60
6.083	2.14	12.167	147.49	18.250	2.40		

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.429 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 46.379
TOTAL RAINFALL (mm)= 133.600
RUNOFF COEFFICIENT = 0.347

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

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\04046152
| Ptotal=133.60 mm |    Comments: 100-Year-24-Hour-SCS-Type-II
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.67	12.75	19.24	19.00	2.40
0.50	1.34	6.75	2.67	13.00	9.89	19.25	2.40
0.75	1.34	7.00	2.67	13.25	9.89	19.50	2.40
1.00	1.34	7.25	2.67	13.50	1.87	19.75	2.40
1.25	1.34	7.50	2.67	13.75	1.87	20.00	2.40
1.50	1.34	7.75	2.67	14.00	10.96	20.25	2.40
1.75	1.34	8.00	2.67	14.25	10.96	20.50	1.60
2.00	1.34	8.25	2.67	14.50	4.01	20.75	1.60
2.25	2.40	8.50	3.61	14.75	4.01	21.00	1.60
2.50	1.74	8.75	3.61	15.00	4.01	21.25	1.60
2.75	1.74	9.00	3.61	15.25	4.01	21.50	1.60
3.00	1.74	9.25	3.61	15.50	4.01	21.75	1.60
3.25	1.74	9.50	4.28	15.75	4.01	22.00	1.60
3.50	1.74	9.75	4.28	16.00	4.01	22.25	1.60
3.75	1.74	10.00	4.81	16.25	4.01	22.50	1.60
4.00	1.74	10.25	4.81	16.50	2.40	22.75	1.60
4.25	1.74	10.50	6.15	16.75	2.40	23.00	1.60
4.50	2.14	10.75	6.15	17.00	2.40	23.25	1.60
4.75	2.14	11.00	8.28	17.25	2.40	23.50	1.60
5.00	2.14	11.25	8.28	17.50	2.40	23.75	1.60
5.25	2.14	11.50	12.83	17.75	2.40	24.00	1.60
5.50	2.14	11.75	12.83	18.00	2.40	24.25	1.60
5.75	2.14	12.00	55.58	18.25	2.40		
6.00	2.14	12.25	147.49	18.50	2.40		
6.25	2.14	12.50	19.24	18.75	2.40		

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| CALIB            |
| STANDHYD (  0153)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.14	12.250	147.49	18.33	2.40
0.167	0.00	6.250	2.14	12.333	19.25	18.42	2.40
0.250	0.00	6.333	2.67	12.417	19.24	18.50	2.40
0.333	1.34	6.417	2.67	12.500	19.24	18.58	2.40
0.417	1.34	6.500	2.67	12.583	19.24	18.67	2.40
0.500	1.34	6.583	2.67	12.667	19.24	18.75	2.40
0.583	1.34	6.667	2.67	12.750	19.24	18.83	2.40
0.667	1.34	6.750	2.67	12.833	9.89	18.92	2.40
0.750	1.34	6.833	2.67	12.917	9.89	19.00	2.40
0.833	1.34	6.917	2.67	13.000	9.89	19.08	2.40
0.917	1.34	7.000	2.67	13.083	9.89	19.17	2.40
1.000	1.34	7.083	2.67	13.167	9.89	19.25	2.40
1.083	1.34	7.167	2.67	13.250	9.89	19.33	2.40
1.167	1.34	7.250	2.67	13.333	1.87	19.42	2.40
1.250	1.34	7.333	2.67	13.417	1.87	19.50	2.40
1.333	1.34	7.417	2.67	13.500	1.87	19.58	2.40
1.417	1.34	7.500	2.67	13.583	1.87	19.67	2.40
1.500	1.34	7.583	2.67	13.667	1.87	19.75	2.40
1.583	1.34	7.667	2.67	13.750	1.87	19.83	2.40
1.667	1.34	7.750	2.67	13.833	10.95	19.92	2.40
1.750	1.34	7.833	2.67	13.917	10.96	20.00	2.40
1.833	1.34	7.917	2.67	14.000	10.96	20.08	2.40
1.917	1.34	8.000	2.67	14.083	10.96	20.17	2.40
2.000	1.34	8.083	2.67	14.167	10.96	20.25	2.40
2.083	2.40	8.167	2.67	14.250	10.96	20.33	1.60
2.167	2.40	8.250	2.67	14.333	4.01	20.42	1.60
2.250	2.40	8.333	3.61	14.417	4.01	20.50	1.60
2.333	1.74	8.417	3.61	14.500	4.01	20.58	1.60
2.417	1.74	8.500	3.61	14.583	4.01	20.67	1.60
2.500	1.74	8.583	3.61	14.667	4.01	20.75	1.60
2.583	1.74	8.667	3.61	14.750	4.01	20.83	1.60
2.667	1.74	8.750	3.61	14.833	4.01	20.92	1.60
2.750	1.74	8.833	3.61	14.917	4.01	21.00	1.60
2.833	1.74	8.917	3.61	15.000	4.01	21.08	1.60
2.917	1.74	9.000	3.61	15.083	4.01	21.17	1.60
3.000	1.74	9.083	3.61	15.167	4.01	21.25	1.60
3.083	1.74	9.167	3.61	15.250	4.01	21.33	1.60
3.167	1.74	9.250	3.61	15.333	4.01	21.42	1.60
3.250	1.74	9.333	4.28	15.417	4.01	21.50	1.60
3.333	1.74	9.417	4.28	15.500	4.01	21.58	1.60
3.417	1.74	9.500	4.28	15.583	4.01	21.67	1.60
3.500	1.74	9.583	4.28	15.667	4.01	21.75	1.60
3.583	1.74	9.667	4.28	15.750	4.01	21.83	1.60
3.667	1.74	9.750	4.28	15.833	4.01	21.92	1.60
3.750	1.74	9.833	4.81	15.917	4.01	22.00	1.60
3.833	1.74	9.917	4.81	16.000	4.01	22.08	1.60
3.917	1.74	10.000	4.81	16.083	4.01	22.17	1.60
4.000	1.74	10.083	4.81	16.167	4.01	22.25	1.60
4.083	1.74	10.167	4.81	16.250	4.01	22.33	1.60
4.167	1.74	10.250	4.81	16.333	2.41	22.42	1.60
4.250	1.74	10.333	6.15	16.417	2.40	22.50	1.60
4.333	2.14	10.417	6.15	16.500	2.40	22.58	1.60
4.417	2.14	10.500	6.15	16.583	2.40	22.67	1.60
4.500	2.14	10.583	6.15	16.667	2.40	22.75	1.60
4.583	2.14	10.667	6.15	16.750	2.40	22.83	1.60
4.667	2.14	10.750	6.15	16.833	2.40	22.92	1.60
4.750	2.14	10.833	8.28	16.917	2.40	23.00	1.60
4.833	2.14	10.917	8.28	17.000	2.40	23.08	1.60
4.917	2.14	11.000	8.28	17.083	2.40	23.17	1.60
5.000	2.14	11.083	8.28	17.167	2.40	23.25	1.60
5.083	2.14	11.167	8.28	17.250	2.40	23.33	1.60
5.167	2.14	11.250	8.28	17.333	2.40	23.42	1.60
5.250	2.14	11.333	12.83	17.417	2.40	23.50	1.60
5.333	2.14	11.417	12.83	17.500	2.40	23.58	1.60
5.417	2.14	11.500	12.83	17.583	2.40	23.67	1.60

5.500	2.14	11.583	12.83	17.667	2.40	23.75	1.60
5.583	2.14	11.667	12.83	17.750	2.40	23.83	1.60
5.667	2.14	11.750	12.83	17.833	2.40	23.92	1.60
5.750	2.14	11.833	55.57	17.917	2.40	24.00	1.60
5.833	2.14	11.917	55.58	18.000	2.40	24.08	1.60
5.917	2.14	12.000	55.58	18.083	2.40	24.17	1.60
6.000	2.14	12.083	147.48	18.167	2.40	24.25	1.60
6.083	2.14	12.167	147.49	18.250	2.40		

			TOTALS
Max.Eff.Inten.(mm/hr)=	147.49	72.47	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.95 (ii)	5.85 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
PEAK FLOW (cms)=	0.32	0.04	0.361 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	132.60	54.20	113.00
TOTAL RAINFALL (mm)=	133.60	133.60	133.60
RUNOFF COEFFICIENT =	0.99	0.41	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.361	12.25	113.00
OUTFLOW: ID= 1 (0159)	1.030	0.103	12.33	112.91

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.60
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0407

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\04046152
Ptotal=133.60 mm	Comments: 100-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.67	12.75	19.24	19.00	2.40
0.50	1.34	6.75	2.67	13.00	9.89	19.25	2.40
0.75	1.34	7.00	2.67	13.25	9.89	19.50	2.40
1.00	1.34	7.25	2.67	13.50	1.87	19.75	2.40
1.25	1.34	7.50	2.67	13.75	1.87	20.00	2.40
1.50	1.34	7.75	2.67	14.00	10.96	20.25	2.40
1.75	1.34	8.00	2.67	14.25	10.96	20.50	1.60
2.00	1.34	8.25	2.67	14.50	4.01	20.75	1.60
2.25	2.40	8.50	3.61	14.75	4.01	21.00	1.60
2.50	1.74	8.75	3.61	15.00	4.01	21.25	1.60
2.75	1.74	9.00	3.61	15.25	4.01	21.50	1.60
3.00	1.74	9.25	3.61	15.50	4.01	21.75	1.60
3.25	1.74	9.50	4.28	15.75	4.01	22.00	1.60
3.50	1.74	9.75	4.28	16.00	4.01	22.25	1.60
3.75	1.74	10.00	4.81	16.25	4.01	22.50	1.60
4.00	1.74	10.25	4.81	16.50	2.40	22.75	1.60
4.25	1.74	10.50	6.15	16.75	2.40	23.00	1.60
4.50	2.14	10.75	6.15	17.00	2.40	23.25	1.60
4.75	2.14	11.00	8.28	17.25	2.40	23.50	1.60
5.00	2.14	11.25	8.28	17.50	2.40	23.75	1.60
5.25	2.14	11.50	12.83	17.75	2.40	24.00	1.60
5.50	2.14	11.75	12.83	18.00	2.40	24.25	1.60
5.75	2.14	12.00	55.58	18.25	2.40		
6.00	2.14	12.25	147.49	18.50	2.40		
6.25	2.14	12.50	19.24	18.75	2.40		

CALIB			
STANDHYD (0163)	Area (ha)= 15.36		
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00	Dir. Conn.(%)= 58.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	8.91	6.45
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	320.00	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.14	12.250	147.49	18.33	2.40
0.167	0.00	6.250	2.14	12.333	19.25	18.42	2.40
0.250	0.00	6.333	2.67	12.417	19.24	18.50	2.40
0.333	1.34	6.417	2.67	12.500	19.24	18.58	2.40
0.417	1.34	6.500	2.67	12.583	19.24	18.67	2.40
0.500	1.34	6.583	2.67	12.667	19.24	18.75	2.40
0.583	1.34	6.667	2.67	12.750	19.24	18.83	2.40
0.667	1.34	6.750	2.67	12.833	9.89	18.92	2.40
0.750	1.34	6.833	2.67	12.917	9.89	19.00	2.40
0.833	1.34	6.917	2.67	13.000	9.89	19.08	2.40
0.917	1.34	7.000	2.67	13.083	9.89	19.17	2.40
1.000	1.34	7.083	2.67	13.167	9.89	19.25	2.40
1.083	1.34	7.167	2.67	13.250	9.89	19.33	2.40
1.167	1.34	7.250	2.67	13.333	1.87	19.42	2.40
1.250	1.34	7.333	2.67	13.417	1.87	19.50	2.40
1.333	1.34	7.417	2.67	13.500	1.87	19.58	2.40
1.417	1.34	7.500	2.67	13.583	1.87	19.67	2.40
1.500	1.34	7.583	2.67	13.667	1.87	19.75	2.40

1.583	1.34	7.667	2.67	13.750	1.87	19.83	2.40
1.667	1.34	7.750	2.67	13.833	10.95	19.92	2.40
1.750	1.34	7.833	2.67	13.917	10.96	20.00	2.40
1.833	1.34	7.917	2.67	14.000	10.96	20.08	2.40
1.917	1.34	8.000	2.67	14.083	10.96	20.17	2.40
2.000	1.34	8.083	2.67	14.167	10.96	20.25	2.40
2.083	2.40	8.167	2.67	14.250	10.96	20.33	1.60
2.167	2.40	8.250	2.67	14.333	4.01	20.42	1.60
2.250	2.40	8.333	3.61	14.417	4.01	20.50	1.60
2.333	1.74	8.417	3.61	14.500	4.01	20.58	1.60
2.417	1.74	8.500	3.61	14.583	4.01	20.67	1.60
2.500	1.74	8.583	3.61	14.667	4.01	20.75	1.60
2.583	1.74	8.667	3.61	14.750	4.01	20.83	1.60
2.667	1.74	8.750	3.61	14.833	4.01	20.92	1.60
2.750	1.74	8.833	3.61	14.917	4.01	21.00	1.60
2.833	1.74	8.917	3.61	15.000	4.01	21.08	1.60
2.917	1.74	9.000	3.61	15.083	4.01	21.17	1.60
3.000	1.74	9.083	3.61	15.167	4.01	21.25	1.60
3.083	1.74	9.167	3.61	15.250	4.01	21.33	1.60
3.167	1.74	9.250	3.61	15.333	4.01	21.42	1.60
3.250	1.74	9.333	4.28	15.417	4.01	21.50	1.60
3.333	1.74	9.417	4.28	15.500	4.01	21.58	1.60
3.417	1.74	9.500	4.28	15.583	4.01	21.67	1.60
3.500	1.74	9.583	4.28	15.667	4.01	21.75	1.60
3.583	1.74	9.667	4.28	15.750	4.01	21.83	1.60
3.667	1.74	9.750	4.28	15.833	4.01	21.92	1.60
3.750	1.74	9.833	4.81	15.917	4.01	22.00	1.60
3.833	1.74	9.917	4.81	16.000	4.01	22.08	1.60
3.917	1.74	10.000	4.81	16.083	4.01	22.17	1.60
4.000	1.74	10.083	4.81	16.167	4.01	22.25	1.60
4.083	1.74	10.167	4.81	16.250	4.01	22.33	1.60
4.167	1.74	10.250	4.81	16.333	2.41	22.42	1.60
4.250	1.74	10.333	6.15	16.417	2.40	22.50	1.60
4.333	2.14	10.417	6.15	16.500	2.40	22.58	1.60
4.417	2.14	10.500	6.15	16.583	2.40	22.67	1.60
4.500	2.14	10.583	6.15	16.667	2.40	22.75	1.60
4.583	2.14	10.667	6.15	16.750	2.40	22.83	1.60
4.667	2.14	10.750	6.15	16.833	2.40	22.92	1.60
4.750	2.14	10.833	8.28	16.917	2.40	23.00	1.60
4.833	2.14	10.917	8.28	17.000	2.40	23.08	1.60
4.917	2.14	11.000	8.28	17.083	2.40	23.17	1.60
5.000	2.14	11.083	8.28	17.167	2.40	23.25	1.60
5.083	2.14	11.167	8.28	17.250	2.40	23.33	1.60
5.167	2.14	11.250	8.28	17.333	2.40	23.42	1.60
5.250	2.14	11.333	12.83	17.417	2.40	23.50	1.60
5.333	2.14	11.417	12.83	17.500	2.40	23.58	1.60
5.417	2.14	11.500	12.83	17.583	2.40	23.67	1.60
5.500	2.14	11.583	12.83	17.667	2.40	23.75	1.60
5.583	2.14	11.667	12.83	17.750	2.40	23.83	1.60
5.667	2.14	11.750	12.83	17.833	2.40	23.92	1.60
5.750	2.14	11.833	55.57	17.917	2.40	24.00	1.60
5.833	2.14	11.917	55.58	18.000	2.40	24.08	1.60
5.917	2.14	12.000	55.58	18.083	2.40	24.17	1.60
6.000	2.14	12.083	147.48	18.167	2.40	24.25	1.60
6.083	2.14	12.167	147.49	18.250	2.40		

Max.Eff.Inten.(mm/hr)=	147.49	75.34
over (min)	5.00	15.00
Storage Coeff. (min)=	4.39 (ii)	12.30 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00

Unit Hyd. peak (cms)=	0.23	0.09	
			TOTALS
PEAK FLOW (cms)=	3.57	0.85	4.323 (iii)
TIME TO PEAK (hrs)=	12.25	12.33	12.25
RUNOFF VOLUME (mm)=	132.60	56.30	100.55
TOTAL RAINFALL (mm)=	133.60	133.60	133.60
RUNOFF COEFFICIENT =	0.99	0.42	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0152)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0137):	8.10	0.429	12.75	46.38
+ ID2= 2 (0159):	1.03	0.103	12.33	112.91
ID = 3 (0152):	9.13	0.518	12.75	53.88

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0152)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0152):	9.13	0.518	12.75	53.88
+ ID2= 2 (0163):	15.36	4.323	12.25	100.55
ID = 1 (0152):	24.49	4.614	12.25	83.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0161)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.4045	0.7000
	0.0151	0.0001	0.5514	0.8000
	0.0151	0.1301	0.7611	0.9000
	0.0440	0.4217	0.9325	0.9500
	0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0152)	24.490	4.614	12.25	83.16
OUTFLOW: ID= 1 (0161)	24.490	0.966	12.92	83.16

PEAK FLOW REDUCTION [Qout/Qin](%)= 20.94

TIME SHIFT OF PEAK FLOW (min)= 40.00
MAXIMUM STORAGE USED (ha.m.)= 0.9688

DUHYD (0162)
Inlet Cap.= 0.015
#of Inlets= 1
Total(cms)= 0.0

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.49	0.97	12.92	83.16
MAJOR SYS.(ID= 2):	19.26	0.95	12.92	83.16
MINOR SYS.(ID= 3):	5.23	0.02	8.92	83.16

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\04046152
Ptotal=133.60 mm	Comments: 100-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.67	12.75	19.24	19.00	2.40
0.50	1.34	6.75	2.67	13.00	9.89	19.25	2.40
0.75	1.34	7.00	2.67	13.25	9.89	19.50	2.40
1.00	1.34	7.25	2.67	13.50	1.87	19.75	2.40
1.25	1.34	7.50	2.67	13.75	1.87	20.00	2.40
1.50	1.34	7.75	2.67	14.00	10.96	20.25	2.40
1.75	1.34	8.00	2.67	14.25	10.96	20.50	1.60
2.00	1.34	8.25	2.67	14.50	4.01	20.75	1.60
2.25	2.40	8.50	3.61	14.75	4.01	21.00	1.60
2.50	1.74	8.75	3.61	15.00	4.01	21.25	1.60
2.75	1.74	9.00	3.61	15.25	4.01	21.50	1.60
3.00	1.74	9.25	3.61	15.50	4.01	21.75	1.60
3.25	1.74	9.50	4.28	15.75	4.01	22.00	1.60
3.50	1.74	9.75	4.28	16.00	4.01	22.25	1.60
3.75	1.74	10.00	4.81	16.25	4.01	22.50	1.60
4.00	1.74	10.25	4.81	16.50	2.40	22.75	1.60
4.25	1.74	10.50	6.15	16.75	2.40	23.00	1.60
4.50	2.14	10.75	6.15	17.00	2.40	23.25	1.60
4.75	2.14	11.00	8.28	17.25	2.40	23.50	1.60
5.00	2.14	11.25	8.28	17.50	2.40	23.75	1.60
5.25	2.14	11.50	12.83	17.75	2.40	24.00	1.60
5.50	2.14	11.75	12.83	18.00	2.40	24.25	1.60
5.75	2.14	12.00	55.58	18.25	2.40		
6.00	2.14	12.25	147.49	18.50	2.40		
6.25	2.14	12.50	19.24	18.75	2.40		

CALIB	
STANDHYD (0151)|	Area (ha)= 1.07
ID= 1 DT= 5.0 min		Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.14	12.250	147.49	18.33	2.40
0.167	0.00	6.250	2.14	12.333	19.25	18.42	2.40
0.250	0.00	6.333	2.67	12.417	19.24	18.50	2.40
0.333	1.34	6.417	2.67	12.500	19.24	18.58	2.40
0.417	1.34	6.500	2.67	12.583	19.24	18.67	2.40
0.500	1.34	6.583	2.67	12.667	19.24	18.75	2.40
0.583	1.34	6.667	2.67	12.750	19.24	18.83	2.40
0.667	1.34	6.750	2.67	12.833	9.89	18.92	2.40
0.750	1.34	6.833	2.67	12.917	9.89	19.00	2.40
0.833	1.34	6.917	2.67	13.000	9.89	19.08	2.40
0.917	1.34	7.000	2.67	13.083	9.89	19.17	2.40
1.000	1.34	7.083	2.67	13.167	9.89	19.25	2.40
1.083	1.34	7.167	2.67	13.250	9.89	19.33	2.40
1.167	1.34	7.250	2.67	13.333	1.87	19.42	2.40
1.250	1.34	7.333	2.67	13.417	1.87	19.50	2.40
1.333	1.34	7.417	2.67	13.500	1.87	19.58	2.40
1.417	1.34	7.500	2.67	13.583	1.87	19.67	2.40
1.500	1.34	7.583	2.67	13.667	1.87	19.75	2.40
1.583	1.34	7.667	2.67	13.750	1.87	19.83	2.40
1.667	1.34	7.750	2.67	13.833	10.95	19.92	2.40
1.750	1.34	7.833	2.67	13.917	10.96	20.00	2.40
1.833	1.34	7.917	2.67	14.000	10.96	20.08	2.40
1.917	1.34	8.000	2.67	14.083	10.96	20.17	2.40
2.000	1.34	8.083	2.67	14.167	10.96	20.25	2.40
2.083	2.40	8.167	2.67	14.250	10.96	20.33	1.60
2.167	2.40	8.250	2.67	14.333	4.01	20.42	1.60
2.250	2.40	8.333	3.61	14.417	4.01	20.50	1.60
2.333	1.74	8.417	3.61	14.500	4.01	20.58	1.60
2.417	1.74	8.500	3.61	14.583	4.01	20.67	1.60
2.500	1.74	8.583	3.61	14.667	4.01	20.75	1.60
2.583	1.74	8.667	3.61	14.750	4.01	20.83	1.60
2.667	1.74	8.750	3.61	14.833	4.01	20.92	1.60
2.750	1.74	8.833	3.61	14.917	4.01	21.00	1.60
2.833	1.74	8.917	3.61	15.000	4.01	21.08	1.60
2.917	1.74	9.000	3.61	15.083	4.01	21.17	1.60
3.000	1.74	9.083	3.61	15.167	4.01	21.25	1.60
3.083	1.74	9.167	3.61	15.250	4.01	21.33	1.60
3.167	1.74	9.250	3.61	15.333	4.01	21.42	1.60
3.250	1.74	9.333	4.28	15.417	4.01	21.50	1.60
3.333	1.74	9.417	4.28	15.500	4.01	21.58	1.60
3.417	1.74	9.500	4.28	15.583	4.01	21.67	1.60
3.500	1.74	9.583	4.28	15.667	4.01	21.75	1.60
3.583	1.74	9.667	4.28	15.750	4.01	21.83	1.60
3.667	1.74	9.750	4.28	15.833	4.01	21.92	1.60
3.750	1.74	9.833	4.81	15.917	4.01	22.00	1.60
3.833	1.74	9.917	4.81	16.000	4.01	22.08	1.60
3.917	1.74	10.000	4.81	16.083	4.01	22.17	1.60

4.000	1.74	10.083	4.81	16.167	4.01	22.25	1.60	
4.083	1.74	10.167	4.81	16.250	4.01	22.33	1.60	
4.167	1.74	10.250	4.81	16.333	2.41	22.42	1.60	
4.250	1.74	10.333	6.15	16.417	2.40	22.50	1.60	
4.333	2.14	10.417	6.15	16.500	2.40	22.58	1.60	
4.417	2.14	10.500	6.15	16.583	2.40	22.67	1.60	
4.500	2.14	10.583	6.15	16.667	2.40	22.75	1.60	
4.583	2.14	10.667	6.15	16.750	2.40	22.83	1.60	
4.667	2.14	10.750	6.15	16.833	2.40	22.92	1.60	
4.750	2.14	10.833	8.28	16.917	2.40	23.00	1.60	
4.833	2.14	10.917	8.28	17.000	2.40	23.08	1.60	
4.917	2.14	11.000	8.28	17.083	2.40	23.17	1.60	
5.000	2.14	11.083	8.28	17.167	2.40	23.25	1.60	
5.083	2.14	11.167	8.28	17.250	2.40	23.33	1.60	
5.167	2.14	11.250	8.28	17.333	2.40	23.42	1.60	
5.250	2.14	11.333	12.83	17.417	2.40	23.50	1.60	
5.333	2.14	11.417	12.83	17.500	2.40	23.58	1.60	
5.417	2.14	11.500	12.83	17.583	2.40	23.67	1.60	
5.500	2.14	11.583	12.83	17.667	2.40	23.75	1.60	
5.583	2.14	11.667	12.83	17.750	2.40	23.83	1.60	
5.667	2.14	11.750	12.83	17.833	2.40	23.92	1.60	
5.750	2.14	11.833	55.57	17.917	2.40	24.00	1.60	
5.833	2.14	11.917	55.58	18.000	2.40	24.08	1.60	
5.917	2.14	12.000	55.58	18.083	2.40	24.17	1.60	
6.000	2.14	12.083	147.48	18.167	2.40	24.25	1.60	
6.083	2.14	12.167	147.49	18.250	2.40			

Max.Eff.Inten.(mm/hr)=	147.49	118.82	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.98 (ii)	5.87 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
			TOTALS
PEAK FLOW (cms)=	0.33	0.08	0.406 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	132.60	89.71	121.87
TOTAL RAINFALL (mm)=	133.60	133.60	133.60
RUNOFF COEFFICIENT =	0.99	0.67	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0160)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	1.070	0.406	12.25	121.87
OUTFLOW: ID= 1 (0160)	1.070	0.056	12.67	121.62

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.88
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 0.0606

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\04046152
Ptotal=133.60 mm	Comments: 100-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.67	12.75	19.24	19.00	2.40
0.50	1.34	6.75	2.67	13.00	9.89	19.25	2.40
0.75	1.34	7.00	2.67	13.25	9.89	19.50	2.40
1.00	1.34	7.25	2.67	13.50	1.87	19.75	2.40
1.25	1.34	7.50	2.67	13.75	1.87	20.00	2.40
1.50	1.34	7.75	2.67	14.00	10.96	20.25	2.40
1.75	1.34	8.00	2.67	14.25	10.96	20.50	1.60
2.00	1.34	8.25	2.67	14.50	4.01	20.75	1.60
2.25	2.40	8.50	3.61	14.75	4.01	21.00	1.60
2.50	1.74	8.75	3.61	15.00	4.01	21.25	1.60
2.75	1.74	9.00	3.61	15.25	4.01	21.50	1.60
3.00	1.74	9.25	3.61	15.50	4.01	21.75	1.60
3.25	1.74	9.50	4.28	15.75	4.01	22.00	1.60
3.50	1.74	9.75	4.28	16.00	4.01	22.25	1.60
3.75	1.74	10.00	4.81	16.25	4.01	22.50	1.60
4.00	1.74	10.25	4.81	16.50	2.40	22.75	1.60
4.25	1.74	10.50	6.15	16.75	2.40	23.00	1.60
4.50	2.14	10.75	6.15	17.00	2.40	23.25	1.60
4.75	2.14	11.00	8.28	17.25	2.40	23.50	1.60
5.00	2.14	11.25	8.28	17.50	2.40	23.75	1.60
5.25	2.14	11.50	12.83	17.75	2.40	24.00	1.60
5.50	2.14	11.75	12.83	18.00	2.40	24.25	1.60
5.75	2.14	12.00	55.58	18.25	2.40		
6.00	2.14	12.25	147.49	18.50	2.40		
6.25	2.14	12.50	19.24	18.75	2.40		

CALIB	Area (ha)= 0.78
STANDHYD (0155)	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00
ID= 1 DT= 5.0 min	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr

0.083	0.00	6.167	2.14	12.250	147.49	18.33	2.40
0.167	0.00	6.250	2.14	12.333	19.25	18.42	2.40
0.250	0.00	6.333	2.67	12.417	19.24	18.50	2.40
0.333	1.34	6.417	2.67	12.500	19.24	18.58	2.40
0.417	1.34	6.500	2.67	12.583	19.24	18.67	2.40
0.500	1.34	6.583	2.67	12.667	19.24	18.75	2.40
0.583	1.34	6.667	2.67	12.750	19.24	18.83	2.40
0.667	1.34	6.750	2.67	12.833	9.89	18.92	2.40
0.750	1.34	6.833	2.67	12.917	9.89	19.00	2.40
0.833	1.34	6.917	2.67	13.000	9.89	19.08	2.40
0.917	1.34	7.000	2.67	13.083	9.89	19.17	2.40
1.000	1.34	7.083	2.67	13.167	9.89	19.25	2.40
1.083	1.34	7.167	2.67	13.250	9.89	19.33	2.40
1.167	1.34	7.250	2.67	13.333	1.87	19.42	2.40
1.250	1.34	7.333	2.67	13.417	1.87	19.50	2.40
1.333	1.34	7.417	2.67	13.500	1.87	19.58	2.40
1.417	1.34	7.500	2.67	13.583	1.87	19.67	2.40
1.500	1.34	7.583	2.67	13.667	1.87	19.75	2.40
1.583	1.34	7.667	2.67	13.750	1.87	19.83	2.40
1.667	1.34	7.750	2.67	13.833	10.95	19.92	2.40
1.750	1.34	7.833	2.67	13.917	10.96	20.00	2.40
1.833	1.34	7.917	2.67	14.000	10.96	20.08	2.40
1.917	1.34	8.000	2.67	14.083	10.96	20.17	2.40
2.000	1.34	8.083	2.67	14.167	10.96	20.25	2.40
2.083	2.40	8.167	2.67	14.250	10.96	20.33	1.60
2.167	2.40	8.250	2.67	14.333	4.01	20.42	1.60
2.250	2.40	8.333	3.61	14.417	4.01	20.50	1.60
2.333	1.74	8.417	3.61	14.500	4.01	20.58	1.60
2.417	1.74	8.500	3.61	14.583	4.01	20.67	1.60
2.500	1.74	8.583	3.61	14.667	4.01	20.75	1.60
2.583	1.74	8.667	3.61	14.750	4.01	20.83	1.60
2.667	1.74	8.750	3.61	14.833	4.01	20.92	1.60
2.750	1.74	8.833	3.61	14.917	4.01	21.00	1.60
2.833	1.74	8.917	3.61	15.000	4.01	21.08	1.60
2.917	1.74	9.000	3.61	15.083	4.01	21.17	1.60
3.000	1.74	9.083	3.61	15.167	4.01	21.25	1.60
3.083	1.74	9.167	3.61	15.250	4.01	21.33	1.60
3.167	1.74	9.250	3.61	15.333	4.01	21.42	1.60
3.250	1.74	9.333	4.28	15.417	4.01	21.50	1.60
3.333	1.74	9.417	4.28	15.500	4.01	21.58	1.60
3.417	1.74	9.500	4.28	15.583	4.01	21.67	1.60
3.500	1.74	9.583	4.28	15.667	4.01	21.75	1.60
3.583	1.74	9.667	4.28	15.750	4.01	21.83	1.60
3.667	1.74	9.750	4.28	15.833	4.01	21.92	1.60
3.750	1.74	9.833	4.81	15.917	4.01	22.00	1.60
3.833	1.74	9.917	4.81	16.000	4.01	22.08	1.60
3.917	1.74	10.000	4.81	16.083	4.01	22.17	1.60
4.000	1.74	10.083	4.81	16.167	4.01	22.25	1.60
4.083	1.74	10.167	4.81	16.250	4.01	22.33	1.60
4.167	1.74	10.250	4.81	16.333	2.41	22.42	1.60
4.250	1.74	10.333	6.15	16.417	2.40	22.50	1.60
4.333	2.14	10.417	6.15	16.500	2.40	22.58	1.60
4.417	2.14	10.500	6.15	16.583	2.40	22.67	1.60
4.500	2.14	10.583	6.15	16.667	2.40	22.75	1.60
4.583	2.14	10.667	6.15	16.750	2.40	22.83	1.60
4.667	2.14	10.750	6.15	16.833	2.40	22.92	1.60
4.750	2.14	10.833	8.28	16.917	2.40	23.00	1.60
4.833	2.14	10.917	8.28	17.000	2.40	23.08	1.60
4.917	2.14	11.000	8.28	17.083	2.40	23.17	1.60
5.000	2.14	11.083	8.28	17.167	2.40	23.25	1.60
5.083	2.14	11.167	8.28	17.250	2.40	23.33	1.60
5.167	2.14	11.250	8.28	17.333	2.40	23.42	1.60
5.250	2.14	11.333	12.83	17.417	2.40	23.50	1.60
5.333	2.14	11.417	12.83	17.500	2.40	23.58	1.60
5.417	2.14	11.500	12.83	17.583	2.40	23.67	1.60
5.500	2.14	11.583	12.83	17.667	2.40	23.75	1.60
5.583	2.14	11.667	12.83	17.750	2.40	23.83	1.60
5.667	2.14	11.750	12.83	17.833	2.40	23.92	1.60
5.750	2.14	11.833	55.57	17.917	2.40	24.00	1.60
5.833	2.14	11.917	55.58	18.000	2.40	24.08	1.60
5.917	2.14	12.000	55.58	18.083	2.40	24.17	1.60
6.000	2.14	12.083	147.48	18.167	2.40	24.25	1.60
6.083	2.14	12.167	147.49	18.250	2.40		

Max.Eff.Inten.(mm/hr)=	147.49	118.82	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.80 (ii)	5.69 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.32	0.15	
			TOTALS
PEAK FLOW (cms)=	0.24	0.06	0.297 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	132.60	89.71	121.87
TOTAL RAINFALL (mm)=	133.60	133.60	133.60
RUNOFF COEFFICIENT =	0.99	0.67	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0157)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.297	12.25	121.87
OUTFLOW: ID= 1 (0157)	0.780	0.069	12.42	121.71

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.24
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0366

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\04046152
Ptotal=133.60 mm	Comments: 100-Year-24-Hour-SCS-Type-II

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.25	0.00	6.50	2.67	12.75	19.24	19.00	2.40
0.50	1.34	6.75	2.67	13.00	9.89	19.25	2.40
0.75	1.34	7.00	2.67	13.25	9.89	19.50	2.40
1.00	1.34	7.25	2.67	13.50	1.87	19.75	2.40
1.25	1.34	7.50	2.67	13.75	1.87	20.00	2.40
1.50	1.34	7.75	2.67	14.00	10.96	20.25	2.40
1.75	1.34	8.00	2.67	14.25	10.96	20.50	1.60
2.00	1.34	8.25	2.67	14.50	4.01	20.75	1.60
2.25	2.40	8.50	3.61	14.75	4.01	21.00	1.60
2.50	1.74	8.75	3.61	15.00	4.01	21.25	1.60
2.75	1.74	9.00	3.61	15.25	4.01	21.50	1.60
3.00	1.74	9.25	3.61	15.50	4.01	21.75	1.60
3.25	1.74	9.50	4.28	15.75	4.01	22.00	1.60
3.50	1.74	9.75	4.28	16.00	4.01	22.25	1.60
3.75	1.74	10.00	4.81	16.25	4.01	22.50	1.60
4.00	1.74	10.25	4.81	16.50	2.40	22.75	1.60
4.25	1.74	10.50	6.15	16.75	2.40	23.00	1.60
4.50	2.14	10.75	6.15	17.00	2.40	23.25	1.60
4.75	2.14	11.00	8.28	17.25	2.40	23.50	1.60
5.00	2.14	11.25	8.28	17.50	2.40	23.75	1.60
5.25	2.14	11.50	12.83	17.75	2.40	24.00	1.60
5.50	2.14	11.75	12.83	18.00	2.40	24.25	1.60
5.75	2.14	12.00	55.58	18.25	2.40		
6.00	2.14	12.25	147.49	18.50	2.40		
6.25	2.14	12.50	19.24	18.75	2.40		

CALIB	
STANDHYD (0156)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN
hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	2.14	12.250	147.49	18.33	2.40
0.167	0.00	6.250	2.14	12.333	19.25	18.42	2.40
0.250	0.00	6.333	2.67	12.417	19.24	18.50	2.40
0.333	1.34	6.417	2.67	12.500	19.24	18.58	2.40
0.417	1.34	6.500	2.67	12.583	19.24	18.67	2.40
0.500	1.34	6.583	2.67	12.667	19.24	18.75	2.40
0.583	1.34	6.667	2.67	12.750	19.24	18.83	2.40
0.667	1.34	6.750	2.67	12.833	9.89	18.92	2.40
0.750	1.34	6.833	2.67	12.917	9.89	19.00	2.40
0.833	1.34	6.917	2.67	13.000	9.89	19.08	2.40
0.917	1.34	7.000	2.67	13.083	9.89	19.17	2.40
1.000	1.34	7.083	2.67	13.167	9.89	19.25	2.40
1.083	1.34	7.167	2.67	13.250	9.89	19.33	2.40
1.167	1.34	7.250	2.67	13.333	1.87	19.42	2.40
1.250	1.34	7.333	2.67	13.417	1.87	19.50	2.40
1.333	1.34	7.417	2.67	13.500	1.87	19.58	2.40
1.417	1.34	7.500	2.67	13.583	1.87	19.67	2.40
1.500	1.34	7.583	2.67	13.667	1.87	19.75	2.40
1.583	1.34	7.667	2.67	13.750	1.87	19.83	2.40
1.667	1.34	7.750	2.67	13.833	10.95	19.92	2.40
1.750	1.34	7.833	2.67	13.917	10.96	20.00	2.40
1.833	1.34	7.917	2.67	14.000	10.96	20.08	2.40
1.917	1.34	8.000	2.67	14.083	10.96	20.17	2.40
2.000	1.34	8.083	2.67	14.167	10.96	20.25	2.40
2.083	2.40	8.167	2.67	14.250	10.96	20.33	1.60
2.167	2.40	8.250	2.67	14.333	4.01	20.42	1.60
2.250	2.40	8.333	3.61	14.417	4.01	20.50	1.60
2.333	1.74	8.417	3.61	14.500	4.01	20.58	1.60
2.417	1.74	8.500	3.61	14.583	4.01	20.67	1.60
2.500	1.74	8.583	3.61	14.667	4.01	20.75	1.60
2.583	1.74	8.667	3.61	14.750	4.01	20.83	1.60
2.667	1.74	8.750	3.61	14.833	4.01	20.92	1.60
2.750	1.74	8.833	3.61	14.917	4.01	21.00	1.60
2.833	1.74	8.917	3.61	15.000	4.01	21.08	1.60
2.917	1.74	9.000	3.61	15.083	4.01	21.17	1.60
3.000	1.74	9.083	3.61	15.167	4.01	21.25	1.60
3.083	1.74	9.167	3.61	15.250	4.01	21.33	1.60
3.167	1.74	9.250	3.61	15.333	4.01	21.42	1.60
3.250	1.74	9.333	4.28	15.417	4.01	21.50	1.60
3.333	1.74	9.417	4.28	15.500	4.01	21.58	1.60
3.417	1.74	9.500	4.28	15.583	4.01	21.67	1.60
3.500	1.74	9.583	4.28	15.667	4.01	21.75	1.60
3.583	1.74	9.667	4.28	15.750	4.01	21.83	1.60
3.667	1.74	9.750	4.28	15.833	4.01	21.92	1.60
3.750	1.74	9.833	4.81	15.917	4.01	22.00	1.60
3.833	1.74	9.917	4.81	16.000	4.01	22.08	1.60
3.917	1.74	10.000	4.81	16.083	4.01	22.17	1.60
4.000	1.74	10.083	4.81	16.167	4.01	22.25	1.60
4.083	1.74	10.167	4.81	16.250	4.01	22.33	1.60
4.167	1.74	10.250	4.81	16.333	2.41	22.42	1.60
4.250	1.74	10.333	6.15	16.417	2.40	22.50	1.60
4.333	2.14	10.417	6.15	16.500	2.40	22.58	1.60
4.417	2.14	10.500	6.15	16.583	2.40	22.67	1.60
4.500	2.14	10.583	6.15	16.667	2.40	22.75	1.60
4.583	2.14	10.667	6.15	16.750	2.40	22.83	1.60
4.667	2.14	10.750	6.15	16.833	2.40	22.92	1.60
4.750	2.14	10.833	8.28	16.917	2.40	23.00	1.60
4.833	2.14	10.917	8.28	17.000	2.40	23.08	1.60
4.917	2.14	11.000	8.28	17.083	2.40	23.17	1.60
5.000	2.14	11.083	8.28	17.167	2.40	23.25	1.60
5.083	2.14	11.167	8.28	17.250	2.40	23.33	1.60
5.167	2.14	11.250	8.28	17.333	2.40	23.42	1.60
5.250	2.14	11.333	12.83	17.417	2.40	23.50	1.60
5.333	2.14	11.417	12.83	17.500	2.40	23.58	1.60
5.417	2.14	11.500	12.83	17.583	2.40	23.67	1.60
5.500	2.14	11.583	12.83	17.667	2.40	23.75	1.60
5.583	2.14	11.667	12.83	17.750	2.40	23.83	1.60
5.667	2.14	11.750	12.83	17.833	2.40	23.92	1.60
5.750	2.14	11.833	55.57	17.917	2.40	24.00	1.60
5.833	2.14	11.917	55.58	18.000	2.40	24.08	1.60
5.917	2.14	12.000	55.58	18.083	2.40	24.17	1.60
6.000	2.14	12.083	147.48	18.167	2.40	24.25	1.60
6.083	2.14	12.167	147.49	18.250	2.40		

```
     Max.Eff.Inten.(mm/hr)=     147.49        72.47
                 over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.31 (ii)    5.53 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.16
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.08         0.01         0.092 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25        12.25
     RUNOFF VOLUME    (mm)=     132.60        54.20       109.85
     TOTAL RAINFALL   (mm)=     133.60       133.60       133.60
     RUNOFF COEFFICIENT   =       0.99         0.41         0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0460     0.0093

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)      0.270     0.092     12.25     109.85
   OUTFLOW: ID= 1 (  0154)      0.270     0.041     12.33     109.69

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.06
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0085

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--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0154):     0.27   0.041    12.33   109.69
     + ID2= 2 (  0157):     0.78   0.069    12.42   121.71
       ================================================
       ID = 3 (  0158):     1.05   0.109    12.33   118.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0158):     1.05   0.109    12.33   118.62
     + ID2= 2 (  0160):     1.07   0.056    12.67   121.62
       ================================================

       ID = 1 (  0158):     2.12   0.163    12.33   120.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0158):     2.12   0.163    12.33   120.14
     + ID2= 2 (  0162):    19.26   0.951    12.92    83.16
       ================================================
       ID = 3 (  0158):    21.38   1.090    12.83    86.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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======================

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\71b567b5-8b42-4996-ac27-579377e15923\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\71b567b5-8b42-4996-ac27-579377e15923\scen


DATE: 10-31-2019                          TIME: 10:47:26

USER:


COMMENTS: _____

--------------------------------------------------------------------------------
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  ********************************************
  ** SIMULATION : 6-100-Year-4-Hour-Chicago-Bar **
  ********************************************
```

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\3fa9f526
| Ptotal= 87.58 mm |    Comments: 100-Year-4-Hour-Chicago
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.41	1.17	45.22	2.17	14.50	3.17	7.56
0.33	7.29	1.33	180.15	2.33	12.44	3.33	7.04
0.50	8.52	1.50	58.54	2.50	10.94	3.50	6.60
0.67	10.36	1.67	31.96	2.67	9.80	3.67	6.22
0.83	13.45	1.83	22.45	2.83	8.90	3.83	5.89
1.00	19.96	2.00	17.52	3.00	8.16	4.00	5.59

```
--------------------
| CALIB            |
| NASHYD   (  0137)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.41	1.083	45.22	2.083	14.50	3.08	7.56
0.167	6.41	1.167	45.22	2.167	14.50	3.17	7.56
0.250	7.29	1.250	180.15	2.250	12.44	3.25	7.04
0.333	7.29	1.333	180.15	2.333	12.44	3.33	7.04
0.417	8.52	1.417	58.54	2.417	10.94	3.42	6.60
0.500	8.52	1.500	58.54	2.500	10.94	3.50	6.60
0.583	10.36	1.583	31.96	2.583	9.80	3.58	6.22
0.667	10.36	1.667	31.96	2.667	9.80	3.67	6.22
0.750	13.45	1.750	22.45	2.750	8.90	3.75	5.89
0.833	13.45	1.833	22.45	2.833	8.90	3.83	5.89
0.917	19.96	1.917	17.52	2.917	8.16	3.92	5.59
1.000	19.96	2.000	17.52	3.000	8.16	4.00	5.59

```
     Unit Hyd Qpeak  (cms)=   0.524

     PEAK FLOW       (cms)=   0.255 (i)
     TIME TO PEAK    (hrs)=   2.083
     RUNOFF VOLUME    (mm)=  21.958
     TOTAL RAINFALL   (mm)=  87.580
     RUNOFF COEFFICIENT   =   0.251

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

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\3fa9f526
| Ptotal= 87.58 mm |    Comments: 100-Year-4-Hour-Chicago
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.41	1.17	45.22	2.17	14.50	3.17	7.56
0.33	7.29	1.33	180.15	2.33	12.44	3.33	7.04
0.50	8.52	1.50	58.54	2.50	10.94	3.50	6.60
0.67	10.36	1.67	31.96	2.67	9.80	3.67	6.22
0.83	13.45	1.83	22.45	2.83	8.90	3.83	5.89
1.00	19.96	2.00	17.52	3.00	8.16	4.00	5.59

```
--------------------
| CALIB            |
| STANDHYD (  0153)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

```
        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.41	1.083	45.22	2.083	14.50	3.08	7.56
0.167	6.41	1.167	45.22	2.167	14.50	3.17	7.56
0.250	7.29	1.250	180.15	2.250	12.44	3.25	7.04
0.333	7.29	1.333	180.15	2.333	12.44	3.33	7.04
0.417	8.52	1.417	58.54	2.417	10.94	3.42	6.60
0.500	8.52	1.500	58.54	2.500	10.94	3.50	6.60
0.583	10.36	1.583	31.96	2.583	9.80	3.58	6.22
0.667	10.36	1.667	31.96	2.667	9.80	3.67	6.22
0.750	13.45	1.750	22.45	2.750	8.90	3.75	5.89
0.833	13.45	1.833	22.45	2.833	8.90	3.83	5.89
0.917	19.96	1.917	17.52	2.917	8.16	3.92	5.59
1.000	19.96	2.000	17.52	3.000	8.16	4.00	5.59

Max.Eff.Inten.	(mm/hr)=	180.15	45.95	
over	(min)	5.00	10.00	
Storage Coeff.	(min)=	1.80 (ii)	5.40 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.32	0.16	
				TOTALS
PEAK FLOW	(cms)=	0.39	0.03	0.408 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	86.58	26.32	71.51
TOTAL RAINFALL	(mm)=	87.58	87.58	87.58
RUNOFF COEFFICIENT	=	0.99	0.30	0.82

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
```

```
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0159)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1120     0.0442

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0153)      1.030     0.408      1.33      71.51
   OUTFLOW: ID= 1 (  0159)      1.030     0.089      1.58      71.42

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.89
                  TIME SHIFT OF PEAK FLOW          (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0352

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

--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\3fa9f526
| Ptotal= 87.58 mm |    Comments: 100-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    6.41 |  1.17   45.22 |  2.17   14.50 |  3.17    7.56
                0.33    7.29 |  1.33  180.15 |  2.33   12.44 |  3.33    7.04
                0.50    8.52 |  1.50   58.54 |  2.50   10.94 |  3.50    6.60
                0.67   10.36 |  1.67   31.96 |  2.67    9.80 |  3.67    6.22
                0.83   13.45 |  1.83   22.45 |  2.83    8.90 |  3.83    5.89
                1.00   19.96 |  2.00   17.52 |  3.00    8.16 |  4.00    5.59

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

--------------------
| CALIB            |
| STANDHYD (  0163)|   Area    (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91         6.45
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     320.00        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    6.41 | 1.083   45.22 | 2.083   14.50 |  3.08    7.56
               0.167    6.41 | 1.167   45.22 | 2.167   14.50 |  3.17    7.56
               0.250    7.29 | 1.250  180.15 | 2.250   12.44 |  3.25    7.04
               0.333    7.29 | 1.333  180.15 | 2.333   12.44 |  3.33    7.04
               0.417    8.52 | 1.417   58.54 | 2.417   10.94 |  3.42    6.60
               0.500    8.52 | 1.500   58.54 | 2.500   10.94 |  3.50    6.60
               0.583   10.36 | 1.583   31.96 | 2.583    9.80 |  3.58    6.22
               0.667   10.36 | 1.667   31.96 | 2.667    9.80 |  3.67    6.22
               0.750   13.45 | 1.750   22.45 | 2.750    8.90 |  3.75    5.89
               0.833   13.45 | 1.833   22.45 | 2.833    8.90 |  3.83    5.89
               0.917   19.96 | 1.917   17.52 | 2.917    8.16 |  3.92    5.59
               1.000   19.96 | 2.000   17.52 | 3.000    8.16 |  4.00    5.59

     Max.Eff.Inten.(mm/hr)=     180.15        48.40
               over (min)          5.00        10.00
     Storage Coeff.  (min)=        4.06 (ii)    8.96 (ii)
     Unit Hyd. Tpeak (min)=        5.00        10.00
     Unit Hyd. peak  (cms)=        0.24         0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=        4.17         0.60          4.627 (iii)
     TIME TO PEAK    (hrs)=        1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=       86.58        27.53          61.78
     TOTAL RAINFALL   (mm)=       87.58        87.58          87.58
     RUNOFF COEFFICIENT   =        0.99         0.31           0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

--------------------
| ADD HYD  (  0152)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0137):      8.10    0.255     2.08    21.96
     + ID2= 2 (  0159):      1.03    0.089     1.58    71.42
       ================================================
       ID = 3 (  0152):      9.13    0.334     2.00    27.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0152)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0152):      9.13    0.334     2.00    27.54
     + ID2= 2 (  0163):     15.36    4.627     1.33    61.78
       ================================================
       ID = 1 (  0152):     24.49    4.729     1.33    49.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0161)|
```

```
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |  0.4045      0.7000
                        0.0151     0.0001   |  0.5514      0.8000
                        0.0151     0.1301   |  0.7611      0.9000
                        0.0440     0.4217   |  0.9325      0.9500
                        0.2194     0.6000   |  1.1147      1.0500

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0152)     24.490     4.729      1.33      49.01
   OUTFLOW: ID= 1 (  0161)     24.490     0.522      2.83      49.01

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.04
                  TIME SHIFT OF PEAK FLOW         (min)= 90.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7803

--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0162)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.52      2.83   49.01
     ================================================
     MAJOR SYS.(ID= 2):  17.41      0.51      2.83   49.01
     MINOR SYS.(ID= 3):   7.08      0.02      1.25   49.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\3fa9f526
| Ptotal= 87.58 mm |    Comments: 100-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    6.41 |  1.17   45.22 |  2.17   14.50 |  3.17    7.56
                0.33    7.29 |  1.33  180.15 |  2.33   12.44 |  3.33    7.04
                0.50    8.52 |  1.50   58.54 |  2.50   10.94 |  3.50    6.60
                0.67   10.36 |  1.67   31.96 |  2.67    9.80 |  3.67    6.22
                0.83   13.45 |  1.83   22.45 |  2.83    8.90 |  3.83    5.89
                1.00   19.96 |  2.00   17.52 |  3.00    8.16 |  4.00    5.59

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

--------------------
| CALIB            |
| STANDHYD (  0151)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80          0.27
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      84.46         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
              TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
             0.083    6.41 | 1.083   45.22 | 2.083   14.50 |  3.08    7.56
             0.167    6.41 | 1.167   45.22 | 2.167   14.50 |  3.17    7.56
             0.250    7.29 | 1.250  180.15 | 2.250   12.44 |  3.25    7.04
             0.333    7.29 | 1.333  180.15 | 2.333   12.44 |  3.33    7.04
             0.417    8.52 | 1.417   58.54 | 2.417   10.94 |  3.42    6.60
             0.500    8.52 | 1.500   58.54 | 2.500   10.94 |  3.50    6.60
             0.583   10.36 | 1.583   31.96 | 2.583    9.80 |  3.58    6.22
             0.667   10.36 | 1.667   31.96 | 2.667    9.80 |  3.67    6.22
             0.750   13.45 | 1.750   22.45 | 2.750    8.90 |  3.75    5.89
             0.833   13.45 | 1.833   22.45 | 2.833    8.90 |  3.83    5.89
             0.917   19.96 | 1.917   17.52 | 2.917    8.16 |  3.92    5.59
             1.000   19.96 | 2.000   17.52 | 3.000    8.16 |  4.00    5.59

     Max.Eff.Inten.(mm/hr)=     180.15         98.77
               over (min)          5.00         10.00
     Storage Coeff.  (min)=        1.82 (ii)     5.42 (ii)
     Unit Hyd. Tpeak (min)=        5.00         10.00
     Unit Hyd. peak  (cms)=        0.32          0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.40          0.06          0.451 (iii)
     TIME TO PEAK    (hrs)=        1.33          1.42           1.33
     RUNOFF VOLUME    (mm)=       86.58         49.30          77.26
     TOTAL RAINFALL   (mm)=       87.58         87.58          87.58
     RUNOFF COEFFICIENT   =        0.99          0.56           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0160)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |  0.0600      0.0645

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0151)     1.070     0.451      1.33      77.26
   OUTFLOW: ID= 1 (  0160)     1.070     0.048      2.00      77.00

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.52
                  TIME SHIFT OF PEAK FLOW         (min)= 40.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0511

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\3fa9f526
| Ptotal= 87.58 mm |    Comments: 100-Year-4-Hour-Chicago
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.41	1.17	45.22	2.17	14.50	3.17	7.56
0.33	7.29	1.33	180.15	2.33	12.44	3.33	7.04
0.50	8.52	1.50	58.54	2.50	10.94	3.50	6.60
0.67	10.36	1.67	31.96	2.67	9.80	3.67	6.22
0.83	13.45	1.83	22.45	2.83	8.90	3.83	5.89
1.00	19.96	2.00	17.52	3.00	8.16	4.00	5.59

```
--------------------
| CALIB            |
| STANDHYD (  0155)|   Area    (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.41	1.083	45.22	2.083	14.50	3.08	7.56
0.167	6.41	1.167	45.22	2.167	14.50	3.17	7.56
0.250	7.29	1.250	180.15	2.250	12.44	3.25	7.04
0.333	7.29	1.333	180.15	2.333	12.44	3.33	7.04
0.417	8.52	1.417	58.54	2.417	10.94	3.42	6.60
0.500	8.52	1.500	58.54	2.500	10.94	3.50	6.60
0.583	10.36	1.583	31.96	2.583	9.80	3.58	6.22
0.667	10.36	1.667	31.96	2.667	9.80	3.67	6.22
0.750	13.45	1.750	22.45	2.750	8.90	3.75	5.89
0.833	13.45	1.833	22.45	2.833	8.90	3.83	5.89
0.917	19.96	1.917	17.52	2.917	8.16	3.92	5.59
1.000	19.96	2.000	17.52	3.000	8.16	4.00	5.59

Max.Eff.Inten.(mm/hr)=	180.15	98.77		
over (min)	5.00	10.00		
Storage Coeff. (min)=	1.66 (ii)	5.25 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.32	0.16		
			TOTALS	
PEAK FLOW (cms)=	0.29	0.04	0.330 (iii)	
TIME TO PEAK (hrs)=	1.33	1.42	1.33	
RUNOFF VOLUME (mm)=	86.58	49.30	77.26	
TOTAL RAINFALL (mm)=	87.58	87.58	87.58	
RUNOFF COEFFICIENT =	0.99	0.56	0.88	

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| RESERVOIR(  0157)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0750     0.0396

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0155)     0.780     0.330     1.33       77.26
   OUTFLOW: ID= 1 (  0157)     0.780     0.059     1.75       77.09

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.92
                TIME SHIFT OF PEAK FLOW         (min)= 25.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0313
```

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\3fa9f526
| Ptotal= 87.58 mm |    Comments: 100-Year-4-Hour-Chicago
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.41	1.17	45.22	2.17	14.50	3.17	7.56
0.33	7.29	1.33	180.15	2.33	12.44	3.33	7.04
0.50	8.52	1.50	58.54	2.50	10.94	3.50	6.60
0.67	10.36	1.67	31.96	2.67	9.80	3.67	6.22
0.83	13.45	1.83	22.45	2.83	8.90	3.83	5.89
1.00	19.96	2.00	17.52	3.00	8.16	4.00	5.59

```
--------------------
| CALIB            |
| STANDHYD (  0156)|   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

```
                        ---- TRANSFORMED HYETOGRAPH ----
  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
 0.083    6.41 | 1.083   45.22 | 2.083   14.50 |  3.08    7.56
 0.167    6.41 | 1.167   45.22 | 2.167   14.50 |  3.17    7.56
 0.250    7.29 | 1.250  180.15 | 2.250   12.44 |  3.25    7.04
 0.333    7.29 | 1.333  180.15 | 2.333   12.44 |  3.33    7.04
 0.417    8.52 | 1.417   58.54 | 2.417   10.94 |  3.42    6.60
 0.500    8.52 | 1.500   58.54 | 2.500   10.94 |  3.50    6.60
 0.583   10.36 | 1.583   31.96 | 2.583    9.80 |  3.58    6.22
 0.667   10.36 | 1.667   31.96 | 2.667    9.80 |  3.67    6.22
 0.750   13.45 | 1.750   22.45 | 2.750    8.90 |  3.75    5.89
 0.833   13.45 | 1.833   22.45 | 2.833    8.90 |  3.83    5.89
 0.917   19.96 | 1.917   17.52 | 2.917    8.16 |  3.92    5.59
 1.000   19.96 | 2.000   17.52 | 3.000    8.16 |  4.00    5.59

     Max.Eff.Inten.(mm/hr)=     180.15        45.95
                 over (min)       5.00        10.00
     Storage Coeff.  (min)=       1.21 (ii)    5.11 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.16
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.10         0.01          0.103 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42          1.33
     RUNOFF VOLUME    (mm)=      86.58        26.32         69.09
     TOTAL RAINFALL   (mm)=      87.58        87.58         87.58
     RUNOFF COEFFICIENT   =       0.99         0.30          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   0.0460     0.0093

                             AREA     QPEAK     TPEAK       R.V.
                             (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)  0.270     0.103      1.33      69.09
   OUTFLOW: ID= 1 (  0154)  0.270     0.035      1.50      68.93

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.83
                  TIME SHIFT OF PEAK FLOW         (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0071

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0154):     0.27   0.035     1.50    68.93
     + ID2= 2 (  0157):     0.78   0.059     1.75    77.09
       ================================================
       ID = 3 (  0158):     1.05   0.092     1.58    74.99

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0158):     1.05   0.092     1.58    74.99
     + ID2= 2 (  0160):     1.07   0.048     2.00    77.00
       ================================================
       ID = 1 (  0158):     2.12   0.137     1.67    76.01

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0158):     2.12   0.137     1.67    76.01
     + ID2= 2 (  0162):    17.41   0.507     2.83    49.01
       ================================================
       ID = 3 (  0158):    19.53   0.607     2.67    51.94

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
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  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
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```

DATE: 10-31-2019 TIME: 10:47:26

USER:

COMMENTS: _____

** SIMULATION : 6-100-Year-4-Hour-Chicago-MTO **

| CHICAGO STORM | IDF curve parameters: A= 848.534
| Ptotal= 73.59 mm | B= 0.000
C= 0.699

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.19	1.17	29.28	2.17	12.23	3.17	7.13
0.33	6.91	1.33	169.70	2.33	10.80	3.33	6.71
0.50	7.89	1.50	35.93	2.50	9.72	3.50	6.35
0.67	9.29	1.67	22.66	2.67	8.87	3.67	6.03
0.83	11.51	1.83	17.28	2.83	8.18	3.83	5.75
1.00	15.74	2.00	14.23	3.00	7.61	4.00	5.50

| CALIB | Area (ha)= 8.10 Curve Number (CN)= 52.7
| NASHYD (0137) | Ia (mm)= 5.00 # of Linear Res.(N)= 3.00
|ID= 1 DT= 5.0 min | U.H. Tp(hrs)= 0.59

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.19	1.083	29.28	2.083	12.23	3.08	7.13
0.167	6.19	1.167	29.28	2.167	12.23	3.17	7.13
0.250	6.91	1.250	169.69	2.250	10.80	3.25	6.71
0.333	6.91	1.333	169.70	2.333	10.80	3.33	6.71
0.417	7.89	1.417	35.93	2.417	9.72	3.42	6.35
0.500	7.89	1.500	35.93	2.500	9.72	3.50	6.35
0.583	9.29	1.583	22.66	2.583	8.87	3.58	6.03
0.667	9.29	1.667	22.66	2.667	8.87	3.67	6.03
0.750	11.51	1.750	17.28	2.750	8.18	3.75	5.75
0.833	11.51	1.833	17.28	2.833	8.18	3.83	5.75
0.917	15.74	1.917	14.23	2.917	7.61	3.92	5.50
1.000	15.74	2.000	14.23	3.000	7.61	4.00	5.50

Unit Hyd Qpeak (cms)= 0.524

PEAK FLOW (cms)= 0.173 (i)
TIME TO PEAK (hrs)= 2.083
RUNOFF VOLUME (mm)= 15.862
TOTAL RAINFALL (mm)= 73.587
RUNOFF COEFFICIENT = 0.216

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

| CHICAGO STORM | IDF curve parameters: A= 848.534
| Ptotal= 73.59 mm | B= 0.000
C= 0.699

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.19	1.17	29.28	2.17	12.23	3.17	7.13
0.33	6.91	1.33	169.70	2.33	10.80	3.33	6.71
0.50	7.89	1.50	35.93	2.50	9.72	3.50	6.35
0.67	9.29	1.67	22.66	2.67	8.87	3.67	6.03
0.83	11.51	1.83	17.28	2.83	8.18	3.83	5.75
1.00	15.74	2.00	14.23	3.00	7.61	4.00	5.50

| CALIB | Area (ha)= 1.03
| STANDHYD (0153) | Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00
|ID= 1 DT= 5.0 min |

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.77	0.26
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	82.87	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.19	1.083	29.28	2.083	12.23	3.08	7.13
0.167	6.19	1.167	29.28	2.167	12.23	3.17	7.13
0.250	6.91	1.250	169.69	2.250	10.80	3.25	6.71
0.333	6.91	1.333	169.70	2.333	10.80	3.33	6.71
0.417	7.89	1.417	35.93	2.417	9.72	3.42	6.35
0.500	7.89	1.500	35.93	2.500	9.72	3.50	6.35
0.583	9.29	1.583	22.66	2.583	8.87	3.58	6.03
0.667	9.29	1.667	22.66	2.667	8.87	3.67	6.03

0.750	11.51	1.750	17.28	2.750	8.18	3.75	5.75
0.833	11.51	1.833	17.28	2.833	8.18	3.83	5.75
0.917	15.74	1.917	14.23	2.917	7.61	3.92	5.50
1.000	15.74	2.000	14.23	3.000	7.61	4.00	5.50

Max.Eff.Inten.(mm/hr)=	169.70	37.02	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.85 (ii)	5.53 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.32	0.16	
			TOTALS
PEAK FLOW (cms)=	0.36	0.02	0.380 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	72.59	19.19	59.23
TOTAL RAINFALL (mm)=	73.59	73.59	73.59
RUNOFF COEFFICIENT =	0.99	0.26	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.380	1.33	59.23
OUTFLOW: ID= 1 (0159)	1.030	0.073	1.58	59.14

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.19
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0290

CHICAGO STORM	IDF curve parameters: A= 848.534
Ptotal= 73.59 mm	B= 0.000
	C= 0.699

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.19	1.17	29.28	2.17	12.23	3.17	7.13
0.33	6.91	1.33	169.70	2.33	10.80	3.33	6.71
0.50	7.89	1.50	35.93	2.50	9.72	3.50	6.35
0.67	9.29	1.67	22.66	2.67	8.87	3.67	6.03
0.83	11.51	1.83	17.28	2.83	8.18	3.83	5.75
1.00	15.74	2.00	14.23	3.00	7.61	4.00	5.50

CALIB	
STANDHYD (0163)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	8.91	6.45
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	320.00	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.19	1.083	29.28	2.083	12.23	3.08	7.13
0.167	6.19	1.167	29.28	2.167	12.23	3.17	7.13
0.250	6.91	1.250	169.69	2.250	10.80	3.25	6.71
0.333	6.91	1.333	169.70	2.333	10.80	3.33	6.71
0.417	7.89	1.417	35.93	2.417	9.72	3.42	6.35
0.500	7.89	1.500	35.93	2.500	9.72	3.50	6.35
0.583	9.29	1.583	22.66	2.583	8.87	3.58	6.03
0.667	9.29	1.667	22.66	2.667	8.87	3.67	6.03
0.750	11.51	1.750	17.28	2.750	8.18	3.75	5.75
0.833	11.51	1.833	17.28	2.833	8.18	3.83	5.75
0.917	15.74	1.917	14.23	2.917	7.61	3.92	5.50
1.000	15.74	2.000	14.23	3.000	7.61	4.00	5.50

Max.Eff.Inten.(mm/hr)=	169.70	30.20	
over (min)	5.00	20.00	
Storage Coeff. (min)=	4.15 (ii)	15.55 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.24	0.07	
			TOTALS
PEAK FLOW (cms)=	3.88	0.32	3.994 (iii)
TIME TO PEAK (hrs)=	1.33	1.58	1.33
RUNOFF VOLUME (mm)=	72.59	20.13	50.55
TOTAL RAINFALL (mm)=	73.59	73.59	73.59
RUNOFF COEFFICIENT =	0.99	0.27	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0152)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.

	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0137):	8.10	0.173	2.08	15.86
+ ID2= 2 (0159):	1.03	0.073	1.58	59.14
ID = 3 (0152):	9.13	0.237	2.00	20.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0152)				
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0152):	9.13	0.237	2.00	20.74
+ ID2= 2 (0163):	15.36	3.994	1.33	50.55
ID = 1 (0152):	24.49	4.076	1.33	39.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0161)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.4045	0.7000
	0.0151	0.0001	0.5514	0.8000
	0.0151	0.1301	0.7611	0.9000
	0.0440	0.4217	0.9325	0.9500
	0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0152)	24.490	4.076	1.33	39.44
OUTFLOW: ID= 1 (0161)	24.490	0.355	3.33	39.44

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.71
TIME SHIFT OF PEAK FLOW (min)=120.00
MAXIMUM STORAGE USED (ha.m.)= 0.6732

DUHYD (0162)				
Inlet Cap.= 0.015				
#of Inlets= 1				
Total(cms)= 0.0	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):	24.49	0.35	3.33	39.44
MAJOR SYS.(ID= 2):	15.76	0.34	3.33	39.44
MINOR SYS.(ID= 3):	8.73	0.02	1.25	39.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CHICAGO STORM	IDF curve parameters: A= 848.534
Ptotal= 73.59 mm	B= 0.000
	C= 0.699
	used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.19	1.17	29.28	2.17	12.23	3.17	7.13
0.33	6.91	1.33	169.70	2.33	10.80	3.33	6.71
0.50	7.89	1.50	35.93	2.50	9.72	3.50	6.35
0.67	9.29	1.67	22.66	2.67	8.87	3.67	6.03
0.83	11.51	1.83	17.28	2.83	8.18	3.83	5.75
1.00	15.74	2.00	14.23	3.00	7.61	4.00	5.50

CALIB			
STANDHYD (0151)	Area (ha)= 1.07		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	0.80	0.27	
Dep. Storage (mm)=	1.00	5.00	
Average Slope (%)=	1.00	2.00	
Length (m)=	84.46	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.19	1.083	29.28	2.083	12.23	3.08	7.13
0.167	6.19	1.167	29.28	2.167	12.23	3.17	7.13
0.250	6.91	1.250	169.69	2.250	10.80	3.25	6.71
0.333	6.91	1.333	169.70	2.333	10.80	3.33	6.71
0.417	7.89	1.417	35.93	2.417	9.72	3.42	6.35
0.500	7.89	1.500	35.93	2.500	9.72	3.50	6.35
0.583	9.29	1.583	22.66	2.583	8.87	3.58	6.03
0.667	9.29	1.667	22.66	2.667	8.87	3.67	6.03
0.750	11.51	1.750	17.28	2.750	8.18	3.75	5.75
0.833	11.51	1.833	17.28	2.833	8.18	3.83	5.75
0.917	15.74	1.917	14.23	2.917	7.61	3.92	5.50
1.000	15.74	2.000	14.23	3.000	7.61	4.00	5.50

Max.Eff.Inten.(mm/hr)=	169.70	83.20		
over (min)	5.00	10.00		
Storage Coeff. (min)=	1.87 (ii)	5.55 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.32	0.16		
			TOTALS	
PEAK FLOW (cms)=	0.38	0.05	0.418 (iii)	
TIME TO PEAK (hrs)=	1.33	1.42	1.33	
RUNOFF VOLUME (mm)=	72.59	37.83	63.90	
TOTAL RAINFALL (mm)=	73.59	73.59	73.59	
RUNOFF COEFFICIENT =	0.99	0.51	0.87	

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0160)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0600     0.0645

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0151)      1.070     0.418      1.33      63.90
   OUTFLOW: ID= 1 (  0160)      1.070     0.038      2.00      63.65

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.12
                  TIME SHIFT OF PEAK FLOW         (min)= 40.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0410

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 848.534
| Ptotal= 73.59 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    6.19 |  1.17   29.28 |  2.17   12.23 |  3.17    7.13
               0.33    6.91 |  1.33  169.70 |  2.33   10.80 |  3.33    6.71
               0.50    7.89 |  1.50   35.93 |  2.50    9.72 |  3.50    6.35
               0.67    9.29 |  1.67   22.66 |  2.67    8.87 |  3.67    6.03
               0.83   11.51 |  1.83   17.28 |  2.83    8.18 |  3.83    5.75
               1.00   15.74 |  2.00   14.23 |  3.00    7.61 |  4.00    5.50

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0155)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n           =      0.013        0.250

      NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083   6.19 | 1.083   29.28 | 2.083   12.23 |  3.08    7.13
               0.167   6.19 | 1.167   29.28 | 2.167   12.23 |  3.17    7.13
               0.250   6.91 | 1.250  169.69 | 2.250   10.80 |  3.25    6.71
               0.333   6.91 | 1.333  169.70 | 2.333   10.80 |  3.33    6.71
               0.417   7.89 | 1.417   35.93 | 2.417    9.72 |  3.42    6.35
               0.500   7.89 | 1.500   35.93 | 2.500    9.72 |  3.50    6.35
               0.583   9.29 | 1.583   22.66 | 2.583    8.87 |  3.58    6.03
               0.667   9.29 | 1.667   22.66 | 2.667    8.87 |  3.67    6.03
               0.750  11.51 | 1.750   17.28 | 2.750    8.18 |  3.75    5.75
               0.833  11.51 | 1.833   17.28 | 2.833    8.18 |  3.83    5.75
               0.917  15.74 | 1.917   14.23 | 2.917    7.61 |  3.92    5.50
               1.000  15.74 | 2.000   14.23 | 3.000    7.61 |  4.00    5.50

     Max.Eff.Inten.(mm/hr)=     169.70        83.20
               over (min)          5.00        10.00
     Storage Coeff.  (min)=        1.70 (ii)    5.38 (ii)
     Unit Hyd. Tpeak (min)=        5.00        10.00
     Unit Hyd. peak  (cms)=        0.32         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=        0.28         0.03        0.306 (iii)
     TIME TO PEAK    (hrs)=        1.33         1.42         1.33
     RUNOFF VOLUME    (mm)=       72.59        37.83        63.90
     TOTAL RAINFALL   (mm)=       73.59        73.59        73.59
     RUNOFF COEFFICIENT   =        0.99         0.51         0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0     Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0157)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0750     0.0396

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0155)      0.780     0.306      1.33      63.90
   OUTFLOW: ID= 1 (  0157)      0.780     0.048      1.67      63.73

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.62
                  TIME SHIFT OF PEAK FLOW         (min)= 20.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0252

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 848.534
| Ptotal= 73.59 mm |                          B=   0.000
```

```
--------------------                              C=   0.699
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  4.00 hrs
                        Storm time step    = 10.00 min
                        Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    6.19 |  1.17   29.28 |  2.17   12.23 |  3.17    7.13
                0.33    6.91 |  1.33  169.70 |  2.33   10.80 |  3.33    6.71
                0.50    7.89 |  1.50   35.93 |  2.50    9.72 |  3.50    6.35
                0.67    9.29 |  1.67   22.66 |  2.67    8.87 |  3.67    6.03
                0.83   11.51 |  1.83   17.28 |  2.83    8.18 |  3.83    5.75
                1.00   15.74 |  2.00   14.23 |  3.00    7.61 |  4.00    5.50


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--------------------
| CALIB            |
| STANDHYD (  0156)|   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         0.19          0.08
     Dep. Storage     (mm)=         1.00          5.00
     Average Slope     (%)=         1.00          2.00
     Length            (m)=        42.43         40.00
     Mannings n           =        0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    6.19 | 1.083   29.28 | 2.083   12.23 |  3.08    7.13
               0.167    6.19 | 1.167   29.28 | 2.167   12.23 |  3.17    7.13
               0.250    6.91 | 1.250  169.69 | 2.250   10.80 |  3.25    6.71
               0.333    6.91 | 1.333  169.70 | 2.333   10.80 |  3.33    6.71
               0.417    7.89 | 1.417   35.93 | 2.417    9.72 |  3.42    6.35
               0.500    7.89 | 1.500   35.93 | 2.500    9.72 |  3.50    6.35
               0.583    9.29 | 1.583   22.66 | 2.583    8.87 |  3.58    6.03
               0.667    9.29 | 1.667   22.66 | 2.667    8.87 |  3.67    6.03
               0.750   11.51 | 1.750   17.28 | 2.750    8.18 |  3.75    5.75
               0.833   11.51 | 1.833   17.28 | 2.833    8.18 |  3.83    5.75
               0.917   15.74 | 1.917   14.23 | 2.917    7.61 |  3.92    5.50
               1.000   15.74 | 2.000   14.23 | 3.000    7.61 |  4.00    5.50

     Max.Eff.Inten.(mm/hr)=     169.70        37.02
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.24 (ii)    5.23 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.01          0.096 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      72.59        19.19          57.09
     TOTAL RAINFALL   (mm)=      73.59        73.59          73.59
     RUNOFF COEFFICIENT   =       0.99         0.26           0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0460      0.0093

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)       0.270     0.096      1.33      57.09
   OUTFLOW: ID= 1 (  0154)       0.270     0.029      1.42      56.92

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.82
                TIME SHIFT OF PEAK FLOW          (min)=  5.00
                MAXIMUM  STORAGE   USED        (ha.m.)=  0.0060

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0154):      0.27   0.029     1.42    56.92
      + ID2= 2 (  0157):      0.78   0.048     1.67    63.73
        ================================================
        ID = 3 (  0158):      1.05   0.075     1.50    61.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0158):      1.05   0.075     1.50    61.98
      + ID2= 2 (  0160):      1.07   0.038     2.00    63.65
        ================================================
        ID = 1 (  0158):      2.12   0.111     1.58    62.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0158):      2.12   0.111     1.58    62.82
      + ID2= 2 (  0162):     15.76   0.340     3.33    39.44
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       ================================================
       ID = 3 (  0158):    17.88   0.411     3.17    42.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\4a747075-0e6d-498d-9060-706f1d866298\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\4a747075-0e6d-498d-9060-706f1d866298\scen


DATE: 10-31-2019                          TIME: 10:47:27

USER:


COMMENTS: _____________________________________________________


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  ***********************************************
  ** SIMULATION : 6-100-Year-6-Hour-SCS-Type-II **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\a340cffa
| Ptotal=106.50 mm |    Comments: 100-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   10.65 |  3.75   23.43 |  5.50    4.26
                0.50    4.26 |  2.25   10.65 |  4.00   10.65 |  5.75    4.26
                0.75    4.26 |  2.50   12.78 |  4.25   10.65 |  6.00    4.26
                1.00    6.39 |  2.75   12.78 |  4.50    8.52 |  6.25    4.26
                1.25    6.39 |  3.00   63.90 |  4.75    8.52 |
                1.50    6.39 |  3.25  166.14 |  5.00    6.39 |
                1.75    6.39 |  3.50   23.43 |  5.25    6.39 |

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--------------------
| CALIB            |
| NASHYD   (  0137)|   Area     (ha)=   8.10   Curve Number    (CN)= 52.7
|ID= 1 DT= 5.0 min |   Ia       (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.59

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    6.39 | 3.250  166.14 |  4.83    6.39
               0.167    0.00 | 1.750    6.39 | 3.333   23.43 |  4.92    6.39
               0.250    0.00 | 1.833   10.65 | 3.417   23.43 |  5.00    6.39
               0.333    4.26 | 1.917   10.65 | 3.500   23.43 |  5.08    6.39
               0.417    4.26 | 2.000   10.65 | 3.583   23.43 |  5.17    6.39
               0.500    4.26 | 2.083   10.65 | 3.667   23.43 |  5.25    6.39
               0.583    4.26 | 2.167   10.65 | 3.750   23.43 |  5.33    4.26
               0.667    4.26 | 2.250   10.65 | 3.833   10.65 |  5.42    4.26
               0.750    4.26 | 2.333   12.78 | 3.917   10.65 |  5.50    4.26
               0.833    6.39 | 2.417   12.78 | 4.000   10.65 |  5.58    4.26
               0.917    6.39 | 2.500   12.78 | 4.083   10.65 |  5.67    4.26
               1.000    6.39 | 2.583   12.78 | 4.167   10.65 |  5.75    4.26
               1.083    6.39 | 2.667   12.78 | 4.250   10.65 |  5.83    4.26
               1.167    6.39 | 2.750   12.78 | 4.333    8.52 |  5.92    4.26
               1.250    6.39 | 2.833   63.90 | 4.417    8.52 |  6.00    4.26
               1.333    6.39 | 2.917   63.90 | 4.500    8.52 |  6.08    4.26
               1.417    6.39 | 3.000   63.90 | 4.583    8.52 |  6.17    4.26
               1.500    6.39 | 3.083  166.14 | 4.667    8.52 |  6.25    4.26
               1.583    6.39 | 3.167  166.14 | 4.750    8.52 |

    Unit Hyd Qpeak  (cms)=   0.524

    PEAK FLOW       (cms)=   0.399 (i)
    TIME TO PEAK    (hrs)=   3.833
    RUNOFF VOLUME    (mm)=  31.268
    TOTAL RAINFALL   (mm)= 106.500
    RUNOFF COEFFICIENT   =   0.294

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

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\a340cffa
| Ptotal=106.50 mm |    Comments: 100-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
```

0.25	0.00	2.00	10.65	3.75	23.43	5.50	4.26
0.50	4.26	2.25	10.65	4.00	10.65	5.75	4.26
0.75	4.26	2.50	12.78	4.25	10.65	6.00	4.26
1.00	6.39	2.75	12.78	4.50	8.52	6.25	4.26
1.25	6.39	3.00	63.90	4.75	8.52		
1.50	6.39	3.25	166.14	5.00	6.39		
1.75	6.39	3.50	23.43	5.25	6.39		

CALIB	
STANDHYD (0153)	Area (ha)= 1.03
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.39	3.250	166.14	4.83	6.39
0.167	0.00	1.750	6.39	3.333	23.43	4.92	6.39
0.250	0.00	1.833	10.65	3.417	23.43	5.00	6.39
0.333	4.26	1.917	10.65	3.500	23.43	5.08	6.39
0.417	4.26	2.000	10.65	3.583	23.43	5.17	6.39
0.500	4.26	2.083	10.65	3.667	23.43	5.25	6.39
0.583	4.26	2.167	10.65	3.750	23.43	5.33	4.26
0.667	4.26	2.250	10.65	3.833	10.65	5.42	4.26
0.750	4.26	2.333	12.78	3.917	10.65	5.50	4.26
0.833	6.39	2.417	12.78	4.000	10.65	5.58	4.26
0.917	6.39	2.500	12.78	4.083	10.65	5.67	4.26
1.000	6.39	2.583	12.78	4.167	10.65	5.75	4.26
1.083	6.39	2.667	12.78	4.250	10.65	5.83	4.26
1.167	6.39	2.750	12.78	4.333	8.52	5.92	4.26
1.250	6.39	2.833	63.90	4.417	8.52	6.00	4.26
1.333	6.39	2.917	63.90	4.500	8.52	6.08	4.26
1.417	6.39	3.000	63.90	4.583	8.52	6.17	4.26
1.500	6.39	3.083	166.14	4.667	8.52	6.25	4.26
1.583	6.39	3.167	166.14	4.750	8.52		

Max.Eff.Inten.(mm/hr)=	166.14	72.41		
over (min)	5.00	10.00		
Storage Coeff. (min)=	1.86 (ii)	5.58 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.32	0.16		
			TOTALS	
PEAK FLOW (cms)=	0.36	0.04	0.400 (iii)	
TIME TO PEAK (hrs)=	3.25	3.25	3.25	
RUNOFF VOLUME (mm)=	105.50	37.06	88.38	
TOTAL RAINFALL (mm)=	106.50	106.50	106.50	
RUNOFF COEFFICIENT =	0.99	0.35	0.83	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0153)	1.030	0.400	3.25	88.38
OUTFLOW: ID= 1 (0159)	1.030	0.113	3.33	88.29

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.32
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0447

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\a340cffa
Ptotal=106.50 mm	Comments: 100-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	10.65	3.75	23.43	5.50	4.26
0.50	4.26	2.25	10.65	4.00	10.65	5.75	4.26
0.75	4.26	2.50	12.78	4.25	10.65	6.00	4.26
1.00	6.39	2.75	12.78	4.50	8.52	6.25	4.26
1.25	6.39	3.00	63.90	4.75	8.52		
1.50	6.39	3.25	166.14	5.00	6.39		
1.75	6.39	3.50	23.43	5.25	6.39		

CALIB	
STANDHYD (0163)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.39	3.250	166.14	4.83	6.39
0.167	0.00	1.750	6.39	3.333	23.43	4.92	6.39
0.250	0.00	1.833	10.65	3.417	23.43	5.00	6.39
0.333	4.26	1.917	10.65	3.500	23.43	5.08	6.39
0.417	4.26	2.000	10.65	3.583	23.43	5.17	6.39
0.500	4.26	2.083	10.65	3.667	23.43	5.25	6.39
0.583	4.26	2.167	10.65	3.750	23.43	5.33	4.26
0.667	4.26	2.250	10.65	3.833	10.65	5.42	4.26
0.750	4.26	2.333	12.78	3.917	10.65	5.50	4.26
0.833	6.39	2.417	12.78	4.000	10.65	5.58	4.26
0.917	6.39	2.500	12.78	4.083	10.65	5.67	4.26
1.000	6.39	2.583	12.78	4.167	10.65	5.75	4.26
1.083	6.39	2.667	12.78	4.250	10.65	5.83	4.26
1.167	6.39	2.750	12.78	4.333	8.52	5.92	4.26
1.250	6.39	2.833	63.90	4.417	8.52	6.00	4.26
1.333	6.39	2.917	63.90	4.500	8.52	6.08	4.26
1.417	6.39	3.000	63.90	4.583	8.52	6.17	4.26
1.500	6.39	3.083	166.14	4.667	8.52	6.25	4.26
1.583	6.39	3.167	166.14	4.750	8.52		

			TOTALS
Max.Eff.Inten.(mm/hr)=	166.14	75.53	
over (min)	5.00	15.00	
Storage Coeff. (min)=	4.19 (ii)	12.09 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.24	0.09	
PEAK FLOW (cms)=	4.04	0.82	4.731 (iii)
TIME TO PEAK (hrs)=	3.25	3.33	3.25
RUNOFF VOLUME (mm)=	105.50	38.64	77.42
TOTAL RAINFALL (mm)=	106.50	106.50	106.50
RUNOFF COEFFICIENT =	0.99	0.36	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0152)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0137):	8.10	0.399	3.83	31.27
	+ ID2= 2 (0159):	1.03	0.113	3.33	88.29
	ID = 3 (0152):	9.13	0.497	3.75	37.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0152)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
3 + 2 = 1	ID1= 3 (0152):	9.13	0.497	3.75	37.70
	+ ID2= 2 (0163):	15.36	4.731	3.25	77.42
	ID = 1 (0152):	24.49	4.986	3.25	62.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0161)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1				
DT= 5.0 min	0.0000	0.0000	0.4045	0.7000
	0.0151	0.0001	0.5514	0.8000
	0.0151	0.1301	0.7611	0.9000
	0.0440	0.4217	0.9325	0.9500
	0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0152)	24.490	4.986	3.25	62.61
OUTFLOW: ID= 1 (0161)	24.490	0.854	4.08	62.61

PEAK FLOW REDUCTION [Qout/Qin](%)= 17.13
TIME SHIFT OF PEAK FLOW (min)= 50.00
MAXIMUM STORAGE USED (ha.m.)= 0.9274

DUHYD (0162)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.= 0.015					
#of Inlets= 1					
Total(cms)= 0.0	TOTAL HYD.(ID= 1):	24.49	0.85	4.08	62.61
	MAJOR SYS.(ID= 2):	18.78	0.84	4.08	62.61
	MINOR SYS.(ID= 3):	5.71	0.02	2.50	62.61

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\a340cffa
Ptotal=106.50 mm	Comments: 100-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	10.65	3.75	23.43	5.50	4.26
0.50	4.26	2.25	10.65	4.00	10.65	5.75	4.26
0.75	4.26	2.50	12.78	4.25	10.65	6.00	4.26
1.00	6.39	2.75	12.78	4.50	8.52	6.25	4.26
1.25	6.39	3.00	63.90	4.75	8.52		
1.50	6.39	3.25	166.14	5.00	6.39		

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                1.75    6.39 |  3.50   23.43 |  5.25    6.39 |
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| CALIB            |
| STANDHYD (  0151)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
 0.083    0.00 | 1.667    6.39 | 3.250  166.14 |  4.83    6.39
 0.167    0.00 | 1.750    6.39 | 3.333   23.43 |  4.92    6.39
 0.250    0.00 | 1.833   10.65 | 3.417   23.43 |  5.00    6.39
 0.333    4.26 | 1.917   10.65 | 3.500   23.43 |  5.08    6.39
 0.417    4.26 | 2.000   10.65 | 3.583   23.43 |  5.17    6.39
 0.500    4.26 | 2.083   10.65 | 3.667   23.43 |  5.25    6.39
 0.583    4.26 | 2.167   10.65 | 3.750   23.43 |  5.33    4.26
 0.667    4.26 | 2.250   10.65 | 3.833   10.65 |  5.42    4.26
 0.750    4.26 | 2.333   12.78 | 3.917   10.65 |  5.50    4.26
 0.833    6.39 | 2.417   12.78 | 4.000   10.65 |  5.58    4.26
 0.917    6.39 | 2.500   12.78 | 4.083   10.65 |  5.67    4.26
 1.000    6.39 | 2.583   12.78 | 4.167   10.65 |  5.75    4.26
 1.083    6.39 | 2.667   12.78 | 4.250   10.65 |  5.83    4.26
 1.167    6.39 | 2.750   12.78 | 4.333    8.52 |  5.92    4.26
 1.250    6.39 | 2.833   63.90 | 4.417    8.52 |  6.00    4.26
 1.333    6.39 | 2.917   63.90 | 4.500    8.52 |  6.08    4.26
 1.417    6.39 | 3.000   63.90 | 4.583    8.52 |  6.17    4.26
 1.500    6.39 | 3.083  166.14 | 4.667    8.52 |  6.25    4.26
 1.583    6.39 | 3.167  166.14 | 4.750    8.52 |

     Max.Eff.Inten.(mm/hr)=     166.14       126.27
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.88 (ii)    5.60 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.15
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.37         0.08        0.452 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25         3.25
     RUNOFF VOLUME    (mm)=     105.50        65.51        95.50
     TOTAL RAINFALL   (mm)=     106.50       106.50       106.50
     RUNOFF COEFFICIENT   =       0.99         0.62         0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT)  SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.

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

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| RESERVOIR(  0160)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.0600     0.0645

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0151)      1.070     0.452      3.25      95.50
   OUTFLOW: ID= 1 (  0160)      1.070     0.060      3.75      95.25

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.25
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0644

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\a340cffa
| Ptotal=106.50 mm |    Comments: 100-Year-6-Hour-SCS-Type-II
--------------------
  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
  0.25    0.00 |  2.00   10.65 |  3.75   23.43 |  5.50    4.26
  0.50    4.26 |  2.25   10.65 |  4.00   10.65 |  5.75    4.26
  0.75    4.26 |  2.50   12.78 |  4.25   10.65 |  6.00    4.26
  1.00    6.39 |  2.75   12.78 |  4.50    8.52 |  6.25    4.26
  1.25    6.39 |  3.00   63.90 |  4.75    8.52 |
  1.50    6.39 |  3.25  166.14 |  5.00    6.39 |
  1.75    6.39 |  3.50   23.43 |  5.25    6.39 |

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| CALIB            |
| STANDHYD (  0155)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
 0.083    0.00 | 1.667    6.39 | 3.250  166.14 |  4.83    6.39
 0.167    0.00 | 1.750    6.39 | 3.333   23.43 |  4.92    6.39
 0.250    0.00 | 1.833   10.65 | 3.417   23.43 |  5.00    6.39
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0.333	4.26	1.917	10.65	3.500	23.43	5.08	6.39
0.417	4.26	2.000	10.65	3.583	23.43	5.17	6.39
0.500	4.26	2.083	10.65	3.667	23.43	5.25	6.39
0.583	4.26	2.167	10.65	3.750	23.43	5.33	4.26
0.667	4.26	2.250	10.65	3.833	10.65	5.42	4.26
0.750	4.26	2.333	12.78	3.917	10.65	5.50	4.26
0.833	6.39	2.417	12.78	4.000	10.65	5.58	4.26
0.917	6.39	2.500	12.78	4.083	10.65	5.67	4.26
1.000	6.39	2.583	12.78	4.167	10.65	5.75	4.26
1.083	6.39	2.667	12.78	4.250	10.65	5.83	4.26
1.167	6.39	2.750	12.78	4.333	8.52	5.92	4.26
1.250	6.39	2.833	63.90	4.417	8.52	6.00	4.26
1.333	6.39	2.917	63.90	4.500	8.52	6.08	4.26
1.417	6.39	3.000	63.90	4.583	8.52	6.17	4.26
1.500	6.39	3.083	166.14	4.667	8.52	6.25	4.26
1.583	6.39	3.167	166.14	4.750	8.52		

Max.Eff.Inten.(mm/hr)=	166.14	126.27	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.71 (ii)	5.43 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.32	0.16	
			TOTALS
PEAK FLOW (cms)=	0.27	0.06	0.330 (iii)
TIME TO PEAK (hrs)=	3.25	3.25	3.25
RUNOFF VOLUME (mm)=	105.50	65.51	95.50
TOTAL RAINFALL (mm)=	106.50	106.50	106.50
RUNOFF COEFFICIENT =	0.99	0.62	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0157)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.330	3.25	95.50
OUTFLOW: ID= 1 (0157)	0.780	0.075	3.42	95.33

PEAK FLOW REDUCTION [Qout/Qin](%)= 22.67
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0396

READ STORM	Filename: C:\Users\ssoumik\AppD ata\Local\Temp\ ca94154a-f608-48e6-a76d-4178e5c760a5\a340cffa

Ptotal=106.50 mm	Comments: 100-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	10.65	3.75	23.43	5.50	4.26
0.50	4.26	2.25	10.65	4.00	10.65	5.75	4.26
0.75	4.26	2.50	12.78	4.25	10.65	6.00	4.26
1.00	6.39	2.75	12.78	4.50	8.52	6.25	4.26
1.25	6.39	3.00	63.90	4.75	8.52		
1.50	6.39	3.25	166.14	5.00	6.39		
1.75	6.39	3.50	23.43	5.25	6.39		

CALIB	
STANDHYD (0156)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.39	3.250	166.14	4.83	6.39
0.167	0.00	1.750	6.39	3.333	23.43	4.92	6.39
0.250	0.00	1.833	10.65	3.417	23.43	5.00	6.39
0.333	4.26	1.917	10.65	3.500	23.43	5.08	6.39
0.417	4.26	2.000	10.65	3.583	23.43	5.17	6.39
0.500	4.26	2.083	10.65	3.667	23.43	5.25	6.39
0.583	4.26	2.167	10.65	3.750	23.43	5.33	4.26
0.667	4.26	2.250	10.65	3.833	10.65	5.42	4.26
0.750	4.26	2.333	12.78	3.917	10.65	5.50	4.26
0.833	6.39	2.417	12.78	4.000	10.65	5.58	4.26
0.917	6.39	2.500	12.78	4.083	10.65	5.67	4.26
1.000	6.39	2.583	12.78	4.167	10.65	5.75	4.26
1.083	6.39	2.667	12.78	4.250	10.65	5.83	4.26
1.167	6.39	2.750	12.78	4.333	8.52	5.92	4.26
1.250	6.39	2.833	63.90	4.417	8.52	6.00	4.26
1.333	6.39	2.917	63.90	4.500	8.52	6.08	4.26
1.417	6.39	3.000	63.90	4.583	8.52	6.17	4.26
1.500	6.39	3.083	166.14	4.667	8.52	6.25	4.26
1.583	6.39	3.167	166.14	4.750	8.52		

Max.Eff.Inten.(mm/hr)=	166.14	72.41	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.25 (ii)	5.27 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.33	0.16	
			TOTALS
PEAK FLOW (cms)=	0.09	0.01	0.102 (iii)
TIME TO PEAK (hrs)=	3.25	3.25	3.25

```
     RUNOFF VOLUME    (mm)=     105.50        37.06          85.64
     TOTAL RAINFALL   (mm)=     106.50       106.50         106.50
     RUNOFF COEFFICIENT   =       0.99         0.35           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)      0.270     0.102      3.25      85.64
   OUTFLOW: ID= 1 (  0154)      0.270     0.045      3.33      85.48

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.87
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0093

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0154):     0.27   0.045     3.33    85.48
      + ID2= 2 (  0157):     0.78   0.075     3.42    95.33
        ================================================
        ID = 3 (  0158):     1.05   0.119     3.33    92.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0158):     1.05   0.119     3.33    92.80
      + ID2= 2 (  0160):     1.07   0.060     3.75    95.25
        ================================================
        ID = 1 (  0158):     2.12   0.175     3.33    94.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0158):     2.12   0.175     3.33    94.04
      + ID2= 2 (  0162):    18.78   0.839     4.08    62.61
        ================================================
        ID = 3 (  0158):    20.90   0.978     4.08    65.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
========================

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\d57a0a59-9cbc-41a1-b45f-1f39f1b5f167\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\d57a0a59-9cbc-41a1-b45f-1f39f1b5f167\scen


DATE: 10-31-2019                          TIME: 10:47:27

USER:


COMMENTS: _____

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  ********************************************
  ** SIMULATION : Run 32                     **
  ********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\af8d9203
| Ptotal= 25.02 mm |    Comments: 25mmchi
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
```

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.17	2.17	1.17	6.20	2.17	5.62	3.17	2.95
0.33	2.38	1.33	12.18	2.33	4.80	3.33	2.76
0.50	2.66	1.50	41.67	2.50	4.21	3.50	2.62
0.67	3.03	1.67	15.28	2.67	3.78	3.67	2.47
0.83	3.58	1.83	9.22	2.83	3.45	3.83	2.35
1.00	4.47	2.00	6.88	3.00	3.18	4.00	2.23

CALIB					
NASHYD (0137)	Area (ha)=	8.10	Curve Number (CN)=	52.7	
ID= 1 DT= 5.0 min	Ia (mm)=	5.00	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.59			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.17	1.083	6.20	2.083	5.62	3.08	2.95
0.167	2.17	1.167	6.20	2.167	5.62	3.17	2.95
0.250	2.38	1.250	12.18	2.250	4.80	3.25	2.76
0.333	2.38	1.333	12.18	2.333	4.80	3.33	2.76
0.417	2.66	1.417	41.67	2.417	4.21	3.42	2.62
0.500	2.66	1.500	41.67	2.500	4.21	3.50	2.62
0.583	3.03	1.583	15.28	2.583	3.78	3.58	2.47
0.667	3.03	1.667	15.28	2.667	3.78	3.67	2.47
0.750	3.58	1.750	9.22	2.750	3.45	3.75	2.35
0.833	3.58	1.833	9.22	2.833	3.45	3.83	2.35
0.917	4.47	1.917	6.88	2.917	3.18	3.92	2.23
1.000	4.47	2.000	6.88	3.000	3.18	4.00	2.23

Unit Hyd Qpeak (cms)=	0.524		
PEAK FLOW (cms)=	0.015 (i)		
TIME TO PEAK (hrs)=	2.500		
RUNOFF VOLUME (mm)=	1.616		
TOTAL RAINFALL (mm)=	25.023		
RUNOFF COEFFICIENT =	0.065		

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

READ STORM	Filename: C:\Users\ssoumik\AppD ata\Local\Temp\ ca94154a-f608-48e6-a76d-4178e5c760a5\af8d9203
Ptotal= 25.02 mm	Comments: 25mmchi

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.17	1.17	6.20	2.17	5.62	3.17	2.95
0.33	2.38	1.33	12.18	2.33	4.80	3.33	2.76
0.50	2.66	1.50	41.67	2.50	4.21	3.50	2.62
0.67	3.03	1.67	15.28	2.67	3.78	3.67	2.47
0.83	3.58	1.83	9.22	2.83	3.45	3.83	2.35
1.00	4.47	2.00	6.88	3.00	3.18	4.00	2.23

CALIB					
STANDHYD (0153)	Area (ha)=	1.03			
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)=	75.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.17	1.083	6.20	2.083	5.62	3.08	2.95
0.167	2.17	1.167	6.20	2.167	5.62	3.17	2.95
0.250	2.38	1.250	12.18	2.250	4.80	3.25	2.76
0.333	2.38	1.333	12.18	2.333	4.80	3.33	2.76
0.417	2.66	1.417	41.67	2.417	4.21	3.42	2.62
0.500	2.66	1.500	41.67	2.500	4.21	3.50	2.62
0.583	3.03	1.583	15.28	2.583	3.78	3.58	2.47
0.667	3.03	1.667	15.28	2.667	3.78	3.67	2.47
0.750	3.58	1.750	9.22	2.750	3.45	3.75	2.35
0.833	3.58	1.833	9.22	2.833	3.45	3.83	2.35
0.917	4.47	1.917	6.88	2.917	3.18	3.92	2.23
1.000	4.47	2.000	6.88	3.000	3.18	4.00	2.23

Max.Eff.Inten.(mm/hr)=	41.67	1.38		
over (min)	5.00	45.00		
Storage Coeff. (min)=	3.24 (ii)	42.33 (ii)		
Unit Hyd. Tpeak (min)=	5.00	45.00		
Unit Hyd. peak (cms)=	0.27	0.03		
				TOTALS
PEAK FLOW (cms)=	0.09	0.00		0.087 (iii)
TIME TO PEAK (hrs)=	1.50	2.50		1.50
RUNOFF VOLUME (mm)=	24.02	2.04		18.50
TOTAL RAINFALL (mm)=	25.02	25.02		25.02
RUNOFF COEFFICIENT =	0.96	0.08		0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0159)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE

```
--------------------      (cms)      (ha.m.)   |   (cms)      (ha.m.)
                         0.0000      0.0000   |   0.1120      0.0442

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0153)     1.030     0.087      1.50      18.50
   OUTFLOW: ID= 1 (  0159)     1.030     0.021      1.83      18.41

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 24.25
                  TIME SHIFT OF PEAK FLOW          (min)= 20.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0083

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              ca94154a-f608-48e6-a76d-4178e5c760a5\af8d9203
| Ptotal= 25.02 mm |    Comments: 25mmchi
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.17 |  1.17    6.20 |  2.17    5.62 |  3.17    2.95
                0.33    2.38 |  1.33   12.18 |  2.33    4.80 |  3.33    2.76
                0.50    2.66 |  1.50   41.67 |  2.50    4.21 |  3.50    2.62
                0.67    3.03 |  1.67   15.28 |  2.67    3.78 |  3.67    2.47
                0.83    3.58 |  1.83    9.22 |  2.83    3.45 |  3.83    2.35
                1.00    4.47 |  2.00    6.88 |  3.00    3.18 |  4.00    2.23

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--------------------
| CALIB            |
| STANDHYD (  0163)|   Area     (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91          6.45
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     320.00         40.00
     Mannings n             =     0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    2.17 | 1.083    6.20 | 2.083    5.62 |  3.08    2.95
               0.167    2.17 | 1.167    6.20 | 2.167    5.62 |  3.17    2.95
               0.250    2.38 | 1.250   12.18 | 2.250    4.80 |  3.25    2.76
               0.333    2.38 | 1.333   12.18 | 2.333    4.80 |  3.33    2.76
               0.417    2.66 | 1.417   41.67 | 2.417    4.21 |  3.42    2.62
               0.500    2.66 | 1.500   41.67 | 2.500    4.21 |  3.50    2.62
               0.583    3.03 | 1.583   15.28 | 2.583    3.78 |  3.58    2.47
               0.667    3.03 | 1.667   15.28 | 2.667    3.78 |  3.67    2.47
               0.750    3.58 | 1.750    9.22 | 2.750    3.45 |  3.75    2.35
               0.833    3.58 | 1.833    9.22 | 2.833    3.45 |  3.83    2.35
               0.917    4.47 | 1.917    6.88 | 2.917    3.18 |  3.92    2.23
               1.000    4.47 | 2.000    6.88 | 3.000    3.18 |  4.00    2.23

     Max.Eff.Inten.(mm/hr)=      41.67         1.47
               over (min)         5.00        50.00
     Storage Coeff.  (min)=       7.29 (ii)   45.43 (ii)
     Unit Hyd. Tpeak (min)=       5.00        50.00
     Unit Hyd. peak  (cms)=       0.17         0.02
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.84         0.01          0.837 (iii)
     TIME TO PEAK    (hrs)=       1.50         2.58          1.50
     RUNOFF VOLUME    (mm)=      24.02         2.17         14.84
     TOTAL RAINFALL   (mm)=      25.02        25.02         25.02
     RUNOFF COEFFICIENT   =       0.96         0.09          0.59

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

--------------------
| ADD HYD  (  0152)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0137):     8.10    0.015     2.50     1.62
     + ID2= 2 (  0159):     1.03    0.021     1.83    18.41
       ================================================
       ID = 3 (  0152):     9.13    0.034     2.25     3.51

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0152)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0152):     9.13    0.034     2.25     3.51
     + ID2= 2 (  0163):    15.36    0.837     1.50    14.84
       ================================================
       ID = 1 (  0152):    24.49    0.853     1.50    10.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| RESERVOIR(  0161)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.4045     0.7000
                         0.0151     0.0001    |   0.5514     0.8000
                         0.0151     0.1301    |   0.7611     0.9000
                         0.0440     0.4217    |   0.9325     0.9500
                         0.2194     0.6000    |   1.1147     1.0500

                               AREA     QPEAK     TPEAK       R.V.
```

	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0152)	24.490	0.853	1.50	10.62
OUTFLOW: ID= 1 (0161)	24.490	0.025	4.42	10.62

PEAK FLOW REDUCTION [Qout/Qin](%)= 2.88
TIME SHIFT OF PEAK FLOW (min)=175.00
MAXIMUM STORAGE USED (ha.m.)= 0.2259

DUHYD (0162)
Inlet Cap.= 0.015
#of Inlets= 1
Total(cms)= 0.0

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.49	0.02	4.42	10.62
MAJOR SYS.(ID= 2):	2.81	0.01	4.42	10.62
MINOR SYS.(ID= 3):	21.68	0.02	1.92	10.62

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM | Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\af8d9203
Ptotal= 25.02 mm | Comments: 25mmchi

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.17	1.17	6.20	2.17	5.62	3.17	2.95
0.33	2.38	1.33	12.18	2.33	4.80	3.33	2.76
0.50	2.66	1.50	41.67	2.50	4.21	3.50	2.62
0.67	3.03	1.67	15.28	2.67	3.78	3.67	2.47
0.83	3.58	1.83	9.22	2.83	3.45	3.83	2.35
1.00	4.47	2.00	6.88	3.00	3.18	4.00	2.23

CALIB
STANDHYD (0151)
ID= 1 DT= 5.0 min
Area (ha)= 1.07
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.17	1.083	6.20	2.083	5.62	3.08	2.95
0.167	2.17	1.167	6.20	2.167	5.62	3.17	2.95
0.250	2.38	1.250	12.18	2.250	4.80	3.25	2.76
0.333	2.38	1.333	12.18	2.333	4.80	3.33	2.76
0.417	2.66	1.417	41.67	2.417	4.21	3.42	2.62
0.500	2.66	1.500	41.67	2.500	4.21	3.50	2.62
0.583	3.03	1.583	15.28	2.583	3.78	3.58	2.47
0.667	3.03	1.667	15.28	2.667	3.78	3.67	2.47
0.750	3.58	1.750	9.22	2.750	3.45	3.75	2.35
0.833	3.58	1.833	9.22	2.833	3.45	3.83	2.35
0.917	4.47	1.917	6.88	2.917	3.18	3.92	2.23
1.000	4.47	2.000	6.88	3.000	3.18	4.00	2.23

				TOTALS
Max.Eff.Inten.(mm/hr)=	41.67	4.57		
over (min)	5.00	30.00		
Storage Coeff. (min)=	3.28 (ii)	27.52 (ii)		
Unit Hyd. Tpeak (min)=	5.00	30.00		
Unit Hyd. peak (cms)=	0.27	0.04		
PEAK FLOW (cms)=	0.09	0.00	0.090 (iii)	
TIME TO PEAK (hrs)=	1.50	2.08	1.50	
RUNOFF VOLUME (mm)=	24.02	5.29	19.32	
TOTAL RAINFALL (mm)=	25.02	25.02	25.02	
RUNOFF COEFFICIENT =	0.96	0.21	0.77	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0160)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0151)	1.070	0.090	1.50	19.32
OUTFLOW: ID= 1 (0160)	1.070	0.011	2.50	19.07

PEAK FLOW REDUCTION [Qout/Qin](%)= 12.29
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.0119

READ STORM | Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\af8d9203
Ptotal= 25.02 mm | Comments: 25mmchi

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.17	1.17	6.20	2.17	5.62	3.17	2.95

0.33	2.38	1.33	12.18	2.33	4.80	3.33	2.76
0.50	2.66	1.50	41.67	2.50	4.21	3.50	2.62
0.67	3.03	1.67	15.28	2.67	3.78	3.67	2.47
0.83	3.58	1.83	9.22	2.83	3.45	3.83	2.35
1.00	4.47	2.00	6.88	3.00	3.18	4.00	2.23

CALIB	
STANDHYD (0155)	Area (ha)= 0.78
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.17	1.083	6.20	2.083	5.62	3.08	2.95
0.167	2.17	1.167	6.20	2.167	5.62	3.17	2.95
0.250	2.38	1.250	12.18	2.250	4.80	3.25	2.76
0.333	2.38	1.333	12.18	2.333	4.80	3.33	2.76
0.417	2.66	1.417	41.67	2.417	4.21	3.42	2.62
0.500	2.66	1.500	41.67	2.500	4.21	3.50	2.62
0.583	3.03	1.583	15.28	2.583	3.78	3.58	2.47
0.667	3.03	1.667	15.28	2.667	3.78	3.67	2.47
0.750	3.58	1.750	9.22	2.750	3.45	3.75	2.35
0.833	3.58	1.833	9.22	2.833	3.45	3.83	2.35
0.917	4.47	1.917	6.88	2.917	3.18	3.92	2.23
1.000	4.47	2.000	6.88	3.000	3.18	4.00	2.23

				TOTALS
Max.Eff.Inten.(mm/hr)=		41.67	4.57	
over (min)		5.00	30.00	
Storage Coeff. (min)=		2.98 (ii)	27.23 (ii)	
Unit Hyd. Tpeak (min)=		5.00	30.00	
Unit Hyd. peak (cms)=		0.28	0.04	
PEAK FLOW	(cms)=	0.07	0.00	0.066 (iii)
TIME TO PEAK	(hrs)=	1.50	2.08	1.50
RUNOFF VOLUME	(mm)=	24.02	5.29	19.32
TOTAL RAINFALL	(mm)=	25.02	25.02	25.02
RUNOFF COEFFICIENT	=	0.96	0.21	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0157)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0155)	0.780	0.066	1.50	19.32
OUTFLOW: ID= 1 (0157)	0.780	0.013	1.92	19.16

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.93
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 0.0070

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\ca94154a-f608-48e6-a76d-4178e5c760a5\af8d9203
Ptotal= 25.02 mm	Comments: 25mmchi

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.17	1.17	6.20	2.17	5.62	3.17	2.95
0.33	2.38	1.33	12.18	2.33	4.80	3.33	2.76
0.50	2.66	1.50	41.67	2.50	4.21	3.50	2.62
0.67	3.03	1.67	15.28	2.67	3.78	3.67	2.47
0.83	3.58	1.83	9.22	2.83	3.45	3.83	2.35
1.00	4.47	2.00	6.88	3.00	3.18	4.00	2.23

CALIB	
STANDHYD (0156)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.17	1.083	6.20	2.083	5.62	3.08	2.95
0.167	2.17	1.167	6.20	2.167	5.62	3.17	2.95
0.250	2.38	1.250	12.18	2.250	4.80	3.25	2.76
0.333	2.38	1.333	12.18	2.333	4.80	3.33	2.76
0.417	2.66	1.417	41.67	2.417	4.21	3.42	2.62
0.500	2.66	1.500	41.67	2.500	4.21	3.50	2.62
0.583	3.03	1.583	15.28	2.583	3.78	3.58	2.47

```
               0.667    3.03 | 1.667   15.28 | 2.667    3.78 |  3.67    2.47
               0.750    3.58 | 1.750    9.22 | 2.750    3.45 |  3.75    2.35
               0.833    3.58 | 1.833    9.22 | 2.833    3.45 |  3.83    2.35
               0.917    4.47 | 1.917    6.88 | 2.917    3.18 |  3.92    2.23
               1.000    4.47 | 2.000    6.88 | 3.000    3.18 |  4.00    2.23

     Max.Eff.Inten.(mm/hr)=      41.67         1.38
               over (min)         5.00        45.00
     Storage Coeff.  (min)=       2.17 (ii)   41.26 (ii)
     Unit Hyd. Tpeak (min)=       5.00        45.00
     Unit Hyd. peak  (cms)=       0.31         0.03
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.00          0.022 (iii)
     TIME TO PEAK    (hrs)=       1.50         2.50           1.50
     RUNOFF VOLUME    (mm)=      24.02         2.04          17.55
     TOTAL RAINFALL   (mm)=      25.02        25.02          25.02
     RUNOFF COEFFICIENT   =       0.96         0.08           0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0154)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0156)     0.270     0.022      1.50      17.55
   OUTFLOW: ID= 1 (  0154)     0.270     0.008      1.67      17.38

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 36.14
                  TIME SHIFT OF PEAK FLOW          (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0016

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

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0154):     0.27   0.008     1.67    17.38
      + ID2= 2 (  0157):     0.78   0.013     1.92    19.16
        ================================================
        ID = 3 (  0158):     1.05   0.021     1.75    18.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0158)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0158):     1.05   0.021     1.75    18.70
      + ID2= 2 (  0160):     1.07   0.011     2.50    19.07
        ================================================
        ID = 1 (  0158):     2.12   0.031     1.83    18.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

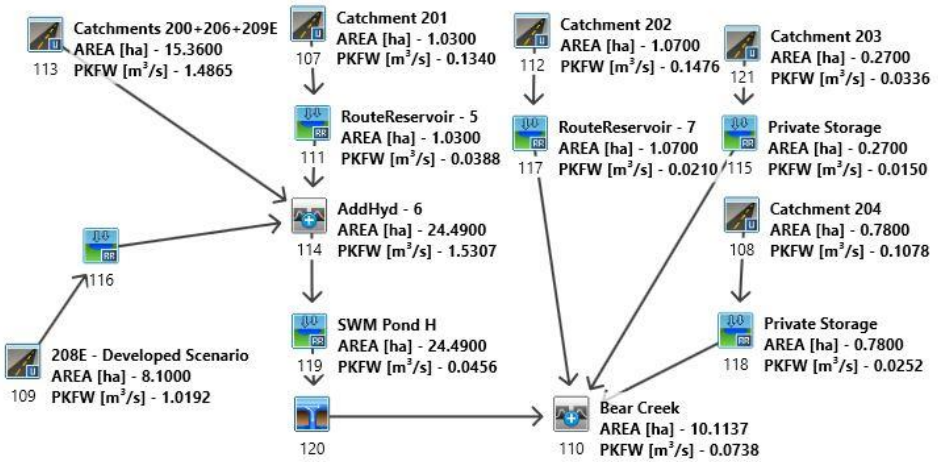
--------------------------------------------------------------------------------

--------------------
| ADD HYD  (  0158)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0158):     2.12   0.031     1.83    18.89
      + ID2= 2 (  0162):     2.81   0.009     4.42    10.62
        ================================================
        ID = 3 (  0158):     4.93   0.032     2.25    14.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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SCHAEFFERS
CONSULTING ENGINEERS

Visual OTTHYMO™ Schematic

PRE-DEVELOPMENT SCENARIO (208E)

Job #: 4560 **Date:OCTOBER 2019**

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-
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DATE: 10-31-2019                          TIME: 10:48:57

USER:


COMMENTS: _____________________________________________________________

------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : 1-2-Year-12-Hour-SCS-Type-II  **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\926f0257
| Ptotal= 46.70 mm |    Comments: 2-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    1.87 |  6.75    8.41 | 10.00    1.63
                0.50    1.17 |  3.75    1.87 |  7.00    3.74 | 10.25    1.63
                0.75    1.17 |  4.00    1.87 |  7.25    3.74 | 10.50    0.93
                1.00    1.17 |  4.25    1.87 |  7.50    2.80 | 10.75    0.93
                1.25    1.17 |  4.50    2.80 |  7.75    2.80 | 11.00    0.93
                1.50    1.17 |  4.75    2.80 |  8.00    2.80 | 11.25    0.93
                1.75    1.17 |  5.00    3.74 |  8.25    2.80 | 11.50    0.93
                2.00    1.17 |  5.25    3.74 |  8.50    1.63 | 11.75    0.93
```

2.25	1.17	5.50	5.60	8.75	1.63	12.00	0.93
2.50	1.40	5.75	5.60	9.00	1.63	12.25	0.93
2.75	1.40	6.00	22.42	9.25	1.63		
3.00	1.40	6.25	61.64	9.50	1.63		
3.25	1.40	6.50	8.41	9.75	1.63		

CALIB	
STANDHYD (0107)	Area (ha)= 1.03
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.40	6.250	61.64	9.33	1.63
0.167	0.00	3.250	1.40	6.333	8.41	9.42	1.63
0.250	0.00	3.333	1.87	6.417	8.41	9.50	1.63
0.333	1.17	3.417	1.87	6.500	8.41	9.58	1.63
0.417	1.17	3.500	1.87	6.583	8.41	9.67	1.63
0.500	1.17	3.583	1.87	6.667	8.41	9.75	1.63
0.583	1.17	3.667	1.87	6.750	8.41	9.83	1.63
0.667	1.17	3.750	1.87	6.833	3.74	9.92	1.63
0.750	1.17	3.833	1.87	6.917	3.74	10.00	1.63
0.833	1.17	3.917	1.87	7.000	3.74	10.08	1.63
0.917	1.17	4.000	1.87	7.083	3.74	10.17	1.63
1.000	1.17	4.083	1.87	7.167	3.74	10.25	1.63
1.083	1.17	4.167	1.87	7.250	3.74	10.33	0.93
1.167	1.17	4.250	1.87	7.333	2.80	10.42	0.93
1.250	1.17	4.333	2.80	7.417	2.80	10.50	0.93
1.333	1.17	4.417	2.80	7.500	2.80	10.58	0.93
1.417	1.17	4.500	2.80	7.583	2.80	10.67	0.93
1.500	1.17	4.583	2.80	7.667	2.80	10.75	0.93
1.583	1.17	4.667	2.80	7.750	2.80	10.83	0.93
1.667	1.17	4.750	2.80	7.833	2.80	10.92	0.93
1.750	1.17	4.833	3.74	7.917	2.80	11.00	0.93
1.833	1.17	4.917	3.74	8.000	2.80	11.08	0.93
1.917	1.17	5.000	3.74	8.083	2.80	11.17	0.93
2.000	1.17	5.083	3.74	8.167	2.80	11.25	0.93
2.083	1.17	5.167	3.74	8.250	2.80	11.33	0.93
2.167	1.17	5.250	3.74	8.333	1.63	11.42	0.93
2.250	1.17	5.333	5.60	8.417	1.63	11.50	0.93
2.333	1.40	5.417	5.60	8.500	1.63	11.58	0.93
2.417	1.40	5.500	5.60	8.583	1.63	11.67	0.93
2.500	1.40	5.583	5.60	8.667	1.63	11.75	0.93
2.583	1.40	5.667	5.60	8.750	1.63	11.83	0.93
2.667	1.40	5.750	5.60	8.833	1.63	11.92	0.93
2.750	1.40	5.833	22.42	8.917	1.63	12.00	0.93
2.833	1.40	5.917	22.42	9.000	1.63	12.08	0.93
2.917	1.40	6.000	22.42	9.083	1.63	12.17	0.93
3.000	1.40	6.083	61.64	9.167	1.63	12.25	0.93
3.083	1.40	6.167	61.64	9.250	1.63		

				TOTALS
Max.Eff.Inten.	(mm/hr)=	61.64	9.52	
	over (min)	5.00	25.00	
Storage Coeff.	(min)=	2.77 (ii)	20.85 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	25.00	
Unit Hyd. peak	(cms)=	0.28	0.05	
PEAK FLOW	(cms)=	0.13	0.00	0.134 (iii)
TIME TO PEAK	(hrs)=	6.25	6.50	6.25
RUNOFF VOLUME	(mm)=	45.70	7.97	36.25
TOTAL RAINFALL	(mm)=	46.70	46.70	46.70
RUNOFF COEFFICIENT	=	0.98	0.17	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0111)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	1.030	0.134	6.25	36.25
OUTFLOW: ID= 1 (0111)	1.030	0.039	6.33	36.16

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.97
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0153

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\926f0257
Ptotal= 46.70 mm	Comments: 2-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	1.87	6.75	8.41	10.00	1.63
0.50	1.17	3.75	1.87	7.00	3.74	10.25	1.63
0.75	1.17	4.00	1.87	7.25	3.74	10.50	0.93
1.00	1.17	4.25	1.87	7.50	2.80	10.75	0.93
1.25	1.17	4.50	2.80	7.75	2.80	11.00	0.93
1.50	1.17	4.75	2.80	8.00	2.80	11.25	0.93
1.75	1.17	5.00	3.74	8.25	2.80	11.50	0.93
2.00	1.17	5.25	3.74	8.50	1.63	11.75	0.93
2.25	1.17	5.50	5.60	8.75	1.63	12.00	0.93

2.50	1.40	5.75	5.60	9.00	1.63	12.25	0.93
2.75	1.40	6.00	22.42	9.25	1.63		
3.00	1.40	6.25	61.64	9.50	1.63		
3.25	1.40	6.50	8.41	9.75	1.63		

CALIB			
STANDHYD (0109)	Area (ha)=	8.10	
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.08	2.03
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	232.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.40	6.250	61.64	9.33	1.63
0.167	0.00	3.250	1.40	6.333	8.41	9.42	1.63
0.250	0.00	3.333	1.87	6.417	8.41	9.50	1.63
0.333	1.17	3.417	1.87	6.500	8.41	9.58	1.63
0.417	1.17	3.500	1.87	6.583	8.41	9.67	1.63
0.500	1.17	3.583	1.87	6.667	8.41	9.75	1.63
0.583	1.17	3.667	1.87	6.750	8.41	9.83	1.63
0.667	1.17	3.750	1.87	6.833	3.74	9.92	1.63
0.750	1.17	3.833	1.87	6.917	3.74	10.00	1.63
0.833	1.17	3.917	1.87	7.000	3.74	10.08	1.63
0.917	1.17	4.000	1.87	7.083	3.74	10.17	1.63
1.000	1.17	4.083	1.87	7.167	3.74	10.25	1.63
1.083	1.17	4.167	1.87	7.250	3.74	10.33	0.93
1.167	1.17	4.250	1.87	7.333	2.80	10.42	0.93
1.250	1.17	4.333	2.80	7.417	2.80	10.50	0.93
1.333	1.17	4.417	2.80	7.500	2.80	10.58	0.93
1.417	1.17	4.500	2.80	7.583	2.80	10.67	0.93
1.500	1.17	4.583	2.80	7.667	2.80	10.75	0.93
1.583	1.17	4.667	2.80	7.750	2.80	10.83	0.93
1.667	1.17	4.750	2.80	7.833	2.80	10.92	0.93
1.750	1.17	4.833	3.74	7.917	2.80	11.00	0.93
1.833	1.17	4.917	3.74	8.000	2.80	11.08	0.93
1.917	1.17	5.000	3.74	8.083	2.80	11.17	0.93
2.000	1.17	5.083	3.74	8.167	2.80	11.25	0.93
2.083	1.17	5.167	3.74	8.250	2.80	11.33	0.93
2.167	1.17	5.250	3.74	8.333	1.63	11.42	0.93
2.250	1.17	5.333	5.60	8.417	1.63	11.50	0.93
2.333	1.40	5.417	5.60	8.500	1.63	11.58	0.93
2.417	1.40	5.500	5.60	8.583	1.63	11.67	0.93
2.500	1.40	5.583	5.60	8.667	1.63	11.75	0.93
2.583	1.40	5.667	5.60	8.750	1.63	11.83	0.93
2.667	1.40	5.750	5.60	8.833	1.63	11.92	0.93
2.750	1.40	5.833	22.42	8.917	1.63	12.00	0.93
2.833	1.40	5.917	22.42	9.000	1.63	12.08	0.93
2.917	1.40	6.000	22.42	9.083	1.63	12.17	0.93
3.000	1.40	6.083	61.64	9.167	1.63	12.25	0.93
3.083	1.40	6.167	61.64	9.250	1.63		

Max.Eff.Inten.(mm/hr)=	61.64	9.52	
over (min)	5.00	25.00	
Storage Coeff. (min)=	5.14 (ii)	23.22 (ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00	
Unit Hyd. peak (cms)=	0.21	0.05	
			TOTALS
PEAK FLOW (cms)=	1.00	0.03	1.019 (iii)
TIME TO PEAK (hrs)=	6.25	6.58	6.25
RUNOFF VOLUME (mm)=	45.70	7.97	36.27
TOTAL RAINFALL (mm)=	46.70	46.70	46.70
RUNOFF COEFFICIENT =	0.98	0.17	0.78

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0116)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2090	0.3700
	0.0146	0.2491	0.2910	0.4360
	0.0800	0.2550	0.3580	0.4850
	0.1520	0.3150	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	1.019	6.25	36.27
OUTFLOW: ID= 1 (0116)	8.100	0.031	10.25	35.07

PEAK FLOW REDUCTION [Qout/Qin](%)= 3.00
TIME SHIFT OF PEAK FLOW (min)=240.00
MAXIMUM STORAGE USED (ha.m.)= 0.2505

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\926f0257
Ptotal= 46.70 mm	Comments: 2-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	1.87	6.75	8.41	10.00	1.63
0.50	1.17	3.75	1.87	7.00	3.74	10.25	1.63
0.75	1.17	4.00	1.87	7.25	3.74	10.50	0.93
1.00	1.17	4.25	1.87	7.50	2.80	10.75	0.93
1.25	1.17	4.50	2.80	7.75	2.80	11.00	0.93
1.50	1.17	4.75	2.80	8.00	2.80	11.25	0.93
1.75	1.17	5.00	3.74	8.25	2.80	11.50	0.93
2.00	1.17	5.25	3.74	8.50	1.63	11.75	0.93

2.25	1.17	5.50	5.60	8.75	1.63	12.00	0.93
2.50	1.40	5.75	5.60	9.00	1.63	12.25	0.93
2.75	1.40	6.00	22.42	9.25	1.63		
3.00	1.40	6.25	61.64	9.50	1.63		
3.25	1.40	6.50	8.41	9.75	1.63		

CALIB	
STANDHYD (0113)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.40	6.250	61.64	9.33	1.63
0.167	0.00	3.250	1.40	6.333	8.41	9.42	1.63
0.250	0.00	3.333	1.87	6.417	8.41	9.50	1.63
0.333	1.17	3.417	1.87	6.500	8.41	9.58	1.63
0.417	1.17	3.500	1.87	6.583	8.41	9.67	1.63
0.500	1.17	3.583	1.87	6.667	8.41	9.75	1.63
0.583	1.17	3.667	1.87	6.750	8.41	9.83	1.63
0.667	1.17	3.750	1.87	6.833	3.74	9.92	1.63
0.750	1.17	3.833	1.87	6.917	3.74	10.00	1.63
0.833	1.17	3.917	1.87	7.000	3.74	10.08	1.63
0.917	1.17	4.000	1.87	7.083	3.74	10.17	1.63
1.000	1.17	4.083	1.87	7.167	3.74	10.25	1.63
1.083	1.17	4.167	1.87	7.250	3.74	10.33	0.93
1.167	1.17	4.250	1.87	7.333	2.80	10.42	0.93
1.250	1.17	4.333	2.80	7.417	2.80	10.50	0.93
1.333	1.17	4.417	2.80	7.500	2.80	10.58	0.93
1.417	1.17	4.500	2.80	7.583	2.80	10.67	0.93
1.500	1.17	4.583	2.80	7.667	2.80	10.75	0.93
1.583	1.17	4.667	2.80	7.750	2.80	10.83	0.93
1.667	1.17	4.750	2.80	7.833	2.80	10.92	0.93
1.750	1.17	4.833	3.74	7.917	2.80	11.00	0.93
1.833	1.17	4.917	3.74	8.000	2.80	11.08	0.93
1.917	1.17	5.000	3.74	8.083	2.80	11.17	0.93
2.000	1.17	5.083	3.74	8.167	2.80	11.25	0.93
2.083	1.17	5.167	3.74	8.250	2.80	11.33	0.93
2.167	1.17	5.250	3.74	8.333	1.63	11.42	0.93
2.250	1.17	5.333	5.60	8.417	1.63	11.50	0.93
2.333	1.40	5.417	5.60	8.500	1.63	11.58	0.93
2.417	1.40	5.500	5.60	8.583	1.63	11.67	0.93
2.500	1.40	5.583	5.60	8.667	1.63	11.75	0.93
2.583	1.40	5.667	5.60	8.750	1.63	11.83	0.93
2.667	1.40	5.750	5.60	8.833	1.63	11.92	0.93
2.750	1.40	5.833	22.42	8.917	1.63	12.00	0.93
2.833	1.40	5.917	22.42	9.000	1.63	12.08	0.93
2.917	1.40	6.000	22.42	9.083	1.63	12.17	0.93
3.000	1.40	6.083	61.64	9.167	1.63	12.25	0.93
3.083	1.40	6.167	61.64	9.250	1.63		

				TOTALS
Max.Eff.Inten.	(mm/hr)=	61.64	10.08	
over	(min)	5.00	25.00	
Storage Coeff.	(min)=	6.23 (ii)	23.90 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	25.00	
Unit Hyd. peak	(cms)=	0.19	0.05	
PEAK FLOW	(cms)=	1.43	0.10	1.486 (iii)
TIME TO PEAK	(hrs)=	6.25	6.58	6.25
RUNOFF VOLUME	(mm)=	45.70	8.41	30.04
TOTAL RAINFALL	(mm)=	46.70	46.70	46.70
RUNOFF COEFFICIENT	=	0.98	0.18	0.64

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0114)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0111):	1.03	0.039	6.33	36.16
+ ID2= 2 (0113):	15.36	1.486	6.25	30.04
ID = 3 (0114):	16.39	1.522	6.25	30.42

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0114)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0114):	16.39	1.522	6.25	30.42
+ ID2= 2 (0116):	8.10	0.031	10.25	35.07
ID = 1 (0114):	24.49	1.531	6.25	31.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0119)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.4045	0.7000
	0.0151	0.0001	0.5514	0.8000
	0.0151	0.1301	0.7611	0.9000
	0.0440	0.4217	0.9325	0.9500
	0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0114)	24.490	1.531	6.25	31.96
OUTFLOW: ID= 1 (0119)	24.490	0.046	12.25	31.96

PEAK FLOW REDUCTION [Qout/Qin](%)= 2.98
TIME SHIFT OF PEAK FLOW (min)=360.00
MAXIMUM STORAGE USED (ha.m.)= 0.4234

DUHYD (0120)
Inlet Cap.= 0.015
#of Inlets= 1
Total(cms)= 0.0

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.49	0.05	12.25	31.96
MAJOR SYS.(ID= 2):	7.99	0.03	12.25	31.96
MINOR SYS.(ID= 3):	16.50	0.02	6.08	31.96

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\926f0257
Ptotal= 46.70 mm	Comments: 2-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	1.87	6.75	8.41	10.00	1.63
0.50	1.17	3.75	1.87	7.00	3.74	10.25	1.63
0.75	1.17	4.00	1.87	7.25	3.74	10.50	0.93
1.00	1.17	4.25	1.87	7.50	2.80	10.75	0.93
1.25	1.17	4.50	2.80	7.75	2.80	11.00	0.93
1.50	1.17	4.75	2.80	8.00	2.80	11.25	0.93
1.75	1.17	5.00	3.74	8.25	2.80	11.50	0.93
2.00	1.17	5.25	3.74	8.50	1.63	11.75	0.93
2.25	1.17	5.50	5.60	8.75	1.63	12.00	0.93
2.50	1.40	5.75	5.60	9.00	1.63	12.25	0.93
2.75	1.40	6.00	22.42	9.25	1.63		
3.00	1.40	6.25	61.64	9.50	1.63		
3.25	1.40	6.50	8.41	9.75	1.63		

CALIB	
STANDHYD (0108)	Area (ha)= 0.78
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.40	6.250	61.64	9.33	1.63
0.167	0.00	3.250	1.40	6.333	8.41	9.42	1.63
0.250	0.00	3.333	1.87	6.417	8.41	9.50	1.63
0.333	1.17	3.417	1.87	6.500	8.41	9.58	1.63
0.417	1.17	3.500	1.87	6.583	8.41	9.67	1.63
0.500	1.17	3.583	1.87	6.667	8.41	9.75	1.63
0.583	1.17	3.667	1.87	6.750	8.41	9.83	1.63
0.667	1.17	3.750	1.87	6.833	3.74	9.92	1.63
0.750	1.17	3.833	1.87	6.917	3.74	10.00	1.63
0.833	1.17	3.917	1.87	7.000	3.74	10.08	1.63
0.917	1.17	4.000	1.87	7.083	3.74	10.17	1.63
1.000	1.17	4.083	1.87	7.167	3.74	10.25	1.63
1.083	1.17	4.167	1.87	7.250	3.74	10.33	0.93
1.167	1.17	4.250	1.87	7.333	2.80	10.42	0.93
1.250	1.17	4.333	2.80	7.417	2.80	10.50	0.93
1.333	1.17	4.417	2.80	7.500	2.80	10.58	0.93
1.417	1.17	4.500	2.80	7.583	2.80	10.67	0.93
1.500	1.17	4.583	2.80	7.667	2.80	10.75	0.93
1.583	1.17	4.667	2.80	7.750	2.80	10.83	0.93
1.667	1.17	4.750	2.80	7.833	2.80	10.92	0.93
1.750	1.17	4.833	3.74	7.917	2.80	11.00	0.93
1.833	1.17	4.917	3.74	8.000	2.80	11.08	0.93
1.917	1.17	5.000	3.74	8.083	2.80	11.17	0.93
2.000	1.17	5.083	3.74	8.167	2.80	11.25	0.93
2.083	1.17	5.167	3.74	8.250	2.80	11.33	0.93
2.167	1.17	5.250	3.74	8.333	1.63	11.42	0.93
2.250	1.17	5.333	5.60	8.417	1.63	11.50	0.93
2.333	1.40	5.417	5.60	8.500	1.63	11.58	0.93
2.417	1.40	5.500	5.60	8.583	1.63	11.67	0.93
2.500	1.40	5.583	5.60	8.667	1.63	11.75	0.93
2.583	1.40	5.667	5.60	8.750	1.63	11.83	0.93
2.667	1.40	5.750	5.60	8.833	1.63	11.92	0.93
2.750	1.40	5.833	22.42	8.917	1.63	12.00	0.93
2.833	1.40	5.917	22.42	9.000	1.63	12.08	0.93
2.917	1.40	6.000	22.42	9.083	1.63	12.17	0.93
3.000	1.40	6.083	61.64	9.167	1.63	12.25	0.93
3.083	1.40	6.167	61.64	9.250	1.63		

				TOTALS
Max.Eff.Inten.(mm/hr)=		61.64	27.89	
over (min)		5.00	15.00	
Storage Coeff. (min)=		2.55 (ii)	14.31 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.29	0.08	
PEAK FLOW	(cms)=	0.10	0.01	0.108 (iii)
TIME TO PEAK	(hrs)=	6.25	6.33	6.25
RUNOFF VOLUME	(mm)=	45.70	17.84	38.72
TOTAL RAINFALL	(mm)=	46.70	46.70	46.70
RUNOFF COEFFICIENT	=	0.98	0.38	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0118)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	0.780	0.108	6.25	38.72
OUTFLOW: ID= 1 (0118)	0.780	0.025	6.42	38.56

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.41
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0133

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\926f0257
Ptotal= 46.70 mm	Comments: 2-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	1.87	6.75	8.41	10.00	1.63
0.50	1.17	3.75	1.87	7.00	3.74	10.25	1.63
0.75	1.17	4.00	1.87	7.25	3.74	10.50	0.93
1.00	1.17	4.25	1.87	7.50	2.80	10.75	0.93
1.25	1.17	4.50	2.80	7.75	2.80	11.00	0.93
1.50	1.17	4.75	2.80	8.00	2.80	11.25	0.93
1.75	1.17	5.00	3.74	8.25	2.80	11.50	0.93
2.00	1.17	5.25	3.74	8.50	1.63	11.75	0.93
2.25	1.17	5.50	5.60	8.75	1.63	12.00	0.93
2.50	1.40	5.75	5.60	9.00	1.63	12.25	0.93
2.75	1.40	6.00	22.42	9.25	1.63		
3.00	1.40	6.25	61.64	9.50	1.63		
3.25	1.40	6.50	8.41	9.75	1.63		

CALIB			
STANDHYD (0112)	Area (ha)= 1.07		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	0.80	0.27	
Dep. Storage (mm)=	1.00	5.00	
Average Slope (%)=	1.00	2.00	
Length (m)=	84.46	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.40	6.250	61.64	9.33	1.63
0.167	0.00	3.250	1.40	6.333	8.41	9.42	1.63
0.250	0.00	3.333	1.87	6.417	8.41	9.50	1.63
0.333	1.17	3.417	1.87	6.500	8.41	9.58	1.63
0.417	1.17	3.500	1.87	6.583	8.41	9.67	1.63
0.500	1.17	3.583	1.87	6.667	8.41	9.75	1.63
0.583	1.17	3.667	1.87	6.750	8.41	9.83	1.63
0.667	1.17	3.750	1.87	6.833	3.74	9.92	1.63
0.750	1.17	3.833	1.87	6.917	3.74	10.00	1.63
0.833	1.17	3.917	1.87	7.000	3.74	10.08	1.63
0.917	1.17	4.000	1.87	7.083	3.74	10.17	1.63
1.000	1.17	4.083	1.87	7.167	3.74	10.25	1.63
1.083	1.17	4.167	1.87	7.250	3.74	10.33	0.93
1.167	1.17	4.250	1.87	7.333	2.80	10.42	0.93
1.250	1.17	4.333	2.80	7.417	2.80	10.50	0.93
1.333	1.17	4.417	2.80	7.500	2.80	10.58	0.93
1.417	1.17	4.500	2.80	7.583	2.80	10.67	0.93
1.500	1.17	4.583	2.80	7.667	2.80	10.75	0.93
1.583	1.17	4.667	2.80	7.750	2.80	10.83	0.93
1.667	1.17	4.750	2.80	7.833	2.80	10.92	0.93
1.750	1.17	4.833	3.74	7.917	2.80	11.00	0.93
1.833	1.17	4.917	3.74	8.000	2.80	11.08	0.93
1.917	1.17	5.000	3.74	8.083	2.80	11.17	0.93
2.000	1.17	5.083	3.74	8.167	2.80	11.25	0.93
2.083	1.17	5.167	3.74	8.250	2.80	11.33	0.93
2.167	1.17	5.250	3.74	8.333	1.63	11.42	0.93
2.250	1.17	5.333	5.60	8.417	1.63	11.50	0.93
2.333	1.40	5.417	5.60	8.500	1.63	11.58	0.93
2.417	1.40	5.500	5.60	8.583	1.63	11.67	0.93
2.500	1.40	5.583	5.60	8.667	1.63	11.75	0.93
2.583	1.40	5.667	5.60	8.750	1.63	11.83	0.93
2.667	1.40	5.750	5.60	8.833	1.63	11.92	0.93
2.750	1.40	5.833	22.42	8.917	1.63	12.00	0.93
2.833	1.40	5.917	22.42	9.000	1.63	12.08	0.93
2.917	1.40	6.000	22.42	9.083	1.63	12.17	0.93
3.000	1.40	6.083	61.64	9.167	1.63	12.25	0.93
3.083	1.40	6.167	61.64	9.250	1.63		

			TOTALS
Max.Eff.Inten.(mm/hr)=	61.64	27.89	
over (min)	5.00	15.00	
Storage Coeff. (min)=	2.80 (ii)	14.56 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.28	0.08	
PEAK FLOW (cms)=	0.14	0.01	0.148 (iii)
TIME TO PEAK (hrs)=	6.25	6.33	6.25
RUNOFF VOLUME (mm)=	45.70	17.84	38.73
TOTAL RAINFALL (mm)=	46.70	46.70	46.70
RUNOFF COEFFICIENT =	0.98	0.38	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

```
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

RESERVOIR(0117)	IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0112)	1.070	0.148	6.25	38.73
OUTFLOW: ID= 1 (0117)	1.070	0.021	6.75	38.48

PEAK FLOW REDUCTION [Qout/Qin](%)= 14.21
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0226

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\926f0257
Ptotal= 46.70 mm	Comments: 2-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	1.87	6.75	8.41	10.00	1.63
0.50	1.17	3.75	1.87	7.00	3.74	10.25	1.63
0.75	1.17	4.00	1.87	7.25	3.74	10.50	0.93
1.00	1.17	4.25	1.87	7.50	2.80	10.75	0.93
1.25	1.17	4.50	2.80	7.75	2.80	11.00	0.93
1.50	1.17	4.75	2.80	8.00	2.80	11.25	0.93
1.75	1.17	5.00	3.74	8.25	2.80	11.50	0.93
2.00	1.17	5.25	3.74	8.50	1.63	11.75	0.93
2.25	1.17	5.50	5.60	8.75	1.63	12.00	0.93
2.50	1.40	5.75	5.60	9.00	1.63	12.25	0.93
2.75	1.40	6.00	22.42	9.25	1.63		
3.00	1.40	6.25	61.64	9.50	1.63		
3.25	1.40	6.50	8.41	9.75	1.63		

CALIB	STANDHYD (0121)	ID= 1 DT= 5.0 min	Area (ha)= 0.27	Total Imp(%)= 71.00	Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.40	6.250	61.64	9.33	1.63
0.167	0.00	3.250	1.40	6.333	8.41	9.42	1.63
0.250	0.00	3.333	1.87	6.417	8.41	9.50	1.63
0.333	1.17	3.417	1.87	6.500	8.41	9.58	1.63
0.417	1.17	3.500	1.87	6.583	8.41	9.67	1.63
0.500	1.17	3.583	1.87	6.667	8.41	9.75	1.63
0.583	1.17	3.667	1.87	6.750	8.41	9.83	1.63
0.667	1.17	3.750	1.87	6.833	3.74	9.92	1.63
0.750	1.17	3.833	1.87	6.917	3.74	10.00	1.63
0.833	1.17	3.917	1.87	7.000	3.74	10.08	1.63
0.917	1.17	4.000	1.87	7.083	3.74	10.17	1.63
1.000	1.17	4.083	1.87	7.167	3.74	10.25	1.63
1.083	1.17	4.167	1.87	7.250	3.74	10.33	0.93
1.167	1.17	4.250	1.87	7.333	2.80	10.42	0.93
1.250	1.17	4.333	2.80	7.417	2.80	10.50	0.93
1.333	1.17	4.417	2.80	7.500	2.80	10.58	0.93
1.417	1.17	4.500	2.80	7.583	2.80	10.67	0.93
1.500	1.17	4.583	2.80	7.667	2.80	10.75	0.93
1.583	1.17	4.667	2.80	7.750	2.80	10.83	0.93
1.667	1.17	4.750	2.80	7.833	2.80	10.92	0.93
1.750	1.17	4.833	3.74	7.917	2.80	11.00	0.93
1.833	1.17	4.917	3.74	8.000	2.80	11.08	0.93
1.917	1.17	5.000	3.74	8.083	2.80	11.17	0.93
2.000	1.17	5.083	3.74	8.167	2.80	11.25	0.93
2.083	1.17	5.167	3.74	8.250	2.80	11.33	0.93
2.167	1.17	5.250	3.74	8.333	1.63	11.42	0.93
2.250	1.17	5.333	5.60	8.417	1.63	11.50	0.93
2.333	1.40	5.417	5.60	8.500	1.63	11.58	0.93
2.417	1.40	5.500	5.60	8.583	1.63	11.67	0.93
2.500	1.40	5.583	5.60	8.667	1.63	11.75	0.93
2.583	1.40	5.667	5.60	8.750	1.63	11.83	0.93
2.667	1.40	5.750	5.60	8.833	1.63	11.92	0.93
2.750	1.40	5.833	22.42	8.917	1.63	12.00	0.93
2.833	1.40	5.917	22.42	9.000	1.63	12.08	0.93
2.917	1.40	6.000	22.42	9.083	1.63	12.17	0.93
3.000	1.40	6.083	61.64	9.167	1.63	12.25	0.93
3.083	1.40	6.167	61.64	9.250	1.63		

				TOTALS
Max.Eff.Inten.(mm/hr)=	61.64	9.52		
over (min)	5.00	20.00		
Storage Coeff. (min)=	1.85 (ii)	19.93 (ii)		
Unit Hyd. Tpeak (min)=	5.00	20.00		
Unit Hyd. peak (cms)=	0.32	0.06		
PEAK FLOW (cms)=	0.03	0.00	0.034 (iii)	
TIME TO PEAK (hrs)=	6.25	6.50	6.25	
RUNOFF VOLUME (mm)=	45.70	7.97	34.72	
TOTAL RAINFALL (mm)=	46.70	46.70	46.70	
RUNOFF COEFFICIENT =	0.98	0.17	0.74	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
```

```
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0460      0.0093

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)      0.270     0.034      6.25      34.72
   OUTFLOW: ID= 1 (  0115)      0.270     0.015      6.33      34.57

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.73
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0032

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):     0.27   0.015     6.33    34.57
      + ID2= 2 (  0117):     1.07   0.021     6.75    38.48
        ================================================
        ID = 3 (  0110):     1.34   0.035     6.33    37.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0110):     1.34   0.035     6.33    37.69
      + ID2= 2 (  0118):     0.78   0.025     6.42    38.56
        ================================================
        ID = 1 (  0110):     2.12   0.060     6.33    38.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0110):     2.12   0.060     6.33    38.01
      + ID2= 2 (  0120):     7.99   0.030    12.25    31.96
        ================================================
        ID = 3 (  0110):    10.11   0.074     6.67    33.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\97697ad2-9622-47c3-af2a-89c569098c46\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\97697ad2-9622-47c3-af2a-89c569098c46\scen


DATE: 10-31-2019                          TIME: 10:48:55

USER:


COMMENTS: _____________________________________________________________

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  ********************************************
  ** SIMULATION : 1-2-Year-24-Hour-SCS-Type-II  **
  ********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\4d3f0190
| Ptotal= 55.00 mm |    Comments: 2-Year-24-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    1.10 | 12.75    7.92 | 19.00    0.99
                0.50    0.55 |  6.75    1.10 | 13.00    4.07 | 19.25    0.99
                0.75    0.55 |  7.00    1.10 | 13.25    4.07 | 19.50    0.99
                1.00    0.55 |  7.25    1.10 | 13.50    0.77 | 19.75    0.99
                1.25    0.55 |  7.50    1.10 | 13.75    0.77 | 20.00    0.99
                1.50    0.55 |  7.75    1.10 | 14.00    4.51 | 20.25    0.99
                1.75    0.55 |  8.00    1.10 | 14.25    4.51 | 20.50    0.66
```

2.00	0.55	8.25	1.10	14.50	1.65	20.75	0.66
2.25	0.99	8.50	1.49	14.75	1.65	21.00	0.66
2.50	0.72	8.75	1.48	15.00	1.65	21.25	0.66
2.75	0.71	9.00	1.49	15.25	1.65	21.50	0.66
3.00	0.72	9.25	1.49	15.50	1.65	21.75	0.66
3.25	0.71	9.50	1.76	15.75	1.65	22.00	0.66
3.50	0.71	9.75	1.76	16.00	1.65	22.25	0.66
3.75	0.71	10.00	1.98	16.25	1.65	22.50	0.66
4.00	0.72	10.25	1.98	16.50	0.99	22.75	0.66
4.25	0.71	10.50	2.53	16.75	0.99	23.00	0.66
4.50	0.88	10.75	2.53	17.00	0.99	23.25	0.66
4.75	0.88	11.00	3.41	17.25	0.99	23.50	0.66
5.00	0.88	11.25	3.41	17.50	0.99	23.75	0.66
5.25	0.88	11.50	5.28	17.75	0.99	24.00	0.66
5.50	0.88	11.75	5.28	18.00	0.99	24.25	0.66
5.75	0.88	12.00	22.88	18.25	0.99		
6.00	0.88	12.25	60.72	18.50	0.99		
6.25	0.88	12.50	7.92	18.75	0.99		

CALIB
STANDHYD (0107)
ID= 1 DT= 5.0 min

Area (ha)= 1.03
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.88	12.250	60.72	18.33	0.99
0.167	0.00	6.250	0.88	12.333	7.93	18.42	0.99
0.250	0.00	6.333	1.10	12.417	7.92	18.50	0.99
0.333	0.55	6.417	1.10	12.500	7.92	18.58	0.99
0.417	0.55	6.500	1.10	12.583	7.92	18.67	0.99
0.500	0.55	6.583	1.10	12.667	7.92	18.75	0.99
0.583	0.55	6.667	1.10	12.750	7.92	18.83	0.99
0.667	0.55	6.750	1.10	12.833	4.07	18.92	0.99
0.750	0.55	6.833	1.10	12.917	4.07	19.00	0.99
0.833	0.55	6.917	1.10	13.000	4.07	19.08	0.99
0.917	0.55	7.000	1.10	13.083	4.07	19.17	0.99
1.000	0.55	7.083	1.10	13.167	4.07	19.25	0.99
1.083	0.55	7.167	1.10	13.250	4.07	19.33	0.99
1.167	0.55	7.250	1.10	13.333	0.77	19.42	0.99
1.250	0.55	7.333	1.10	13.417	0.77	19.50	0.99
1.333	0.55	7.417	1.10	13.500	0.77	19.58	0.99
1.417	0.55	7.500	1.10	13.583	0.77	19.67	0.99
1.500	0.55	7.583	1.10	13.667	0.77	19.75	0.99
1.583	0.55	7.667	1.10	13.750	0.77	19.83	0.99
1.667	0.55	7.750	1.10	13.833	4.51	19.92	0.99
1.750	0.55	7.833	1.10	13.917	4.51	20.00	0.99
1.833	0.55	7.917	1.10	14.000	4.51	20.08	0.99
1.917	0.55	8.000	1.10	14.083	4.51	20.17	0.99
2.000	0.55	8.083	1.10	14.167	4.51	20.25	0.99
2.083	0.99	8.167	1.10	14.250	4.51	20.33	0.66
2.167	0.99	8.250	1.10	14.333	1.65	20.42	0.66
2.250	0.99	8.333	1.49	14.417	1.65	20.50	0.66
2.333	0.71	8.417	1.49	14.500	1.65	20.58	0.66
2.417	0.72	8.500	1.48	14.583	1.65	20.67	0.66
2.500	0.72	8.583	1.48	14.667	1.65	20.75	0.66
2.583	0.71	8.667	1.48	14.750	1.65	20.83	0.66
2.667	0.71	8.750	1.48	14.833	1.65	20.92	0.66
2.750	0.71	8.833	1.49	14.917	1.65	21.00	0.66
2.833	0.71	8.917	1.49	15.000	1.65	21.08	0.66
2.917	0.72	9.000	1.48	15.083	1.65	21.17	0.66
3.000	0.72	9.083	1.49	15.167	1.65	21.25	0.66
3.083	0.71	9.167	1.49	15.250	1.65	21.33	0.66
3.167	0.71	9.250	1.48	15.333	1.65	21.42	0.66
3.250	0.71	9.333	1.76	15.417	1.65	21.50	0.66
3.333	0.71	9.417	1.76	15.500	1.65	21.58	0.66
3.417	0.71	9.500	1.76	15.583	1.65	21.67	0.66
3.500	0.71	9.583	1.76	15.667	1.65	21.75	0.66
3.583	0.71	9.667	1.76	15.750	1.65	21.83	0.66
3.667	0.71	9.750	1.76	15.833	1.65	21.92	0.66
3.750	0.71	9.833	1.98	15.917	1.65	22.00	0.66
3.833	0.71	9.917	1.98	16.000	1.65	22.08	0.66
3.917	0.72	10.000	1.98	16.083	1.65	22.17	0.66
4.000	0.72	10.083	1.98	16.167	1.65	22.25	0.66
4.083	0.71	10.167	1.98	16.250	1.65	22.33	0.66
4.167	0.71	10.250	1.98	16.333	0.99	22.42	0.66
4.250	0.71	10.333	2.53	16.417	0.99	22.50	0.66
4.333	0.88	10.417	2.53	16.500	0.99	22.58	0.66
4.417	0.88	10.500	2.53	16.583	0.99	22.67	0.66
4.500	0.88	10.583	2.53	16.667	0.99	22.75	0.66
4.583	0.88	10.667	2.53	16.750	0.99	22.83	0.66
4.667	0.88	10.750	2.53	16.833	0.99	22.92	0.66
4.750	0.88	10.833	3.41	16.917	0.99	23.00	0.66
4.833	0.88	10.917	3.41	17.000	0.99	23.08	0.66
4.917	0.88	11.000	3.41	17.083	0.99	23.17	0.66
5.000	0.88	11.083	3.41	17.167	0.99	23.25	0.66
5.083	0.88	11.167	3.41	17.250	0.99	23.33	0.66
5.167	0.88	11.250	3.41	17.333	0.99	23.42	0.66
5.250	0.88	11.333	5.28	17.417	0.99	23.50	0.66
5.333	0.88	11.417	5.28	17.500	0.99	23.58	0.66
5.417	0.88	11.500	5.28	17.583	0.99	23.67	0.66
5.500	0.88	11.583	5.28	17.667	0.99	23.75	0.66
5.583	0.88	11.667	5.28	17.750	0.99	23.83	0.66
5.667	0.88	11.750	5.28	17.833	0.99	23.92	0.66
5.750	0.88	11.833	22.88	17.917	0.99	24.00	0.66
5.833	0.88	11.917	22.88	18.000	0.99	24.08	0.66
5.917	0.88	12.000	22.88	18.083	0.99	24.17	0.66
6.000	0.88	12.083	60.72	18.167	0.99	24.25	0.66
6.083	0.88	12.167	60.72	18.250	0.99		

Max.Eff.Inten.	(mm/hr)=	60.72	11.03	
	over (min)	5.00	20.00	
Storage Coeff.	(min)=	2.79 (ii)	19.83 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	20.00	
Unit Hyd. peak	(cms)=	0.28	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.13	0.00	0.133 (iii)

```
     TIME TO PEAK     (hrs)=      12.25        12.42          12.25
     RUNOFF VOLUME     (mm)=      54.00        11.04          43.25
     TOTAL RAINFALL    (mm)=      55.00        55.00          55.00
     RUNOFF COEFFICIENT   =       0.98         0.20           0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0111)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1120     0.0442

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0107)    1.030     0.133     12.25      43.25
   OUTFLOW: ID= 1 (  0111)    1.030     0.039     12.33      43.16

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.97
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0153

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\4d3f0190
| Ptotal= 55.00 mm |    Comments: 2-Year-24-Hour-SCS-Type-II
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.10	12.75	7.92	19.00	0.99
0.50	0.55	6.75	1.10	13.00	4.07	19.25	0.99
0.75	0.55	7.00	1.10	13.25	4.07	19.50	0.99
1.00	0.55	7.25	1.10	13.50	0.77	19.75	0.99
1.25	0.55	7.50	1.10	13.75	0.77	20.00	0.99
1.50	0.55	7.75	1.10	14.00	4.51	20.25	0.99
1.75	0.55	8.00	1.10	14.25	4.51	20.50	0.66
2.00	0.55	8.25	1.10	14.50	1.65	20.75	0.66
2.25	0.99	8.50	1.49	14.75	1.65	21.00	0.66
2.50	0.72	8.75	1.48	15.00	1.65	21.25	0.66
2.75	0.71	9.00	1.49	15.25	1.65	21.50	0.66
3.00	0.72	9.25	1.49	15.50	1.65	21.75	0.66
3.25	0.71	9.50	1.76	15.75	1.65	22.00	0.66
3.50	0.71	9.75	1.76	16.00	1.65	22.25	0.66
3.75	0.71	10.00	1.98	16.25	1.65	22.50	0.66
4.00	0.72	10.25	1.98	16.50	0.99	22.75	0.66
4.25	0.71	10.50	2.53	16.75	0.99	23.00	0.66
4.50	0.88	10.75	2.53	17.00	0.99	23.25	0.66
4.75	0.88	11.00	3.41	17.25	0.99	23.50	0.66
5.00	0.88	11.25	3.41	17.50	0.99	23.75	0.66
5.25	0.88	11.50	5.28	17.75	0.99	24.00	0.66
5.50	0.88	11.75	5.28	18.00	0.99	24.25	0.66
5.75	0.88	12.00	22.88	18.25	0.99		
6.00	0.88	12.25	60.72	18.50	0.99		
6.25	0.88	12.50	7.92	18.75	0.99		

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| CALIB            |
| STANDHYD (  0109)|   Area     (ha)=   8.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
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                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.08          2.03
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     232.38         40.00
     Mannings n             =     0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
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---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.88	12.250	60.72	18.33	0.99
0.167	0.00	6.250	0.88	12.333	7.93	18.42	0.99
0.250	0.00	6.333	1.10	12.417	7.92	18.50	0.99
0.333	0.55	6.417	1.10	12.500	7.92	18.58	0.99
0.417	0.55	6.500	1.10	12.583	7.92	18.67	0.99
0.500	0.55	6.583	1.10	12.667	7.92	18.75	0.99
0.583	0.55	6.667	1.10	12.750	7.92	18.83	0.99
0.667	0.55	6.750	1.10	12.833	4.07	18.92	0.99
0.750	0.55	6.833	1.10	12.917	4.07	19.00	0.99
0.833	0.55	6.917	1.10	13.000	4.07	19.08	0.99
0.917	0.55	7.000	1.10	13.083	4.07	19.17	0.99
1.000	0.55	7.083	1.10	13.167	4.07	19.25	0.99
1.083	0.55	7.167	1.10	13.250	4.07	19.33	0.99
1.167	0.55	7.250	1.10	13.333	0.77	19.42	0.99
1.250	0.55	7.333	1.10	13.417	0.77	19.50	0.99
1.333	0.55	7.417	1.10	13.500	0.77	19.58	0.99
1.417	0.55	7.500	1.10	13.583	0.77	19.67	0.99
1.500	0.55	7.583	1.10	13.667	0.77	19.75	0.99
1.583	0.55	7.667	1.10	13.750	0.77	19.83	0.99
1.667	0.55	7.750	1.10	13.833	4.51	19.92	0.99
1.750	0.55	7.833	1.10	13.917	4.51	20.00	0.99
1.833	0.55	7.917	1.10	14.000	4.51	20.08	0.99
1.917	0.55	8.000	1.10	14.083	4.51	20.17	0.99
2.000	0.55	8.083	1.10	14.167	4.51	20.25	0.99
2.083	0.99	8.167	1.10	14.250	4.51	20.33	0.66
2.167	0.99	8.250	1.10	14.333	1.65	20.42	0.66
2.250	0.99	8.333	1.49	14.417	1.65	20.50	0.66
2.333	0.71	8.417	1.49	14.500	1.65	20.58	0.66
2.417	0.72	8.500	1.48	14.583	1.65	20.67	0.66
2.500	0.72	8.583	1.48	14.667	1.65	20.75	0.66
2.583	0.71	8.667	1.48	14.750	1.65	20.83	0.66
2.667	0.71	8.750	1.48	14.833	1.65	20.92	0.66
2.750	0.71	8.833	1.49	14.917	1.65	21.00	0.66
2.833	0.71	8.917	1.49	15.000	1.65	21.08	0.66

2.917	0.72	9.000	1.48	15.083	1.65	21.17	0.66
3.000	0.72	9.083	1.49	15.167	1.65	21.25	0.66
3.083	0.71	9.167	1.49	15.250	1.65	21.33	0.66
3.167	0.71	9.250	1.48	15.333	1.65	21.42	0.66
3.250	0.71	9.333	1.76	15.417	1.65	21.50	0.66
3.333	0.71	9.417	1.76	15.500	1.65	21.58	0.66
3.417	0.71	9.500	1.76	15.583	1.65	21.67	0.66
3.500	0.71	9.583	1.76	15.667	1.65	21.75	0.66
3.583	0.71	9.667	1.76	15.750	1.65	21.83	0.66
3.667	0.71	9.750	1.76	15.833	1.65	21.92	0.66
3.750	0.71	9.833	1.98	15.917	1.65	22.00	0.66
3.833	0.71	9.917	1.98	16.000	1.65	22.08	0.66
3.917	0.72	10.000	1.98	16.083	1.65	22.17	0.66
4.000	0.72	10.083	1.98	16.167	1.65	22.25	0.66
4.083	0.71	10.167	1.98	16.250	1.65	22.33	0.66
4.167	0.71	10.250	1.98	16.333	0.99	22.42	0.66
4.250	0.71	10.333	2.53	16.417	0.99	22.50	0.66
4.333	0.88	10.417	2.53	16.500	0.99	22.58	0.66
4.417	0.88	10.500	2.53	16.583	0.99	22.67	0.66
4.500	0.88	10.583	2.53	16.667	0.99	22.75	0.66
4.583	0.88	10.667	2.53	16.750	0.99	22.83	0.66
4.667	0.88	10.750	2.53	16.833	0.99	22.92	0.66
4.750	0.88	10.833	3.41	16.917	0.99	23.00	0.66
4.833	0.88	10.917	3.41	17.000	0.99	23.08	0.66
4.917	0.88	11.000	3.41	17.083	0.99	23.17	0.66
5.000	0.88	11.083	3.41	17.167	0.99	23.25	0.66
5.083	0.88	11.167	3.41	17.250	0.99	23.33	0.66
5.167	0.88	11.250	3.41	17.333	0.99	23.42	0.66
5.250	0.88	11.333	5.28	17.417	0.99	23.50	0.66
5.333	0.88	11.417	5.28	17.500	0.99	23.58	0.66
5.417	0.88	11.500	5.28	17.583	0.99	23.67	0.66
5.500	0.88	11.583	5.28	17.667	0.99	23.75	0.66
5.583	0.88	11.667	5.28	17.750	0.99	23.83	0.66
5.667	0.88	11.750	5.28	17.833	0.99	23.92	0.66
5.750	0.88	11.833	22.88	17.917	0.99	24.00	0.66
5.833	0.88	11.917	22.88	18.000	0.99	24.08	0.66
5.917	0.88	12.000	22.88	18.083	0.99	24.17	0.66
6.000	0.88	12.083	60.72	18.167	0.99	24.25	0.66
6.083	0.88	12.167	60.72	18.250	0.99		

			TOTALS
Max.Eff.Inten.(mm/hr)=	60.72	11.03	
over (min)	5.00	25.00	
Storage Coeff. (min)=	5.17 (ii)	22.22 (ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00	
Unit Hyd. peak (cms)=	0.21	0.05	
PEAK FLOW (cms)=	0.99	0.04	1.009 (iii)
TIME TO PEAK (hrs)=	12.25	12.50	12.25
RUNOFF VOLUME (mm)=	54.00	11.04	43.26
TOTAL RAINFALL (mm)=	55.00	55.00	55.00
RUNOFF COEFFICIENT =	0.98	0.20	0.79

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0116)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1				
DT= 5.0 min	0.0000	0.0000	0.2090	0.3700
	0.0146	0.2491	0.2910	0.4360
	0.0800	0.2550	0.3580	0.4850
	0.1520	0.3150	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	1.009	12.25	43.26
OUTFLOW: ID= 1 (0116)	8.100	0.069	14.25	41.74

PEAK FLOW REDUCTION [Qout/Qin](%)= 6.84
TIME SHIFT OF PEAK FLOW (min)=120.00
MAXIMUM STORAGE USED (ha.m.)= 0.2540

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\4d3f0190
Ptotal= 55.00 mm	Comments: 2-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.10	12.75	7.92	19.00	0.99
0.50	0.55	6.75	1.10	13.00	4.07	19.25	0.99
0.75	0.55	7.00	1.10	13.25	4.07	19.50	0.99
1.00	0.55	7.25	1.10	13.50	0.77	19.75	0.99
1.25	0.55	7.50	1.10	13.75	0.77	20.00	0.99
1.50	0.55	7.75	1.10	14.00	4.51	20.25	0.99
1.75	0.55	8.00	1.10	14.25	4.51	20.50	0.66
2.00	0.55	8.25	1.10	14.50	1.65	20.75	0.66
2.25	0.99	8.50	1.49	14.75	1.65	21.00	0.66
2.50	0.72	8.75	1.48	15.00	1.65	21.25	0.66
2.75	0.71	9.00	1.49	15.25	1.65	21.50	0.66
3.00	0.72	9.25	1.49	15.50	1.65	21.75	0.66
3.25	0.71	9.50	1.76	15.75	1.65	22.00	0.66
3.50	0.71	9.75	1.76	16.00	1.65	22.25	0.66
3.75	0.71	10.00	1.98	16.25	1.65	22.50	0.66
4.00	0.72	10.25	1.98	16.50	0.99	22.75	0.66
4.25	0.71	10.50	2.53	16.75	0.99	23.00	0.66
4.50	0.88	10.75	2.53	17.00	0.99	23.25	0.66
4.75	0.88	11.00	3.41	17.25	0.99	23.50	0.66
5.00	0.88	11.25	3.41	17.50	0.99	23.75	0.66
5.25	0.88	11.50	5.28	17.75	0.99	24.00	0.66
5.50	0.88	11.75	5.28	18.00	0.99	24.25	0.66
5.75	0.88	12.00	22.88	18.25	0.99		
6.00	0.88	12.25	60.72	18.50	0.99		
6.25	0.88	12.50	7.92	18.75	0.99		

CALIB	
STANDHYD (0113)	Area (ha)= 15.36

|ID= 1 DT= 5.0 min | Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.88	12.250	60.72	18.33	0.99
0.167	0.00	6.250	0.88	12.333	7.93	18.42	0.99
0.250	0.00	6.333	1.10	12.417	7.92	18.50	0.99
0.333	0.55	6.417	1.10	12.500	7.92	18.58	0.99
0.417	0.55	6.500	1.10	12.583	7.92	18.67	0.99
0.500	0.55	6.583	1.10	12.667	7.92	18.75	0.99
0.583	0.55	6.667	1.10	12.750	7.92	18.83	0.99
0.667	0.55	6.750	1.10	12.833	4.07	18.92	0.99
0.750	0.55	6.833	1.10	12.917	4.07	19.00	0.99
0.833	0.55	6.917	1.10	13.000	4.07	19.08	0.99
0.917	0.55	7.000	1.10	13.083	4.07	19.17	0.99
1.000	0.55	7.083	1.10	13.167	4.07	19.25	0.99
1.083	0.55	7.167	1.10	13.250	4.07	19.33	0.99
1.167	0.55	7.250	1.10	13.333	0.77	19.42	0.99
1.250	0.55	7.333	1.10	13.417	0.77	19.50	0.99
1.333	0.55	7.417	1.10	13.500	0.77	19.58	0.99
1.417	0.55	7.500	1.10	13.583	0.77	19.67	0.99
1.500	0.55	7.583	1.10	13.667	0.77	19.75	0.99
1.583	0.55	7.667	1.10	13.750	0.77	19.83	0.99
1.667	0.55	7.750	1.10	13.833	4.51	19.92	0.99
1.750	0.55	7.833	1.10	13.917	4.51	20.00	0.99
1.833	0.55	7.917	1.10	14.000	4.51	20.08	0.99
1.917	0.55	8.000	1.10	14.083	4.51	20.17	0.99
2.000	0.55	8.083	1.10	14.167	4.51	20.25	0.99
2.083	0.99	8.167	1.10	14.250	4.51	20.33	0.66
2.167	0.99	8.250	1.10	14.333	1.65	20.42	0.66
2.250	0.99	8.333	1.49	14.417	1.65	20.50	0.66
2.333	0.71	8.417	1.49	14.500	1.65	20.58	0.66
2.417	0.72	8.500	1.48	14.583	1.65	20.67	0.66
2.500	0.72	8.583	1.48	14.667	1.65	20.75	0.66
2.583	0.71	8.667	1.48	14.750	1.65	20.83	0.66
2.667	0.71	8.750	1.48	14.833	1.65	20.92	0.66
2.750	0.71	8.833	1.49	14.917	1.65	21.00	0.66
2.833	0.71	8.917	1.49	15.000	1.65	21.08	0.66
2.917	0.72	9.000	1.48	15.083	1.65	21.17	0.66
3.000	0.72	9.083	1.49	15.167	1.65	21.25	0.66
3.083	0.71	9.167	1.49	15.250	1.65	21.33	0.66
3.167	0.71	9.250	1.48	15.333	1.65	21.42	0.66
3.250	0.71	9.333	1.76	15.417	1.65	21.50	0.66
3.333	0.71	9.417	1.76	15.500	1.65	21.58	0.66
3.417	0.71	9.500	1.76	15.583	1.65	21.67	0.66
3.500	0.71	9.583	1.76	15.667	1.65	21.75	0.66
3.583	0.71	9.667	1.76	15.750	1.65	21.83	0.66
3.667	0.71	9.750	1.76	15.833	1.65	21.92	0.66
3.750	0.71	9.833	1.98	15.917	1.65	22.00	0.66
3.833	0.71	9.917	1.98	16.000	1.65	22.08	0.66
3.917	0.72	10.000	1.98	16.083	1.65	22.17	0.66
4.000	0.72	10.083	1.98	16.167	1.65	22.25	0.66
4.083	0.71	10.167	1.98	16.250	1.65	22.33	0.66
4.167	0.71	10.250	1.98	16.333	0.99	22.42	0.66
4.250	0.71	10.333	2.53	16.417	0.99	22.50	0.66
4.333	0.88	10.417	2.53	16.500	0.99	22.58	0.66
4.417	0.88	10.500	2.53	16.583	0.99	22.67	0.66
4.500	0.88	10.583	2.53	16.667	0.99	22.75	0.66
4.583	0.88	10.667	2.53	16.750	0.99	22.83	0.66
4.667	0.88	10.750	2.53	16.833	0.99	22.92	0.66
4.750	0.88	10.833	3.41	16.917	0.99	23.00	0.66
4.833	0.88	10.917	3.41	17.000	0.99	23.08	0.66
4.917	0.88	11.000	3.41	17.083	0.99	23.17	0.66
5.000	0.88	11.083	3.41	17.167	0.99	23.25	0.66
5.083	0.88	11.167	3.41	17.250	0.99	23.33	0.66
5.167	0.88	11.250	3.41	17.333	0.99	23.42	0.66
5.250	0.88	11.333	5.28	17.417	0.99	23.50	0.66
5.333	0.88	11.417	5.28	17.500	0.99	23.58	0.66
5.417	0.88	11.500	5.28	17.583	0.99	23.67	0.66
5.500	0.88	11.583	5.28	17.667	0.99	23.75	0.66
5.583	0.88	11.667	5.28	17.750	0.99	23.83	0.66
5.667	0.88	11.750	5.28	17.833	0.99	23.92	0.66
5.750	0.88	11.833	22.88	17.917	0.99	24.00	0.66
5.833	0.88	11.917	22.88	18.000	0.99	24.08	0.66
5.917	0.88	12.000	22.88	18.083	0.99	24.17	0.66
6.000	0.88	12.083	60.72	18.167	0.99	24.25	0.66
6.083	0.88	12.167	60.72	18.250	0.99		

Max.Eff.Inten.	(mm/hr)=	60.72	11.65	
over	(min)	5.00	25.00	
Storage Coeff.	(min)=	6.27 (ii)	22.94 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	25.00	
Unit Hyd. peak	(cms)=	0.19	0.05	
				TOTALS
PEAK FLOW	(cms)=	1.41	0.12	1.480 (iii)
TIME TO PEAK	(hrs)=	12.25	12.50	12.25
RUNOFF VOLUME	(mm)=	54.00	11.62	36.20
TOTAL RAINFALL	(mm)=	55.00	55.00	55.00
RUNOFF COEFFICIENT	=	0.98	0.21	0.66

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0114)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0111):	1.03	0.039	12.33	43.16
	+ ID2= 2 (0113):	15.36	1.480	12.25	36.20
	ID = 3 (0114):	16.39	1.515	12.25	36.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  0114)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0114):    16.39   1.515    12.25    36.64
     + ID2= 2 (  0116):     8.10   0.069    14.25    41.74
       ================================================
       ID = 1 (  0114):    24.49   1.525    12.25    38.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR(  0119)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4045     0.7000
                         0.0151     0.0001   |   0.5514     0.8000
                         0.0151     0.1301   |   0.7611     0.9000
                         0.0440     0.4217   |   0.9325     0.9500
                         0.2194     0.6000   |   1.1147     1.0500

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0114)     24.490     1.525     12.25      38.32
   OUTFLOW: ID= 1 (  0119)     24.490     0.067     16.50      38.33

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  4.40
                  TIME SHIFT OF PEAK FLOW          (min)=255.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4452

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--------------------
| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):  24.49      0.07     16.50    38.33
     ================================================
     MAJOR SYS.(ID= 2):   9.30      0.05     16.50    38.33
     MINOR SYS.(ID= 3):  15.19      0.02     12.08    38.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\4d3f0190
| Ptotal= 55.00 mm |    Comments: 2-Year-24-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    1.10 | 12.75    7.92 | 19.00    0.99
                0.50    0.55 |  6.75    1.10 | 13.00    4.07 | 19.25    0.99
                0.75    0.55 |  7.00    1.10 | 13.25    4.07 | 19.50    0.99
                1.00    0.55 |  7.25    1.10 | 13.50    0.77 | 19.75    0.99
                1.25    0.55 |  7.50    1.10 | 13.75    0.77 | 20.00    0.99
                1.50    0.55 |  7.75    1.10 | 14.00    4.51 | 20.25    0.99
                1.75    0.55 |  8.00    1.10 | 14.25    4.51 | 20.50    0.66
                2.00    0.55 |  8.25    1.10 | 14.50    1.65 | 20.75    0.66
                2.25    0.99 |  8.50    1.49 | 14.75    1.65 | 21.00    0.66
                2.50    0.72 |  8.75    1.48 | 15.00    1.65 | 21.25    0.66
                2.75    0.71 |  9.00    1.49 | 15.25    1.65 | 21.50    0.66
                3.00    0.72 |  9.25    1.49 | 15.50    1.65 | 21.75    0.66
                3.25    0.71 |  9.50    1.76 | 15.75    1.65 | 22.00    0.66
                3.50    0.71 |  9.75    1.76 | 16.00    1.65 | 22.25    0.66
                3.75    0.71 | 10.00    1.98 | 16.25    1.65 | 22.50    0.66
                4.00    0.72 | 10.25    1.98 | 16.50    0.99 | 22.75    0.66
                4.25    0.71 | 10.50    2.53 | 16.75    0.99 | 23.00    0.66
                4.50    0.88 | 10.75    2.53 | 17.00    0.99 | 23.25    0.66
                4.75    0.88 | 11.00    3.41 | 17.25    0.99 | 23.50    0.66
                5.00    0.88 | 11.25    3.41 | 17.50    0.99 | 23.75    0.66
                5.25    0.88 | 11.50    5.28 | 17.75    0.99 | 24.00    0.66
                5.50    0.88 | 11.75    5.28 | 18.00    0.99 | 24.25    0.66
                5.75    0.88 | 12.00   22.88 | 18.25    0.99 |
                6.00    0.88 | 12.25   60.72 | 18.50    0.99 |
                6.25    0.88 | 12.50    7.92 | 18.75    0.99 |

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| CALIB            |
| STANDHYD (  0108)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58          0.19
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      72.11         40.00
     Mannings n             =    0.013         0.250

     NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083   0.00 | 6.167    0.88 |12.250   60.72 | 18.33    0.99
                0.167   0.00 | 6.250    0.88 |12.333    7.93 | 18.42    0.99
                0.250   0.00 | 6.333    1.10 |12.417    7.92 | 18.50    0.99
                0.333   0.55 | 6.417    1.10 |12.500    7.92 | 18.58    0.99
                0.417   0.55 | 6.500    1.10 |12.583    7.92 | 18.67    0.99
                0.500   0.55 | 6.583    1.10 |12.667    7.92 | 18.75    0.99
                0.583   0.55 | 6.667    1.10 |12.750    7.92 | 18.83    0.99
                0.667   0.55 | 6.750    1.10 |12.833    4.07 | 18.92    0.99
                0.750   0.55 | 6.833    1.10 |12.917    4.07 | 19.00    0.99
                0.833   0.55 | 6.917    1.10 |13.000    4.07 | 19.08    0.99
                0.917   0.55 | 7.000    1.10 |13.083    4.07 | 19.17    0.99
                1.000   0.55 | 7.083    1.10 |13.167    4.07 | 19.25    0.99
                1.083   0.55 | 7.167    1.10 |13.250    4.07 | 19.33    0.99
                1.167   0.55 | 7.250    1.10 |13.333    0.77 | 19.42    0.99
                1.250   0.55 | 7.333    1.10 |13.417    0.77 | 19.50    0.99
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1.333	0.55	7.417	1.10	13.500	0.77	19.58	0.99
1.417	0.55	7.500	1.10	13.583	0.77	19.67	0.99
1.500	0.55	7.583	1.10	13.667	0.77	19.75	0.99
1.583	0.55	7.667	1.10	13.750	0.77	19.83	0.99
1.667	0.55	7.750	1.10	13.833	4.51	19.92	0.99
1.750	0.55	7.833	1.10	13.917	4.51	20.00	0.99
1.833	0.55	7.917	1.10	14.000	4.51	20.08	0.99
1.917	0.55	8.000	1.10	14.083	4.51	20.17	0.99
2.000	0.55	8.083	1.10	14.167	4.51	20.25	0.99
2.083	0.99	8.167	1.10	14.250	4.51	20.33	0.66
2.167	0.99	8.250	1.10	14.333	1.65	20.42	0.66
2.250	0.99	8.333	1.49	14.417	1.65	20.50	0.66
2.333	0.71	8.417	1.49	14.500	1.65	20.58	0.66
2.417	0.72	8.500	1.48	14.583	1.65	20.67	0.66
2.500	0.72	8.583	1.48	14.667	1.65	20.75	0.66
2.583	0.71	8.667	1.48	14.750	1.65	20.83	0.66
2.667	0.71	8.750	1.48	14.833	1.65	20.92	0.66
2.750	0.71	8.833	1.49	14.917	1.65	21.00	0.66
2.833	0.71	8.917	1.49	15.000	1.65	21.08	0.66
2.917	0.72	9.000	1.48	15.083	1.65	21.17	0.66
3.000	0.72	9.083	1.49	15.167	1.65	21.25	0.66
3.083	0.71	9.167	1.49	15.250	1.65	21.33	0.66
3.167	0.71	9.250	1.48	15.333	1.65	21.42	0.66
3.250	0.71	9.333	1.76	15.417	1.65	21.50	0.66
3.333	0.71	9.417	1.76	15.500	1.65	21.58	0.66
3.417	0.71	9.500	1.76	15.583	1.65	21.67	0.66
3.500	0.71	9.583	1.76	15.667	1.65	21.75	0.66
3.583	0.71	9.667	1.76	15.750	1.65	21.83	0.66
3.667	0.71	9.750	1.76	15.833	1.65	21.92	0.66
3.750	0.71	9.833	1.98	15.917	1.65	22.00	0.66
3.833	0.71	9.917	1.98	16.000	1.65	22.08	0.66
3.917	0.72	10.000	1.98	16.083	1.65	22.17	0.66
4.000	0.72	10.083	1.98	16.167	1.65	22.25	0.66
4.083	0.71	10.167	1.98	16.250	1.65	22.33	0.66
4.167	0.71	10.250	1.98	16.333	0.99	22.42	0.66
4.250	0.71	10.333	2.53	16.417	0.99	22.50	0.66
4.333	0.88	10.417	2.53	16.500	0.99	22.58	0.66
4.417	0.88	10.500	2.53	16.583	0.99	22.67	0.66
4.500	0.88	10.583	2.53	16.667	0.99	22.75	0.66
4.583	0.88	10.667	2.53	16.750	0.99	22.83	0.66
4.667	0.88	10.750	2.53	16.833	0.99	22.92	0.66
4.750	0.88	10.833	3.41	16.917	0.99	23.00	0.66
4.833	0.88	10.917	3.41	17.000	0.99	23.08	0.66
4.917	0.88	11.000	3.41	17.083	0.99	23.17	0.66
5.000	0.88	11.083	3.41	17.167	0.99	23.25	0.66
5.083	0.88	11.167	3.41	17.250	0.99	23.33	0.66
5.167	0.88	11.250	3.41	17.333	0.99	23.42	0.66
5.250	0.88	11.333	5.28	17.417	0.99	23.50	0.66
5.333	0.88	11.417	5.28	17.500	0.99	23.58	0.66
5.417	0.88	11.500	5.28	17.583	0.99	23.67	0.66
5.500	0.88	11.583	5.28	17.667	0.99	23.75	0.66
5.583	0.88	11.667	5.28	17.750	0.99	23.83	0.66
5.667	0.88	11.750	5.28	17.833	0.99	23.92	0.66
5.750	0.88	11.833	22.88	17.917	0.99	24.00	0.66
5.833	0.88	11.917	22.88	18.000	0.99	24.08	0.66
5.917	0.88	12.000	22.88	18.083	0.99	24.17	0.66
6.000	0.88	12.083	60.72	18.167	0.99	24.25	0.66
6.083	0.88	12.167	60.72	18.250	0.99		

Max.Eff.Inten.(mm/hr)= 60.72 30.68

over (min)	5.00	15.00		
Storage Coeff. (min)=	2.56 (ii)	13.89 (ii)		
Unit Hyd. Tpeak (min)=	5.00	15.00		
Unit Hyd. peak (cms)=	0.29	0.08		
			TOTALS	
PEAK FLOW (cms)=	0.10	0.01	0.108 (iii)	
TIME TO PEAK (hrs)=	12.25	12.33	12.25	
RUNOFF VOLUME (mm)=	54.00	23.64	46.40	
TOTAL RAINFALL (mm)=	55.00	55.00	55.00	
RUNOFF COEFFICIENT =	0.98	0.43	0.84	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0118)| IN= 2---> OUT= 1 | DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	0.780	0.108	12.25	46.40
OUTFLOW: ID= 1 (0118)	0.780	0.025	12.42	46.23

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.51
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0134

READ STORM | Ptotal= 55.00 mm	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\4d3f0190 Comments: 2-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.10	12.75	7.92	19.00	0.99
0.50	0.55	6.75	1.10	13.00	4.07	19.25	0.99
0.75	0.55	7.00	1.10	13.25	4.07	19.50	0.99
1.00	0.55	7.25	1.10	13.50	0.77	19.75	0.99
1.25	0.55	7.50	1.10	13.75	0.77	20.00	0.99
1.50	0.55	7.75	1.10	14.00	4.51	20.25	0.99
1.75	0.55	8.00	1.10	14.25	4.51	20.50	0.66
2.00	0.55	8.25	1.10	14.50	1.65	20.75	0.66
2.25	0.99	8.50	1.49	14.75	1.65	21.00	0.66
2.50	0.72	8.75	1.48	15.00	1.65	21.25	0.66
2.75	0.71	9.00	1.49	15.25	1.65	21.50	0.66
3.00	0.72	9.25	1.49	15.50	1.65	21.75	0.66
3.25	0.71	9.50	1.76	15.75	1.65	22.00	0.66
3.50	0.71	9.75	1.76	16.00	1.65	22.25	0.66

3.75	0.71	10.00	1.98	16.25	1.65	22.50	0.66
4.00	0.72	10.25	1.98	16.50	0.99	22.75	0.66
4.25	0.71	10.50	2.53	16.75	0.99	23.00	0.66
4.50	0.88	10.75	2.53	17.00	0.99	23.25	0.66
4.75	0.88	11.00	3.41	17.25	0.99	23.50	0.66
5.00	0.88	11.25	3.41	17.50	0.99	23.75	0.66
5.25	0.88	11.50	5.28	17.75	0.99	24.00	0.66
5.50	0.88	11.75	5.28	18.00	0.99	24.25	0.66
5.75	0.88	12.00	22.88	18.25	0.99		
6.00	0.88	12.25	60.72	18.50	0.99		
6.25	0.88	12.50	7.92	18.75	0.99		

CALIB	
STANDHYD (0112)	Area (ha)= 1.07
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.88	12.250	60.72	18.33	0.99
0.167	0.00	6.250	0.88	12.333	7.93	18.42	0.99
0.250	0.00	6.333	1.10	12.417	7.92	18.50	0.99
0.333	0.55	6.417	1.10	12.500	7.92	18.58	0.99
0.417	0.55	6.500	1.10	12.583	7.92	18.67	0.99
0.500	0.55	6.583	1.10	12.667	7.92	18.75	0.99
0.583	0.55	6.667	1.10	12.750	7.92	18.83	0.99
0.667	0.55	6.750	1.10	12.833	4.07	18.92	0.99
0.750	0.55	6.833	1.10	12.917	4.07	19.00	0.99
0.833	0.55	6.917	1.10	13.000	4.07	19.08	0.99
0.917	0.55	7.000	1.10	13.083	4.07	19.17	0.99
1.000	0.55	7.083	1.10	13.167	4.07	19.25	0.99
1.083	0.55	7.167	1.10	13.250	4.07	19.33	0.99
1.167	0.55	7.250	1.10	13.333	0.77	19.42	0.99
1.250	0.55	7.333	1.10	13.417	0.77	19.50	0.99
1.333	0.55	7.417	1.10	13.500	0.77	19.58	0.99
1.417	0.55	7.500	1.10	13.583	0.77	19.67	0.99
1.500	0.55	7.583	1.10	13.667	0.77	19.75	0.99
1.583	0.55	7.667	1.10	13.750	0.77	19.83	0.99
1.667	0.55	7.750	1.10	13.833	4.51	19.92	0.99
1.750	0.55	7.833	1.10	13.917	4.51	20.00	0.99
1.833	0.55	7.917	1.10	14.000	4.51	20.08	0.99
1.917	0.55	8.000	1.10	14.083	4.51	20.17	0.99
2.000	0.55	8.083	1.10	14.167	4.51	20.25	0.99
2.083	0.99	8.167	1.10	14.250	4.51	20.33	0.66
2.167	0.99	8.250	1.10	14.333	1.65	20.42	0.66
2.250	0.99	8.333	1.49	14.417	1.65	20.50	0.66
2.333	0.71	8.417	1.49	14.500	1.65	20.58	0.66
2.417	0.72	8.500	1.48	14.583	1.65	20.67	0.66
2.500	0.72	8.583	1.48	14.667	1.65	20.75	0.66
2.583	0.71	8.667	1.48	14.750	1.65	20.83	0.66
2.667	0.71	8.750	1.48	14.833	1.65	20.92	0.66
2.750	0.71	8.833	1.49	14.917	1.65	21.00	0.66
2.833	0.71	8.917	1.49	15.000	1.65	21.08	0.66
2.917	0.72	9.000	1.48	15.083	1.65	21.17	0.66
3.000	0.72	9.083	1.49	15.167	1.65	21.25	0.66
3.083	0.71	9.167	1.49	15.250	1.65	21.33	0.66
3.167	0.71	9.250	1.48	15.333	1.65	21.42	0.66
3.250	0.71	9.333	1.76	15.417	1.65	21.50	0.66
3.333	0.71	9.417	1.76	15.500	1.65	21.58	0.66
3.417	0.71	9.500	1.76	15.583	1.65	21.67	0.66
3.500	0.71	9.583	1.76	15.667	1.65	21.75	0.66
3.583	0.71	9.667	1.76	15.750	1.65	21.83	0.66
3.667	0.71	9.750	1.76	15.833	1.65	21.92	0.66
3.750	0.71	9.833	1.98	15.917	1.65	22.00	0.66
3.833	0.71	9.917	1.98	16.000	1.65	22.08	0.66
3.917	0.72	10.000	1.98	16.083	1.65	22.17	0.66
4.000	0.72	10.083	1.98	16.167	1.65	22.25	0.66
4.083	0.71	10.167	1.98	16.250	1.65	22.33	0.66
4.167	0.71	10.250	1.98	16.333	0.99	22.42	0.66
4.250	0.71	10.333	2.53	16.417	0.99	22.50	0.66
4.333	0.88	10.417	2.53	16.500	0.99	22.58	0.66
4.417	0.88	10.500	2.53	16.583	0.99	22.67	0.66
4.500	0.88	10.583	2.53	16.667	0.99	22.75	0.66
4.583	0.88	10.667	2.53	16.750	0.99	22.83	0.66
4.667	0.88	10.750	2.53	16.833	0.99	22.92	0.66
4.750	0.88	10.833	3.41	16.917	0.99	23.00	0.66
4.833	0.88	10.917	3.41	17.000	0.99	23.08	0.66
4.917	0.88	11.000	3.41	17.083	0.99	23.17	0.66
5.000	0.88	11.083	3.41	17.167	0.99	23.25	0.66
5.083	0.88	11.167	3.41	17.250	0.99	23.33	0.66
5.167	0.88	11.250	3.41	17.333	0.99	23.42	0.66
5.250	0.88	11.333	5.28	17.417	0.99	23.50	0.66
5.333	0.88	11.417	5.28	17.500	0.99	23.58	0.66
5.417	0.88	11.500	5.28	17.583	0.99	23.67	0.66
5.500	0.88	11.583	5.28	17.667	0.99	23.75	0.66
5.583	0.88	11.667	5.28	17.750	0.99	23.83	0.66
5.667	0.88	11.750	5.28	17.833	0.99	23.92	0.66
5.750	0.88	11.833	22.88	17.917	0.99	24.00	0.66
5.833	0.88	11.917	22.88	18.000	0.99	24.08	0.66
5.917	0.88	12.000	22.88	18.083	0.99	24.17	0.66
6.000	0.88	12.083	60.72	18.167	0.99	24.25	0.66
6.083	0.88	12.167	60.72	18.250	0.99		

				TOTALS
Max.Eff.Inten.	(mm/hr)=	60.72	30.68	
	over (min)	5.00	15.00	
Storage Coeff.	(min)=	2.82 (ii)	14.14 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	15.00	
Unit Hyd. peak	(cms)=	0.28	0.08	
PEAK FLOW	(cms)=	0.13	0.01	0.147 (iii)
TIME TO PEAK	(hrs)=	12.25	12.33	12.25
RUNOFF VOLUME	(mm)=	54.00	23.64	46.40
TOTAL RAINFALL	(mm)=	55.00	55.00	55.00
RUNOFF COEFFICIENT	=	0.98	0.43	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| RESERVOIR(  0117)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0600      0.0645

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0112)      1.070     0.147     12.25      46.40
   OUTFLOW: ID= 1 (  0117)      1.070     0.021     12.75      46.15

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 14.38
                  TIME SHIFT OF PEAK FLOW          (min)= 30.00
                  MAXIMUM  STORAGE   USED        (ha.m.)=  0.0228
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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\4d3f0190
| Ptotal= 55.00 mm |    Comments: 2-Year-24-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.10	12.75	7.92	19.00	0.99
0.50	0.55	6.75	1.10	13.00	4.07	19.25	0.99
0.75	0.55	7.00	1.10	13.25	4.07	19.50	0.99
1.00	0.55	7.25	1.10	13.50	0.77	19.75	0.99
1.25	0.55	7.50	1.10	13.75	0.77	20.00	0.99
1.50	0.55	7.75	1.10	14.00	4.51	20.25	0.99
1.75	0.55	8.00	1.10	14.25	4.51	20.50	0.66
2.00	0.55	8.25	1.10	14.50	1.65	20.75	0.66
2.25	0.99	8.50	1.49	14.75	1.65	21.00	0.66
2.50	0.72	8.75	1.48	15.00	1.65	21.25	0.66
2.75	0.71	9.00	1.49	15.25	1.65	21.50	0.66
3.00	0.72	9.25	1.49	15.50	1.65	21.75	0.66
3.25	0.71	9.50	1.76	15.75	1.65	22.00	0.66
3.50	0.71	9.75	1.76	16.00	1.65	22.25	0.66
3.75	0.71	10.00	1.98	16.25	1.65	22.50	0.66
4.00	0.72	10.25	1.98	16.50	0.99	22.75	0.66
4.25	0.71	10.50	2.53	16.75	0.99	23.00	0.66
4.50	0.88	10.75	2.53	17.00	0.99	23.25	0.66
4.75	0.88	11.00	3.41	17.25	0.99	23.50	0.66
5.00	0.88	11.25	3.41	17.50	0.99	23.75	0.66
5.25	0.88	11.50	5.28	17.75	0.99	24.00	0.66
5.50	0.88	11.75	5.28	18.00	0.99	24.25	0.66
5.75	0.88	12.00	22.88	18.25	0.99		
6.00	0.88	12.25	60.72	18.50	0.99		
6.25	0.88	12.50	7.92	18.75	0.99		

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| CALIB            |
| STANDHYD (  0121)|   Area     (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	0.88	12.250	60.72	18.33	0.99
0.167	0.00	6.250	0.88	12.333	7.93	18.42	0.99
0.250	0.00	6.333	1.10	12.417	7.92	18.50	0.99
0.333	0.55	6.417	1.10	12.500	7.92	18.58	0.99
0.417	0.55	6.500	1.10	12.583	7.92	18.67	0.99
0.500	0.55	6.583	1.10	12.667	7.92	18.75	0.99
0.583	0.55	6.667	1.10	12.750	7.92	18.83	0.99
0.667	0.55	6.750	1.10	12.833	4.07	18.92	0.99
0.750	0.55	6.833	1.10	12.917	4.07	19.00	0.99
0.833	0.55	6.917	1.10	13.000	4.07	19.08	0.99
0.917	0.55	7.000	1.10	13.083	4.07	19.17	0.99
1.000	0.55	7.083	1.10	13.167	4.07	19.25	0.99
1.083	0.55	7.167	1.10	13.250	4.07	19.33	0.99
1.167	0.55	7.250	1.10	13.333	0.77	19.42	0.99
1.250	0.55	7.333	1.10	13.417	0.77	19.50	0.99
1.333	0.55	7.417	1.10	13.500	0.77	19.58	0.99
1.417	0.55	7.500	1.10	13.583	0.77	19.67	0.99
1.500	0.55	7.583	1.10	13.667	0.77	19.75	0.99
1.583	0.55	7.667	1.10	13.750	0.77	19.83	0.99
1.667	0.55	7.750	1.10	13.833	4.51	19.92	0.99
1.750	0.55	7.833	1.10	13.917	4.51	20.00	0.99
1.833	0.55	7.917	1.10	14.000	4.51	20.08	0.99
1.917	0.55	8.000	1.10	14.083	4.51	20.17	0.99
2.000	0.55	8.083	1.10	14.167	4.51	20.25	0.99
2.083	0.99	8.167	1.10	14.250	4.51	20.33	0.66
2.167	0.99	8.250	1.10	14.333	1.65	20.42	0.66
2.250	0.99	8.333	1.49	14.417	1.65	20.50	0.66
2.333	0.71	8.417	1.49	14.500	1.65	20.58	0.66
2.417	0.72	8.500	1.48	14.583	1.65	20.67	0.66
2.500	0.72	8.583	1.48	14.667	1.65	20.75	0.66
2.583	0.71	8.667	1.48	14.750	1.65	20.83	0.66
2.667	0.71	8.750	1.48	14.833	1.65	20.92	0.66
2.750	0.71	8.833	1.49	14.917	1.65	21.00	0.66
2.833	0.71	8.917	1.49	15.000	1.65	21.08	0.66
2.917	0.72	9.000	1.48	15.083	1.65	21.17	0.66
3.000	0.72	9.083	1.49	15.167	1.65	21.25	0.66
3.083	0.71	9.167	1.49	15.250	1.65	21.33	0.66
3.167	0.71	9.250	1.48	15.333	1.65	21.42	0.66
3.250	0.71	9.333	1.76	15.417	1.65	21.50	0.66
3.333	0.71	9.417	1.76	15.500	1.65	21.58	0.66
3.417	0.71	9.500	1.76	15.583	1.65	21.67	0.66

3.500	0.71	9.583	1.76	15.667	1.65	21.75	0.66
3.583	0.71	9.667	1.76	15.750	1.65	21.83	0.66
3.667	0.71	9.750	1.76	15.833	1.65	21.92	0.66
3.750	0.71	9.833	1.98	15.917	1.65	22.00	0.66
3.833	0.71	9.917	1.98	16.000	1.65	22.08	0.66
3.917	0.72	10.000	1.98	16.083	1.65	22.17	0.66
4.000	0.72	10.083	1.98	16.167	1.65	22.25	0.66
4.083	0.71	10.167	1.98	16.250	1.65	22.33	0.66
4.167	0.71	10.250	1.98	16.333	0.99	22.42	0.66
4.250	0.71	10.333	2.53	16.417	0.99	22.50	0.66
4.333	0.88	10.417	2.53	16.500	0.99	22.58	0.66
4.417	0.88	10.500	2.53	16.583	0.99	22.67	0.66
4.500	0.88	10.583	2.53	16.667	0.99	22.75	0.66
4.583	0.88	10.667	2.53	16.750	0.99	22.83	0.66
4.667	0.88	10.750	2.53	16.833	0.99	22.92	0.66
4.750	0.88	10.833	3.41	16.917	0.99	23.00	0.66
4.833	0.88	10.917	3.41	17.000	0.99	23.08	0.66
4.917	0.88	11.000	3.41	17.083	0.99	23.17	0.66
5.000	0.88	11.083	3.41	17.167	0.99	23.25	0.66
5.083	0.88	11.167	3.41	17.250	0.99	23.33	0.66
5.167	0.88	11.250	3.41	17.333	0.99	23.42	0.66
5.250	0.88	11.333	5.28	17.417	0.99	23.50	0.66
5.333	0.88	11.417	5.28	17.500	0.99	23.58	0.66
5.417	0.88	11.500	5.28	17.583	0.99	23.67	0.66
5.500	0.88	11.583	5.28	17.667	0.99	23.75	0.66
5.583	0.88	11.667	5.28	17.750	0.99	23.83	0.66
5.667	0.88	11.750	5.28	17.833	0.99	23.92	0.66
5.750	0.88	11.833	22.88	17.917	0.99	24.00	0.66
5.833	0.88	11.917	22.88	18.000	0.99	24.08	0.66
5.917	0.88	12.000	22.88	18.083	0.99	24.17	0.66
6.000	0.88	12.083	60.72	18.167	0.99	24.25	0.66
6.083	0.88	12.167	60.72	18.250	0.99		

			TOTALS
Max.Eff.Inten.(mm/hr)=	60.72	11.03	
over (min)	5.00	20.00	
Storage Coeff. (min)=	1.86 (ii)	18.91 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.32	0.06	
PEAK FLOW (cms)=	0.03	0.00	0.033 (iii)
TIME TO PEAK (hrs)=	12.25	12.42	12.25
RUNOFF VOLUME (mm)=	54.00	11.04	41.51
TOTAL RAINFALL (mm)=	55.00	55.00	55.00
RUNOFF COEFFICIENT =	0.98	0.20	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0115)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0121)	0.270	0.033	12.25	41.51
OUTFLOW: ID= 1 (0115)	0.270	0.015	12.33	41.34

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.84
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0031

ADD HYD (0110)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0115):	0.27	0.015	12.33	41.34
+ ID2= 2 (0117):	1.07	0.021	12.75	46.15
ID = 3 (0110):	1.34	0.035	12.33	45.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0110):	1.34	0.035	12.33	45.18
+ ID2= 2 (0118):	0.78	0.025	12.42	46.23
ID = 1 (0110):	2.12	0.060	12.33	45.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0110):	2.12	0.060	12.33	45.57
+ ID2= 2 (0120):	9.30	0.052	16.50	38.33
ID = 3 (0110):	11.42	0.076	12.58	39.67

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
```

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


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DATE: 10-31-2019                          TIME: 10:48:51

USER:


COMMENTS: _____________________________________________________


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  ***********************************************
  ** SIMULATION : 1-2-Year-4-Hour-Chicago-Barri **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
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|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\5aeaad13
| Ptotal= 36.96 mm |    Comments: 2-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.47 |  1.17   18.78 |  2.17    5.73 |  3.17    2.92
                0.33    2.82 |  1.33   83.11 |  2.33    4.89 |  3.33    2.72
                0.50    3.31 |  1.50   24.57 |  2.50    4.28 |  3.50    2.55
                0.67    4.05 |  1.67   13.01 |  2.67    3.82 |  3.67    2.39
                0.83    5.30 |  1.83    9.01 |  2.83    3.46 |  3.83    2.26
                1.00    7.98 |  2.00    6.97 |  3.00    3.17 |  4.00    2.15

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--------------------
| CALIB            |
| STANDHYD (  0107)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.26
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      82.87        40.00
     Mannings n             =    0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                                  ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083   2.47 | 1.083   18.78 | 2.083    5.73 |  3.08    2.92
                0.167   2.47 | 1.167   18.78 | 2.167    5.73 |  3.17    2.93
                0.250   2.82 | 1.250   83.11 | 2.250    4.89 |  3.25    2.72
                0.333   2.82 | 1.333   83.11 | 2.333    4.89 |  3.33    2.72
                0.417   3.31 | 1.417   24.57 | 2.417    4.28 |  3.42    2.55
                0.500   3.31 | 1.500   24.57 | 2.500    4.28 |  3.50    2.55
                0.583   4.05 | 1.583   13.01 | 2.583    3.82 |  3.58    2.39
                0.667   4.05 | 1.667   13.01 | 2.667    3.82 |  3.67    2.39
                0.750   5.30 | 1.750    9.01 | 2.750    3.46 |  3.75    2.26
                0.833   5.30 | 1.833    9.01 | 2.833    3.46 |  3.83    2.26
                0.917   7.98 | 1.917    6.97 | 2.917    3.17 |  3.92    2.15
                1.000   7.98 | 2.000    6.97 | 3.000    3.17 |  4.00    2.15

     Max.Eff.Inten.(mm/hr)=      83.11         8.07
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.46 (ii)    7.36 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.30         0.13
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.18         0.00          0.179 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.42          1.33
     RUNOFF VOLUME    (mm)=     35.96         4.90         28.19
     TOTAL RAINFALL   (mm)=     36.96        36.96         36.96
     RUNOFF COEFFICIENT   =      0.97         0.13          0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0111)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)    |   (cms)     (ha.m.)
                          0.0000     0.0000    |  0.1120      0.0442

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0107)     1.030     0.179      1.33       28.19
   OUTFLOW: ID= 1 (  0111)     1.030     0.037      1.58       28.09

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 20.70
                    TIME SHIFT OF PEAK FLOW          (min)= 15.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0147

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\5aeaad13
| Ptotal= 36.96 mm |    Comments: 2-Year-4-Hour-Chicago
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.47	1.17	18.78	2.17	5.73	3.17	2.92
0.33	2.82	1.33	83.11	2.33	4.89	3.33	2.72
0.50	3.31	1.50	24.57	2.50	4.28	3.50	2.55
0.67	4.05	1.67	13.01	2.67	3.82	3.67	2.39
0.83	5.30	1.83	9.01	2.83	3.46	3.83	2.26
1.00	7.98	2.00	6.97	3.00	3.17	4.00	2.15

```
--------------------
| CALIB            |
| STANDHYD (  0109)|   Area    (ha)=   8.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.08	2.03
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	232.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.47	1.083	18.78	2.083	5.73	3.08	2.92
0.167	2.47	1.167	18.78	2.167	5.73	3.17	2.93
0.250	2.82	1.250	83.11	2.250	4.89	3.25	2.72
0.333	2.82	1.333	83.11	2.333	4.89	3.33	2.72
0.417	3.31	1.417	24.57	2.417	4.28	3.42	2.55
0.500	3.31	1.500	24.57	2.500	4.28	3.50	2.55
0.583	4.05	1.583	13.01	2.583	3.82	3.58	2.39
0.667	4.05	1.667	13.01	2.667	3.82	3.67	2.39
0.750	5.30	1.750	9.01	2.750	3.46	3.75	2.26
0.833	5.30	1.833	9.01	2.833	3.46	3.83	2.26
0.917	7.98	1.917	6.97	2.917	3.17	3.92	2.15
1.000	7.98	2.000	6.97	3.000	3.17	4.00	2.15

Max.Eff.Inten.(mm/hr)=		83.11	8.07	
over (min)		5.00	10.00	
Storage Coeff. (min)=		4.56 (ii)	9.46 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.23	0.12	
				TOTALS
PEAK FLOW	(cms)=	1.28	0.03	1.300 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	35.96	4.90	28.19
TOTAL RAINFALL	(mm)=	36.96	36.96	36.96
RUNOFF COEFFICIENT	=	0.97	0.13	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0116)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |
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```

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2090	0.3700
0.0146	0.2491	0.2910	0.4360
0.0800	0.2550	0.3580	0.4850
0.1520	0.3150	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	1.300	1.33	28.19
OUTFLOW: ID= 1 (0116)	8.100	0.013	4.08	27.32

PEAK FLOW REDUCTION [Qout/Qin](%)= 0.98
TIME SHIFT OF PEAK FLOW (min)=165.00
MAXIMUM STORAGE USED (ha.m.)= 0.2166

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\5aeaad13
| Ptotal= 36.96 mm |    Comments: 2-Year-4-Hour-Chicago
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.47	1.17	18.78	2.17	5.73	3.17	2.92
0.33	2.82	1.33	83.11	2.33	4.89	3.33	2.72
0.50	3.31	1.50	24.57	2.50	4.28	3.50	2.55
0.67	4.05	1.67	13.01	2.67	3.82	3.67	2.39
0.83	5.30	1.83	9.01	2.83	3.46	3.83	2.26
1.00	7.98	2.00	6.97	3.00	3.17	4.00	2.15

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--------------------
| CALIB            |
| STANDHYD (  0113)|   Area    (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.47	1.083	18.78	2.083	5.73	3.08	2.92
0.167	2.47	1.167	18.78	2.167	5.73	3.17	2.93
0.250	2.82	1.250	83.11	2.250	4.89	3.25	2.72
0.333	2.82	1.333	83.11	2.333	4.89	3.33	2.72
0.417	3.31	1.417	24.57	2.417	4.28	3.42	2.55
0.500	3.31	1.500	24.57	2.500	4.28	3.50	2.55
0.583	4.05	1.583	13.01	2.583	3.82	3.58	2.39
0.667	4.05	1.667	13.01	2.667	3.82	3.67	2.39
0.750	5.30	1.750	9.01	2.750	3.46	3.75	2.26
0.833	5.30	1.833	9.01	2.833	3.46	3.83	2.26
0.917	7.98	1.917	6.97	2.917	3.17	3.92	2.15
1.000	7.98	2.000	6.97	3.000	3.17	4.00	2.15

				TOTALS
Max.Eff.Inten.(mm/hr)=	83.11	5.85		
over (min)	5.00	30.00		
Storage Coeff. (min)=	5.53 (ii)	27.50 (ii)		
Unit Hyd. Tpeak (min)=	5.00	30.00		
Unit Hyd. peak (cms)=	0.20	0.04		
PEAK FLOW (cms)=	1.79	0.06	1.797 (iii)	
TIME TO PEAK (hrs)=	1.33	1.83	1.33	
RUNOFF VOLUME (mm)=	35.96	5.18	23.03	
TOTAL RAINFALL (mm)=	36.96	36.96	36.96	
RUNOFF COEFFICIENT =	0.97	0.14	0.62	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0114)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0111):	1.03	0.037	1.58	28.09
+ ID2= 2 (0113):	15.36	1.797	1.33	23.03
ID = 3 (0114):	16.39	1.823	1.33	23.35

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0114)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0114):	16.39	1.823	1.33	23.35
+ ID2= 2 (0116):	8.10	0.013	4.08	27.32
ID = 1 (0114):	24.49	1.828	1.33	24.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0119)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.4045	0.7000
0.0151	0.0001	0.5514	0.8000
0.0151	0.1301	0.7611	0.9000
0.0440	0.4217	0.9325	0.9500
0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0114)	24.490	1.828	1.33	24.66
OUTFLOW: ID= 1 (0119)	24.490	0.037	4.25	24.66

PEAK FLOW REDUCTION [Qout/Qin](%)= 2.02
TIME SHIFT OF PEAK FLOW (min)=175.00
MAXIMUM STORAGE USED (ha.m.)= 0.3505

DUHYD (0120)
Inlet Cap.= 0.015
#of Inlets= 1
Total(cms)= 0.0

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.49	0.04	4.25	24.66
MAJOR SYS.(ID= 2):	6.14	0.02	4.25	24.66
MINOR SYS.(ID= 3):	18.35	0.02	1.42	24.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM
Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\5aeaad13
Ptotal= 36.96 mm
Comments: 2-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.47	1.17	18.78	2.17	5.73	3.17	2.92
0.33	2.82	1.33	83.11	2.33	4.89	3.33	2.72
0.50	3.31	1.50	24.57	2.50	4.28	3.50	2.55
0.67	4.05	1.67	13.01	2.67	3.82	3.67	2.39
0.83	5.30	1.83	9.01	2.83	3.46	3.83	2.26
1.00	7.98	2.00	6.97	3.00	3.17	4.00	2.15

CALIB

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| STANDHYD (  0108)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.47	1.083	18.78	2.083	5.73	3.08	2.92
0.167	2.47	1.167	18.78	2.167	5.73	3.17	2.93
0.250	2.82	1.250	83.11	2.250	4.89	3.25	2.72
0.333	2.82	1.333	83.11	2.333	4.89	3.33	2.72
0.417	3.31	1.417	24.57	2.417	4.28	3.42	2.55
0.500	3.31	1.500	24.57	2.500	4.28	3.50	2.55
0.583	4.05	1.583	13.01	2.583	3.82	3.58	2.39
0.667	4.05	1.667	13.01	2.667	3.82	3.67	2.39
0.750	5.30	1.750	9.01	2.750	3.46	3.75	2.26
0.833	5.30	1.833	9.01	2.833	3.46	3.83	2.26
0.917	7.98	1.917	6.97	2.917	3.17	3.92	2.15
1.000	7.98	2.000	6.97	3.000	3.17	4.00	2.15

```
     Max.Eff.Inten.(mm/hr)=      83.11        21.51
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.26 (ii)    7.16 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.30         0.14
                                                  *TOTALS*
     PEAK FLOW       (cms)=      0.13         0.01          0.140 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=     35.96        11.64          29.87
     TOTAL RAINFALL   (mm)=     36.96        36.96          36.96
     RUNOFF COEFFICIENT   =      0.97         0.32           0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0118)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |  0.0750     0.0396

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0108)     0.780     0.140      1.33      29.87

  OUTFLOW: ID= 1 (  0118)      0.780     0.024      1.67      29.71

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 16.84
                TIME SHIFT OF PEAK FLOW         (min)= 20.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0125

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\5aeaad13
| Ptotal= 36.96 mm |    Comments: 2-Year-4-Hour-Chicago
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.47	1.17	18.78	2.17	5.73	3.17	2.92
0.33	2.82	1.33	83.11	2.33	4.89	3.33	2.72
0.50	3.31	1.50	24.57	2.50	4.28	3.50	2.55
0.67	4.05	1.67	13.01	2.67	3.82	3.67	2.39
0.83	5.30	1.83	9.01	2.83	3.46	3.83	2.26
1.00	7.98	2.00	6.97	3.00	3.17	4.00	2.15

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| CALIB            |
| STANDHYD (  0112)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.47	1.083	18.78	2.083	5.73	3.08	2.92
0.167	2.47	1.167	18.78	2.167	5.73	3.17	2.93
0.250	2.82	1.250	83.11	2.250	4.89	3.25	2.72
0.333	2.82	1.333	83.11	2.333	4.89	3.33	2.72
0.417	3.31	1.417	24.57	2.417	4.28	3.42	2.55
0.500	3.31	1.500	24.57	2.500	4.28	3.50	2.55
0.583	4.05	1.583	13.01	2.583	3.82	3.58	2.39
0.667	4.05	1.667	13.01	2.667	3.82	3.67	2.39
0.750	5.30	1.750	9.01	2.750	3.46	3.75	2.26
0.833	5.30	1.833	9.01	2.833	3.46	3.83	2.26
0.917	7.98	1.917	6.97	2.917	3.17	3.92	2.15
1.000	7.98	2.000	6.97	3.000	3.17	4.00	2.15

```
     Max.Eff.Inten.(mm/hr)=      83.11        21.51
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.49 (ii)    7.38 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
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     Unit Hyd. peak  (cms)=       0.29         0.13
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.18         0.01          0.191 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      35.96        11.64          29.87
     TOTAL RAINFALL   (mm)=      36.96        36.96          36.96
     RUNOFF COEFFICIENT   =       0.97         0.32           0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0117)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0600     0.0645

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0112)     1.070     0.191      1.33      29.87
   OUTFLOW: ID= 1 (  0117)     1.070     0.019      2.00      29.62

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.80
                  TIME SHIFT OF PEAK FLOW          (min)= 40.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0202

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

--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\5aeaad13
| Ptotal= 36.96 mm |    Comments: 2-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.47 |  1.17   18.78 |  2.17    5.73 |  3.17    2.92
                0.33    2.82 |  1.33   83.11 |  2.33    4.89 |  3.33    2.72
                0.50    3.31 |  1.50   24.57 |  2.50    4.28 |  3.50    2.55
                0.67    4.05 |  1.67   13.01 |  2.67    3.82 |  3.67    2.39
                0.83    5.30 |  1.83    9.01 |  2.83    3.46 |  3.83    2.26
                1.00    7.98 |  2.00    6.97 |  3.00    3.17 |  4.00    2.15

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--------------------
| CALIB            |
| STANDHYD (  0121)|   Area     (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope    (%)=       1.00         2.00
     Length           (m)=      42.43        40.00
     Mannings n         =       0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083   2.47 | 1.083   18.78 | 2.083    5.73 |  3.08    2.92
                0.167   2.47 | 1.167   18.78 | 2.167    5.73 |  3.17    2.93
                0.250   2.82 | 1.250   83.11 | 2.250    4.89 |  3.25    2.72
                0.333   2.82 | 1.333   83.11 | 2.333    4.89 |  3.33    2.72
                0.417   3.31 | 1.417   24.57 | 2.417    4.28 |  3.42    2.55
                0.500   3.31 | 1.500   24.57 | 2.500    4.28 |  3.50    2.55
                0.583   4.05 | 1.583   13.01 | 2.583    3.82 |  3.58    2.39
                0.667   4.05 | 1.667   13.01 | 2.667    3.82 |  3.67    2.39
                0.750   5.30 | 1.750    9.01 | 2.750    3.46 |  3.75    2.26
                0.833   5.30 | 1.833    9.01 | 2.833    3.46 |  3.83    2.26
                0.917   7.98 | 1.917    6.97 | 2.917    3.17 |  3.92    2.15
                1.000   7.98 | 2.000    6.97 | 3.000    3.17 |  4.00    2.15

     Max.Eff.Inten.(mm/hr)=      83.11         5.51
               over (min)        5.00        25.00
     Storage Coeff.  (min)=      1.64 (ii)   24.14 (ii)
     Unit Hyd. Tpeak (min)=      5.00        25.00
     Unit Hyd. peak  (cms)=      0.32         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.04         0.00          0.044 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.75           1.33
     RUNOFF VOLUME    (mm)=     35.96         4.90          26.90
     TOTAL RAINFALL   (mm)=     36.96        36.96          36.96
     RUNOFF COEFFICIENT   =      0.97         0.13           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)     0.270     0.044      1.33      26.90
   OUTFLOW: ID= 1 (  0115)     0.270     0.014      1.42      26.74

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.20
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0029
```

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--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):     0.27   0.014     1.42    26.74
      + ID2= 2 (  0117):     1.07   0.019     2.00    29.62
        ================================================
        ID = 3 (  0110):     1.34   0.031     1.58    29.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0110):     1.34   0.031     1.58    29.04
      + ID2= 2 (  0118):     0.78   0.024     1.67    29.71
        ================================================
        ID = 1 (  0110):     2.12   0.055     1.58    29.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0110):     2.12   0.055     1.58    29.29
      + ID2= 2 (  0120):     6.14   0.022     4.25    24.66
        ================================================
        ID = 3 (  0110):     8.26   0.065     1.83    25.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\82770b5e-5bc9-4d09-b6d9-5292ec75ea82\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\82770b5e-5bc9-4d09-b6d9-5292ec75ea82\scen


DATE: 10-31-2019                          TIME: 10:48:54

USER:


COMMENTS: _____________________________________________________________

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  ********************************************
  ** SIMULATION : 1-2-Year-4-Hour-Chicago-MTO   **
  ********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 384.902
| Ptotal= 33.38 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    2.81 |  1.17   13.28 |  2.17    5.55 |  3.17    3.23
                0.33    3.14 |  1.33   76.98 |  2.33    4.90 |  3.33    3.04
                0.50    3.58 |  1.50   16.30 |  2.50    4.41 |  3.50    2.88
                0.67    4.21 |  1.67   10.28 |  2.67    4.03 |  3.67    2.74
                0.83    5.22 |  1.83    7.84 |  2.83    3.71 |  3.83    2.61
                1.00    7.14 |  2.00    6.46 |  3.00    3.45 |  4.00    2.50

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--------------------
| CALIB            |
| STANDHYD (  0107)|   Area    (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77          0.26
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      82.87         40.00
     Mannings n             =     0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                                  ---- TRANSFORMED HYETOGRAPH ----
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.81	1.083	13.28	2.083	5.55	3.08	3.23
0.167	2.81	1.167	13.28	2.167	5.55	3.17	3.23
0.250	3.14	1.250	76.98	2.250	4.90	3.25	3.04
0.333	3.14	1.333	76.98	2.333	4.90	3.33	3.04
0.417	3.58	1.417	16.30	2.417	4.41	3.42	2.88
0.500	3.58	1.500	16.30	2.500	4.41	3.50	2.88
0.583	4.21	1.583	10.28	2.583	4.03	3.58	2.74
0.667	4.21	1.667	10.28	2.667	4.03	3.67	2.74
0.750	5.22	1.750	7.84	2.750	3.71	3.75	2.61
0.833	5.22	1.833	7.84	2.833	3.71	3.83	2.61
0.917	7.14	1.917	6.46	2.917	3.45	3.92	2.50
1.000	7.14	2.000	6.46	3.000	3.45	4.00	2.50

			TOTALS
Max.Eff.Inten.(mm/hr)=	76.98	3.60	
over (min)	5.00	30.00	
Storage Coeff. (min)=	2.53 (ii)	29.21 (ii)	
Unit Hyd. Tpeak (min)=	5.00	30.00	
Unit Hyd. peak (cms)=	0.29	0.04	
PEAK FLOW (cms)=	0.16	0.00	0.163 (iii)
TIME TO PEAK (hrs)=	1.33	1.83	1.33
RUNOFF VOLUME (mm)=	32.38	3.93	25.25
TOTAL RAINFALL (mm)=	33.38	33.38	33.38
RUNOFF COEFFICIENT =	0.97	0.12	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0111)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	1.030	0.163	1.33	25.25
OUTFLOW: ID= 1 (0111)	1.030	0.031	1.58	25.16

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.03
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0123

CHICAGO STORM
Ptotal= 33.38 mm

IDF curve parameters: A= 384.902
B= 0.000
C= 0.699
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs

Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.81	1.17	13.28	2.17	5.55	3.17	3.23
0.33	3.14	1.33	76.98	2.33	4.90	3.33	3.04
0.50	3.58	1.50	16.30	2.50	4.41	3.50	2.88
0.67	4.21	1.67	10.28	2.67	4.03	3.67	2.74
0.83	5.22	1.83	7.84	2.83	3.71	3.83	2.61
1.00	7.14	2.00	6.46	3.00	3.45	4.00	2.50

CALIB
STANDHYD (0109)
ID= 1 DT= 5.0 min

Area (ha)= 8.10
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.08	2.03
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	232.38	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.81	1.083	13.28	2.083	5.55	3.08	3.23
0.167	2.81	1.167	13.28	2.167	5.55	3.17	3.23
0.250	3.14	1.250	76.98	2.250	4.90	3.25	3.04
0.333	3.14	1.333	76.98	2.333	4.90	3.33	3.04
0.417	3.58	1.417	16.30	2.417	4.41	3.42	2.88
0.500	3.58	1.500	16.30	2.500	4.41	3.50	2.88
0.583	4.21	1.583	10.28	2.583	4.03	3.58	2.74
0.667	4.21	1.667	10.28	2.667	4.03	3.67	2.74
0.750	5.22	1.750	7.84	2.750	3.71	3.75	2.61
0.833	5.22	1.833	7.84	2.833	3.71	3.83	2.61
0.917	7.14	1.917	6.46	2.917	3.45	3.92	2.50
1.000	7.14	2.000	6.46	3.000	3.45	4.00	2.50

			TOTALS
Max.Eff.Inten.(mm/hr)=	76.98	3.60	
over (min)	5.00	35.00	
Storage Coeff. (min)=	4.70 (ii)	31.38 (ii)	
Unit Hyd. Tpeak (min)=	5.00	35.00	
Unit Hyd. peak (cms)=	0.22	0.03	
PEAK FLOW (cms)=	1.17	0.01	1.171 (iii)
TIME TO PEAK (hrs)=	1.33	1.92	1.33
RUNOFF VOLUME (mm)=	32.38	3.93	25.27
TOTAL RAINFALL (mm)=	33.38	33.38	33.38
RUNOFF COEFFICIENT =	0.97	0.12	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

```
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

RESERVOIR(0116) / IN= 2---> OUT= 1 / DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2090	0.3700
	0.0146	0.2491	0.2910	0.4360
	0.0800	0.2550	0.3580	0.4850
	0.1520	0.3150	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	1.171	1.33	25.27
OUTFLOW: ID= 1 (0116)	8.100	0.011	4.17	24.48

```
PEAK   FLOW   REDUCTION [Qout/Qin](%)=  0.97
TIME SHIFT OF PEAK FLOW          (min)=170.00
MAXIMUM  STORAGE   USED       (ha.m.)=  0.1934
```

CHICAGO STORM | Ptotal= 33.38 mm

IDF curve parameters: A= 384.902
B= 0.000
C= 0.699
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.81	1.17	13.28	2.17	5.55	3.17	3.23
0.33	3.14	1.33	76.98	2.33	4.90	3.33	3.04
0.50	3.58	1.50	16.30	2.50	4.41	3.50	2.88
0.67	4.21	1.67	10.28	2.67	4.03	3.67	2.74
0.83	5.22	1.83	7.84	2.83	3.71	3.83	2.61
1.00	7.14	2.00	6.46	3.00	3.45	4.00	2.50

CALIB | STANDHYD (0113) | ID= 1 DT= 5.0 min | Area (ha)= 15.36 | Total Imp(%)= 58.00 | Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.81	1.083	13.28	2.083	5.55	3.08	3.23
0.167	2.81	1.167	13.28	2.167	5.55	3.17	3.23
0.250	3.14	1.250	76.98	2.250	4.90	3.25	3.04
0.333	3.14	1.333	76.98	2.333	4.90	3.33	3.04
0.417	3.58	1.417	16.30	2.417	4.41	3.42	2.88
0.500	3.58	1.500	16.30	2.500	4.41	3.50	2.88
0.583	4.21	1.583	10.28	2.583	4.03	3.58	2.74
0.667	4.21	1.667	10.28	2.667	4.03	3.67	2.74
0.750	5.22	1.750	7.84	2.750	3.71	3.75	2.61
0.833	5.22	1.833	7.84	2.833	3.71	3.83	2.61
0.917	7.14	1.917	6.46	2.917	3.45	3.92	2.50
1.000	7.14	2.000	6.46	3.000	3.45	4.00	2.50

Max.Eff.Inten.(mm/hr)=	76.98	3.82		
over (min)	5.00	35.00		
Storage Coeff. (min)=	5.70 (ii)	31.75 (ii)		
Unit Hyd. Tpeak (min)=	5.00	35.00		
Unit Hyd. peak (cms)=	0.20	0.03		
			TOTALS	
PEAK FLOW (cms)=	1.63	0.04	1.632 (iii)	
TIME TO PEAK (hrs)=	1.33	1.92	1.33	
RUNOFF VOLUME (mm)=	32.38	4.16	20.53	
TOTAL RAINFALL (mm)=	33.38	33.38	33.38	
RUNOFF COEFFICIENT =	0.97	0.12	0.61	

```
  (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
       CN*  =  60.6    Ia = Dep. Storage  (Above)
 (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
      THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (0114) | 1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0111):	1.03	0.031	1.58	25.16
+ ID2= 2 (0113):	15.36	1.632	1.33	20.53
ID = 3 (0114):	16.39	1.656	1.33	20.82

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0114) | 3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0114):	16.39	1.656	1.33	20.82
+ ID2= 2 (0116):	8.10	0.011	4.17	24.48
ID = 1 (0114):	24.49	1.660	1.33	22.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0119)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.4045	0.7000
	0.0151	0.0001	0.5514	0.8000
	0.0151	0.1301	0.7611	0.9000
	0.0440	0.4217	0.9325	0.9500
	0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0114)	24.490	1.660	1.33	22.03
OUTFLOW: ID= 1 (0119)	24.490	0.033	4.33	22.03

PEAK FLOW REDUCTION [Qout/Qin](%)= 1.99
TIME SHIFT OF PEAK FLOW (min)=180.00
MAXIMUM STORAGE USED (ha.m.)= 0.3110

DUHYD (0120)				
Inlet Cap.= 0.015				
#of Inlets= 1				
Total(cms)= 0.0	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.49	0.03	4.33	22.03
MAJOR SYS.(ID= 2):	5.12	0.02	4.33	22.03
MINOR SYS.(ID= 3):	19.37	0.02	1.42	22.03

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CHICAGO STORM	IDF curve parameters: A= 384.902
Ptotal= 33.38 mm	B= 0.000
	C= 0.699

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	2.81	1.17	13.28	2.17	5.55	3.17	3.23
0.33	3.14	1.33	76.98	2.33	4.90	3.33	3.04
0.50	3.58	1.50	16.30	2.50	4.41	3.50	2.88
0.67	4.21	1.67	10.28	2.67	4.03	3.67	2.74
0.83	5.22	1.83	7.84	2.83	3.71	3.83	2.61
1.00	7.14	2.00	6.46	3.00	3.45	4.00	2.50

CALIB		
STANDHYD (0108)	Area (ha)= 0.78	
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.58	0.19
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	72.11	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.81	1.083	13.28	2.083	5.55	3.08	3.23
0.167	2.81	1.167	13.28	2.167	5.55	3.17	3.23
0.250	3.14	1.250	76.98	2.250	4.90	3.25	3.04
0.333	3.14	1.333	76.98	2.333	4.90	3.33	3.04
0.417	3.58	1.417	16.30	2.417	4.41	3.42	2.88
0.500	3.58	1.500	16.30	2.500	4.41	3.50	2.88
0.583	4.21	1.583	10.28	2.583	4.03	3.58	2.74
0.667	4.21	1.667	10.28	2.667	4.03	3.67	2.74
0.750	5.22	1.750	7.84	2.750	3.71	3.75	2.61
0.833	5.22	1.833	7.84	2.833	3.71	3.83	2.61
0.917	7.14	1.917	6.46	2.917	3.45	3.92	2.50
1.000	7.14	2.000	6.46	3.000	3.45	4.00	2.50

Max.Eff.Inten.(mm/hr)=	76.98	11.92		
over (min)	5.00	20.00		
Storage Coeff. (min)=	2.33 (ii)	18.85 (ii)		
Unit Hyd. Tpeak (min)=	5.00	20.00		
Unit Hyd. peak (cms)=	0.30	0.06		
				TOTALS
PEAK FLOW (cms)=	0.12	0.00		0.125 (iii)
TIME TO PEAK (hrs)=	1.33	1.58		1.33
RUNOFF VOLUME (mm)=	32.38	9.57		26.66
TOTAL RAINFALL (mm)=	33.38	33.38		33.38
RUNOFF COEFFICIENT =	0.97	0.29		0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0118)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA	QPEAK	TPEAK	R.V.

```
                            (ha)      (cms)      (hrs)       (mm)
   INFLOW : ID= 2 (  0108)      0.780      0.125      1.33      26.66
   OUTFLOW: ID= 1 (  0118)      0.780      0.019      1.67      26.50

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.51
                  TIME SHIFT OF PEAK FLOW          (min)= 20.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0102

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 384.902
| Ptotal= 33.38 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    2.81 |  1.17   13.28 |  2.17    5.55 |  3.17    3.23
               0.33    3.14 |  1.33   76.98 |  2.33    4.90 |  3.33    3.04
               0.50    3.58 |  1.50   16.30 |  2.50    4.41 |  3.50    2.88
               0.67    4.21 |  1.67   10.28 |  2.67    4.03 |  3.67    2.74
               0.83    5.22 |  1.83    7.84 |  2.83    3.71 |  3.83    2.61
               1.00    7.14 |  2.00    6.46 |  3.00    3.45 |  4.00    2.50


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--------------------
| CALIB            |
| STANDHYD (  0112)|   Area    (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    2.81 | 1.083   13.28 | 2.083    5.55 |  3.08    3.23
              0.167    2.81 | 1.167   13.28 | 2.167    5.55 |  3.17    3.23
              0.250    3.14 | 1.250   76.98 | 2.250    4.90 |  3.25    3.04
              0.333    3.14 | 1.333   76.98 | 2.333    4.90 |  3.33    3.04
              0.417    3.58 | 1.417   16.30 | 2.417    4.41 |  3.42    2.88
              0.500    3.58 | 1.500   16.30 | 2.500    4.41 |  3.50    2.88
              0.583    4.21 | 1.583   10.28 | 2.583    4.03 |  3.58    2.74
              0.667    4.21 | 1.667   10.28 | 2.667    4.03 |  3.67    2.74
              0.750    5.22 | 1.750    7.84 | 2.750    3.71 |  3.75    2.61
              0.833    5.22 | 1.833    7.84 | 2.833    3.71 |  3.83    2.61
              0.917    7.14 | 1.917    6.46 | 2.917    3.45 |  3.92    2.50
              1.000    7.14 | 2.000    6.46 | 3.000    3.45 |  4.00    2.50

     Max.Eff.Inten.(mm/hr)=      76.98        11.92
                  over (min)        5.00        20.00
     Storage Coeff.  (min)=       2.56 (ii)   19.09 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.29         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.17         0.01          0.170 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      32.38         9.57          26.67
     TOTAL RAINFALL   (mm)=      33.38        33.38          33.38
     RUNOFF COEFFICIENT   =       0.97         0.29           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0117)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |  0.0600      0.0645

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0112)     1.070     0.170      1.33      26.67
   OUTFLOW: ID= 1 (  0117)     1.070     0.016      2.17      26.42

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.20
                  TIME SHIFT OF PEAK FLOW          (min)= 50.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0168

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--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 384.902
| Ptotal= 33.38 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    2.81 |  1.17   13.28 |  2.17    5.55 |  3.17    3.23
               0.33    3.14 |  1.33   76.98 |  2.33    4.90 |  3.33    3.04
               0.50    3.58 |  1.50   16.30 |  2.50    4.41 |  3.50    2.88
               0.67    4.21 |  1.67   10.28 |  2.67    4.03 |  3.67    2.74
               0.83    5.22 |  1.83    7.84 |  2.83    3.71 |  3.83    2.61
               1.00    7.14 |  2.00    6.46 |  3.00    3.45 |  4.00    2.50


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--------------------
| CALIB            |
| STANDHYD (  0121)|   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    2.81 | 1.083   13.28 | 2.083    5.55 |  3.08    3.23
              0.167    2.81 | 1.167   13.28 | 2.167    5.55 |  3.17    3.23
              0.250    3.14 | 1.250   76.98 | 2.250    4.90 |  3.25    3.04
              0.333    3.14 | 1.333   76.98 | 2.333    4.90 |  3.33    3.04
              0.417    3.58 | 1.417   16.30 | 2.417    4.41 |  3.42    2.88
              0.500    3.58 | 1.500   16.30 | 2.500    4.41 |  3.50    2.88
              0.583    4.21 | 1.583   10.28 | 2.583    4.03 |  3.58    2.74
              0.667    4.21 | 1.667   10.28 | 2.667    4.03 |  3.67    2.74
              0.750    5.22 | 1.750    7.84 | 2.750    3.71 |  3.75    2.61
              0.833    5.22 | 1.833    7.84 | 2.833    3.71 |  3.83    2.61
              0.917    7.14 | 1.917    6.46 | 2.917    3.45 |  3.92    2.50
              1.000    7.14 | 2.000    6.46 | 3.000    3.45 |  4.00    2.50

     Max.Eff.Inten.(mm/hr)=      76.98         3.60
               over (min)         5.00        30.00
     Storage Coeff.  (min)=       1.70 (ii)   28.37 (ii)
     Unit Hyd. Tpeak (min)=       5.00        30.00
     Unit Hyd. peak  (cms)=       0.32         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.00       0.041 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.75        1.33
     RUNOFF VOLUME    (mm)=      32.38         3.93       24.07
     TOTAL RAINFALL   (mm)=      33.38        33.38       33.38
     RUNOFF COEFFICIENT   =       0.97         0.12        0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                               AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)      0.270     0.041      1.33      24.07
   OUTFLOW: ID= 1 (  0115)      0.270     0.013      1.42      23.90

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.80
                    TIME SHIFT OF PEAK FLOW         (min)=  5.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0026

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--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):     0.27   0.013     1.42    23.90
      + ID2= 2 (  0117):     1.07   0.016     2.17    26.42
        ==================================================
        ID = 3 (  0110):     1.34   0.026     1.50    25.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0110):     1.34   0.026     1.50    25.91
      + ID2= 2 (  0118):     0.78   0.019     1.67    26.50
        ==================================================
        ID = 1 (  0110):     2.12   0.045     1.58    26.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0110):     2.12   0.045     1.58    26.13
      + ID2= 2 (  0120):     5.12   0.018     4.33    22.03
        ==================================================
        ID = 3 (  0110):     7.24   0.052     1.83    23.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

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

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

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  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
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  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\587f0e46-6120-4c38-af48-3e64fad4bb76\scen

DATE: 10-31-2019                          TIME: 10:48:52

USER:


COMMENTS: _____________________________________________________________

--------------------------------------------------------------------------------
------------------------
  ***********************************************
  ** SIMULATION : 1-2-Year-6-Hour-SCS-Type-II   **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\3038ab57
| Ptotal= 42.30 mm |    Comments: 2-Year-6-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	4.23	3.75	9.31	5.50	1.69
0.50	1.69	2.25	4.23	4.00	4.23	5.75	1.69
0.75	1.69	2.50	5.08	4.25	4.23	6.00	1.69
1.00	2.54	2.75	5.08	4.50	3.38	6.25	1.69
1.25	2.54	3.00	25.38	4.75	3.38		
1.50	2.54	3.25	65.99	5.00	2.54		
1.75	2.54	3.50	9.31	5.25	2.54		

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--------------------
| CALIB            |
| STANDHYD (  0107)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.26
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      82.87        40.00
     Mannings n              =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.54	3.250	65.99	4.83	2.54
0.167	0.00	1.750	2.54	3.333	9.31	4.92	2.54
0.250	0.00	1.833	4.23	3.417	9.31	5.00	2.54
0.333	1.69	1.917	4.23	3.500	9.31	5.08	2.54
0.417	1.69	2.000	4.23	3.583	9.31	5.17	2.54
0.500	1.69	2.083	4.23	3.667	9.31	5.25	2.54
0.583	1.69	2.167	4.23	3.750	9.31	5.33	1.69
0.667	1.69	2.250	4.23	3.833	4.23	5.42	1.69
0.750	1.69	2.333	5.08	3.917	4.23	5.50	1.69
0.833	2.54	2.417	5.08	4.000	4.23	5.58	1.69
0.917	2.54	2.500	5.08	4.083	4.23	5.67	1.69
1.000	2.54	2.583	5.08	4.167	4.23	5.75	1.69
1.083	2.54	2.667	5.08	4.250	4.23	5.83	1.69
1.167	2.54	2.750	5.08	4.333	3.38	5.92	1.69
1.250	2.54	2.833	25.38	4.417	3.38	6.00	1.69
1.333	2.54	2.917	25.38	4.500	3.38	6.08	1.69
1.417	2.54	3.000	25.38	4.583	3.38	6.17	1.69
1.500	2.54	3.083	65.99	4.667	3.38	6.25	1.69
1.583	2.54	3.167	65.99	4.750	3.38		

```
     Max.Eff.Inten.(mm/hr)=      65.99         9.07
                over (min)        5.00        25.00
     Storage Coeff.  (min)=       2.70 (ii)   21.13 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.29         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.14         0.00          0.143 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.58           3.25
     RUNOFF VOLUME    (mm)=      41.30         6.51          32.59
     TOTAL RAINFALL   (mm)=      42.30        42.30          42.30
     RUNOFF COEFFICIENT   =       0.98         0.15           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0111)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)    |    (cms)     (ha.m.)
                          0.0000     0.0000    |   0.1120      0.0442

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0107)         1.030     0.143      3.25      32.59
   OUTFLOW: ID= 1 (  0111)         1.030     0.041      3.33      32.50
```

```
                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.79
                TIME SHIFT OF PEAK FLOW          (min)=  5.00
                MAXIMUM  STORAGE   USED        (ha.m.)=  0.0163

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\3038ab57
| Ptotal= 42.30 mm |    Comments: 2-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    4.23 |  3.75    9.31 |  5.50    1.69
                0.50    1.69 |  2.25    4.23 |  4.00    4.23 |  5.75    1.69
                0.75    1.69 |  2.50    5.08 |  4.25    4.23 |  6.00    1.69
                1.00    2.54 |  2.75    5.08 |  4.50    3.38 |  6.25    1.69
                1.25    2.54 |  3.00   25.38 |  4.75    3.38 |
                1.50    2.54 |  3.25   65.99 |  5.00    2.54 |
                1.75    2.54 |  3.50    9.31 |  5.25    2.54 |

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

--------------------
| CALIB            |
| STANDHYD (  0109)|   Area     (ha)=   8.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.08         2.03
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     232.38        40.00
     Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    2.54 | 3.250   65.99 |  4.83    2.54
               0.167    0.00 | 1.750    2.54 | 3.333    9.31 |  4.92    2.54
               0.250    0.00 | 1.833    4.23 | 3.417    9.31 |  5.00    2.54
               0.333    1.69 | 1.917    4.23 | 3.500    9.31 |  5.08    2.54
               0.417    1.69 | 2.000    4.23 | 3.583    9.31 |  5.17    2.54
               0.500    1.69 | 2.083    4.23 | 3.667    9.31 |  5.25    2.54
               0.583    1.69 | 2.167    4.23 | 3.750    9.31 |  5.33    1.69
               0.667    1.69 | 2.250    4.23 | 3.833    4.23 |  5.42    1.69
               0.750    1.69 | 2.333    5.08 | 3.917    4.23 |  5.50    1.69
               0.833    2.54 | 2.417    5.08 | 4.000    4.23 |  5.58    1.69
               0.917    2.54 | 2.500    5.08 | 4.083    4.23 |  5.67    1.69
               1.000    2.54 | 2.583    5.08 | 4.167    4.23 |  5.75    1.69
               1.083    2.54 | 2.667    5.08 | 4.250    4.23 |  5.83    1.69
               1.167    2.54 | 2.750    5.08 | 4.333    3.38 |  5.92    1.69
               1.250    2.54 | 2.833   25.38 | 4.417    3.38 |  6.00    1.69
               1.333    2.54 | 2.917   25.38 | 4.500    3.38 |  6.08    1.69
               1.417    2.54 | 3.000   25.38 | 4.583    3.38 |  6.17    1.69
               1.500    2.54 | 3.083   65.99 | 4.667    3.38 |  6.25    1.69
               1.583    2.54 | 3.167   65.99 | 4.750    3.38 |

     Max.Eff.Inten.(mm/hr)=      65.99         9.07
                 over (min)        5.00        25.00
     Storage Coeff.  (min)=       5.00 (ii)   23.44 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.21         0.05
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.08         0.03          1.092 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.58           3.25
     RUNOFF VOLUME    (mm)=      41.30         6.51          32.60
     TOTAL RAINFALL   (mm)=      42.30        42.30          42.30
     RUNOFF COEFFICIENT   =       0.98         0.15           0.77


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0116)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.2090     0.3700
                         0.0146     0.2491    |   0.2910     0.4360
                         0.0800     0.2550    |   0.3580     0.4850
                         0.1520     0.3150    |   0.4290     0.5350

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0109)      8.100     1.092      3.25      32.60
   OUTFLOW: ID= 1 (  0116)      8.100     0.014      6.33      31.56

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  1.32
                TIME SHIFT OF PEAK FLOW          (min)=185.00
                MAXIMUM  STORAGE   USED        (ha.m.)=  0.2470

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\3038ab57
| Ptotal= 42.30 mm |    Comments: 2-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    4.23 |  3.75    9.31 |  5.50    1.69
                0.50    1.69 |  2.25    4.23 |  4.00    4.23 |  5.75    1.69
                0.75    1.69 |  2.50    5.08 |  4.25    4.23 |  6.00    1.69
                1.00    2.54 |  2.75    5.08 |  4.50    3.38 |  6.25    1.69
                1.25    2.54 |  3.00   25.38 |  4.75    3.38 |
                1.50    2.54 |  3.25   65.99 |  5.00    2.54 |
                1.75    2.54 |  3.50    9.31 |  5.25    2.54 |
```

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--------------------
| CALIB            |
| STANDHYD (  0113)|   Area     (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91         6.45
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     320.00        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 | 1.667    2.54 | 3.250   65.99 |  4.83    2.54
              0.167    0.00 | 1.750    2.54 | 3.333    9.31 |  4.92    2.54
              0.250    0.00 | 1.833    4.23 | 3.417    9.31 |  5.00    2.54
              0.333    1.69 | 1.917    4.23 | 3.500    9.31 |  5.08    2.54
              0.417    1.69 | 2.000    4.23 | 3.583    9.31 |  5.17    2.54
              0.500    1.69 | 2.083    4.23 | 3.667    9.31 |  5.25    2.54
              0.583    1.69 | 2.167    4.23 | 3.750    9.31 |  5.33    1.69
              0.667    1.69 | 2.250    4.23 | 3.833    4.23 |  5.42    1.69
              0.750    1.69 | 2.333    5.08 | 3.917    4.23 |  5.50    1.69
              0.833    2.54 | 2.417    5.08 | 4.000    4.23 |  5.58    1.69
              0.917    2.54 | 2.500    5.08 | 4.083    4.23 |  5.67    1.69
              1.000    2.54 | 2.583    5.08 | 4.167    4.23 |  5.75    1.69
              1.083    2.54 | 2.667    5.08 | 4.250    4.23 |  5.83    1.69
              1.167    2.54 | 2.750    5.08 | 4.333    3.38 |  5.92    1.69
              1.250    2.54 | 2.833   25.38 | 4.417    3.38 |  6.00    1.69
              1.333    2.54 | 2.917   25.38 | 4.500    3.38 |  6.08    1.69
              1.417    2.54 | 3.000   25.38 | 4.583    3.38 |  6.17    1.69
              1.500    2.54 | 3.083   65.99 | 4.667    3.38 |  6.25    1.69
              1.583    2.54 | 3.167   65.99 | 4.750    3.38 |

     Max.Eff.Inten.(mm/hr)=      65.99         9.60
                 over (min)        5.00        25.00
     Storage Coeff.  (min)=       6.06 (ii)   24.08 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.19         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.54         0.09          1.589 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.58           3.25
     RUNOFF VOLUME    (mm)=      41.30         6.87          26.84
     TOTAL RAINFALL   (mm)=      42.30        42.30          42.30
     RUNOFF COEFFICIENT   =       0.98         0.16           0.63


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0114)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0111):     1.03    0.041     3.33    32.50
     + ID2= 2 (  0113):    15.36    1.589     3.25    26.84
       ================================================
       ID = 3 (  0114):    16.39    1.626     3.25    27.20

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

```
--------------------
| ADD HYD  (  0114)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0114):    16.39    1.626     3.25    27.20
     + ID2= 2 (  0116):     8.10    0.014     6.33    31.56
       ================================================
       ID = 1 (  0114):    24.49    1.635     3.25    28.64

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

```
--------------------
| RESERVOIR(  0119)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.4045      0.7000
                         0.0151     0.0001    |  0.5514      0.8000
                         0.0151     0.1301    |  0.7611      0.9000
                         0.0440     0.4217    |  0.9325      0.9500
                         0.2194     0.6000    |  1.1147      1.0500

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0114)     24.490     1.635      3.25      28.64
   OUTFLOW: ID= 1 (  0119)     24.490     0.042      6.42      28.64

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.57
                  TIME SHIFT OF PEAK FLOW          (min)=190.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4012
```

```
--------------------
| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.04      6.42   28.64
     ================================================
     MAJOR SYS.(ID= 2):   7.28      0.03      6.42   28.64
     MINOR SYS.(ID= 3):  17.21      0.02      3.17   28.64

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

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\3038ab57
| Ptotal= 42.30 mm |    Comments: 2-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    4.23 |  3.75    9.31 |  5.50    1.69
                0.50    1.69 |  2.25    4.23 |  4.00    4.23 |  5.75    1.69
                0.75    1.69 |  2.50    5.08 |  4.25    4.23 |  6.00    1.69
                1.00    2.54 |  2.75    5.08 |  4.50    3.38 |  6.25    1.69
                1.25    2.54 |  3.00   25.38 |  4.75    3.38 |
                1.50    2.54 |  3.25   65.99 |  5.00    2.54 |
                1.75    2.54 |  3.50    9.31 |  5.25    2.54 |

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--------------------
| CALIB            |
| STANDHYD (  0108)|   Area    (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    2.54 | 3.250   65.99 |  4.83    2.54
               0.167    0.00 | 1.750    2.54 | 3.333    9.31 |  4.92    2.54
               0.250    0.00 | 1.833    4.23 | 3.417    9.31 |  5.00    2.54
               0.333    1.69 | 1.917    4.23 | 3.500    9.31 |  5.08    2.54
               0.417    1.69 | 2.000    4.23 | 3.583    9.31 |  5.17    2.54
               0.500    1.69 | 2.083    4.23 | 3.667    9.31 |  5.25    2.54
               0.583    1.69 | 2.167    4.23 | 3.750    9.31 |  5.33    1.69
               0.667    1.69 | 2.250    4.23 | 3.833    4.23 |  5.42    1.69
               0.750    1.69 | 2.333    5.08 | 3.917    4.23 |  5.50    1.69
               0.833    2.54 | 2.417    5.08 | 4.000    4.23 |  5.58    1.69
               0.917    2.54 | 2.500    5.08 | 4.083    4.23 |  5.67    1.69
               1.000    2.54 | 2.583    5.08 | 4.167    4.23 |  5.75    1.69
               1.083    2.54 | 2.667    5.08 | 4.250    4.23 |  5.83    1.69
               1.167    2.54 | 2.750    5.08 | 4.333    3.38 |  5.92    1.69
               1.250    2.54 | 2.833   25.38 | 4.417    3.38 |  6.00    1.69
               1.333    2.54 | 2.917   25.38 | 4.500    3.38 |  6.08    1.69
               1.417    2.54 | 3.000   25.38 | 4.583    3.38 |  6.17    1.69
               1.500    2.54 | 3.083   65.99 | 4.667    3.38 |  6.25    1.69
               1.583    2.54 | 3.167   65.99 | 4.750    3.38 |

     Max.Eff.Inten.(mm/hr)=      65.99        27.41
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       2.48 (ii)   14.32 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.29         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.11         0.01         0.114 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.42          3.25
     RUNOFF VOLUME    (mm)=      41.30        14.95         34.70
     TOTAL RAINFALL   (mm)=      42.30        42.30         42.30
     RUNOFF COEFFICIENT   =       0.98         0.35          0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0118)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0750     0.0396

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0108)      0.780     0.114      3.25      34.70
   OUTFLOW: ID= 1 (  0118)      0.780     0.026      3.42      34.54

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.03
                  TIME SHIFT OF PEAK FLOW         (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0139

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\3038ab57
| Ptotal= 42.30 mm |    Comments: 2-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    4.23 |  3.75    9.31 |  5.50    1.69
                0.50    1.69 |  2.25    4.23 |  4.00    4.23 |  5.75    1.69
                0.75    1.69 |  2.50    5.08 |  4.25    4.23 |  6.00    1.69
                1.00    2.54 |  2.75    5.08 |  4.50    3.38 |  6.25    1.69
                1.25    2.54 |  3.00   25.38 |  4.75    3.38 |
                1.50    2.54 |  3.25   65.99 |  5.00    2.54 |
                1.75    2.54 |  3.50    9.31 |  5.25    2.54 |

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--------------------
| CALIB            |
| STANDHYD (  0112)|   Area    (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.54	3.250	65.99	4.83	2.54
0.167	0.00	1.750	2.54	3.333	9.31	4.92	2.54
0.250	0.00	1.833	4.23	3.417	9.31	5.00	2.54
0.333	1.69	1.917	4.23	3.500	9.31	5.08	2.54
0.417	1.69	2.000	4.23	3.583	9.31	5.17	2.54
0.500	1.69	2.083	4.23	3.667	9.31	5.25	2.54
0.583	1.69	2.167	4.23	3.750	9.31	5.33	1.69
0.667	1.69	2.250	4.23	3.833	4.23	5.42	1.69
0.750	1.69	2.333	5.08	3.917	4.23	5.50	1.69
0.833	2.54	2.417	5.08	4.000	4.23	5.58	1.69
0.917	2.54	2.500	5.08	4.083	4.23	5.67	1.69
1.000	2.54	2.583	5.08	4.167	4.23	5.75	1.69
1.083	2.54	2.667	5.08	4.250	4.23	5.83	1.69
1.167	2.54	2.750	5.08	4.333	3.38	5.92	1.69
1.250	2.54	2.833	25.38	4.417	3.38	6.00	1.69
1.333	2.54	2.917	25.38	4.500	3.38	6.08	1.69
1.417	2.54	3.000	25.38	4.583	3.38	6.17	1.69
1.500	2.54	3.083	65.99	4.667	3.38	6.25	1.69
1.583	2.54	3.167	65.99	4.750	3.38		

				TOTALS
Max.Eff.Inten.(mm/hr)=		65.99	27.41	
over (min)		5.00	15.00	
Storage Coeff. (min)=		2.73 (ii)	14.57 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.29	0.08	
PEAK FLOW	(cms)=	0.15	0.01	0.157 (iii)
TIME TO PEAK	(hrs)=	3.25	3.42	3.25
RUNOFF VOLUME	(mm)=	41.30	14.95	34.71
TOTAL RAINFALL	(mm)=	42.30	42.30	42.30
RUNOFF COEFFICIENT	=	0.98	0.35	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0117)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0112)	1.070	0.157	3.25	34.71
OUTFLOW: ID= 1 (0117)	1.070	0.021	3.83	34.45

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.70
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.0231

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\3038ab57
Ptotal= 42.30 mm	Comments: 2-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	4.23	3.75	9.31	5.50	1.69
0.50	1.69	2.25	4.23	4.00	4.23	5.75	1.69
0.75	1.69	2.50	5.08	4.25	4.23	6.00	1.69
1.00	2.54	2.75	5.08	4.50	3.38	6.25	1.69
1.25	2.54	3.00	25.38	4.75	3.38		
1.50	2.54	3.25	65.99	5.00	2.54		
1.75	2.54	3.50	9.31	5.25	2.54		

CALIB			
STANDHYD (0121)	Area (ha)= 0.27		
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00	Dir. Conn.(%)= 71.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	2.54	3.250	65.99	4.83	2.54
0.167	0.00	1.750	2.54	3.333	9.31	4.92	2.54
0.250	0.00	1.833	4.23	3.417	9.31	5.00	2.54
0.333	1.69	1.917	4.23	3.500	9.31	5.08	2.54
0.417	1.69	2.000	4.23	3.583	9.31	5.17	2.54
0.500	1.69	2.083	4.23	3.667	9.31	5.25	2.54
0.583	1.69	2.167	4.23	3.750	9.31	5.33	1.69
0.667	1.69	2.250	4.23	3.833	4.23	5.42	1.69
0.750	1.69	2.333	5.08	3.917	4.23	5.50	1.69
0.833	2.54	2.417	5.08	4.000	4.23	5.58	1.69
0.917	2.54	2.500	5.08	4.083	4.23	5.67	1.69
1.000	2.54	2.583	5.08	4.167	4.23	5.75	1.69

```
               1.083    2.54 | 2.667    5.08 | 4.250    4.23 |  5.83    1.69
               1.167    2.54 | 2.750    5.08 | 4.333    3.38 |  5.92    1.69
               1.250    2.54 | 2.833   25.38 | 4.417    3.38 |  6.00    1.69
               1.333    2.54 | 2.917   25.38 | 4.500    3.38 |  6.08    1.69
               1.417    2.54 | 3.000   25.38 | 4.583    3.38 |  6.17    1.69
               1.500    2.54 | 3.083   65.99 | 4.667    3.38 |  6.25    1.69
               1.583    2.54 | 3.167   65.99 | 4.750    3.38 |

     Max.Eff.Inten.(mm/hr)=      65.99         9.07
                 over (min)       5.00        25.00
     Storage Coeff.  (min)=      1.80 (ii)   20.24 (ii)
     Unit Hyd. Tpeak (min)=      5.00        25.00
     Unit Hyd. peak  (cms)=      0.32         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.04         0.00          0.036 (iii)
     TIME TO PEAK    (hrs)=      3.25         3.58          3.25
     RUNOFF VOLUME    (mm)=     41.30         6.51         31.16
     TOTAL RAINFALL   (mm)=     42.30        42.30         42.30
     RUNOFF COEFFICIENT   =      0.98         0.15          0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)    0.270     0.036      3.25      31.16
   OUTFLOW: ID= 1 (  0115)    0.270     0.016      3.33      30.99

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.91
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0034

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):     0.27   0.016     3.33    30.99
      + ID2= 2 (  0117):     1.07   0.021     3.83    34.45
        ==================================================
        ID = 3 (  0110):     1.34   0.036     3.33    33.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0110):     1.34   0.036     3.33    33.76
      + ID2= 2 (  0118):     0.78   0.026     3.42    34.54
        ==================================================
        ID = 1 (  0110):     2.12   0.062     3.33    34.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0110):     2.12   0.062     3.33    34.04
      + ID2= 2 (  0120):     7.28   0.027     6.42    28.64
        ==================================================
        ID = 3 (  0110):     9.40   0.076     3.75    29.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\e779f9a8-72ad-443f-92ed-cb58d770c8fb\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\e779f9a8-72ad-443f-92ed-cb58d770c8fb\scen


DATE: 10-31-2019                          TIME: 10:49:02

USER:


COMMENTS: _____
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  ***********************************************
  ** SIMULATION : 2-5-Year-12-Hour-SCS-Type-II  **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\8c2f7a62
| Ptotal= 64.30 mm |    Comments: 5-Year-12-Hour-SCS-Type-II
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.57	6.75	11.57	10.00	2.25
0.50	1.61	3.75	2.57	7.00	5.14	10.25	2.25
0.75	1.61	4.00	2.57	7.25	5.14	10.50	1.29
1.00	1.61	4.25	2.57	7.50	3.86	10.75	1.29
1.25	1.61	4.50	3.86	7.75	3.86	11.00	1.29
1.50	1.61	4.75	3.86	8.00	3.86	11.25	1.29
1.75	1.61	5.00	5.14	8.25	3.86	11.50	1.29
2.00	1.61	5.25	5.14	8.50	2.25	11.75	1.29
2.25	1.61	5.50	7.72	8.75	2.25	12.00	1.29
2.50	1.93	5.75	7.72	9.00	2.25	12.25	1.29
2.75	1.93	6.00	30.86	9.25	2.25		
3.00	1.93	6.25	84.88	9.50	2.25		
3.25	1.93	6.50	11.57	9.75	2.25		

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--------------------
| CALIB            |
| STANDHYD (  0107)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.93	6.250	84.87	9.33	2.25
0.167	0.00	3.250	1.93	6.333	11.57	9.42	2.25
0.250	0.00	3.333	2.57	6.417	11.57	9.50	2.25
0.333	1.61	3.417	2.57	6.500	11.57	9.58	2.25
0.417	1.61	3.500	2.57	6.583	11.57	9.67	2.25
0.500	1.61	3.583	2.57	6.667	11.57	9.75	2.25
0.583	1.61	3.667	2.57	6.750	11.57	9.83	2.25
0.667	1.61	3.750	2.57	6.833	5.14	9.92	2.25
0.750	1.61	3.833	2.57	6.917	5.14	10.00	2.25
0.833	1.61	3.917	2.57	7.000	5.14	10.08	2.25
0.917	1.61	4.000	2.57	7.083	5.14	10.17	2.25
1.000	1.61	4.083	2.57	7.167	5.14	10.25	2.25
1.083	1.61	4.167	2.57	7.250	5.14	10.33	1.29
1.167	1.61	4.250	2.57	7.333	3.86	10.42	1.29
1.250	1.61	4.333	3.86	7.417	3.86	10.50	1.29
1.333	1.61	4.417	3.86	7.500	3.86	10.58	1.29
1.417	1.61	4.500	3.86	7.583	3.86	10.67	1.29
1.500	1.61	4.583	3.86	7.667	3.86	10.75	1.29
1.583	1.61	4.667	3.86	7.750	3.86	10.83	1.29
1.667	1.61	4.750	3.86	7.833	3.86	10.92	1.29
1.750	1.61	4.833	5.14	7.917	3.86	11.00	1.29
1.833	1.61	4.917	5.14	8.000	3.86	11.08	1.29
1.917	1.61	5.000	5.14	8.083	3.86	11.17	1.29
2.000	1.61	5.083	5.14	8.167	3.86	11.25	1.29
2.083	1.61	5.167	5.14	8.250	3.86	11.33	1.29
2.167	1.61	5.250	5.14	8.333	2.25	11.42	1.29
2.250	1.61	5.333	7.72	8.417	2.25	11.50	1.29
2.333	1.93	5.417	7.72	8.500	2.25	11.58	1.29
2.417	1.93	5.500	7.72	8.583	2.25	11.67	1.29
2.500	1.93	5.583	7.72	8.667	2.25	11.75	1.29
2.583	1.93	5.667	7.72	8.750	2.25	11.83	1.29
2.667	1.93	5.750	7.72	8.833	2.25	11.92	1.29
2.750	1.93	5.833	30.86	8.917	2.25	12.00	1.29
2.833	1.93	5.917	30.86	9.000	2.25	12.08	1.29
2.917	1.93	6.000	30.87	9.083	2.25	12.17	1.29
3.000	1.93	6.083	84.88	9.167	2.25	12.25	1.29
3.083	1.93	6.167	84.88	9.250	2.25		

				TOTALS
Max.Eff.Inten.	(mm/hr)=	84.88	24.53	
	over (min)	5.00	10.00	
Storage Coeff.	(min)=	2.44 (ii)	7.29 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.30	0.14	
PEAK FLOW	(cms)=	0.18	0.01	0.195 (iii)
TIME TO PEAK	(hrs)=	6.25	6.25	6.25
RUNOFF VOLUME	(mm)=	63.30	14.91	51.20
TOTAL RAINFALL	(mm)=	64.30	64.30	64.30
RUNOFF COEFFICIENT	=	0.98	0.23	0.80

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0111)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1120     0.0442

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0107)         1.030     0.195      6.25      51.20
```

```
   OUTFLOW: ID= 1 (  0111)      1.030      0.056      6.33      51.11

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.63
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0221

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\8c2f7a62
| Ptotal= 64.30 mm |    Comments: 5-Year-12-Hour-SCS-Type-II
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.57	6.75	11.57	10.00	2.25
0.50	1.61	3.75	2.57	7.00	5.14	10.25	2.25
0.75	1.61	4.00	2.57	7.25	5.14	10.50	1.29
1.00	1.61	4.25	2.57	7.50	3.86	10.75	1.29
1.25	1.61	4.50	3.86	7.75	3.86	11.00	1.29
1.50	1.61	4.75	3.86	8.00	3.86	11.25	1.29
1.75	1.61	5.00	5.14	8.25	3.86	11.50	1.29
2.00	1.61	5.25	5.14	8.50	2.25	11.75	1.29
2.25	1.61	5.50	7.72	8.75	2.25	12.00	1.29
2.50	1.93	5.75	7.72	9.00	2.25	12.25	1.29
2.75	1.93	6.00	30.86	9.25	2.25		
3.00	1.93	6.25	84.88	9.50	2.25		
3.25	1.93	6.50	11.57	9.75	2.25		

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--------------------
| CALIB            |
| STANDHYD (  0109)|   Area    (ha)=   8.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.08	2.03
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	232.38	40.00
Mannings n	=	0.013	0.250

```
        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.93	6.250	84.87	9.33	2.25
0.167	0.00	3.250	1.93	6.333	11.57	9.42	2.25
0.250	0.00	3.333	2.57	6.417	11.57	9.50	2.25
0.333	1.61	3.417	2.57	6.500	11.57	9.58	2.25
0.417	1.61	3.500	2.57	6.583	11.57	9.67	2.25
0.500	1.61	3.583	2.57	6.667	11.57	9.75	2.25
0.583	1.61	3.667	2.57	6.750	11.57	9.83	2.25
0.667	1.61	3.750	2.57	6.833	5.14	9.92	2.25
0.750	1.61	3.833	2.57	6.917	5.14	10.00	2.25
0.833	1.61	3.917	2.57	7.000	5.14	10.08	2.25
0.917	1.61	4.000	2.57	7.083	5.14	10.17	2.25
1.000	1.61	4.083	2.57	7.167	5.14	10.25	2.25
1.083	1.61	4.167	2.57	7.250	5.14	10.33	1.29
1.167	1.61	4.250	2.57	7.333	3.86	10.42	1.29
1.250	1.61	4.333	3.86	7.417	3.86	10.50	1.29
1.333	1.61	4.417	3.86	7.500	3.86	10.58	1.29
1.417	1.61	4.500	3.86	7.583	3.86	10.67	1.29
1.500	1.61	4.583	3.86	7.667	3.86	10.75	1.29
1.583	1.61	4.667	3.86	7.750	3.86	10.83	1.29
1.667	1.61	4.750	3.86	7.833	3.86	10.92	1.29
1.750	1.61	4.833	5.14	7.917	3.86	11.00	1.29
1.833	1.61	4.917	5.14	8.000	3.86	11.08	1.29
1.917	1.61	5.000	5.14	8.083	3.86	11.17	1.29
2.000	1.61	5.083	5.14	8.167	3.86	11.25	1.29
2.083	1.61	5.167	5.14	8.250	3.86	11.33	1.29
2.167	1.61	5.250	5.14	8.333	2.25	11.42	1.29
2.250	1.61	5.333	7.72	8.417	2.25	11.50	1.29
2.333	1.93	5.417	7.72	8.500	2.25	11.58	1.29
2.417	1.93	5.500	7.72	8.583	2.25	11.67	1.29
2.500	1.93	5.583	7.72	8.667	2.25	11.75	1.29
2.583	1.93	5.667	7.72	8.750	2.25	11.83	1.29
2.667	1.93	5.750	7.72	8.833	2.25	11.92	1.29
2.750	1.93	5.833	30.86	8.917	2.25	12.00	1.29
2.833	1.93	5.917	30.86	9.000	2.25	12.08	1.29
2.917	1.93	6.000	30.87	9.083	2.25	12.17	1.29
3.000	1.93	6.083	84.88	9.167	2.25	12.25	1.29
3.083	1.93	6.167	84.88	9.250	2.25		

				TOTALS
Max.Eff.Inten.(mm/hr)=		84.88	24.53	
over (min)		5.00	10.00	
Storage Coeff. (min)=		4.52 (ii)	9.38 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.23	0.12	
PEAK FLOW	(cms)=	1.40	0.10	1.494 (iii)
TIME TO PEAK	(hrs)=	6.25	6.33	6.25
RUNOFF VOLUME	(mm)=	63.30	14.91	51.20
TOTAL RAINFALL	(mm)=	64.30	64.30	64.30
RUNOFF COEFFICIENT	=	0.98	0.23	0.80

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0116)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                          0.0000     0.0000    |   0.2090      0.3700
                          0.0146     0.2491    |   0.2910      0.4360
                          0.0800     0.2550    |   0.3580      0.4850
                          0.1520     0.3150    |   0.4290      0.5350

                                AREA     QPEAK     TPEAK       R.V.
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	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0109)	8.100	1.494	6.25	51.20
OUTFLOW: ID= 1 (0116)	8.100	0.126	6.92	50.01

PEAK FLOW REDUCTION [Qout/Qin](%)= 8.43
TIME SHIFT OF PEAK FLOW (min)= 40.00
MAXIMUM STORAGE USED (ha.m.)= 0.2934

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\8c2f7a62
Ptotal= 64.30 mm	Comments: 5-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.57	6.75	11.57	10.00	2.25
0.50	1.61	3.75	2.57	7.00	5.14	10.25	2.25
0.75	1.61	4.00	2.57	7.25	5.14	10.50	1.29
1.00	1.61	4.25	2.57	7.50	3.86	10.75	1.29
1.25	1.61	4.50	3.86	7.75	3.86	11.00	1.29
1.50	1.61	4.75	3.86	8.00	3.86	11.25	1.29
1.75	1.61	5.00	5.14	8.25	3.86	11.50	1.29
2.00	1.61	5.25	5.14	8.50	2.25	11.75	1.29
2.25	1.61	5.50	7.72	8.75	2.25	12.00	1.29
2.50	1.93	5.75	7.72	9.00	2.25	12.25	1.29
2.75	1.93	6.00	30.86	9.25	2.25		
3.00	1.93	6.25	84.88	9.50	2.25		
3.25	1.93	6.50	11.57	9.75	2.25		

CALIB	
STANDHYD (0113)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.93	6.250	84.87	9.33	2.25
0.167	0.00	3.250	1.93	6.333	11.57	9.42	2.25
0.250	0.00	3.333	2.57	6.417	11.57	9.50	2.25
0.333	1.61	3.417	2.57	6.500	11.57	9.58	2.25
0.417	1.61	3.500	2.57	6.583	11.57	9.67	2.25
0.500	1.61	3.583	2.57	6.667	11.57	9.75	2.25
0.583	1.61	3.667	2.57	6.750	11.57	9.83	2.25
0.667	1.61	3.750	2.57	6.833	5.14	9.92	2.25
0.750	1.61	3.833	2.57	6.917	5.14	10.00	2.25
0.833	1.61	3.917	2.57	7.000	5.14	10.08	2.25
0.917	1.61	4.000	2.57	7.083	5.14	10.17	2.25
1.000	1.61	4.083	2.57	7.167	5.14	10.25	2.25
1.083	1.61	4.167	2.57	7.250	5.14	10.33	1.29
1.167	1.61	4.250	2.57	7.333	3.86	10.42	1.29
1.250	1.61	4.333	3.86	7.417	3.86	10.50	1.29
1.333	1.61	4.417	3.86	7.500	3.86	10.58	1.29
1.417	1.61	4.500	3.86	7.583	3.86	10.67	1.29
1.500	1.61	4.583	3.86	7.667	3.86	10.75	1.29
1.583	1.61	4.667	3.86	7.750	3.86	10.83	1.29
1.667	1.61	4.750	3.86	7.833	3.86	10.92	1.29
1.750	1.61	4.833	5.14	7.917	3.86	11.00	1.29
1.833	1.61	4.917	5.14	8.000	3.86	11.08	1.29
1.917	1.61	5.000	5.14	8.083	3.86	11.17	1.29
2.000	1.61	5.083	5.14	8.167	3.86	11.25	1.29
2.083	1.61	5.167	5.14	8.250	3.86	11.33	1.29
2.167	1.61	5.250	5.14	8.333	2.25	11.42	1.29
2.250	1.61	5.333	7.72	8.417	2.25	11.50	1.29
2.333	1.93	5.417	7.72	8.500	2.25	11.58	1.29
2.417	1.93	5.500	7.72	8.583	2.25	11.67	1.29
2.500	1.93	5.583	7.72	8.667	2.25	11.75	1.29
2.583	1.93	5.667	7.72	8.750	2.25	11.83	1.29
2.667	1.93	5.750	7.72	8.833	2.25	11.92	1.29
2.750	1.93	5.833	30.86	8.917	2.25	12.00	1.29
2.833	1.93	5.917	30.86	9.000	2.25	12.08	1.29
2.917	1.93	6.000	30.87	9.083	2.25	12.17	1.29
3.000	1.93	6.083	84.88	9.167	2.25	12.25	1.29
3.083	1.93	6.167	84.88	9.250	2.25		

				TOTALS
Max.Eff.Inten.(mm/hr)=		84.88	23.53	
over (min)		5.00	20.00	
Storage Coeff. (min)=		5.48 (ii)	18.07 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.20	0.06	
PEAK FLOW	(cms)=	2.01	0.22	2.158 (iii)
TIME TO PEAK	(hrs)=	6.25	6.42	6.25
RUNOFF VOLUME	(mm)=	63.30	15.67	43.29
TOTAL RAINFALL	(mm)=	64.30	64.30	64.30
RUNOFF COEFFICIENT	=	0.98	0.24	0.67

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0114)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0111):	1.03	0.056	6.33	51.11
	+ ID2= 2 (0113):	15.36	2.158	6.25	43.29
	ID = 3 (0114):	16.39	2.208	6.25	43.78

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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0114)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0114):    16.39   2.208     6.25    43.78
      + ID2= 2 (  0116):     8.10   0.126     6.92    50.01
        ================================================
        ID = 1 (  0114):    24.49   2.222     6.25    45.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR(  0119)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4045     0.7000
                         0.0151     0.0001   |   0.5514     0.8000
                         0.0151     0.1301   |   0.7611     0.9000
                         0.0440     0.4217   |   0.9325     0.9500
                         0.2194     0.6000   |   1.1147     1.0500

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0114)    24.490     2.222      6.25      45.84
   OUTFLOW: ID= 1 (  0119)    24.490     0.193      8.67      45.84

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.70
                  TIME SHIFT OF PEAK FLOW         (min)=145.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5735

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--------------------
| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.19      8.67   45.84
     ================================================
     MAJOR SYS.(ID= 2):  12.80      0.18      8.67   45.84
     MINOR SYS.(ID= 3):  11.69      0.02      5.92   45.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\8c2f7a62
| Ptotal= 64.30 mm |    Comments: 5-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    2.57 |  6.75   11.57 | 10.00    2.25
                0.50    1.61 |  3.75    2.57 |  7.00    5.14 | 10.25    2.25
                0.75    1.61 |  4.00    2.57 |  7.25    5.14 | 10.50    1.29
                1.00    1.61 |  4.25    2.57 |  7.50    3.86 | 10.75    1.29
                1.25    1.61 |  4.50    3.86 |  7.75    3.86 | 11.00    1.29
                1.50    1.61 |  4.75    3.86 |  8.00    3.86 | 11.25    1.29
                1.75    1.61 |  5.00    5.14 |  8.25    3.86 | 11.50    1.29
                2.00    1.61 |  5.25    5.14 |  8.50    2.25 | 11.75    1.29
                2.25    1.61 |  5.50    7.72 |  8.75    2.25 | 12.00    1.29
                2.50    1.93 |  5.75    7.72 |  9.00    2.25 | 12.25    1.29
                2.75    1.93 |  6.00   30.86 |  9.25    2.25 |
                3.00    1.93 |  6.25   84.88 |  9.50    2.25 |
                3.25    1.93 |  6.50   11.57 |  9.75    2.25 |

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| CALIB            |
| STANDHYD (  0108)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         0.58          0.19
     Dep. Storage     (mm)=         1.00          5.00
     Average Slope     (%)=         1.00          2.00
     Length            (m)=        72.11         40.00
     Mannings n           =        0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.083    0.00 | 3.167    1.93 | 6.250   84.87 |  9.33    2.25
0.167    0.00 | 3.250    1.93 | 6.333   11.57 |  9.42    2.25
0.250    0.00 | 3.333    2.57 | 6.417   11.57 |  9.50    2.25
0.333    1.61 | 3.417    2.57 | 6.500   11.57 |  9.58    2.25
0.417    1.61 | 3.500    2.57 | 6.583   11.57 |  9.67    2.25
0.500    1.61 | 3.583    2.57 | 6.667   11.57 |  9.75    2.25
0.583    1.61 | 3.667    2.57 | 6.750   11.57 |  9.83    2.25
0.667    1.61 | 3.750    2.57 | 6.833    5.14 |  9.92    2.25
0.750    1.61 | 3.833    2.57 | 6.917    5.14 | 10.00    2.25
0.833    1.61 | 3.917    2.57 | 7.000    5.14 | 10.08    2.25
0.917    1.61 | 4.000    2.57 | 7.083    5.14 | 10.17    2.25
1.000    1.61 | 4.083    2.57 | 7.167    5.14 | 10.25    2.25
1.083    1.61 | 4.167    2.57 | 7.250    5.14 | 10.33    1.29
1.167    1.61 | 4.250    2.57 | 7.333    3.86 | 10.42    1.29
1.250    1.61 | 4.333    3.86 | 7.417    3.86 | 10.50    1.29
1.333    1.61 | 4.417    3.86 | 7.500    3.86 | 10.58    1.29
1.417    1.61 | 4.500    3.86 | 7.583    3.86 | 10.67    1.29
1.500    1.61 | 4.583    3.86 | 7.667    3.86 | 10.75    1.29
1.583    1.61 | 4.667    3.86 | 7.750    3.86 | 10.83    1.29
1.667    1.61 | 4.750    3.86 | 7.833    3.86 | 10.92    1.29
1.750    1.61 | 4.833    5.14 | 7.917    3.86 | 11.00    1.29
1.833    1.61 | 4.917    5.14 | 8.000    3.86 | 11.08    1.29
1.917    1.61 | 5.000    5.14 | 8.083    3.86 | 11.17    1.29
2.000    1.61 | 5.083    5.14 | 8.167    3.86 | 11.25    1.29
2.083    1.61 | 5.167    5.14 | 8.250    3.86 | 11.33    1.29
2.167    1.61 | 5.250    5.14 | 8.333    2.25 | 11.42    1.29
```

2.250	1.61	5.333	7.72	8.417	2.25	11.50	1.29
2.333	1.93	5.417	7.72	8.500	2.25	11.58	1.29
2.417	1.93	5.500	7.72	8.583	2.25	11.67	1.29
2.500	1.93	5.583	7.72	8.667	2.25	11.75	1.29
2.583	1.93	5.667	7.72	8.750	2.25	11.83	1.29
2.667	1.93	5.750	7.72	8.833	2.25	11.92	1.29
2.750	1.93	5.833	30.86	8.917	2.25	12.00	1.29
2.833	1.93	5.917	30.86	9.000	2.25	12.08	1.29
2.917	1.93	6.000	30.87	9.083	2.25	12.17	1.29
3.000	1.93	6.083	84.88	9.167	2.25	12.25	1.29
3.083	1.93	6.167	84.88	9.250	2.25		

			TOTALS
Max.Eff.Inten.(mm/hr)=	84.88	51.12	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.24 (ii)	7.10 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.30	0.14	
PEAK FLOW (cms)=	0.14	0.02	0.160 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	63.30	30.56	55.11
TOTAL RAINFALL (mm)=	64.30	64.30	64.30
RUNOFF COEFFICIENT =	0.98	0.48	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0118)	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
IN= 2---> OUT= 1				
DT= 5.0 min	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	0.780	0.160	6.25	55.11
OUTFLOW: ID= 1 (0118)	0.780	0.037	6.42	54.95

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.07
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0196

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\8c2f7a62
Ptotal= 64.30 mm	Comments: 5-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.57	6.75	11.57	10.00	2.25
0.50	1.61	3.75	2.57	7.00	5.14	10.25	2.25
0.75	1.61	4.00	2.57	7.25	5.14	10.50	1.29
1.00	1.61	4.25	2.57	7.50	3.86	10.75	1.29
1.25	1.61	4.50	3.86	7.75	3.86	11.00	1.29
1.50	1.61	4.75	3.86	8.00	3.86	11.25	1.29
1.75	1.61	5.00	5.14	8.25	3.86	11.50	1.29
2.00	1.61	5.25	5.14	8.50	2.25	11.75	1.29
2.25	1.61	5.50	7.72	8.75	2.25	12.00	1.29
2.50	1.93	5.75	7.72	9.00	2.25	12.25	1.29
2.75	1.93	6.00	30.86	9.25	2.25		
3.00	1.93	6.25	84.88	9.50	2.25		
3.25	1.93	6.50	11.57	9.75	2.25		

CALIB / STANDHYD (0112) / ID= 1 DT= 5.0 min	Area (ha)= 1.07	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.93	6.250	84.87	9.33	2.25
0.167	0.00	3.250	1.93	6.333	11.57	9.42	2.25
0.250	0.00	3.333	2.57	6.417	11.57	9.50	2.25
0.333	1.61	3.417	2.57	6.500	11.57	9.58	2.25
0.417	1.61	3.500	2.57	6.583	11.57	9.67	2.25
0.500	1.61	3.583	2.57	6.667	11.57	9.75	2.25
0.583	1.61	3.667	2.57	6.750	11.57	9.83	2.25
0.667	1.61	3.750	2.57	6.833	5.14	9.92	2.25
0.750	1.61	3.833	2.57	6.917	5.14	10.00	2.25
0.833	1.61	3.917	2.57	7.000	5.14	10.08	2.25
0.917	1.61	4.000	2.57	7.083	5.14	10.17	2.25
1.000	1.61	4.083	2.57	7.167	5.14	10.25	2.25
1.083	1.61	4.167	2.57	7.250	5.14	10.33	1.29
1.167	1.61	4.250	2.57	7.333	3.86	10.42	1.29
1.250	1.61	4.333	3.86	7.417	3.86	10.50	1.29
1.333	1.61	4.417	3.86	7.500	3.86	10.58	1.29
1.417	1.61	4.500	3.86	7.583	3.86	10.67	1.29
1.500	1.61	4.583	3.86	7.667	3.86	10.75	1.29
1.583	1.61	4.667	3.86	7.750	3.86	10.83	1.29
1.667	1.61	4.750	3.86	7.833	3.86	10.92	1.29
1.750	1.61	4.833	5.14	7.917	3.86	11.00	1.29
1.833	1.61	4.917	5.14	8.000	3.86	11.08	1.29
1.917	1.61	5.000	5.14	8.083	3.86	11.17	1.29
2.000	1.61	5.083	5.14	8.167	3.86	11.25	1.29
2.083	1.61	5.167	5.14	8.250	3.86	11.33	1.29
2.167	1.61	5.250	5.14	8.333	2.25	11.42	1.29
2.250	1.61	5.333	7.72	8.417	2.25	11.50	1.29

2.333	1.93	5.417	7.72	8.500	2.25	11.58	1.29
2.417	1.93	5.500	7.72	8.583	2.25	11.67	1.29
2.500	1.93	5.583	7.72	8.667	2.25	11.75	1.29
2.583	1.93	5.667	7.72	8.750	2.25	11.83	1.29
2.667	1.93	5.750	7.72	8.833	2.25	11.92	1.29
2.750	1.93	5.833	30.86	8.917	2.25	12.00	1.29
2.833	1.93	5.917	30.86	9.000	2.25	12.08	1.29
2.917	1.93	6.000	30.87	9.083	2.25	12.17	1.29
3.000	1.93	6.083	84.88	9.167	2.25	12.25	1.29
3.083	1.93	6.167	84.88	9.250	2.25		

			TOTALS
Max.Eff.Inten.(mm/hr)=	84.88	51.12	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.47 (ii)	7.32 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.30	0.13	
PEAK FLOW (cms)=	0.19	0.03	0.219 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	63.30	30.56	55.11
TOTAL RAINFALL (mm)=	64.30	64.30	64.30
RUNOFF COEFFICIENT =	0.98	0.48	0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0117)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0112)	1.070	0.219	6.25	55.11
OUTFLOW: ID= 1 (0117)	1.070	0.030	6.75	54.86

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.77
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0325

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\8c2f7a62
Ptotal= 64.30 mm	Comments: 5-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	2.57	6.75	11.57	10.00	2.25
0.50	1.61	3.75	2.57	7.00	5.14	10.25	2.25
0.75	1.61	4.00	2.57	7.25	5.14	10.50	1.29
1.00	1.61	4.25	2.57	7.50	3.86	10.75	1.29
1.25	1.61	4.50	3.86	7.75	3.86	11.00	1.29
1.50	1.61	4.75	3.86	8.00	3.86	11.25	1.29
1.75	1.61	5.00	5.14	8.25	3.86	11.50	1.29
2.00	1.61	5.25	5.14	8.50	2.25	11.75	1.29
2.25	1.61	5.50	7.72	8.75	2.25	12.00	1.29
2.50	1.93	5.75	7.72	9.00	2.25	12.25	1.29
2.75	1.93	6.00	30.86	9.25	2.25		
3.00	1.93	6.25	84.88	9.50	2.25		
3.25	1.93	6.50	11.57	9.75	2.25		

CALIB	
STANDHYD (0121)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	1.93	6.250	84.87	9.33	2.25
0.167	0.00	3.250	1.93	6.333	11.57	9.42	2.25
0.250	0.00	3.333	2.57	6.417	11.57	9.50	2.25
0.333	1.61	3.417	2.57	6.500	11.57	9.58	2.25
0.417	1.61	3.500	2.57	6.583	11.57	9.67	2.25
0.500	1.61	3.583	2.57	6.667	11.57	9.75	2.25
0.583	1.61	3.667	2.57	6.750	11.57	9.83	2.25
0.667	1.61	3.750	2.57	6.833	5.14	9.92	2.25
0.750	1.61	3.833	2.57	6.917	5.14	10.00	2.25
0.833	1.61	3.917	2.57	7.000	5.14	10.08	2.25
0.917	1.61	4.000	2.57	7.083	5.14	10.17	2.25
1.000	1.61	4.083	2.57	7.167	5.14	10.25	2.25
1.083	1.61	4.167	2.57	7.250	5.14	10.33	1.29
1.167	1.61	4.250	2.57	7.333	3.86	10.42	1.29
1.250	1.61	4.333	3.86	7.417	3.86	10.50	1.29
1.333	1.61	4.417	3.86	7.500	3.86	10.58	1.29
1.417	1.61	4.500	3.86	7.583	3.86	10.67	1.29
1.500	1.61	4.583	3.86	7.667	3.86	10.75	1.29
1.583	1.61	4.667	3.86	7.750	3.86	10.83	1.29
1.667	1.61	4.750	3.86	7.833	3.86	10.92	1.29
1.750	1.61	4.833	5.14	7.917	3.86	11.00	1.29
1.833	1.61	4.917	5.14	8.000	3.86	11.08	1.29
1.917	1.61	5.000	5.14	8.083	3.86	11.17	1.29
2.000	1.61	5.083	5.14	8.167	3.86	11.25	1.29
2.083	1.61	5.167	5.14	8.250	3.86	11.33	1.29
2.167	1.61	5.250	5.14	8.333	2.25	11.42	1.29
2.250	1.61	5.333	7.72	8.417	2.25	11.50	1.29
2.333	1.93	5.417	7.72	8.500	2.25	11.58	1.29

```
               2.417    1.93 | 5.500    7.72 | 8.583    2.25 | 11.67    1.29
               2.500    1.93 | 5.583    7.72 | 8.667    2.25 | 11.75    1.29
               2.583    1.93 | 5.667    7.72 | 8.750    2.25 | 11.83    1.29
               2.667    1.93 | 5.750    7.72 | 8.833    2.25 | 11.92    1.29
               2.750    1.93 | 5.833   30.86 | 8.917    2.25 | 12.00    1.29
               2.833    1.93 | 5.917   30.86 | 9.000    2.25 | 12.08    1.29
               2.917    1.93 | 6.000   30.87 | 9.083    2.25 | 12.17    1.29
               3.000    1.93 | 6.083   84.88 | 9.167    2.25 | 12.25    1.29
               3.083    1.93 | 6.167   84.88 | 9.250    2.25 |

     Max.Eff.Inten.(mm/hr)=      84.88        22.34
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       1.63 (ii)   14.48 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.32         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.00          0.048 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.33           6.25
     RUNOFF VOLUME    (mm)=      63.30        14.91          49.23
     TOTAL RAINFALL   (mm)=      64.30        64.30          64.30
     RUNOFF COEFFICIENT   =       0.98         0.23           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)      0.270     0.048      6.25      49.23
   OUTFLOW: ID= 1 (  0115)      0.270     0.021      6.33      49.06

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.52
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0044

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):     0.27   0.021     6.33    49.06
      + ID2= 2 (  0117):     1.07   0.030     6.75    54.86
        ================================================
        ID = 3 (  0110):     1.34   0.050     6.33    53.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0110):     1.34   0.050     6.33    53.69
      + ID2= 2 (  0118):     0.78   0.037     6.42    54.95
        ================================================
        ID = 1 (  0110):     2.12   0.086     6.33    54.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0110):     2.12   0.086     6.33    54.16
      + ID2= 2 (  0120):    12.80   0.178     8.67    45.84
        ================================================
        ID = 3 (  0110):    14.92   0.220     8.33    47.02

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\ac3577d9-eccd-48b1-96cf-30d3294788d1\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\ac3577d9-eccd-48b1-96cf-30d3294788d1\scen

DATE: 10-31-2019                          TIME: 10:48:58

USER:
```

COMMENTS: _____

```
  **********************************************
  ** SIMULATION : 2-5-Year-24-Hour-SCS-Type-II  **
  **********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\361a8f55
| Ptotal= 76.00 mm |    Comments: 5-Year-24-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.52	12.75	10.94	19.00	1.37
0.50	0.76	6.75	1.52	13.00	5.62	19.25	1.37
0.75	0.76	7.00	1.52	13.25	5.62	19.50	1.37
1.00	0.76	7.25	1.52	13.50	1.06	19.75	1.37
1.25	0.76	7.50	1.52	13.75	1.06	20.00	1.37
1.50	0.76	7.75	1.52	14.00	6.23	20.25	1.37
1.75	0.76	8.00	1.52	14.25	6.23	20.50	0.91
2.00	0.76	8.25	1.52	14.50	2.28	20.75	0.91
2.25	1.37	8.50	2.05	14.75	2.28	21.00	0.91
2.50	0.99	8.75	2.05	15.00	2.28	21.25	0.91
2.75	0.99	9.00	2.05	15.25	2.28	21.50	0.91
3.00	0.99	9.25	2.05	15.50	2.28	21.75	0.91
3.25	0.99	9.50	2.43	15.75	2.28	22.00	0.91
3.50	0.99	9.75	2.43	16.00	2.28	22.25	0.91
3.75	0.99	10.00	2.74	16.25	2.28	22.50	0.91
4.00	0.99	10.25	2.74	16.50	1.37	22.75	0.91
4.25	0.99	10.50	3.50	16.75	1.37	23.00	0.91
4.50	1.22	10.75	3.50	17.00	1.37	23.25	0.91
4.75	1.22	11.00	4.71	17.25	1.37	23.50	0.91
5.00	1.22	11.25	4.71	17.50	1.37	23.75	0.91
5.25	1.22	11.50	7.30	17.75	1.37	24.00	0.91
5.50	1.22	11.75	7.30	18.00	1.37	24.25	0.91
5.75	1.22	12.00	31.62	18.25	1.37		
6.00	1.22	12.25	83.90	18.50	1.37		
6.25	1.22	12.50	10.94	18.75	1.37		

```
--------------------
| CALIB            |
| STANDHYD (  0107)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.77         0.26
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     82.87        40.00
     Mannings n           =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.22	12.250	83.90	18.33	1.37
0.167	0.00	6.250	1.22	12.333	10.95	18.42	1.37
0.250	0.00	6.333	1.52	12.417	10.94	18.50	1.37
0.333	0.76	6.417	1.52	12.500	10.94	18.58	1.37
0.417	0.76	6.500	1.52	12.583	10.94	18.67	1.37
0.500	0.76	6.583	1.52	12.667	10.94	18.75	1.37
0.583	0.76	6.667	1.52	12.750	10.94	18.83	1.37
0.667	0.76	6.750	1.52	12.833	5.62	18.92	1.37
0.750	0.76	6.833	1.52	12.917	5.62	19.00	1.37
0.833	0.76	6.917	1.52	13.000	5.62	19.08	1.37
0.917	0.76	7.000	1.52	13.083	5.62	19.17	1.37
1.000	0.76	7.083	1.52	13.167	5.62	19.25	1.37
1.083	0.76	7.167	1.52	13.250	5.62	19.33	1.37
1.167	0.76	7.250	1.52	13.333	1.06	19.42	1.37
1.250	0.76	7.333	1.52	13.417	1.06	19.50	1.37
1.333	0.76	7.417	1.52	13.500	1.06	19.58	1.37
1.417	0.76	7.500	1.52	13.583	1.06	19.67	1.37
1.500	0.76	7.583	1.52	13.667	1.06	19.75	1.37
1.583	0.76	7.667	1.52	13.750	1.06	19.83	1.37
1.667	0.76	7.750	1.52	13.833	6.23	19.92	1.37
1.750	0.76	7.833	1.52	13.917	6.23	20.00	1.37
1.833	0.76	7.917	1.52	14.000	6.23	20.08	1.37
1.917	0.76	8.000	1.52	14.083	6.23	20.17	1.37
2.000	0.76	8.083	1.52	14.167	6.23	20.25	1.37
2.083	1.37	8.167	1.52	14.250	6.23	20.33	0.91
2.167	1.37	8.250	1.52	14.333	2.28	20.42	0.91
2.250	1.37	8.333	2.05	14.417	2.28	20.50	0.91
2.333	0.99	8.417	2.05	14.500	2.28	20.58	0.91
2.417	0.99	8.500	2.05	14.583	2.28	20.67	0.91
2.500	0.99	8.583	2.05	14.667	2.28	20.75	0.91
2.583	0.99	8.667	2.05	14.750	2.28	20.83	0.91
2.667	0.99	8.750	2.05	14.833	2.28	20.92	0.91
2.750	0.99	8.833	2.05	14.917	2.28	21.00	0.91
2.833	0.99	8.917	2.05	15.000	2.28	21.08	0.91
2.917	0.99	9.000	2.05	15.083	2.28	21.17	0.91
3.000	0.99	9.083	2.05	15.167	2.28	21.25	0.91
3.083	0.99	9.167	2.05	15.250	2.28	21.33	0.91
3.167	0.99	9.250	2.05	15.333	2.28	21.42	0.91
3.250	0.99	9.333	2.43	15.417	2.28	21.50	0.91
3.333	0.99	9.417	2.43	15.500	2.28	21.58	0.91
3.417	0.99	9.500	2.43	15.583	2.28	21.67	0.91
3.500	0.99	9.583	2.43	15.667	2.28	21.75	0.91
3.583	0.99	9.667	2.43	15.750	2.28	21.83	0.91
3.667	0.99	9.750	2.43	15.833	2.28	21.92	0.91
3.750	0.99	9.833	2.74	15.917	2.28	22.00	0.91
3.833	0.99	9.917	2.74	16.000	2.28	22.08	0.91
3.917	0.99	10.000	2.74	16.083	2.28	22.17	0.91
4.000	0.99	10.083	2.74	16.167	2.28	22.25	0.91
4.083	0.99	10.167	2.74	16.250	2.28	22.33	0.91
4.167	0.99	10.250	2.74	16.333	1.37	22.42	0.91
4.250	0.99	10.333	3.50	16.417	1.37	22.50	0.91
4.333	1.22	10.417	3.50	16.500	1.37	22.58	0.91
4.417	1.22	10.500	3.50	16.583	1.37	22.67	0.91
4.500	1.22	10.583	3.50	16.667	1.37	22.75	0.91
4.583	1.22	10.667	3.50	16.750	1.37	22.83	0.91

4.667	1.22	10.750	3.50	16.833	1.37	22.92	0.91
4.750	1.22	10.833	4.71	16.917	1.37	23.00	0.91
4.833	1.22	10.917	4.71	17.000	1.37	23.08	0.91
4.917	1.22	11.000	4.71	17.083	1.37	23.17	0.91
5.000	1.22	11.083	4.71	17.167	1.37	23.25	0.91
5.083	1.22	11.167	4.71	17.250	1.37	23.33	0.91
5.167	1.22	11.250	4.71	17.333	1.37	23.42	0.91
5.250	1.22	11.333	7.30	17.417	1.37	23.50	0.91
5.333	1.22	11.417	7.30	17.500	1.37	23.58	0.91
5.417	1.22	11.500	7.30	17.583	1.37	23.67	0.91
5.500	1.22	11.583	7.30	17.667	1.37	23.75	0.91
5.583	1.22	11.667	7.30	17.750	1.37	23.83	0.91
5.667	1.22	11.750	7.30	17.833	1.37	23.92	0.91
5.750	1.22	11.833	31.61	17.917	1.37	24.00	0.91
5.833	1.22	11.917	31.62	18.000	1.37	24.08	0.91
5.917	1.22	12.000	31.62	18.083	1.37	24.17	0.91
6.000	1.22	12.083	83.90	18.167	1.37	24.25	0.91
6.083	1.22	12.167	83.90	18.250	1.37		

			TOTALS
Max.Eff.Inten.(mm/hr)=	83.90	27.24	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.45 (ii)	7.33 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.30	0.13	
PEAK FLOW (cms)=	0.18	0.02	0.195 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	75.00	20.37	61.34
TOTAL RAINFALL (mm)=	76.00	76.00	76.00
RUNOFF COEFFICIENT =	0.99	0.27	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0111)					
IN= 2---> OUT= 1					
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000	0.1120	0.0442	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	1.030	0.195	12.25	61.34
OUTFLOW: ID= 1 (0111)	1.030	0.056	12.33	61.25

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.67
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0221

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\361a8f55
Ptotal= 76.00 mm	Comments: 5-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.52	12.75	10.94	19.00	1.37
0.50	0.76	6.75	1.52	13.00	5.62	19.25	1.37
0.75	0.76	7.00	1.52	13.25	5.62	19.50	1.37
1.00	0.76	7.25	1.52	13.50	1.06	19.75	1.37
1.25	0.76	7.50	1.52	13.75	1.06	20.00	1.37
1.50	0.76	7.75	1.52	14.00	6.23	20.25	1.37
1.75	0.76	8.00	1.52	14.25	6.23	20.50	0.91
2.00	0.76	8.25	1.52	14.50	2.28	20.75	0.91
2.25	1.37	8.50	2.05	14.75	2.28	21.00	0.91
2.50	0.99	8.75	2.05	15.00	2.28	21.25	0.91
2.75	0.99	9.00	2.05	15.25	2.28	21.50	0.91
3.00	0.99	9.25	2.05	15.50	2.28	21.75	0.91
3.25	0.99	9.50	2.43	15.75	2.28	22.00	0.91
3.50	0.99	9.75	2.43	16.00	2.28	22.25	0.91
3.75	0.99	10.00	2.74	16.25	2.28	22.50	0.91
4.00	0.99	10.25	2.74	16.50	1.37	22.75	0.91
4.25	0.99	10.50	3.50	16.75	1.37	23.00	0.91
4.50	1.22	10.75	3.50	17.00	1.37	23.25	0.91
4.75	1.22	11.00	4.71	17.25	1.37	23.50	0.91
5.00	1.22	11.25	4.71	17.50	1.37	23.75	0.91
5.25	1.22	11.50	7.30	17.75	1.37	24.00	0.91
5.50	1.22	11.75	7.30	18.00	1.37	24.25	0.91
5.75	1.22	12.00	31.62	18.25	1.37		
6.00	1.22	12.25	83.90	18.50	1.37		
6.25	1.22	12.50	10.94	18.75	1.37		

CALIB	
STANDHYD (0109)	Area (ha)= 8.10
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.08	2.03
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	232.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.22	12.250	83.90	18.33	1.37
0.167	0.00	6.250	1.22	12.333	10.95	18.42	1.37
0.250	0.00	6.333	1.52	12.417	10.94	18.50	1.37
0.333	0.76	6.417	1.52	12.500	10.94	18.58	1.37
0.417	0.76	6.500	1.52	12.583	10.94	18.67	1.37
0.500	0.76	6.583	1.52	12.667	10.94	18.75	1.37
0.583	0.76	6.667	1.52	12.750	10.94	18.83	1.37
0.667	0.76	6.750	1.52	12.833	5.62	18.92	1.37

0.750	0.76	6.833	1.52	12.917	5.62	19.00	1.37
0.833	0.76	6.917	1.52	13.000	5.62	19.08	1.37
0.917	0.76	7.000	1.52	13.083	5.62	19.17	1.37
1.000	0.76	7.083	1.52	13.167	5.62	19.25	1.37
1.083	0.76	7.167	1.52	13.250	5.62	19.33	1.37
1.167	0.76	7.250	1.52	13.333	1.06	19.42	1.37
1.250	0.76	7.333	1.52	13.417	1.06	19.50	1.37
1.333	0.76	7.417	1.52	13.500	1.06	19.58	1.37
1.417	0.76	7.500	1.52	13.583	1.06	19.67	1.37
1.500	0.76	7.583	1.52	13.667	1.06	19.75	1.37
1.583	0.76	7.667	1.52	13.750	1.06	19.83	1.37
1.667	0.76	7.750	1.52	13.833	6.23	19.92	1.37
1.750	0.76	7.833	1.52	13.917	6.23	20.00	1.37
1.833	0.76	7.917	1.52	14.000	6.23	20.08	1.37
1.917	0.76	8.000	1.52	14.083	6.23	20.17	1.37
2.000	0.76	8.083	1.52	14.167	6.23	20.25	1.37
2.083	1.37	8.167	1.52	14.250	6.23	20.33	0.91
2.167	1.37	8.250	1.52	14.333	2.28	20.42	0.91
2.250	1.37	8.333	2.05	14.417	2.28	20.50	0.91
2.333	0.99	8.417	2.05	14.500	2.28	20.58	0.91
2.417	0.99	8.500	2.05	14.583	2.28	20.67	0.91
2.500	0.99	8.583	2.05	14.667	2.28	20.75	0.91
2.583	0.99	8.667	2.05	14.750	2.28	20.83	0.91
2.667	0.99	8.750	2.05	14.833	2.28	20.92	0.91
2.750	0.99	8.833	2.05	14.917	2.28	21.00	0.91
2.833	0.99	8.917	2.05	15.000	2.28	21.08	0.91
2.917	0.99	9.000	2.05	15.083	2.28	21.17	0.91
3.000	0.99	9.083	2.05	15.167	2.28	21.25	0.91
3.083	0.99	9.167	2.05	15.250	2.28	21.33	0.91
3.167	0.99	9.250	2.05	15.333	2.28	21.42	0.91
3.250	0.99	9.333	2.43	15.417	2.28	21.50	0.91
3.333	0.99	9.417	2.43	15.500	2.28	21.58	0.91
3.417	0.99	9.500	2.43	15.583	2.28	21.67	0.91
3.500	0.99	9.583	2.43	15.667	2.28	21.75	0.91
3.583	0.99	9.667	2.43	15.750	2.28	21.83	0.91
3.667	0.99	9.750	2.43	15.833	2.28	21.92	0.91
3.750	0.99	9.833	2.74	15.917	2.28	22.00	0.91
3.833	0.99	9.917	2.74	16.000	2.28	22.08	0.91
3.917	0.99	10.000	2.74	16.083	2.28	22.17	0.91
4.000	0.99	10.083	2.74	16.167	2.28	22.25	0.91
4.083	0.99	10.167	2.74	16.250	2.28	22.33	0.91
4.167	0.99	10.250	2.74	16.333	1.37	22.42	0.91
4.250	0.99	10.333	3.50	16.417	1.37	22.50	0.91
4.333	1.22	10.417	3.50	16.500	1.37	22.58	0.91
4.417	1.22	10.500	3.50	16.583	1.37	22.67	0.91
4.500	1.22	10.583	3.50	16.667	1.37	22.75	0.91
4.583	1.22	10.667	3.50	16.750	1.37	22.83	0.91
4.667	1.22	10.750	3.50	16.833	1.37	22.92	0.91
4.750	1.22	10.833	4.71	16.917	1.37	23.00	0.91
4.833	1.22	10.917	4.71	17.000	1.37	23.08	0.91
4.917	1.22	11.000	4.71	17.083	1.37	23.17	0.91
5.000	1.22	11.083	4.71	17.167	1.37	23.25	0.91
5.083	1.22	11.167	4.71	17.250	1.37	23.33	0.91
5.167	1.22	11.250	4.71	17.333	1.37	23.42	0.91
5.250	1.22	11.333	7.30	17.417	1.37	23.50	0.91
5.333	1.22	11.417	7.30	17.500	1.37	23.58	0.91
5.417	1.22	11.500	7.30	17.583	1.37	23.67	0.91
5.500	1.22	11.583	7.30	17.667	1.37	23.75	0.91
5.583	1.22	11.667	7.30	17.750	1.37	23.83	0.91
5.667	1.22	11.750	7.30	17.833	1.37	23.92	0.91
5.750	1.22	11.833	31.61	17.917	1.37	24.00	0.91
5.833	1.22	11.917	31.62	18.000	1.37	24.08	0.91
5.917	1.22	12.000	31.62	18.083	1.37	24.17	0.91
6.000	1.22	12.083	83.90	18.167	1.37	24.25	0.91
6.083	1.22	12.167	83.90	18.250	1.37		

Max.Eff.Inten.(mm/hr)=	83.90	27.24	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.55 (ii)	9.42 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.23	0.12	
			TOTALS
PEAK FLOW (cms)=	1.38	0.11	1.492 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	75.00	20.37	61.34
TOTAL RAINFALL (mm)=	76.00	76.00	76.00
RUNOFF COEFFICIENT =	0.99	0.27	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0116)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2090	0.3700
	0.0146	0.2491	0.2910	0.4360
	0.0800	0.2550	0.3580	0.4850
	0.1520	0.3150	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	1.492	12.25	61.34
OUTFLOW: ID= 1 (0116)	8.100	0.152	12.83	59.81

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.15
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.3146

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\361a8f55
Ptotal= 76.00 mm	Comments: 5-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.52	12.75	10.94	19.00	1.37
0.50	0.76	6.75	1.52	13.00	5.62	19.25	1.37
0.75	0.76	7.00	1.52	13.25	5.62	19.50	1.37
1.00	0.76	7.25	1.52	13.50	1.06	19.75	1.37

1.25	0.76	7.50	1.52	13.75	1.06	20.00	1.37
1.50	0.76	7.75	1.52	14.00	6.23	20.25	1.37
1.75	0.76	8.00	1.52	14.25	6.23	20.50	0.91
2.00	0.76	8.25	1.52	14.50	2.28	20.75	0.91
2.25	1.37	8.50	2.05	14.75	2.28	21.00	0.91
2.50	0.99	8.75	2.05	15.00	2.28	21.25	0.91
2.75	0.99	9.00	2.05	15.25	2.28	21.50	0.91
3.00	0.99	9.25	2.05	15.50	2.28	21.75	0.91
3.25	0.99	9.50	2.43	15.75	2.28	22.00	0.91
3.50	0.99	9.75	2.43	16.00	2.28	22.25	0.91
3.75	0.99	10.00	2.74	16.25	2.28	22.50	0.91
4.00	0.99	10.25	2.74	16.50	1.37	22.75	0.91
4.25	0.99	10.50	3.50	16.75	1.37	23.00	0.91
4.50	1.22	10.75	3.50	17.00	1.37	23.25	0.91
4.75	1.22	11.00	4.71	17.25	1.37	23.50	0.91
5.00	1.22	11.25	4.71	17.50	1.37	23.75	0.91
5.25	1.22	11.50	7.30	17.75	1.37	24.00	0.91
5.50	1.22	11.75	7.30	18.00	1.37	24.25	0.91
5.75	1.22	12.00	31.62	18.25	1.37		
6.00	1.22	12.25	83.90	18.50	1.37		
6.25	1.22	12.50	10.94	18.75	1.37		

CALIB	
STANDHYD (0113)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.22	12.250	83.90	18.33	1.37
0.167	0.00	6.250	1.22	12.333	10.95	18.42	1.37
0.250	0.00	6.333	1.52	12.417	10.94	18.50	1.37
0.333	0.76	6.417	1.52	12.500	10.94	18.58	1.37
0.417	0.76	6.500	1.52	12.583	10.94	18.67	1.37
0.500	0.76	6.583	1.52	12.667	10.94	18.75	1.37
0.583	0.76	6.667	1.52	12.750	10.94	18.83	1.37
0.667	0.76	6.750	1.52	12.833	5.62	18.92	1.37
0.750	0.76	6.833	1.52	12.917	5.62	19.00	1.37
0.833	0.76	6.917	1.52	13.000	5.62	19.08	1.37
0.917	0.76	7.000	1.52	13.083	5.62	19.17	1.37
1.000	0.76	7.083	1.52	13.167	5.62	19.25	1.37
1.083	0.76	7.167	1.52	13.250	5.62	19.33	1.37
1.167	0.76	7.250	1.52	13.333	1.06	19.42	1.37
1.250	0.76	7.333	1.52	13.417	1.06	19.50	1.37
1.333	0.76	7.417	1.52	13.500	1.06	19.58	1.37
1.417	0.76	7.500	1.52	13.583	1.06	19.67	1.37
1.500	0.76	7.583	1.52	13.667	1.06	19.75	1.37
1.583	0.76	7.667	1.52	13.750	1.06	19.83	1.37
1.667	0.76	7.750	1.52	13.833	6.23	19.92	1.37
1.750	0.76	7.833	1.52	13.917	6.23	20.00	1.37
1.833	0.76	7.917	1.52	14.000	6.23	20.08	1.37
1.917	0.76	8.000	1.52	14.083	6.23	20.17	1.37
2.000	0.76	8.083	1.52	14.167	6.23	20.25	1.37
2.083	1.37	8.167	1.52	14.250	6.23	20.33	0.91
2.167	1.37	8.250	1.52	14.333	2.28	20.42	0.91
2.250	1.37	8.333	2.05	14.417	2.28	20.50	0.91
2.333	0.99	8.417	2.05	14.500	2.28	20.58	0.91
2.417	0.99	8.500	2.05	14.583	2.28	20.67	0.91
2.500	0.99	8.583	2.05	14.667	2.28	20.75	0.91
2.583	0.99	8.667	2.05	14.750	2.28	20.83	0.91
2.667	0.99	8.750	2.05	14.833	2.28	20.92	0.91
2.750	0.99	8.833	2.05	14.917	2.28	21.00	0.91
2.833	0.99	8.917	2.05	15.000	2.28	21.08	0.91
2.917	0.99	9.000	2.05	15.083	2.28	21.17	0.91
3.000	0.99	9.083	2.05	15.167	2.28	21.25	0.91
3.083	0.99	9.167	2.05	15.250	2.28	21.33	0.91
3.167	0.99	9.250	2.05	15.333	2.28	21.42	0.91
3.250	0.99	9.333	2.43	15.417	2.28	21.50	0.91
3.333	0.99	9.417	2.43	15.500	2.28	21.58	0.91
3.417	0.99	9.500	2.43	15.583	2.28	21.67	0.91
3.500	0.99	9.583	2.43	15.667	2.28	21.75	0.91
3.583	0.99	9.667	2.43	15.750	2.28	21.83	0.91
3.667	0.99	9.750	2.43	15.833	2.28	21.92	0.91
3.750	0.99	9.833	2.74	15.917	2.28	22.00	0.91
3.833	0.99	9.917	2.74	16.000	2.28	22.08	0.91
3.917	0.99	10.000	2.74	16.083	2.28	22.17	0.91
4.000	0.99	10.083	2.74	16.167	2.28	22.25	0.91
4.083	0.99	10.167	2.74	16.250	2.28	22.33	0.91
4.167	0.99	10.250	2.74	16.333	1.37	22.42	0.91
4.250	0.99	10.333	3.50	16.417	1.37	22.50	0.91
4.333	1.22	10.417	3.50	16.500	1.37	22.58	0.91
4.417	1.22	10.500	3.50	16.583	1.37	22.67	0.91
4.500	1.22	10.583	3.50	16.667	1.37	22.75	0.91
4.583	1.22	10.667	3.50	16.750	1.37	22.83	0.91
4.667	1.22	10.750	3.50	16.833	1.37	22.92	0.91
4.750	1.22	10.833	4.71	16.917	1.37	23.00	0.91
4.833	1.22	10.917	4.71	17.000	1.37	23.08	0.91
4.917	1.22	11.000	4.71	17.083	1.37	23.17	0.91
5.000	1.22	11.083	4.71	17.167	1.37	23.25	0.91
5.083	1.22	11.167	4.71	17.250	1.37	23.33	0.91
5.167	1.22	11.250	4.71	17.333	1.37	23.42	0.91
5.250	1.22	11.333	7.30	17.417	1.37	23.50	0.91
5.333	1.22	11.417	7.30	17.500	1.37	23.58	0.91
5.417	1.22	11.500	7.30	17.583	1.37	23.67	0.91
5.500	1.22	11.583	7.30	17.667	1.37	23.75	0.91
5.583	1.22	11.667	7.30	17.750	1.37	23.83	0.91
5.667	1.22	11.750	7.30	17.833	1.37	23.92	0.91
5.750	1.22	11.833	31.61	17.917	1.37	24.00	0.91
5.833	1.22	11.917	31.62	18.000	1.37	24.08	0.91
5.917	1.22	12.000	31.62	18.083	1.37	24.17	0.91
6.000	1.22	12.083	83.90	18.167	1.37	24.25	0.91
6.083	1.22	12.167	83.90	18.250	1.37		

Max.Eff.Inten.(mm/hr)=	83.90		26.56
over (min)	5.00		20.00
Storage Coeff. (min)=	5.51	(ii)	17.50 (ii)
Unit Hyd. Tpeak (min)=	5.00		20.00

```
     Unit Hyd. peak  (cms)=       0.20         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.99         0.26          2.168 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.42         12.25
     RUNOFF VOLUME    (mm)=      75.00        21.35         52.47
     TOTAL RAINFALL   (mm)=      76.00        76.00         76.00
     RUNOFF COEFFICIENT   =       0.99         0.28          0.69


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0114)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0111):     1.03    0.056    12.33    61.25
     + ID2= 2 (  0113):    15.36    2.168    12.25    52.47
       ================================================
       ID = 3 (  0114):    16.39    2.218    12.25    53.02

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

```
--------------------
| ADD HYD  (  0114)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0114):    16.39    2.218    12.25    53.02
     + ID2= 2 (  0116):     8.10    0.152    12.83    59.81
       ================================================
       ID = 1 (  0114):    24.49    2.301    12.25    55.26

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

```
--------------------
| RESERVOIR(  0119)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4045     0.7000
                         0.0151     0.0001   |   0.5514     0.8000
                         0.0151     0.1301   |   0.7611     0.9000
                         0.0440     0.4217   |   0.9325     0.9500
                         0.2194     0.6000   |   1.1147     1.0500

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0114)     24.490     2.301     12.25      55.26
   OUTFLOW: ID= 1 (  0119)     24.490     0.227     14.50      55.26

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.87
                  TIME SHIFT OF PEAK FLOW         (min)=135.00

                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6044
```

```
--------------------
| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK     R.V.
--------------------       (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):  24.49      0.23     14.50    55.26
     ================================================
     MAJOR SYS.(ID= 2):  13.82      0.21     14.50    55.26
     MINOR SYS.(ID= 3):  10.67      0.02     11.50    55.26

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

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\361a8f55
| Ptotal= 76.00 mm |    Comments: 5-Year-24-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    1.52 | 12.75   10.94 | 19.00    1.37
                0.50    0.76 |  6.75    1.52 | 13.00    5.62 | 19.25    1.37
                0.75    0.76 |  7.00    1.52 | 13.25    5.62 | 19.50    1.37
                1.00    0.76 |  7.25    1.52 | 13.50    1.06 | 19.75    1.37
                1.25    0.76 |  7.50    1.52 | 13.75    1.06 | 20.00    1.37
                1.50    0.76 |  7.75    1.52 | 14.00    6.23 | 20.25    1.37
                1.75    0.76 |  8.00    1.52 | 14.25    6.23 | 20.50    0.91
                2.00    0.76 |  8.25    1.52 | 14.50    2.28 | 20.75    0.91
                2.25    1.37 |  8.50    2.05 | 14.75    2.28 | 21.00    0.91
                2.50    0.99 |  8.75    2.05 | 15.00    2.28 | 21.25    0.91
                2.75    0.99 |  9.00    2.05 | 15.25    2.28 | 21.50    0.91
                3.00    0.99 |  9.25    2.05 | 15.50    2.28 | 21.75    0.91
                3.25    0.99 |  9.50    2.43 | 15.75    2.28 | 22.00    0.91
                3.50    0.99 |  9.75    2.43 | 16.00    2.28 | 22.25    0.91
                3.75    0.99 | 10.00    2.74 | 16.25    2.28 | 22.50    0.91
                4.00    0.99 | 10.25    2.74 | 16.50    1.37 | 22.75    0.91
                4.25    0.99 | 10.50    3.50 | 16.75    1.37 | 23.00    0.91
                4.50    1.22 | 10.75    3.50 | 17.00    1.37 | 23.25    0.91
                4.75    1.22 | 11.00    4.71 | 17.25    1.37 | 23.50    0.91
                5.00    1.22 | 11.25    4.71 | 17.50    1.37 | 23.75    0.91
                5.25    1.22 | 11.50    7.30 | 17.75    1.37 | 24.00    0.91
                5.50    1.22 | 11.75    7.30 | 18.00    1.37 | 24.25    0.91
                5.75    1.22 | 12.00   31.62 | 18.25    1.37 |
                6.00    1.22 | 12.25   83.90 | 18.50    1.37 |
                6.25    1.22 | 12.50   10.94 | 18.75    1.37 |
```

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--------------------
| CALIB            |
| STANDHYD (  0108)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
```

Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.22	12.250	83.90	18.33	1.37
0.167	0.00	6.250	1.22	12.333	10.95	18.42	1.37
0.250	0.00	6.333	1.52	12.417	10.94	18.50	1.37
0.333	0.76	6.417	1.52	12.500	10.94	18.58	1.37
0.417	0.76	6.500	1.52	12.583	10.94	18.67	1.37
0.500	0.76	6.583	1.52	12.667	10.94	18.75	1.37
0.583	0.76	6.667	1.52	12.750	10.94	18.83	1.37
0.667	0.76	6.750	1.52	12.833	5.62	18.92	1.37
0.750	0.76	6.833	1.52	12.917	5.62	19.00	1.37
0.833	0.76	6.917	1.52	13.000	5.62	19.08	1.37
0.917	0.76	7.000	1.52	13.083	5.62	19.17	1.37
1.000	0.76	7.083	1.52	13.167	5.62	19.25	1.37
1.083	0.76	7.167	1.52	13.250	5.62	19.33	1.37
1.167	0.76	7.250	1.52	13.333	1.06	19.42	1.37
1.250	0.76	7.333	1.52	13.417	1.06	19.50	1.37
1.333	0.76	7.417	1.52	13.500	1.06	19.58	1.37
1.417	0.76	7.500	1.52	13.583	1.06	19.67	1.37
1.500	0.76	7.583	1.52	13.667	1.06	19.75	1.37
1.583	0.76	7.667	1.52	13.750	1.06	19.83	1.37
1.667	0.76	7.750	1.52	13.833	6.23	19.92	1.37
1.750	0.76	7.833	1.52	13.917	6.23	20.00	1.37
1.833	0.76	7.917	1.52	14.000	6.23	20.08	1.37
1.917	0.76	8.000	1.52	14.083	6.23	20.17	1.37
2.000	0.76	8.083	1.52	14.167	6.23	20.25	1.37
2.083	1.37	8.167	1.52	14.250	6.23	20.33	0.91
2.167	1.37	8.250	1.52	14.333	2.28	20.42	0.91
2.250	1.37	8.333	2.05	14.417	2.28	20.50	0.91
2.333	0.99	8.417	2.05	14.500	2.28	20.58	0.91
2.417	0.99	8.500	2.05	14.583	2.28	20.67	0.91
2.500	0.99	8.583	2.05	14.667	2.28	20.75	0.91
2.583	0.99	8.667	2.05	14.750	2.28	20.83	0.91
2.667	0.99	8.750	2.05	14.833	2.28	20.92	0.91
2.750	0.99	8.833	2.05	14.917	2.28	21.00	0.91
2.833	0.99	8.917	2.05	15.000	2.28	21.08	0.91
2.917	0.99	9.000	2.05	15.083	2.28	21.17	0.91
3.000	0.99	9.083	2.05	15.167	2.28	21.25	0.91
3.083	0.99	9.167	2.05	15.250	2.28	21.33	0.91
3.167	0.99	9.250	2.05	15.333	2.28	21.42	0.91
3.250	0.99	9.333	2.43	15.417	2.28	21.50	0.91
3.333	0.99	9.417	2.43	15.500	2.28	21.58	0.91
3.417	0.99	9.500	2.43	15.583	2.28	21.67	0.91
3.500	0.99	9.583	2.43	15.667	2.28	21.75	0.91
3.583	0.99	9.667	2.43	15.750	2.28	21.83	0.91
3.667	0.99	9.750	2.43	15.833	2.28	21.92	0.91
3.750	0.99	9.833	2.74	15.917	2.28	22.00	0.91
3.833	0.99	9.917	2.74	16.000	2.28	22.08	0.91
3.917	0.99	10.000	2.74	16.083	2.28	22.17	0.91
4.000	0.99	10.083	2.74	16.167	2.28	22.25	0.91
4.083	0.99	10.167	2.74	16.250	2.28	22.33	0.91
4.167	0.99	10.250	2.74	16.333	1.37	22.42	0.91
4.250	0.99	10.333	3.50	16.417	1.37	22.50	0.91
4.333	1.22	10.417	3.50	16.500	1.37	22.58	0.91
4.417	1.22	10.500	3.50	16.583	1.37	22.67	0.91
4.500	1.22	10.583	3.50	16.667	1.37	22.75	0.91
4.583	1.22	10.667	3.50	16.750	1.37	22.83	0.91
4.667	1.22	10.750	3.50	16.833	1.37	22.92	0.91
4.750	1.22	10.833	4.71	16.917	1.37	23.00	0.91
4.833	1.22	10.917	4.71	17.000	1.37	23.08	0.91
4.917	1.22	11.000	4.71	17.083	1.37	23.17	0.91
5.000	1.22	11.083	4.71	17.167	1.37	23.25	0.91
5.083	1.22	11.167	4.71	17.250	1.37	23.33	0.91
5.167	1.22	11.250	4.71	17.333	1.37	23.42	0.91
5.250	1.22	11.333	7.30	17.417	1.37	23.50	0.91
5.333	1.22	11.417	7.30	17.500	1.37	23.58	0.91
5.417	1.22	11.500	7.30	17.583	1.37	23.67	0.91
5.500	1.22	11.583	7.30	17.667	1.37	23.75	0.91
5.583	1.22	11.667	7.30	17.750	1.37	23.83	0.91
5.667	1.22	11.750	7.30	17.833	1.37	23.92	0.91
5.750	1.22	11.833	31.61	17.917	1.37	24.00	0.91
5.833	1.22	11.917	31.62	18.000	1.37	24.08	0.91
5.917	1.22	12.000	31.62	18.083	1.37	24.17	0.91
6.000	1.22	12.083	83.90	18.167	1.37	24.25	0.91
6.083	1.22	12.167	83.90	18.250	1.37		

Max.Eff.Inten.(mm/hr)=		83.90	54.32	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.25 (ii)	7.13 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.30	0.14	
				TOTALS
PEAK FLOW	(cms)=	0.14	0.02	0.160 (iii)
TIME TO PEAK	(hrs)=	12.25	12.25	12.25
RUNOFF VOLUME	(mm)=	75.00	39.77	66.19
TOTAL RAINFALL	(mm)=	76.00	76.00	76.00
RUNOFF COEFFICIENT	=	0.99	0.52	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0118)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	0.780	0.160	12.25	66.19
OUTFLOW: ID= 1 (0118)	0.780	0.037	12.42	66.02

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.21

TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0197

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\361a8f55
Ptotal= 76.00 mm	Comments: 5-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.52	12.75	10.94	19.00	1.37
0.50	0.76	6.75	1.52	13.00	5.62	19.25	1.37
0.75	0.76	7.00	1.52	13.25	5.62	19.50	1.37
1.00	0.76	7.25	1.52	13.50	1.06	19.75	1.37
1.25	0.76	7.50	1.52	13.75	1.06	20.00	1.37
1.50	0.76	7.75	1.52	14.00	6.23	20.25	1.37
1.75	0.76	8.00	1.52	14.25	6.23	20.50	0.91
2.00	0.76	8.25	1.52	14.50	2.28	20.75	0.91
2.25	1.37	8.50	2.05	14.75	2.28	21.00	0.91
2.50	0.99	8.75	2.05	15.00	2.28	21.25	0.91
2.75	0.99	9.00	2.05	15.25	2.28	21.50	0.91
3.00	0.99	9.25	2.05	15.50	2.28	21.75	0.91
3.25	0.99	9.50	2.43	15.75	2.28	22.00	0.91
3.50	0.99	9.75	2.43	16.00	2.28	22.25	0.91
3.75	0.99	10.00	2.74	16.25	2.28	22.50	0.91
4.00	0.99	10.25	2.74	16.50	1.37	22.75	0.91
4.25	0.99	10.50	3.50	16.75	1.37	23.00	0.91
4.50	1.22	10.75	3.50	17.00	1.37	23.25	0.91
4.75	1.22	11.00	4.71	17.25	1.37	23.50	0.91
5.00	1.22	11.25	4.71	17.50	1.37	23.75	0.91
5.25	1.22	11.50	7.30	17.75	1.37	24.00	0.91
5.50	1.22	11.75	7.30	18.00	1.37	24.25	0.91
5.75	1.22	12.00	31.62	18.25	1.37		
6.00	1.22	12.25	83.90	18.50	1.37		
6.25	1.22	12.50	10.94	18.75	1.37		

CALIB STANDHYD (0112)	Area (ha)= 1.07
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.22	12.250	83.90	18.33	1.37
0.167	0.00	6.250	1.22	12.333	10.95	18.42	1.37
0.250	0.00	6.333	1.52	12.417	10.94	18.50	1.37
0.333	0.76	6.417	1.52	12.500	10.94	18.58	1.37
0.417	0.76	6.500	1.52	12.583	10.94	18.67	1.37
0.500	0.76	6.583	1.52	12.667	10.94	18.75	1.37
0.583	0.76	6.667	1.52	12.750	10.94	18.83	1.37
0.667	0.76	6.750	1.52	12.833	5.62	18.92	1.37
0.750	0.76	6.833	1.52	12.917	5.62	19.00	1.37
0.833	0.76	6.917	1.52	13.000	5.62	19.08	1.37
0.917	0.76	7.000	1.52	13.083	5.62	19.17	1.37
1.000	0.76	7.083	1.52	13.167	5.62	19.25	1.37
1.083	0.76	7.167	1.52	13.250	5.62	19.33	1.37
1.167	0.76	7.250	1.52	13.333	1.06	19.42	1.37
1.250	0.76	7.333	1.52	13.417	1.06	19.50	1.37
1.333	0.76	7.417	1.52	13.500	1.06	19.58	1.37
1.417	0.76	7.500	1.52	13.583	1.06	19.67	1.37
1.500	0.76	7.583	1.52	13.667	1.06	19.75	1.37
1.583	0.76	7.667	1.52	13.750	1.06	19.83	1.37
1.667	0.76	7.750	1.52	13.833	6.23	19.92	1.37
1.750	0.76	7.833	1.52	13.917	6.23	20.00	1.37
1.833	0.76	7.917	1.52	14.000	6.23	20.08	1.37
1.917	0.76	8.000	1.52	14.083	6.23	20.17	1.37
2.000	0.76	8.083	1.52	14.167	6.23	20.25	1.37
2.083	1.37	8.167	1.52	14.250	6.23	20.33	0.91
2.167	1.37	8.250	1.52	14.333	2.28	20.42	0.91
2.250	1.37	8.333	2.05	14.417	2.28	20.50	0.91
2.333	0.99	8.417	2.05	14.500	2.28	20.58	0.91
2.417	0.99	8.500	2.05	14.583	2.28	20.67	0.91
2.500	0.99	8.583	2.05	14.667	2.28	20.75	0.91
2.583	0.99	8.667	2.05	14.750	2.28	20.83	0.91
2.667	0.99	8.750	2.05	14.833	2.28	20.92	0.91
2.750	0.99	8.833	2.05	14.917	2.28	21.00	0.91
2.833	0.99	8.917	2.05	15.000	2.28	21.08	0.91
2.917	0.99	9.000	2.05	15.083	2.28	21.17	0.91
3.000	0.99	9.083	2.05	15.167	2.28	21.25	0.91
3.083	0.99	9.167	2.05	15.250	2.28	21.33	0.91
3.167	0.99	9.250	2.05	15.333	2.28	21.42	0.91
3.250	0.99	9.333	2.43	15.417	2.28	21.50	0.91
3.333	0.99	9.417	2.43	15.500	2.28	21.58	0.91
3.417	0.99	9.500	2.43	15.583	2.28	21.67	0.91
3.500	0.99	9.583	2.43	15.667	2.28	21.75	0.91
3.583	0.99	9.667	2.43	15.750	2.28	21.83	0.91
3.667	0.99	9.750	2.43	15.833	2.28	21.92	0.91
3.750	0.99	9.833	2.74	15.917	2.28	22.00	0.91
3.833	0.99	9.917	2.74	16.000	2.28	22.08	0.91
3.917	0.99	10.000	2.74	16.083	2.28	22.17	0.91
4.000	0.99	10.083	2.74	16.167	2.28	22.25	0.91
4.083	0.99	10.167	2.74	16.250	2.28	22.33	0.91
4.167	0.99	10.250	2.74	16.333	1.37	22.42	0.91
4.250	0.99	10.333	3.50	16.417	1.37	22.50	0.91
4.333	1.22	10.417	3.50	16.500	1.37	22.58	0.91
4.417	1.22	10.500	3.50	16.583	1.37	22.67	0.91
4.500	1.22	10.583	3.50	16.667	1.37	22.75	0.91
4.583	1.22	10.667	3.50	16.750	1.37	22.83	0.91
4.667	1.22	10.750	3.50	16.833	1.37	22.92	0.91
4.750	1.22	10.833	4.71	16.917	1.37	23.00	0.91
4.833	1.22	10.917	4.71	17.000	1.37	23.08	0.91
4.917	1.22	11.000	4.71	17.083	1.37	23.17	0.91
5.000	1.22	11.083	4.71	17.167	1.37	23.25	0.91
5.083	1.22	11.167	4.71	17.250	1.37	23.33	0.91

5.167	1.22	11.250	4.71	17.333	1.37	23.42	0.91
5.250	1.22	11.333	7.30	17.417	1.37	23.50	0.91
5.333	1.22	11.417	7.30	17.500	1.37	23.58	0.91
5.417	1.22	11.500	7.30	17.583	1.37	23.67	0.91
5.500	1.22	11.583	7.30	17.667	1.37	23.75	0.91
5.583	1.22	11.667	7.30	17.750	1.37	23.83	0.91
5.667	1.22	11.750	7.30	17.833	1.37	23.92	0.91
5.750	1.22	11.833	31.61	17.917	1.37	24.00	0.91
5.833	1.22	11.917	31.62	18.000	1.37	24.08	0.91
5.917	1.22	12.000	31.62	18.083	1.37	24.17	0.91
6.000	1.22	12.083	83.90	18.167	1.37	24.25	0.91
6.083	1.22	12.167	83.90	18.250	1.37		

			TOTALS
Max.Eff.Inten.(mm/hr)=	83.90	54.32	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.48 (ii)	7.36 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.29	0.13	
PEAK FLOW (cms)=	0.19	0.03	0.219 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	75.00	39.77	66.19
TOTAL RAINFALL (mm)=	76.00	76.00	76.00
RUNOFF COEFFICIENT =	0.99	0.52	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0117)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0112)	1.070	0.219	12.25	66.19
OUTFLOW: ID= 1 (0117)	1.070	0.031	12.75	65.94

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.92
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0328

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\361a8f55
Ptotal= 76.00 mm	Comments: 5-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.52	12.75	10.94	19.00	1.37
0.50	0.76	6.75	1.52	13.00	5.62	19.25	1.37
0.75	0.76	7.00	1.52	13.25	5.62	19.50	1.37
1.00	0.76	7.25	1.52	13.50	1.06	19.75	1.37
1.25	0.76	7.50	1.52	13.75	1.06	20.00	1.37
1.50	0.76	7.75	1.52	14.00	6.23	20.25	1.37
1.75	0.76	8.00	1.52	14.25	6.23	20.50	0.91
2.00	0.76	8.25	1.52	14.50	2.28	20.75	0.91
2.25	1.37	8.50	2.05	14.75	2.28	21.00	0.91
2.50	0.99	8.75	2.05	15.00	2.28	21.25	0.91
2.75	0.99	9.00	2.05	15.25	2.28	21.50	0.91
3.00	0.99	9.25	2.05	15.50	2.28	21.75	0.91
3.25	0.99	9.50	2.43	15.75	2.28	22.00	0.91
3.50	0.99	9.75	2.43	16.00	2.28	22.25	0.91
3.75	0.99	10.00	2.74	16.25	2.28	22.50	0.91
4.00	0.99	10.25	2.74	16.50	1.37	22.75	0.91
4.25	0.99	10.50	3.50	16.75	1.37	23.00	0.91
4.50	1.22	10.75	3.50	17.00	1.37	23.25	0.91
4.75	1.22	11.00	4.71	17.25	1.37	23.50	0.91
5.00	1.22	11.25	4.71	17.50	1.37	23.75	0.91
5.25	1.22	11.50	7.30	17.75	1.37	24.00	0.91
5.50	1.22	11.75	7.30	18.00	1.37	24.25	0.91
5.75	1.22	12.00	31.62	18.25	1.37		
6.00	1.22	12.25	83.90	18.50	1.37		
6.25	1.22	12.50	10.94	18.75	1.37		

CALIB			
STANDHYD (0121)	Area (ha)=	0.27	
ID= 1 DT= 5.0 min	Total Imp(%)=	71.00	Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.22	12.250	83.90	18.33	1.37
0.167	0.00	6.250	1.22	12.333	10.95	18.42	1.37
0.250	0.00	6.333	1.52	12.417	10.94	18.50	1.37
0.333	0.76	6.417	1.52	12.500	10.94	18.58	1.37
0.417	0.76	6.500	1.52	12.583	10.94	18.67	1.37
0.500	0.76	6.583	1.52	12.667	10.94	18.75	1.37
0.583	0.76	6.667	1.52	12.750	10.94	18.83	1.37
0.667	0.76	6.750	1.52	12.833	5.62	18.92	1.37
0.750	0.76	6.833	1.52	12.917	5.62	19.00	1.37
0.833	0.76	6.917	1.52	13.000	5.62	19.08	1.37
0.917	0.76	7.000	1.52	13.083	5.62	19.17	1.37
1.000	0.76	7.083	1.52	13.167	5.62	19.25	1.37
1.083	0.76	7.167	1.52	13.250	5.62	19.33	1.37
1.167	0.76	7.250	1.52	13.333	1.06	19.42	1.37

1.250	0.76	7.333	1.52	13.417	1.06	19.50	1.37
1.333	0.76	7.417	1.52	13.500	1.06	19.58	1.37
1.417	0.76	7.500	1.52	13.583	1.06	19.67	1.37
1.500	0.76	7.583	1.52	13.667	1.06	19.75	1.37
1.583	0.76	7.667	1.52	13.750	1.06	19.83	1.37
1.667	0.76	7.750	1.52	13.833	6.23	19.92	1.37
1.750	0.76	7.833	1.52	13.917	6.23	20.00	1.37
1.833	0.76	7.917	1.52	14.000	6.23	20.08	1.37
1.917	0.76	8.000	1.52	14.083	6.23	20.17	1.37
2.000	0.76	8.083	1.52	14.167	6.23	20.25	1.37
2.083	1.37	8.167	1.52	14.250	6.23	20.33	0.91
2.167	1.37	8.250	1.52	14.333	2.28	20.42	0.91
2.250	1.37	8.333	2.05	14.417	2.28	20.50	0.91
2.333	0.99	8.417	2.05	14.500	2.28	20.58	0.91
2.417	0.99	8.500	2.05	14.583	2.28	20.67	0.91
2.500	0.99	8.583	2.05	14.667	2.28	20.75	0.91
2.583	0.99	8.667	2.05	14.750	2.28	20.83	0.91
2.667	0.99	8.750	2.05	14.833	2.28	20.92	0.91
2.750	0.99	8.833	2.05	14.917	2.28	21.00	0.91
2.833	0.99	8.917	2.05	15.000	2.28	21.08	0.91
2.917	0.99	9.000	2.05	15.083	2.28	21.17	0.91
3.000	0.99	9.083	2.05	15.167	2.28	21.25	0.91
3.083	0.99	9.167	2.05	15.250	2.28	21.33	0.91
3.167	0.99	9.250	2.05	15.333	2.28	21.42	0.91
3.250	0.99	9.333	2.43	15.417	2.28	21.50	0.91
3.333	0.99	9.417	2.43	15.500	2.28	21.58	0.91
3.417	0.99	9.500	2.43	15.583	2.28	21.67	0.91
3.500	0.99	9.583	2.43	15.667	2.28	21.75	0.91
3.583	0.99	9.667	2.43	15.750	2.28	21.83	0.91
3.667	0.99	9.750	2.43	15.833	2.28	21.92	0.91
3.750	0.99	9.833	2.74	15.917	2.28	22.00	0.91
3.833	0.99	9.917	2.74	16.000	2.28	22.08	0.91
3.917	0.99	10.000	2.74	16.083	2.28	22.17	0.91
4.000	0.99	10.083	2.74	16.167	2.28	22.25	0.91
4.083	0.99	10.167	2.74	16.250	2.28	22.33	0.91
4.167	0.99	10.250	2.74	16.333	1.37	22.42	0.91
4.250	0.99	10.333	3.50	16.417	1.37	22.50	0.91
4.333	1.22	10.417	3.50	16.500	1.37	22.58	0.91
4.417	1.22	10.500	3.50	16.583	1.37	22.67	0.91
4.500	1.22	10.583	3.50	16.667	1.37	22.75	0.91
4.583	1.22	10.667	3.50	16.750	1.37	22.83	0.91
4.667	1.22	10.750	3.50	16.833	1.37	22.92	0.91
4.750	1.22	10.833	4.71	16.917	1.37	23.00	0.91
4.833	1.22	10.917	4.71	17.000	1.37	23.08	0.91
4.917	1.22	11.000	4.71	17.083	1.37	23.17	0.91
5.000	1.22	11.083	4.71	17.167	1.37	23.25	0.91
5.083	1.22	11.167	4.71	17.250	1.37	23.33	0.91
5.167	1.22	11.250	4.71	17.333	1.37	23.42	0.91
5.250	1.22	11.333	7.30	17.417	1.37	23.50	0.91
5.333	1.22	11.417	7.30	17.500	1.37	23.58	0.91
5.417	1.22	11.500	7.30	17.583	1.37	23.67	0.91
5.500	1.22	11.583	7.30	17.667	1.37	23.75	0.91
5.583	1.22	11.667	7.30	17.750	1.37	23.83	0.91
5.667	1.22	11.750	7.30	17.833	1.37	23.92	0.91
5.750	1.22	11.833	31.61	17.917	1.37	24.00	0.91
5.833	1.22	11.917	31.62	18.000	1.37	24.08	0.91
5.917	1.22	12.000	31.62	18.083	1.37	24.17	0.91
6.000	1.22	12.083	83.90	18.167	1.37	24.25	0.91
6.083	1.22	12.167	83.90	18.250	1.37		

```
     Max.Eff.Inten.(mm/hr)=      83.90        25.27
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       1.64 (ii)   13.87 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.32         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.00          0.048 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.33         12.25
     RUNOFF VOLUME    (mm)=      75.00        20.37         59.13
     TOTAL RAINFALL   (mm)=      76.00        76.00         76.00
     RUNOFF COEFFICIENT   =       0.99         0.27          0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)      0.270     0.048     12.25      59.13
   OUTFLOW: ID= 1 (  0115)      0.270     0.021     12.33      58.97

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.61
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0044

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):     0.27   0.021    12.33    58.97
      + ID2= 2 (  0117):     1.07   0.031    12.75    65.94
        ==================================================
        ID = 3 (  0110):     1.34   0.050    12.33    64.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0110):     1.34   0.050    12.33    64.54
      + ID2= 2 (  0118):     0.78   0.037    12.42    66.02
        ==================================================
        ID = 1 (  0110):     2.12   0.087    12.33    65.08
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)					
1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0110):		2.12	0.087	12.33	65.08
+ ID2= 2 (0120):		13.82	0.212	14.50	55.26
ID = 3 (0110):		15.94	0.255	14.42	56.57

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\ab366e33-f963-41ba-860b-14f972ead30c\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\ab366e33-f963-41ba-860b-14f972ead30c\scen

DATE: 10-31-2019 TIME: 10:48:58

USER:

COMMENTS: _____

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  ************************************************
  ** SIMULATION : 2-5-Year-4-Hour-Chicago-Barri **
  ************************************************
```

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\8c4d0259
Ptotal= 50.52 mm	Comments: New DesignStormManualInput

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.57	1.17	25.64	2.17	8.12	3.17	4.22
0.33	4.07	1.33	108.92	2.33	6.96	3.33	3.93
0.50	4.76	1.50	33.31	2.50	6.12	3.50	3.68
0.67	5.79	1.67	17.99	2.67	5.48	3.67	3.47
0.83	7.53	1.83	12.60	2.83	4.97	3.83	3.28
1.00	11.20	2.00	9.82	3.00	4.56	4.00	3.12

CALIB	
STANDHYD (0107)	Area (ha)= 1.03
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.57	1.083	25.64	2.083	8.12	3.08	4.22
0.167	3.57	1.167	25.64	2.167	8.12	3.17	4.22
0.250	4.07	1.250	108.92	2.250	6.96	3.25	3.93
0.333	4.07	1.333	108.92	2.333	6.96	3.33	3.93
0.417	4.76	1.417	33.31	2.417	6.12	3.42	3.68
0.500	4.76	1.500	33.31	2.500	6.12	3.50	3.68
0.583	5.79	1.583	17.99	2.583	5.48	3.58	3.47
0.667	5.79	1.667	17.99	2.667	5.48	3.67	3.47
0.750	7.53	1.750	12.60	2.750	4.97	3.75	3.28
0.833	7.53	1.833	12.60	2.833	4.97	3.83	3.28
0.917	11.20	1.917	9.82	2.917	4.56	3.92	3.12
1.000	11.20	2.000	9.82	3.000	4.56	4.00	3.12

				TOTALS
Max.Eff.Inten.	(mm/hr)=	108.92	15.70	
over	(min)	5.00	10.00	
Storage Coeff.	(min)=	2.21 (ii)	6.60 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.30	0.14	
PEAK FLOW	(cms)=	0.23	0.01	0.238 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	49.52	9.33	39.47
TOTAL RAINFALL	(mm)=	50.52	50.52	50.52
RUNOFF COEFFICIENT	=	0.98	0.18	0.78

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0111)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.1120     0.0442

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0107)      1.030     0.238      1.33      39.47
   OUTFLOW: ID= 1 (  0111)      1.030     0.050      1.58      39.38

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.18
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0200

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\8c4d0259
| Ptotal= 50.52 mm |    Comments: New DesignStormManualInput
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    3.57 |  1.17   25.64 |  2.17    8.12 |  3.17    4.22
                0.33    4.07 |  1.33  108.92 |  2.33    6.96 |  3.33    3.93
                0.50    4.76 |  1.50   33.31 |  2.50    6.12 |  3.50    3.68
                0.67    5.79 |  1.67   17.99 |  2.67    5.48 |  3.67    3.47
                0.83    7.53 |  1.83   12.60 |  2.83    4.97 |  3.83    3.28
                1.00   11.20 |  2.00    9.82 |  3.00    4.56 |  4.00    3.12

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--------------------
| CALIB            |
| STANDHYD (  0109)|   Area     (ha)=   8.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.08          2.03
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     232.38         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083   3.57 | 1.083   25.64 | 2.083    8.12 |  3.08    4.22
                0.167   3.57 | 1.167   25.64 | 2.167    8.12 |  3.17    4.22
                0.250   4.07 | 1.250  108.92 | 2.250    6.96 |  3.25    3.93
                0.333   4.07 | 1.333  108.92 | 2.333    6.96 |  3.33    3.93
                0.417   4.76 | 1.417   33.31 | 2.417    6.12 |  3.42    3.68
                0.500   4.76 | 1.500   33.31 | 2.500    6.12 |  3.50    3.68
                0.583   5.79 | 1.583   17.99 | 2.583    5.48 |  3.58    3.47
                0.667   5.79 | 1.667   17.99 | 2.667    5.48 |  3.67    3.47
                0.750   7.53 | 1.750   12.60 | 2.750    4.97 |  3.75    3.28
                0.833   7.53 | 1.833   12.60 | 2.833    4.97 |  3.83    3.28
                0.917  11.20 | 1.917    9.82 | 2.917    4.56 |  3.92    3.12
                1.000  11.20 | 2.000    9.82 | 3.000    4.56 |  4.00    3.12

     Max.Eff.Inten.(mm/hr)=     108.92        15.70
               over (min)          5.00        10.00
     Storage Coeff.  (min)=       4.09 (ii)    8.49 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.24         0.12
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.71         0.06        1.759 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42         1.33
     RUNOFF VOLUME    (mm)=      49.52         9.33        39.47
     TOTAL RAINFALL   (mm)=      50.52        50.52        50.52
     RUNOFF COEFFICIENT   =       0.98         0.18         0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0116)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.2090     0.3700
                          0.0146     0.2491   |   0.2910     0.4360
                          0.0800     0.2550   |   0.3580     0.4850
                          0.1520     0.3150   |   0.4290     0.5350

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0109)      8.100     1.759      1.33      39.47
   OUTFLOW: ID= 1 (  0116)      8.100     0.088      2.92      38.46

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.01
                  TIME SHIFT OF PEAK FLOW         (min)= 95.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2618

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
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|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\8c4d0259
| Ptotal= 50.52 mm |    Comments: New DesignStormManualInput
-------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.57	1.17	25.64	2.17	8.12	3.17	4.22
0.33	4.07	1.33	108.92	2.33	6.96	3.33	3.93
0.50	4.76	1.50	33.31	2.50	6.12	3.50	3.68
0.67	5.79	1.67	17.99	2.67	5.48	3.67	3.47
0.83	7.53	1.83	12.60	2.83	4.97	3.83	3.28
1.00	11.20	2.00	9.82	3.00	4.56	4.00	3.12

```
--------------------
| CALIB            |
| STANDHYD (  0113)|   Area     (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91         6.45
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     320.00        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.57	1.083	25.64	2.083	8.12	3.08	4.22
0.167	3.57	1.167	25.64	2.167	8.12	3.17	4.22
0.250	4.07	1.250	108.92	2.250	6.96	3.25	3.93
0.333	4.07	1.333	108.92	2.333	6.96	3.33	3.93
0.417	4.76	1.417	33.31	2.417	6.12	3.42	3.68
0.500	4.76	1.500	33.31	2.500	6.12	3.50	3.68
0.583	5.79	1.583	17.99	2.583	5.48	3.58	3.47
0.667	5.79	1.667	17.99	2.667	5.48	3.67	3.47
0.750	7.53	1.750	12.60	2.750	4.97	3.75	3.28
0.833	7.53	1.833	12.60	2.833	4.97	3.83	3.28
0.917	11.20	1.917	9.82	2.917	4.56	3.92	3.12
1.000	11.20	2.000	9.82	3.000	4.56	4.00	3.12

```
     Max.Eff.Inten.(mm/hr)=     108.92        12.59
                 over (min)        5.00        25.00
     Storage Coeff.  (min)=       4.96 (ii)   21.13 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.22         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.41         0.12       2.442 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.67        1.33
     RUNOFF VOLUME    (mm)=      49.52         9.84       32.85
     TOTAL RAINFALL   (mm)=      50.52        50.52       50.52
     RUNOFF COEFFICIENT   =       0.98         0.19        0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
```

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  60.6    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

--------------------
| ADD HYD  (  0114)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0111):      1.03    0.050     1.58    39.38
     + ID2= 2 (  0113):     15.36    2.442     1.33    32.85
       ================================================
       ID = 3 (  0114):     16.39    2.479     1.33    33.26

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0114)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0114):     16.39    2.479     1.33    33.26
     + ID2= 2 (  0116):      8.10    0.088     2.92    38.46
       ================================================
       ID = 1 (  0114):     24.49    2.486     1.33    34.98

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| RESERVOIR(  0119)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.4045      0.7000
                         0.0151     0.0001    |   0.5514      0.8000
                         0.0151     0.1301    |   0.7611      0.9000
                         0.0440     0.4217    |   0.9325      0.9500
                         0.2194     0.6000    |   1.1147      1.0500

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0114)     24.490     2.486      1.33      34.98
   OUTFLOW: ID= 1 (  0119)     24.490     0.137      4.08      34.98

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.50
                TIME SHIFT OF PEAK FLOW          (min)=165.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5161

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

--------------------
| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
```

```
     TOTAL HYD.(ID= 1):  24.49      0.14      4.08   34.98
     ================================================
     MAJOR SYS.(ID= 2):  10.24      0.12      4.08   34.98
     MINOR SYS.(ID= 3):  14.25      0.02      1.33   34.98

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

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\8c4d0259
| Ptotal= 50.52 mm |    Comments: New DesignStormManualInput
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.57	1.17	25.64	2.17	8.12	3.17	4.22
0.33	4.07	1.33	108.92	2.33	6.96	3.33	3.93
0.50	4.76	1.50	33.31	2.50	6.12	3.50	3.68
0.67	5.79	1.67	17.99	2.67	5.48	3.67	3.47
0.83	7.53	1.83	12.60	2.83	4.97	3.83	3.28
1.00	11.20	2.00	9.82	3.00	4.56	4.00	3.12

```
--------------------
| CALIB            |
| STANDHYD (  0108)|   Area    (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.57	1.083	25.64	2.083	8.12	3.08	4.22
0.167	3.57	1.167	25.64	2.167	8.12	3.17	4.22
0.250	4.07	1.250	108.92	2.250	6.96	3.25	3.93
0.333	4.07	1.333	108.92	2.333	6.96	3.33	3.93
0.417	4.76	1.417	33.31	2.417	6.12	3.42	3.68
0.500	4.76	1.500	33.31	2.500	6.12	3.50	3.68
0.583	5.79	1.583	17.99	2.583	5.48	3.58	3.47
0.667	5.79	1.667	17.99	2.667	5.48	3.67	3.47
0.750	7.53	1.750	12.60	2.750	4.97	3.75	3.28
0.833	7.53	1.833	12.60	2.833	4.97	3.83	3.28
0.917	11.20	1.917	9.82	2.917	4.56	3.92	3.12
1.000	11.20	2.000	9.82	3.000	4.56	4.00	3.12

```
     Max.Eff.Inten.(mm/hr)=     108.92        39.16
                 over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.03 (ii)    6.42 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.18         0.02          0.189 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      49.52        20.46          42.25
     TOTAL RAINFALL   (mm)=      50.52        50.52          50.52
     RUNOFF COEFFICIENT   =       0.98         0.40           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| RESERVOIR(  0118)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000    |  0.0750     0.0396

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0108)    0.780     0.189      1.33      42.25
   OUTFLOW: ID= 1 (  0118)    0.780     0.033      1.67      42.09

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.31
                 TIME SHIFT OF PEAK FLOW         (min)= 20.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.0173
```

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\8c4d0259
| Ptotal= 50.52 mm |    Comments: New DesignStormManualInput
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.57	1.17	25.64	2.17	8.12	3.17	4.22
0.33	4.07	1.33	108.92	2.33	6.96	3.33	3.93
0.50	4.76	1.50	33.31	2.50	6.12	3.50	3.68
0.67	5.79	1.67	17.99	2.67	5.48	3.67	3.47
0.83	7.53	1.83	12.60	2.83	4.97	3.83	3.28
1.00	11.20	2.00	9.82	3.00	4.56	4.00	3.12

```
--------------------
| CALIB            |
| STANDHYD (  0112)|   Area    (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
```

```
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.57	1.083	25.64	2.083	8.12	3.08	4.22
0.167	3.57	1.167	25.64	2.167	8.12	3.17	4.22
0.250	4.07	1.250	108.92	2.250	6.96	3.25	3.93
0.333	4.07	1.333	108.92	2.333	6.96	3.33	3.93
0.417	4.76	1.417	33.31	2.417	6.12	3.42	3.68
0.500	4.76	1.500	33.31	2.500	6.12	3.50	3.68
0.583	5.79	1.583	17.99	2.583	5.48	3.58	3.47
0.667	5.79	1.667	17.99	2.667	5.48	3.67	3.47
0.750	7.53	1.750	12.60	2.750	4.97	3.75	3.28
0.833	7.53	1.833	12.60	2.833	4.97	3.83	3.28
0.917	11.20	1.917	9.82	2.917	4.56	3.92	3.12
1.000	11.20	2.000	9.82	3.000	4.56	4.00	3.12

```
     Max.Eff.Inten.(mm/hr)=     108.92        39.16
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.23 (ii)    6.63 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.14
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.24         0.02          0.258 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      49.52        20.46          42.25
     TOTAL RAINFALL   (mm)=      50.52        50.52          50.52
     RUNOFF COEFFICIENT   =       0.98         0.40           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0117)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0600      0.0645

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0112)   1.070     0.258      1.33      42.25
   OUTFLOW: ID= 1 (  0117)   1.070     0.026      2.00      42.01

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.13
                  TIME SHIFT OF PEAK FLOW         (min)= 40.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0281

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\8c4d0259
| Ptotal= 50.52 mm |    Comments: New DesignStormManualInput
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.57	1.17	25.64	2.17	8.12	3.17	4.22
0.33	4.07	1.33	108.92	2.33	6.96	3.33	3.93
0.50	4.76	1.50	33.31	2.50	6.12	3.50	3.68
0.67	5.79	1.67	17.99	2.67	5.48	3.67	3.47
0.83	7.53	1.83	12.60	2.83	4.97	3.83	3.28
1.00	11.20	2.00	9.82	3.00	4.56	4.00	3.12

```
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0121)|   Area     (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.57	1.083	25.64	2.083	8.12	3.08	4.22
0.167	3.57	1.167	25.64	2.167	8.12	3.17	4.22
0.250	4.07	1.250	108.92	2.250	6.96	3.25	3.93
0.333	4.07	1.333	108.92	2.333	6.96	3.33	3.93
0.417	4.76	1.417	33.31	2.417	6.12	3.42	3.68
0.500	4.76	1.500	33.31	2.500	6.12	3.50	3.68
0.583	5.79	1.583	17.99	2.583	5.48	3.58	3.47
0.667	5.79	1.667	17.99	2.667	5.48	3.67	3.47
0.750	7.53	1.750	12.60	2.750	4.97	3.75	3.28
0.833	7.53	1.833	12.60	2.833	4.97	3.83	3.28
0.917	11.20	1.917	9.82	2.917	4.56	3.92	3.12
1.000	11.20	2.000	9.82	3.000	4.56	4.00	3.12

```
     Max.Eff.Inten.(mm/hr)=     108.92        15.70
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.48 (ii)    6.24 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.15
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.00          0.060 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      49.52         9.33          37.85
```

```
     TOTAL RAINFALL   (mm)=      50.52        50.52          50.52
     RUNOFF COEFFICIENT   =       0.98         0.18           0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)    0.270     0.060      1.33      37.85
   OUTFLOW: ID= 1 (  0115)    0.270     0.020      1.50      37.69

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 32.90
                  TIME SHIFT OF PEAK FLOW          (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0040

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0115):     0.27   0.020     1.50    37.69
     + ID2= 2 (  0117):     1.07   0.026     2.00    42.01
       ================================================
       ID = 3 (  0110):     1.34   0.043     1.58    41.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0110):     1.34   0.043     1.58    41.14
     + ID2= 2 (  0118):     0.78   0.033     1.67    42.09
       ================================================
       ID = 1 (  0110):     2.12   0.076     1.67    41.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0110):     2.12   0.076     1.67    41.49
     + ID2= 2 (  0120):    10.24   0.122     4.08    34.98
       ================================================
       ID = 3 (  0110):    12.36   0.158     4.00    36.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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DATE: 10-31-2019                          TIME: 10:49:01

USER:


COMMENTS: _____

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  ***********************************************
  ** SIMULATION : 2-5-Year-4-Hour-Chicago-MTO   **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 509.121
| Ptotal= 44.15 mm |                          B=   0.000
--------------------                          C=   0.699
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  4.00 hrs
                         Storm time step    = 10.00 min
                         Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.71	1.17	17.57	2.17	7.34	3.17	4.28
0.33	4.15	1.33	101.82	2.33	6.48	3.33	4.03
0.50	4.73	1.50	21.56	2.50	5.83	3.50	3.81
0.67	5.57	1.67	13.59	2.67	5.32	3.67	3.62
0.83	6.91	1.83	10.37	2.83	4.91	3.83	3.45
1.00	9.45	2.00	8.54	3.00	4.57	4.00	3.30

CALIB / STANDHYD (0107) / ID= 1 DT= 5.0 min	Area (ha)= 1.03	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.71	1.083	17.57	2.083	7.34	3.08	4.28
0.167	3.71	1.167	17.57	2.167	7.34	3.17	4.28
0.250	4.15	1.250	101.82	2.250	6.48	3.25	4.03
0.333	4.15	1.333	101.82	2.333	6.48	3.33	4.03
0.417	4.73	1.417	21.56	2.417	5.83	3.42	3.81
0.500	4.73	1.500	21.56	2.500	5.83	3.50	3.81
0.583	5.57	1.583	13.59	2.583	5.32	3.58	3.62
0.667	5.57	1.667	13.59	2.667	5.32	3.67	3.62
0.750	6.91	1.750	10.37	2.750	4.91	3.75	3.45
0.833	6.91	1.833	10.37	2.833	4.91	3.83	3.45
0.917	9.45	1.917	8.54	2.917	4.57	3.92	3.30
1.000	9.45	2.000	8.54	3.000	4.57	4.00	3.30

				TOTALS
Max.Eff.Inten.(mm/hr)=		101.82	12.53	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.27 (ii)	6.78 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.30	0.14	
PEAK FLOW	(cms)=	0.22	0.01	0.221 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	43.15	7.11	34.14
TOTAL RAINFALL	(mm)=	44.15	44.15	44.15
RUNOFF COEFFICIENT	=	0.98	0.16	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0111) / IN= 2---> OUT= 1 / DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)		1.030	0.221	1.33	34.14
OUTFLOW: ID= 1 (0111)		1.030	0.042	1.58	34.05

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.13
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0168

CHICAGO STORM / Ptotal= 44.15 mm	IDF curve parameters: A= 509.121 B= 0.000 C= 0.699

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.71	1.17	17.57	2.17	7.34	3.17	4.28
0.33	4.15	1.33	101.82	2.33	6.48	3.33	4.03
0.50	4.73	1.50	21.56	2.50	5.83	3.50	3.81
0.67	5.57	1.67	13.59	2.67	5.32	3.67	3.62
0.83	6.91	1.83	10.37	2.83	4.91	3.83	3.45
1.00	9.45	2.00	8.54	3.00	4.57	4.00	3.30

CALIB / STANDHYD (0109) / ID= 1 DT= 5.0 min	Area (ha)= 8.10	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.08	2.03
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	232.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr

0.083	3.71	1.083	17.57	2.083	7.34	3.08	4.28
0.167	3.71	1.167	17.57	2.167	7.34	3.17	4.28
0.250	4.15	1.250	101.82	2.250	6.48	3.25	4.03
0.333	4.15	1.333	101.82	2.333	6.48	3.33	4.03
0.417	4.73	1.417	21.56	2.417	5.83	3.42	3.81
0.500	4.73	1.500	21.56	2.500	5.83	3.50	3.81
0.583	5.57	1.583	13.59	2.583	5.32	3.58	3.62
0.667	5.57	1.667	13.59	2.667	5.32	3.67	3.62
0.750	6.91	1.750	10.37	2.750	4.91	3.75	3.45
0.833	6.91	1.833	10.37	2.833	4.91	3.83	3.45
0.917	9.45	1.917	8.54	2.917	4.57	3.92	3.30
1.000	9.45	2.000	8.54	3.000	4.57	4.00	3.30

Max.Eff.Inten.(mm/hr)=	101.82	12.53	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.21 (ii)	8.72 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.24	0.12	
			TOTALS
PEAK FLOW (cms)=	1.59	0.05	1.620 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	43.15	7.11	34.14
TOTAL RAINFALL (mm)=	44.15	44.15	44.15
RUNOFF COEFFICIENT =	0.98	0.16	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0116)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2090	0.3700
	0.0146	0.2491	0.2910	0.4360
	0.0800	0.2550	0.3580	0.4850
	0.1520	0.3150	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	1.620	1.33	34.14
OUTFLOW: ID= 1 (0116)	8.100	0.062	4.00	33.13

PEAK FLOW REDUCTION [Qout/Qin](%)= 3.81
TIME SHIFT OF PEAK FLOW (min)=160.00
MAXIMUM STORAGE USED (ha.m.)= 0.2534

CHICAGO STORM	IDF curve parameters: A= 509.121
Ptotal= 44.15 mm	B= 0.000
	C= 0.699

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.71	1.17	17.57	2.17	7.34	3.17	4.28
0.33	4.15	1.33	101.82	2.33	6.48	3.33	4.03
0.50	4.73	1.50	21.56	2.50	5.83	3.50	3.81
0.67	5.57	1.67	13.59	2.67	5.32	3.67	3.62
0.83	6.91	1.83	10.37	2.83	4.91	3.83	3.45
1.00	9.45	2.00	8.54	3.00	4.57	4.00	3.30

CALIB			
STANDHYD (0113)	Area (ha)= 15.36		
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00	Dir. Conn.(%)= 58.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	8.91	6.45	
Dep. Storage (mm)=	1.00	5.00	
Average Slope (%)=	1.00	2.00	
Length (m)=	320.00	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.71	1.083	17.57	2.083	7.34	3.08	4.28
0.167	3.71	1.167	17.57	2.167	7.34	3.17	4.28
0.250	4.15	1.250	101.82	2.250	6.48	3.25	4.03
0.333	4.15	1.333	101.82	2.333	6.48	3.33	4.03
0.417	4.73	1.417	21.56	2.417	5.83	3.42	3.81
0.500	4.73	1.500	21.56	2.500	5.83	3.50	3.81
0.583	5.57	1.583	13.59	2.583	5.32	3.58	3.62
0.667	5.57	1.667	13.59	2.667	5.32	3.67	3.62
0.750	6.91	1.750	10.37	2.750	4.91	3.75	3.45
0.833	6.91	1.833	10.37	2.833	4.91	3.83	3.45
0.917	9.45	1.917	8.54	2.917	4.57	3.92	3.30
1.000	9.45	2.000	8.54	3.000	4.57	4.00	3.30

Max.Eff.Inten.(mm/hr)=	101.82	9.07	
over (min)	5.00	25.00	
Storage Coeff. (min)=	5.10 (ii)	23.53 (ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00	
Unit Hyd. peak (cms)=	0.21	0.05	
			TOTALS
PEAK FLOW (cms)=	2.22	0.08	2.242 (iii)
TIME TO PEAK (hrs)=	1.33	1.67	1.33
RUNOFF VOLUME (mm)=	43.15	7.50	28.18
TOTAL RAINFALL (mm)=	44.15	44.15	44.15
RUNOFF COEFFICIENT =	0.98	0.17	0.64

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

```
           CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

ADD HYD (0114)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0111):		1.03	0.042	1.58	34.05
+ ID2= 2 (0113):		15.36	2.242	1.33	28.18
ID = 3 (0114):		16.39	2.274	1.33	28.55

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0114)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0114):		16.39	2.274	1.33	28.55
+ ID2= 2 (0116):		8.10	0.062	4.00	33.13
ID = 1 (0114):		24.49	2.280	1.33	30.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0119)					
IN= 2---> OUT= 1					
DT= 5.0 min		OUTFLOW	STORAGE	OUTFLOW	STORAGE
		(cms)	(ha.m.)	(cms)	(ha.m.)
		0.0000	0.0000	0.4045	0.7000
		0.0151	0.0001	0.5514	0.8000
		0.0151	0.1301	0.7611	0.9000
		0.0440	0.4217	0.9325	0.9500
		0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0114)	24.490	2.280	1.33	30.06
OUTFLOW: ID= 1 (0119)	24.490	0.061	4.25	30.06

PEAK FLOW REDUCTION [Qout/Qin](%)= 2.68
TIME SHIFT OF PEAK FLOW (min)=175.00
MAXIMUM STORAGE USED (ha.m.)= 0.4391

DUHYD (0120)
Inlet Cap.= 0.015
#of Inlets= 1
Total(cms)= 0.0

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.49	0.06	4.25	30.06
MAJOR SYS.(ID= 2):	8.09	0.05	4.25	30.06
MINOR SYS.(ID= 3):	16.40	0.02	1.33	30.06

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CHICAGO STORM	
Ptotal= 44.15 mm	

IDF curve parameters: A= 509.121
B= 0.000
C= 0.699
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	3.71	1.17	17.57	2.17	7.34	3.17	4.28
0.33	4.15	1.33	101.82	2.33	6.48	3.33	4.03
0.50	4.73	1.50	21.56	2.50	5.83	3.50	3.81
0.67	5.57	1.67	13.59	2.67	5.32	3.67	3.62
0.83	6.91	1.83	10.37	2.83	4.91	3.83	3.45
1.00	9.45	2.00	8.54	3.00	4.57	4.00	3.30

CALIB	
STANDHYD (0108)	Area (ha)= 0.78
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.71	1.083	17.57	2.083	7.34	3.08	4.28
0.167	3.71	1.167	17.57	2.167	7.34	3.17	4.28
0.250	4.15	1.250	101.82	2.250	6.48	3.25	4.03
0.333	4.15	1.333	101.82	2.333	6.48	3.33	4.03
0.417	4.73	1.417	21.56	2.417	5.83	3.42	3.81
0.500	4.73	1.500	21.56	2.500	5.83	3.50	3.81
0.583	5.57	1.583	13.59	2.583	5.32	3.58	3.62
0.667	5.57	1.667	13.59	2.667	5.32	3.67	3.62
0.750	6.91	1.750	10.37	2.750	4.91	3.75	3.45
0.833	6.91	1.833	10.37	2.833	4.91	3.83	3.45
0.917	9.45	1.917	8.54	2.917	4.57	3.92	3.30
1.000	9.45	2.000	8.54	3.000	4.57	4.00	3.30

Max.Eff.Inten.(mm/hr)= 101.82 32.12

```
              over (min)        5.00        10.00
     Storage Coeff.  (min)=     2.08 (ii)    6.60 (ii)
     Unit Hyd. Tpeak (min)=     5.00        10.00
     Unit Hyd. peak  (cms)=     0.31         0.14
                                                    *TOTALS*
     PEAK FLOW       (cms)=     0.16         0.01      0.175 (iii)
     TIME TO PEAK    (hrs)=     1.33         1.42       1.33
     RUNOFF VOLUME    (mm)=    43.15        16.15      36.40
     TOTAL RAINFALL   (mm)=    44.15        44.15      44.15
     RUNOFF COEFFICIENT   =     0.98         0.37       0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0118)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0750      0.0396

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0108)     0.780     0.175      1.33      36.40
   OUTFLOW: ID= 1 (  0118)     0.780     0.027      1.67      36.23

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.55
                  TIME SHIFT OF PEAK FLOW         (min)= 20.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0143

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 509.121
| Ptotal= 44.15 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    3.71 |  1.17   17.57 |  2.17    7.34 |  3.17    4.28
                0.33    4.15 |  1.33  101.82 |  2.33    6.48 |  3.33    4.03
                0.50    4.73 |  1.50   21.56 |  2.50    5.83 |  3.50    3.81
                0.67    5.57 |  1.67   13.59 |  2.67    5.32 |  3.67    3.62
                0.83    6.91 |  1.83   10.37 |  2.83    4.91 |  3.83    3.45
                1.00    9.45 |  2.00    8.54 |  3.00    4.57 |  4.00    3.30


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0112)|   Area    (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                   IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=           0.80          0.27
     Dep. Storage     (mm)=           1.00          5.00
     Average Slope     (%)=           1.00          2.00
     Length            (m)=          84.46         40.00
     Mannings n             =         0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    3.71 | 1.083   17.57 | 2.083    7.34 |  3.08    4.28
                0.167    3.71 | 1.167   17.57 | 2.167    7.34 |  3.17    4.28
                0.250    4.15 | 1.250  101.82 | 2.250    6.48 |  3.25    4.03
                0.333    4.15 | 1.333  101.82 | 2.333    6.48 |  3.33    4.03
                0.417    4.73 | 1.417   21.56 | 2.417    5.83 |  3.42    3.81
                0.500    4.73 | 1.500   21.56 | 2.500    5.83 |  3.50    3.81
                0.583    5.57 | 1.583   13.59 | 2.583    5.32 |  3.58    3.62
                0.667    5.57 | 1.667   13.59 | 2.667    5.32 |  3.67    3.62
                0.750    6.91 | 1.750   10.37 | 2.750    4.91 |  3.75    3.45
                0.833    6.91 | 1.833   10.37 | 2.833    4.91 |  3.83    3.45
                0.917    9.45 | 1.917    8.54 | 2.917    4.57 |  3.92    3.30
                1.000    9.45 | 2.000    8.54 | 3.000    4.57 |  4.00    3.30

     Max.Eff.Inten.(mm/hr)=     101.82        32.12
               over (min)          5.00        10.00
     Storage Coeff.  (min)=        2.29 (ii)    6.81 (ii)
     Unit Hyd. Tpeak (min)=        5.00        10.00
     Unit Hyd. peak  (cms)=        0.30         0.14
                                                    *TOTALS*
     PEAK FLOW       (cms)=        0.22         0.02      0.238 (iii)
     TIME TO PEAK    (hrs)=        1.33         1.42       1.33
     RUNOFF VOLUME    (mm)=       43.15        16.15      36.40
     TOTAL RAINFALL   (mm)=       44.15        44.15      44.15
     RUNOFF COEFFICIENT   =        0.98         0.37       0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0117)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0600      0.0645

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0112)     1.070     0.238      1.33      36.40
```

```
   OUTFLOW: ID= 1 (  0117)      1.070      0.022      2.08      36.15

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.09
                  TIME SHIFT OF PEAK FLOW          (min)= 45.00
                  MAXIMUM  STORAGE   USED        (ha.m.)=  0.0233

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 509.121
| Ptotal= 44.15 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    3.71 |  1.17   17.57 |  2.17    7.34 |  3.17    4.28
               0.33    4.15 |  1.33  101.82 |  2.33    6.48 |  3.33    4.03
               0.50    4.73 |  1.50   21.56 |  2.50    5.83 |  3.50    3.81
               0.67    5.57 |  1.67   13.59 |  2.67    5.32 |  3.67    3.62
               0.83    6.91 |  1.83   10.37 |  2.83    4.91 |  3.83    3.45
               1.00    9.45 |  2.00    8.54 |  3.00    4.57 |  4.00    3.30

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0121)|   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    3.71 | 1.083   17.57 | 2.083    7.34 |  3.08    4.28
              0.167    3.71 | 1.167   17.57 | 2.167    7.34 |  3.17    4.28
              0.250    4.15 | 1.250  101.82 | 2.250    6.48 |  3.25    4.03
              0.333    4.15 | 1.333  101.82 | 2.333    6.48 |  3.33    4.03
              0.417    4.73 | 1.417   21.56 | 2.417    5.83 |  3.42    3.81
              0.500    4.73 | 1.500   21.56 | 2.500    5.83 |  3.50    3.81
              0.583    5.57 | 1.583   13.59 | 2.583    5.32 |  3.58    3.62
              0.667    5.57 | 1.667   13.59 | 2.667    5.32 |  3.67    3.62
              0.750    6.91 | 1.750   10.37 | 2.750    4.91 |  3.75    3.45
              0.833    6.91 | 1.833   10.37 | 2.833    4.91 |  3.83    3.45
              0.917    9.45 | 1.917    8.54 | 2.917    4.57 |  3.92    3.30
              1.000    9.45 | 2.000    8.54 | 3.000    4.57 |  4.00    3.30

     Max.Eff.Inten.(mm/hr)=     101.82        12.53
                  over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.52 (ii)    6.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.00       0.056 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42        1.33
     RUNOFF VOLUME    (mm)=      43.15         7.11       32.68
     TOTAL RAINFALL   (mm)=      44.15        44.15       44.15
     RUNOFF COEFFICIENT   =       0.98         0.16        0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.0460     0.0093

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)      0.270     0.056      1.33      32.68
   OUTFLOW: ID= 1 (  0115)      0.270     0.017      1.42      32.53

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.79
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED        (ha.m.)=  0.0035

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0115):     0.27   0.017     1.42    32.53
     + ID2= 2 (  0117):     1.07   0.022     2.08    36.15
       ================================================
       ID = 3 (  0110):     1.34   0.036     1.58    35.42

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0110):     1.34   0.036     1.58    35.42
     + ID2= 2 (  0118):     0.78   0.027     1.67    36.23
       ================================================
       ID = 1 (  0110):     2.12   0.063     1.58    35.72
```

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

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0110):     2.12   0.063     1.58    35.72
      + ID2= 2 (  0120):     8.09   0.046     4.25    30.06
        ================================================
        ID = 3 (  0110):    10.21   0.077     1.83    31.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\611e320f-9314-47c7-95d3-00ded9a8bf37\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\611e320f-9314-47c7-95d3-00ded9a8bf37\scen


DATE: 10-31-2019                          TIME: 10:48:52

USER:



COMMENTS: _____________________________________________________________


--------------------------------------------------------------------------------
-----------------------
  ***********************************************
  ** SIMULATION : 2-5-Year-6-Hour-SCS-Type-II   **
  ***********************************************

--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\d811bc74
| Ptotal= 59.50 mm |    Comments: 5-Year-6-Hour-SCS-Type-II
--------------------

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    5.95 |  3.75   13.09 |  5.50    2.38
                0.50    2.38 |  2.25    5.95 |  4.00    5.95 |  5.75    2.38
                0.75    2.38 |  2.50    7.14 |  4.25    5.95 |  6.00    2.38
                1.00    3.57 |  2.75    7.14 |  4.50    4.76 |  6.25    2.38
                1.25    3.57 |  3.00   35.70 |  4.75    4.76 |
                1.50    3.57 |  3.25   92.82 |  5.00    3.57 |
                1.75    3.57 |  3.50   13.09 |  5.25    3.57 |

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--------------------
| CALIB            |
| STANDHYD (  0107)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77          0.26
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      82.87         40.00
     Mannings n             =     0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    3.57 | 3.250   92.82 |  4.83    3.57
               0.167    0.00 | 1.750    3.57 | 3.333   13.09 |  4.92    3.57
               0.250    0.00 | 1.833    5.95 | 3.417   13.09 |  5.00    3.57
               0.333    2.38 | 1.917    5.95 | 3.500   13.09 |  5.08    3.57
               0.417    2.38 | 2.000    5.95 | 3.583   13.09 |  5.17    3.57
               0.500    2.38 | 2.083    5.95 | 3.667   13.09 |  5.25    3.57
               0.583    2.38 | 2.167    5.95 | 3.750   13.09 |  5.33    2.38
               0.667    2.38 | 2.250    5.95 | 3.833    5.95 |  5.42    2.38
               0.750    2.38 | 2.333    7.14 | 3.917    5.95 |  5.50    2.38
               0.833    3.57 | 2.417    7.14 | 4.000    5.95 |  5.58    2.38
               0.917    3.57 | 2.500    7.14 | 4.083    5.95 |  5.67    2.38
               1.000    3.57 | 2.583    7.14 | 4.167    5.95 |  5.75    2.38
               1.083    3.57 | 2.667    7.14 | 4.250    5.95 |  5.83    2.38
               1.167    3.57 | 2.750    7.14 | 4.333    4.76 |  5.92    2.38
               1.250    3.57 | 2.833   35.70 | 4.417    4.76 |  6.00    2.38
               1.333    3.57 | 2.917   35.70 | 4.500    4.76 |  6.08    2.38
               1.417    3.57 | 3.000   35.70 | 4.583    4.76 |  6.17    2.38
               1.500    3.57 | 3.083   92.82 | 4.667    4.76 |  6.25    2.38
               1.583    3.57 | 3.167   92.82 | 4.750    4.76 |

     Max.Eff.Inten.(mm/hr)=      92.82         25.37
               over (min)         5.00         10.00
     Storage Coeff.  (min)=       2.35 (ii)     7.04 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
```

```
     Unit Hyd. peak  (cms)=       0.30         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.20         0.01          0.213 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=      58.50        12.86          47.09
     TOTAL RAINFALL   (mm)=      59.50        59.50          59.50
     RUNOFF COEFFICIENT   =       0.98         0.22           0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0111)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1120     0.0442

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0107)      1.030     0.213      3.25      47.09
   OUTFLOW: ID= 1 (  0111)      1.030     0.061      3.33      47.00

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.45
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0239

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\d811bc74
| Ptotal= 59.50 mm |    Comments: 5-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    5.95 |  3.75   13.09 |  5.50    2.38
                0.50    2.38 |  2.25    5.95 |  4.00    5.95 |  5.75    2.38
                0.75    2.38 |  2.50    7.14 |  4.25    5.95 |  6.00    2.38
                1.00    3.57 |  2.75    7.14 |  4.50    4.76 |  6.25    2.38
                1.25    3.57 |  3.00   35.70 |  4.75    4.76 |
                1.50    3.57 |  3.25   92.82 |  5.00    3.57 |
                1.75    3.57 |  3.50   13.09 |  5.25    3.57 |

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--------------------
| CALIB            |
| STANDHYD (  0109)|   Area     (ha)=   8.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.08         2.03
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     232.38        40.00
     Mannings n            =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    3.57 | 3.250   92.82 |  4.83    3.57
               0.167    0.00 | 1.750    3.57 | 3.333   13.09 |  4.92    3.57
               0.250    0.00 | 1.833    5.95 | 3.417   13.09 |  5.00    3.57
               0.333    2.38 | 1.917    5.95 | 3.500   13.09 |  5.08    3.57
               0.417    2.38 | 2.000    5.95 | 3.583   13.09 |  5.17    3.57
               0.500    2.38 | 2.083    5.95 | 3.667   13.09 |  5.25    3.57
               0.583    2.38 | 2.167    5.95 | 3.750   13.09 |  5.33    2.38
               0.667    2.38 | 2.250    5.95 | 3.833    5.95 |  5.42    2.38
               0.750    2.38 | 2.333    7.14 | 3.917    5.95 |  5.50    2.38
               0.833    3.57 | 2.417    7.14 | 4.000    5.95 |  5.58    2.38
               0.917    3.57 | 2.500    7.14 | 4.083    5.95 |  5.67    2.38
               1.000    3.57 | 2.583    7.14 | 4.167    5.95 |  5.75    2.38
               1.083    3.57 | 2.667    7.14 | 4.250    5.95 |  5.83    2.38
               1.167    3.57 | 2.750    7.14 | 4.333    4.76 |  5.92    2.38
               1.250    3.57 | 2.833   35.70 | 4.417    4.76 |  6.00    2.38
               1.333    3.57 | 2.917   35.70 | 4.500    4.76 |  6.08    2.38
               1.417    3.57 | 3.000   35.70 | 4.583    4.76 |  6.17    2.38
               1.500    3.57 | 3.083   92.82 | 4.667    4.76 |  6.25    2.38
               1.583    3.57 | 3.167   92.82 | 4.750    4.76 |

     Max.Eff.Inten.(mm/hr)=      92.82        25.37
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       4.37 (ii)    9.05 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.23         0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.53         0.10          1.632 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.33           3.25
     RUNOFF VOLUME    (mm)=      58.50        12.86          47.09
     TOTAL RAINFALL   (mm)=      59.50        59.50          59.50
     RUNOFF COEFFICIENT   =       0.98         0.22           0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0116)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2090     0.3700
                         0.0146     0.2491   |   0.2910     0.4360
                         0.0800     0.2550   |   0.3580     0.4850
```

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                        0.1520     0.3150   |   0.4290      0.5350

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0109)      8.100     1.632      3.25      47.09
   OUTFLOW: ID= 1 (  0116)      8.100     0.125      4.00      46.03

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.67
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2927

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\d811bc74
| Ptotal= 59.50 mm |    Comments: 5-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs  mm/hr |   hrs  mm/hr |'   hrs  mm/hr |   hrs  mm/hr
                0.25    0.00 |  2.00    5.95 |  3.75   13.09 |  5.50    2.38
                0.50    2.38 |  2.25    5.95 |  4.00    5.95 |  5.75    2.38
                0.75    2.38 |  2.50    7.14 |  4.25    5.95 |  6.00    2.38
                1.00    3.57 |  2.75    7.14 |  4.50    4.76 |  6.25    2.38
                1.25    3.57 |  3.00   35.70 |  4.75    4.76 |
                1.50    3.57 |  3.25   92.82 |  5.00    3.57 |
                1.75    3.57 |  3.50   13.09 |  5.25    3.57 |

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--------------------
| CALIB            |
| STANDHYD (  0113)|   Area     (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91          6.45
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     320.00         40.00
     Mannings n            =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs  mm/hr |   hrs  mm/hr |'   hrs  mm/hr |   hrs  mm/hr
               0.083    0.00 | 1.667    3.57 | 3.250   92.82 |  4.83    3.57
               0.167    0.00 | 1.750    3.57 | 3.333   13.09 |  4.92    3.57
               0.250    0.00 | 1.833    5.95 | 3.417   13.09 |  5.00    3.57
               0.333    2.38 | 1.917    5.95 | 3.500   13.09 |  5.08    3.57
               0.417    2.38 | 2.000    5.95 | 3.583   13.09 |  5.17    3.57
               0.500    2.38 | 2.083    5.95 | 3.667   13.09 |  5.25    3.57
               0.583    2.38 | 2.167    5.95 | 3.750   13.09 |  5.33    2.38
               0.667    2.38 | 2.250    5.95 | 3.833    5.95 |  5.42    2.38
               0.750    2.38 | 2.333    7.14 | 3.917    5.95 |  5.50    2.38
               0.833    3.57 | 2.417    7.14 | 4.000    5.95 |  5.58    2.38
               0.917    3.57 | 2.500    7.14 | 4.083    5.95 |  5.67    2.38
               1.000    3.57 | 2.583    7.14 | 4.167    5.95 |  5.75    2.38
               1.083    3.57 | 2.667    7.14 | 4.250    5.95 |  5.83    2.38
               1.167    3.57 | 2.750    7.14 | 4.333    4.76 |  5.92    2.38
               1.250    3.57 | 2.833   35.70 | 4.417    4.76 |  6.00    2.38
               1.333    3.57 | 2.917   35.70 | 4.500    4.76 |  6.08    2.38
               1.417    3.57 | 3.000   35.70 | 4.583    4.76 |  6.17    2.38
               1.500    3.57 | 3.083   92.82 | 4.667    4.76 |  6.25    2.38
               1.583    3.57 | 3.167   92.82 | 4.750    4.76 |

     Max.Eff.Inten.(mm/hr)=      92.82        23.88
                over (min)        5.00        20.00
     Storage Coeff.  (min)=       5.29 (ii)   17.80 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.21         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.21         0.22          2.353 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.50           3.25
     RUNOFF VOLUME    (mm)=      58.50        13.52          39.61
     TOTAL RAINFALL   (mm)=      59.50        59.50          59.50
     RUNOFF COEFFICIENT   =       0.98         0.23           0.67


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0114)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0111):     1.03   0.061     3.33    47.00
      + ID2= 2 (  0113):    15.36   2.353     3.25    39.61
        ==================================================
        ID = 3 (  0114):    16.39   2.407     3.25    40.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0114)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0114):    16.39   2.407     3.25    40.07
      + ID2= 2 (  0116):     8.10   0.125     4.00    46.03
        ==================================================
        ID = 1 (  0114):    24.49   2.420     3.25    42.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR(  0119)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
```

```
                        0.0000     0.0000   |   0.4045      0.7000
                        0.0151     0.0001   |   0.5514      0.8000
                        0.0151     0.1301   |   0.7611      0.9000
                        0.0440     0.4217   |   0.9325      0.9500
                        0.2194     0.6000   |   1.1147      1.0500

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0114)     24.490      2.420      3.25      42.04
   OUTFLOW: ID= 1 (  0119)     24.490      0.201      5.58      42.04

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.31
                  TIME SHIFT OF PEAK FLOW          (min)=140.00
                  MAXIMUM  STORAGE   USED        (ha.m.)=  0.5815

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--------------------
| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.20      5.58   42.04
     ================================================
     MAJOR SYS.(ID= 2):  12.35      0.19      5.58   42.04
     MINOR SYS.(ID= 3):  12.14      0.02      3.00   42.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\d811bc74
| Ptotal= 59.50 mm |    Comments: 5-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    5.95 |  3.75   13.09 |  5.50    2.38
                0.50    2.38 |  2.25    5.95 |  4.00    5.95 |  5.75    2.38
                0.75    2.38 |  2.50    7.14 |  4.25    5.95 |  6.00    2.38
                1.00    3.57 |  2.75    7.14 |  4.50    4.76 |  6.25    2.38
                1.25    3.57 |  3.00   35.70 |  4.75    4.76 |
                1.50    3.57 |  3.25   92.82 |  5.00    3.57 |
                1.75    3.57 |  3.50   13.09 |  5.25    3.57 |

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--------------------
| CALIB            |
| STANDHYD (  0108)|   Area    (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n           =      0.013        0.250
```

```
     NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    3.57 | 3.250   92.82 |  4.83    3.57
               0.167    0.00 | 1.750    3.57 | 3.333   13.09 |  4.92    3.57
               0.250    0.00 | 1.833    5.95 | 3.417   13.09 |  5.00    3.57
               0.333    2.38 | 1.917    5.95 | 3.500   13.09 |  5.08    3.57
               0.417    2.38 | 2.000    5.95 | 3.583   13.09 |  5.17    3.57
               0.500    2.38 | 2.083    5.95 | 3.667   13.09 |  5.25    3.57
               0.583    2.38 | 2.167    5.95 | 3.750   13.09 |  5.33    2.38
               0.667    2.38 | 2.250    5.95 | 3.833    5.95 |  5.42    2.38
               0.750    2.38 | 2.333    7.14 | 3.917    5.95 |  5.50    2.38
               0.833    3.57 | 2.417    7.14 | 4.000    5.95 |  5.58    2.38
               0.917    3.57 | 2.500    7.14 | 4.083    5.95 |  5.67    2.38
               1.000    3.57 | 2.583    7.14 | 4.167    5.95 |  5.75    2.38
               1.083    3.57 | 2.667    7.14 | 4.250    5.95 |  5.83    2.38
               1.167    3.57 | 2.750    7.14 | 4.333    4.76 |  5.92    2.38
               1.250    3.57 | 2.833   35.70 | 4.417    4.76 |  6.00    2.38
               1.333    3.57 | 2.917   35.70 | 4.500    4.76 |  6.08    2.38
               1.417    3.57 | 3.000   35.70 | 4.583    4.76 |  6.17    2.38
               1.500    3.57 | 3.083   92.82 | 4.667    4.76 |  6.25    2.38
               1.583    3.57 | 3.167   92.82 | 4.750    4.76 |

     Max.Eff.Inten.(mm/hr)=      92.82        53.90
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.16 (ii)    6.85 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.31         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.15         0.02        0.174 (iii)
     TIME TO PEAK    (hrs)=      3.25         3.25         3.25
     RUNOFF VOLUME    (mm)=     58.50        26.94        50.60
     TOTAL RAINFALL   (mm)=     59.50        59.50        59.50
     RUNOFF COEFFICIENT   =      0.98         0.45         0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0118)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   0.0750      0.0396

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0108)      0.780     0.174      3.25      50.60
   OUTFLOW: ID= 1 (  0118)      0.780     0.039      3.42      50.44
```

```
                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.68
                  TIME SHIFT OF PEAK FLOW         (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0209

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\d811bc74
| Ptotal= 59.50 mm |    Comments: 5-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    5.95 |  3.75   13.09 |  5.50    2.38
                0.50    2.38 |  2.25    5.95 |  4.00    5.95 |  5.75    2.38
                0.75    2.38 |  2.50    7.14 |  4.25    5.95 |  6.00    2.38
                1.00    3.57 |  2.75    7.14 |  4.50    4.76 |  6.25    2.38
                1.25    3.57 |  3.00   35.70 |  4.75    4.76 |
                1.50    3.57 |  3.25   92.82 |  5.00    3.57 |
                1.75    3.57 |  3.50   13.09 |  5.25    3.57 |

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--------------------
| CALIB            |
| STANDHYD (  0112)|   Area    (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    3.57 | 3.250   92.82 |  4.83    3.57
               0.167    0.00 | 1.750    3.57 | 3.333   13.09 |  4.92    3.57
               0.250    0.00 | 1.833    5.95 | 3.417   13.09 |  5.00    3.57
               0.333    2.38 | 1.917    5.95 | 3.500   13.09 |  5.08    3.57
               0.417    2.38 | 2.000    5.95 | 3.583   13.09 |  5.17    3.57
               0.500    2.38 | 2.083    5.95 | 3.667   13.09 |  5.25    3.57
               0.583    2.38 | 2.167    5.95 | 3.750   13.09 |  5.33    2.38
               0.667    2.38 | 2.250    5.95 | 3.833    5.95 |  5.42    2.38
               0.750    2.38 | 2.333    7.14 | 3.917    5.95 |  5.50    2.38
               0.833    3.57 | 2.417    7.14 | 4.000    5.95 |  5.58    2.38
               0.917    3.57 | 2.500    7.14 | 4.083    5.95 |  5.67    2.38
               1.000    3.57 | 2.583    7.14 | 4.167    5.95 |  5.75    2.38
               1.083    3.57 | 2.667    7.14 | 4.250    5.95 |  5.83    2.38
               1.167    3.57 | 2.750    7.14 | 4.333    4.76 |  5.92    2.38
               1.250    3.57 | 2.833   35.70 | 4.417    4.76 |  6.00    2.38
               1.333    3.57 | 2.917   35.70 | 4.500    4.76 |  6.08    2.38
               1.417    3.57 | 3.000   35.70 | 4.583    4.76 |  6.17    2.38
               1.500    3.57 | 3.083   92.82 | 4.667    4.76 |  6.25    2.38
               1.583    3.57 | 3.167   92.82 | 4.750    4.76 |

     Max.Eff.Inten.(mm/hr)=      92.82        53.90
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.38 (ii)    7.06 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.30         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=      0.21         0.03          0.238 (iii)
     TIME TO PEAK    (hrs)=      3.25         3.25          3.25
     RUNOFF VOLUME    (mm)=     58.50        26.94         50.61
     TOTAL RAINFALL   (mm)=     59.50        59.50         59.50
     RUNOFF COEFFICIENT   =      0.98         0.45          0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0117)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                          0.0000     0.0000    |   0.0600     0.0645

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0112)      1.070     0.238      3.25      50.61
   OUTFLOW: ID= 1 (  0117)      1.070     0.032      3.75      50.35

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.29
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0341

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\d811bc74
| Ptotal= 59.50 mm |    Comments: 5-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    5.95 |  3.75   13.09 |  5.50    2.38
                0.50    2.38 |  2.25    5.95 |  4.00    5.95 |  5.75    2.38
                0.75    2.38 |  2.50    7.14 |  4.25    5.95 |  6.00    2.38
                1.00    3.57 |  2.75    7.14 |  4.50    4.76 |  6.25    2.38
                1.25    3.57 |  3.00   35.70 |  4.75    4.76 |
                1.50    3.57 |  3.25   92.82 |  5.00    3.57 |
                1.75    3.57 |  3.50   13.09 |  5.25    3.57 |

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| CALIB            |
| STANDHYD (  0121)|   Area     (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	3.57	3.250	92.82	4.83	3.57
0.167	0.00	1.750	3.57	3.333	13.09	4.92	3.57
0.250	0.00	1.833	5.95	3.417	13.09	5.00	3.57
0.333	2.38	1.917	5.95	3.500	13.09	5.08	3.57
0.417	2.38	2.000	5.95	3.583	13.09	5.17	3.57
0.500	2.38	2.083	5.95	3.667	13.09	5.25	3.57
0.583	2.38	2.167	5.95	3.750	13.09	5.33	2.38
0.667	2.38	2.250	5.95	3.833	5.95	5.42	2.38
0.750	2.38	2.333	7.14	3.917	5.95	5.50	2.38
0.833	3.57	2.417	7.14	4.000	5.95	5.58	2.38
0.917	3.57	2.500	7.14	4.083	5.95	5.67	2.38
1.000	3.57	2.583	7.14	4.167	5.95	5.75	2.38
1.083	3.57	2.667	7.14	4.250	5.95	5.83	2.38
1.167	3.57	2.750	7.14	4.333	4.76	5.92	2.38
1.250	3.57	2.833	35.70	4.417	4.76	6.00	2.38
1.333	3.57	2.917	35.70	4.500	4.76	6.08	2.38
1.417	3.57	3.000	35.70	4.583	4.76	6.17	2.38
1.500	3.57	3.083	92.82	4.667	4.76	6.25	2.38
1.583	3.57	3.167	92.82	4.750	4.76		

```
     Max.Eff.Inten.(mm/hr)=      92.82        22.65
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       1.57 (ii)   14.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.33         0.08
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.00      0.052 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.42       3.25
     RUNOFF VOLUME    (mm)=      58.50        12.86      45.23
     TOTAL RAINFALL   (mm)=      59.50        59.50      59.50
     RUNOFF COEFFICIENT   =       0.98         0.22       0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0460      0.0093

                                   AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)      0.270      0.052      3.25       45.23
   OUTFLOW: ID= 1 (  0115)      0.270      0.023      3.33       45.08

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.63
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0048

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):     0.27   0.023     3.33    45.08
      + ID2= 2 (  0117):     1.07   0.032     3.75    50.35
        ================================================
        ID = 3 (  0110):     1.34   0.053     3.33    49.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0110):     1.34   0.053     3.33    49.29
      + ID2= 2 (  0118):     0.78   0.039     3.42    50.44
        ================================================
        ID = 1 (  0110):     2.12   0.092     3.33    49.71

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0110):     2.12   0.092     3.33    49.71
      + ID2= 2 (  0120):    12.35   0.186     5.58    42.04
        ================================================
        ID = 3 (  0110):    14.47   0.232     5.25    43.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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================================================================================
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       V    V   I    SSSSS  U   U    A    L
       V    V   I    SS     U   U   A A   L
        V  V    I     SS    U   U  AAAAA  L
```

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\4f480027-edb3-4c61-a7f6-aac180b6012a\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\4f480027-edb3-4c61-a7f6-aac180b6012a\scen


DATE: 10-31-2019                          TIME: 10:48:51

USER:



COMMENTS: _____________________________________________________________


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  ***********************************************
  ** SIMULATION : 3-10-Year-12-Hour-SCS-Type-II **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\6041a8cc
| Ptotal= 76.00 mm |    Comments: 10-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    3.04 |  6.75   13.68 | 10.00    2.66
                0.50    1.90 |  3.75    3.04 |  7.00    6.08 | 10.25    2.66
                0.75    1.90 |  4.00    3.04 |  7.25    6.08 | 10.50    1.52
                1.00    1.90 |  4.25    3.04 |  7.50    4.56 | 10.75    1.52
                1.25    1.90 |  4.50    4.56 |  7.75    4.56 | 11.00    1.52
                1.50    1.90 |  4.75    4.56 |  8.00    4.56 | 11.25    1.52
                1.75    1.90 |  5.00    6.08 |  8.25    4.56 | 11.50    1.52
                2.00    1.90 |  5.25    6.08 |  8.50    2.66 | 11.75    1.52
                2.25    1.90 |  5.50    9.12 |  8.75    2.66 | 12.00    1.52
                2.50    2.28 |  5.75    9.12 |  9.00    2.66 | 12.25    1.52
                2.75    2.28 |  6.00   36.48 |  9.25    2.66 |
                3.00    2.28 |  6.25  100.32 |  9.50    2.66 |
                3.25    2.28 |  6.50   13.68 |  9.75    2.66 |

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

--------------------
| CALIB            |
| STANDHYD (  0107)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.77          0.26
     Dep. Storage     (mm)=        1.00          5.00
     Average Slope     (%)=        1.00          2.00
     Length            (m)=       82.87         40.00
     Mannings n           =       0.013         0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 3.167    2.28 | 6.250  100.32 |  9.33    2.66
               0.167    0.00 | 3.250    2.28 | 6.333   13.68 |  9.42    2.66
               0.250    0.00 | 3.333    3.04 | 6.417   13.68 |  9.50    2.66
               0.333    1.90 | 3.417    3.04 | 6.500   13.68 |  9.58    2.66
               0.417    1.90 | 3.500    3.04 | 6.583   13.68 |  9.67    2.66
               0.500    1.90 | 3.583    3.04 | 6.667   13.68 |  9.75    2.66
               0.583    1.90 | 3.667    3.04 | 6.750   13.68 |  9.83    2.66
               0.667    1.90 | 3.750    3.04 | 6.833    6.08 |  9.92    2.66
               0.750    1.90 | 3.833    3.04 | 6.917    6.08 | 10.00    2.66
               0.833    1.90 | 3.917    3.04 | 7.000    6.08 | 10.08    2.66
               0.917    1.90 | 4.000    3.04 | 7.083    6.08 | 10.17    2.66
               1.000    1.90 | 4.083    3.04 | 7.167    6.08 | 10.25    2.66
               1.083    1.90 | 4.167    3.04 | 7.250    6.08 | 10.33    1.52
               1.167    1.90 | 4.250    3.04 | 7.333    4.56 | 10.42    1.52
               1.250    1.90 | 4.333    4.56 | 7.417    4.56 | 10.50    1.52
               1.333    1.90 | 4.417    4.56 | 7.500    4.56 | 10.58    1.52
               1.417    1.90 | 4.500    4.56 | 7.583    4.56 | 10.67    1.52
               1.500    1.90 | 4.583    4.56 | 7.667    4.56 | 10.75    1.52
               1.583    1.90 | 4.667    4.56 | 7.750    4.56 | 10.83    1.52
               1.667    1.90 | 4.750    4.56 | 7.833    4.56 | 10.92    1.52
               1.750    1.90 | 4.833    6.08 | 7.917    4.56 | 11.00    1.52
               1.833    1.90 | 4.917    6.08 | 8.000    4.56 | 11.08    1.52
               1.917    1.90 | 5.000    6.08 | 8.083    4.56 | 11.17    1.52
               2.000    1.90 | 5.083    6.08 | 8.167    4.56 | 11.25    1.52
               2.083    1.90 | 5.167    6.08 | 8.250    4.56 | 11.33    1.52
               2.167    1.90 | 5.250    6.08 | 8.333    2.66 | 11.42    1.52
               2.250    1.90 | 5.333    9.12 | 8.417    2.66 | 11.50    1.52
               2.333    2.28 | 5.417    9.12 | 8.500    2.66 | 11.58    1.52
               2.417    2.28 | 5.500    9.12 | 8.583    2.66 | 11.67    1.52
               2.500    2.28 | 5.583    9.12 | 8.667    2.66 | 11.75    1.52
               2.583    2.28 | 5.667    9.12 | 8.750    2.66 | 11.83    1.52
               2.667    2.28 | 5.750    9.12 | 8.833    2.66 | 11.92    1.52
               2.750    2.28 | 5.833   36.48 | 8.917    2.66 | 12.00    1.52
               2.833    2.28 | 5.917   36.48 | 9.000    2.66 | 12.08    1.52
               2.917    2.28 | 6.000   36.48 | 9.083    2.66 | 12.17    1.52
               3.000    2.28 | 6.083  100.32 | 9.167    2.66 | 12.25    1.52
               3.083    2.28 | 6.167  100.32 | 9.250    2.66 |

    Max.Eff.Inten.(mm/hr)=     100.32          33.45
                over (min)        5.00          10.00
```

Storage Coeff. (min)=	2.28 (ii)	6.82 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.30	0.14	
			TOTALS
PEAK FLOW (cms)=	0.22	0.02	0.234 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	75.00	20.37	61.34
TOTAL RAINFALL (mm)=	76.00	76.00	76.00
RUNOFF COEFFICIENT =	0.99	0.27	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0111)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	1.030	0.234	6.25	61.34
OUTFLOW: ID= 1 (0111)	1.030	0.067	6.33	61.25

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.60
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0264

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\6041a8cc
Ptotal= 76.00 mm	Comments: 10-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.04	6.75	13.68	10.00	2.66
0.50	1.90	3.75	3.04	7.00	6.08	10.25	2.66
0.75	1.90	4.00	3.04	7.25	6.08	10.50	1.52
1.00	1.90	4.25	3.04	7.50	4.56	10.75	1.52
1.25	1.90	4.50	4.56	7.75	4.56	11.00	1.52
1.50	1.90	4.75	4.56	8.00	4.56	11.25	1.52
1.75	1.90	5.00	6.08	8.25	4.56	11.50	1.52
2.00	1.90	5.25	6.08	8.50	2.66	11.75	1.52
2.25	1.90	5.50	9.12	8.75	2.66	12.00	1.52
2.50	2.28	5.75	9.12	9.00	2.66	12.25	1.52
2.75	2.28	6.00	36.48	9.25	2.66		
3.00	2.28	6.25	100.32	9.50	2.66		
3.25	2.28	6.50	13.68	9.75	2.66		

CALIB			
STANDHYD (0109)	Area (ha)= 8.10		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.08	2.03
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	232.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.28	6.250	100.32	9.33	2.66
0.167	0.00	3.250	2.28	6.333	13.68	9.42	2.66
0.250	0.00	3.333	3.04	6.417	13.68	9.50	2.66
0.333	1.90	3.417	3.04	6.500	13.68	9.58	2.66
0.417	1.90	3.500	3.04	6.583	13.68	9.67	2.66
0.500	1.90	3.583	3.04	6.667	13.68	9.75	2.66
0.583	1.90	3.667	3.04	6.750	13.68	9.83	2.66
0.667	1.90	3.750	3.04	6.833	6.08	9.92	2.66
0.750	1.90	3.833	3.04	6.917	6.08	10.00	2.66
0.833	1.90	3.917	3.04	7.000	6.08	10.08	2.66
0.917	1.90	4.000	3.04	7.083	6.08	10.17	2.66
1.000	1.90	4.083	3.04	7.167	6.08	10.25	2.66
1.083	1.90	4.167	3.04	7.250	6.08	10.33	1.52
1.167	1.90	4.250	3.04	7.333	4.56	10.42	1.52
1.250	1.90	4.333	4.56	7.417	4.56	10.50	1.52
1.333	1.90	4.417	4.56	7.500	4.56	10.58	1.52
1.417	1.90	4.500	4.56	7.583	4.56	10.67	1.52
1.500	1.90	4.583	4.56	7.667	4.56	10.75	1.52
1.583	1.90	4.667	4.56	7.750	4.56	10.83	1.52
1.667	1.90	4.750	4.56	7.833	4.56	10.92	1.52
1.750	1.90	4.833	6.08	7.917	4.56	11.00	1.52
1.833	1.90	4.917	6.08	8.000	4.56	11.08	1.52
1.917	1.90	5.000	6.08	8.083	4.56	11.17	1.52
2.000	1.90	5.083	6.08	8.167	4.56	11.25	1.52
2.083	1.90	5.167	6.08	8.250	4.56	11.33	1.52
2.167	1.90	5.250	6.08	8.333	2.66	11.42	1.52
2.250	1.90	5.333	9.12	8.417	2.66	11.50	1.52
2.333	2.28	5.417	9.12	8.500	2.66	11.58	1.52
2.417	2.28	5.500	9.12	8.583	2.66	11.67	1.52
2.500	2.28	5.583	9.12	8.667	2.66	11.75	1.52
2.583	2.28	5.667	9.12	8.750	2.66	11.83	1.52
2.667	2.28	5.750	9.12	8.833	2.66	11.92	1.52
2.750	2.28	5.833	36.48	8.917	2.66	12.00	1.52
2.833	2.28	5.917	36.48	9.000	2.66	12.08	1.52
2.917	2.28	6.000	36.48	9.083	2.66	12.17	1.52
3.000	2.28	6.083	100.32	9.167	2.66	12.25	1.52
3.083	2.28	6.167	100.32	9.250	2.66		

Max.Eff.Inten.(mm/hr)=	100.32	33.45	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.23 (ii)	8.77 (ii)	

Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.24	0.12		
			TOTALS	
PEAK FLOW (cms)=	1.66	0.14	1.797 (iii)	
TIME TO PEAK (hrs)=	6.25	6.25	6.25	
RUNOFF VOLUME (mm)=	75.00	20.37	61.34	
TOTAL RAINFALL (mm)=	76.00	76.00	76.00	
RUNOFF COEFFICIENT =	0.99	0.27	0.81	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0116)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2090	0.3700
	0.0146	0.2491	0.2910	0.4360
	0.0800	0.2550	0.3580	0.4850
	0.1520	0.3150	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	1.797	6.25	61.34
OUTFLOW: ID= 1 (0116)	8.100	0.180	6.83	60.15

PEAK FLOW REDUCTION [Qout/Qin](%)= 10.01
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.3419

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\6041a8cc
Ptotal= 76.00 mm	Comments: 10-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.04	6.75	13.68	10.00	2.66
0.50	1.90	3.75	3.04	7.00	6.08	10.25	2.66
0.75	1.90	4.00	3.04	7.25	6.08	10.50	1.52
1.00	1.90	4.25	3.04	7.50	4.56	10.75	1.52
1.25	1.90	4.50	4.56	7.75	4.56	11.00	1.52
1.50	1.90	4.75	4.56	8.00	4.56	11.25	1.52
1.75	1.90	5.00	6.08	8.25	4.56	11.50	1.52
2.00	1.90	5.25	6.08	8.50	2.66	11.75	1.52
2.25	1.90	5.50	9.12	8.75	2.66	12.00	1.52
2.50	2.28	5.75	9.12	9.00	2.66	12.25	1.52
2.75	2.28	6.00	36.48	9.25	2.66		
3.00	2.28	6.25	100.32	9.50	2.66		
3.25	2.28	6.50	13.68	9.75	2.66		

CALIB			
STANDHYD (0113)	Area (ha)= 15.36		
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00	Dir. Conn.(%)= 58.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.28	6.250	100.32	9.33	2.66
0.167	0.00	3.250	2.28	6.333	13.68	9.42	2.66
0.250	0.00	3.333	3.04	6.417	13.68	9.50	2.66
0.333	1.90	3.417	3.04	6.500	13.68	9.58	2.66
0.417	1.90	3.500	3.04	6.583	13.68	9.67	2.66
0.500	1.90	3.583	3.04	6.667	13.68	9.75	2.66
0.583	1.90	3.667	3.04	6.750	13.68	9.83	2.66
0.667	1.90	3.750	3.04	6.833	6.08	9.92	2.66
0.750	1.90	3.833	3.04	6.917	6.08	10.00	2.66
0.833	1.90	3.917	3.04	7.000	6.08	10.08	2.66
0.917	1.90	4.000	3.04	7.083	6.08	10.17	2.66
1.000	1.90	4.083	3.04	7.167	6.08	10.25	2.66
1.083	1.90	4.167	3.04	7.250	6.08	10.33	1.52
1.167	1.90	4.250	3.04	7.333	4.56	10.42	1.52
1.250	1.90	4.333	4.56	7.417	4.56	10.50	1.52
1.333	1.90	4.417	4.56	7.500	4.56	10.58	1.52
1.417	1.90	4.500	4.56	7.583	4.56	10.67	1.52
1.500	1.90	4.583	4.56	7.667	4.56	10.75	1.52
1.583	1.90	4.667	4.56	7.750	4.56	10.83	1.52
1.667	1.90	4.750	4.56	7.833	4.56	10.92	1.52
1.750	1.90	4.833	6.08	7.917	4.56	11.00	1.52
1.833	1.90	4.917	6.08	8.000	4.56	11.08	1.52
1.917	1.90	5.000	6.08	8.083	4.56	11.17	1.52
2.000	1.90	5.083	6.08	8.167	4.56	11.25	1.52
2.083	1.90	5.167	6.08	8.250	4.56	11.33	1.52
2.167	1.90	5.250	6.08	8.333	2.66	11.42	1.52
2.250	1.90	5.333	9.12	8.417	2.66	11.50	1.52
2.333	2.28	5.417	9.12	8.500	2.66	11.58	1.52
2.417	2.28	5.500	9.12	8.583	2.66	11.67	1.52
2.500	2.28	5.583	9.12	8.667	2.66	11.75	1.52
2.583	2.28	5.667	9.12	8.750	2.66	11.83	1.52
2.667	2.28	5.750	9.12	8.833	2.66	11.92	1.52
2.750	2.28	5.833	36.48	8.917	2.66	12.00	1.52
2.833	2.28	5.917	36.48	9.000	2.66	12.08	1.52
2.917	2.28	6.000	36.48	9.083	2.66	12.17	1.52
3.000	2.28	6.083	100.32	9.167	2.66	12.25	1.52
3.083	2.28	6.167	100.32	9.250	2.66		

Max.Eff.Inten.(mm/hr)=	100.32	32.20

```
              over (min)        5.00        20.00
     Storage Coeff.  (min)=     5.13 (ii)   16.23 (ii)
     Unit Hyd. Tpeak (min)=     5.00        20.00
     Unit Hyd. peak  (cms)=     0.21         0.06
                                                    *TOTALS*
     PEAK FLOW       (cms)=     2.40         0.32     2.612 (iii)
     TIME TO PEAK    (hrs)=     6.25         6.42      6.25
     RUNOFF VOLUME    (mm)=    75.00        21.35     52.47
     TOTAL RAINFALL   (mm)=    76.00        76.00     76.00
     RUNOFF COEFFICIENT   =     0.99         0.28      0.69


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0114)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0111):     1.03   0.067     6.33    61.25
     + ID2= 2 (  0113):    15.36   2.612     6.25    52.47
       ================================================
       ID = 3 (  0114):    16.39   2.672     6.25    53.02

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

```
--------------------
| ADD HYD  (  0114)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0114):    16.39   2.672     6.25    53.02
     + ID2= 2 (  0116):     8.10   0.180     6.83    60.15
       ================================================
       ID = 1 (  0114):    24.49   2.774     6.25    55.37

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

```
--------------------
| RESERVOIR(  0119)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.4045      0.7000
                         0.0151     0.0001   |  0.5514      0.8000
                         0.0151     0.1301   |  0.7611      0.9000
                         0.0440     0.4217   |  0.9325      0.9500
                         0.2194     0.6000   |  1.1147      1.0500

                              AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0114)     24.490     2.774      6.25      55.37
   OUTFLOW: ID= 1 (  0119)     24.490     0.319      8.25      55.38

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.49
                    TIME SHIFT OF PEAK FLOW         (min)=120.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.6537
```

```
--------------------
| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):  24.49      0.32      8.25    55.38
     ================================================
     MAJOR SYS.(ID= 2):  14.76      0.30      8.25    55.38
     MINOR SYS.(ID= 3):   9.73      0.02      5.67    55.38

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

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\6041a8cc
| Ptotal= 76.00 mm |    Comments: 10-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    3.04 |  6.75   13.68 | 10.00    2.66
                0.50    1.90 |  3.75    3.04 |  7.00    6.08 | 10.25    2.66
                0.75    1.90 |  4.00    3.04 |  7.25    6.08 | 10.50    1.52
                1.00    1.90 |  4.25    3.04 |  7.50    4.56 | 10.75    1.52
                1.25    1.90 |  4.50    4.56 |  7.75    4.56 | 11.00    1.52
                1.50    1.90 |  4.75    4.56 |  8.00    4.56 | 11.25    1.52
                1.75    1.90 |  5.00    6.08 |  8.25    4.56 | 11.50    1.52
                2.00    1.90 |  5.25    6.08 |  8.50    2.66 | 11.75    1.52
                2.25    1.90 |  5.50    9.12 |  8.75    2.66 | 12.00    1.52
                2.50    2.28 |  5.75    9.12 |  9.00    2.66 | 12.25    1.52
                2.75    2.28 |  6.00   36.48 |  9.25    2.66 |
                3.00    2.28 |  6.25  100.32 |  9.50    2.66 |
                3.25    2.28 |  6.50   13.68 |  9.75    2.66 |
```

```
--------------------
| CALIB            |
| STANDHYD (  0108)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                   IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=           0.58          0.19
     Dep. Storage     (mm)=           1.00          5.00
     Average Slope     (%)=           1.00          2.00
     Length            (m)=          72.11         40.00
     Mannings n             =         0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.28	6.250	100.32	9.33	2.66
0.167	0.00	3.250	2.28	6.333	13.68	9.42	2.66
0.250	0.00	3.333	3.04	6.417	13.68	9.50	2.66
0.333	1.90	3.417	3.04	6.500	13.68	9.58	2.66
0.417	1.90	3.500	3.04	6.583	13.68	9.67	2.66
0.500	1.90	3.583	3.04	6.667	13.68	9.75	2.66
0.583	1.90	3.667	3.04	6.750	13.68	9.83	2.66
0.667	1.90	3.750	3.04	6.833	6.08	9.92	2.66
0.750	1.90	3.833	3.04	6.917	6.08	10.00	2.66
0.833	1.90	3.917	3.04	7.000	6.08	10.08	2.66
0.917	1.90	4.000	3.04	7.083	6.08	10.17	2.66
1.000	1.90	4.083	3.04	7.167	6.08	10.25	2.66
1.083	1.90	4.167	3.04	7.250	6.08	10.33	1.52
1.167	1.90	4.250	3.04	7.333	4.56	10.42	1.52
1.250	1.90	4.333	4.56	7.417	4.56	10.50	1.52
1.333	1.90	4.417	4.56	7.500	4.56	10.58	1.52
1.417	1.90	4.500	4.56	7.583	4.56	10.67	1.52
1.500	1.90	4.583	4.56	7.667	4.56	10.75	1.52
1.583	1.90	4.667	4.56	7.750	4.56	10.83	1.52
1.667	1.90	4.750	4.56	7.833	4.56	10.92	1.52
1.750	1.90	4.833	6.08	7.917	4.56	11.00	1.52
1.833	1.90	4.917	6.08	8.000	4.56	11.08	1.52
1.917	1.90	5.000	6.08	8.083	4.56	11.17	1.52
2.000	1.90	5.083	6.08	8.167	4.56	11.25	1.52
2.083	1.90	5.167	6.08	8.250	4.56	11.33	1.52
2.167	1.90	5.250	6.08	8.333	2.66	11.42	1.52
2.250	1.90	5.333	9.12	8.417	2.66	11.50	1.52
2.333	2.28	5.417	9.12	8.500	2.66	11.58	1.52
2.417	2.28	5.500	9.12	8.583	2.66	11.67	1.52
2.500	2.28	5.583	9.12	8.667	2.66	11.75	1.52
2.583	2.28	5.667	9.12	8.750	2.66	11.83	1.52
2.667	2.28	5.750	9.12	8.833	2.66	11.92	1.52
2.750	2.28	5.833	36.48	8.917	2.66	12.00	1.52
2.833	2.28	5.917	36.48	9.000	2.66	12.08	1.52
2.917	2.28	6.000	36.48	9.083	2.66	12.17	1.52
3.000	2.28	6.083	100.32	9.167	2.66	12.25	1.52
3.083	2.28	6.167	100.32	9.250	2.66		

			TOTALS
Max.Eff.Inten.(mm/hr)=	100.32	65.93	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.10 (ii)	6.64 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.14	
PEAK FLOW (cms)=	0.16	0.03	0.192 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	75.00	39.77	66.19
TOTAL RAINFALL (mm)=	76.00	76.00	76.00
RUNOFF COEFFICIENT =	0.99	0.52	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0118)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	0.780	0.192	6.25	66.19
OUTFLOW: ID= 1 (0118)	0.780	0.044	6.42	66.03

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.07
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0235

READ STORM
Ptotal= 76.00 mm

Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\6041a8cc
Comments: 10-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.04	6.75	13.68	10.00	2.66
0.50	1.90	3.75	3.04	7.00	6.08	10.25	2.66
0.75	1.90	4.00	3.04	7.25	6.08	10.50	1.52
1.00	1.90	4.25	3.04	7.50	4.56	10.75	1.52
1.25	1.90	4.50	4.56	7.75	4.56	11.00	1.52
1.50	1.90	4.75	4.56	8.00	4.56	11.25	1.52
1.75	1.90	5.00	6.08	8.25	4.56	11.50	1.52
2.00	1.90	5.25	6.08	8.50	2.66	11.75	1.52
2.25	1.90	5.50	9.12	8.75	2.66	12.00	1.52
2.50	2.28	5.75	9.12	9.00	2.66	12.25	1.52
2.75	2.28	6.00	36.48	9.25	2.66		
3.00	2.28	6.25	100.32	9.50	2.66		
3.25	2.28	6.50	13.68	9.75	2.66		

CALIB
STANDHYD (0112)
ID= 1 DT= 5.0 min

Area (ha)= 1.07
Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.28	6.250	100.32	9.33	2.66
0.167	0.00	3.250	2.28	6.333	13.68	9.42	2.66
0.250	0.00	3.333	3.04	6.417	13.68	9.50	2.66
0.333	1.90	3.417	3.04	6.500	13.68	9.58	2.66
0.417	1.90	3.500	3.04	6.583	13.68	9.67	2.66
0.500	1.90	3.583	3.04	6.667	13.68	9.75	2.66
0.583	1.90	3.667	3.04	6.750	13.68	9.83	2.66
0.667	1.90	3.750	3.04	6.833	6.08	9.92	2.66
0.750	1.90	3.833	3.04	6.917	6.08	10.00	2.66
0.833	1.90	3.917	3.04	7.000	6.08	10.08	2.66
0.917	1.90	4.000	3.04	7.083	6.08	10.17	2.66
1.000	1.90	4.083	3.04	7.167	6.08	10.25	2.66
1.083	1.90	4.167	3.04	7.250	6.08	10.33	1.52
1.167	1.90	4.250	3.04	7.333	4.56	10.42	1.52
1.250	1.90	4.333	4.56	7.417	4.56	10.50	1.52
1.333	1.90	4.417	4.56	7.500	4.56	10.58	1.52
1.417	1.90	4.500	4.56	7.583	4.56	10.67	1.52
1.500	1.90	4.583	4.56	7.667	4.56	10.75	1.52
1.583	1.90	4.667	4.56	7.750	4.56	10.83	1.52
1.667	1.90	4.750	4.56	7.833	4.56	10.92	1.52
1.750	1.90	4.833	6.08	7.917	4.56	11.00	1.52
1.833	1.90	4.917	6.08	8.000	4.56	11.08	1.52
1.917	1.90	5.000	6.08	8.083	4.56	11.17	1.52
2.000	1.90	5.083	6.08	8.167	4.56	11.25	1.52
2.083	1.90	5.167	6.08	8.250	4.56	11.33	1.52
2.167	1.90	5.250	6.08	8.333	2.66	11.42	1.52
2.250	1.90	5.333	9.12	8.417	2.66	11.50	1.52
2.333	2.28	5.417	9.12	8.500	2.66	11.58	1.52
2.417	2.28	5.500	9.12	8.583	2.66	11.67	1.52
2.500	2.28	5.583	9.12	8.667	2.66	11.75	1.52
2.583	2.28	5.667	9.12	8.750	2.66	11.83	1.52
2.667	2.28	5.750	9.12	8.833	2.66	11.92	1.52
2.750	2.28	5.833	36.48	8.917	2.66	12.00	1.52
2.833	2.28	5.917	36.48	9.000	2.66	12.08	1.52
2.917	2.28	6.000	36.48	9.083	2.66	12.17	1.52
3.000	2.28	6.083	100.32	9.167	2.66	12.25	1.52
3.083	2.28	6.167	100.32	9.250	2.66		

			TOTALS
Max.Eff.Inten.(mm/hr)=	100.32	65.93	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.31 (ii)	6.85 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.30	0.14	
PEAK FLOW (cms)=	0.22	0.04	0.263 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	75.00	39.77	66.19
TOTAL RAINFALL (mm)=	76.00	76.00	76.00
RUNOFF COEFFICIENT =	0.99	0.52	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0117)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0112)	1.070	0.263	6.25	66.19
OUTFLOW: ID= 1 (0117)	1.070	0.036	6.75	65.94

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.75
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0390

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\6041a8cc
Ptotal= 76.00 mm	Comments: 10-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.04	6.75	13.68	10.00	2.66
0.50	1.90	3.75	3.04	7.00	6.08	10.25	2.66
0.75	1.90	4.00	3.04	7.25	6.08	10.50	1.52
1.00	1.90	4.25	3.04	7.50	4.56	10.75	1.52
1.25	1.90	4.50	4.56	7.75	4.56	11.00	1.52
1.50	1.90	4.75	4.56	8.00	4.56	11.25	1.52
1.75	1.90	5.00	6.08	8.25	4.56	11.50	1.52
2.00	1.90	5.25	6.08	8.50	2.66	11.75	1.52
2.25	1.90	5.50	9.12	8.75	2.66	12.00	1.52
2.50	2.28	5.75	9.12	9.00	2.66	12.25	1.52
2.75	2.28	6.00	36.48	9.25	2.66		
3.00	2.28	6.25	100.32	9.50	2.66		
3.25	2.28	6.50	13.68	9.75	2.66		

CALIB			
STANDHYD (0121)	Area (ha)= 0.27		
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00	Dir. Conn.(%)= 71.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.19	0.08
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	42.43	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	3.167	2.28	6.250	100.32	9.33	2.66
0.167	0.00	3.250	2.28	6.333	13.68	9.42	2.66
0.250	0.00	3.333	3.04	6.417	13.68	9.50	2.66
0.333	1.90	3.417	3.04	6.500	13.68	9.58	2.66
0.417	1.90	3.500	3.04	6.583	13.68	9.67	2.66
0.500	1.90	3.583	3.04	6.667	13.68	9.75	2.66
0.583	1.90	3.667	3.04	6.750	13.68	9.83	2.66
0.667	1.90	3.750	3.04	6.833	6.08	9.92	2.66
0.750	1.90	3.833	3.04	6.917	6.08	10.00	2.66
0.833	1.90	3.917	3.04	7.000	6.08	10.08	2.66
0.917	1.90	4.000	3.04	7.083	6.08	10.17	2.66
1.000	1.90	4.083	3.04	7.167	6.08	10.25	2.66
1.083	1.90	4.167	3.04	7.250	6.08	10.33	1.52
1.167	1.90	4.250	3.04	7.333	4.56	10.42	1.52
1.250	1.90	4.333	4.56	7.417	4.56	10.50	1.52
1.333	1.90	4.417	4.56	7.500	4.56	10.58	1.52
1.417	1.90	4.500	4.56	7.583	4.56	10.67	1.52
1.500	1.90	4.583	4.56	7.667	4.56	10.75	1.52
1.583	1.90	4.667	4.56	7.750	4.56	10.83	1.52
1.667	1.90	4.750	4.56	7.833	4.56	10.92	1.52
1.750	1.90	4.833	6.08	7.917	4.56	11.00	1.52
1.833	1.90	4.917	6.08	8.000	4.56	11.08	1.52
1.917	1.90	5.000	6.08	8.083	4.56	11.17	1.52
2.000	1.90	5.083	6.08	8.167	4.56	11.25	1.52
2.083	1.90	5.167	6.08	8.250	4.56	11.33	1.52
2.167	1.90	5.250	6.08	8.333	2.66	11.42	1.52
2.250	1.90	5.333	9.12	8.417	2.66	11.50	1.52
2.333	2.28	5.417	9.12	8.500	2.66	11.58	1.52
2.417	2.28	5.500	9.12	8.583	2.66	11.67	1.52
2.500	2.28	5.583	9.12	8.667	2.66	11.75	1.52
2.583	2.28	5.667	9.12	8.750	2.66	11.83	1.52
2.667	2.28	5.750	9.12	8.833	2.66	11.92	1.52
2.750	2.28	5.833	36.48	8.917	2.66	12.00	1.52
2.833	2.28	5.917	36.48	9.000	2.66	12.08	1.52
2.917	2.28	6.000	36.48	9.083	2.66	12.17	1.52
3.000	2.28	6.083	100.32	9.167	2.66	12.25	1.52
3.083	2.28	6.167	100.32	9.250	2.66		

Max.Eff.Inten.(mm/hr)=	100.32	33.45	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.53 (ii)	6.45 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.33	0.14	
			TOTALS
PEAK FLOW (cms)=	0.05	0.01	0.059 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	75.00	20.37	59.14
TOTAL RAINFALL (mm)=	76.00	76.00	76.00
RUNOFF COEFFICIENT =	0.99	0.27	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0115)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0121)	0.270	0.059	6.25	59.14
OUTFLOW: ID= 1 (0115)	0.270	0.026	6.33	58.97

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.08
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0055

ADD HYD (0110)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0115):	0.27	0.026	6.33	58.97
+ ID2= 2 (0117):	1.07	0.036	6.75	65.94
ID = 3 (0110):	1.34	0.061	6.33	64.54

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0110):	1.34	0.061	6.33	64.54
+ ID2= 2 (0118):	0.78	0.044	6.42	66.03
ID = 1 (0110):	2.12	0.105	6.33	65.08

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0110):	2.12	0.105	6.33	65.08
+ ID2= 2 (0120):	14.76	0.304	8.25	55.38
ID = 3 (0110):	16.88	0.361	7.75	56.59

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

V V I SSSSS U U A L

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

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  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\78a853b3-20e4-4f5a-9761-99bd4c2c5ccc\scen
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DATE: 10-31-2019                          TIME: 10:48:53

USER:


COMMENTS: _____________________________________________________________
```

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  **********************************************
  ** SIMULATION : 3-10-Year-24-Hour-SCS-Type-II **
  **********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\efc9bd42
| Ptotal= 89.90 mm |    Comments: New DesignStormManualInput
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.80	12.75	12.95	19.00	1.62
0.50	0.90	6.75	1.80	13.00	6.65	19.25	1.62
0.75	0.90	7.00	1.80	13.25	6.65	19.50	1.62
1.00	0.90	7.25	1.80	13.50	1.26	19.75	1.62
1.25	0.90	7.50	1.80	13.75	1.26	20.00	1.62
1.50	0.90	7.75	1.80	14.00	7.37	20.25	1.62
1.75	0.90	8.00	1.80	14.25	7.37	20.50	1.08
2.00	0.90	8.25	1.80	14.50	2.70	20.75	1.08
2.25	1.62	8.50	2.43	14.75	2.70	21.00	1.08
2.50	1.17	8.75	2.43	15.00	2.70	21.25	1.08
2.75	1.17	9.00	2.43	15.25	2.70	21.50	1.08
3.00	1.17	9.25	2.43	15.50	2.70	21.75	1.08
3.25	1.17	9.50	2.88	15.75	2.70	22.00	1.08
3.50	1.17	9.75	2.88	16.00	2.70	22.25	1.08
3.75	1.17	10.00	3.24	16.25	2.70	22.50	1.08
4.00	1.17	10.25	3.24	16.50	1.62	22.75	1.08
4.25	1.17	10.50	4.14	16.75	1.62	23.00	1.08
4.50	1.44	10.75	4.14	17.00	1.62	23.25	1.08
4.75	1.44	11.00	5.57	17.25	1.62	23.50	1.08
5.00	1.44	11.25	5.57	17.50	1.62	23.75	1.08
5.25	1.44	11.50	8.63	17.75	1.62	24.00	1.08
5.50	1.44	11.75	8.63	18.00	1.62	24.25	1.08
5.75	1.44	12.00	37.40	18.25	1.62		
6.00	1.44	12.25	99.25	18.50	1.62		
6.25	1.44	12.50	12.95	18.75	1.62		

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--------------------
| CALIB            |
| STANDHYD (  0107)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.44	12.250	99.25	18.33	1.62
0.167	0.00	6.250	1.44	12.333	12.96	18.42	1.62
0.250	0.00	6.333	1.80	12.417	12.95	18.50	1.62
0.333	0.90	6.417	1.80	12.500	12.95	18.58	1.62
0.417	0.90	6.500	1.80	12.583	12.95	18.67	1.62
0.500	0.90	6.583	1.80	12.667	12.95	18.75	1.62
0.583	0.90	6.667	1.80	12.750	12.95	18.83	1.62
0.667	0.90	6.750	1.80	12.833	6.65	18.92	1.62
0.750	0.90	6.833	1.80	12.917	6.65	19.00	1.62
0.833	0.90	6.917	1.80	13.000	6.65	19.08	1.62
0.917	0.90	7.000	1.80	13.083	6.65	19.17	1.62
1.000	0.90	7.083	1.80	13.167	6.65	19.25	1.62
1.083	0.90	7.167	1.80	13.250	6.65	19.33	1.62
1.167	0.90	7.250	1.80	13.333	1.26	19.42	1.62
1.250	0.90	7.333	1.80	13.417	1.26	19.50	1.62
1.333	0.90	7.417	1.80	13.500	1.26	19.58	1.62
1.417	0.90	7.500	1.80	13.583	1.26	19.67	1.62
1.500	0.90	7.583	1.80	13.667	1.26	19.75	1.62
1.583	0.90	7.667	1.80	13.750	1.26	19.83	1.62
1.667	0.90	7.750	1.80	13.833	7.37	19.92	1.62
1.750	0.90	7.833	1.80	13.917	7.37	20.00	1.62
1.833	0.90	7.917	1.80	14.000	7.37	20.08	1.62
1.917	0.90	8.000	1.80	14.083	7.37	20.17	1.62
2.000	0.90	8.083	1.80	14.167	7.37	20.25	1.62
2.083	1.62	8.167	1.80	14.250	7.37	20.33	1.08
2.167	1.62	8.250	1.80	14.333	2.70	20.42	1.08

2.250	1.62	8.333	2.43	14.417	2.70	20.50	1.08
2.333	1.17	8.417	2.43	14.500	2.70	20.58	1.08
2.417	1.17	8.500	2.43	14.583	2.70	20.67	1.08
2.500	1.17	8.583	2.43	14.667	2.70	20.75	1.08
2.583	1.17	8.667	2.43	14.750	2.70	20.83	1.08
2.667	1.17	8.750	2.43	14.833	2.70	20.92	1.08
2.750	1.17	8.833	2.43	14.917	2.70	21.00	1.08
2.833	1.17	8.917	2.43	15.000	2.70	21.08	1.08
2.917	1.17	9.000	2.43	15.083	2.70	21.17	1.08
3.000	1.17	9.083	2.43	15.167	2.70	21.25	1.08
3.083	1.17	9.167	2.43	15.250	2.70	21.33	1.08
3.167	1.17	9.250	2.43	15.333	2.70	21.42	1.08
3.250	1.17	9.333	2.88	15.417	2.70	21.50	1.08
3.333	1.17	9.417	2.88	15.500	2.70	21.58	1.08
3.417	1.17	9.500	2.88	15.583	2.70	21.67	1.08
3.500	1.17	9.583	2.88	15.667	2.70	21.75	1.08
3.583	1.17	9.667	2.88	15.750	2.70	21.83	1.08
3.667	1.17	9.750	2.88	15.833	2.70	21.92	1.08
3.750	1.17	9.833	3.24	15.917	2.70	22.00	1.08
3.833	1.17	9.917	3.24	16.000	2.70	22.08	1.08
3.917	1.17	10.000	3.24	16.083	2.70	22.17	1.08
4.000	1.17	10.083	3.24	16.167	2.70	22.25	1.08
4.083	1.17	10.167	3.24	16.250	2.70	22.33	1.08
4.167	1.17	10.250	3.24	16.333	1.62	22.42	1.08
4.250	1.17	10.333	4.14	16.417	1.62	22.50	1.08
4.333	1.44	10.417	4.14	16.500	1.62	22.58	1.08
4.417	1.44	10.500	4.14	16.583	1.62	22.67	1.08
4.500	1.44	10.583	4.14	16.667	1.62	22.75	1.08
4.583	1.44	10.667	4.14	16.750	1.62	22.83	1.08
4.667	1.44	10.750	4.14	16.833	1.62	22.92	1.08
4.750	1.44	10.833	5.57	16.917	1.62	23.00	1.08
4.833	1.44	10.917	5.57	17.000	1.62	23.08	1.08
4.917	1.44	11.000	5.57	17.083	1.62	23.17	1.08
5.000	1.44	11.083	5.57	17.167	1.62	23.25	1.08
5.083	1.44	11.167	5.57	17.250	1.62	23.33	1.08
5.167	1.44	11.250	5.57	17.333	1.62	23.42	1.08
5.250	1.44	11.333	8.63	17.417	1.62	23.50	1.08
5.333	1.44	11.417	8.63	17.500	1.62	23.58	1.08
5.417	1.44	11.500	8.63	17.583	1.62	23.67	1.08
5.500	1.44	11.583	8.63	17.667	1.62	23.75	1.08
5.583	1.44	11.667	8.63	17.750	1.62	23.83	1.08
5.667	1.44	11.750	8.63	17.833	1.62	23.92	1.08
5.750	1.44	11.833	37.40	17.917	1.62	24.00	1.08
5.833	1.44	11.917	37.40	18.000	1.62	24.08	1.08
5.917	1.44	12.000	37.40	18.083	1.62	24.17	1.08
6.000	1.44	12.083	99.24	18.167	1.62	24.25	1.08
6.083	1.44	12.167	99.25	18.250	1.62		

			TOTALS
Max.Eff.Inten.(mm/hr)=	99.25	36.89	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.29 (ii)	6.85 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.30	0.14	
PEAK FLOW (cms)=	0.21	0.02	0.234 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	88.90	27.57	73.56
TOTAL RAINFALL (mm)=	89.90	89.90	89.90
RUNOFF COEFFICIENT =	0.99	0.31	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0111)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	1.030	0.234	12.25	73.56
OUTFLOW: ID= 1 (0111)	1.030	0.067	12.33	73.48

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.66
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0265

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\efc9bd42
Ptotal= 89.90 mm	Comments: New DesignStormManualInput

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.80	12.75	12.95	19.00	1.62
0.50	0.90	6.75	1.80	13.00	6.65	19.25	1.62
0.75	0.90	7.00	1.80	13.25	6.65	19.50	1.62
1.00	0.90	7.25	1.80	13.50	1.26	19.75	1.62
1.25	0.90	7.50	1.80	13.75	1.26	20.00	1.62
1.50	0.90	7.75	1.80	14.00	7.37	20.25	1.62
1.75	0.90	8.00	1.80	14.25	7.37	20.50	1.08
2.00	0.90	8.25	1.80	14.50	2.70	20.75	1.08
2.25	1.62	8.50	2.43	14.75	2.70	21.00	1.08
2.50	1.17	8.75	2.43	15.00	2.70	21.25	1.08
2.75	1.17	9.00	2.43	15.25	2.70	21.50	1.08
3.00	1.17	9.25	2.43	15.50	2.70	21.75	1.08
3.25	1.17	9.50	2.88	15.75	2.70	22.00	1.08
3.50	1.17	9.75	2.88	16.00	2.70	22.25	1.08
3.75	1.17	10.00	3.24	16.25	2.70	22.50	1.08
4.00	1.17	10.25	3.24	16.50	1.62	22.75	1.08
4.25	1.17	10.50	4.14	16.75	1.62	23.00	1.08
4.50	1.44	10.75	4.14	17.00	1.62	23.25	1.08
4.75	1.44	11.00	5.57	17.25	1.62	23.50	1.08
5.00	1.44	11.25	5.57	17.50	1.62	23.75	1.08
5.25	1.44	11.50	8.63	17.75	1.62	24.00	1.08
5.50	1.44	11.75	8.63	18.00	1.62	24.25	1.08
5.75	1.44	12.00	37.40	18.25	1.62		
6.00	1.44	12.25	99.25	18.50	1.62		
6.25	1.44	12.50	12.95	18.75	1.62		

CALIB	
STANDHYD (0109)	Area (ha)= 8.10
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.08	2.03
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	232.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.44	12.250	99.25	18.33	1.62
0.167	0.00	6.250	1.44	12.333	12.96	18.42	1.62
0.250	0.00	6.333	1.80	12.417	12.95	18.50	1.62
0.333	0.90	6.417	1.80	12.500	12.95	18.58	1.62
0.417	0.90	6.500	1.80	12.583	12.95	18.67	1.62
0.500	0.90	6.583	1.80	12.667	12.95	18.75	1.62
0.583	0.90	6.667	1.80	12.750	12.95	18.83	1.62
0.667	0.90	6.750	1.80	12.833	6.65	18.92	1.62
0.750	0.90	6.833	1.80	12.917	6.65	19.00	1.62
0.833	0.90	6.917	1.80	13.000	6.65	19.08	1.62
0.917	0.90	7.000	1.80	13.083	6.65	19.17	1.62
1.000	0.90	7.083	1.80	13.167	6.65	19.25	1.62
1.083	0.90	7.167	1.80	13.250	6.65	19.33	1.62
1.167	0.90	7.250	1.80	13.333	1.26	19.42	1.62
1.250	0.90	7.333	1.80	13.417	1.26	19.50	1.62
1.333	0.90	7.417	1.80	13.500	1.26	19.58	1.62
1.417	0.90	7.500	1.80	13.583	1.26	19.67	1.62
1.500	0.90	7.583	1.80	13.667	1.26	19.75	1.62
1.583	0.90	7.667	1.80	13.750	1.26	19.83	1.62
1.667	0.90	7.750	1.80	13.833	7.37	19.92	1.62
1.750	0.90	7.833	1.80	13.917	7.37	20.00	1.62
1.833	0.90	7.917	1.80	14.000	7.37	20.08	1.62
1.917	0.90	8.000	1.80	14.083	7.37	20.17	1.62
2.000	0.90	8.083	1.80	14.167	7.37	20.25	1.62
2.083	1.62	8.167	1.80	14.250	7.37	20.33	1.08
2.167	1.62	8.250	1.80	14.333	2.70	20.42	1.08
2.250	1.62	8.333	2.43	14.417	2.70	20.50	1.08
2.333	1.17	8.417	2.43	14.500	2.70	20.58	1.08
2.417	1.17	8.500	2.43	14.583	2.70	20.67	1.08
2.500	1.17	8.583	2.43	14.667	2.70	20.75	1.08
2.583	1.17	8.667	2.43	14.750	2.70	20.83	1.08
2.667	1.17	8.750	2.43	14.833	2.70	20.92	1.08
2.750	1.17	8.833	2.43	14.917	2.70	21.00	1.08
2.833	1.17	8.917	2.43	15.000	2.70	21.08	1.08
2.917	1.17	9.000	2.43	15.083	2.70	21.17	1.08
3.000	1.17	9.083	2.43	15.167	2.70	21.25	1.08
3.083	1.17	9.167	2.43	15.250	2.70	21.33	1.08
3.167	1.17	9.250	2.43	15.333	2.70	21.42	1.08
3.250	1.17	9.333	2.88	15.417	2.70	21.50	1.08
3.333	1.17	9.417	2.88	15.500	2.70	21.58	1.08
3.417	1.17	9.500	2.88	15.583	2.70	21.67	1.08
3.500	1.17	9.583	2.88	15.667	2.70	21.75	1.08
3.583	1.17	9.667	2.88	15.750	2.70	21.83	1.08
3.667	1.17	9.750	2.88	15.833	2.70	21.92	1.08
3.750	1.17	9.833	3.24	15.917	2.70	22.00	1.08
3.833	1.17	9.917	3.24	16.000	2.70	22.08	1.08
3.917	1.17	10.000	3.24	16.083	2.70	22.17	1.08
4.000	1.17	10.083	3.24	16.167	2.70	22.25	1.08
4.083	1.17	10.167	3.24	16.250	2.70	22.33	1.08
4.167	1.17	10.250	3.24	16.333	1.62	22.42	1.08
4.250	1.17	10.333	4.14	16.417	1.62	22.50	1.08
4.333	1.44	10.417	4.14	16.500	1.62	22.58	1.08
4.417	1.44	10.500	4.14	16.583	1.62	22.67	1.08
4.500	1.44	10.583	4.14	16.667	1.62	22.75	1.08
4.583	1.44	10.667	4.14	16.750	1.62	22.83	1.08
4.667	1.44	10.750	4.14	16.833	1.62	22.92	1.08
4.750	1.44	10.833	5.57	16.917	1.62	23.00	1.08
4.833	1.44	10.917	5.57	17.000	1.62	23.08	1.08
4.917	1.44	11.000	5.57	17.083	1.62	23.17	1.08
5.000	1.44	11.083	5.57	17.167	1.62	23.25	1.08
5.083	1.44	11.167	5.57	17.250	1.62	23.33	1.08
5.167	1.44	11.250	5.57	17.333	1.62	23.42	1.08
5.250	1.44	11.333	8.63	17.417	1.62	23.50	1.08
5.333	1.44	11.417	8.63	17.500	1.62	23.58	1.08
5.417	1.44	11.500	8.63	17.583	1.62	23.67	1.08
5.500	1.44	11.583	8.63	17.667	1.62	23.75	1.08
5.583	1.44	11.667	8.63	17.750	1.62	23.83	1.08
5.667	1.44	11.750	8.63	17.833	1.62	23.92	1.08
5.750	1.44	11.833	37.40	17.917	1.62	24.00	1.08
5.833	1.44	11.917	37.40	18.000	1.62	24.08	1.08
5.917	1.44	12.000	37.40	18.083	1.62	24.17	1.08
6.000	1.44	12.083	99.24	18.167	1.62	24.25	1.08
6.083	1.44	12.167	99.25	18.250	1.62		

				TOTALS
Max.Eff.Inten.(mm/hr)=		99.25	36.89	
over (min)		5.00	10.00	
Storage Coeff. (min)=		4.25 (ii)	8.81 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.24	0.12	
PEAK FLOW	(cms)=	1.64	0.15	1.797 (iii)
TIME TO PEAK	(hrs)=	12.25	12.25	12.25
RUNOFF VOLUME	(mm)=	88.90	27.57	73.57
TOTAL RAINFALL	(mm)=	89.90	89.90	89.90
RUNOFF COEFFICIENT	=	0.99	0.31	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0116)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE

	(cms)	(ha.m.)		(cms)	(ha.m.)
	0.0000	0.0000	|	0.2090	0.3700
	0.0146	0.2491	|	0.2910	0.4360
	0.0800	0.2550	|	0.3580	0.4850
	0.1520	0.3150	|	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	1.797	12.25	73.57
OUTFLOW: ID= 1 (0116)	8.100	0.207	12.83	72.03

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.51
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.3684

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\efc9bd42
Ptotal= 89.90 mm	Comments: New DesignStormManualInput

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.80	12.75	12.95	19.00	1.62
0.50	0.90	6.75	1.80	13.00	6.65	19.25	1.62
0.75	0.90	7.00	1.80	13.25	6.65	19.50	1.62
1.00	0.90	7.25	1.80	13.50	1.26	19.75	1.62
1.25	0.90	7.50	1.80	13.75	1.26	20.00	1.62
1.50	0.90	7.75	1.80	14.00	7.37	20.25	1.62
1.75	0.90	8.00	1.80	14.25	7.37	20.50	1.08
2.00	0.90	8.25	1.80	14.50	2.70	20.75	1.08
2.25	1.62	8.50	2.43	14.75	2.70	21.00	1.08
2.50	1.17	8.75	2.43	15.00	2.70	21.25	1.08
2.75	1.17	9.00	2.43	15.25	2.70	21.50	1.08
3.00	1.17	9.25	2.43	15.50	2.70	21.75	1.08
3.25	1.17	9.50	2.88	15.75	2.70	22.00	1.08
3.50	1.17	9.75	2.88	16.00	2.70	22.25	1.08
3.75	1.17	10.00	3.24	16.25	2.70	22.50	1.08
4.00	1.17	10.25	3.24	16.50	1.62	22.75	1.08
4.25	1.17	10.50	4.14	16.75	1.62	23.00	1.08
4.50	1.44	10.75	4.14	17.00	1.62	23.25	1.08
4.75	1.44	11.00	5.57	17.25	1.62	23.50	1.08
5.00	1.44	11.25	5.57	17.50	1.62	23.75	1.08
5.25	1.44	11.50	8.63	17.75	1.62	24.00	1.08
5.50	1.44	11.75	8.63	18.00	1.62	24.25	1.08
5.75	1.44	12.00	37.40	18.25	1.62		
6.00	1.44	12.25	99.25	18.50	1.62		
6.25	1.44	12.50	12.95	18.75	1.62		

CALIB	
STANDHYD (0113)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	8.91	6.45
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	320.00	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.44	12.250	99.25	18.33	1.62
0.167	0.00	6.250	1.44	12.333	12.96	18.42	1.62
0.250	0.00	6.333	1.80	12.417	12.95	18.50	1.62
0.333	0.90	6.417	1.80	12.500	12.95	18.58	1.62
0.417	0.90	6.500	1.80	12.583	12.95	18.67	1.62
0.500	0.90	6.583	1.80	12.667	12.95	18.75	1.62
0.583	0.90	6.667	1.80	12.750	12.95	18.83	1.62
0.667	0.90	6.750	1.80	12.833	6.65	18.92	1.62
0.750	0.90	6.833	1.80	12.917	6.65	19.00	1.62
0.833	0.90	6.917	1.80	13.000	6.65	19.08	1.62
0.917	0.90	7.000	1.80	13.083	6.65	19.17	1.62
1.000	0.90	7.083	1.80	13.167	6.65	19.25	1.62
1.083	0.90	7.167	1.80	13.250	6.65	19.33	1.62
1.167	0.90	7.250	1.80	13.333	1.26	19.42	1.62
1.250	0.90	7.333	1.80	13.417	1.26	19.50	1.62
1.333	0.90	7.417	1.80	13.500	1.26	19.58	1.62
1.417	0.90	7.500	1.80	13.583	1.26	19.67	1.62
1.500	0.90	7.583	1.80	13.667	1.26	19.75	1.62
1.583	0.90	7.667	1.80	13.750	1.26	19.83	1.62
1.667	0.90	7.750	1.80	13.833	7.37	19.92	1.62
1.750	0.90	7.833	1.80	13.917	7.37	20.00	1.62
1.833	0.90	7.917	1.80	14.000	7.37	20.08	1.62
1.917	0.90	8.000	1.80	14.083	7.37	20.17	1.62
2.000	0.90	8.083	1.80	14.167	7.37	20.25	1.62
2.083	1.62	8.167	1.80	14.250	7.37	20.33	1.08
2.167	1.62	8.250	1.80	14.333	2.70	20.42	1.08
2.250	1.62	8.333	2.43	14.417	2.70	20.50	1.08
2.333	1.17	8.417	2.43	14.500	2.70	20.58	1.08
2.417	1.17	8.500	2.43	14.583	2.70	20.67	1.08
2.500	1.17	8.583	2.43	14.667	2.70	20.75	1.08
2.583	1.17	8.667	2.43	14.750	2.70	20.83	1.08
2.667	1.17	8.750	2.43	14.833	2.70	20.92	1.08
2.750	1.17	8.833	2.43	14.917	2.70	21.00	1.08
2.833	1.17	8.917	2.43	15.000	2.70	21.08	1.08
2.917	1.17	9.000	2.43	15.083	2.70	21.17	1.08
3.000	1.17	9.083	2.43	15.167	2.70	21.25	1.08
3.083	1.17	9.167	2.43	15.250	2.70	21.33	1.08
3.167	1.17	9.250	2.43	15.333	2.70	21.42	1.08
3.250	1.17	9.333	2.88	15.417	2.70	21.50	1.08
3.333	1.17	9.417	2.88	15.500	2.70	21.58	1.08
3.417	1.17	9.500	2.88	15.583	2.70	21.67	1.08
3.500	1.17	9.583	2.88	15.667	2.70	21.75	1.08
3.583	1.17	9.667	2.88	15.750	2.70	21.83	1.08
3.667	1.17	9.750	2.88	15.833	2.70	21.92	1.08
3.750	1.17	9.833	3.24	15.917	2.70	22.00	1.08
3.833	1.17	9.917	3.24	16.000	2.70	22.08	1.08
3.917	1.17	10.000	3.24	16.083	2.70	22.17	1.08
4.000	1.17	10.083	3.24	16.167	2.70	22.25	1.08
4.083	1.17	10.167	3.24	16.250	2.70	22.33	1.08

4.167	1.17	10.250	3.24	16.333	1.62	22.42	1.08
4.250	1.17	10.333	4.14	16.417	1.62	22.50	1.08
4.333	1.44	10.417	4.14	16.500	1.62	22.58	1.08
4.417	1.44	10.500	4.14	16.583	1.62	22.67	1.08
4.500	1.44	10.583	4.14	16.667	1.62	22.75	1.08
4.583	1.44	10.667	4.14	16.750	1.62	22.83	1.08
4.667	1.44	10.750	4.14	16.833	1.62	22.92	1.08
4.750	1.44	10.833	5.57	16.917	1.62	23.00	1.08
4.833	1.44	10.917	5.57	17.000	1.62	23.08	1.08
4.917	1.44	11.000	5.57	17.083	1.62	23.17	1.08
5.000	1.44	11.083	5.57	17.167	1.62	23.25	1.08
5.083	1.44	11.167	5.57	17.250	1.62	23.33	1.08
5.167	1.44	11.250	5.57	17.333	1.62	23.42	1.08
5.250	1.44	11.333	8.63	17.417	1.62	23.50	1.08
5.333	1.44	11.417	8.63	17.500	1.62	23.58	1.08
5.417	1.44	11.500	8.63	17.583	1.62	23.67	1.08
5.500	1.44	11.583	8.63	17.667	1.62	23.75	1.08
5.583	1.44	11.667	8.63	17.750	1.62	23.83	1.08
5.667	1.44	11.750	8.63	17.833	1.62	23.92	1.08
5.750	1.44	11.833	37.40	17.917	1.62	24.00	1.08
5.833	1.44	11.917	37.40	18.000	1.62	24.08	1.08
5.917	1.44	12.000	37.40	18.083	1.62	24.17	1.08
6.000	1.44	12.083	99.24	18.167	1.62	24.25	1.08
6.083	1.44	12.167	99.25	18.250	1.62		

			TOTALS
Max.Eff.Inten.(mm/hr)=	99.25	36.06	
over (min)	5.00	20.00	
Storage Coeff. (min)=	5.15 (ii)	15.76 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.21	0.07	
PEAK FLOW (cms)=	2.37	0.37	2.630 (iii)
TIME TO PEAK (hrs)=	12.25	12.42	12.25
RUNOFF VOLUME (mm)=	88.90	28.83	63.67
TOTAL RAINFALL (mm)=	89.90	89.90	89.90
RUNOFF COEFFICIENT =	0.99	0.32	0.71

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0114)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0111):	1.03	0.067	12.33	73.48
+ ID2= 2 (0113):	15.36	2.630	12.25	63.67
ID = 3 (0114):	16.39	2.691	12.25	64.29

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0114)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0114):	16.39	2.691	12.25	64.29
+ ID2= 2 (0116):	8.10	0.207	12.83	72.03
ID = 1 (0114):	24.49	2.834	12.25	66.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0119)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.4045	0.7000
	0.0151	0.0001	0.5514	0.8000
	0.0151	0.1301	0.7611	0.9000
	0.0440	0.4217	0.9325	0.9500
	0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0114)	24.490	2.834	12.25	66.85
OUTFLOW: ID= 1 (0119)	24.490	0.370	13.33	66.85

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.07
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.6819

DUHYD (0120)				
Inlet Cap.= 0.015				
#of Inlets= 1				
Total(cms)= 0.0	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.49	0.37	13.33	66.85
MAJOR SYS.(ID= 2):	15.63	0.36	13.33	66.85
MINOR SYS.(ID= 3):	8.86	0.02	10.92	66.85

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\efc9bd42
Ptotal= 89.90 mm	Comments: New DesignStormManualInput

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.80	12.75	12.95	19.00	1.62
0.50	0.90	6.75	1.80	13.00	6.65	19.25	1.62
0.75	0.90	7.00	1.80	13.25	6.65	19.50	1.62
1.00	0.90	7.25	1.80	13.50	1.26	19.75	1.62
1.25	0.90	7.50	1.80	13.75	1.26	20.00	1.62

1.50	0.90	7.75	1.80	14.00	7.37	20.25	1.62
1.75	0.90	8.00	1.80	14.25	7.37	20.50	1.08
2.00	0.90	8.25	1.80	14.50	2.70	20.75	1.08
2.25	1.62	8.50	2.43	14.75	2.70	21.00	1.08
2.50	1.17	8.75	2.43	15.00	2.70	21.25	1.08
2.75	1.17	9.00	2.43	15.25	2.70	21.50	1.08
3.00	1.17	9.25	2.43	15.50	2.70	21.75	1.08
3.25	1.17	9.50	2.88	15.75	2.70	22.00	1.08
3.50	1.17	9.75	2.88	16.00	2.70	22.25	1.08
3.75	1.17	10.00	3.24	16.25	2.70	22.50	1.08
4.00	1.17	10.25	3.24	16.50	1.62	22.75	1.08
4.25	1.17	10.50	4.14	16.75	1.62	23.00	1.08
4.50	1.44	10.75	4.14	17.00	1.62	23.25	1.08
4.75	1.44	11.00	5.57	17.25	1.62	23.50	1.08
5.00	1.44	11.25	5.57	17.50	1.62	23.75	1.08
5.25	1.44	11.50	8.63	17.75	1.62	24.00	1.08
5.50	1.44	11.75	8.63	18.00	1.62	24.25	1.08
5.75	1.44	12.00	37.40	18.25	1.62		
6.00	1.44	12.25	99.25	18.50	1.62		
6.25	1.44	12.50	12.95	18.75	1.62		

CALIB	
STANDHYD (0108)	Area (ha)= 0.78
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.44	12.250	99.25	18.33	1.62
0.167	0.00	6.250	1.44	12.333	12.96	18.42	1.62
0.250	0.00	6.333	1.80	12.417	12.95	18.50	1.62
0.333	0.90	6.417	1.80	12.500	12.95	18.58	1.62
0.417	0.90	6.500	1.80	12.583	12.95	18.67	1.62
0.500	0.90	6.583	1.80	12.667	12.95	18.75	1.62
0.583	0.90	6.667	1.80	12.750	12.95	18.83	1.62
0.667	0.90	6.750	1.80	12.833	6.65	18.92	1.62
0.750	0.90	6.833	1.80	12.917	6.65	19.00	1.62
0.833	0.90	6.917	1.80	13.000	6.65	19.08	1.62
0.917	0.90	7.000	1.80	13.083	6.65	19.17	1.62
1.000	0.90	7.083	1.80	13.167	6.65	19.25	1.62
1.083	0.90	7.167	1.80	13.250	6.65	19.33	1.62
1.167	0.90	7.250	1.80	13.333	1.26	19.42	1.62
1.250	0.90	7.333	1.80	13.417	1.26	19.50	1.62
1.333	0.90	7.417	1.80	13.500	1.26	19.58	1.62
1.417	0.90	7.500	1.80	13.583	1.26	19.67	1.62
1.500	0.90	7.583	1.80	13.667	1.26	19.75	1.62
1.583	0.90	7.667	1.80	13.750	1.26	19.83	1.62
1.667	0.90	7.750	1.80	13.833	7.37	19.92	1.62
1.750	0.90	7.833	1.80	13.917	7.37	20.00	1.62
1.833	0.90	7.917	1.80	14.000	7.37	20.08	1.62
1.917	0.90	8.000	1.80	14.083	7.37	20.17	1.62
2.000	0.90	8.083	1.80	14.167	7.37	20.25	1.62
2.083	1.62	8.167	1.80	14.250	7.37	20.33	1.08
2.167	1.62	8.250	1.80	14.333	2.70	20.42	1.08
2.250	1.62	8.333	2.43	14.417	2.70	20.50	1.08
2.333	1.17	8.417	2.43	14.500	2.70	20.58	1.08
2.417	1.17	8.500	2.43	14.583	2.70	20.67	1.08
2.500	1.17	8.583	2.43	14.667	2.70	20.75	1.08
2.583	1.17	8.667	2.43	14.750	2.70	20.83	1.08
2.667	1.17	8.750	2.43	14.833	2.70	20.92	1.08
2.750	1.17	8.833	2.43	14.917	2.70	21.00	1.08
2.833	1.17	8.917	2.43	15.000	2.70	21.08	1.08
2.917	1.17	9.000	2.43	15.083	2.70	21.17	1.08
3.000	1.17	9.083	2.43	15.167	2.70	21.25	1.08
3.083	1.17	9.167	2.43	15.250	2.70	21.33	1.08
3.167	1.17	9.250	2.43	15.333	2.70	21.42	1.08
3.250	1.17	9.333	2.88	15.417	2.70	21.50	1.08
3.333	1.17	9.417	2.88	15.500	2.70	21.58	1.08
3.417	1.17	9.500	2.88	15.583	2.70	21.67	1.08
3.500	1.17	9.583	2.88	15.667	2.70	21.75	1.08
3.583	1.17	9.667	2.88	15.750	2.70	21.83	1.08
3.667	1.17	9.750	2.88	15.833	2.70	21.92	1.08
3.750	1.17	9.833	3.24	15.917	2.70	22.00	1.08
3.833	1.17	9.917	3.24	16.000	2.70	22.08	1.08
3.917	1.17	10.000	3.24	16.083	2.70	22.17	1.08
4.000	1.17	10.083	3.24	16.167	2.70	22.25	1.08
4.083	1.17	10.167	3.24	16.250	2.70	22.33	1.08
4.167	1.17	10.250	3.24	16.333	1.62	22.42	1.08
4.250	1.17	10.333	4.14	16.417	1.62	22.50	1.08
4.333	1.44	10.417	4.14	16.500	1.62	22.58	1.08
4.417	1.44	10.500	4.14	16.583	1.62	22.67	1.08
4.500	1.44	10.583	4.14	16.667	1.62	22.75	1.08
4.583	1.44	10.667	4.14	16.750	1.62	22.83	1.08
4.667	1.44	10.750	4.14	16.833	1.62	22.92	1.08
4.750	1.44	10.833	5.57	16.917	1.62	23.00	1.08
4.833	1.44	10.917	5.57	17.000	1.62	23.08	1.08
4.917	1.44	11.000	5.57	17.083	1.62	23.17	1.08
5.000	1.44	11.083	5.57	17.167	1.62	23.25	1.08
5.083	1.44	11.167	5.57	17.250	1.62	23.33	1.08
5.167	1.44	11.250	5.57	17.333	1.62	23.42	1.08
5.250	1.44	11.333	8.63	17.417	1.62	23.50	1.08
5.333	1.44	11.417	8.63	17.500	1.62	23.58	1.08
5.417	1.44	11.500	8.63	17.583	1.62	23.67	1.08
5.500	1.44	11.583	8.63	17.667	1.62	23.75	1.08
5.583	1.44	11.667	8.63	17.750	1.62	23.83	1.08
5.667	1.44	11.750	8.63	17.833	1.62	23.92	1.08
5.750	1.44	11.833	37.40	17.917	1.62	24.00	1.08
5.833	1.44	11.917	37.40	18.000	1.62	24.08	1.08
5.917	1.44	12.000	37.40	18.083	1.62	24.17	1.08
6.000	1.44	12.083	99.24	18.167	1.62	24.25	1.08
6.083	1.44	12.167	99.25	18.250	1.62		

Max.Eff.Inten.(mm/hr)=		99.25	69.45
	over (min)	5.00	10.00
Storage Coeff.	(min)=	2.11 (ii)	6.67 (ii)
Unit Hyd. Tpeak	(min)=	5.00	10.00
Unit Hyd. peak	(cms)=	0.31	0.14

			TOTALS
PEAK FLOW	(cms)=	0.16	0.03	0.193 (iii)
TIME TO PEAK	(hrs)=	12.25	12.25	12.25
RUNOFF VOLUME	(mm)=	88.90	51.25	79.48
TOTAL RAINFALL	(mm)=	89.90	89.90	89.90
RUNOFF COEFFICIENT	=	0.99	0.57	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0118) IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	0.780	0.193	12.25	79.48
OUTFLOW: ID= 1 (0118)	0.780	0.045	12.42	79.31

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.21
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0237

READ STORM Ptotal= 89.90 mm	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\efc9bd42 Comments: New DesignStormManualInput

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.80	12.75	12.95	19.00	1.62
0.50	0.90	6.75	1.80	13.00	6.65	19.25	1.62
0.75	0.90	7.00	1.80	13.25	6.65	19.50	1.62
1.00	0.90	7.25	1.80	13.50	1.26	19.75	1.62
1.25	0.90	7.50	1.80	13.75	1.26	20.00	1.62
1.50	0.90	7.75	1.80	14.00	7.37	20.25	1.62
1.75	0.90	8.00	1.80	14.25	7.37	20.50	1.08
2.00	0.90	8.25	1.80	14.50	2.70	20.75	1.08
2.25	1.62	8.50	2.43	14.75	2.70	21.00	1.08
2.50	1.17	8.75	2.43	15.00	2.70	21.25	1.08
2.75	1.17	9.00	2.43	15.25	2.70	21.50	1.08
3.00	1.17	9.25	2.43	15.50	2.70	21.75	1.08
3.25	1.17	9.50	2.88	15.75	2.70	22.00	1.08
3.50	1.17	9.75	2.88	16.00	2.70	22.25	1.08
3.75	1.17	10.00	3.24	16.25	2.70	22.50	1.08
4.00	1.17	10.25	3.24	16.50	1.62	22.75	1.08
4.25	1.17	10.50	4.14	16.75	1.62	23.00	1.08
4.50	1.44	10.75	4.14	17.00	1.62	23.25	1.08
4.75	1.44	11.00	5.57	17.25	1.62	23.50	1.08
5.00	1.44	11.25	5.57	17.50	1.62	23.75	1.08
5.25	1.44	11.50	8.63	17.75	1.62	24.00	1.08
5.50	1.44	11.75	8.63	18.00	1.62	24.25	1.08
5.75	1.44	12.00	37.40	18.25	1.62		
6.00	1.44	12.25	99.25	18.50	1.62		
6.25	1.44	12.50	12.95	18.75	1.62		

CALIB STANDHYD (0112) ID= 1 DT= 5.0 min	Area (ha)= 1.07 Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.44	12.250	99.25	18.33	1.62
0.167	0.00	6.250	1.44	12.333	12.96	18.42	1.62
0.250	0.00	6.333	1.80	12.417	12.95	18.50	1.62
0.333	0.90	6.417	1.80	12.500	12.95	18.58	1.62
0.417	0.90	6.500	1.80	12.583	12.95	18.67	1.62
0.500	0.90	6.583	1.80	12.667	12.95	18.75	1.62
0.583	0.90	6.667	1.80	12.750	12.95	18.83	1.62
0.667	0.90	6.750	1.80	12.833	6.65	18.92	1.62
0.750	0.90	6.833	1.80	12.917	6.65	19.00	1.62
0.833	0.90	6.917	1.80	13.000	6.65	19.08	1.62
0.917	0.90	7.000	1.80	13.083	6.65	19.17	1.62
1.000	0.90	7.083	1.80	13.167	6.65	19.25	1.62
1.083	0.90	7.167	1.80	13.250	6.65	19.33	1.62
1.167	0.90	7.250	1.80	13.333	1.26	19.42	1.62
1.250	0.90	7.333	1.80	13.417	1.26	19.50	1.62
1.333	0.90	7.417	1.80	13.500	1.26	19.58	1.62
1.417	0.90	7.500	1.80	13.583	1.26	19.67	1.62
1.500	0.90	7.583	1.80	13.667	1.26	19.75	1.62
1.583	0.90	7.667	1.80	13.750	1.26	19.83	1.62
1.667	0.90	7.750	1.80	13.833	7.37	19.92	1.62
1.750	0.90	7.833	1.80	13.917	7.37	20.00	1.62
1.833	0.90	7.917	1.80	14.000	7.37	20.08	1.62
1.917	0.90	8.000	1.80	14.083	7.37	20.17	1.62
2.000	0.90	8.083	1.80	14.167	7.37	20.25	1.62
2.083	1.62	8.167	1.80	14.250	7.37	20.33	1.08
2.167	1.62	8.250	1.80	14.333	2.70	20.42	1.08
2.250	1.62	8.333	2.43	14.417	2.70	20.50	1.08
2.333	1.17	8.417	2.43	14.500	2.70	20.58	1.08
2.417	1.17	8.500	2.43	14.583	2.70	20.67	1.08
2.500	1.17	8.583	2.43	14.667	2.70	20.75	1.08
2.583	1.17	8.667	2.43	14.750	2.70	20.83	1.08
2.667	1.17	8.750	2.43	14.833	2.70	20.92	1.08

2.750	1.17	8.833	2.43	14.917	2.70	21.00	1.08
2.833	1.17	8.917	2.43	15.000	2.70	21.08	1.08
2.917	1.17	9.000	2.43	15.083	2.70	21.17	1.08
3.000	1.17	9.083	2.43	15.167	2.70	21.25	1.08
3.083	1.17	9.167	2.43	15.250	2.70	21.33	1.08
3.167	1.17	9.250	2.43	15.333	2.70	21.42	1.08
3.250	1.17	9.333	2.88	15.417	2.70	21.50	1.08
3.333	1.17	9.417	2.88	15.500	2.70	21.58	1.08
3.417	1.17	9.500	2.88	15.583	2.70	21.67	1.08
3.500	1.17	9.583	2.88	15.667	2.70	21.75	1.08
3.583	1.17	9.667	2.88	15.750	2.70	21.83	1.08
3.667	1.17	9.750	2.88	15.833	2.70	21.92	1.08
3.750	1.17	9.833	3.24	15.917	2.70	22.00	1.08
3.833	1.17	9.917	3.24	16.000	2.70	22.08	1.08
3.917	1.17	10.000	3.24	16.083	2.70	22.17	1.08
4.000	1.17	10.083	3.24	16.167	2.70	22.25	1.08
4.083	1.17	10.167	3.24	16.250	2.70	22.33	1.08
4.167	1.17	10.250	3.24	16.333	1.62	22.42	1.08
4.250	1.17	10.333	4.14	16.417	1.62	22.50	1.08
4.333	1.44	10.417	4.14	16.500	1.62	22.58	1.08
4.417	1.44	10.500	4.14	16.583	1.62	22.67	1.08
4.500	1.44	10.583	4.14	16.667	1.62	22.75	1.08
4.583	1.44	10.667	4.14	16.750	1.62	22.83	1.08
4.667	1.44	10.750	4.14	16.833	1.62	22.92	1.08
4.750	1.44	10.833	5.57	16.917	1.62	23.00	1.08
4.833	1.44	10.917	5.57	17.000	1.62	23.08	1.08
4.917	1.44	11.000	5.57	17.083	1.62	23.17	1.08
5.000	1.44	11.083	5.57	17.167	1.62	23.25	1.08
5.083	1.44	11.167	5.57	17.250	1.62	23.33	1.08
5.167	1.44	11.250	5.57	17.333	1.62	23.42	1.08
5.250	1.44	11.333	8.63	17.417	1.62	23.50	1.08
5.333	1.44	11.417	8.63	17.500	1.62	23.58	1.08
5.417	1.44	11.500	8.63	17.583	1.62	23.67	1.08
5.500	1.44	11.583	8.63	17.667	1.62	23.75	1.08
5.583	1.44	11.667	8.63	17.750	1.62	23.83	1.08
5.667	1.44	11.750	8.63	17.833	1.62	23.92	1.08
5.750	1.44	11.833	37.40	17.917	1.62	24.00	1.08
5.833	1.44	11.917	37.40	18.000	1.62	24.08	1.08
5.917	1.44	12.000	37.40	18.083	1.62	24.17	1.08
6.000	1.44	12.083	99.24	18.167	1.62	24.25	1.08
6.083	1.44	12.167	99.25	18.250	1.62		

Max.Eff.Inten.(mm/hr)=	99.25	69.45		
over (min)	5.00	10.00		
Storage Coeff. (min)=	2.32 (ii)	6.88 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.30	0.14		
			TOTALS	
PEAK FLOW (cms)=	0.22	0.04	0.264 (iii)	
TIME TO PEAK (hrs)=	12.25	12.25	12.25	
RUNOFF VOLUME (mm)=	88.90	51.25	79.48	
TOTAL RAINFALL (mm)=	89.90	89.90	89.90	
RUNOFF COEFFICIENT =	0.99	0.57	0.88	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

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

RESERVOIR(0117)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0112)	1.070	0.264	12.25	79.48
OUTFLOW: ID= 1 (0117)	1.070	0.037	12.75	79.23

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.91
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0395

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\efc9bd42
Ptotal= 89.90 mm	Comments: New DesignStormManualInput

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	1.80	12.75	12.95	19.00	1.62
0.50	0.90	6.75	1.80	13.00	6.65	19.25	1.62
0.75	0.90	7.00	1.80	13.25	6.65	19.50	1.62
1.00	0.90	7.25	1.80	13.50	1.26	19.75	1.62
1.25	0.90	7.50	1.80	13.75	1.26	20.00	1.62
1.50	0.90	7.75	1.80	14.00	7.37	20.25	1.62
1.75	0.90	8.00	1.80	14.25	7.37	20.50	1.08
2.00	0.90	8.25	1.80	14.50	2.70	20.75	1.08
2.25	1.62	8.50	2.43	14.75	2.70	21.00	1.08
2.50	1.17	8.75	2.43	15.00	2.70	21.25	1.08
2.75	1.17	9.00	2.43	15.25	2.70	21.50	1.08
3.00	1.17	9.25	2.43	15.50	2.70	21.75	1.08
3.25	1.17	9.50	2.88	15.75	2.70	22.00	1.08
3.50	1.17	9.75	2.88	16.00	2.70	22.25	1.08
3.75	1.17	10.00	3.24	16.25	2.70	22.50	1.08
4.00	1.17	10.25	3.24	16.50	1.62	22.75	1.08
4.25	1.17	10.50	4.14	16.75	1.62	23.00	1.08
4.50	1.44	10.75	4.14	17.00	1.62	23.25	1.08
4.75	1.44	11.00	5.57	17.25	1.62	23.50	1.08
5.00	1.44	11.25	5.57	17.50	1.62	23.75	1.08
5.25	1.44	11.50	8.63	17.75	1.62	24.00	1.08
5.50	1.44	11.75	8.63	18.00	1.62	24.25	1.08
5.75	1.44	12.00	37.40	18.25	1.62		
6.00	1.44	12.25	99.25	18.50	1.62		
6.25	1.44	12.50	12.95	18.75	1.62		

CALIB	
STANDHYD (0121)	Area (ha)= 0.27

|ID= 1 DT= 5.0 min | Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.44	12.250	99.25	18.33	1.62
0.167	0.00	6.250	1.44	12.333	12.96	18.42	1.62
0.250	0.00	6.333	1.80	12.417	12.95	18.50	1.62
0.333	0.90	6.417	1.80	12.500	12.95	18.58	1.62
0.417	0.90	6.500	1.80	12.583	12.95	18.67	1.62
0.500	0.90	6.583	1.80	12.667	12.95	18.75	1.62
0.583	0.90	6.667	1.80	12.750	12.95	18.83	1.62
0.667	0.90	6.750	1.80	12.833	6.65	18.92	1.62
0.750	0.90	6.833	1.80	12.917	6.65	19.00	1.62
0.833	0.90	6.917	1.80	13.000	6.65	19.08	1.62
0.917	0.90	7.000	1.80	13.083	6.65	19.17	1.62
1.000	0.90	7.083	1.80	13.167	6.65	19.25	1.62
1.083	0.90	7.167	1.80	13.250	6.65	19.33	1.62
1.167	0.90	7.250	1.80	13.333	1.26	19.42	1.62
1.250	0.90	7.333	1.80	13.417	1.26	19.50	1.62
1.333	0.90	7.417	1.80	13.500	1.26	19.58	1.62
1.417	0.90	7.500	1.80	13.583	1.26	19.67	1.62
1.500	0.90	7.583	1.80	13.667	1.26	19.75	1.62
1.583	0.90	7.667	1.80	13.750	1.26	19.83	1.62
1.667	0.90	7.750	1.80	13.833	7.37	19.92	1.62
1.750	0.90	7.833	1.80	13.917	7.37	20.00	1.62
1.833	0.90	7.917	1.80	14.000	7.37	20.08	1.62
1.917	0.90	8.000	1.80	14.083	7.37	20.17	1.62
2.000	0.90	8.083	1.80	14.167	7.37	20.25	1.62
2.083	1.62	8.167	1.80	14.250	7.37	20.33	1.08
2.167	1.62	8.250	1.80	14.333	2.70	20.42	1.08
2.250	1.62	8.333	2.43	14.417	2.70	20.50	1.08
2.333	1.17	8.417	2.43	14.500	2.70	20.58	1.08
2.417	1.17	8.500	2.43	14.583	2.70	20.67	1.08
2.500	1.17	8.583	2.43	14.667	2.70	20.75	1.08
2.583	1.17	8.667	2.43	14.750	2.70	20.83	1.08
2.667	1.17	8.750	2.43	14.833	2.70	20.92	1.08
2.750	1.17	8.833	2.43	14.917	2.70	21.00	1.08
2.833	1.17	8.917	2.43	15.000	2.70	21.08	1.08
2.917	1.17	9.000	2.43	15.083	2.70	21.17	1.08
3.000	1.17	9.083	2.43	15.167	2.70	21.25	1.08
3.083	1.17	9.167	2.43	15.250	2.70	21.33	1.08
3.167	1.17	9.250	2.43	15.333	2.70	21.42	1.08
3.250	1.17	9.333	2.88	15.417	2.70	21.50	1.08
3.333	1.17	9.417	2.88	15.500	2.70	21.58	1.08
3.417	1.17	9.500	2.88	15.583	2.70	21.67	1.08
3.500	1.17	9.583	2.88	15.667	2.70	21.75	1.08
3.583	1.17	9.667	2.88	15.750	2.70	21.83	1.08
3.667	1.17	9.750	2.88	15.833	2.70	21.92	1.08
3.750	1.17	9.833	3.24	15.917	2.70	22.00	1.08
3.833	1.17	9.917	3.24	16.000	2.70	22.08	1.08
3.917	1.17	10.000	3.24	16.083	2.70	22.17	1.08
4.000	1.17	10.083	3.24	16.167	2.70	22.25	1.08
4.083	1.17	10.167	3.24	16.250	2.70	22.33	1.08
4.167	1.17	10.250	3.24	16.333	1.62	22.42	1.08
4.250	1.17	10.333	4.14	16.417	1.62	22.50	1.08
4.333	1.44	10.417	4.14	16.500	1.62	22.58	1.08
4.417	1.44	10.500	4.14	16.583	1.62	22.67	1.08
4.500	1.44	10.583	4.14	16.667	1.62	22.75	1.08
4.583	1.44	10.667	4.14	16.750	1.62	22.83	1.08
4.667	1.44	10.750	4.14	16.833	1.62	22.92	1.08
4.750	1.44	10.833	5.57	16.917	1.62	23.00	1.08
4.833	1.44	10.917	5.57	17.000	1.62	23.08	1.08
4.917	1.44	11.000	5.57	17.083	1.62	23.17	1.08
5.000	1.44	11.083	5.57	17.167	1.62	23.25	1.08
5.083	1.44	11.167	5.57	17.250	1.62	23.33	1.08
5.167	1.44	11.250	5.57	17.333	1.62	23.42	1.08
5.250	1.44	11.333	8.63	17.417	1.62	23.50	1.08
5.333	1.44	11.417	8.63	17.500	1.62	23.58	1.08
5.417	1.44	11.500	8.63	17.583	1.62	23.67	1.08
5.500	1.44	11.583	8.63	17.667	1.62	23.75	1.08
5.583	1.44	11.667	8.63	17.750	1.62	23.83	1.08
5.667	1.44	11.750	8.63	17.833	1.62	23.92	1.08
5.750	1.44	11.833	37.40	17.917	1.62	24.00	1.08
5.833	1.44	11.917	37.40	18.000	1.62	24.08	1.08
5.917	1.44	12.000	37.40	18.083	1.62	24.17	1.08
6.000	1.44	12.083	99.24	18.167	1.62	24.25	1.08
6.083	1.44	12.167	99.25	18.250	1.62		

				TOTALS
Max.Eff.Inten.	(mm/hr)=	99.25	36.89	
	over (min)	5.00	10.00	
Storage Coeff.	(min)=	1.53 (ii)	6.48 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.33	0.14	
PEAK FLOW	(cms)=	0.05	0.01	0.059 (iii)
TIME TO PEAK	(hrs)=	12.25	12.25	12.25
RUNOFF VOLUME	(mm)=	88.90	27.57	71.11
TOTAL RAINFALL	(mm)=	89.90	89.90	89.90
RUNOFF COEFFICIENT	=	0.99	0.31	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0115)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0121)	0.270	0.059	12.25	71.11

```
   OUTFLOW: ID= 1 (  0115)      0.270      0.026     12.33      70.94

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.22
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0055

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):     0.27   0.026    12.33    70.94
      + ID2= 2 (  0117):     1.07   0.037    12.75    79.23
        ================================================
        ID = 3 (  0110):     1.34   0.061    12.33    77.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0110):     1.34   0.061    12.33    77.56
      + ID2= 2 (  0118):     0.78   0.045    12.42    79.31
        ================================================
        ID = 1 (  0110):     2.12   0.106    12.33    78.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0110):     2.12   0.106    12.33    78.21
      + ID2= 2 (  0120):    15.63   0.355    13.33    66.85
        ================================================
        ID = 3 (  0110):    17.75   0.431    13.33    68.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
================================================================================
=======================

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                    *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\b944dc94-25db-4ff8-bcf1-acbef6143389\scen
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86e9-d1c81bbaf91e\b944dc94-25db-4ff8-bcf1-acbef6143389\scen


DATE: 10-31-2019                              TIME: 10:49:00

USER:


COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 3-10-Year-4-Hour-Chicago-Barr **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\335bdce2
| Ptotal= 59.69 mm |    Comments: 10-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    4.32 |  1.17   30.27 |  2.17    9.72 |  3.17    5.09
                0.33    4.91 |  1.33  126.55 |  2.33    8.35 |  3.33    4.74
                0.50    5.73 |  1.50   39.22 |  2.50    7.35 |  3.50    4.45
                0.67    6.96 |  1.67   21.35 |  2.67    6.59 |  3.67    4.19
                0.83    9.03 |  1.83   15.01 |  2.83    5.99 |  3.83    3.97
                1.00   13.36 |  2.00   11.74 |  3.00    5.50 |  4.00    3.77

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

--------------------
| CALIB            |
| STANDHYD (  0107)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                                 IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77          0.26
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      82.87         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.32	1.083	30.27	2.083	9.72	3.08	5.09
0.167	4.32	1.167	30.27	2.167	9.72	3.17	5.09
0.250	4.91	1.250	126.55	2.250	8.35	3.25	4.74
0.333	4.91	1.333	126.55	2.333	8.35	3.33	4.74
0.417	5.73	1.417	39.22	2.417	7.35	3.42	4.45
0.500	5.73	1.500	39.22	2.500	7.35	3.50	4.45
0.583	6.96	1.583	21.35	2.583	6.59	3.58	4.19
0.667	6.96	1.667	21.35	2.667	6.59	3.67	4.19
0.750	9.03	1.750	15.01	2.750	5.99	3.75	3.97
0.833	9.03	1.833	15.01	2.833	5.99	3.83	3.97
0.917	13.36	1.917	11.74	2.917	5.50	3.92	3.77
1.000	13.36	2.000	11.74	3.000	5.50	4.00	3.77

			TOTALS
Max.Eff.Inten.(mm/hr)=	126.55	22.00	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.08 (ii)	6.22 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
PEAK FLOW (cms)=	0.27	0.01	0.280 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	58.69	12.94	47.25
TOTAL RAINFALL (mm)=	59.69	59.69	59.69
RUNOFF COEFFICIENT =	0.98	0.22	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0111)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	1.030	0.280	1.33	47.25
OUTFLOW: ID= 1 (0111)	1.030	0.060	1.58	47.16

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.38
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0236

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\	62db8e6a-efdc-4744-84df-b014686ad4f1\335bdce2
Ptotal= 59.69 mm	Comments: 10-Year-4-Hour-Chicago	

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.32	1.17	30.27	2.17	9.72	3.17	5.09
0.33	4.91	1.33	126.55	2.33	8.35	3.33	4.74
0.50	5.73	1.50	39.22	2.50	7.35	3.50	4.45
0.67	6.96	1.67	21.35	2.67	6.59	3.67	4.19
0.83	9.03	1.83	15.01	2.83	5.99	3.83	3.97
1.00	13.36	2.00	11.74	3.00	5.50	4.00	3.77

CALIB			
STANDHYD (0109)	Area (ha)= 8.10		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	6.08	2.03	
Dep. Storage (mm)=	1.00	5.00	
Average Slope (%)=	1.00	2.00	
Length (m)=	232.38	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.32	1.083	30.27	2.083	9.72	3.08	5.09
0.167	4.32	1.167	30.27	2.167	9.72	3.17	5.09
0.250	4.91	1.250	126.55	2.250	8.35	3.25	4.74
0.333	4.91	1.333	126.55	2.333	8.35	3.33	4.74
0.417	5.73	1.417	39.22	2.417	7.35	3.42	4.45
0.500	5.73	1.500	39.22	2.500	7.35	3.50	4.45
0.583	6.96	1.583	21.35	2.583	6.59	3.58	4.19
0.667	6.96	1.667	21.35	2.667	6.59	3.67	4.19
0.750	9.03	1.750	15.01	2.750	5.99	3.75	3.97
0.833	9.03	1.833	15.01	2.833	5.99	3.83	3.97
0.917	13.36	1.917	11.74	2.917	5.50	3.92	3.77
1.000	13.36	2.000	11.74	3.000	5.50	4.00	3.77

			TOTALS
Max.Eff.Inten.(mm/hr)=	126.55	22.00	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.86 (ii)	8.00 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.25	0.13	
PEAK FLOW (cms)=	2.01	0.09	2.080 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	58.69	12.94	47.25
TOTAL RAINFALL (mm)=	59.69	59.69	59.69
RUNOFF COEFFICIENT =	0.98	0.22	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

```
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0116)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2090     0.3700
                         0.0146     0.2491   |   0.2910     0.4360
                         0.0800     0.2550   |   0.3580     0.4850
                         0.1520     0.3150   |   0.4290     0.5350

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0109)      8.100     2.080      1.33      47.25
   OUTFLOW: ID= 1 (  0116)      8.100     0.124      2.67      46.23

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.96
                  TIME SHIFT OF PEAK FLOW          (min)= 80.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2917

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

--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\335bdce2
| Ptotal= 59.69 mm |    Comments: 10-Year-4-Hour-Chicago
--------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    4.32 |  1.17   30.27 |  2.17    9.72 |  3.17    5.09
               0.33    4.91 |  1.33  126.55 |  2.33    8.35 |  3.33    4.74
               0.50    5.73 |  1.50   39.22 |  2.50    7.35 |  3.50    4.45
               0.67    6.96 |  1.67   21.35 |  2.67    6.59 |  3.67    4.19
               0.83    9.03 |  1.83   15.01 |  2.83    5.99 |  3.83    3.97
               1.00   13.36 |  2.00   11.74 |  3.00    5.50 |  4.00    3.77

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

--------------------
| CALIB            |
| STANDHYD (  0113)|   Area    (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91         6.45
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     320.00        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    4.32 | 1.083   30.27 | 2.083    9.72 |  3.08    5.09
              0.167    4.32 | 1.167   30.27 | 2.167    9.72 |  3.17    5.09
              0.250    4.91 | 1.250  126.55 | 2.250    8.35 |  3.25    4.74
              0.333    4.91 | 1.333  126.55 | 2.333    8.35 |  3.33    4.74
              0.417    5.73 | 1.417   39.22 | 2.417    7.35 |  3.42    4.45
              0.500    5.73 | 1.500   39.22 | 2.500    7.35 |  3.50    4.45
              0.583    6.96 | 1.583   21.35 | 2.583    6.59 |  3.58    4.19
              0.667    6.96 | 1.667   21.35 | 2.667    6.59 |  3.67    4.19
              0.750    9.03 | 1.750   15.01 | 2.750    5.99 |  3.75    3.97
              0.833    9.03 | 1.833   15.01 | 2.833    5.99 |  3.83    3.97
              0.917   13.36 | 1.917   11.74 | 2.917    5.50 |  3.92    3.77
              1.000   13.36 | 2.000   11.74 | 3.000    5.50 |  4.00    3.77

     Max.Eff.Inten.(mm/hr)=     126.55        19.25
               over (min)          5.00        20.00
     Storage Coeff.  (min)=        4.67 (ii)   18.32 (ii)
     Unit Hyd. Tpeak (min)=        5.00        20.00
     Unit Hyd. peak  (cms)=        0.22         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=        2.85         0.19          2.906 (iii)
     TIME TO PEAK    (hrs)=        1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=       58.69        13.61          39.76
     TOTAL RAINFALL   (mm)=       59.69        59.69          59.69
     RUNOFF COEFFICIENT   =        0.98         0.23           0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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

--------------------
| ADD HYD  (  0114)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0111):      1.03    0.060     1.58    47.16
     + ID2= 2 (  0113):     15.36    2.906     1.33    39.76
       ================================================
       ID = 3 (  0114):     16.39    2.949     1.33    40.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0114)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0114):     16.39    2.949     1.33    40.22
     + ID2= 2 (  0116):      8.10    0.124     2.67    46.23
       ================================================
       ID = 1 (  0114):     24.49    2.958     1.33    42.21

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

```
--------------------
| RESERVOIR(  0119)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.4045      0.7000
                         0.0151     0.0001   |  0.5514      0.8000
                         0.0151     0.1301   |  0.7611      0.9000
                         0.0440     0.4217   |  0.9325      0.9500
                         0.2194     0.6000   |  1.1147      1.0500

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0114)     24.490     2.958      1.33      42.21
   OUTFLOW: ID= 1 (  0119)     24.490     0.219      4.08      42.21

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.42
                  TIME SHIFT OF PEAK FLOW         (min)=165.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6004
```

```
--------------------
| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.22      4.08   42.21
     ================================================
     MAJOR SYS.(ID= 2):  12.54      0.20      4.08   42.21
     MINOR SYS.(ID= 3):  11.95      0.02      1.33   42.21

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

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\335bdce2
| Ptotal= 59.69 mm |    Comments: 10-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    4.32 |  1.17   30.27 |  2.17    9.72 |  3.17    5.09
                0.33    4.91 |  1.33  126.55 |  2.33    8.35 |  3.33    4.74
                0.50    5.73 |  1.50   39.22 |  2.50    7.35 |  3.50    4.45
                0.67    6.96 |  1.67   21.35 |  2.67    6.59 |  3.67    4.19
                0.83    9.03 |  1.83   15.01 |  2.83    5.99 |  3.83    3.97
                1.00   13.36 |  2.00   11.74 |  3.00    5.50 |  4.00    3.77
```

```
--------------------
| CALIB            |
| STANDHYD (  0108)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
```

```
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58          0.19
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      72.11         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
              TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
             0.083    4.32 | 1.083   30.27 | 2.083    9.72 |  3.08    5.09
             0.167    4.32 | 1.167   30.27 | 2.167    9.72 |  3.17    5.09
             0.250    4.91 | 1.250  126.55 | 2.250    8.35 |  3.25    4.74
             0.333    4.91 | 1.333  126.55 | 2.333    8.35 |  3.33    4.74
             0.417    5.73 | 1.417   39.22 | 2.417    7.35 |  3.42    4.45
             0.500    5.73 | 1.500   39.22 | 2.500    7.35 |  3.50    4.45
             0.583    6.96 | 1.583   21.35 | 2.583    6.59 |  3.58    4.19
             0.667    6.96 | 1.667   21.35 | 2.667    6.59 |  3.67    4.19
             0.750    9.03 | 1.750   15.01 | 2.750    5.99 |  3.75    3.97
             0.833    9.03 | 1.833   15.01 | 2.833    5.99 |  3.83    3.97
             0.917   13.36 | 1.917   11.74 | 2.917    5.50 |  3.92    3.77
             1.000   13.36 | 2.000   11.74 | 3.000    5.50 |  4.00    3.77

     Max.Eff.Inten.(mm/hr)=     126.55        52.67
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.91 (ii)    6.05 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.20         0.02          0.223 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      58.69        27.08          50.79
     TOTAL RAINFALL   (mm)=      59.69        59.69          59.69
     RUNOFF COEFFICIENT   =       0.98         0.45           0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| RESERVOIR(  0118)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0750      0.0396

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0108)     0.780     0.223      1.33      50.79
   OUTFLOW: ID= 1 (  0118)     0.780     0.039      1.75      50.62

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.49
```

```
                TIME SHIFT OF PEAK FLOW         (min)= 25.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0207

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\335bdce2
| Ptotal= 59.69 mm |    Comments: 10-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    4.32 |  1.17   30.27 |  2.17    9.72 |  3.17    5.09
                0.33    4.91 |  1.33  126.55 |  2.33    8.35 |  3.33    4.74
                0.50    5.73 |  1.50   39.22 |  2.50    7.35 |  3.50    4.45
                0.67    6.96 |  1.67   21.35 |  2.67    6.59 |  3.67    4.19
                0.83    9.03 |  1.83   15.01 |  2.83    5.99 |  3.83    3.97
                1.00   13.36 |  2.00   11.74 |  3.00    5.50 |  4.00    3.77

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

--------------------
| CALIB            |
| STANDHYD (  0112)|   Area    (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    4.32 | 1.083   30.27 | 2.083    9.72 |  3.08    5.09
               0.167    4.32 | 1.167   30.27 | 2.167    9.72 |  3.17    5.09
               0.250    4.91 | 1.250  126.55 | 2.250    8.35 |  3.25    4.74
               0.333    4.91 | 1.333  126.55 | 2.333    8.35 |  3.33    4.74
               0.417    5.73 | 1.417   39.22 | 2.417    7.35 |  3.42    4.45
               0.500    5.73 | 1.500   39.22 | 2.500    7.35 |  3.50    4.45
               0.583    6.96 | 1.583   21.35 | 2.583    6.59 |  3.58    4.19
               0.667    6.96 | 1.667   21.35 | 2.667    6.59 |  3.67    4.19
               0.750    9.03 | 1.750   15.01 | 2.750    5.99 |  3.75    3.97
               0.833    9.03 | 1.833   15.01 | 2.833    5.99 |  3.83    3.97
               0.917   13.36 | 1.917   11.74 | 2.917    5.50 |  3.92    3.77
               1.000   13.36 | 2.000   11.74 | 3.000    5.50 |  4.00    3.77

     Max.Eff.Inten.(mm/hr)=     126.55        52.67
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.10 (ii)    6.24 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.28         0.03          0.305 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      58.69        27.08          50.79
     TOTAL RAINFALL   (mm)=      59.69        59.69          59.69
     RUNOFF COEFFICIENT   =       0.98         0.45           0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0117)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0600     0.0645

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0112)   1.070     0.305      1.33      50.79
   OUTFLOW: ID= 1 (  0117)   1.070     0.031      2.00      50.54

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.26
                TIME SHIFT OF PEAK FLOW         (min)= 40.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0337

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\335bdce2
| Ptotal= 59.69 mm |    Comments: 10-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    4.32 |  1.17   30.27 |  2.17    9.72 |  3.17    5.09
                0.33    4.91 |  1.33  126.55 |  2.33    8.35 |  3.33    4.74
                0.50    5.73 |  1.50   39.22 |  2.50    7.35 |  3.50    4.45
                0.67    6.96 |  1.67   21.35 |  2.67    6.59 |  3.67    4.19
                0.83    9.03 |  1.83   15.01 |  2.83    5.99 |  3.83    3.97
                1.00   13.36 |  2.00   11.74 |  3.00    5.50 |  4.00    3.77

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--------------------
| CALIB            |
| STANDHYD (  0121)|   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250
```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.32	1.083	30.27	2.083	9.72	3.08	5.09
0.167	4.32	1.167	30.27	2.167	9.72	3.17	5.09
0.250	4.91	1.250	126.55	2.250	8.35	3.25	4.74
0.333	4.91	1.333	126.55	2.333	8.35	3.33	4.74
0.417	5.73	1.417	39.22	2.417	7.35	3.42	4.45
0.500	5.73	1.500	39.22	2.500	7.35	3.50	4.45
0.583	6.96	1.583	21.35	2.583	6.59	3.58	4.19
0.667	6.96	1.667	21.35	2.667	6.59	3.67	4.19
0.750	9.03	1.750	15.01	2.750	5.99	3.75	3.97
0.833	9.03	1.833	15.01	2.833	5.99	3.83	3.97
0.917	13.36	1.917	11.74	2.917	5.50	3.92	3.77
1.000	13.36	2.000	11.74	3.000	5.50	4.00	3.77

			TOTALS
Max.Eff.Inten.(mm/hr)=	126.55	22.00	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.39 (ii)	5.88 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.33	0.15	
PEAK FLOW (cms)=	0.07	0.00	0.070 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	58.69	12.94	45.42
TOTAL RAINFALL (mm)=	59.69	59.69	59.69
RUNOFF COEFFICIENT =	0.98	0.22	0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0115)	IN= 2---> OUT= 1	DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
			0.0000	0.0000	0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0121)	0.270	0.070	1.33	45.42
OUTFLOW: ID= 1 (0115)	0.270	0.023	1.50	45.25

PEAK FLOW REDUCTION [Qout/Qin](%)= 33.16
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0047

ADD HYD (0110)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0115):		0.27	0.023	1.50	45.25
+ ID2= 2 (0117):		1.07	0.031	2.00	50.54
ID = 3 (0110):		1.34	0.052	1.58	49.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)	3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0110):		1.34	0.052	1.58	49.47
+ ID2= 2 (0118):		0.78	0.039	1.75	50.62
ID = 1 (0110):		2.12	0.090	1.67	49.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)	1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0110):		2.12	0.090	1.67	49.89
+ ID2= 2 (0120):		12.54	0.204	4.08	42.21
ID = 3 (0110):		14.66	0.249	4.00	43.32

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

 OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
O   O    T      T    H   H   Y Y   MM MM  O   O
O   O    T      T    H   H    Y    M   M  O   O
 OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat

```
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\0d1d0216-c27e-486b-9d40-1343d3b05d23\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
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DATE: 10-31-2019                          TIME: 10:48:49

USER:



COMMENTS: _____________________________________________________________

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  ************************************************
  ** SIMULATION : 3-10-Year-4-Hour-Chicago-MTO  **
  ************************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 591.350
| Ptotal= 51.28 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    4.31 |  1.17   20.41 |  2.17    8.53 |  3.17    4.97
                0.33    4.82 |  1.33  118.26 |  2.33    7.53 |  3.33    4.68
                0.50    5.50 |  1.50   25.04 |  2.50    6.78 |  3.50    4.43
                0.67    6.47 |  1.67   15.79 |  2.67    6.18 |  3.67    4.21
                0.83    8.02 |  1.83   12.04 |  2.83    5.70 |  3.83    4.01
                1.00   10.97 |  2.00    9.92 |  3.00    5.30 |  4.00    3.83


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0107)|   Area    (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.26
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      82.87        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083   4.31 | 1.083   20.41 | 2.083    8.53 |  3.08    4.97
                0.167   4.31 | 1.167   20.41 | 2.167    8.53 |  3.17    4.97
                0.250   4.82 | 1.250  118.26 | 2.250    7.53 |  3.25    4.68
                0.333   4.82 | 1.333  118.26 | 2.333    7.53 |  3.33    4.68
                0.417   5.50 | 1.417   25.04 | 2.417    6.78 |  3.42    4.43
                0.500   5.50 | 1.500   25.04 | 2.500    6.78 |  3.50    4.43
                0.583   6.47 | 1.583   15.79 | 2.583    6.18 |  3.58    4.21
                0.667   6.47 | 1.667   15.79 | 2.667    6.18 |  3.67    4.21
                0.750   8.02 | 1.750   12.04 | 2.750    5.70 |  3.75    4.01
                0.833   8.02 | 1.833   12.04 | 2.833    5.70 |  3.83    4.01
                0.917  10.97 | 1.917    9.92 | 2.917    5.30 |  3.92    3.83
                1.000  10.97 | 2.000    9.92 | 3.000    5.30 |  4.00    3.83

     Max.Eff.Inten.(mm/hr)=     118.26        17.47
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      2.13 (ii)    6.39 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.31         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=      0.25         0.01          0.259 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.42          1.33
     RUNOFF VOLUME    (mm)=     50.28         9.62         40.11
     TOTAL RAINFALL   (mm)=     51.28        51.28         51.28
     RUNOFF COEFFICIENT   =      0.98         0.19          0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0111)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)    |   (cms)     (ha.m.)
                          0.0000     0.0000    |   0.1120     0.0442

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0107)      1.030     0.259      1.33      40.11
   OUTFLOW: ID= 1 (  0111)      1.030     0.050      1.58      40.02

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.15
                TIME SHIFT OF PEAK FLOW          (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0197

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--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 591.350
| Ptotal= 51.28 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.31	1.17	20.41	2.17	8.53	3.17	4.97
0.33	4.82	1.33	118.26	2.33	7.53	3.33	4.68
0.50	5.50	1.50	25.04	2.50	6.78	3.50	4.43
0.67	6.47	1.67	15.79	2.67	6.18	3.67	4.21
0.83	8.02	1.83	12.04	2.83	5.70	3.83	4.01
1.00	10.97	2.00	9.92	3.00	5.30	4.00	3.83

CALIB			
STANDHYD (0109)	Area (ha)= 8.10		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.08	2.03
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	232.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.31	1.083	20.41	2.083	8.53	3.08	4.97
0.167	4.31	1.167	20.41	2.167	8.53	3.17	4.97
0.250	4.82	1.250	118.26	2.250	7.53	3.25	4.68
0.333	4.82	1.333	118.26	2.333	7.53	3.33	4.68
0.417	5.50	1.417	25.04	2.417	6.78	3.42	4.43
0.500	5.50	1.500	25.04	2.500	6.78	3.50	4.43
0.583	6.47	1.583	15.79	2.583	6.18	3.58	4.21
0.667	6.47	1.667	15.79	2.667	6.18	3.67	4.21
0.750	8.02	1.750	12.04	2.750	5.70	3.75	4.01
0.833	8.02	1.833	12.04	2.833	5.70	3.83	4.01
0.917	10.97	1.917	9.92	2.917	5.30	3.92	3.83
1.000	10.97	2.000	9.92	3.000	5.30	4.00	3.83

Max.Eff.Inten.(mm/hr)=		118.26	17.47	
over (min)		5.00	10.00	
Storage Coeff. (min)=		3.96 (ii)	8.21 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.24	0.13	
				TOTALS
PEAK FLOW	(cms)=	1.86	0.07	1.913 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	50.28	9.62	40.12
TOTAL RAINFALL	(mm)=	51.28	51.28	51.28
RUNOFF COEFFICIENT	=	0.98	0.19	0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0116)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2090	0.3700
	0.0146	0.2491	0.2910	0.4360
	0.0800	0.2550	0.3580	0.4850
	0.1520	0.3150	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	1.913	1.33	40.12
OUTFLOW: ID= 1 (0116)	8.100	0.090	3.25	39.10

PEAK FLOW REDUCTION [Qout/Qin](%)= 4.73
TIME SHIFT OF PEAK FLOW (min)=115.00
MAXIMUM STORAGE USED (ha.m.)= 0.2637

CHICAGO STORM	IDF curve parameters: A= 591.350
Ptotal= 51.28 mm	B= 0.000
	C= 0.699
	used in: INTENSITY = A / (t + B)^C
	Duration of storm = 4.00 hrs
	Storm time step = 10.00 min
	Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.31	1.17	20.41	2.17	8.53	3.17	4.97
0.33	4.82	1.33	118.26	2.33	7.53	3.33	4.68
0.50	5.50	1.50	25.04	2.50	6.78	3.50	4.43
0.67	6.47	1.67	15.79	2.67	6.18	3.67	4.21
0.83	8.02	1.83	12.04	2.83	5.70	3.83	4.01
1.00	10.97	2.00	9.92	3.00	5.30	4.00	3.83

CALIB			
STANDHYD (0113)	Area (ha)= 15.36		
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00	Dir. Conn.(%)= 58.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.31	1.083	20.41	2.083	8.53	3.08	4.97
0.167	4.31	1.167	20.41	2.167	8.53	3.17	4.97
0.250	4.82	1.250	118.26	2.250	7.53	3.25	4.68
0.333	4.82	1.333	118.26	2.333	7.53	3.33	4.68
0.417	5.50	1.417	25.04	2.417	6.78	3.42	4.43
0.500	5.50	1.500	25.04	2.500	6.78	3.50	4.43
0.583	6.47	1.583	15.79	2.583	6.18	3.58	4.21
0.667	6.47	1.667	15.79	2.667	6.18	3.67	4.21
0.750	8.02	1.750	12.04	2.750	5.70	3.75	4.01
0.833	8.02	1.833	12.04	2.833	5.70	3.83	4.01
0.917	10.97	1.917	9.92	2.917	5.30	3.92	3.83
1.000	10.97	2.000	9.92	3.000	5.30	4.00	3.83

			TOTALS
Max.Eff.Inten.(mm/hr)=	118.26	12.51	
over (min)	5.00	25.00	
Storage Coeff. (min)=	4.80 (ii)	21.01 (ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00	
Unit Hyd. peak (cms)=	0.22	0.05	
PEAK FLOW (cms)=	2.62	0.13	2.651 (iii)
TIME TO PEAK (hrs)=	1.33	1.67	1.33
RUNOFF VOLUME (mm)=	50.28	10.13	33.42
TOTAL RAINFALL (mm)=	51.28	51.28	51.28
RUNOFF COEFFICIENT =	0.98	0.20	0.65

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0114)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0111):	1.03	0.050	1.58	40.02
+ ID2= 2 (0113):	15.36	2.651	1.33	33.42
ID = 3 (0114):	16.39	2.689	1.33	33.83

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0114)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0114):	16.39	2.689	1.33	33.83
+ ID2= 2 (0116):	8.10	0.090	3.25	39.10
ID = 1 (0114):	24.49	2.697	1.33	35.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0119)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.4045	0.7000
0.0151	0.0001	0.5514	0.8000
0.0151	0.1301	0.7611	0.9000
0.0440	0.4217	0.9325	0.9500
0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0114)	24.490	2.697	1.33	35.58
OUTFLOW: ID= 1 (0119)	24.490	0.144	4.17	35.58

PEAK FLOW REDUCTION [Qout/Qin](%)= 5.35
TIME SHIFT OF PEAK FLOW (min)=170.00
MAXIMUM STORAGE USED (ha.m.)= 0.5237

DUHYD (0120)
Inlet Cap.= 0.015
#of Inlets= 1
Total(cms)= 0.0

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.49	0.14	4.17	35.58
MAJOR SYS.(ID= 2):	10.44	0.13	4.17	35.58
MINOR SYS.(ID= 3):	14.05	0.02	1.33	35.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CHICAGO STORM
Ptotal= 51.28 mm

IDF curve parameters: A= 591.350
B= 0.000
C= 0.699
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.31	1.17	20.41	2.17	8.53	3.17	4.97
0.33	4.82	1.33	118.26	2.33	7.53	3.33	4.68
0.50	5.50	1.50	25.04	2.50	6.78	3.50	4.43
0.67	6.47	1.67	15.79	2.67	6.18	3.67	4.21
0.83	8.02	1.83	12.04	2.83	5.70	3.83	4.01
1.00	10.97	2.00	9.92	3.00	5.30	4.00	3.83

```
| CALIB             |
| STANDHYD (  0108)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.31	1.083	20.41	2.083	8.53	3.08	4.97
0.167	4.31	1.167	20.41	2.167	8.53	3.17	4.97
0.250	4.82	1.250	118.26	2.250	7.53	3.25	4.68
0.333	4.82	1.333	118.26	2.333	7.53	3.33	4.68
0.417	5.50	1.417	25.04	2.417	6.78	3.42	4.43
0.500	5.50	1.500	25.04	2.500	6.78	3.50	4.43
0.583	6.47	1.583	15.79	2.583	6.18	3.58	4.21
0.667	6.47	1.667	15.79	2.667	6.18	3.67	4.21
0.750	8.02	1.750	12.04	2.750	5.70	3.75	4.01
0.833	8.02	1.833	12.04	2.833	5.70	3.83	4.01
0.917	10.97	1.917	9.92	2.917	5.30	3.92	3.83
1.000	10.97	2.000	9.92	3.000	5.30	4.00	3.83

```
     Max.Eff.Inten.(mm/hr)=     118.26        43.24
                 over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.96 (ii)    6.22 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.19         0.02          0.206 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42          1.33
     RUNOFF VOLUME    (mm)=      50.28        20.99         42.96
     TOTAL RAINFALL   (mm)=      51.28        51.28         51.28
     RUNOFF COEFFICIENT   =       0.98         0.41          0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0118)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000      0.0000   |  0.0750      0.0396

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0108)      0.780     0.206     1.33      42.96
   OUTFLOW: ID= 1 (  0118)      0.780     0.032     1.67      42.79

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.57
                  TIME SHIFT OF PEAK FLOW         (min)= 20.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0169

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--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 591.350
| Ptotal= 51.28 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	4.31	1.17	20.41	2.17	8.53	3.17	4.97
0.33	4.82	1.33	118.26	2.33	7.53	3.33	4.68
0.50	5.50	1.50	25.04	2.50	6.78	3.50	4.43
0.67	6.47	1.67	15.79	2.67	6.18	3.67	4.21
0.83	8.02	1.83	12.04	2.83	5.70	3.83	4.01
1.00	10.97	2.00	9.92	3.00	5.30	4.00	3.83

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--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD (  0112)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.31	1.083	20.41	2.083	8.53	3.08	4.97
0.167	4.31	1.167	20.41	2.167	8.53	3.17	4.97
0.250	4.82	1.250	118.26	2.250	7.53	3.25	4.68
0.333	4.82	1.333	118.26	2.333	7.53	3.33	4.68
0.417	5.50	1.417	25.04	2.417	6.78	3.42	4.43
0.500	5.50	1.500	25.04	2.500	6.78	3.50	4.43
0.583	6.47	1.583	15.79	2.583	6.18	3.58	4.21
0.667	6.47	1.667	15.79	2.667	6.18	3.67	4.21
0.750	8.02	1.750	12.04	2.750	5.70	3.75	4.01
0.833	8.02	1.833	12.04	2.833	5.70	3.83	4.01
0.917	10.97	1.917	9.92	2.917	5.30	3.92	3.83
1.000	10.97	2.000	9.92	3.000	5.30	4.00	3.83

```
     Max.Eff.Inten.(mm/hr)=     118.26        43.24
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.16 (ii)    6.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.14
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.26         0.02          0.281 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      50.28        20.99          42.96
     TOTAL RAINFALL   (mm)=      51.28        51.28          51.28
     RUNOFF COEFFICIENT   =       0.98         0.41           0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0117)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0600     0.0645

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0112)     1.070     0.281      1.33      42.96
   OUTFLOW: ID= 1 (  0117)     1.070     0.026      2.08      42.71

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.11
                  TIME SHIFT OF PEAK FLOW         (min)= 45.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0275

--------------------------------------------------------------------------------
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 591.350
| Ptotal= 51.28 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.17    4.31 |  1.17   20.41 |  2.17    8.53 |  3.17    4.97
                  0.33    4.82 |  1.33  118.26 |  2.33    7.53 |  3.33    4.68
                  0.50    5.50 |  1.50   25.04 |  2.50    6.78 |  3.50    4.43
                  0.67    6.47 |  1.67   15.79 |  2.67    6.18 |  3.67    4.21
                  0.83    8.02 |  1.83   12.04 |  2.83    5.70 |  3.83    4.01
                  1.00   10.97 |  2.00    9.92 |  3.00    5.30 |  4.00    3.83


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--------------------
| CALIB            |
| STANDHYD (  0121)|   Area    (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.19          0.08
     Dep. Storage     (mm)=        1.00          5.00
     Average Slope     (%)=        1.00          2.00
     Length            (m)=       42.43         40.00
     Mannings n             =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.083    4.31 | 1.083   20.41 | 2.083    8.53 |  3.08    4.97
                 0.167    4.31 | 1.167   20.41 | 2.167    8.53 |  3.17    4.97
                 0.250    4.82 | 1.250  118.26 | 2.250    7.53 |  3.25    4.68
                 0.333    4.82 | 1.333  118.26 | 2.333    7.53 |  3.33    4.68
                 0.417    5.50 | 1.417   25.04 | 2.417    6.78 |  3.42    4.43
                 0.500    5.50 | 1.500   25.04 | 2.500    6.78 |  3.50    4.43
                 0.583    6.47 | 1.583   15.79 | 2.583    6.18 |  3.58    4.21
                 0.667    6.47 | 1.667   15.79 | 2.667    6.18 |  3.67    4.21
                 0.750    8.02 | 1.750   12.04 | 2.750    5.70 |  3.75    4.01
                 0.833    8.02 | 1.833   12.04 | 2.833    5.70 |  3.83    4.01
                 0.917   10.97 | 1.917    9.92 | 2.917    5.30 |  3.92    3.83
                 1.000   10.97 | 2.000    9.92 | 3.000    5.30 |  4.00    3.83

     Max.Eff.Inten.(mm/hr)=     118.26        17.47
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.43 (ii)    6.04 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.15
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.00          0.065 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      50.28         9.62          38.48
     TOTAL RAINFALL   (mm)=      51.28        51.28          51.28
     RUNOFF COEFFICIENT   =       0.98         0.19           0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
```

```
   INFLOW : ID= 2 (  0121)      0.270      0.065      1.33      38.48
   OUTFLOW: ID= 1 (  0115)      0.270      0.020      1.42      38.32

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.81
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0041

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):     0.27   0.020     1.42    38.32
      + ID2= 2 (  0117):     1.07   0.026     2.08    42.71
        ================================================
        ID = 3 (  0110):     1.34   0.043     1.58    41.83

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0110):     1.34   0.043     1.58    41.83
      + ID2= 2 (  0118):     0.78   0.032     1.67    42.79
        ================================================
        ID = 1 (  0110):     2.12   0.075     1.58    42.18

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0110):     2.12   0.075     1.58    42.18
      + ID2= 2 (  0120):    10.44   0.129     4.17    35.58
        ================================================
        ID = 3 (  0110):    12.56   0.167     4.08    36.69

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

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

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                    *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\b936660b-f1a8-4850-9050-34b7a0a85a40\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\b936660b-f1a8-4850-9050-34b7a0a85a40\scen


DATE: 10-31-2019                          TIME: 10:48:59

USER:


COMMENTS: _____________________________________________________

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  ***********************************************
  ** SIMULATION : 3-10-Year-6-Hour-SCS-Type-II  **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\9434984f
| Ptotal= 70.80 mm |    Comments: 10-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    7.08 |  3.75   15.58 |  5.50    2.83
                0.50    2.83 |  2.25    7.08 |  4.00    7.08 |  5.75    2.83
                0.75    2.83 |  2.50    8.50 |  4.25    7.08 |  6.00    2.83
                1.00    4.25 |  2.75    8.50 |  4.50    5.66 |  6.25    2.83
                1.25    4.25 |  3.00   42.48 |  4.75    5.66 |
                1.50    4.25 |  3.25  110.45 |  5.00    4.25 |
                1.75    4.25 |  3.50   15.58 |  5.25    4.25 |

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--------------------
| CALIB            |
| STANDHYD (  0107)|   Area    (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.26
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      82.87        40.00
     Mannings n           =      0.013        0.250
```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.25	3.250	110.45	4.83	4.25
0.167	0.00	1.750	4.25	3.333	15.58	4.92	4.25
0.250	0.00	1.833	7.08	3.417	15.58	5.00	4.25
0.333	2.83	1.917	7.08	3.500	15.58	5.08	4.25
0.417	2.83	2.000	7.08	3.583	15.58	5.17	4.25
0.500	2.83	2.083	7.08	3.667	15.58	5.25	4.25
0.583	2.83	2.167	7.08	3.750	15.58	5.33	2.83
0.667	2.83	2.250	7.08	3.833	7.08	5.42	2.83
0.750	2.83	2.333	8.50	3.917	7.08	5.50	2.83
0.833	4.25	2.417	8.50	4.000	7.08	5.58	2.83
0.917	4.25	2.500	8.50	4.083	7.08	5.67	2.83
1.000	4.25	2.583	8.50	4.167	7.08	5.75	2.83
1.083	4.25	2.667	8.50	4.250	7.08	5.83	2.83
1.167	4.25	2.750	8.50	4.333	5.66	5.92	2.83
1.250	4.25	2.833	42.48	4.417	5.66	6.00	2.83
1.333	4.25	2.917	42.48	4.500	5.66	6.08	2.83
1.417	4.25	3.000	42.48	4.583	5.66	6.17	2.83
1.500	4.25	3.083	110.45	4.667	5.66	6.25	2.83
1.583	4.25	3.167	110.45	4.750	5.66		

			TOTALS
Max.Eff.Inten.(mm/hr)=	110.45	35.16	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.19 (ii)	6.56 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.14	
PEAK FLOW (cms)=	0.24	0.02	0.256 (iii)
TIME TO PEAK (hrs)=	3.25	3.25	3.25
RUNOFF VOLUME (mm)=	69.80	17.87	56.81
TOTAL RAINFALL (mm)=	70.80	70.80	70.80
RUNOFF COEFFICIENT =	0.99	0.25	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0111)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	1.030	0.256	3.25	56.81
OUTFLOW: ID= 1 (0111)	1.030	0.073	3.33	56.72

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.43
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0288

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\9434984f
Ptotal= 70.80 mm	Comments: 10-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	7.08	3.75	15.58	5.50	2.83
0.50	2.83	2.25	7.08	4.00	7.08	5.75	2.83
0.75	2.83	2.50	8.50	4.25	7.08	6.00	2.83
1.00	4.25	2.75	8.50	4.50	5.66	6.25	2.83
1.25	4.25	3.00	42.48	4.75	5.66		
1.50	4.25	3.25	110.45	5.00	4.25		
1.75	4.25	3.50	15.58	5.25	4.25		

CALIB		
STANDHYD (0109)	Area (ha)=	8.10
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.08	2.03
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	232.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.25	3.250	110.45	4.83	4.25
0.167	0.00	1.750	4.25	3.333	15.58	4.92	4.25
0.250	0.00	1.833	7.08	3.417	15.58	5.00	4.25
0.333	2.83	1.917	7.08	3.500	15.58	5.08	4.25
0.417	2.83	2.000	7.08	3.583	15.58	5.17	4.25
0.500	2.83	2.083	7.08	3.667	15.58	5.25	4.25
0.583	2.83	2.167	7.08	3.750	15.58	5.33	2.83
0.667	2.83	2.250	7.08	3.833	7.08	5.42	2.83
0.750	2.83	2.333	8.50	3.917	7.08	5.50	2.83
0.833	4.25	2.417	8.50	4.000	7.08	5.58	2.83
0.917	4.25	2.500	8.50	4.083	7.08	5.67	2.83
1.000	4.25	2.583	8.50	4.167	7.08	5.75	2.83
1.083	4.25	2.667	8.50	4.250	7.08	5.83	2.83
1.167	4.25	2.750	8.50	4.333	5.66	5.92	2.83
1.250	4.25	2.833	42.48	4.417	5.66	6.00	2.83
1.333	4.25	2.917	42.48	4.500	5.66	6.08	2.83
1.417	4.25	3.000	42.48	4.583	5.66	6.17	2.83
1.500	4.25	3.083	110.45	4.667	5.66	6.25	2.83

	1.583	4.25 |	3.167	110.45 |	4.750	5.66 |

			TOTALS
Max.Eff.Inten.(mm/hr)=	110.45	35.16	
over (min)	5.00	10.00	
Storage Coeff. (min)=	4.07 (ii)	8.44 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.24	0.12	
PEAK FLOW (cms)=	1.83	0.14	1.975 (iii)
TIME TO PEAK (hrs)=	3.25	3.33	3.25
RUNOFF VOLUME (mm)=	69.80	17.87	56.82
TOTAL RAINFALL (mm)=	70.80	70.80	70.80
RUNOFF COEFFICIENT =	0.99	0.25	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0116)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2090	0.3700
0.0146	0.2491	0.2910	0.4360
0.0800	0.2550	0.3580	0.4850
0.1520	0.3150	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	1.975	3.25	56.82
OUTFLOW: ID= 1 (0116)	8.100	0.180	3.83	55.74

PEAK FLOW REDUCTION [Qout/Qin](%)= 9.10
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.3420

READ STORM
Ptotal= 70.80 mm

Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\9434984f
Comments: 10-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	7.08	3.75	15.58	5.50	2.83
0.50	2.83	2.25	7.08	4.00	7.08	5.75	2.83
0.75	2.83	2.50	8.50	4.25	7.08	6.00	2.83
1.00	4.25	2.75	8.50	4.50	5.66	6.25	2.83
1.25	4.25	3.00	42.48	4.75	5.66		
1.50	4.25	3.25	110.45	5.00	4.25		
1.75	4.25	3.50	15.58	5.25	4.25		

CALIB
STANDHYD (0113)
ID= 1 DT= 5.0 min

Area (ha)= 15.36
Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	8.91	6.45
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	320.00	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.25	3.250	110.45	4.83	4.25
0.167	0.00	1.750	4.25	3.333	15.58	4.92	4.25
0.250	0.00	1.833	7.08	3.417	15.58	5.00	4.25
0.333	2.83	1.917	7.08	3.500	15.58	5.08	4.25
0.417	2.83	2.000	7.08	3.583	15.58	5.17	4.25
0.500	2.83	2.083	7.08	3.667	15.58	5.25	4.25
0.583	2.83	2.167	7.08	3.750	15.58	5.33	2.83
0.667	2.83	2.250	7.08	3.833	7.08	5.42	2.83
0.750	2.83	2.333	8.50	3.917	7.08	5.50	2.83
0.833	4.25	2.417	8.50	4.000	7.08	5.58	2.83
0.917	4.25	2.500	8.50	4.083	7.08	5.67	2.83
1.000	4.25	2.583	8.50	4.167	7.08	5.75	2.83
1.083	4.25	2.667	8.50	4.250	7.08	5.83	2.83
1.167	4.25	2.750	8.50	4.333	5.66	5.92	2.83
1.250	4.25	2.833	42.48	4.417	5.66	6.00	2.83
1.333	4.25	2.917	42.48	4.500	5.66	6.08	2.83
1.417	4.25	3.000	42.48	4.583	5.66	6.17	2.83
1.500	4.25	3.083	110.45	4.667	5.66	6.25	2.83
1.583	4.25	3.167	110.45	4.750	5.66		

			TOTALS
Max.Eff.Inten.(mm/hr)=	110.45	33.26	
over (min)	5.00	20.00	
Storage Coeff. (min)=	4.93 (ii)	15.90 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.22	0.07	
PEAK FLOW (cms)=	2.65	0.33	2.864 (iii)
TIME TO PEAK (hrs)=	3.25	3.42	3.25
RUNOFF VOLUME (mm)=	69.80	18.75	48.36
TOTAL RAINFALL (mm)=	70.80	70.80	70.80
RUNOFF COEFFICIENT =	0.99	0.26	0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
| ADD HYD  (  0114)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0111):      1.03   0.073     3.33    56.72
      + ID2= 2 (  0113):     15.36   2.864     3.25    48.36
        ==========================================================
        ID = 3 (  0114):     16.39   2.930     3.25    48.88

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

```
| ADD HYD  (  0114)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0114):     16.39   2.930     3.25    48.88
      + ID2= 2 (  0116):      8.10   0.180     3.83    55.74
        ==========================================================
        ID = 1 (  0114):     24.49   3.019     3.25    51.15

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

```
| RESERVOIR(  0119)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.4045      0.7000
                         0.0151     0.0001    |  0.5514      0.8000
                         0.0151     0.1301    |  0.7611      0.9000
                         0.0440     0.4217    |  0.9325      0.9500
                         0.2194     0.6000    |  1.1147      1.0500

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0114)     24.490     3.019      3.25      51.15
   OUTFLOW: ID= 1 (  0119)     24.490     0.339      5.00      51.15

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.22
                  TIME SHIFT OF PEAK FLOW          (min)=105.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6645
```

```
| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.34      5.00   51.15
     ==================================================
     MAJOR SYS.(ID= 2):  14.42      0.32      5.00   51.15
     MINOR SYS.(ID= 3):  10.07      0.02      2.92   51.15

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

```
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\9434984f
| Ptotal= 70.80 mm |    Comments: 10-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    7.08 |  3.75   15.58 |  5.50    2.83
                0.50    2.83 |  2.25    7.08 |  4.00    7.08 |  5.75    2.83
                0.75    2.83 |  2.50    8.50 |  4.25    7.08 |  6.00    2.83
                1.00    4.25 |  2.75    8.50 |  4.50    5.66 |  6.25    2.83
                1.25    4.25 |  3.00   42.48 |  4.75    5.66 |
                1.50    4.25 |  3.25  110.45 |  5.00    4.25 |
                1.75    4.25 |  3.50   15.58 |  5.25    4.25 |
```

```
| CALIB            |
| STANDHYD (  0108)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58          0.19
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      72.11         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    4.25 | 3.250  110.45 |  4.83    4.25
               0.167    0.00 | 1.750    4.25 | 3.333   15.58 |  4.92    4.25
               0.250    0.00 | 1.833    7.08 | 3.417   15.58 |  5.00    4.25
               0.333    2.83 | 1.917    7.08 | 3.500   15.58 |  5.08    4.25
               0.417    2.83 | 2.000    7.08 | 3.583   15.58 |  5.17    4.25
               0.500    2.83 | 2.083    7.08 | 3.667   15.58 |  5.25    4.25
               0.583    2.83 | 2.167    7.08 | 3.750   15.58 |  5.33    2.83
               0.667    2.83 | 2.250    7.08 | 3.833    7.08 |  5.42    2.83
               0.750    2.83 | 2.333    8.50 | 3.917    7.08 |  5.50    2.83
               0.833    4.25 | 2.417    8.50 | 4.000    7.08 |  5.58    2.83
               0.917    4.25 | 2.500    8.50 | 4.083    7.08 |  5.67    2.83
               1.000    4.25 | 2.583    8.50 | 4.167    7.08 |  5.75    2.83
               1.083    4.25 | 2.667    8.50 | 4.250    7.08 |  5.83    2.83
               1.167    4.25 | 2.750    8.50 | 4.333    5.66 |  5.92    2.83
               1.250    4.25 | 2.833   42.48 | 4.417    5.66 |  6.00    2.83
               1.333    4.25 | 2.917   42.48 | 4.500    5.66 |  6.08    2.83
               1.417    4.25 | 3.000   42.48 | 4.583    5.66 |  6.17    2.83
               1.500    4.25 | 3.083  110.45 | 4.667    5.66 |  6.25    2.83
               1.583    4.25 | 3.167  110.45 | 4.750    5.66 |

     Max.Eff.Inten.(mm/hr)=     110.45        70.56
```

```
              over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.02 (ii)    6.39 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.18         0.03         0.211 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25          3.25
     RUNOFF VOLUME    (mm)=      69.80        35.62         61.25
     TOTAL RAINFALL   (mm)=      70.80        70.80         70.80
     RUNOFF COEFFICIENT   =       0.99         0.50          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0118)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0750      0.0396

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0108)   0.780     0.211      3.25      61.25
   OUTFLOW: ID= 1 (  0118)   0.780     0.048      3.42      61.08

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.66
                  TIME SHIFT OF PEAK FLOW         (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0253

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

--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\9434984f
| Ptotal= 70.80 mm |    Comments: 10-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    7.08 |  3.75   15.58 |  5.50    2.83
                0.50    2.83 |  2.25    7.08 |  4.00    7.08 |  5.75    2.83
                0.75    2.83 |  2.50    8.50 |  4.25    7.08 |  6.00    2.83
                1.00    4.25 |  2.75    8.50 |  4.50    5.66 |  6.25    2.83
                1.25    4.25 |  3.00   42.48 |  4.75    5.66 |
                1.50    4.25 |  3.25  110.45 |  5.00    4.25 |
                1.75    4.25 |  3.50   15.58 |  5.25    4.25 |

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

--------------------
| CALIB            |
| STANDHYD (  0112)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00

--------------------
                                 IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         0.80          0.27
     Dep. Storage     (mm)=         1.00          5.00
     Average Slope     (%)=         1.00          2.00
     Length            (m)=        84.46         40.00
     Mannings n           =        0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    4.25 | 3.250  110.45 |  4.83    4.25
               0.167    0.00 | 1.750    4.25 | 3.333   15.58 |  4.92    4.25
               0.250    0.00 | 1.833    7.08 | 3.417   15.58 |  5.00    4.25
               0.333    2.83 | 1.917    7.08 | 3.500   15.58 |  5.08    4.25
               0.417    2.83 | 2.000    7.08 | 3.583   15.58 |  5.17    4.25
               0.500    2.83 | 2.083    7.08 | 3.667   15.58 |  5.25    4.25
               0.583    2.83 | 2.167    7.08 | 3.750   15.58 |  5.33    2.83
               0.667    2.83 | 2.250    7.08 | 3.833    7.08 |  5.42    2.83
               0.750    2.83 | 2.333    8.50 | 3.917    7.08 |  5.50    2.83
               0.833    4.25 | 2.417    8.50 | 4.000    7.08 |  5.58    2.83
               0.917    4.25 | 2.500    8.50 | 4.083    7.08 |  5.67    2.83
               1.000    4.25 | 2.583    8.50 | 4.167    7.08 |  5.75    2.83
               1.083    4.25 | 2.667    8.50 | 4.250    7.08 |  5.83    2.83
               1.167    4.25 | 2.750    8.50 | 4.333    5.66 |  5.92    2.83
               1.250    4.25 | 2.833   42.48 | 4.417    5.66 |  6.00    2.83
               1.333    4.25 | 2.917   42.48 | 4.500    5.66 |  6.08    2.83
               1.417    4.25 | 3.000   42.48 | 4.583    5.66 |  6.17    2.83
               1.500    4.25 | 3.083  110.45 | 4.667    5.66 |  6.25    2.83
               1.583    4.25 | 3.167  110.45 | 4.750    5.66 |

     Max.Eff.Inten.(mm/hr)=     110.45        70.56
              over (min)          5.00        10.00
     Storage Coeff.  (min)=       2.22 (ii)    6.59 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.14
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.25         0.04         0.289 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25          3.25
     RUNOFF VOLUME    (mm)=      69.80        35.62         61.25
     TOTAL RAINFALL   (mm)=      70.80        70.80         70.80
     RUNOFF COEFFICIENT   =       0.99         0.50          0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0117)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
```

```
                        0.0000     0.0000   |   0.0600      0.0645

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0112)      1.070     0.289      3.25      61.25
   OUTFLOW: ID= 1 (  0117)      1.070     0.038      3.75      61.00

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.28
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0413
```

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\9434984f
| Ptotal= 70.80 mm |    Comments: 10-Year-6-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	7.08	3.75	15.58	5.50	2.83
0.50	2.83	2.25	7.08	4.00	7.08	5.75	2.83
0.75	2.83	2.50	8.50	4.25	7.08	6.00	2.83
1.00	4.25	2.75	8.50	4.50	5.66	6.25	2.83
1.25	4.25	3.00	42.48	4.75	5.66		
1.50	4.25	3.25	110.45	5.00	4.25		
1.75	4.25	3.50	15.58	5.25	4.25		

```
--------------------
| CALIB            |
| STANDHYD (  0121)|   Area     (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	4.25	3.250	110.45	4.83	4.25
0.167	0.00	1.750	4.25	3.333	15.58	4.92	4.25
0.250	0.00	1.833	7.08	3.417	15.58	5.00	4.25
0.333	2.83	1.917	7.08	3.500	15.58	5.08	4.25
0.417	2.83	2.000	7.08	3.583	15.58	5.17	4.25
0.500	2.83	2.083	7.08	3.667	15.58	5.25	4.25
0.583	2.83	2.167	7.08	3.750	15.58	5.33	2.83
0.667	2.83	2.250	7.08	3.833	7.08	5.42	2.83
0.750	2.83	2.333	8.50	3.917	7.08	5.50	2.83
0.833	4.25	2.417	8.50	4.000	7.08	5.58	2.83
0.917	4.25	2.500	8.50	4.083	7.08	5.67	2.83
1.000	4.25	2.583	8.50	4.167	7.08	5.75	2.83
1.083	4.25	2.667	8.50	4.250	7.08	5.83	2.83
1.167	4.25	2.750	8.50	4.333	5.66	5.92	2.83
1.250	4.25	2.833	42.48	4.417	5.66	6.00	2.83
1.333	4.25	2.917	42.48	4.500	5.66	6.08	2.83
1.417	4.25	3.000	42.48	4.583	5.66	6.17	2.83
1.500	4.25	3.083	110.45	4.667	5.66	6.25	2.83
1.583	4.25	3.167	110.45	4.750	5.66		

				TOTALS
Max.Eff.Inten.(mm/hr)=	110.45	35.16		
over (min)	5.00	10.00		
Storage Coeff. (min)=	1.47 (ii)	6.21 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.33	0.15		
PEAK FLOW (cms)=	0.06	0.01	0.065 (iii)	
TIME TO PEAK (hrs)=	3.25	3.25	3.25	
RUNOFF VOLUME (mm)=	69.80	17.87	54.73	
TOTAL RAINFALL (mm)=	70.80	70.80	70.80	
RUNOFF COEFFICIENT =	0.99	0.25	0.77	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)      (ha.m.)    |   (cms)      (ha.m.)
                          0.0000     0.0000     |   0.0460      0.0093

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)      0.270     0.065      3.25      54.73
   OUTFLOW: ID= 1 (  0115)      0.270     0.029      3.33      54.57

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.13
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0060
```

```
--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):      0.27    0.029     3.33    54.57
      + ID2= 2 (  0117):      1.07    0.038     3.75    61.00
        ================================================
        ID = 3 (  0110):      1.34    0.065     3.33    59.71

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

```
--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0110):     1.34   0.065     3.33    59.71
      + ID2= 2 (  0118):     0.78   0.048     3.42    61.08
        ====================================================
        ID = 1 (  0110):     2.12   0.112     3.33    60.21

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0110):     2.12   0.112     3.33    60.21
      + ID2= 2 (  0120):    14.42   0.324     5.00    51.15
        ====================================================
        ID = 3 (  0110):    16.54   0.389     4.83    52.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\dbc34a35-e782-456a-923f-f08a1ab3f0d3\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\dbc34a35-e782-456a-923f-f08a1ab3f0d3\scen


DATE: 10-31-2019                          TIME: 10:49:02

USER:
```

COMMENTS: _____

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--------------------------------------------------------------------------------
----------------------
  ***********************************************
  ** SIMULATION : 4-25-Year-12-Hour-SCS-Type-II **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\5eef7ed8
| Ptotal= 90.70 mm |    Comments: 25-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    3.63 |  6.75   16.33 | 10.00    3.17
                0.50    2.27 |  3.75    3.63 |  7.00    7.26 | 10.25    3.17
                0.75    2.27 |  4.00    3.63 |  7.25    7.26 | 10.50    1.81
                1.00    2.27 |  4.25    3.63 |  7.50    5.44 | 10.75    1.81
                1.25    2.27 |  4.50    5.44 |  7.75    5.44 | 11.00    1.81
                1.50    2.27 |  4.75    5.44 |  8.00    5.44 | 11.25    1.81
                1.75    2.27 |  5.00    7.26 |  8.25    5.44 | 11.50    1.81
                2.00    2.27 |  5.25    7.26 |  8.50    3.17 | 11.75    1.81
                2.25    2.27 |  5.50   10.88 |  8.75    3.17 | 12.00    1.81
                2.50    2.72 |  5.75   10.88 |  9.00    3.17 | 12.25    1.81
                2.75    2.72 |  6.00   43.54 |  9.25    3.17 |
                3.00    2.72 |  6.25  119.72 |  9.50    3.17 |
                3.25    2.72 |  6.50   16.33 |  9.75    3.17 |

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

--------------------
| CALIB            |
| STANDHYD (  0107)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77          0.26
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      82.87         40.00
     Mannings n           =      0.013         0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
              TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
             0.083    0.00 | 3.167    2.72 | 6.250  119.72 |  9.33    3.17
             0.167    0.00 | 3.250    2.72 | 6.333   16.33 |  9.42    3.17
             0.250    0.00 | 3.333    3.63 | 6.417   16.33 |  9.50    3.17
             0.333    2.27 | 3.417    3.63 | 6.500   16.33 |  9.58    3.17
             0.417    2.27 | 3.500    3.63 | 6.583   16.33 |  9.67    3.17
             0.500    2.27 | 3.583    3.63 | 6.667   16.33 |  9.75    3.17
             0.583    2.27 | 3.667    3.63 | 6.750   16.33 |  9.83    3.17
             0.667    2.27 | 3.750    3.63 | 6.833    7.26 |  9.92    3.17
```

0.750	2.27	3.833	3.63	6.917	7.26	10.00	3.17
0.833	2.27	3.917	3.63	7.000	7.26	10.08	3.17
0.917	2.27	4.000	3.63	7.083	7.26	10.17	3.17
1.000	2.27	4.083	3.63	7.167	7.26	10.25	3.17
1.083	2.27	4.167	3.63	7.250	7.26	10.33	1.81
1.167	2.27	4.250	3.63	7.333	5.44	10.42	1.81
1.250	2.27	4.333	5.44	7.417	5.44	10.50	1.81
1.333	2.27	4.417	5.44	7.500	5.44	10.58	1.81
1.417	2.27	4.500	5.44	7.583	5.44	10.67	1.81
1.500	2.27	4.583	5.44	7.667	5.44	10.75	1.81
1.583	2.27	4.667	5.44	7.750	5.44	10.83	1.81
1.667	2.27	4.750	5.44	7.833	5.44	10.92	1.81
1.750	2.27	4.833	7.26	7.917	5.44	11.00	1.81
1.833	2.27	4.917	7.26	8.000	5.44	11.08	1.81
1.917	2.27	5.000	7.26	8.083	5.44	11.17	1.81
2.000	2.27	5.083	7.26	8.167	5.44	11.25	1.81
2.083	2.27	5.167	7.26	8.250	5.44	11.33	1.81
2.167	2.27	5.250	7.26	8.333	3.17	11.42	1.81
2.250	2.27	5.333	10.88	8.417	3.17	11.50	1.81
2.333	2.72	5.417	10.88	8.500	3.17	11.58	1.81
2.417	2.72	5.500	10.88	8.583	3.17	11.67	1.81
2.500	2.72	5.583	10.88	8.667	3.17	11.75	1.81
2.583	2.72	5.667	10.88	8.750	3.17	11.83	1.81
2.667	2.72	5.750	10.88	8.833	3.17	11.92	1.81
2.750	2.72	5.833	43.54	8.917	3.17	12.00	1.81
2.833	2.72	5.917	43.54	9.000	3.17	12.08	1.81
2.917	2.72	6.000	43.54	9.083	3.17	12.17	1.81
3.000	2.72	6.083	119.72	9.167	3.17	12.25	1.81
3.083	2.72	6.167	119.72	9.250	3.17		

Max.Eff.Inten.(mm/hr)=	119.72	45.91	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.12 (ii)	6.36 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
			TOTALS
PEAK FLOW (cms)=	0.26	0.03	0.283 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	89.70	28.01	74.27
TOTAL RAINFALL (mm)=	90.70	90.70	90.70
RUNOFF COEFFICIENT =	0.99	0.31	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0111)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	1.030	0.283	6.25	74.27
OUTFLOW: ID= 1 (0111)	1.030	0.081	6.33	74.18

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.57
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0319

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\5eef7ed8
Ptotal= 90.70 mm	Comments: 25-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.63	6.75	16.33	10.00	3.17
0.50	2.27	3.75	3.63	7.00	7.26	10.25	3.17
0.75	2.27	4.00	3.63	7.25	7.26	10.50	1.81
1.00	2.27	4.25	3.63	7.50	5.44	10.75	1.81
1.25	2.27	4.50	5.44	7.75	5.44	11.00	1.81
1.50	2.27	4.75	5.44	8.00	5.44	11.25	1.81
1.75	2.27	5.00	7.26	8.25	5.44	11.50	1.81
2.00	2.27	5.25	7.26	8.50	3.17	11.75	1.81
2.25	2.27	5.50	10.88	8.75	3.17	12.00	1.81
2.50	2.72	5.75	10.88	9.00	3.17	12.25	1.81
2.75	2.72	6.00	43.54	9.25	3.17		
3.00	2.72	6.25	119.72	9.50	3.17		
3.25	2.72	6.50	16.33	9.75	3.17		

CALIB	
STANDHYD (0109)	Area (ha)= 8.10
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.08	2.03
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	232.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.72	6.250	119.72	9.33	3.17
0.167	0.00	3.250	2.72	6.333	16.33	9.42	3.17
0.250	0.00	3.333	3.63	6.417	16.33	9.50	3.17
0.333	2.27	3.417	3.63	6.500	16.33	9.58	3.17
0.417	2.27	3.500	3.63	6.583	16.33	9.67	3.17
0.500	2.27	3.583	3.63	6.667	16.33	9.75	3.17
0.583	2.27	3.667	3.63	6.750	16.33	9.83	3.17
0.667	2.27	3.750	3.63	6.833	7.26	9.92	3.17
0.750	2.27	3.833	3.63	6.917	7.26	10.00	3.17

0.833	2.27	3.917	3.63	7.000	7.26	10.08	3.17
0.917	2.27	4.000	3.63	7.083	7.26	10.17	3.17
1.000	2.27	4.083	3.63	7.167	7.26	10.25	3.17
1.083	2.27	4.167	3.63	7.250	7.26	10.33	1.81
1.167	2.27	4.250	3.63	7.333	5.44	10.42	1.81
1.250	2.27	4.333	5.44	7.417	5.44	10.50	1.81
1.333	2.27	4.417	5.44	7.500	5.44	10.58	1.81
1.417	2.27	4.500	5.44	7.583	5.44	10.67	1.81
1.500	2.27	4.583	5.44	7.667	5.44	10.75	1.81
1.583	2.27	4.667	5.44	7.750	5.44	10.83	1.81
1.667	2.27	4.750	5.44	7.833	5.44	10.92	1.81
1.750	2.27	4.833	7.26	7.917	5.44	11.00	1.81
1.833	2.27	4.917	7.26	8.000	5.44	11.08	1.81
1.917	2.27	5.000	7.26	8.083	5.44	11.17	1.81
2.000	2.27	5.083	7.26	8.167	5.44	11.25	1.81
2.083	2.27	5.167	7.26	8.250	5.44	11.33	1.81
2.167	2.27	5.250	7.26	8.333	3.17	11.42	1.81
2.250	2.27	5.333	10.88	8.417	3.17	11.50	1.81
2.333	2.72	5.417	10.88	8.500	3.17	11.58	1.81
2.417	2.72	5.500	10.88	8.583	3.17	11.67	1.81
2.500	2.72	5.583	10.88	8.667	3.17	11.75	1.81
2.583	2.72	5.667	10.88	8.750	3.17	11.83	1.81
2.667	2.72	5.750	10.88	8.833	3.17	11.92	1.81
2.750	2.72	5.833	43.54	8.917	3.17	12.00	1.81
2.833	2.72	5.917	43.54	9.000	3.17	12.08	1.81
2.917	2.72	6.000	43.54	9.083	3.17	12.17	1.81
3.000	2.72	6.083	119.72	9.167	3.17	12.25	1.81
3.083	2.72	6.167	119.72	9.250	3.17		

Max.Eff.Inten.(mm/hr)=	119.72	45.91	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.94 (ii)	8.17 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.24	0.13	
			TOTALS
PEAK FLOW (cms)=	1.99	0.19	2.184 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	89.70	28.01	74.28
TOTAL RAINFALL (mm)=	90.70	90.70	90.70
RUNOFF COEFFICIENT =	0.99	0.31	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0116) IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2090	0.3700
	0.0146	0.2491	0.2910	0.4360
	0.0800	0.2550	0.3580	0.4850
	0.1520	0.3150	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	2.184	6.25	74.28
OUTFLOW: ID= 1 (0116)	8.100	0.251	6.83	73.08

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.47
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.4041

READ STORM Ptotal= 90.70 mm	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\5eef7ed8 Comments: 25-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.63	6.75	16.33	10.00	3.17
0.50	2.27	3.75	3.63	7.00	7.26	10.25	3.17
0.75	2.27	4.00	3.63	7.25	7.26	10.50	1.81
1.00	2.27	4.25	3.63	7.50	5.44	10.75	1.81
1.25	2.27	4.50	5.44	7.75	5.44	11.00	1.81
1.50	2.27	4.75	5.44	8.00	5.44	11.25	1.81
1.75	2.27	5.00	7.26	8.25	5.44	11.50	1.81
2.00	2.27	5.25	7.26	8.50	3.17	11.75	1.81
2.25	2.27	5.50	10.88	8.75	3.17	12.00	1.81
2.50	2.72	5.75	10.88	9.00	3.17	12.25	1.81
2.75	2.72	6.00	43.54	9.25	3.17		
3.00	2.72	6.25	119.72	9.50	3.17		
3.25	2.72	6.50	16.33	9.75	3.17		

CALIB STANDHYD (0113) ID= 1 DT= 5.0 min	Area (ha)= 15.36 Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.72	6.250	119.72	9.33	3.17
0.167	0.00	3.250	2.72	6.333	16.33	9.42	3.17
0.250	0.00	3.333	3.63	6.417	16.33	9.50	3.17
0.333	2.27	3.417	3.63	6.500	16.33	9.58	3.17
0.417	2.27	3.500	3.63	6.583	16.33	9.67	3.17
0.500	2.27	3.583	3.63	6.667	16.33	9.75	3.17
0.583	2.27	3.667	3.63	6.750	16.33	9.83	3.17

0.667	2.27	3.750	3.63	6.833	7.26	9.92	3.17
0.750	2.27	3.833	3.63	6.917	7.26	10.00	3.17
0.833	2.27	3.917	3.63	7.000	7.26	10.08	3.17
0.917	2.27	4.000	3.63	7.083	7.26	10.17	3.17
1.000	2.27	4.083	3.63	7.167	7.26	10.25	3.17
1.083	2.27	4.167	3.63	7.250	7.26	10.33	1.81
1.167	2.27	4.250	3.63	7.333	5.44	10.42	1.81
1.250	2.27	4.333	5.44	7.417	5.44	10.50	1.81
1.333	2.27	4.417	5.44	7.500	5.44	10.58	1.81
1.417	2.27	4.500	5.44	7.583	5.44	10.67	1.81
1.500	2.27	4.583	5.44	7.667	5.44	10.75	1.81
1.583	2.27	4.667	5.44	7.750	5.44	10.83	1.81
1.667	2.27	4.750	5.44	7.833	5.44	10.92	1.81
1.750	2.27	4.833	7.26	7.917	5.44	11.00	1.81
1.833	2.27	4.917	7.26	8.000	5.44	11.08	1.81
1.917	2.27	5.000	7.26	8.083	5.44	11.17	1.81
2.000	2.27	5.083	7.26	8.167	5.44	11.25	1.81
2.083	2.27	5.167	7.26	8.250	5.44	11.33	1.81
2.167	2.27	5.250	7.26	8.333	3.17	11.42	1.81
2.250	2.27	5.333	10.88	8.417	3.17	11.50	1.81
2.333	2.72	5.417	10.88	8.500	3.17	11.58	1.81
2.417	2.72	5.500	10.88	8.583	3.17	11.67	1.81
2.500	2.72	5.583	10.88	8.667	3.17	11.75	1.81
2.583	2.72	5.667	10.88	8.750	3.17	11.83	1.81
2.667	2.72	5.750	10.88	8.833	3.17	11.92	1.81
2.750	2.72	5.833	43.54	8.917	3.17	12.00	1.81
2.833	2.72	5.917	43.54	9.000	3.17	12.08	1.81
2.917	2.72	6.000	43.54	9.083	3.17	12.17	1.81
3.000	2.72	6.083	119.72	9.167	3.17	12.25	1.81
3.083	2.72	6.167	119.72	9.250	3.17		

			TOTALS
Max.Eff.Inten.(mm/hr)=	119.72	48.04	
over (min)	5.00	15.00	
Storage Coeff. (min)=	4.78 (ii)	14.24 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.22	0.08	
PEAK FLOW (cms)=	2.88	0.49	3.294 (iii)
TIME TO PEAK (hrs)=	6.25	6.33	6.25
RUNOFF VOLUME (mm)=	89.70	29.28	64.32
TOTAL RAINFALL (mm)=	90.70	90.70	90.70
RUNOFF COEFFICIENT =	0.99	0.32	0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0114)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0111):	1.03	0.081	6.33	74.18
+ ID2= 2 (0113):	15.36	3.294	6.25	64.32
ID = 3 (0114):	16.39	3.367	6.25	64.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0114)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0114):	16.39	3.367	6.25	64.94
+ ID2= 2 (0116):	8.10	0.251	6.83	73.08
ID = 1 (0114):	24.49	3.535	6.25	67.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0119)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.4045	0.7000
0.0151	0.0001	0.5514	0.8000
0.0151	0.1301	0.7611	0.9000
0.0440	0.4217	0.9325	0.9500
0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0114)	24.490	3.535	6.25	67.63
OUTFLOW: ID= 1 (0119)	24.490	0.481	7.42	67.63

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.60
TIME SHIFT OF PEAK FLOW (min)= 70.00
MAXIMUM STORAGE USED (ha.m.)= 0.7519

DUHYD (0120)
Inlet Cap.= 0.015
#of Inlets= 1
Total(cms)= 0.0

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.49	0.48	7.42	67.63
MAJOR SYS.(ID= 2):	16.49	0.47	7.42	67.63
MINOR SYS.(ID= 3):	8.00	0.02	5.33	67.63

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM | Ptotal= 90.70 mm

Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\5eef7ed8
Comments: 25-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	3.63	6.75	16.33	10.00	3.17
0.50	2.27	3.75	3.63	7.00	7.26	10.25	3.17
0.75	2.27	4.00	3.63	7.25	7.26	10.50	1.81
1.00	2.27	4.25	3.63	7.50	5.44	10.75	1.81
1.25	2.27	4.50	5.44	7.75	5.44	11.00	1.81
1.50	2.27	4.75	5.44	8.00	5.44	11.25	1.81
1.75	2.27	5.00	7.26	8.25	5.44	11.50	1.81
2.00	2.27	5.25	7.26	8.50	3.17	11.75	1.81
2.25	2.27	5.50	10.88	8.75	3.17	12.00	1.81
2.50	2.72	5.75	10.88	9.00	3.17	12.25	1.81
2.75	2.72	6.00	43.54	9.25	3.17		
3.00	2.72	6.25	119.72	9.50	3.17		
3.25	2.72	6.50	16.33	9.75	3.17		

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| CALIB            |
| STANDHYD (  0108)|   Area    (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.72	6.250	119.72	9.33	3.17
0.167	0.00	3.250	2.72	6.333	16.33	9.42	3.17
0.250	0.00	3.333	3.63	6.417	16.33	9.50	3.17
0.333	2.27	3.417	3.63	6.500	16.33	9.58	3.17
0.417	2.27	3.500	3.63	6.583	16.33	9.67	3.17
0.500	2.27	3.583	3.63	6.667	16.33	9.75	3.17
0.583	2.27	3.667	3.63	6.750	16.33	9.83	3.17
0.667	2.27	3.750	3.63	6.833	7.26	9.92	3.17
0.750	2.27	3.833	3.63	6.917	7.26	10.00	3.17
0.833	2.27	3.917	3.63	7.000	7.26	10.08	3.17
0.917	2.27	4.000	3.63	7.083	7.26	10.17	3.17
1.000	2.27	4.083	3.63	7.167	7.26	10.25	3.17
1.083	2.27	4.167	3.63	7.250	7.26	10.33	1.81
1.167	2.27	4.250	3.63	7.333	5.44	10.42	1.81
1.250	2.27	4.333	5.44	7.417	5.44	10.50	1.81
1.333	2.27	4.417	5.44	7.500	5.44	10.58	1.81
1.417	2.27	4.500	5.44	7.583	5.44	10.67	1.81
1.500	2.27	4.583	5.44	7.667	5.44	10.75	1.81
1.583	2.27	4.667	5.44	7.750	5.44	10.83	1.81
1.667	2.27	4.750	5.44	7.833	5.44	10.92	1.81
1.750	2.27	4.833	7.26	7.917	5.44	11.00	1.81
1.833	2.27	4.917	7.26	8.000	5.44	11.08	1.81
1.917	2.27	5.000	7.26	8.083	5.44	11.17	1.81
2.000	2.27	5.083	7.26	8.167	5.44	11.25	1.81
2.083	2.27	5.167	7.26	8.250	5.44	11.33	1.81
2.167	2.27	5.250	7.26	8.333	3.17	11.42	1.81
2.250	2.27	5.333	10.88	8.417	3.17	11.50	1.81
2.333	2.72	5.417	10.88	8.500	3.17	11.58	1.81
2.417	2.72	5.500	10.88	8.583	3.17	11.67	1.81
2.500	2.72	5.583	10.88	8.667	3.17	11.75	1.81
2.583	2.72	5.667	10.88	8.750	3.17	11.83	1.81
2.667	2.72	5.750	10.88	8.833	3.17	11.92	1.81
2.750	2.72	5.833	43.54	8.917	3.17	12.00	1.81
2.833	2.72	5.917	43.54	9.000	3.17	12.08	1.81
2.917	2.72	6.000	43.54	9.083	3.17	12.17	1.81
3.000	2.72	6.083	119.72	9.167	3.17	12.25	1.81
3.083	2.72	6.167	119.72	9.250	3.17		

Max.Eff.Inten.(mm/hr)=	119.72	85.17		
over (min)	5.00	10.00		
Storage Coeff. (min)=	1.95 (ii)	6.19 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.31	0.15		
			TOTALS	
PEAK FLOW (cms)=	0.19	0.04	0.234 (iii)	
TIME TO PEAK (hrs)=	6.25	6.25	6.25	
RUNOFF VOLUME (mm)=	89.70	51.92	80.25	
TOTAL RAINFALL (mm)=	90.70	90.70	90.70	
RUNOFF COEFFICIENT =	0.99	0.57	0.88	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0118)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.0750     0.0396
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	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	0.780	0.234	6.25	80.25
OUTFLOW: ID= 1 (0118)	0.780	0.054	6.42	80.09

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.06
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0285

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\5eef7ed8
| Ptotal= 90.70 mm |    Comments: 25-Year-12-Hour-SCS-Type-II
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TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.25	0.00	3.50	3.63	6.75	16.33	10.00	3.17
0.50	2.27	3.75	3.63	7.00	7.26	10.25	3.17
0.75	2.27	4.00	3.63	7.25	7.26	10.50	1.81
1.00	2.27	4.25	3.63	7.50	5.44	10.75	1.81
1.25	2.27	4.50	5.44	7.75	5.44	11.00	1.81
1.50	2.27	4.75	5.44	8.00	5.44	11.25	1.81
1.75	2.27	5.00	7.26	8.25	5.44	11.50	1.81
2.00	2.27	5.25	7.26	8.50	3.17	11.75	1.81
2.25	2.27	5.50	10.88	8.75	3.17	12.00	1.81
2.50	2.72	5.75	10.88	9.00	3.17	12.25	1.81
2.75	2.72	6.00	43.54	9.25	3.17		
3.00	2.72	6.25	119.72	9.50	3.17		
3.25	2.72	6.50	16.33	9.75	3.17		

CALIB	
STANDHYD (0112)	Area (ha)= 1.07
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.72	6.250	119.72	9.33	3.17
0.167	0.00	3.250	2.72	6.333	16.33	9.42	3.17
0.250	0.00	3.333	3.63	6.417	16.33	9.50	3.17
0.333	2.27	3.417	3.63	6.500	16.33	9.58	3.17
0.417	2.27	3.500	3.63	6.583	16.33	9.67	3.17
0.500	2.27	3.583	3.63	6.667	16.33	9.75	3.17
0.583	2.27	3.667	3.63	6.750	16.33	9.83	3.17
0.667	2.27	3.750	3.63	6.833	7.26	9.92	3.17
0.750	2.27	3.833	3.63	6.917	7.26	10.00	3.17
0.833	2.27	3.917	3.63	7.000	7.26	10.08	3.17
0.917	2.27	4.000	3.63	7.083	7.26	10.17	3.17
1.000	2.27	4.083	3.63	7.167	7.26	10.25	3.17
1.083	2.27	4.167	3.63	7.250	7.26	10.33	1.81
1.167	2.27	4.250	3.63	7.333	5.44	10.42	1.81
1.250	2.27	4.333	5.44	7.417	5.44	10.50	1.81
1.333	2.27	4.417	5.44	7.500	5.44	10.58	1.81
1.417	2.27	4.500	5.44	7.583	5.44	10.67	1.81
1.500	2.27	4.583	5.44	7.667	5.44	10.75	1.81
1.583	2.27	4.667	5.44	7.750	5.44	10.83	1.81
1.667	2.27	4.750	5.44	7.833	5.44	10.92	1.81
1.750	2.27	4.833	7.26	7.917	5.44	11.00	1.81
1.833	2.27	4.917	7.26	8.000	5.44	11.08	1.81
1.917	2.27	5.000	7.26	8.083	5.44	11.17	1.81
2.000	2.27	5.083	7.26	8.167	5.44	11.25	1.81
2.083	2.27	5.167	7.26	8.250	5.44	11.33	1.81
2.167	2.27	5.250	7.26	8.333	3.17	11.42	1.81
2.250	2.27	5.333	10.88	8.417	3.17	11.50	1.81
2.333	2.72	5.417	10.88	8.500	3.17	11.58	1.81
2.417	2.72	5.500	10.88	8.583	3.17	11.67	1.81
2.500	2.72	5.583	10.88	8.667	3.17	11.75	1.81
2.583	2.72	5.667	10.88	8.750	3.17	11.83	1.81
2.667	2.72	5.750	10.88	8.833	3.17	11.92	1.81
2.750	2.72	5.833	43.54	8.917	3.17	12.00	1.81
2.833	2.72	5.917	43.54	9.000	3.17	12.08	1.81
2.917	2.72	6.000	43.54	9.083	3.17	12.17	1.81
3.000	2.72	6.083	119.72	9.167	3.17	12.25	1.81
3.083	2.72	6.167	119.72	9.250	3.17		

				TOTALS
Max.Eff.Inten.(mm/hr)=		119.72	85.17	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.15 (ii)	6.38 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.31	0.15	
PEAK FLOW	(cms)=	0.27	0.05	0.320 (iii)
TIME TO PEAK	(hrs)=	6.25	6.25	6.25
RUNOFF VOLUME	(mm)=	89.70	51.92	80.25
TOTAL RAINFALL	(mm)=	90.70	90.70	90.70
RUNOFF COEFFICIENT	=	0.99	0.57	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0117)		
IN= 2---> OUT= 1		
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000
OUTFLOW	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0112)	1.070	0.320	6.25	80.25
OUTFLOW: ID= 1 (0117)	1.070	0.044	6.75	80.00

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.74
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0473

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\5eef7ed8
Ptotal= 90.70 mm	Comments: 25-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr

0.25	0.00	3.50	3.63	6.75	16.33	10.00	3.17
0.50	2.27	3.75	3.63	7.00	7.26	10.25	3.17
0.75	2.27	4.00	3.63	7.25	7.26	10.50	1.81
1.00	2.27	4.25	3.63	7.50	5.44	10.75	1.81
1.25	2.27	4.50	5.44	7.75	5.44	11.00	1.81
1.50	2.27	4.75	5.44	8.00	5.44	11.25	1.81
1.75	2.27	5.00	7.26	8.25	5.44	11.50	1.81
2.00	2.27	5.25	7.26	8.50	3.17	11.75	1.81
2.25	2.27	5.50	10.88	8.75	3.17	12.00	1.81
2.50	2.72	5.75	10.88	9.00	3.17	12.25	1.81
2.75	2.72	6.00	43.54	9.25	3.17		
3.00	2.72	6.25	119.72	9.50	3.17		
3.25	2.72	6.50	16.33	9.75	3.17		

CALIB	
STANDHYD (0121)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	2.72	6.250	119.72	9.33	3.17
0.167	0.00	3.250	2.72	6.333	16.33	9.42	3.17
0.250	0.00	3.333	3.63	6.417	16.33	9.50	3.17
0.333	2.27	3.417	3.63	6.500	16.33	9.58	3.17
0.417	2.27	3.500	3.63	6.583	16.33	9.67	3.17
0.500	2.27	3.583	3.63	6.667	16.33	9.75	3.17
0.583	2.27	3.667	3.63	6.750	16.33	9.83	3.17
0.667	2.27	3.750	3.63	6.833	7.26	9.92	3.17
0.750	2.27	3.833	3.63	6.917	7.26	10.00	3.17
0.833	2.27	3.917	3.63	7.000	7.26	10.08	3.17
0.917	2.27	4.000	3.63	7.083	7.26	10.17	3.17
1.000	2.27	4.083	3.63	7.167	7.26	10.25	3.17
1.083	2.27	4.167	3.63	7.250	7.26	10.33	1.81
1.167	2.27	4.250	3.63	7.333	5.44	10.42	1.81
1.250	2.27	4.333	5.44	7.417	5.44	10.50	1.81
1.333	2.27	4.417	5.44	7.500	5.44	10.58	1.81
1.417	2.27	4.500	5.44	7.583	5.44	10.67	1.81
1.500	2.27	4.583	5.44	7.667	5.44	10.75	1.81
1.583	2.27	4.667	5.44	7.750	5.44	10.83	1.81
1.667	2.27	4.750	5.44	7.833	5.44	10.92	1.81
1.750	2.27	4.833	7.26	7.917	5.44	11.00	1.81
1.833	2.27	4.917	7.26	8.000	5.44	11.08	1.81
1.917	2.27	5.000	7.26	8.083	5.44	11.17	1.81
2.000	2.27	5.083	7.26	8.167	5.44	11.25	1.81
2.083	2.27	5.167	7.26	8.250	5.44	11.33	1.81
2.167	2.27	5.250	7.26	8.333	3.17	11.42	1.81
2.250	2.27	5.333	10.88	8.417	3.17	11.50	1.81
2.333	2.72	5.417	10.88	8.500	3.17	11.58	1.81
2.417	2.72	5.500	10.88	8.583	3.17	11.67	1.81
2.500	2.72	5.583	10.88	8.667	3.17	11.75	1.81
2.583	2.72	5.667	10.88	8.750	3.17	11.83	1.81
2.667	2.72	5.750	10.88	8.833	3.17	11.92	1.81
2.750	2.72	5.833	43.54	8.917	3.17	12.00	1.81
2.833	2.72	5.917	43.54	9.000	3.17	12.08	1.81
2.917	2.72	6.000	43.54	9.083	3.17	12.17	1.81
3.000	2.72	6.083	119.72	9.167	3.17	12.25	1.81
3.083	2.72	6.167	119.72	9.250	3.17		

				TOTALS
Max.Eff.Inten.(mm/hr)=		119.72	45.91	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.42 (ii)	6.01 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.33	0.15	
PEAK FLOW	(cms)=	0.06	0.01	0.072 (iii)
TIME TO PEAK	(hrs)=	6.25	6.25	6.25
RUNOFF VOLUME	(mm)=	89.70	28.01	71.80
TOTAL RAINFALL	(mm)=	90.70	90.70	90.70
RUNOFF COEFFICIENT	=	0.99	0.31	0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0115)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0121)	0.270	0.072	6.25	71.80
OUTFLOW: ID= 1 (0115)	0.270	0.032	6.33	71.64

PEAK FLOW REDUCTION [Qout/Qin](%)= 43.99
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0066

ADD HYD (0110)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0115):	0.27	0.032	6.33	71.64
+ ID2= 2 (0117):	1.07	0.044	6.75	80.00
ID = 3 (0110):	1.34	0.073	6.33	78.32

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

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

--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0110):      1.34   0.073     6.33    78.32
      + ID2= 2 (  0118):      0.78   0.054     6.42    80.09
        ================================================
        ID = 1 (  0110):      2.12   0.127     6.33    78.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0110):      2.12   0.127     6.33    78.97
      + ID2= 2 (  0120):     16.49   0.465     7.42    67.63
        ================================================
        ID = 3 (  0110):     18.61   0.556     7.25    68.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
================================================================================
======================

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\0703f576-873b-4e1b-b0fb-a1e7020109d0\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\0703f576-873b-4e1b-b0fb-a1e7020109d0\scen


DATE: 10-31-2019                          TIME: 10:48:48

USER:
```

COMMENTS: _____

```
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  ********************************************
  ** SIMULATION : 4-25-Year-24-Hour-SCS-Type-II **
  ********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\6b809c2e
| Ptotal=107.50 mm |    Comments: 25-Year-24-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.48	19.00	1.93
0.50	1.07	6.75	2.15	13.00	7.95	19.25	1.94
0.75	1.07	7.00	2.15	13.25	7.96	19.50	1.93
1.00	1.07	7.25	2.15	13.50	1.50	19.75	1.94
1.25	1.07	7.50	2.15	13.75	1.50	20.00	1.93
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.07	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.22	20.75	1.29
2.25	1.93	8.50	2.90	14.75	3.22	21.00	1.29
2.50	1.40	8.75	2.90	15.00	3.22	21.25	1.29
2.75	1.40	9.00	2.90	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.90	15.50	3.22	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.22	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.22	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.22	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.66	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.32	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.32	18.00	1.93	24.25	1.29
5.75	1.72	12.00	44.72	18.25	1.94		
6.00	1.72	12.25	118.68	18.50	1.93		
6.25	1.72	12.50	15.48	18.75	1.94		

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--------------------
| CALIB            |
| STANDHYD (  0107)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.68	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.49	18.42	1.93
0.250	0.00	6.333	2.15	12.417	15.48	18.50	1.93
0.333	1.08	6.417	2.15	12.500	15.48	18.58	1.94
0.417	1.07	6.500	2.15	12.583	15.48	18.67	1.94
0.500	1.07	6.583	2.15	12.667	15.48	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.48	18.83	1.94
0.667	1.07	6.750	2.15	12.833	7.96	18.92	1.93
0.750	1.07	6.833	2.15	12.917	7.95	19.00	1.93
0.833	1.07	6.917	2.15	13.000	7.95	19.08	1.94
0.917	1.07	7.000	2.15	13.083	7.95	19.17	1.94
1.000	1.07	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.07	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.07	7.250	2.15	13.333	1.51	19.42	1.93
1.250	1.07	7.333	2.15	13.417	1.50	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.50	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.50	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.50	19.75	1.94
1.583	1.07	7.667	2.15	13.750	1.50	19.83	1.93
1.667	1.07	7.750	2.15	13.833	8.81	19.92	1.93
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.81	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.93
2.083	1.93	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.93	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.93	8.333	2.90	14.417	3.22	20.50	1.29
2.333	1.40	8.417	2.90	14.500	3.22	20.58	1.29
2.417	1.40	8.500	2.90	14.583	3.22	20.67	1.29
2.500	1.40	8.583	2.90	14.667	3.22	20.75	1.29
2.583	1.40	8.667	2.90	14.750	3.22	20.83	1.29
2.667	1.40	8.750	2.90	14.833	3.22	20.92	1.29
2.750	1.40	8.833	2.90	14.917	3.22	21.00	1.29
2.833	1.40	8.917	2.90	15.000	3.22	21.08	1.29
2.917	1.40	9.000	2.90	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.90	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.90	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.90	15.333	3.22	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.22	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.22	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.22	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.22	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.22	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.22	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.22	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.22	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.22	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.22	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.22	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.94	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.94	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.66	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.66	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.66	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.66	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.32	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.32	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.32	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.32	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.32	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.32	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.72	17.917	1.93	24.00	1.29
5.833	1.72	11.917	44.72	18.000	1.93	24.08	1.29
5.917	1.72	12.000	44.72	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.67	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.68	18.250	1.94		

Max.Eff.Inten.	(mm/hr)=	118.68	50.38	
over	(min)	5.00	10.00	
Storage Coeff.	(min)=	2.13 (ii)	6.38 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.31	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.25	0.03	0.284 (iii)
TIME TO PEAK	(hrs)=	12.25	12.25	12.25
RUNOFF VOLUME	(mm)=	106.50	37.66	89.28
TOTAL RAINFALL	(mm)=	107.50	107.50	107.50
RUNOFF COEFFICIENT	=	0.99	0.35	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0111)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	1.030	0.284	12.25	89.28
OUTFLOW: ID= 1 (0111)	1.030	0.081	12.33	89.19

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.63
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0321

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\6b809c2e
| Ptotal=107.50 mm |    Comments: 25-Year-24-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.48	19.00	1.93
0.50	1.07	6.75	2.15	13.00	7.95	19.25	1.94
0.75	1.07	7.00	2.15	13.25	7.96	19.50	1.93
1.00	1.07	7.25	2.15	13.50	1.50	19.75	1.94
1.25	1.07	7.50	2.15	13.75	1.50	20.00	1.93
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.07	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.22	20.75	1.29
2.25	1.93	8.50	2.90	14.75	3.22	21.00	1.29
2.50	1.40	8.75	2.90	15.00	3.22	21.25	1.29
2.75	1.40	9.00	2.90	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.90	15.50	3.22	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.22	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.22	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.22	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.66	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.32	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.32	18.00	1.93	24.25	1.29
5.75	1.72	12.00	44.72	18.25	1.94		
6.00	1.72	12.25	118.68	18.50	1.93		
6.25	1.72	12.50	15.48	18.75	1.94		

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--------------------
| CALIB            |
| STANDHYD (  0109)|   Area    (ha)=   8.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.08	2.03
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	232.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.68	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.49	18.42	1.93
0.250	0.00	6.333	2.15	12.417	15.48	18.50	1.93
0.333	1.08	6.417	2.15	12.500	15.48	18.58	1.94
0.417	1.07	6.500	2.15	12.583	15.48	18.67	1.94
0.500	1.07	6.583	2.15	12.667	15.48	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.48	18.83	1.94
0.667	1.07	6.750	2.15	12.833	7.96	18.92	1.93
0.750	1.07	6.833	2.15	12.917	7.95	19.00	1.93
0.833	1.07	6.917	2.15	13.000	7.95	19.08	1.94
0.917	1.07	7.000	2.15	13.083	7.95	19.17	1.94
1.000	1.07	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.07	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.07	7.250	2.15	13.333	1.51	19.42	1.93
1.250	1.07	7.333	2.15	13.417	1.50	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.50	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.50	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.50	19.75	1.94
1.583	1.07	7.667	2.15	13.750	1.50	19.83	1.93
1.667	1.07	7.750	2.15	13.833	8.81	19.92	1.93
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.81	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.93
2.083	1.93	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.93	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.93	8.333	2.90	14.417	3.22	20.50	1.29
2.333	1.40	8.417	2.90	14.500	3.22	20.58	1.29
2.417	1.40	8.500	2.90	14.583	3.22	20.67	1.29
2.500	1.40	8.583	2.90	14.667	3.22	20.75	1.29
2.583	1.40	8.667	2.90	14.750	3.22	20.83	1.29
2.667	1.40	8.750	2.90	14.833	3.22	20.92	1.29
2.750	1.40	8.833	2.90	14.917	3.22	21.00	1.29
2.833	1.40	8.917	2.90	15.000	3.22	21.08	1.29
2.917	1.40	9.000	2.90	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.90	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.90	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.90	15.333	3.22	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.22	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.22	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.22	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.22	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.22	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.22	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.22	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.22	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.22	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.22	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.22	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.94	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.94	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.66	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.66	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.66	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.66	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.32	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.32	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.32	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.32	17.667	1.94	23.75	1.29

5.583	1.72	11.667	10.32	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.32	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.72	17.917	1.93	24.00	1.29
5.833	1.72	11.917	44.72	18.000	1.93	24.08	1.29
5.917	1.72	12.000	44.72	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.67	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.68	18.250	1.94		

			TOTALS
Max.Eff.Inten.(mm/hr)=	118.68	50.38	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.96 (ii)	8.20 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.24	0.13	
PEAK FLOW (cms)=	1.97	0.22	2.191 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	106.50	37.66	89.29
TOTAL RAINFALL (mm)=	107.50	107.50	107.50
RUNOFF COEFFICIENT =	0.99	0.35	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0116)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2090	0.3700
0.0146	0.2491	0.2910	0.4360
0.0800	0.2550	0.3580	0.4850
0.1520	0.3150	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	2.191	12.25	89.29
OUTFLOW: ID= 1 (0116)	8.100	0.290	12.75	87.75

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.22
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.4353

READ STORM
Ptotal=107.50 mm

Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\6b809c2e
Comments: 25-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.48	19.00	1.93
0.50	1.07	6.75	2.15	13.00	7.95	19.25	1.94
0.75	1.07	7.00	2.15	13.25	7.96	19.50	1.93
1.00	1.07	7.25	2.15	13.50	1.50	19.75	1.94
1.25	1.07	7.50	2.15	13.75	1.50	20.00	1.93
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.07	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.22	20.75	1.29
2.25	1.93	8.50	2.90	14.75	3.22	21.00	1.29
2.50	1.40	8.75	2.90	15.00	3.22	21.25	1.29
2.75	1.40	9.00	2.90	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.90	15.50	3.22	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.22	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.22	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.22	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.66	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.32	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.32	18.00	1.93	24.25	1.29
5.75	1.72	12.00	44.72	18.25	1.94		
6.00	1.72	12.25	118.68	18.50	1.93		
6.25	1.72	12.50	15.48	18.75	1.94		

CALIB
STANDHYD (0113)
ID= 1 DT= 5.0 min

Area (ha)= 15.36
Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.68	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.49	18.42	1.93
0.250	0.00	6.333	2.15	12.417	15.48	18.50	1.93
0.333	1.08	6.417	2.15	12.500	15.48	18.58	1.94
0.417	1.07	6.500	2.15	12.583	15.48	18.67	1.94
0.500	1.07	6.583	2.15	12.667	15.48	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.48	18.83	1.94
0.667	1.07	6.750	2.15	12.833	7.96	18.92	1.93
0.750	1.07	6.833	2.15	12.917	7.95	19.00	1.93
0.833	1.07	6.917	2.15	13.000	7.95	19.08	1.94
0.917	1.07	7.000	2.15	13.083	7.95	19.17	1.94
1.000	1.07	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.07	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.07	7.250	2.15	13.333	1.51	19.42	1.93
1.250	1.07	7.333	2.15	13.417	1.50	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.50	19.58	1.94

1.417	1.08	7.500	2.15	13.583	1.50	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.50	19.75	1.94
1.583	1.07	7.667	2.15	13.750	1.50	19.83	1.93
1.667	1.07	7.750	2.15	13.833	8.81	19.92	1.93
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.81	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.93
2.083	1.93	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.93	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.93	8.333	2.90	14.417	3.22	20.50	1.29
2.333	1.40	8.417	2.90	14.500	3.22	20.58	1.29
2.417	1.40	8.500	2.90	14.583	3.22	20.67	1.29
2.500	1.40	8.583	2.90	14.667	3.22	20.75	1.29
2.583	1.40	8.667	2.90	14.750	3.22	20.83	1.29
2.667	1.40	8.750	2.90	14.833	3.22	20.92	1.29
2.750	1.40	8.833	2.90	14.917	3.22	21.00	1.29
2.833	1.40	8.917	2.90	15.000	3.22	21.08	1.29
2.917	1.40	9.000	2.90	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.90	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.90	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.90	15.333	3.22	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.22	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.22	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.22	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.22	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.22	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.22	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.22	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.22	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.22	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.22	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.22	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.94	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.94	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.66	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.66	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.66	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.66	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.32	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.32	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.32	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.32	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.32	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.32	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.72	17.917	1.93	24.00	1.29
5.833	1.72	11.917	44.72	18.000	1.93	24.08	1.29
5.917	1.72	12.000	44.72	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.67	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.68	18.250	1.94		

Max.Eff.Inten.(mm/hr)=	118.68	52.59
over (min)	5.00	15.00

Storage Coeff. (min)=	4.79 (ii)	13.92 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.22	0.08	
			TOTALS
PEAK FLOW (cms)=	2.86	0.56	3.339 (iii)
TIME TO PEAK (hrs)=	12.25	12.33	12.25
RUNOFF VOLUME (mm)=	106.50	39.25	78.26
TOTAL RAINFALL (mm)=	107.50	107.50	107.50
RUNOFF COEFFICIENT =	0.99	0.37	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0114)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0111):	1.03	0.081	12.33	89.19
+ ID2= 2 (0113):	15.36	3.339	12.25	78.26
ID = 3 (0114):	16.39	3.413	12.25	78.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0114)				
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0114):	16.39	3.413	12.25	78.94
+ ID2= 2 (0116):	8.10	0.290	12.75	87.75
ID = 1 (0114):	24.49	3.623	12.25	81.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0119)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.4045	0.7000
0.0151	0.0001	0.5514	0.8000
0.0151	0.1301	0.7611	0.9000
0.0440	0.4217	0.9325	0.9500
0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0114)	24.490	3.623	12.25	81.86
OUTFLOW: ID= 1 (0119)	24.490	0.564	13.25	81.86

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                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.58
                TIME SHIFT OF PEAK FLOW          (min)= 60.00
                MAXIMUM  STORAGE   USED        (ha.m.)=  0.8070

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--------------------
| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):  24.49      0.56     13.25    81.86
     ==================================================
     MAJOR SYS.(ID= 2):  17.22      0.55     13.25    81.86
     MINOR SYS.(ID= 3):   7.27      0.02     10.08    81.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\6b809c2e
| Ptotal=107.50 mm |    Comments: 25-Year-24-Hour-SCS-Type-II
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.48	19.00	1.93
0.50	1.07	6.75	2.15	13.00	7.95	19.25	1.94
0.75	1.07	7.00	2.15	13.25	7.96	19.50	1.93
1.00	1.07	7.25	2.15	13.50	1.50	19.75	1.94
1.25	1.07	7.50	2.15	13.75	1.50	20.00	1.93
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.07	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.22	20.75	1.29
2.25	1.93	8.50	2.90	14.75	3.22	21.00	1.29
2.50	1.40	8.75	2.90	15.00	3.22	21.25	1.29
2.75	1.40	9.00	2.90	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.90	15.50	3.22	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.22	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.22	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.22	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.66	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.32	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.32	18.00	1.93	24.25	1.29
5.75	1.72	12.00	44.72	18.25	1.94		
6.00	1.72	12.25	118.68	18.50	1.93		
6.25	1.72	12.50	15.48	18.75	1.94		

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| CALIB            |
| STANDHYD (  0108)|   Area    (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58          0.19
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      72.11         40.00
     Mannings n           =      0.013         0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
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---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.68	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.49	18.42	1.93
0.250	0.00	6.333	2.15	12.417	15.48	18.50	1.93
0.333	1.08	6.417	2.15	12.500	15.48	18.58	1.94
0.417	1.07	6.500	2.15	12.583	15.48	18.67	1.94
0.500	1.07	6.583	2.15	12.667	15.48	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.48	18.83	1.94
0.667	1.07	6.750	2.15	12.833	7.96	18.92	1.93
0.750	1.07	6.833	2.15	12.917	7.95	19.00	1.93
0.833	1.07	6.917	2.15	13.000	7.95	19.08	1.94
0.917	1.07	7.000	2.15	13.083	7.95	19.17	1.94
1.000	1.07	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.07	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.07	7.250	2.15	13.333	1.51	19.42	1.93
1.250	1.07	7.333	2.15	13.417	1.50	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.50	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.50	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.50	19.75	1.94
1.583	1.07	7.667	2.15	13.750	1.50	19.83	1.93
1.667	1.07	7.750	2.15	13.833	8.81	19.92	1.93
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.81	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.93
2.083	1.93	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.93	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.93	8.333	2.90	14.417	3.22	20.50	1.29
2.333	1.40	8.417	2.90	14.500	3.22	20.58	1.29
2.417	1.40	8.500	2.90	14.583	3.22	20.67	1.29
2.500	1.40	8.583	2.90	14.667	3.22	20.75	1.29
2.583	1.40	8.667	2.90	14.750	3.22	20.83	1.29
2.667	1.40	8.750	2.90	14.833	3.22	20.92	1.29
2.750	1.40	8.833	2.90	14.917	3.22	21.00	1.29
2.833	1.40	8.917	2.90	15.000	3.22	21.08	1.29
2.917	1.40	9.000	2.90	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.90	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.90	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.90	15.333	3.22	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.22	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.22	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.22	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.22	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.22	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.22	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.22	22.00	1.29

3.833	1.40	9.917	3.87	16.000	3.22	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.22	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.22	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.22	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.94	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.94	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.66	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.66	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.66	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.66	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.32	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.32	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.32	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.32	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.32	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.32	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.72	17.917	1.93	24.00	1.29
5.833	1.72	11.917	44.72	18.000	1.93	24.08	1.29
5.917	1.72	12.000	44.72	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.67	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.68	18.250	1.94		

Max.Eff.Inten.(mm/hr)=	118.68	89.11	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.96 (ii)	6.21 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
			TOTALS
PEAK FLOW (cms)=	0.19	0.04	0.234 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	106.50	66.39	96.47
TOTAL RAINFALL (mm)=	107.50	107.50	107.50
RUNOFF COEFFICIENT =	0.99	0.62	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0118)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	0.780	0.234	12.25	96.47
OUTFLOW: ID= 1 (0118)	0.780	0.054	12.42	96.31

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.22
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0289

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\6b809c2e
Ptotal=107.50 mm	Comments: 25-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.48	19.00	1.93
0.50	1.07	6.75	2.15	13.00	7.95	19.25	1.94
0.75	1.07	7.00	2.15	13.25	7.96	19.50	1.93
1.00	1.07	7.25	2.15	13.50	1.50	19.75	1.94
1.25	1.07	7.50	2.15	13.75	1.50	20.00	1.93
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.07	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.22	20.75	1.29
2.25	1.93	8.50	2.90	14.75	3.22	21.00	1.29
2.50	1.40	8.75	2.90	15.00	3.22	21.25	1.29
2.75	1.40	9.00	2.90	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.90	15.50	3.22	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.22	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.22	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.22	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.66	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.32	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.32	18.00	1.93	24.25	1.29
5.75	1.72	12.00	44.72	18.25	1.94		
6.00	1.72	12.25	118.68	18.50	1.93		
6.25	1.72	12.50	15.48	18.75	1.94		

CALIB			
STANDHYD (0112)	Area (ha)= 1.07		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.80	0.27
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	84.46	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.68	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.49	18.42	1.93
0.250	0.00	6.333	2.15	12.417	15.48	18.50	1.93
0.333	1.08	6.417	2.15	12.500	15.48	18.58	1.94
0.417	1.07	6.500	2.15	12.583	15.48	18.67	1.94
0.500	1.07	6.583	2.15	12.667	15.48	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.48	18.83	1.94
0.667	1.07	6.750	2.15	12.833	7.96	18.92	1.93
0.750	1.07	6.833	2.15	12.917	7.95	19.00	1.93
0.833	1.07	6.917	2.15	13.000	7.95	19.08	1.94
0.917	1.07	7.000	2.15	13.083	7.95	19.17	1.94
1.000	1.07	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.07	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.07	7.250	2.15	13.333	1.51	19.42	1.93
1.250	1.07	7.333	2.15	13.417	1.50	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.50	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.50	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.50	19.75	1.94
1.583	1.07	7.667	2.15	13.750	1.50	19.83	1.93
1.667	1.07	7.750	2.15	13.833	8.81	19.92	1.93
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.81	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.93
2.083	1.93	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.93	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.93	8.333	2.90	14.417	3.22	20.50	1.29
2.333	1.40	8.417	2.90	14.500	3.22	20.58	1.29
2.417	1.40	8.500	2.90	14.583	3.22	20.67	1.29
2.500	1.40	8.583	2.90	14.667	3.22	20.75	1.29
2.583	1.40	8.667	2.90	14.750	3.22	20.83	1.29
2.667	1.40	8.750	2.90	14.833	3.22	20.92	1.29
2.750	1.40	8.833	2.90	14.917	3.22	21.00	1.29
2.833	1.40	8.917	2.90	15.000	3.22	21.08	1.29
2.917	1.40	9.000	2.90	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.90	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.90	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.90	15.333	3.22	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.22	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.22	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.22	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.22	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.22	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.22	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.22	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.22	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.22	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.22	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.22	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.94	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.94	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.66	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.66	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.66	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.66	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.32	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.32	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.32	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.32	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.32	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.32	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.72	17.917	1.93	24.00	1.29
5.833	1.72	11.917	44.72	18.000	1.93	24.08	1.29
5.917	1.72	12.000	44.72	18.083	1.94	24.17	1.29
6.000	1.72	12.083	118.67	18.167	1.94	24.25	1.29
6.083	1.72	12.167	118.68	18.250	1.94		

Max.Eff.Inten.(mm/hr)=	118.68	89.11	
over (min)	5.00	10.00	
Storage Coeff. (min)=	2.16 (ii)	6.40 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.14	
			TOTALS
PEAK FLOW (cms)=	0.26	0.06	0.321 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	106.50	66.39	96.47
TOTAL RAINFALL (mm)=	107.50	107.50	107.50
RUNOFF COEFFICIENT =	0.99	0.62	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0117)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0112)	1.070	0.321	12.25	96.47
OUTFLOW: ID= 1 (0117)	1.070	0.045	12.75	96.22

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.89
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0479

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\6b809c2e
Ptotal=107.50 mm	Comments: 25-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.15	12.75	15.48	19.00	1.93
0.50	1.07	6.75	2.15	13.00	7.95	19.25	1.94
0.75	1.07	7.00	2.15	13.25	7.96	19.50	1.93
1.00	1.07	7.25	2.15	13.50	1.50	19.75	1.94
1.25	1.07	7.50	2.15	13.75	1.50	20.00	1.93
1.50	1.08	7.75	2.15	14.00	8.82	20.25	1.94
1.75	1.07	8.00	2.15	14.25	8.82	20.50	1.29
2.00	1.08	8.25	2.15	14.50	3.22	20.75	1.29
2.25	1.93	8.50	2.90	14.75	3.22	21.00	1.29
2.50	1.40	8.75	2.90	15.00	3.22	21.25	1.29
2.75	1.40	9.00	2.90	15.25	3.23	21.50	1.29
3.00	1.40	9.25	2.90	15.50	3.22	21.75	1.29
3.25	1.40	9.50	3.44	15.75	3.22	22.00	1.29
3.50	1.40	9.75	3.44	16.00	3.22	22.25	1.29
3.75	1.40	10.00	3.87	16.25	3.22	22.50	1.29
4.00	1.40	10.25	3.87	16.50	1.94	22.75	1.29
4.25	1.40	10.50	4.95	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.95	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.67	17.25	1.94	23.50	1.29
5.00	1.72	11.25	6.66	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.32	17.75	1.94	24.00	1.29
5.50	1.72	11.75	10.32	18.00	1.93	24.25	1.29
5.75	1.72	12.00	44.72	18.25	1.94		
6.00	1.72	12.25	118.68	18.50	1.93		
6.25	1.72	12.50	15.48	18.75	1.94		

CALIB
STANDHYD (0121)
ID= 1 DT= 5.0 min

Area (ha)= 0.27
Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.72	12.250	118.68	18.33	1.94
0.167	0.00	6.250	1.72	12.333	15.49	18.42	1.93
0.250	0.00	6.333	2.15	12.417	15.48	18.50	1.93
0.333	1.08	6.417	2.15	12.500	15.48	18.58	1.94
0.417	1.07	6.500	2.15	12.583	15.48	18.67	1.94
0.500	1.07	6.583	2.15	12.667	15.48	18.75	1.94
0.583	1.08	6.667	2.15	12.750	15.48	18.83	1.94
0.667	1.07	6.750	2.15	12.833	7.96	18.92	1.93
0.750	1.07	6.833	2.15	12.917	7.95	19.00	1.93
0.833	1.07	6.917	2.15	13.000	7.95	19.08	1.94
0.917	1.07	7.000	2.15	13.083	7.95	19.17	1.94
1.000	1.07	7.083	2.15	13.167	7.96	19.25	1.94
1.083	1.07	7.167	2.15	13.250	7.96	19.33	1.94
1.167	1.07	7.250	2.15	13.333	1.51	19.42	1.93
1.250	1.07	7.333	2.15	13.417	1.50	19.50	1.94
1.333	1.08	7.417	2.15	13.500	1.50	19.58	1.94
1.417	1.08	7.500	2.15	13.583	1.50	19.67	1.94
1.500	1.08	7.583	2.15	13.667	1.50	19.75	1.94
1.583	1.07	7.667	2.15	13.750	1.50	19.83	1.93
1.667	1.07	7.750	2.15	13.833	8.81	19.92	1.93
1.750	1.08	7.833	2.15	13.917	8.82	20.00	1.94
1.833	1.08	7.917	2.15	14.000	8.82	20.08	1.94
1.917	1.08	8.000	2.15	14.083	8.81	20.17	1.94
2.000	1.08	8.083	2.15	14.167	8.82	20.25	1.93
2.083	1.93	8.167	2.15	14.250	8.82	20.33	1.29
2.167	1.93	8.250	2.15	14.333	3.23	20.42	1.29
2.250	1.93	8.333	2.90	14.417	3.22	20.50	1.29
2.333	1.40	8.417	2.90	14.500	3.22	20.58	1.29
2.417	1.40	8.500	2.90	14.583	3.22	20.67	1.29
2.500	1.40	8.583	2.90	14.667	3.22	20.75	1.29
2.583	1.40	8.667	2.90	14.750	3.22	20.83	1.29
2.667	1.40	8.750	2.90	14.833	3.22	20.92	1.29
2.750	1.40	8.833	2.90	14.917	3.22	21.00	1.29
2.833	1.40	8.917	2.90	15.000	3.22	21.08	1.29
2.917	1.40	9.000	2.90	15.083	3.23	21.17	1.29
3.000	1.40	9.083	2.90	15.167	3.23	21.25	1.29
3.083	1.40	9.167	2.90	15.250	3.23	21.33	1.29
3.167	1.40	9.250	2.90	15.333	3.22	21.42	1.29
3.250	1.40	9.333	3.44	15.417	3.22	21.50	1.29
3.333	1.40	9.417	3.44	15.500	3.22	21.58	1.29
3.417	1.40	9.500	3.44	15.583	3.22	21.67	1.29
3.500	1.40	9.583	3.44	15.667	3.22	21.75	1.29
3.583	1.40	9.667	3.44	15.750	3.22	21.83	1.29
3.667	1.40	9.750	3.44	15.833	3.22	21.92	1.29
3.750	1.40	9.833	3.87	15.917	3.22	22.00	1.29
3.833	1.40	9.917	3.87	16.000	3.22	22.08	1.29
3.917	1.40	10.000	3.87	16.083	3.22	22.17	1.29
4.000	1.40	10.083	3.87	16.167	3.22	22.25	1.29
4.083	1.40	10.167	3.87	16.250	3.22	22.33	1.29
4.167	1.40	10.250	3.87	16.333	1.94	22.42	1.29
4.250	1.40	10.333	4.94	16.417	1.94	22.50	1.29
4.333	1.72	10.417	4.95	16.500	1.94	22.58	1.29
4.417	1.72	10.500	4.95	16.583	1.94	22.67	1.29
4.500	1.72	10.583	4.94	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.95	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.95	16.833	1.94	22.92	1.29
4.750	1.72	10.833	6.66	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.67	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.67	17.083	1.94	23.17	1.29
5.000	1.72	11.083	6.66	17.167	1.94	23.25	1.29
5.083	1.72	11.167	6.66	17.250	1.94	23.33	1.29
5.167	1.72	11.250	6.66	17.333	1.94	23.42	1.29
5.250	1.72	11.333	10.32	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.32	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.32	17.583	1.94	23.67	1.29
5.500	1.72	11.583	10.32	17.667	1.94	23.75	1.29
5.583	1.72	11.667	10.32	17.750	1.94	23.83	1.29
5.667	1.72	11.750	10.32	17.833	1.94	23.92	1.29
5.750	1.72	11.833	44.72	17.917	1.93	24.00	1.29
5.833	1.72	11.917	44.72	18.000	1.93	24.08	1.29
5.917	1.72	12.000	44.72	18.083	1.94	24.17	1.29

```
               6.000    1.72 |12.083  118.67 |18.167    1.94 | 24.25    1.29
               6.083    1.72 |12.167  118.68 |18.250    1.94 |

     Max.Eff.Inten.(mm/hr)=     118.68        50.38
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.43 (ii)    6.03 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.15
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.01         0.072 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25         12.25
     RUNOFF VOLUME    (mm)=     106.50        37.66         86.52
     TOTAL RAINFALL   (mm)=     107.50       107.50        107.50
     RUNOFF COEFFICIENT   =       0.99         0.35          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0460     0.0093

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)     0.270     0.072     12.25      86.52
   OUTFLOW: ID= 1 (  0115)     0.270     0.032     12.33      86.35

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 44.15
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0067

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--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0115):     0.27   0.032    12.33    86.35
     + ID2= 2 (  0117):     1.07   0.045    12.75    96.22
       ================================================
       ID = 3 (  0110):     1.34   0.075    12.33    94.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0110):     1.34   0.075    12.33    94.23
     + ID2= 2 (  0118):     0.78   0.054    12.42    96.31
       ================================================
       ID = 1 (  0110):     2.12   0.129    12.33    94.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0110):     2.12   0.129    12.33    94.99
     + ID2= 2 (  0120):    17.22   0.549    13.25    81.86
       ================================================
       ID = 3 (  0110):    19.34   0.644    13.25    83.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****

  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\2ec23e91-60f3-41b0-a9c4-60017bfeb800\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\2ec23e91-60f3-41b0-a9c4-60017bfeb800\scen


DATE: 10-31-2019                          TIME: 10:48:49

USER:


COMMENTS: _____

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  ** SIMULATION : 4-25-Year-4-Hour-Chicago-Barr **
  ************************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\afcaafd9
| Ptotal= 71.24 mm |    Comments: 25-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.22 |  1.17   36.37 |  2.17   11.74 |  3.17    6.15
                0.33    5.94 |  1.33  148.15 |  2.33   10.09 |  3.33    5.74
                0.50    6.93 |  1.50   47.06 |  2.50    8.89 |  3.50    5.38
                0.67    8.42 |  1.67   25.72 |  2.67    7.96 |  3.67    5.08
                0.83   10.91 |  1.83   18.11 |  2.83    7.24 |  3.83    4.80
                1.00   16.13 |  2.00   14.17 |  3.00    6.65 |  4.00    4.57

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| CALIB            |
| STANDHYD (  0107)|   Area    (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.26
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      82.87        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    5.22 | 1.083   36.37 | 2.083   11.74 |  3.08    6.15
               0.167    5.22 | 1.167   36.37 | 2.167   11.74 |  3.17    6.15
               0.250    5.94 | 1.250  148.15 | 2.250   10.09 |  3.25    5.74
               0.333    5.94 | 1.333  148.15 | 2.333   10.09 |  3.33    5.74
               0.417    6.93 | 1.417   47.06 | 2.417    8.88 |  3.42    5.38
               0.500    6.93 | 1.500   47.06 | 2.500    8.89 |  3.50    5.38
               0.583    8.42 | 1.583   25.72 | 2.583    7.96 |  3.58    5.08
               0.667    8.42 | 1.667   25.72 | 2.667    7.96 |  3.67    5.08
               0.750   10.91 | 1.750   18.11 | 2.750    7.24 |  3.75    4.80
               0.833   10.91 | 1.833   18.11 | 2.833    7.24 |  3.83    4.80
               0.917   16.13 | 1.917   14.17 | 2.917    6.65 |  3.92    4.57
               1.000   16.13 | 2.000   14.17 | 3.000    6.65 |  4.00    4.57

     Max.Eff.Inten.(mm/hr)=     148.15        30.96
               over (min)          5.00        10.00
     Storage Coeff.  (min)=       1.95 (ii)    5.84 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.32         0.02          0.331 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      70.24        18.07          57.19
     TOTAL RAINFALL   (mm)=      71.24        71.24          71.24
     RUNOFF COEFFICIENT   =       0.99         0.25           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0111)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1120     0.0442

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0107)   1.030     0.331      1.33      57.19
   OUTFLOW: ID= 1 (  0111)   1.030     0.072      1.58      57.10

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.66
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0283

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\afcaafd9
| Ptotal= 71.24 mm |    Comments: 25-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.22 |  1.17   36.37 |  2.17   11.74 |  3.17    6.15
                0.33    5.94 |  1.33  148.15 |  2.33   10.09 |  3.33    5.74
                0.50    6.93 |  1.50   47.06 |  2.50    8.89 |  3.50    5.38
                0.67    8.42 |  1.67   25.72 |  2.67    7.96 |  3.67    5.08
                0.83   10.91 |  1.83   18.11 |  2.83    7.24 |  3.83    4.80
                1.00   16.13 |  2.00   14.17 |  3.00    6.65 |  4.00    4.57

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--------------------
| CALIB            |
| STANDHYD (  0109)|   Area    (ha)=   8.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.08         2.03
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     232.38        40.00
     Mannings n           =      0.013        0.250
```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.22	1.083	36.37	2.083	11.74	3.08	6.15
0.167	5.22	1.167	36.37	2.167	11.74	3.17	6.15
0.250	5.94	1.250	148.15	2.250	10.09	3.25	5.74
0.333	5.94	1.333	148.15	2.333	10.09	3.33	5.74
0.417	6.93	1.417	47.06	2.417	8.88	3.42	5.38
0.500	6.93	1.500	47.06	2.500	8.89	3.50	5.38
0.583	8.42	1.583	25.72	2.583	7.96	3.58	5.08
0.667	8.42	1.667	25.72	2.667	7.96	3.67	5.08
0.750	10.91	1.750	18.11	2.750	7.24	3.75	4.80
0.833	10.91	1.833	18.11	2.833	7.24	3.83	4.80
0.917	16.13	1.917	14.17	2.917	6.65	3.92	4.57
1.000	16.13	2.000	14.17	3.000	6.65	4.00	4.57

				TOTALS
Max.Eff.Inten.(mm/hr)=	148.15	30.96		
over (min)	5.00	10.00		
Storage Coeff. (min)=	3.62 (ii)	7.51 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.25	0.13		
PEAK FLOW (cms)=	2.38	0.13		2.479 (iii)
TIME TO PEAK (hrs)=	1.33	1.42		1.33
RUNOFF VOLUME (mm)=	70.24	18.07		57.19
TOTAL RAINFALL (mm)=	71.24	71.24		71.24
RUNOFF COEFFICIENT =	0.99	0.25		0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0116)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2090	0.3700
0.0146	0.2491	0.2910	0.4360
0.0800	0.2550	0.3580	0.4850
0.1520	0.3150	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	2.479	1.33	57.19
OUTFLOW: ID= 1 (0116)	8.100	0.174	2.50	56.15

PEAK FLOW REDUCTION [Qout/Qin](%)= 7.02
TIME SHIFT OF PEAK FLOW (min)= 70.00
MAXIMUM STORAGE USED (ha.m.)= 0.3362

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\afcaafd9
Ptotal= 71.24 mm	Comments: 25-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.22	1.17	36.37	2.17	11.74	3.17	6.15
0.33	5.94	1.33	148.15	2.33	10.09	3.33	5.74
0.50	6.93	1.50	47.06	2.50	8.89	3.50	5.38
0.67	8.42	1.67	25.72	2.67	7.96	3.67	5.08
0.83	10.91	1.83	18.11	2.83	7.24	3.83	4.80
1.00	16.13	2.00	14.17	3.00	6.65	4.00	4.57

CALIB
STANDHYD (0113)
ID= 1 DT= 5.0 min

Area (ha)= 15.36
Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	8.91	6.45
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	320.00	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.22	1.083	36.37	2.083	11.74	3.08	6.15
0.167	5.22	1.167	36.37	2.167	11.74	3.17	6.15
0.250	5.94	1.250	148.15	2.250	10.09	3.25	5.74
0.333	5.94	1.333	148.15	2.333	10.09	3.33	5.74
0.417	6.93	1.417	47.06	2.417	8.88	3.42	5.38
0.500	6.93	1.500	47.06	2.500	8.89	3.50	5.38
0.583	8.42	1.583	25.72	2.583	7.96	3.58	5.08
0.667	8.42	1.667	25.72	2.667	7.96	3.67	5.08
0.750	10.91	1.750	18.11	2.750	7.24	3.75	4.80
0.833	10.91	1.833	18.11	2.833	7.24	3.83	4.80
0.917	16.13	1.917	14.17	2.917	6.65	3.92	4.57
1.000	16.13	2.000	14.17	3.000	6.65	4.00	4.57

				TOTALS
Max.Eff.Inten.(mm/hr)=	148.15	26.97		
over (min)	5.00	20.00		
Storage Coeff. (min)=	4.39 (ii)	16.31 (ii)		
Unit Hyd. Tpeak (min)=	5.00	20.00		
Unit Hyd. peak (cms)=	0.23	0.06		
PEAK FLOW (cms)=	3.38	0.29		3.473 (iii)
TIME TO PEAK (hrs)=	1.33	1.58		1.33
RUNOFF VOLUME (mm)=	70.24	18.96		48.70
TOTAL RAINFALL (mm)=	71.24	71.24		71.24
RUNOFF COEFFICIENT =	0.99	0.27		0.68

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| ADD HYD  (  0114)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0111):      1.03   0.072     1.58    57.10
     + ID2= 2 (  0113):     15.36   3.473     1.33    48.70
       ================================================
       ID = 3 (  0114):     16.39   3.526     1.33    49.23

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

```
--------------------
| ADD HYD  (  0114)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0114):     16.39   3.526     1.33    49.23
     + ID2= 2 (  0116):      8.10   0.174     2.50    56.15
       ================================================
       ID = 1 (  0114):     24.49   3.536     1.33    51.52

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

```
--------------------
| RESERVOIR(  0119)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |  0.4045      0.7000
                         0.0151     0.0001    |  0.5514      0.8000
                         0.0151     0.1301    |  0.7611      0.9000
                         0.0440     0.4217    |  0.9325      0.9500
                         0.2194     0.6000    |  1.1147      1.0500

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0114)     24.490     3.536      1.33      51.52
   OUTFLOW: ID= 1 (  0119)     24.490     0.364      3.67      51.52

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.28
                  TIME SHIFT OF PEAK FLOW         (min)=140.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6779
```

```
--------------------
| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.36      3.67   51.52
     ================================================
     MAJOR SYS.(ID= 2):  14.62      0.35      3.67   51.52
     MINOR SYS.(ID= 3):   9.87      0.02      1.25   51.52

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

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\afcaafd9
| Ptotal= 71.24 mm |    Comments: 25-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.22 |  1.17   36.37 |'  2.17   11.74 |  3.17    6.15
                0.33    5.94 |  1.33  148.15 |'  2.33   10.09 |  3.33    5.74
                0.50    6.93 |  1.50   47.06 |'  2.50    8.89 |  3.50    5.38
                0.67    8.42 |  1.67   25.72 |'  2.67    7.96 |  3.67    5.08
                0.83   10.91 |  1.83   18.11 |'  2.83    7.24 |  3.83    4.80
                1.00   16.13 |  2.00   14.17 |'  3.00    6.65 |  4.00    4.57
```

```
--------------------
| CALIB            |
| STANDHYD (  0108)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58          0.19
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      72.11         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    5.22 | 1.083   36.37 | 2.083   11.74 |  3.08    6.15
               0.167    5.22 | 1.167   36.37 | 2.167   11.74 |  3.17    6.15
               0.250    5.94 | 1.250  148.15 | 2.250   10.09 |  3.25    5.74
               0.333    5.94 | 1.333  148.15 | 2.333   10.09 |  3.33    5.74
               0.417    6.93 | 1.417   47.06 | 2.417    8.88 |  3.42    5.38
               0.500    6.93 | 1.500   47.06 | 2.500    8.89 |  3.50    5.38
               0.583    8.42 | 1.583   25.72 | 2.583    7.96 |  3.58    5.08
               0.667    8.42 | 1.667   25.72 | 2.667    7.96 |  3.67    5.08
               0.750   10.91 | 1.750   18.11 | 2.750    7.24 |  3.75    4.80
               0.833   10.91 | 1.833   18.11 | 2.833    7.24 |  3.83    4.80
               0.917   16.13 | 1.917   14.17 | 2.917    6.65 |  3.92    4.57
               1.000   16.13 | 2.000   14.17 | 3.000    6.65 |  4.00    4.57
```

Max.Eff.Inten.(mm/hr)=	148.15	70.68	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.79 (ii)	5.68 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.32	0.15	
			TOTALS
PEAK FLOW (cms)=	0.24	0.03	0.266 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	70.24	35.96	61.66
TOTAL RAINFALL (mm)=	71.24	71.24	71.24
RUNOFF COEFFICIENT =	0.99	0.50	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0118)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	0.780	0.266	1.33	61.66
OUTFLOW: ID= 1 (0118)	0.780	0.047	1.75	61.50

PEAK FLOW REDUCTION [Qout/Qin](%)= 17.74
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 0.0250

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\afcaafd9
Ptotal= 71.24 mm	Comments: 25-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.22	1.17	36.37	2.17	11.74	3.17	6.15
0.33	5.94	1.33	148.15	2.33	10.09	3.33	5.74
0.50	6.93	1.50	47.06	2.50	8.89	3.50	5.38
0.67	8.42	1.67	25.72	2.67	7.96	3.67	5.08
0.83	10.91	1.83	18.11	2.83	7.24	3.83	4.80
1.00	16.13	2.00	14.17	3.00	6.65	4.00	4.57

CALIB		
STANDHYD (0112)	Area (ha)= 1.07	
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.80	0.27
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	84.46	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.22	1.083	36.37	2.083	11.74	3.08	6.15
0.167	5.22	1.167	36.37	2.167	11.74	3.17	6.15
0.250	5.94	1.250	148.15	2.250	10.09	3.25	5.74
0.333	5.94	1.333	148.15	2.333	10.09	3.33	5.74
0.417	6.93	1.417	47.06	2.417	8.88	3.42	5.38
0.500	6.93	1.500	47.06	2.500	8.89	3.50	5.38
0.583	8.42	1.583	25.72	2.583	7.96	3.58	5.08
0.667	8.42	1.667	25.72	2.667	7.96	3.67	5.08
0.750	10.91	1.750	18.11	2.750	7.24	3.75	4.80
0.833	10.91	1.833	18.11	2.833	7.24	3.83	4.80
0.917	16.13	1.917	14.17	2.917	6.65	3.92	4.57
1.000	16.13	2.000	14.17	3.000	6.65	4.00	4.57

Max.Eff.Inten.(mm/hr)=	148.15	70.68	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.97 (ii)	5.86 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
			TOTALS
PEAK FLOW (cms)=	0.33	0.04	0.363 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	70.24	35.96	61.66
TOTAL RAINFALL (mm)=	71.24	71.24	71.24
RUNOFF COEFFICIENT =	0.99	0.50	0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0117)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0112)	1.070	0.363	1.33	61.66
OUTFLOW: ID= 1 (0117)	1.070	0.038	2.00	61.41

```
                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.42
                  TIME SHIFT OF PEAK FLOW         (min)= 40.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0407

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

--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\afcaafd9
| Ptotal= 71.24 mm |    Comments: 25-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.22 |  1.17   36.37 |  2.17   11.74 |  3.17    6.15
                0.33    5.94 |  1.33  148.15 |  2.33   10.09 |  3.33    5.74
                0.50    6.93 |  1.50   47.06 |  2.50    8.89 |  3.50    5.38
                0.67    8.42 |  1.67   25.72 |  2.67    7.96 |  3.67    5.08
                0.83   10.91 |  1.83   18.11 |  2.83    7.24 |  3.83    4.80
                1.00   16.13 |  2.00   14.17 |  3.00    6.65 |  4.00    4.57

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

--------------------
| CALIB            |
| STANDHYD (  0121)|   Area     (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n             =    0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    5.22 | 1.083   36.37 | 2.083   11.74 |  3.08    6.15
               0.167    5.22 | 1.167   36.37 | 2.167   11.74 |  3.17    6.15
               0.250    5.94 | 1.250  148.15 | 2.250   10.09 |  3.25    5.74
               0.333    5.94 | 1.333  148.15 | 2.333   10.09 |  3.33    5.74
               0.417    6.93 | 1.417   47.06 | 2.417    8.88 |  3.42    5.38
               0.500    6.93 | 1.500   47.06 | 2.500    8.89 |  3.50    5.38
               0.583    8.42 | 1.583   25.72 | 2.583    7.96 |  3.58    5.08
               0.667    8.42 | 1.667   25.72 | 2.667    7.96 |  3.67    5.08
               0.750   10.91 | 1.750   18.11 | 2.750    7.24 |  3.75    4.80
               0.833   10.91 | 1.833   18.11 | 2.833    7.24 |  3.83    4.80
               0.917   16.13 | 1.917   14.17 | 2.917    6.65 |  3.92    4.57
               1.000   16.13 | 2.000   14.17 | 3.000    6.65 |  4.00    4.57

     Max.Eff.Inten.(mm/hr)=     148.15        30.96
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.31 (ii)    5.52 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.16
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.08         0.01          0.083 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      70.24        18.07          55.10
     TOTAL RAINFALL   (mm)=      71.24        71.24          71.24
     RUNOFF COEFFICIENT   =       0.99         0.25           0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)      0.270     0.083      1.33      55.10
   OUTFLOW: ID= 1 (  0115)      0.270     0.028      1.50      54.94

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.53
                  TIME SHIFT OF PEAK FLOW         (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0057

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0115):     0.27   0.028     1.50    54.94
     + ID2= 2 (  0117):     1.07   0.038     2.00    61.41
       ================================================
       ID = 3 (  0110):     1.34   0.062     1.58    60.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0110):     1.34   0.062     1.58    60.11
     + ID2= 2 (  0118):     0.78   0.047     1.75    61.50
       ================================================
       ID = 1 (  0110):     2.12   0.109     1.67    60.62

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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```
| ADD HYD  (  0110)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
-------------------           (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0110):      2.12    0.109     1.67    60.62
     + ID2= 2 (  0120):     14.62    0.348     3.67    51.52
       ================================================
       ID = 3 (  0110):     16.74    0.412     3.33    52.67

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\cb594955-124b-4983-b15f-1aceb9e1b81e\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\cb594955-124b-4983-b15f-1aceb9e1b81e\scen


DATE: 10-31-2019                          TIME: 10:49:01

USER:



COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 4-25-Year-4-Hour-Chicago-MTO  **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 696.323
| Ptotal= 60.39 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C
                                  Duration of storm  =  4.00 hrs
                                  Storm time step    = 10.00 min
                                  Time to peak ratio =  0.33

 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
 0.17    5.08 |  1.17   24.03 |  2.17   10.04 |  3.17    5.85
 0.33    5.67 |  1.33  139.25 |  2.33    8.87 |  3.33    5.51
 0.50    6.47 |  1.50   29.49 |  2.50    7.98 |  3.50    5.21
 0.67    7.62 |  1.67   18.59 |  2.67    7.28 |  3.67    4.95
 0.83    9.44 |  1.83   14.18 |  2.83    6.72 |  3.83    4.72
 1.00   12.92 |  2.00   11.68 |  3.00    6.25 |  4.00    4.52

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0107)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77          0.26
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      82.87         40.00
     Mannings n           =      0.013         0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.083    5.08 | 1.083   24.03 | 2.083   10.04 |  3.08    5.85
0.167    5.08 | 1.167   24.03 | 2.167   10.04 |  3.17    5.85
0.250    5.67 | 1.250  139.25 | 2.250    8.87 |  3.25    5.51
0.333    5.67 | 1.333  139.25 | 2.333    8.87 |  3.33    5.51
0.417    6.47 | 1.417   29.49 | 2.417    7.98 |  3.42    5.21
0.500    6.47 | 1.500   29.49 | 2.500    7.98 |  3.50    5.21
0.583    7.62 | 1.583   18.59 | 2.583    7.28 |  3.58    4.95
0.667    7.62 | 1.667   18.59 | 2.667    7.28 |  3.67    4.95
0.750    9.44 | 1.750   14.18 | 2.750    6.72 |  3.75    4.72
0.833    9.44 | 1.833   14.18 | 2.833    6.72 |  3.83    4.72
0.917   12.92 | 1.917   11.68 | 2.917    6.25 |  3.92    4.52
1.000   12.92 | 2.000   11.68 | 3.000    6.25 |  4.00    4.52

     Max.Eff.Inten.(mm/hr)=     139.26        24.74
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.00 (ii)    5.98 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.30         0.01          0.308 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42          1.33
     RUNOFF VOLUME    (mm)=      59.39        13.23         47.84
     TOTAL RAINFALL   (mm)=      60.39        60.39         60.39
     RUNOFF COEFFICIENT   =       0.98         0.22          0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0111)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   0.1120     0.0442

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0107)      1.030     0.308      1.33      47.84
   OUTFLOW: ID= 1 (  0111)      1.030     0.059      1.58      47.75

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.17
                  TIME SHIFT OF PEAK FLOW          (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0235

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| CHICAGO STORM    |    IDF curve parameters: A= 696.323
| Ptotal= 60.39 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                ---- TRANSFORMED HYETOGRAPH ----
  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
 0.083    5.08 | 1.083   24.03 | 2.083   10.04 |  3.08    5.85
 0.167    5.08 | 1.167   24.03 | 2.167   10.04 |  3.17    5.85
 0.250    5.67 | 1.250  139.25 | 2.250    8.87 |  3.25    5.51
 0.333    5.67 | 1.333  139.25 | 2.333    8.87 |  3.33    5.51
 0.417    6.47 | 1.417   29.49 | 2.417    7.98 |  3.42    5.21
 0.500    6.47 | 1.500   29.49 | 2.500    7.98 |  3.50    5.21
 0.583    7.62 | 1.583   18.59 | 2.583    7.28 |  3.58    4.95
 0.667    7.62 | 1.667   18.59 | 2.667    7.28 |  3.67    4.95
 0.750    9.44 | 1.750   14.18 | 2.750    6.72 |  3.75    4.72
 0.833    9.44 | 1.833   14.18 | 2.833    6.72 |  3.83    4.72
 0.917   12.92 | 1.917   11.68 | 2.917    6.25 |  3.92    4.52
 1.000   12.92 | 2.000   11.68 | 3.000    6.25 |  4.00    4.52

     Max.Eff.Inten.(mm/hr)=     139.26        24.74
               over (min)        5.00        10.00
     Storage Coeff.  (min)=      3.71 (ii)    7.70 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.25         0.13
                                                        *TOTALS*
     PEAK FLOW       (cms)=      2.22         0.10          2.293 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=     59.39        13.23          47.85
     TOTAL RAINFALL   (mm)=     60.39        60.39          60.39
     RUNOFF COEFFICIENT   =      0.98         0.22           0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0109)|   Area     (ha)=   8.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.08         2.03
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     232.38        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

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--------------------
| RESERVOIR(  0116)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000   |   0.2090     0.3700
                        0.0146     0.2491   |   0.2910     0.4360
                        0.0800     0.2550   |   0.3580     0.4850
                        0.1520     0.3150   |   0.4290     0.5350

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0109)      8.100     2.293      1.33      47.85
   OUTFLOW: ID= 1 (  0116)      8.100     0.123      2.92      46.82

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.38
                  TIME SHIFT OF PEAK FLOW          (min)= 95.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2912

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| CHICAGO STORM    |    IDF curve parameters: A= 696.323
| Ptotal= 60.39 mm |                          B=   0.000
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--------------------                              C=   0.699
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  4.00 hrs
                        Storm time step    = 10.00 min
                        Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.08 |  1.17   24.03 |  2.17   10.04 |  3.17    5.85
                0.33    5.67 |  1.33  139.25 |  2.33    8.87 |  3.33    5.51
                0.50    6.47 |  1.50   29.49 |  2.50    7.98 |  3.50    5.21
                0.67    7.62 |  1.67   18.59 |  2.67    7.28 |  3.67    4.95
                0.83    9.44 |  1.83   14.18 |  2.83    6.72 |  3.83    4.72
                1.00   12.92 |  2.00   11.68 |  3.00    6.25 |  4.00    4.52


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| CALIB            |
| STANDHYD (  0113)|   Area    (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91          6.45
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     320.00         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    5.08 | 1.083   24.03 | 2.083   10.04 |  3.08    5.85
               0.167    5.08 | 1.167   24.03 | 2.167   10.04 |  3.17    5.85
               0.250    5.67 | 1.250  139.25 | 2.250    8.87 |  3.25    5.51
               0.333    5.67 | 1.333  139.25 | 2.333    8.87 |  3.33    5.51
               0.417    6.47 | 1.417   29.49 | 2.417    7.98 |  3.42    5.21
               0.500    6.47 | 1.500   29.49 | 2.500    7.98 |  3.50    5.21
               0.583    7.62 | 1.583   18.59 | 2.583    7.28 |  3.58    4.95
               0.667    7.62 | 1.667   18.59 | 2.667    7.28 |  3.67    4.95
               0.750    9.44 | 1.750   14.18 | 2.750    6.72 |  3.75    4.72
               0.833    9.44 | 1.833   14.18 | 2.833    6.72 |  3.83    4.72
               0.917   12.92 | 1.917   11.68 | 2.917    6.25 |  3.92    4.52
               1.000   12.92 | 2.000   11.68 | 3.000    6.25 |  4.00    4.52

     Max.Eff.Inten.(mm/hr)=     139.25        20.33
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       4.50 (ii)   17.85 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.23         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.13         0.20          3.200 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      59.39        13.91          40.29
     TOTAL RAINFALL   (mm)=      60.39        60.39          60.39
     RUNOFF COEFFICIENT   =       0.98         0.23           0.67

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0114)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0111):     1.03   0.059     1.58    47.75
     + ID2= 2 (  0113):    15.36   3.200     1.33    40.29
       ================================================
       ID = 3 (  0114):    16.39   3.245     1.33    40.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0114)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0114):    16.39   3.245     1.33    40.76
     + ID2= 2 (  0116):     8.10   0.123     2.92    46.82
       ================================================
       ID = 1 (  0114):    24.49   3.254     1.33    42.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR(  0119)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |   0.4045      0.7000
                        0.0151     0.0001    |   0.5514      0.8000
                        0.0151     0.1301    |   0.7611      0.9000
                        0.0440     0.4217    |   0.9325      0.9500
                        0.2194     0.6000    |   1.1147      1.0500

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0114)     24.490      3.254      1.33      42.76
   OUTFLOW: ID= 1 (  0119)     24.490      0.233      4.08      42.76

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.17
                  TIME SHIFT OF PEAK FLOW         (min)=165.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6079

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| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
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#of Inlets= 1				
Total(cms)= 0.0|	AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		24.49	0.23	4.08	42.76
MAJOR SYS.(ID= 2):		12.68	0.22	4.08	42.76
MINOR SYS.(ID= 3):		11.81	0.02	1.33	42.76

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CHICAGO STORM	IDF curve parameters: A= 696.323
Ptotal= 60.39 mm	B= 0.000
	C= 0.699

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.08	1.17	24.03	2.17	10.04	3.17	5.85
0.33	5.67	1.33	139.25	2.33	8.87	3.33	5.51
0.50	6.47	1.50	29.49	2.50	7.98	3.50	5.21
0.67	7.62	1.67	18.59	2.67	7.28	3.67	4.95
0.83	9.44	1.83	14.18	2.83	6.72	3.83	4.72
1.00	12.92	2.00	11.68	3.00	6.25	4.00	4.52

CALIB	
STANDHYD (0108)	Area (ha)= 0.78
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.08	1.083	24.03	2.083	10.04	3.08	5.85
0.167	5.08	1.167	24.03	2.167	10.04	3.17	5.85
0.250	5.67	1.250	139.25	2.250	8.87	3.25	5.51
0.333	5.67	1.333	139.25	2.333	8.87	3.33	5.51
0.417	6.47	1.417	29.49	2.417	7.98	3.42	5.21
0.500	6.47	1.500	29.49	2.500	7.98	3.50	5.21
0.583	7.62	1.583	18.59	2.583	7.28	3.58	4.95
0.667	7.62	1.667	18.59	2.667	7.28	3.67	4.95
0.750	9.44	1.750	14.18	2.750	6.72	3.75	4.72
0.833	9.44	1.833	14.18	2.833	6.72	3.83	4.72
0.917	12.92	1.917	11.68	2.917	6.25	3.92	4.52
1.000	12.92	2.000	11.68	3.000	6.25	4.00	4.52

				TOTALS
Max.Eff.Inten.(mm/hr)=		139.26	58.73	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.84 (ii)	5.82 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.32	0.15	
PEAK FLOW	(cms)=	0.23	0.02	0.246 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	59.39	27.60	51.44
TOTAL RAINFALL	(mm)=	60.39	60.39	60.39
RUNOFF COEFFICIENT	=	0.98	0.46	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0118)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	0.780	0.246	1.33	51.44
OUTFLOW: ID= 1 (0118)	0.780	0.038	1.67	51.27

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.60
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.0203

CHICAGO STORM	IDF curve parameters: A= 696.323
Ptotal= 60.39 mm	B= 0.000
	C= 0.699

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.08	1.17	24.03	2.17	10.04	3.17	5.85
0.33	5.67	1.33	139.25	2.33	8.87	3.33	5.51
0.50	6.47	1.50	29.49	2.50	7.98	3.50	5.21
0.67	7.62	1.67	18.59	2.67	7.28	3.67	4.95
0.83	9.44	1.83	14.18	2.83	6.72	3.83	4.72
1.00	12.92	2.00	11.68	3.00	6.25	4.00	4.52

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| CALIB            |
| STANDHYD (  0112)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n             =    0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    5.08 | 1.083   24.03 | 2.083   10.04 |  3.08    5.85
              0.167    5.08 | 1.167   24.03 | 2.167   10.04 |  3.17    5.85
              0.250    5.67 | 1.250  139.25 | 2.250    8.87 |  3.25    5.51
              0.333    5.67 | 1.333  139.25 | 2.333    8.87 |  3.33    5.51
              0.417    6.47 | 1.417   29.49 | 2.417    7.98 |  3.42    5.21
              0.500    6.47 | 1.500   29.49 | 2.500    7.98 |  3.50    5.21
              0.583    7.62 | 1.583   18.59 | 2.583    7.28 |  3.58    4.95
              0.667    7.62 | 1.667   18.59 | 2.667    7.28 |  3.67    4.95
              0.750    9.44 | 1.750   14.18 | 2.750    6.72 |  3.75    4.72
              0.833    9.44 | 1.833   14.18 | 2.833    6.72 |  3.83    4.72
              0.917   12.92 | 1.917   11.68 | 2.917    6.25 |  3.92    4.52
              1.000   12.92 | 2.000   11.68 | 3.000    6.25 |  4.00    4.52

     Max.Eff.Inten.(mm/hr)=     139.26        58.73
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.02 (ii)    6.01 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.31         0.03          0.336 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      59.39        27.60          51.44
     TOTAL RAINFALL   (mm)=      60.39        60.39          60.39
     RUNOFF COEFFICIENT   =       0.98         0.46           0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0117)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0600     0.0645

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0112)      1.070     0.336      1.33      51.44
   OUTFLOW: ID= 1 (  0117)      1.070     0.031      2.00      51.19

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.12
                  TIME SHIFT OF PEAK FLOW         (min)= 40.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0330

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--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 696.323
| Ptotal= 60.39 mm |                          B=   0.000
--------------------                          C=   0.699
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  4.00 hrs
                        Storm time step    = 10.00 min
                        Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    5.08 |  1.17   24.03 |  2.17   10.04 |  3.17    5.85
               0.33    5.67 |  1.33  139.25 |  2.33    8.87 |  3.33    5.51
               0.50    6.47 |  1.50   29.49 |  2.50    7.98 |  3.50    5.21
               0.67    7.62 |  1.67   18.59 |  2.67    7.28 |  3.67    4.95
               0.83    9.44 |  1.83   14.18 |  2.83    6.72 |  3.83    4.72
               1.00   12.92 |  2.00   11.68 |  3.00    6.25 |  4.00    4.52

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0121)|   Area     (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n             =    0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    5.08 | 1.083   24.03 | 2.083   10.04 |  3.08    5.85
              0.167    5.08 | 1.167   24.03 | 2.167   10.04 |  3.17    5.85
              0.250    5.67 | 1.250  139.25 | 2.250    8.87 |  3.25    5.51
              0.333    5.67 | 1.333  139.25 | 2.333    8.87 |  3.33    5.51
              0.417    6.47 | 1.417   29.49 | 2.417    7.98 |  3.42    5.21
              0.500    6.47 | 1.500   29.49 | 2.500    7.98 |  3.50    5.21
              0.583    7.62 | 1.583   18.59 | 2.583    7.28 |  3.58    4.95
              0.667    7.62 | 1.667   18.59 | 2.667    7.28 |  3.67    4.95
              0.750    9.44 | 1.750   14.18 | 2.750    6.72 |  3.75    4.72
              0.833    9.44 | 1.833   14.18 | 2.833    6.72 |  3.83    4.72
```

```
               0.917   12.92 | 1.917   11.68 | 2.917    6.25 |  3.92    4.52
               1.000   12.92 | 2.000   11.68 | 3.000    6.25 |  4.00    4.52

     Max.Eff.Inten.(mm/hr)=     139.25        24.74
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.34 (ii)    5.66 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.00          0.078 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      59.39        13.23          45.99
     TOTAL RAINFALL   (mm)=      60.39        60.39          60.39
     RUNOFF COEFFICIENT   =       0.98         0.22           0.76

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0460     0.0093

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)     0.270     0.078      1.33      45.99
   OUTFLOW: ID= 1 (  0115)     0.270     0.024      1.42      45.83

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.83
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0049

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0115):     0.27   0.024     1.42    45.83
     + ID2= 2 (  0117):     1.07   0.031     2.00    51.19
       ================================================
       ID = 3 (  0110):     1.34   0.051     1.58    50.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0110):     1.34   0.051     1.58    50.11
     + ID2= 2 (  0118):     0.78   0.038     1.67    51.27
       ================================================
       ID = 1 (  0110):     2.12   0.089     1.58    50.54

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0110):     2.12   0.089     1.58    50.54
     + ID2= 2 (  0120):    12.68   0.218     4.08    42.76
       ================================================
       ID = 3 (  0110):    14.80   0.264     4.00    43.87

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\890f6c6b-e467-483d-940b-e9c139940d01\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\890f6c6b-e467-483d-940b-e9c139940d01\scen


DATE: 10-31-2019                          TIME: 10:48:55

USER:


COMMENTS: _____

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  ********************************************
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```
  ** SIMULATION : 4-25-Year-6-Hour-SCS-Type-II  **
  ************************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\edbfb811
| Ptotal= 85.20 mm |    Comments: 25-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    8.52 |  3.75   18.74 |  5.50    3.41
                0.50    3.41 |  2.25    8.52 |  4.00    8.52 |  5.75    3.41
                0.75    3.41 |  2.50   10.22 |  4.25    8.52 |  6.00    3.41
                1.00    5.11 |  2.75   10.22 |  4.50    6.82 |  6.25    3.41
                1.25    5.11 |  3.00   51.12 |  4.75    6.82 |
                1.50    5.11 |  3.25  132.91 |  5.00    5.11 |
                1.75    5.11 |  3.50   18.74 |  5.25    5.11 |

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--------------------
| CALIB            |
| STANDHYD (  0107)|   Area    (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.77         0.26
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     82.87        40.00
     Mannings n           =     0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    5.11 | 3.250  132.91 |  4.83    5.11
               0.167    0.00 | 1.750    5.11 | 3.333   18.75 |  4.92    5.11
               0.250    0.00 | 1.833    8.52 | 3.417   18.74 |  5.00    5.11
               0.333    3.41 | 1.917    8.52 | 3.500   18.74 |  5.08    5.11
               0.417    3.41 | 2.000    8.52 | 3.583   18.74 |  5.17    5.11
               0.500    3.41 | 2.083    8.52 | 3.667   18.74 |  5.25    5.11
               0.583    3.41 | 2.167    8.52 | 3.750   18.74 |  5.33    3.41
               0.667    3.41 | 2.250    8.52 | 3.833    8.52 |  5.42    3.41
               0.750    3.41 | 2.333   10.22 | 3.917    8.52 |  5.50    3.41
               0.833    5.11 | 2.417   10.22 | 4.000    8.52 |  5.58    3.41
               0.917    5.11 | 2.500   10.22 | 4.083    8.52 |  5.67    3.41
               1.000    5.11 | 2.583   10.22 | 4.167    8.52 |  5.75    3.41
               1.083    5.11 | 2.667   10.22 | 4.250    8.52 |  5.83    3.41
               1.167    5.11 | 2.750   10.22 | 4.333    6.82 |  5.92    3.41
               1.250    5.11 | 2.833   51.12 | 4.417    6.82 |  6.00    3.41
               1.333    5.11 | 2.917   51.12 | 4.500    6.82 |  6.08    3.41
               1.417    5.11 | 3.000   51.12 | 4.583    6.82 |  6.17    3.41
               1.500    5.11 | 3.083  132.91 | 4.667    6.82 |  6.25    3.41
               1.583    5.11 | 3.167  132.91 | 4.750    6.82 |

     Max.Eff.Inten.(mm/hr)=     132.91        49.16
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.04 (ii)    6.10 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.29         0.03          0.313 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=      84.20        25.06          69.41
     TOTAL RAINFALL   (mm)=      85.20        85.20          85.20
     RUNOFF COEFFICIENT   =       0.99         0.29           0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0111)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.1120     0.0442

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0107)      1.030     0.313      3.25      69.41
   OUTFLOW: ID= 1 (  0111)      1.030     0.089      3.33      69.32

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.38
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0351

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\edbfb811
| Ptotal= 85.20 mm |    Comments: 25-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00    8.52 |  3.75   18.74 |  5.50    3.41
                0.50    3.41 |  2.25    8.52 |  4.00    8.52 |  5.75    3.41
                0.75    3.41 |  2.50   10.22 |  4.25    8.52 |  6.00    3.41
                1.00    5.11 |  2.75   10.22 |  4.50    6.82 |  6.25    3.41
                1.25    5.11 |  3.00   51.12 |  4.75    6.82 |
                1.50    5.11 |  3.25  132.91 |  5.00    5.11 |
                1.75    5.11 |  3.50   18.74 |  5.25    5.11 |

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

--------------------
| CALIB            |
| STANDHYD (  0109)|   Area    (ha)=   8.10
```

```
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      6.08         2.03
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    232.38        40.00
     Mannings n             =    0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.11	3.250	132.91	4.83	5.11
0.167	0.00	1.750	5.11	3.333	18.75	4.92	5.11
0.250	0.00	1.833	8.52	3.417	18.74	5.00	5.11
0.333	3.41	1.917	8.52	3.500	18.74	5.08	5.11
0.417	3.41	2.000	8.52	3.583	18.74	5.17	5.11
0.500	3.41	2.083	8.52	3.667	18.74	5.25	5.11
0.583	3.41	2.167	8.52	3.750	18.74	5.33	3.41
0.667	3.41	2.250	8.52	3.833	8.52	5.42	3.41
0.750	3.41	2.333	10.22	3.917	8.52	5.50	3.41
0.833	5.11	2.417	10.22	4.000	8.52	5.58	3.41
0.917	5.11	2.500	10.22	4.083	8.52	5.67	3.41
1.000	5.11	2.583	10.22	4.167	8.52	5.75	3.41
1.083	5.11	2.667	10.22	4.250	8.52	5.83	3.41
1.167	5.11	2.750	10.22	4.333	6.82	5.92	3.41
1.250	5.11	2.833	51.12	4.417	6.82	6.00	3.41
1.333	5.11	2.917	51.12	4.500	6.82	6.08	3.41
1.417	5.11	3.000	51.12	4.583	6.82	6.17	3.41
1.500	5.11	3.083	132.91	4.667	6.82	6.25	3.41
1.583	5.11	3.167	132.91	4.750	6.82		

```
     Max.Eff.Inten.(mm/hr)=    132.91        49.16
               over (min)        5.00        10.00
     Storage Coeff.  (min)=    3.78 (ii)    7.84 (ii)
     Unit Hyd. Tpeak (min)=    5.00        10.00
     Unit Hyd. peak  (cms)=    0.25         0.13
                                                    *TOTALS*
     PEAK FLOW       (cms)=    2.22         0.20      2.421 (iii)
     TIME TO PEAK    (hrs)=    3.25         3.25        3.25
     RUNOFF VOLUME    (mm)=   84.20        25.06       69.41
     TOTAL RAINFALL   (mm)=   85.20        85.20       85.20
     RUNOFF COEFFICIENT   =    0.99         0.29        0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0116)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)      (ha.m.)   |   (cms)      (ha.m.)
                          0.0000      0.0000   |   0.2090      0.3700
                          0.0146      0.2491   |   0.2910      0.4360
                          0.0800      0.2550   |   0.3580      0.4850
                          0.1520      0.3150   |   0.4290      0.5350

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0109)     8.100     2.421      3.25      69.41
   OUTFLOW: ID= 1 (  0116)     8.100     0.256      3.83      68.32

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.56
                  TIME SHIFT OF PEAK FLOW         (min)= 35.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4078

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\edbfb811
| Ptotal= 85.20 mm |    Comments: 25-Year-6-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	8.52	3.75	18.74	5.50	3.41
0.50	3.41	2.25	8.52	4.00	8.52	5.75	3.41
0.75	3.41	2.50	10.22	4.25	8.52	6.00	3.41
1.00	5.11	2.75	10.22	4.50	6.82	6.25	3.41
1.25	5.11	3.00	51.12	4.75	6.82		
1.50	5.11	3.25	132.91	5.00	5.11		
1.75	5.11	3.50	18.74	5.25	5.11		

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

--------------------
| CALIB            |
| STANDHYD (  0113)|   Area     (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      8.91         6.45
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    320.00        40.00
     Mannings n             =    0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.11	3.250	132.91	4.83	5.11
0.167	0.00	1.750	5.11	3.333	18.75	4.92	5.11
0.250	0.00	1.833	8.52	3.417	18.74	5.00	5.11
0.333	3.41	1.917	8.52	3.500	18.74	5.08	5.11
0.417	3.41	2.000	8.52	3.583	18.74	5.17	5.11
0.500	3.41	2.083	8.52	3.667	18.74	5.25	5.11
0.583	3.41	2.167	8.52	3.750	18.74	5.33	3.41

0.667	3.41	2.250	8.52	3.833	8.52	5.42	3.41
0.750	3.41	2.333	10.22	3.917	8.52	5.50	3.41
0.833	5.11	2.417	10.22	4.000	8.52	5.58	3.41
0.917	5.11	2.500	10.22	4.083	8.52	5.67	3.41
1.000	5.11	2.583	10.22	4.167	8.52	5.75	3.41
1.083	5.11	2.667	10.22	4.250	8.52	5.83	3.41
1.167	5.11	2.750	10.22	4.333	6.82	5.92	3.41
1.250	5.11	2.833	51.12	4.417	6.82	6.00	3.41
1.333	5.11	2.917	51.12	4.500	6.82	6.08	3.41
1.417	5.11	3.000	51.12	4.583	6.82	6.17	3.41
1.500	5.11	3.083	132.91	4.667	6.82	6.25	3.41
1.583	5.11	3.167	132.91	4.750	6.82		

			TOTALS
Max.Eff.Inten.(mm/hr)=	132.91	51.47	
over (min)	5.00	15.00	
Storage Coeff. (min)=	4.58 (ii)	13.79 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.23	0.08	
PEAK FLOW (cms)=	3.21	0.52	3.641 (iii)
TIME TO PEAK (hrs)=	3.25	3.33	3.25
RUNOFF VOLUME (mm)=	84.20	26.22	59.85
TOTAL RAINFALL (mm)=	85.20	85.20	85.20
RUNOFF COEFFICIENT =	0.99	0.31	0.70

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0114)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0111):		1.03	0.089	3.33	69.32
+ ID2= 2 (0113):		15.36	3.641	3.25	59.85
ID = 3 (0114):		16.39	3.721	3.25	60.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0114)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0114):		16.39	3.721	3.25	60.44
+ ID2= 2 (0116):		8.10	0.256	3.83	68.32
ID = 1 (0114):		24.49	3.879	3.25	63.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0119)		OUTFLOW	STORAGE	OUTFLOW	STORAGE
IN= 2---> OUT= 1		(cms)	(ha.m.)	(cms)	(ha.m.)
DT= 5.0 min		0.0000	0.0000	0.4045	0.7000
		0.0151	0.0001	0.5514	0.8000
		0.0151	0.1301	0.7611	0.9000
		0.0440	0.4217	0.9325	0.9500
		0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0114)	24.490	3.879	3.25	63.05
OUTFLOW: ID= 1 (0119)	24.490	0.507	4.67	63.05

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.07
TIME SHIFT OF PEAK FLOW (min)= 85.00
MAXIMUM STORAGE USED (ha.m.)= 0.7698

DUHYD (0120)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.= 0.015		(ha)	(cms)	(hrs)	(mm)
#of Inlets= 1					
Total(cms)= 0.0					
TOTAL HYD.(ID= 1):		24.49	0.51	4.67	63.05
MAJOR SYS.(ID= 2):		16.25	0.49	4.67	63.05
MINOR SYS.(ID= 3):		8.24	0.02	2.83	63.05

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\ssoumik\AppD
	ata\Local\Temp\
	62db8e6a-efdc-4744-84df-b014686ad4f1\edbfb811
Ptotal= 85.20 mm	Comments: 25-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	8.52	3.75	18.74	5.50	3.41
0.50	3.41	2.25	8.52	4.00	8.52	5.75	3.41
0.75	3.41	2.50	10.22	4.25	8.52	6.00	3.41
1.00	5.11	2.75	10.22	4.50	6.82	6.25	3.41
1.25	5.11	3.00	51.12	4.75	6.82		
1.50	5.11	3.25	132.91	5.00	5.11		
1.75	5.11	3.50	18.74	5.25	5.11		

CALIB		
STANDHYD (0108)	Area (ha)=	0.78
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)

Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.11	3.250	132.91	4.83	5.11
0.167	0.00	1.750	5.11	3.333	18.75	4.92	5.11
0.250	0.00	1.833	8.52	3.417	18.74	5.00	5.11
0.333	3.41	1.917	8.52	3.500	18.74	5.08	5.11
0.417	3.41	2.000	8.52	3.583	18.74	5.17	5.11
0.500	3.41	2.083	8.52	3.667	18.74	5.25	5.11
0.583	3.41	2.167	8.52	3.750	18.74	5.33	3.41
0.667	3.41	2.250	8.52	3.833	8.52	5.42	3.41
0.750	3.41	2.333	10.22	3.917	8.52	5.50	3.41
0.833	5.11	2.417	10.22	4.000	8.52	5.58	3.41
0.917	5.11	2.500	10.22	4.083	8.52	5.67	3.41
1.000	5.11	2.583	10.22	4.167	8.52	5.75	3.41
1.083	5.11	2.667	10.22	4.250	8.52	5.83	3.41
1.167	5.11	2.750	10.22	4.333	6.82	5.92	3.41
1.250	5.11	2.833	51.12	4.417	6.82	6.00	3.41
1.333	5.11	2.917	51.12	4.500	6.82	6.08	3.41
1.417	5.11	3.000	51.12	4.583	6.82	6.17	3.41
1.500	5.11	3.083	132.91	4.667	6.82	6.25	3.41
1.583	5.11	3.167	132.91	4.750	6.82		

Max.Eff.Inten.(mm/hr)=		132.91	92.62	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.87 (ii)	5.93 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.32	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.22	0.04	0.258 (iii)
TIME TO PEAK	(hrs)=	3.25	3.25	3.25
RUNOFF VOLUME	(mm)=	84.20	47.31	74.97
TOTAL RAINFALL	(mm)=	85.20	85.20	85.20
RUNOFF COEFFICIENT	=	0.99	0.56	0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0118)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	0.780	0.258	3.25	74.97
OUTFLOW: ID= 1 (0118)	0.780	0.059	3.42	74.81

PEAK FLOW REDUCTION [Qout/Qin](%)= 22.66
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0310

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\edbfb811
Ptotal= 85.20 mm	Comments: 25-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	8.52	3.75	18.74	5.50	3.41
0.50	3.41	2.25	8.52	4.00	8.52	5.75	3.41
0.75	3.41	2.50	10.22	4.25	8.52	6.00	3.41
1.00	5.11	2.75	10.22	4.50	6.82	6.25	3.41
1.25	5.11	3.00	51.12	4.75	6.82		
1.50	5.11	3.25	132.91	5.00	5.11		
1.75	5.11	3.50	18.74	5.25	5.11		

CALIB		
STANDHYD (0112)	Area (ha)=	1.07
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.11	3.250	132.91	4.83	5.11
0.167	0.00	1.750	5.11	3.333	18.75	4.92	5.11
0.250	0.00	1.833	8.52	3.417	18.74	5.00	5.11
0.333	3.41	1.917	8.52	3.500	18.74	5.08	5.11
0.417	3.41	2.000	8.52	3.583	18.74	5.17	5.11
0.500	3.41	2.083	8.52	3.667	18.74	5.25	5.11
0.583	3.41	2.167	8.52	3.750	18.74	5.33	3.41
0.667	3.41	2.250	8.52	3.833	8.52	5.42	3.41
0.750	3.41	2.333	10.22	3.917	8.52	5.50	3.41
0.833	5.11	2.417	10.22	4.000	8.52	5.58	3.41
0.917	5.11	2.500	10.22	4.083	8.52	5.67	3.41
1.000	5.11	2.583	10.22	4.167	8.52	5.75	3.41
1.083	5.11	2.667	10.22	4.250	8.52	5.83	3.41

1.167	5.11	2.750	10.22	4.333	6.82	5.92	3.41
1.250	5.11	2.833	51.12	4.417	6.82	6.00	3.41
1.333	5.11	2.917	51.12	4.500	6.82	6.08	3.41
1.417	5.11	3.000	51.12	4.583	6.82	6.17	3.41
1.500	5.11	3.083	132.91	4.667	6.82	6.25	3.41
1.583	5.11	3.167	132.91	4.750	6.82		

Max.Eff.Inten.(mm/hr)=	132.91	92.62		
over (min)	5.00	10.00		
Storage Coeff. (min)=	2.06 (ii)	6.12 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.31	0.15		
			TOTALS	
PEAK FLOW (cms)=	0.30	0.06	0.354 (iii)	
TIME TO PEAK (hrs)=	3.25	3.25	3.25	
RUNOFF VOLUME (mm)=	84.20	47.31	74.97	
TOTAL RAINFALL (mm)=	85.20	85.20	85.20	
RUNOFF COEFFICIENT =	0.99	0.56	0.88	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0117)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0112)	1.070	0.354	3.25	74.97
OUTFLOW: ID= 1 (0117)	1.070	0.047	3.75	74.72

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.26
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0505

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\edbfb811
Ptotal= 85.20 mm	Comments: 25-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	8.52	3.75	18.74	5.50	3.41
0.50	3.41	2.25	8.52	4.00	8.52	5.75	3.41
0.75	3.41	2.50	10.22	4.25	8.52	6.00	3.41
1.00	5.11	2.75	10.22	4.50	6.82	6.25	3.41
1.25	5.11	3.00	51.12	4.75	6.82		
1.50	5.11	3.25	132.91	5.00	5.11		
1.75	5.11	3.50	18.74	5.25	5.11		

CALIB	
STANDHYD (0121)	Area (ha)= 0.27
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.11	3.250	132.91	4.83	5.11
0.167	0.00	1.750	5.11	3.333	18.75	4.92	5.11
0.250	0.00	1.833	8.52	3.417	18.74	5.00	5.11
0.333	3.41	1.917	8.52	3.500	18.74	5.08	5.11
0.417	3.41	2.000	8.52	3.583	18.74	5.17	5.11
0.500	3.41	2.083	8.52	3.667	18.74	5.25	5.11
0.583	3.41	2.167	8.52	3.750	18.74	5.33	3.41
0.667	3.41	2.250	8.52	3.833	8.52	5.42	3.41
0.750	3.41	2.333	10.22	3.917	8.52	5.50	3.41
0.833	5.11	2.417	10.22	4.000	8.52	5.58	3.41
0.917	5.11	2.500	10.22	4.083	8.52	5.67	3.41
1.000	5.11	2.583	10.22	4.167	8.52	5.75	3.41
1.083	5.11	2.667	10.22	4.250	8.52	5.83	3.41
1.167	5.11	2.750	10.22	4.333	6.82	5.92	3.41
1.250	5.11	2.833	51.12	4.417	6.82	6.00	3.41
1.333	5.11	2.917	51.12	4.500	6.82	6.08	3.41
1.417	5.11	3.000	51.12	4.583	6.82	6.17	3.41
1.500	5.11	3.083	132.91	4.667	6.82	6.25	3.41
1.583	5.11	3.167	132.91	4.750	6.82		

Max.Eff.Inten.(mm/hr)=	132.91	49.16		
over (min)	5.00	10.00		
Storage Coeff. (min)=	1.36 (ii)	5.77 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.33	0.15		
			TOTALS	
PEAK FLOW (cms)=	0.07	0.01	0.080 (iii)	
TIME TO PEAK (hrs)=	3.25	3.25	3.25	
RUNOFF VOLUME (mm)=	84.20	25.06	67.04	
TOTAL RAINFALL (mm)=	85.20	85.20	85.20	
RUNOFF COEFFICIENT =	0.99	0.29	0.79	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

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

RESERVOIR(0115) IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0121)	0.270	0.080	3.25	67.04
OUTFLOW: ID= 1 (0115)	0.270	0.035	3.33	66.87

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.01
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0073

ADD HYD (0110) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0115):	0.27	0.035	3.33	66.87
+ ID2= 2 (0117):	1.07	0.047	3.75	74.72
ID = 3 (0110):	1.34	0.079	3.33	73.14

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110) 3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0110):	1.34	0.079	3.33	73.14
+ ID2= 2 (0118):	0.78	0.059	3.42	74.81
ID = 1 (0110):	2.12	0.137	3.33	73.75

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110) 1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0110):	2.12	0.137	3.33	73.75
+ ID2= 2 (0120):	16.25	0.492	4.67	63.05
ID = 3 (0110):	18.37	0.586	4.33	64.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

  OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
 O   O    T      T    H   H   Y Y   MM MM  O   O
 O   O    T      T    H   H    Y    M   M  O   O
  OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\3e61fc02-3860-41a3-a443-3e69f1a35ab2\scen
Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\3e61fc02-3860-41a3-a443-3e69f1a35ab2\scen

DATE: 10-31-2019 TIME: 10:48:49

USER:

COMMENTS: _____

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  ************************************************
  ** SIMULATION : 5-50-Year-12-Hour-SCS-Type-II **
  ************************************************
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READ STORM Ptotal=101.70 mm	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\69aab664 Comments: 50-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.07	6.75	18.31	10.00	3.56
0.50	2.54	3.75	4.07	7.00	8.14	10.25	3.56
0.75	2.54	4.00	4.07	7.25	8.14	10.50	2.03
1.00	2.54	4.25	4.07	7.50	6.10	10.75	2.03
1.25	2.54	4.50	6.10	7.75	6.10	11.00	2.03
1.50	2.54	4.75	6.10	8.00	6.10	11.25	2.03
1.75	2.54	5.00	8.14	8.25	6.10	11.50	2.03
2.00	2.54	5.25	8.14	8.50	3.56	11.75	2.03

2.25	2.54	5.50	12.20	8.75	3.56	12.00	2.03
2.50	3.05	5.75	12.20	9.00	3.56	12.25	2.03
2.75	3.05	6.00	48.82	9.25	3.56		
3.00	3.05	6.25	134.24	9.50	3.56		
3.25	3.05	6.50	18.31	9.75	3.56		

CALIB	
STANDHYD (0107)	Area (ha)= 1.03
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.05	6.250	134.24	9.33	3.56
0.167	0.00	3.250	3.05	6.333	18.31	9.42	3.56
0.250	0.00	3.333	4.07	6.417	18.31	9.50	3.56
0.333	2.54	3.417	4.07	6.500	18.31	9.58	3.56
0.417	2.54	3.500	4.07	6.583	18.31	9.67	3.56
0.500	2.54	3.583	4.07	6.667	18.31	9.75	3.56
0.583	2.54	3.667	4.07	6.750	18.31	9.83	3.56
0.667	2.54	3.750	4.07	6.833	8.14	9.92	3.56
0.750	2.54	3.833	4.07	6.917	8.14	10.00	3.56
0.833	2.54	3.917	4.07	7.000	8.14	10.08	3.56
0.917	2.54	4.000	4.07	7.083	8.14	10.17	3.56
1.000	2.54	4.083	4.07	7.167	8.14	10.25	3.56
1.083	2.54	4.167	4.07	7.250	8.14	10.33	2.03
1.167	2.54	4.250	4.07	7.333	6.10	10.42	2.03
1.250	2.54	4.333	6.10	7.417	6.10	10.50	2.03
1.333	2.54	4.417	6.10	7.500	6.10	10.58	2.03
1.417	2.54	4.500	6.10	7.583	6.10	10.67	2.03
1.500	2.54	4.583	6.10	7.667	6.10	10.75	2.03
1.583	2.54	4.667	6.10	7.750	6.10	10.83	2.03
1.667	2.54	4.750	6.10	7.833	6.10	10.92	2.03
1.750	2.54	4.833	8.14	7.917	6.10	11.00	2.03
1.833	2.54	4.917	8.14	8.000	6.10	11.08	2.03
1.917	2.54	5.000	8.14	8.083	6.10	11.17	2.03
2.000	2.54	5.083	8.14	8.167	6.10	11.25	2.03
2.083	2.54	5.167	8.14	8.250	6.10	11.33	2.03
2.167	2.54	5.250	8.14	8.333	3.56	11.42	2.03
2.250	2.54	5.333	12.20	8.417	3.56	11.50	2.03
2.333	3.05	5.417	12.20	8.500	3.56	11.58	2.03
2.417	3.05	5.500	12.20	8.583	3.56	11.67	2.03
2.500	3.05	5.583	12.20	8.667	3.56	11.75	2.03
2.583	3.05	5.667	12.20	8.750	3.56	11.83	2.03
2.667	3.05	5.750	12.20	8.833	3.56	11.92	2.03
2.750	3.05	5.833	48.82	8.917	3.56	12.00	2.03
2.833	3.05	5.917	48.82	9.000	3.56	12.08	2.03
2.917	3.05	6.000	48.82	9.083	3.56	12.17	2.03
3.000	3.05	6.083	134.24	9.167	3.56	12.25	2.03
3.083	3.05	6.167	134.24	9.250	3.56		

				TOTALS
Max.Eff.Inten.(mm/hr)=		134.24	56.03	
over (min)		5.00	10.00	
Storage Coeff. (min)=		2.03 (ii)	6.07 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.31	0.15	
PEAK FLOW	(cms)=	0.29	0.03	0.321 (iii)
TIME TO PEAK	(hrs)=	6.25	6.25	6.25
RUNOFF VOLUME	(mm)=	100.70	34.23	84.08
TOTAL RAINFALL	(mm)=	101.70	101.70	101.70
RUNOFF COEFFICIENT	=	0.99	0.34	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0111)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	1.030	0.321	6.25	84.08
OUTFLOW: ID= 1 (0111)	1.030	0.092	6.33	83.99

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.55
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0362

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\69aab664
Ptotal=101.70 mm	Comments: 50-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.07	6.75	18.31	10.00	3.56
0.50	2.54	3.75	4.07	7.00	8.14	10.25	3.56
0.75	2.54	4.00	4.07	7.25	8.14	10.50	2.03
1.00	2.54	4.25	4.07	7.50	6.10	10.75	2.03
1.25	2.54	4.50	6.10	7.75	6.10	11.00	2.03
1.50	2.54	4.75	6.10	8.00	6.10	11.25	2.03
1.75	2.54	5.00	8.14	8.25	6.10	11.50	2.03
2.00	2.54	5.25	8.14	8.50	3.56	11.75	2.03
2.25	2.54	5.50	12.20	8.75	3.56	12.00	2.03

2.50	3.05	5.75	12.20	9.00	3.56	12.25	2.03
2.75	3.05	6.00	48.82	9.25	3.56		
3.00	3.05	6.25	134.24	9.50	3.56		
3.25	3.05	6.50	18.31	9.75	3.56		

CALIB			
STANDHYD (0109)	Area (ha)=	8.10	
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.08	2.03
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	232.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.05	6.250	134.24	9.33	3.56
0.167	0.00	3.250	3.05	6.333	18.31	9.42	3.56
0.250	0.00	3.333	4.07	6.417	18.31	9.50	3.56
0.333	2.54	3.417	4.07	6.500	18.31	9.58	3.56
0.417	2.54	3.500	4.07	6.583	18.31	9.67	3.56
0.500	2.54	3.583	4.07	6.667	18.31	9.75	3.56
0.583	2.54	3.667	4.07	6.750	18.31	9.83	3.56
0.667	2.54	3.750	4.07	6.833	8.14	9.92	3.56
0.750	2.54	3.833	4.07	6.917	8.14	10.00	3.56
0.833	2.54	3.917	4.07	7.000	8.14	10.08	3.56
0.917	2.54	4.000	4.07	7.083	8.14	10.17	3.56
1.000	2.54	4.083	4.07	7.167	8.14	10.25	3.56
1.083	2.54	4.167	4.07	7.250	8.14	10.33	2.03
1.167	2.54	4.250	4.07	7.333	6.10	10.42	2.03
1.250	2.54	4.333	6.10	7.417	6.10	10.50	2.03
1.333	2.54	4.417	6.10	7.500	6.10	10.58	2.03
1.417	2.54	4.500	6.10	7.583	6.10	10.67	2.03
1.500	2.54	4.583	6.10	7.667	6.10	10.75	2.03
1.583	2.54	4.667	6.10	7.750	6.10	10.83	2.03
1.667	2.54	4.750	6.10	7.833	6.10	10.92	2.03
1.750	2.54	4.833	8.14	7.917	6.10	11.00	2.03
1.833	2.54	4.917	8.14	8.000	6.10	11.08	2.03
1.917	2.54	5.000	8.14	8.083	6.10	11.17	2.03
2.000	2.54	5.083	8.14	8.167	6.10	11.25	2.03
2.083	2.54	5.167	8.14	8.250	6.10	11.33	2.03
2.167	2.54	5.250	8.14	8.333	3.56	11.42	2.03
2.250	2.54	5.333	12.20	8.417	3.56	11.50	2.03
2.333	3.05	5.417	12.20	8.500	3.56	11.58	2.03
2.417	3.05	5.500	12.20	8.583	3.56	11.67	2.03
2.500	3.05	5.583	12.20	8.667	3.56	11.75	2.03
2.583	3.05	5.667	12.20	8.750	3.56	11.83	2.03
2.667	3.05	5.750	12.20	8.833	3.56	11.92	2.03
2.750	3.05	5.833	48.82	8.917	3.56	12.00	2.03
2.833	3.05	5.917	48.82	9.000	3.56	12.08	2.03
2.917	3.05	6.000	48.82	9.083	3.56	12.17	2.03
3.000	3.05	6.083	134.24	9.167	3.56	12.25	2.03
3.083	3.05	6.167	134.24	9.250	3.56		

Max.Eff.Inten.(mm/hr)=		134.24	56.03	
over (min)		5.00	10.00	
Storage Coeff. (min)=		3.77 (ii)	7.81 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.25	0.13	
				TOTALS
PEAK FLOW	(cms)=	2.24	0.24	2.478 (iii)
TIME TO PEAK	(hrs)=	6.25	6.25	6.25
RUNOFF VOLUME	(mm)=	100.70	34.23	84.08
TOTAL RAINFALL	(mm)=	101.70	101.70	101.70
RUNOFF COEFFICIENT	=	0.99	0.34	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0116)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2090	0.3700
	0.0146	0.2491	0.2910	0.4360
	0.0800	0.2550	0.3580	0.4850
	0.1520	0.3150	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	2.478	6.25	84.08
OUTFLOW: ID= 1 (0116)	8.100	0.310	6.75	82.88

PEAK FLOW REDUCTION [Qout/Qin](%)= 12.50
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.4507

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\69aab664
Ptotal=101.70 mm	Comments: 50-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.07	6.75	18.31	10.00	3.56
0.50	2.54	3.75	4.07	7.00	8.14	10.25	3.56
0.75	2.54	4.00	4.07	7.25	8.14	10.50	2.03
1.00	2.54	4.25	4.07	7.50	6.10	10.75	2.03
1.25	2.54	4.50	6.10	7.75	6.10	11.00	2.03
1.50	2.54	4.75	6.10	8.00	6.10	11.25	2.03
1.75	2.54	5.00	8.14	8.25	6.10	11.50	2.03

2.00	2.54	5.25	8.14	8.50	3.56	11.75	2.03
2.25	2.54	5.50	12.20	8.75	3.56	12.00	2.03
2.50	3.05	5.75	12.20	9.00	3.56	12.25	2.03
2.75	3.05	6.00	48.82	9.25	3.56		
3.00	3.05	6.25	134.24	9.50	3.56		
3.25	3.05	6.50	18.31	9.75	3.56		

CALIB	
STANDHYD (0113)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.05	6.250	134.24	9.33	3.56
0.167	0.00	3.250	3.05	6.333	18.31	9.42	3.56
0.250	0.00	3.333	4.07	6.417	18.31	9.50	3.56
0.333	2.54	3.417	4.07	6.500	18.31	9.58	3.56
0.417	2.54	3.500	4.07	6.583	18.31	9.67	3.56
0.500	2.54	3.583	4.07	6.667	18.31	9.75	3.56
0.583	2.54	3.667	4.07	6.750	18.31	9.83	3.56
0.667	2.54	3.750	4.07	6.833	8.14	9.92	3.56
0.750	2.54	3.833	4.07	6.917	8.14	10.00	3.56
0.833	2.54	3.917	4.07	7.000	8.14	10.08	3.56
0.917	2.54	4.000	4.07	7.083	8.14	10.17	3.56
1.000	2.54	4.083	4.07	7.167	8.14	10.25	3.56
1.083	2.54	4.167	4.07	7.250	8.14	10.33	2.03
1.167	2.54	4.250	4.07	7.333	6.10	10.42	2.03
1.250	2.54	4.333	6.10	7.417	6.10	10.50	2.03
1.333	2.54	4.417	6.10	7.500	6.10	10.58	2.03
1.417	2.54	4.500	6.10	7.583	6.10	10.67	2.03
1.500	2.54	4.583	6.10	7.667	6.10	10.75	2.03
1.583	2.54	4.667	6.10	7.750	6.10	10.83	2.03
1.667	2.54	4.750	6.10	7.833	6.10	10.92	2.03
1.750	2.54	4.833	8.14	7.917	6.10	11.00	2.03
1.833	2.54	4.917	8.14	8.000	6.10	11.08	2.03
1.917	2.54	5.000	8.14	8.083	6.10	11.17	2.03
2.000	2.54	5.083	8.14	8.167	6.10	11.25	2.03
2.083	2.54	5.167	8.14	8.250	6.10	11.33	2.03
2.167	2.54	5.250	8.14	8.333	3.56	11.42	2.03
2.250	2.54	5.333	12.20	8.417	3.56	11.50	2.03
2.333	3.05	5.417	12.20	8.500	3.56	11.58	2.03
2.417	3.05	5.500	12.20	8.583	3.56	11.67	2.03
2.500	3.05	5.583	12.20	8.667	3.56	11.75	2.03
2.583	3.05	5.667	12.20	8.750	3.56	11.83	2.03
2.667	3.05	5.750	12.20	8.833	3.56	11.92	2.03
2.750	3.05	5.833	48.82	8.917	3.56	12.00	2.03
2.833	3.05	5.917	48.82	9.000	3.56	12.08	2.03
2.917	3.05	6.000	48.82	9.083	3.56	12.17	2.03
3.000	3.05	6.083	134.24	9.167	3.56	12.25	2.03
3.083	3.05	6.167	134.24	9.250	3.56		

				TOTALS
Max.Eff.Inten.(mm/hr)=		134.24	58.51	
over (min)		5.00	15.00	
Storage Coeff. (min)=		4.56 (ii)	13.31 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.23	0.08	
PEAK FLOW	(cms)=	3.24	0.62	3.770 (iii)
TIME TO PEAK	(hrs)=	6.25	6.33	6.25
RUNOFF VOLUME	(mm)=	100.70	35.71	73.40
TOTAL RAINFALL	(mm)=	101.70	101.70	101.70
RUNOFF COEFFICIENT	=	0.99	0.35	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0114)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0111):	1.03	0.092	6.33	83.99
	+ ID2= 2 (0113):	15.36	3.770	6.25	73.40
	ID = 3 (0114):	16.39	3.853	6.25	74.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0114)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0114):	16.39	3.853	6.25	74.07
	+ ID2= 2 (0116):	8.10	0.310	6.75	82.88
	ID = 1 (0114):	24.49	4.066	6.25	76.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0119)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.4045	0.7000
	0.0151	0.0001	0.5514	0.8000
	0.0151	0.1301	0.7611	0.9000

0.0440	0.4217	0.9325	0.9500
0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0114)	24.490	4.066	6.25	76.98
OUTFLOW: ID= 1 (0119)	24.490	0.625	7.25	76.98

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.36
TIME SHIFT OF PEAK FLOW (min)= 60.00
MAXIMUM STORAGE USED (ha.m.)= 0.8352

DUHYD (0120)
Inlet Cap.= 0.015
#of Inlets= 1
Total(cms)= 0.0

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	24.49	0.62	7.25	76.98
MAJOR SYS.(ID= 2):	17.44	0.61	7.25	76.98
MINOR SYS.(ID= 3):	7.05	0.02	5.00	76.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\69aab664
Ptotal=101.70 mm	Comments: 50-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.07	6.75	18.31	10.00	3.56
0.50	2.54	3.75	4.07	7.00	8.14	10.25	3.56
0.75	2.54	4.00	4.07	7.25	8.14	10.50	2.03
1.00	2.54	4.25	4.07	7.50	6.10	10.75	2.03
1.25	2.54	4.50	6.10	7.75	6.10	11.00	2.03
1.50	2.54	4.75	6.10	8.00	6.10	11.25	2.03
1.75	2.54	5.00	8.14	8.25	6.10	11.50	2.03
2.00	2.54	5.25	8.14	8.50	3.56	11.75	2.03
2.25	2.54	5.50	12.20	8.75	3.56	12.00	2.03
2.50	3.05	5.75	12.20	9.00	3.56	12.25	2.03
2.75	3.05	6.00	48.82	9.25	3.56		
3.00	3.05	6.25	134.24	9.50	3.56		
3.25	3.05	6.50	18.31	9.75	3.56		

CALIB	
STANDHYD (0108)	Area (ha)= 0.78
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.05	6.250	134.24	9.33	3.56
0.167	0.00	3.250	3.05	6.333	18.31	9.42	3.56
0.250	0.00	3.333	4.07	6.417	18.31	9.50	3.56
0.333	2.54	3.417	4.07	6.500	18.31	9.58	3.56
0.417	2.54	3.500	4.07	6.583	18.31	9.67	3.56
0.500	2.54	3.583	4.07	6.667	18.31	9.75	3.56
0.583	2.54	3.667	4.07	6.750	18.31	9.83	3.56
0.667	2.54	3.750	4.07	6.833	8.14	9.92	3.56
0.750	2.54	3.833	4.07	6.917	8.14	10.00	3.56
0.833	2.54	3.917	4.07	7.000	8.14	10.08	3.56
0.917	2.54	4.000	4.07	7.083	8.14	10.17	3.56
1.000	2.54	4.083	4.07	7.167	8.14	10.25	3.56
1.083	2.54	4.167	4.07	7.250	8.14	10.33	2.03
1.167	2.54	4.250	4.07	7.333	6.10	10.42	2.03
1.250	2.54	4.333	6.10	7.417	6.10	10.50	2.03
1.333	2.54	4.417	6.10	7.500	6.10	10.58	2.03
1.417	2.54	4.500	6.10	7.583	6.10	10.67	2.03
1.500	2.54	4.583	6.10	7.667	6.10	10.75	2.03
1.583	2.54	4.667	6.10	7.750	6.10	10.83	2.03
1.667	2.54	4.750	6.10	7.833	6.10	10.92	2.03
1.750	2.54	4.833	8.14	7.917	6.10	11.00	2.03
1.833	2.54	4.917	8.14	8.000	6.10	11.08	2.03
1.917	2.54	5.000	8.14	8.083	6.10	11.17	2.03
2.000	2.54	5.083	8.14	8.167	6.10	11.25	2.03
2.083	2.54	5.167	8.14	8.250	6.10	11.33	2.03
2.167	2.54	5.250	8.14	8.333	3.56	11.42	2.03
2.250	2.54	5.333	12.20	8.417	3.56	11.50	2.03
2.333	3.05	5.417	12.20	8.500	3.56	11.58	2.03
2.417	3.05	5.500	12.20	8.583	3.56	11.67	2.03
2.500	3.05	5.583	12.20	8.667	3.56	11.75	2.03
2.583	3.05	5.667	12.20	8.750	3.56	11.83	2.03
2.667	3.05	5.750	12.20	8.833	3.56	11.92	2.03
2.750	3.05	5.833	48.82	8.917	3.56	12.00	2.03
2.833	3.05	5.917	48.82	9.000	3.56	12.08	2.03
2.917	3.05	6.000	48.82	9.083	3.56	12.17	2.03
3.000	3.05	6.083	134.24	9.167	3.56	12.25	2.03
3.083	3.05	6.167	134.24	9.250	3.56		

Max.Eff.Inten.(mm/hr)=	134.24	99.87		
over (min)	5.00	10.00		
Storage Coeff. (min)=	1.87 (ii)	5.91 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.32	0.15		
				TOTALS
PEAK FLOW (cms)=	0.22	0.05		0.265 (iii)
TIME TO PEAK (hrs)=	6.25	6.25		6.25
RUNOFF VOLUME (mm)=	100.70	61.33		90.85
TOTAL RAINFALL (mm)=	101.70	101.70		101.70
RUNOFF COEFFICIENT =	0.99	0.60		0.89

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0118)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0750     0.0396

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0108)      0.780     0.265      6.25      90.85
   OUTFLOW: ID= 1 (  0118)      0.780     0.061      6.42      90.69

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 23.07
                  TIME SHIFT OF PEAK FLOW         (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0324

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

--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\69aab664
| Ptotal=101.70 mm |    Comments: 50-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    4.07 |  6.75   18.31 | 10.00    3.56
                0.50    2.54 |  3.75    4.07 |  7.00    8.14 | 10.25    3.56
                0.75    2.54 |  4.00    4.07 |  7.25    8.14 | 10.50    2.03
                1.00    2.54 |  4.25    4.07 |  7.50    6.10 | 10.75    2.03
                1.25    2.54 |  4.50    6.10 |  7.75    6.10 | 11.00    2.03
                1.50    2.54 |  4.75    6.10 |  8.00    6.10 | 11.25    2.03
                1.75    2.54 |  5.00    8.14 |  8.25    6.10 | 11.50    2.03
                2.00    2.54 |  5.25    8.14 |  8.50    3.56 | 11.75    2.03
                2.25    2.54 |  5.50   12.20 |  8.75    3.56 | 12.00    2.03
                2.50    3.05 |  5.75   12.20 |  9.00    3.56 | 12.25    2.03
                2.75    3.05 |  6.00   48.82 |  9.25    3.56 |
                3.00    3.05 |  6.25  134.24 |  9.50    3.56 |
                3.25    3.05 |  6.50   18.31 |  9.75    3.56 |

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

--------------------
| CALIB            |
| STANDHYD (  0112)|   Area    (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n             =    0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
      TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
       hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
     0.083    0.00 | 3.167    3.05 | 6.250  134.24 |  9.33    3.56
     0.167    0.00 | 3.250    3.05 | 6.333   18.31 |  9.42    3.56
     0.250    0.00 | 3.333    4.07 | 6.417   18.31 |  9.50    3.56
     0.333    2.54 | 3.417    4.07 | 6.500   18.31 |  9.58    3.56
     0.417    2.54 | 3.500    4.07 | 6.583   18.31 |  9.67    3.56
     0.500    2.54 | 3.583    4.07 | 6.667   18.31 |  9.75    3.56
     0.583    2.54 | 3.667    4.07 | 6.750   18.31 |  9.83    3.56
     0.667    2.54 | 3.750    4.07 | 6.833    8.14 |  9.92    3.56
     0.750    2.54 | 3.833    4.07 | 6.917    8.14 | 10.00    3.56
     0.833    2.54 | 3.917    4.07 | 7.000    8.14 | 10.08    3.56
     0.917    2.54 | 4.000    4.07 | 7.083    8.14 | 10.17    3.56
     1.000    2.54 | 4.083    4.07 | 7.167    8.14 | 10.25    3.56
     1.083    2.54 | 4.167    4.07 | 7.250    8.14 | 10.33    2.03
     1.167    2.54 | 4.250    4.07 | 7.333    6.10 | 10.42    2.03
     1.250    2.54 | 4.333    6.10 | 7.417    6.10 | 10.50    2.03
     1.333    2.54 | 4.417    6.10 | 7.500    6.10 | 10.58    2.03
     1.417    2.54 | 4.500    6.10 | 7.583    6.10 | 10.67    2.03
     1.500    2.54 | 4.583    6.10 | 7.667    6.10 | 10.75    2.03
     1.583    2.54 | 4.667    6.10 | 7.750    6.10 | 10.83    2.03
     1.667    2.54 | 4.750    6.10 | 7.833    6.10 | 10.92    2.03
     1.750    2.54 | 4.833    8.14 | 7.917    6.10 | 11.00    2.03
     1.833    2.54 | 4.917    8.14 | 8.000    6.10 | 11.08    2.03
     1.917    2.54 | 5.000    8.14 | 8.083    6.10 | 11.17    2.03
     2.000    2.54 | 5.083    8.14 | 8.167    6.10 | 11.25    2.03
     2.083    2.54 | 5.167    8.14 | 8.250    6.10 | 11.33    2.03
     2.167    2.54 | 5.250    8.14 | 8.333    3.56 | 11.42    2.03
     2.250    2.54 | 5.333   12.20 | 8.417    3.56 | 11.50    2.03
     2.333    3.05 | 5.417   12.20 | 8.500    3.56 | 11.58    2.03
     2.417    3.05 | 5.500   12.20 | 8.583    3.56 | 11.67    2.03
     2.500    3.05 | 5.583   12.20 | 8.667    3.56 | 11.75    2.03
     2.583    3.05 | 5.667   12.20 | 8.750    3.56 | 11.83    2.03
     2.667    3.05 | 5.750   12.20 | 8.833    3.56 | 11.92    2.03
     2.750    3.05 | 5.833   48.82 | 8.917    3.56 | 12.00    2.03
     2.833    3.05 | 5.917   48.82 | 9.000    3.56 | 12.08    2.03
     2.917    3.05 | 6.000   48.82 | 9.083    3.56 | 12.17    2.03
     3.000    3.05 | 6.083  134.24 | 9.167    3.56 | 12.25    2.03
     3.083    3.05 | 6.167  134.24 | 9.250    3.56 |

     Max.Eff.Inten.(mm/hr)=     134.24        99.87
               over (min)          5.00        10.00
     Storage Coeff.  (min)=       2.05 (ii)    6.09 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.30         0.06          0.363 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.25           6.25
     RUNOFF VOLUME    (mm)=     100.70        61.33          90.85
     TOTAL RAINFALL   (mm)=     101.70       101.70         101.70
     RUNOFF COEFFICIENT   =       0.99         0.60           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
```

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0     Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

RESERVOIR(0117) / IN= 2---> OUT= 1 / DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0112)	1.070	0.363	6.25	90.85
OUTFLOW: ID= 1 (0117)	1.070	0.050	6.75	90.61

```
PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.73
TIME SHIFT OF PEAK FLOW          (min)= 30.00
MAXIMUM  STORAGE   USED       (ha.m.)=  0.0536
```

```
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\69aab664
| Ptotal=101.70 mm |    Comments: 50-Year-12-Hour-SCS-Type-II
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.07	6.75	18.31	10.00	3.56
0.50	2.54	3.75	4.07	7.00	8.14	10.25	3.56
0.75	2.54	4.00	4.07	7.25	8.14	10.50	2.03
1.00	2.54	4.25	4.07	7.50	6.10	10.75	2.03
1.25	2.54	4.50	6.10	7.75	6.10	11.00	2.03
1.50	2.54	4.75	6.10	8.00	6.10	11.25	2.03
1.75	2.54	5.00	8.14	8.25	6.10	11.50	2.03
2.00	2.54	5.25	8.14	8.50	3.56	11.75	2.03
2.25	2.54	5.50	12.20	8.75	3.56	12.00	2.03
2.50	3.05	5.75	12.20	9.00	3.56	12.25	2.03
2.75	3.05	6.00	48.82	9.25	3.56		
3.00	3.05	6.25	134.24	9.50	3.56		
3.25	3.05	6.50	18.31	9.75	3.56		

```
| CALIB            |
| STANDHYD ( 0121) |   Area     (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

```
NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.05	6.250	134.24	9.33	3.56
0.167	0.00	3.250	3.05	6.333	18.31	9.42	3.56
0.250	0.00	3.333	4.07	6.417	18.31	9.50	3.56
0.333	2.54	3.417	4.07	6.500	18.31	9.58	3.56
0.417	2.54	3.500	4.07	6.583	18.31	9.67	3.56
0.500	2.54	3.583	4.07	6.667	18.31	9.75	3.56
0.583	2.54	3.667	4.07	6.750	18.31	9.83	3.56
0.667	2.54	3.750	4.07	6.833	8.14	9.92	3.56
0.750	2.54	3.833	4.07	6.917	8.14	10.00	3.56
0.833	2.54	3.917	4.07	7.000	8.14	10.08	3.56
0.917	2.54	4.000	4.07	7.083	8.14	10.17	3.56
1.000	2.54	4.083	4.07	7.167	8.14	10.25	3.56
1.083	2.54	4.167	4.07	7.250	8.14	10.33	2.03
1.167	2.54	4.250	4.07	7.333	6.10	10.42	2.03
1.250	2.54	4.333	6.10	7.417	6.10	10.50	2.03
1.333	2.54	4.417	6.10	7.500	6.10	10.58	2.03
1.417	2.54	4.500	6.10	7.583	6.10	10.67	2.03
1.500	2.54	4.583	6.10	7.667	6.10	10.75	2.03
1.583	2.54	4.667	6.10	7.750	6.10	10.83	2.03
1.667	2.54	4.750	6.10	7.833	6.10	10.92	2.03
1.750	2.54	4.833	8.14	7.917	6.10	11.00	2.03
1.833	2.54	4.917	8.14	8.000	6.10	11.08	2.03
1.917	2.54	5.000	8.14	8.083	6.10	11.17	2.03
2.000	2.54	5.083	8.14	8.167	6.10	11.25	2.03
2.083	2.54	5.167	8.14	8.250	6.10	11.33	2.03
2.167	2.54	5.250	8.14	8.333	3.56	11.42	2.03
2.250	2.54	5.333	12.20	8.417	3.56	11.50	2.03
2.333	3.05	5.417	12.20	8.500	3.56	11.58	2.03
2.417	3.05	5.500	12.20	8.583	3.56	11.67	2.03
2.500	3.05	5.583	12.20	8.667	3.56	11.75	2.03
2.583	3.05	5.667	12.20	8.750	3.56	11.83	2.03
2.667	3.05	5.750	12.20	8.833	3.56	11.92	2.03
2.750	3.05	5.833	48.82	8.917	3.56	12.00	2.03
2.833	3.05	5.917	48.82	9.000	3.56	12.08	2.03
2.917	3.05	6.000	48.82	9.083	3.56	12.17	2.03
3.000	3.05	6.083	134.24	9.167	3.56	12.25	2.03
3.083	3.05	6.167	134.24	9.250	3.56		

				TOTALS
Max.Eff.Inten.(mm/hr)=		134.24	56.03	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.36 (ii)	5.74 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.33	0.15	
PEAK FLOW	(cms)=	0.07	0.01	0.082 (iii)
TIME TO PEAK	(hrs)=	6.25	6.25	6.25
RUNOFF VOLUME	(mm)=	100.70	34.23	81.41
TOTAL RAINFALL	(mm)=	101.70	101.70	101.70
RUNOFF COEFFICIENT	=	0.99	0.34	0.80

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
```

```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)      0.270     0.082      6.25      81.41
   OUTFLOW: ID= 1 (  0115)      0.270     0.036      6.33      81.25

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.93
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED        (ha.m.)=  0.0075

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0115):     0.27   0.036     6.33    81.25
     + ID2= 2 (  0117):     1.07   0.050     6.75    90.61
       ================================================
       ID = 3 (  0110):     1.34   0.083     6.33    88.72

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0110):     1.34   0.083     6.33    88.72
     + ID2= 2 (  0118):     0.78   0.061     6.42    90.69
       ================================================
       ID = 1 (  0110):     2.12   0.144     6.33    89.45

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0110):     2.12   0.144     6.33    89.45
     + ID2= 2 (  0120):    17.44   0.609     7.25    76.98
       ================================================
       ID = 3 (  0110):    19.56   0.717     7.08    78.33

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\a9a729c4-7c3a-4147-9638-5b4e40e85095\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\a9a729c4-7c3a-4147-9638-5b4e40e85095\scen


DATE: 10-31-2019                          TIME: 10:48:57

USER:


COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 5-50-Year-24-Hour-SCS-Type-II **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\ada53171
| Ptotal=120.60 mm |    Comments: 50-Year-24-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    2.41 | 12.75   17.37 | 19.00    2.17
                0.50    1.21 |  6.75    2.41 | 13.00    8.92 | 19.25    2.17
                0.75    1.21 |  7.00    2.41 | 13.25    8.92 | 19.50    2.17
                1.00    1.21 |  7.25    2.41 | 13.50    1.69 | 19.75    2.17
                1.25    1.21 |  7.50    2.41 | 13.75    1.69 | 20.00    2.17
```

1.50	1.21	7.75	2.41	14.00	9.89	20.25	2.17
1.75	1.21	8.00	2.41	14.25	9.89	20.50	1.45
2.00	1.21	8.25	2.41	14.50	3.62	20.75	1.45
2.25	2.17	8.50	3.26	14.75	3.62	21.00	1.45
2.50	1.57	8.75	3.26	15.00	3.62	21.25	1.45
2.75	1.57	9.00	3.26	15.25	3.62	21.50	1.45
3.00	1.57	9.25	3.26	15.50	3.62	21.75	1.45
3.25	1.57	9.50	3.86	15.75	3.62	22.00	1.45
3.50	1.57	9.75	3.86	16.00	3.62	22.25	1.45
3.75	1.57	10.00	4.34	16.25	3.62	22.50	1.45
4.00	1.57	10.25	4.34	16.50	2.17	22.75	1.45
4.25	1.57	10.50	5.55	16.75	2.17	23.00	1.45
4.50	1.93	10.75	5.55	17.00	2.17	23.25	1.45
4.75	1.93	11.00	7.48	17.25	2.17	23.50	1.45
5.00	1.93	11.25	7.48	17.50	2.17	23.75	1.45
5.25	1.93	11.50	11.58	17.75	2.17	24.00	1.45
5.50	1.93	11.75	11.58	18.00	2.17	24.25	1.45
5.75	1.93	12.00	50.17	18.25	2.17		
6.00	1.93	12.25	133.14	18.50	2.17		
6.25	1.93	12.50	17.37	18.75	2.17		

CALIB	
STANDHYD (0107)	Area (ha)= 1.03
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.93	12.250	133.14	18.33	2.17
0.167	0.00	6.250	1.93	12.333	17.38	18.42	2.17
0.250	0.00	6.333	2.41	12.417	17.37	18.50	2.17
0.333	1.21	6.417	2.41	12.500	17.37	18.58	2.17
0.417	1.21	6.500	2.41	12.583	17.37	18.67	2.17
0.500	1.21	6.583	2.41	12.667	17.37	18.75	2.17
0.583	1.21	6.667	2.41	12.750	17.37	18.83	2.17
0.667	1.21	6.750	2.41	12.833	8.93	18.92	2.17
0.750	1.21	6.833	2.41	12.917	8.92	19.00	2.17
0.833	1.21	6.917	2.41	13.000	8.92	19.08	2.17
0.917	1.21	7.000	2.41	13.083	8.92	19.17	2.17
1.000	1.21	7.083	2.41	13.167	8.92	19.25	2.17
1.083	1.21	7.167	2.41	13.250	8.92	19.33	2.17
1.167	1.21	7.250	2.41	13.333	1.69	19.42	2.17
1.250	1.21	7.333	2.41	13.417	1.69	19.50	2.17
1.333	1.21	7.417	2.41	13.500	1.69	19.58	2.17
1.417	1.21	7.500	2.41	13.583	1.69	19.67	2.17
1.500	1.21	7.583	2.41	13.667	1.69	19.75	2.17
1.583	1.21	7.667	2.41	13.750	1.69	19.83	2.17
1.667	1.21	7.750	2.41	13.833	9.89	19.92	2.17
1.750	1.21	7.833	2.41	13.917	9.89	20.00	2.17
1.833	1.21	7.917	2.41	14.000	9.89	20.08	2.17
1.917	1.21	8.000	2.41	14.083	9.89	20.17	2.17
2.000	1.21	8.083	2.41	14.167	9.89	20.25	2.17
2.083	2.17	8.167	2.41	14.250	9.89	20.33	1.45
2.167	2.17	8.250	2.41	14.333	3.62	20.42	1.45
2.250	2.17	8.333	3.26	14.417	3.62	20.50	1.45
2.333	1.57	8.417	3.26	14.500	3.62	20.58	1.45
2.417	1.57	8.500	3.26	14.583	3.62	20.67	1.45
2.500	1.57	8.583	3.26	14.667	3.62	20.75	1.45
2.583	1.57	8.667	3.26	14.750	3.62	20.83	1.45
2.667	1.57	8.750	3.26	14.833	3.62	20.92	1.45
2.750	1.57	8.833	3.26	14.917	3.62	21.00	1.45
2.833	1.57	8.917	3.26	15.000	3.62	21.08	1.45
2.917	1.57	9.000	3.26	15.083	3.62	21.17	1.45
3.000	1.57	9.083	3.26	15.167	3.62	21.25	1.45
3.083	1.57	9.167	3.26	15.250	3.62	21.33	1.45
3.167	1.57	9.250	3.26	15.333	3.62	21.42	1.45
3.250	1.57	9.333	3.86	15.417	3.62	21.50	1.45
3.333	1.57	9.417	3.86	15.500	3.62	21.58	1.45
3.417	1.57	9.500	3.86	15.583	3.62	21.67	1.45
3.500	1.57	9.583	3.86	15.667	3.62	21.75	1.45
3.583	1.57	9.667	3.86	15.750	3.62	21.83	1.45
3.667	1.57	9.750	3.86	15.833	3.62	21.92	1.45
3.750	1.57	9.833	4.34	15.917	3.62	22.00	1.45
3.833	1.57	9.917	4.34	16.000	3.62	22.08	1.45
3.917	1.57	10.000	4.34	16.083	3.62	22.17	1.45
4.000	1.57	10.083	4.34	16.167	3.62	22.25	1.45
4.083	1.57	10.167	4.34	16.250	3.62	22.33	1.45
4.167	1.57	10.250	4.34	16.333	2.17	22.42	1.45
4.250	1.57	10.333	5.55	16.417	2.17	22.50	1.45
4.333	1.93	10.417	5.55	16.500	2.17	22.58	1.45
4.417	1.93	10.500	5.55	16.583	2.17	22.67	1.45
4.500	1.93	10.583	5.55	16.667	2.17	22.75	1.45
4.583	1.93	10.667	5.55	16.750	2.17	22.83	1.45
4.667	1.93	10.750	5.55	16.833	2.17	22.92	1.45
4.750	1.93	10.833	7.48	16.917	2.17	23.00	1.45
4.833	1.93	10.917	7.48	17.000	2.17	23.08	1.45
4.917	1.93	11.000	7.48	17.083	2.17	23.17	1.45
5.000	1.93	11.083	7.48	17.167	2.17	23.25	1.45
5.083	1.93	11.167	7.48	17.250	2.17	23.33	1.45
5.167	1.93	11.250	7.48	17.333	2.17	23.42	1.45
5.250	1.93	11.333	11.58	17.417	2.17	23.50	1.45
5.333	1.93	11.417	11.58	17.500	2.17	23.58	1.45
5.417	1.93	11.500	11.58	17.583	2.17	23.67	1.45
5.500	1.93	11.583	11.58	17.667	2.17	23.75	1.45
5.583	1.93	11.667	11.58	17.750	2.17	23.83	1.45
5.667	1.93	11.750	11.58	17.833	2.17	23.92	1.45
5.750	1.93	11.833	50.17	17.917	2.17	24.00	1.45
5.833	1.93	11.917	50.17	18.000	2.17	24.08	1.45
5.917	1.93	12.000	50.17	18.083	2.17	24.17	1.45
6.000	1.93	12.083	133.13	18.167	2.17	24.25	1.45
6.083	1.93	12.167	133.14	18.250	2.17		

Max.Eff.Inten.(mm/hr)=		133.14	61.20
over (min)		5.00	10.00
Storage Coeff. (min)=		2.04 (ii)	6.09 (ii)
Unit Hyd. Tpeak (min)=		5.00	10.00
Unit Hyd. peak (cms)=		0.31	0.15

			TOTALS
PEAK FLOW	(cms)=	0.29	0.04	0.322 (iii)
TIME TO PEAK	(hrs)=	12.25	12.25	12.25
RUNOFF VOLUME	(mm)=	119.60	45.75	101.13
TOTAL RAINFALL	(mm)=	120.60	120.60	120.60
RUNOFF COEFFICIENT	=	0.99	0.38	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0111) IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	1.030	0.322	12.25	101.13
OUTFLOW: ID= 1 (0111)	1.030	0.092	12.33	101.05

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.62
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0364

READ STORM Ptotal=120.60 mm	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\ada53171 Comments: 50-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.41	12.75	17.37	19.00	2.17
0.50	1.21	6.75	2.41	13.00	8.92	19.25	2.17
0.75	1.21	7.00	2.41	13.25	8.92	19.50	2.17
1.00	1.21	7.25	2.41	13.50	1.69	19.75	2.17
1.25	1.21	7.50	2.41	13.75	1.69	20.00	2.17
1.50	1.21	7.75	2.41	14.00	9.89	20.25	2.17
1.75	1.21	8.00	2.41	14.25	9.89	20.50	1.45
2.00	1.21	8.25	2.41	14.50	3.62	20.75	1.45
2.25	2.17	8.50	3.26	14.75	3.62	21.00	1.45
2.50	1.57	8.75	3.26	15.00	3.62	21.25	1.45
2.75	1.57	9.00	3.26	15.25	3.62	21.50	1.45
3.00	1.57	9.25	3.26	15.50	3.62	21.75	1.45
3.25	1.57	9.50	3.86	15.75	3.62	22.00	1.45
3.50	1.57	9.75	3.86	16.00	3.62	22.25	1.45
3.75	1.57	10.00	4.34	16.25	3.62	22.50	1.45
4.00	1.57	10.25	4.34	16.50	2.17	22.75	1.45
4.25	1.57	10.50	5.55	16.75	2.17	23.00	1.45
4.50	1.93	10.75	5.55	17.00	2.17	23.25	1.45
4.75	1.93	11.00	7.48	17.25	2.17	23.50	1.45
5.00	1.93	11.25	7.48	17.50	2.17	23.75	1.45
5.25	1.93	11.50	11.58	17.75	2.17	24.00	1.45
5.50	1.93	11.75	11.58	18.00	2.17	24.25	1.45
5.75	1.93	12.00	50.17	18.25	2.17		
6.00	1.93	12.25	133.14	18.50	2.17		
6.25	1.93	12.50	17.37	18.75	2.17		

CALIB STANDHYD (0109) ID= 1 DT= 5.0 min	Area (ha)= 8.10 Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.08	2.03
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	232.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.93	12.250	133.14	18.33	2.17
0.167	0.00	6.250	1.93	12.333	17.38	18.42	2.17
0.250	0.00	6.333	2.41	12.417	17.37	18.50	2.17
0.333	1.21	6.417	2.41	12.500	17.37	18.58	2.17
0.417	1.21	6.500	2.41	12.583	17.37	18.67	2.17
0.500	1.21	6.583	2.41	12.667	17.37	18.75	2.17
0.583	1.21	6.667	2.41	12.750	17.37	18.83	2.17
0.667	1.21	6.750	2.41	12.833	8.93	18.92	2.17
0.750	1.21	6.833	2.41	12.917	8.92	19.00	2.17
0.833	1.21	6.917	2.41	13.000	8.92	19.08	2.17
0.917	1.21	7.000	2.41	13.083	8.92	19.17	2.17
1.000	1.21	7.083	2.41	13.167	8.92	19.25	2.17
1.083	1.21	7.167	2.41	13.250	8.92	19.33	2.17
1.167	1.21	7.250	2.41	13.333	1.69	19.42	2.17
1.250	1.21	7.333	2.41	13.417	1.69	19.50	2.17
1.333	1.21	7.417	2.41	13.500	1.69	19.58	2.17
1.417	1.21	7.500	2.41	13.583	1.69	19.67	2.17
1.500	1.21	7.583	2.41	13.667	1.69	19.75	2.17
1.583	1.21	7.667	2.41	13.750	1.69	19.83	2.17
1.667	1.21	7.750	2.41	13.833	9.89	19.92	2.17
1.750	1.21	7.833	2.41	13.917	9.89	20.00	2.17
1.833	1.21	7.917	2.41	14.000	9.89	20.08	2.17
1.917	1.21	8.000	2.41	14.083	9.89	20.17	2.17
2.000	1.21	8.083	2.41	14.167	9.89	20.25	2.17
2.083	2.17	8.167	2.41	14.250	9.89	20.33	1.45
2.167	2.17	8.250	2.41	14.333	3.62	20.42	1.45
2.250	2.17	8.333	3.26	14.417	3.62	20.50	1.45
2.333	1.57	8.417	3.26	14.500	3.62	20.58	1.45
2.417	1.57	8.500	3.26	14.583	3.62	20.67	1.45
2.500	1.57	8.583	3.26	14.667	3.62	20.75	1.45
2.583	1.57	8.667	3.26	14.750	3.62	20.83	1.45
2.667	1.57	8.750	3.26	14.833	3.62	20.92	1.45

2.750	1.57	8.833	3.26	14.917	3.62	21.00	1.45
2.833	1.57	8.917	3.26	15.000	3.62	21.08	1.45
2.917	1.57	9.000	3.26	15.083	3.62	21.17	1.45
3.000	1.57	9.083	3.26	15.167	3.62	21.25	1.45
3.083	1.57	9.167	3.26	15.250	3.62	21.33	1.45
3.167	1.57	9.250	3.26	15.333	3.62	21.42	1.45
3.250	1.57	9.333	3.86	15.417	3.62	21.50	1.45
3.333	1.57	9.417	3.86	15.500	3.62	21.58	1.45
3.417	1.57	9.500	3.86	15.583	3.62	21.67	1.45
3.500	1.57	9.583	3.86	15.667	3.62	21.75	1.45
3.583	1.57	9.667	3.86	15.750	3.62	21.83	1.45
3.667	1.57	9.750	3.86	15.833	3.62	21.92	1.45
3.750	1.57	9.833	4.34	15.917	3.62	22.00	1.45
3.833	1.57	9.917	4.34	16.000	3.62	22.08	1.45
3.917	1.57	10.000	4.34	16.083	3.62	22.17	1.45
4.000	1.57	10.083	4.34	16.167	3.62	22.25	1.45
4.083	1.57	10.167	4.34	16.250	3.62	22.33	1.45
4.167	1.57	10.250	4.34	16.333	2.17	22.42	1.45
4.250	1.57	10.333	5.55	16.417	2.17	22.50	1.45
4.333	1.93	10.417	5.55	16.500	2.17	22.58	1.45
4.417	1.93	10.500	5.55	16.583	2.17	22.67	1.45
4.500	1.93	10.583	5.55	16.667	2.17	22.75	1.45
4.583	1.93	10.667	5.55	16.750	2.17	22.83	1.45
4.667	1.93	10.750	5.55	16.833	2.17	22.92	1.45
4.750	1.93	10.833	7.48	16.917	2.17	23.00	1.45
4.833	1.93	10.917	7.48	17.000	2.17	23.08	1.45
4.917	1.93	11.000	7.48	17.083	2.17	23.17	1.45
5.000	1.93	11.083	7.48	17.167	2.17	23.25	1.45
5.083	1.93	11.167	7.48	17.250	2.17	23.33	1.45
5.167	1.93	11.250	7.48	17.333	2.17	23.42	1.45
5.250	1.93	11.333	11.58	17.417	2.17	23.50	1.45
5.333	1.93	11.417	11.58	17.500	2.17	23.58	1.45
5.417	1.93	11.500	11.58	17.583	2.17	23.67	1.45
5.500	1.93	11.583	11.58	17.667	2.17	23.75	1.45
5.583	1.93	11.667	11.58	17.750	2.17	23.83	1.45
5.667	1.93	11.750	11.58	17.833	2.17	23.92	1.45
5.750	1.93	11.833	50.17	17.917	2.17	24.00	1.45
5.833	1.93	11.917	50.17	18.000	2.17	24.08	1.45
5.917	1.93	12.000	50.17	18.083	2.17	24.17	1.45
6.000	1.93	12.083	133.13	18.167	2.17	24.25	1.45
6.083	1.93	12.167	133.14	18.250	2.17		

Max.Eff.Inten.(mm/hr)=	133.14	61.20	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.78 (ii)	7.83 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.25	0.13	
			TOTALS
PEAK FLOW (cms)=	2.22	0.27	2.488 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	119.60	45.75	101.14
TOTAL RAINFALL (mm)=	120.60	120.60	120.60
RUNOFF COEFFICIENT =	0.99	0.38	0.84

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

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

RESERVOIR(0116)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2090	0.3700
	0.0146	0.2491	0.2910	0.4360
	0.0800	0.2550	0.3580	0.4850
	0.1520	0.3150	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	2.488	12.25	101.14
OUTFLOW: ID= 1 (0116)	8.100	0.357	12.75	99.60

PEAK FLOW REDUCTION [Qout/Qin](%)= 14.35
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.4843

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\ada53171
Ptotal=120.60 mm	Comments: 50-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.41	12.75	17.37	19.00	2.17
0.50	1.21	6.75	2.41	13.00	8.92	19.25	2.17
0.75	1.21	7.00	2.41	13.25	8.92	19.50	2.17
1.00	1.21	7.25	2.41	13.50	1.69	19.75	2.17
1.25	1.21	7.50	2.41	13.75	1.69	20.00	2.17
1.50	1.21	7.75	2.41	14.00	9.89	20.25	2.17
1.75	1.21	8.00	2.41	14.25	9.89	20.50	1.45
2.00	1.21	8.25	2.41	14.50	3.62	20.75	1.45
2.25	2.17	8.50	3.26	14.75	3.62	21.00	1.45
2.50	1.57	8.75	3.26	15.00	3.62	21.25	1.45
2.75	1.57	9.00	3.26	15.25	3.62	21.50	1.45
3.00	1.57	9.25	3.26	15.50	3.62	21.75	1.45
3.25	1.57	9.50	3.86	15.75	3.62	22.00	1.45
3.50	1.57	9.75	3.86	16.00	3.62	22.25	1.45
3.75	1.57	10.00	4.34	16.25	3.62	22.50	1.45
4.00	1.57	10.25	4.34	16.50	2.17	22.75	1.45
4.25	1.57	10.50	5.55	16.75	2.17	23.00	1.45
4.50	1.93	10.75	5.55	17.00	2.17	23.25	1.45
4.75	1.93	11.00	7.48	17.25	2.17	23.50	1.45
5.00	1.93	11.25	7.48	17.50	2.17	23.75	1.45
5.25	1.93	11.50	11.58	17.75	2.17	24.00	1.45
5.50	1.93	11.75	11.58	18.00	2.17	24.25	1.45
5.75	1.93	12.00	50.17	18.25	2.17		
6.00	1.93	12.25	133.14	18.50	2.17		
6.25	1.93	12.50	17.37	18.75	2.17		

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--------------------
| CALIB            |
| STANDHYD (  0113)|   Area    (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91         6.45
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     320.00        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.93	12.250	133.14	18.33	2.17
0.167	0.00	6.250	1.93	12.333	17.38	18.42	2.17
0.250	0.00	6.333	2.41	12.417	17.37	18.50	2.17
0.333	1.21	6.417	2.41	12.500	17.37	18.58	2.17
0.417	1.21	6.500	2.41	12.583	17.37	18.67	2.17
0.500	1.21	6.583	2.41	12.667	17.37	18.75	2.17
0.583	1.21	6.667	2.41	12.750	17.37	18.83	2.17
0.667	1.21	6.750	2.41	12.833	8.93	18.92	2.17
0.750	1.21	6.833	2.41	12.917	8.92	19.00	2.17
0.833	1.21	6.917	2.41	13.000	8.92	19.08	2.17
0.917	1.21	7.000	2.41	13.083	8.92	19.17	2.17
1.000	1.21	7.083	2.41	13.167	8.92	19.25	2.17
1.083	1.21	7.167	2.41	13.250	8.92	19.33	2.17
1.167	1.21	7.250	2.41	13.333	1.69	19.42	2.17
1.250	1.21	7.333	2.41	13.417	1.69	19.50	2.17
1.333	1.21	7.417	2.41	13.500	1.69	19.58	2.17
1.417	1.21	7.500	2.41	13.583	1.69	19.67	2.17
1.500	1.21	7.583	2.41	13.667	1.69	19.75	2.17
1.583	1.21	7.667	2.41	13.750	1.69	19.83	2.17
1.667	1.21	7.750	2.41	13.833	9.89	19.92	2.17
1.750	1.21	7.833	2.41	13.917	9.89	20.00	2.17
1.833	1.21	7.917	2.41	14.000	9.89	20.08	2.17
1.917	1.21	8.000	2.41	14.083	9.89	20.17	2.17
2.000	1.21	8.083	2.41	14.167	9.89	20.25	2.17
2.083	2.17	8.167	2.41	14.250	9.89	20.33	1.45
2.167	2.17	8.250	2.41	14.333	3.62	20.42	1.45
2.250	2.17	8.333	3.26	14.417	3.62	20.50	1.45
2.333	1.57	8.417	3.26	14.500	3.62	20.58	1.45
2.417	1.57	8.500	3.26	14.583	3.62	20.67	1.45
2.500	1.57	8.583	3.26	14.667	3.62	20.75	1.45
2.583	1.57	8.667	3.26	14.750	3.62	20.83	1.45
2.667	1.57	8.750	3.26	14.833	3.62	20.92	1.45
2.750	1.57	8.833	3.26	14.917	3.62	21.00	1.45
2.833	1.57	8.917	3.26	15.000	3.62	21.08	1.45
2.917	1.57	9.000	3.26	15.083	3.62	21.17	1.45
3.000	1.57	9.083	3.26	15.167	3.62	21.25	1.45
3.083	1.57	9.167	3.26	15.250	3.62	21.33	1.45
3.167	1.57	9.250	3.26	15.333	3.62	21.42	1.45
3.250	1.57	9.333	3.86	15.417	3.62	21.50	1.45
3.333	1.57	9.417	3.86	15.500	3.62	21.58	1.45
3.417	1.57	9.500	3.86	15.583	3.62	21.67	1.45
3.500	1.57	9.583	3.86	15.667	3.62	21.75	1.45
3.583	1.57	9.667	3.86	15.750	3.62	21.83	1.45
3.667	1.57	9.750	3.86	15.833	3.62	21.92	1.45
3.750	1.57	9.833	4.34	15.917	3.62	22.00	1.45
3.833	1.57	9.917	4.34	16.000	3.62	22.08	1.45
3.917	1.57	10.000	4.34	16.083	3.62	22.17	1.45
4.000	1.57	10.083	4.34	16.167	3.62	22.25	1.45
4.083	1.57	10.167	4.34	16.250	3.62	22.33	1.45
4.167	1.57	10.250	4.34	16.333	2.17	22.42	1.45
4.250	1.57	10.333	5.55	16.417	2.17	22.50	1.45
4.333	1.93	10.417	5.55	16.500	2.17	22.58	1.45
4.417	1.93	10.500	5.55	16.583	2.17	22.67	1.45
4.500	1.93	10.583	5.55	16.667	2.17	22.75	1.45
4.583	1.93	10.667	5.55	16.750	2.17	22.83	1.45
4.667	1.93	10.750	5.55	16.833	2.17	22.92	1.45
4.750	1.93	10.833	7.48	16.917	2.17	23.00	1.45
4.833	1.93	10.917	7.48	17.000	2.17	23.08	1.45
4.917	1.93	11.000	7.48	17.083	2.17	23.17	1.45
5.000	1.93	11.083	7.48	17.167	2.17	23.25	1.45
5.083	1.93	11.167	7.48	17.250	2.17	23.33	1.45
5.167	1.93	11.250	7.48	17.333	2.17	23.42	1.45
5.250	1.93	11.333	11.58	17.417	2.17	23.50	1.45
5.333	1.93	11.417	11.58	17.500	2.17	23.58	1.45
5.417	1.93	11.500	11.58	17.583	2.17	23.67	1.45
5.500	1.93	11.583	11.58	17.667	2.17	23.75	1.45
5.583	1.93	11.667	11.58	17.750	2.17	23.83	1.45
5.667	1.93	11.750	11.58	17.833	2.17	23.92	1.45
5.750	1.93	11.833	50.17	17.917	2.17	24.00	1.45
5.833	1.93	11.917	50.17	18.000	2.17	24.08	1.45
5.917	1.93	12.000	50.17	18.083	2.17	24.17	1.45
6.000	1.93	12.083	133.13	18.167	2.17	24.25	1.45
6.083	1.93	12.167	133.14	18.250	2.17		

```
     Max.Eff.Inten.(mm/hr)=     133.14        63.74
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       4.58 (ii)   13.03 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.23         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.22         0.70          3.828 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.33          12.25
     RUNOFF VOLUME    (mm)=     119.60        47.60          89.36
     TOTAL RAINFALL   (mm)=     120.60       120.60         120.60
     RUNOFF COEFFICIENT   =       0.99         0.39           0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0114)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0111):     1.03    0.092    12.33   101.05
     + ID2= 2 (  0113):    15.36    3.828    12.25    89.36
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       ================================================
       ID = 3 (  0114):    16.39   3.911    12.25    90.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0114)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0114):    16.39   3.911    12.25    90.09
     + ID2= 2 (  0116):     8.10   0.357    12.75    99.60
       ================================================
       ID = 1 (  0114):    24.49   4.180    12.25    93.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0119)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4045     0.7000
                         0.0151     0.0001   |   0.5514     0.8000
                         0.0151     0.1301   |   0.7611     0.9000
                         0.0440     0.4217   |   0.9325     0.9500
                         0.2194     0.6000   |   1.1147     1.0500

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0114)     24.490      4.180     12.25      93.24
   OUTFLOW: ID= 1 (  0119)     24.490      0.750     13.17      93.24

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.93
                  TIME SHIFT OF PEAK FLOW          (min)= 55.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8947

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--------------------
| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.75     13.17   93.24
     ================================================
     MAJOR SYS.(ID= 2):  18.09      0.73     13.17   93.24
     MINOR SYS.(ID= 3):   6.40      0.02      9.42   93.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\ada53171
| Ptotal=120.60 mm |    Comments: 50-Year-24-Hour-SCS-Type-II
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.41	12.75	17.37	19.00	2.17
0.50	1.21	6.75	2.41	13.00	8.92	19.25	2.17
0.75	1.21	7.00	2.41	13.25	8.92	19.50	2.17
1.00	1.21	7.25	2.41	13.50	1.69	19.75	2.17
1.25	1.21	7.50	2.41	13.75	1.69	20.00	2.17
1.50	1.21	7.75	2.41	14.00	9.89	20.25	2.17
1.75	1.21	8.00	2.41	14.25	9.89	20.50	1.45
2.00	1.21	8.25	2.41	14.50	3.62	20.75	1.45
2.25	2.17	8.50	3.26	14.75	3.62	21.00	1.45
2.50	1.57	8.75	3.26	15.00	3.62	21.25	1.45
2.75	1.57	9.00	3.26	15.25	3.62	21.50	1.45
3.00	1.57	9.25	3.26	15.50	3.62	21.75	1.45
3.25	1.57	9.50	3.86	15.75	3.62	22.00	1.45
3.50	1.57	9.75	3.86	16.00	3.62	22.25	1.45
3.75	1.57	10.00	4.34	16.25	3.62	22.50	1.45
4.00	1.57	10.25	4.34	16.50	2.17	22.75	1.45
4.25	1.57	10.50	5.55	16.75	2.17	23.00	1.45
4.50	1.93	10.75	5.55	17.00	2.17	23.25	1.45
4.75	1.93	11.00	7.48	17.25	2.17	23.50	1.45
5.00	1.93	11.25	7.48	17.50	2.17	23.75	1.45
5.25	1.93	11.50	11.58	17.75	2.17	24.00	1.45
5.50	1.93	11.75	11.58	18.00	2.17	24.25	1.45
5.75	1.93	12.00	50.17	18.25	2.17		
6.00	1.93	12.25	133.14	18.50	2.17		
6.25	1.93	12.50	17.37	18.75	2.17		

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| CALIB            |
| STANDHYD (  0108)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58          0.19
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      72.11         40.00
     Mannings n           =      0.013         0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
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---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.93	12.250	133.14	18.33	2.17
0.167	0.00	6.250	1.93	12.333	17.38	18.42	2.17
0.250	0.00	6.333	2.41	12.417	17.37	18.50	2.17
0.333	1.21	6.417	2.41	12.500	17.37	18.58	2.17
0.417	1.21	6.500	2.41	12.583	17.37	18.67	2.17
0.500	1.21	6.583	2.41	12.667	17.37	18.75	2.17
0.583	1.21	6.667	2.41	12.750	17.37	18.83	2.17
0.667	1.21	6.750	2.41	12.833	8.93	18.92	2.17
0.750	1.21	6.833	2.41	12.917	8.92	19.00	2.17
0.833	1.21	6.917	2.41	13.000	8.92	19.08	2.17
0.917	1.21	7.000	2.41	13.083	8.92	19.17	2.17

1.000	1.21	7.083	2.41	13.167	8.92	19.25	2.17
1.083	1.21	7.167	2.41	13.250	8.92	19.33	2.17
1.167	1.21	7.250	2.41	13.333	1.69	19.42	2.17
1.250	1.21	7.333	2.41	13.417	1.69	19.50	2.17
1.333	1.21	7.417	2.41	13.500	1.69	19.58	2.17
1.417	1.21	7.500	2.41	13.583	1.69	19.67	2.17
1.500	1.21	7.583	2.41	13.667	1.69	19.75	2.17
1.583	1.21	7.667	2.41	13.750	1.69	19.83	2.17
1.667	1.21	7.750	2.41	13.833	9.89	19.92	2.17
1.750	1.21	7.833	2.41	13.917	9.89	20.00	2.17
1.833	1.21	7.917	2.41	14.000	9.89	20.08	2.17
1.917	1.21	8.000	2.41	14.083	9.89	20.17	2.17
2.000	1.21	8.083	2.41	14.167	9.89	20.25	2.17
2.083	2.17	8.167	2.41	14.250	9.89	20.33	1.45
2.167	2.17	8.250	2.41	14.333	3.62	20.42	1.45
2.250	2.17	8.333	3.26	14.417	3.62	20.50	1.45
2.333	1.57	8.417	3.26	14.500	3.62	20.58	1.45
2.417	1.57	8.500	3.26	14.583	3.62	20.67	1.45
2.500	1.57	8.583	3.26	14.667	3.62	20.75	1.45
2.583	1.57	8.667	3.26	14.750	3.62	20.83	1.45
2.667	1.57	8.750	3.26	14.833	3.62	20.92	1.45
2.750	1.57	8.833	3.26	14.917	3.62	21.00	1.45
2.833	1.57	8.917	3.26	15.000	3.62	21.08	1.45
2.917	1.57	9.000	3.26	15.083	3.62	21.17	1.45
3.000	1.57	9.083	3.26	15.167	3.62	21.25	1.45
3.083	1.57	9.167	3.26	15.250	3.62	21.33	1.45
3.167	1.57	9.250	3.26	15.333	3.62	21.42	1.45
3.250	1.57	9.333	3.86	15.417	3.62	21.50	1.45
3.333	1.57	9.417	3.86	15.500	3.62	21.58	1.45
3.417	1.57	9.500	3.86	15.583	3.62	21.67	1.45
3.500	1.57	9.583	3.86	15.667	3.62	21.75	1.45
3.583	1.57	9.667	3.86	15.750	3.62	21.83	1.45
3.667	1.57	9.750	3.86	15.833	3.62	21.92	1.45
3.750	1.57	9.833	4.34	15.917	3.62	22.00	1.45
3.833	1.57	9.917	4.34	16.000	3.62	22.08	1.45
3.917	1.57	10.000	4.34	16.083	3.62	22.17	1.45
4.000	1.57	10.083	4.34	16.167	3.62	22.25	1.45
4.083	1.57	10.167	4.34	16.250	3.62	22.33	1.45
4.167	1.57	10.250	4.34	16.333	2.17	22.42	1.45
4.250	1.57	10.333	5.55	16.417	2.17	22.50	1.45
4.333	1.93	10.417	5.55	16.500	2.17	22.58	1.45
4.417	1.93	10.500	5.55	16.583	2.17	22.67	1.45
4.500	1.93	10.583	5.55	16.667	2.17	22.75	1.45
4.583	1.93	10.667	5.55	16.750	2.17	22.83	1.45
4.667	1.93	10.750	5.55	16.833	2.17	22.92	1.45
4.750	1.93	10.833	7.48	16.917	2.17	23.00	1.45
4.833	1.93	10.917	7.48	17.000	2.17	23.08	1.45
4.917	1.93	11.000	7.48	17.083	2.17	23.17	1.45
5.000	1.93	11.083	7.48	17.167	2.17	23.25	1.45
5.083	1.93	11.167	7.48	17.250	2.17	23.33	1.45
5.167	1.93	11.250	7.48	17.333	2.17	23.42	1.45
5.250	1.93	11.333	11.58	17.417	2.17	23.50	1.45
5.333	1.93	11.417	11.58	17.500	2.17	23.58	1.45
5.417	1.93	11.500	11.58	17.583	2.17	23.67	1.45
5.500	1.93	11.583	11.58	17.667	2.17	23.75	1.45
5.583	1.93	11.667	11.58	17.750	2.17	23.83	1.45
5.667	1.93	11.750	11.58	17.833	2.17	23.92	1.45
5.750	1.93	11.833	50.17	17.917	2.17	24.00	1.45
5.833	1.93	11.917	50.17	18.000	2.17	24.08	1.45
5.917	1.93	12.000	50.17	18.083	2.17	24.17	1.45
6.000	1.93	12.083	133.13	18.167	2.17	24.25	1.45
6.083	1.93	12.167	133.14	18.250	2.17		

Max.Eff.Inten.(mm/hr)=	133.14	103.96	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.87 (ii)	5.93 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.32	0.15	
			TOTALS
PEAK FLOW (cms)=	0.22	0.05	0.266 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	119.60	77.99	109.19
TOTAL RAINFALL (mm)=	120.60	120.60	120.60
RUNOFF COEFFICIENT =	0.99	0.65	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0118)|				
IN= 2---> OUT= 1 |				
DT= 5.0 min |	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	0.780	0.266	12.25	109.19
OUTFLOW: ID= 1 (0118)	0.780	0.062	12.42	109.03

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.23
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0327

READ STORM |	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\ada53171
Ptotal=120.60 mm |	Comments: 50-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.41	12.75	17.37	19.00	2.17
0.50	1.21	6.75	2.41	13.00	8.92	19.25	2.17
0.75	1.21	7.00	2.41	13.25	8.92	19.50	2.17
1.00	1.21	7.25	2.41	13.50	1.69	19.75	2.17
1.25	1.21	7.50	2.41	13.75	1.69	20.00	2.17
1.50	1.21	7.75	2.41	14.00	9.89	20.25	2.17
1.75	1.21	8.00	2.41	14.25	9.89	20.50	1.45
2.00	1.21	8.25	2.41	14.50	3.62	20.75	1.45
2.25	2.17	8.50	3.26	14.75	3.62	21.00	1.45
2.50	1.57	8.75	3.26	15.00	3.62	21.25	1.45

2.75	1.57	9.00	3.26	15.25	3.62	21.50	1.45
3.00	1.57	9.25	3.26	15.50	3.62	21.75	1.45
3.25	1.57	9.50	3.86	15.75	3.62	22.00	1.45
3.50	1.57	9.75	3.86	16.00	3.62	22.25	1.45
3.75	1.57	10.00	4.34	16.25	3.62	22.50	1.45
4.00	1.57	10.25	4.34	16.50	2.17	22.75	1.45
4.25	1.57	10.50	5.55	16.75	2.17	23.00	1.45
4.50	1.93	10.75	5.55	17.00	2.17	23.25	1.45
4.75	1.93	11.00	7.48	17.25	2.17	23.50	1.45
5.00	1.93	11.25	7.48	17.50	2.17	23.75	1.45
5.25	1.93	11.50	11.58	17.75	2.17	24.00	1.45
5.50	1.93	11.75	11.58	18.00	2.17	24.25	1.45
5.75	1.93	12.00	50.17	18.25	2.17		
6.00	1.93	12.25	133.14	18.50	2.17		
6.25	1.93	12.50	17.37	18.75	2.17		

CALIB	
STANDHYD (0112)	Area (ha)= 1.07
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	1.93	12.250	133.14	18.33	2.17
0.167	0.00	6.250	1.93	12.333	17.38	18.42	2.17
0.250	0.00	6.333	2.41	12.417	17.37	18.50	2.17
0.333	1.21	6.417	2.41	12.500	17.37	18.58	2.17
0.417	1.21	6.500	2.41	12.583	17.37	18.67	2.17
0.500	1.21	6.583	2.41	12.667	17.37	18.75	2.17
0.583	1.21	6.667	2.41	12.750	17.37	18.83	2.17
0.667	1.21	6.750	2.41	12.833	8.93	18.92	2.17
0.750	1.21	6.833	2.41	12.917	8.92	19.00	2.17
0.833	1.21	6.917	2.41	13.000	8.92	19.08	2.17
0.917	1.21	7.000	2.41	13.083	8.92	19.17	2.17
1.000	1.21	7.083	2.41	13.167	8.92	19.25	2.17
1.083	1.21	7.167	2.41	13.250	8.92	19.33	2.17
1.167	1.21	7.250	2.41	13.333	1.69	19.42	2.17
1.250	1.21	7.333	2.41	13.417	1.69	19.50	2.17
1.333	1.21	7.417	2.41	13.500	1.69	19.58	2.17
1.417	1.21	7.500	2.41	13.583	1.69	19.67	2.17
1.500	1.21	7.583	2.41	13.667	1.69	19.75	2.17
1.583	1.21	7.667	2.41	13.750	1.69	19.83	2.17
1.667	1.21	7.750	2.41	13.833	9.89	19.92	2.17
1.750	1.21	7.833	2.41	13.917	9.89	20.00	2.17
1.833	1.21	7.917	2.41	14.000	9.89	20.08	2.17
1.917	1.21	8.000	2.41	14.083	9.89	20.17	2.17
2.000	1.21	8.083	2.41	14.167	9.89	20.25	2.17
2.083	2.17	8.167	2.41	14.250	9.89	20.33	1.45
2.167	2.17	8.250	2.41	14.333	3.62	20.42	1.45
2.250	2.17	8.333	3.26	14.417	3.62	20.50	1.45
2.333	1.57	8.417	3.26	14.500	3.62	20.58	1.45
2.417	1.57	8.500	3.26	14.583	3.62	20.67	1.45
2.500	1.57	8.583	3.26	14.667	3.62	20.75	1.45
2.583	1.57	8.667	3.26	14.750	3.62	20.83	1.45
2.667	1.57	8.750	3.26	14.833	3.62	20.92	1.45
2.750	1.57	8.833	3.26	14.917	3.62	21.00	1.45
2.833	1.57	8.917	3.26	15.000	3.62	21.08	1.45
2.917	1.57	9.000	3.26	15.083	3.62	21.17	1.45
3.000	1.57	9.083	3.26	15.167	3.62	21.25	1.45
3.083	1.57	9.167	3.26	15.250	3.62	21.33	1.45
3.167	1.57	9.250	3.26	15.333	3.62	21.42	1.45
3.250	1.57	9.333	3.86	15.417	3.62	21.50	1.45
3.333	1.57	9.417	3.86	15.500	3.62	21.58	1.45
3.417	1.57	9.500	3.86	15.583	3.62	21.67	1.45
3.500	1.57	9.583	3.86	15.667	3.62	21.75	1.45
3.583	1.57	9.667	3.86	15.750	3.62	21.83	1.45
3.667	1.57	9.750	3.86	15.833	3.62	21.92	1.45
3.750	1.57	9.833	4.34	15.917	3.62	22.00	1.45
3.833	1.57	9.917	4.34	16.000	3.62	22.08	1.45
3.917	1.57	10.000	4.34	16.083	3.62	22.17	1.45
4.000	1.57	10.083	4.34	16.167	3.62	22.25	1.45
4.083	1.57	10.167	4.34	16.250	3.62	22.33	1.45
4.167	1.57	10.250	4.34	16.333	2.17	22.42	1.45
4.250	1.57	10.333	5.55	16.417	2.17	22.50	1.45
4.333	1.93	10.417	5.55	16.500	2.17	22.58	1.45
4.417	1.93	10.500	5.55	16.583	2.17	22.67	1.45
4.500	1.93	10.583	5.55	16.667	2.17	22.75	1.45
4.583	1.93	10.667	5.55	16.750	2.17	22.83	1.45
4.667	1.93	10.750	5.55	16.833	2.17	22.92	1.45
4.750	1.93	10.833	7.48	16.917	2.17	23.00	1.45
4.833	1.93	10.917	7.48	17.000	2.17	23.08	1.45
4.917	1.93	11.000	7.48	17.083	2.17	23.17	1.45
5.000	1.93	11.083	7.48	17.167	2.17	23.25	1.45
5.083	1.93	11.167	7.48	17.250	2.17	23.33	1.45
5.167	1.93	11.250	7.48	17.333	2.17	23.42	1.45
5.250	1.93	11.333	11.58	17.417	2.17	23.50	1.45
5.333	1.93	11.417	11.58	17.500	2.17	23.58	1.45
5.417	1.93	11.500	11.58	17.583	2.17	23.67	1.45
5.500	1.93	11.583	11.58	17.667	2.17	23.75	1.45
5.583	1.93	11.667	11.58	17.750	2.17	23.83	1.45
5.667	1.93	11.750	11.58	17.833	2.17	23.92	1.45
5.750	1.93	11.833	50.17	17.917	2.17	24.00	1.45
5.833	1.93	11.917	50.17	18.000	2.17	24.08	1.45
5.917	1.93	12.000	50.17	18.083	2.17	24.17	1.45
6.000	1.93	12.083	133.13	18.167	2.17	24.25	1.45
6.083	1.93	12.167	133.14	18.250	2.17		

Max.Eff.Inten.	(mm/hr)=	133.14	103.96	
over	(min)	5.00	10.00	
Storage Coeff.	(min)=	2.06 (ii)	6.11 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.31	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.30	0.07	0.364 (iii)
TIME TO PEAK	(hrs)=	12.25	12.25	12.25
RUNOFF VOLUME	(mm)=	119.60	77.98	109.19
TOTAL RAINFALL	(mm)=	120.60	120.60	120.60

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     RUNOFF COEFFICIENT   =       0.99         0.65          0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0117)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0600     0.0645

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0112)      1.070     0.364     12.25     109.19
   OUTFLOW: ID= 1 (  0117)      1.070     0.050     12.75     108.95

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.89
                  TIME SHIFT OF PEAK FLOW         (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0543

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\ada53171
| Ptotal=120.60 mm |    Comments: 50-Year-24-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  6.50    2.41 | 12.75   17.37 | 19.00    2.17
                0.50    1.21 |  6.75    2.41 | 13.00    8.92 | 19.25    2.17
                0.75    1.21 |  7.00    2.41 | 13.25    8.92 | 19.50    2.17
                1.00    1.21 |  7.25    2.41 | 13.50    1.69 | 19.75    2.17
                1.25    1.21 |  7.50    2.41 | 13.75    1.69 | 20.00    2.17
                1.50    1.21 |  7.75    2.41 | 14.00    9.89 | 20.25    2.17
                1.75    1.21 |  8.00    2.41 | 14.25    9.89 | 20.50    1.45
                2.00    1.21 |  8.25    2.41 | 14.50    3.62 | 20.75    1.45
                2.25    2.17 |  8.50    3.26 | 14.75    3.62 | 21.00    1.45
                2.50    1.57 |  8.75    3.26 | 15.00    3.62 | 21.25    1.45
                2.75    1.57 |  9.00    3.26 | 15.25    3.62 | 21.50    1.45
                3.00    1.57 |  9.25    3.26 | 15.50    3.62 | 21.75    1.45
                3.25    1.57 |  9.50    3.86 | 15.75    3.62 | 22.00    1.45
                3.50    1.57 |  9.75    3.86 | 16.00    3.62 | 22.25    1.45
                3.75    1.57 | 10.00    4.34 | 16.25    3.62 | 22.50    1.45
                4.00    1.57 | 10.25    4.34 | 16.50    2.17 | 22.75    1.45
                4.25    1.57 | 10.50    5.55 | 16.75    2.17 | 23.00    1.45
                4.50    1.93 | 10.75    5.55 | 17.00    2.17 | 23.25    1.45
                4.75    1.93 | 11.00    7.48 | 17.25    2.17 | 23.50    1.45
                5.00    1.93 | 11.25    7.48 | 17.50    2.17 | 23.75    1.45
                5.25    1.93 | 11.50   11.58 | 17.75    2.17 | 24.00    1.45
                5.50    1.93 | 11.75   11.58 | 18.00    2.17 | 24.25    1.45
                5.75    1.93 | 12.00   50.17 | 18.25    2.17 |
                6.00    1.93 | 12.25  133.14 | 18.50    2.17 |
                6.25    1.93 | 12.50   17.37 | 18.75    2.17 |

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| CALIB            |
| STANDHYD (  0121)|   Area     (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
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                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

     NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
      TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
       hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
     0.083    0.00 | 6.167    1.93 |12.250  133.14 | 18.33    2.17
     0.167    0.00 | 6.250    1.93 |12.333   17.38 | 18.42    2.17
     0.250    0.00 | 6.333    2.41 |12.417   17.37 | 18.50    2.17
     0.333    1.21 | 6.417    2.41 |12.500   17.37 | 18.58    2.17
     0.417    1.21 | 6.500    2.41 |12.583   17.37 | 18.67    2.17
     0.500    1.21 | 6.583    2.41 |12.667   17.37 | 18.75    2.17
     0.583    1.21 | 6.667    2.41 |12.750   17.37 | 18.83    2.17
     0.667    1.21 | 6.750    2.41 |12.833    8.93 | 18.92    2.17
     0.750    1.21 | 6.833    2.41 |12.917    8.92 | 19.00    2.17
     0.833    1.21 | 6.917    2.41 |13.000    8.92 | 19.08    2.17
     0.917    1.21 | 7.000    2.41 |13.083    8.92 | 19.17    2.17
     1.000    1.21 | 7.083    2.41 |13.167    8.92 | 19.25    2.17
     1.083    1.21 | 7.167    2.41 |13.250    8.92 | 19.33    2.17
     1.167    1.21 | 7.250    2.41 |13.333    1.69 | 19.42    2.17
     1.250    1.21 | 7.333    2.41 |13.417    1.69 | 19.50    2.17
     1.333    1.21 | 7.417    2.41 |13.500    1.69 | 19.58    2.17
     1.417    1.21 | 7.500    2.41 |13.583    1.69 | 19.67    2.17
     1.500    1.21 | 7.583    2.41 |13.667    1.69 | 19.75    2.17
     1.583    1.21 | 7.667    2.41 |13.750    1.69 | 19.83    2.17
     1.667    1.21 | 7.750    2.41 |13.833    9.89 | 19.92    2.17
     1.750    1.21 | 7.833    2.41 |13.917    9.89 | 20.00    2.17
     1.833    1.21 | 7.917    2.41 |14.000    9.89 | 20.08    2.17
     1.917    1.21 | 8.000    2.41 |14.083    9.89 | 20.17    2.17
     2.000    1.21 | 8.083    2.41 |14.167    9.89 | 20.25    2.17
     2.083    2.17 | 8.167    2.41 |14.250    9.89 | 20.33    1.45
     2.167    2.17 | 8.250    2.41 |14.333    3.62 | 20.42    1.45
     2.250    2.17 | 8.333    3.26 |14.417    3.62 | 20.50    1.45
     2.333    1.57 | 8.417    3.26 |14.500    3.62 | 20.58    1.45
     2.417    1.57 | 8.500    3.26 |14.583    3.62 | 20.67    1.45
     2.500    1.57 | 8.583    3.26 |14.667    3.62 | 20.75    1.45
     2.583    1.57 | 8.667    3.26 |14.750    3.62 | 20.83    1.45
     2.667    1.57 | 8.750    3.26 |14.833    3.62 | 20.92    1.45
     2.750    1.57 | 8.833    3.26 |14.917    3.62 | 21.00    1.45
     2.833    1.57 | 8.917    3.26 |15.000    3.62 | 21.08    1.45
     2.917    1.57 | 9.000    3.26 |15.083    3.62 | 21.17    1.45
     3.000    1.57 | 9.083    3.26 |15.167    3.62 | 21.25    1.45
     3.083    1.57 | 9.167    3.26 |15.250    3.62 | 21.33    1.45
```

3.167	1.57	9.250	3.26	15.333	3.62	21.42	1.45
3.250	1.57	9.333	3.86	15.417	3.62	21.50	1.45
3.333	1.57	9.417	3.86	15.500	3.62	21.58	1.45
3.417	1.57	9.500	3.86	15.583	3.62	21.67	1.45
3.500	1.57	9.583	3.86	15.667	3.62	21.75	1.45
3.583	1.57	9.667	3.86	15.750	3.62	21.83	1.45
3.667	1.57	9.750	3.86	15.833	3.62	21.92	1.45
3.750	1.57	9.833	4.34	15.917	3.62	22.00	1.45
3.833	1.57	9.917	4.34	16.000	3.62	22.08	1.45
3.917	1.57	10.000	4.34	16.083	3.62	22.17	1.45
4.000	1.57	10.083	4.34	16.167	3.62	22.25	1.45
4.083	1.57	10.167	4.34	16.250	3.62	22.33	1.45
4.167	1.57	10.250	4.34	16.333	2.17	22.42	1.45
4.250	1.57	10.333	5.55	16.417	2.17	22.50	1.45
4.333	1.93	10.417	5.55	16.500	2.17	22.58	1.45
4.417	1.93	10.500	5.55	16.583	2.17	22.67	1.45
4.500	1.93	10.583	5.55	16.667	2.17	22.75	1.45
4.583	1.93	10.667	5.55	16.750	2.17	22.83	1.45
4.667	1.93	10.750	5.55	16.833	2.17	22.92	1.45
4.750	1.93	10.833	7.48	16.917	2.17	23.00	1.45
4.833	1.93	10.917	7.48	17.000	2.17	23.08	1.45
4.917	1.93	11.000	7.48	17.083	2.17	23.17	1.45
5.000	1.93	11.083	7.48	17.167	2.17	23.25	1.45
5.083	1.93	11.167	7.48	17.250	2.17	23.33	1.45
5.167	1.93	11.250	7.48	17.333	2.17	23.42	1.45
5.250	1.93	11.333	11.58	17.417	2.17	23.50	1.45
5.333	1.93	11.417	11.58	17.500	2.17	23.58	1.45
5.417	1.93	11.500	11.58	17.583	2.17	23.67	1.45
5.500	1.93	11.583	11.58	17.667	2.17	23.75	1.45
5.583	1.93	11.667	11.58	17.750	2.17	23.83	1.45
5.667	1.93	11.750	11.58	17.833	2.17	23.92	1.45
5.750	1.93	11.833	50.17	17.917	2.17	24.00	1.45
5.833	1.93	11.917	50.17	18.000	2.17	24.08	1.45
5.917	1.93	12.000	50.17	18.083	2.17	24.17	1.45
6.000	1.93	12.083	133.13	18.167	2.17	24.25	1.45
6.083	1.93	12.167	133.14	18.250	2.17		

Max.Eff.Inten.(mm/hr)=	133.14	61.20	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.36 (ii)	5.76 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.33	0.15	
			TOTALS
PEAK FLOW (cms)=	0.07	0.01	0.082 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	119.60	45.75	98.17
TOTAL RAINFALL (mm)=	120.60	120.60	120.60
RUNOFF COEFFICIENT =	0.99	0.38	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| RESERVOIR(0115)|

IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0121)	0.270	0.082	12.25	98.17
OUTFLOW: ID= 1 (0115)	0.270	0.036	12.33	98.00

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.10
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0076

ADD HYD (0110)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0115):	0.27	0.036	12.33	98.00
+ ID2= 2 (0117):	1.07	0.050	12.75	108.95
ID = 3 (0110):	1.34	0.085	12.33	106.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)					
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0110):	1.34	0.085	12.33	106.74
+ ID2= 2 (0118):	0.78	0.062	12.42	109.03
ID = 1 (0110):	2.12	0.146	12.33	107.58

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0110):	2.12	0.146	12.33	107.58
+ ID2= 2 (0120):	18.09	0.735	13.17	93.24
ID = 3 (0110):	20.21	0.851	13.00	94.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

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  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\c627c708-d57e-47a1-86c9-e1418c6ff565\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
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DATE: 10-31-2019                          TIME: 10:49:00

USER:


COMMENTS: _____________________________________________________________
```

**** SIMULATION : 5-50-Year-4-Hour-Chicago-Barr ****

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\66deb195
Ptotal= 79.45 mm	Comments: 50-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.93	1.17	40.22	2.17	13.20	3.17	6.98
0.33	6.74	1.33	164.22	2.33	11.37	3.33	6.51
0.50	7.85	1.50	51.92	2.50	10.03	3.50	6.11
0.67	9.50	1.67	28.58	2.67	9.00	3.67	5.77
0.83	12.27	1.83	20.23	2.83	8.19	3.83	5.46
1.00	18.04	2.00	15.88	3.00	7.53	4.00	5.19

CALIB	Area (ha)= 1.03
STANDHYD (0107)	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00
ID= 1 DT= 5.0 min	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.77	0.26
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	82.87	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.93	1.083	40.22	2.083	13.20	3.08	6.98
0.167	5.93	1.167	40.22	2.167	13.20	3.17	6.98
0.250	6.74	1.250	164.22	2.250	11.37	3.25	6.51
0.333	6.74	1.333	164.22	2.333	11.37	3.33	6.51
0.417	7.85	1.417	51.92	2.417	10.03	3.42	6.11
0.500	7.85	1.500	51.92	2.500	10.03	3.50	6.11
0.583	9.50	1.583	28.58	2.583	9.00	3.58	5.77
0.667	9.50	1.667	28.58	2.667	9.00	3.67	5.77
0.750	12.27	1.750	20.23	2.750	8.19	3.75	5.46
0.833	12.27	1.833	20.23	2.833	8.19	3.83	5.46
0.917	18.04	1.917	15.88	2.917	7.53	3.92	5.19
1.000	18.04	2.000	15.88	3.000	7.53	4.00	5.19

				TOTALS
Max.Eff.Inten.(mm/hr)=	164.22	38.20		
over (min)	5.00	10.00		
Storage Coeff. (min)=	1.87 (ii)	5.60 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.32	0.15		
PEAK FLOW (cms)=	0.35	0.02		0.369 (iii)
TIME TO PEAK (hrs)=	1.33	1.42		1.33
RUNOFF VOLUME (mm)=	78.45	22.09		64.36
TOTAL RAINFALL (mm)=	79.45	79.45		79.45
RUNOFF COEFFICIENT =	0.99	0.28		0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0111)| IN= 2---> OUT= 1 | DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	1.030	0.369	1.33	64.36
OUTFLOW: ID= 1 (0111)	1.030	0.080	1.58	64.27

PEAK FLOW REDUCTION [Qout/Qin](%)= 21.69

```
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0316

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\66deb195
| Ptotal= 79.45 mm |    Comments: 50-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.93 |  1.17   40.22 |  2.17   13.20 |  3.17    6.98
                0.33    6.74 |  1.33  164.22 |  2.33   11.37 |  3.33    6.51
                0.50    7.85 |  1.50   51.92 |  2.50   10.03 |  3.50    6.11
                0.67    9.50 |  1.67   28.58 |  2.67    9.00 |  3.67    5.77
                0.83   12.27 |  1.83   20.23 |  2.83    8.19 |  3.83    5.46
                1.00   18.04 |  2.00   15.88 |  3.00    7.53 |  4.00    5.19

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--------------------
| CALIB            |
| STANDHYD (  0109)|   Area    (ha)=   8.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.08         2.03
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     232.38        40.00
     Mannings n           =      0.013        0.250

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    5.93 | 1.083   40.22 | 2.083   13.20 |  3.08    6.98
               0.167    5.93 | 1.167   40.22 | 2.167   13.20 |  3.17    6.98
               0.250    6.74 | 1.250  164.22 | 2.250   11.37 |  3.25    6.51
               0.333    6.74 | 1.333  164.22 | 2.333   11.37 |  3.33    6.51
               0.417    7.85 | 1.417   51.92 | 2.417   10.03 |  3.42    6.11
               0.500    7.85 | 1.500   51.92 | 2.500   10.03 |  3.50    6.11
               0.583    9.50 | 1.583   28.58 | 2.583    9.00 |  3.58    5.77
               0.667    9.50 | 1.667   28.58 | 2.667    9.00 |  3.67    5.77
               0.750   12.27 | 1.750   20.23 | 2.750    8.19 |  3.75    5.46
               0.833   12.27 | 1.833   20.23 | 2.833    8.19 |  3.83    5.46
               0.917   18.04 | 1.917   15.88 | 2.917    7.53 |  3.92    5.19
               1.000   18.04 | 2.000   15.88 | 3.000    7.53 |  4.00    5.19

     Max.Eff.Inten.(mm/hr)=     164.22        38.20
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       3.47 (ii)    7.20 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.26         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.65         0.16          2.779 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42          1.33
     RUNOFF VOLUME    (mm)=      78.45        22.09         64.36
     TOTAL RAINFALL   (mm)=      79.45        79.45         79.45
     RUNOFF COEFFICIENT   =       0.99         0.28          0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0116)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000      0.0000   |  0.2090      0.3700
                         0.0146      0.2491   |  0.2910      0.4360
                         0.0800      0.2550   |  0.3580      0.4850
                         0.1520      0.3150   |  0.4290      0.5350

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0109)       8.100     2.779      1.33      64.36
   OUTFLOW: ID= 1 (  0116)       8.100     0.208      2.42      63.31

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.49
                TIME SHIFT OF PEAK FLOW         (min)= 65.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.3692

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\66deb195
| Ptotal= 79.45 mm |    Comments: 50-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.93 |  1.17   40.22 |  2.17   13.20 |  3.17    6.98
                0.33    6.74 |  1.33  164.22 |  2.33   11.37 |  3.33    6.51
                0.50    7.85 |  1.50   51.92 |  2.50   10.03 |  3.50    6.11
                0.67    9.50 |  1.67   28.58 |  2.67    9.00 |  3.67    5.77
                0.83   12.27 |  1.83   20.23 |  2.83    8.19 |  3.83    5.46
                1.00   18.04 |  2.00   15.88 |  3.00    7.53 |  4.00    5.19

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| CALIB            |
| STANDHYD (  0113)|   Area    (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91         6.45
     Dep. Storage     (mm)=       1.00         5.00
```

Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.93	1.083	40.22	2.083	13.20	3.08	6.98
0.167	5.93	1.167	40.22	2.167	13.20	3.17	6.98
0.250	6.74	1.250	164.22	2.250	11.37	3.25	6.51
0.333	6.74	1.333	164.22	2.333	11.37	3.33	6.51
0.417	7.85	1.417	51.92	2.417	10.03	3.42	6.11
0.500	7.85	1.500	51.92	2.500	10.03	3.50	6.11
0.583	9.50	1.583	28.58	2.583	9.00	3.58	5.77
0.667	9.50	1.667	28.58	2.667	9.00	3.67	5.77
0.750	12.27	1.750	20.23	2.750	8.19	3.75	5.46
0.833	12.27	1.833	20.23	2.833	8.19	3.83	5.46
0.917	18.04	1.917	15.88	2.917	7.53	3.92	5.19
1.000	18.04	2.000	15.88	3.000	7.53	4.00	5.19

Max.Eff.Inten.(mm/hr)=		164.22	33.09	
over (min)		5.00	20.00	
Storage Coeff. (min)=		4.21 (ii)	15.20 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.24	0.07	
				TOTALS
PEAK FLOW	(cms)=	3.77	0.36	3.899 (iii)
TIME TO PEAK	(hrs)=	1.33	1.58	1.33
RUNOFF VOLUME	(mm)=	78.45	23.14	55.22
TOTAL RAINFALL	(mm)=	79.45	79.45	79.45
RUNOFF COEFFICIENT	=	0.99	0.29	0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0114)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0111):		1.03	0.080	1.58	64.27
+ ID2= 2 (0113):		15.36	3.899	1.33	55.22
ID = 3 (0114):		16.39	3.958	1.33	55.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0114)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0114):		16.39	3.958	1.33	55.79
+ ID2= 2 (0116):		8.10	0.208	2.42	63.31
ID = 1 (0114):		24.49	3.970	1.33	58.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0119)						
IN= 2---> OUT= 1						
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000		0.4045	0.7000	
	0.0151	0.0001		0.5514	0.8000	
	0.0151	0.1301		0.7611	0.9000	
	0.0440	0.4217		0.9325	0.9500	
	0.2194	0.6000		1.1147	1.0500	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0114)	24.490	3.970	1.33	58.28
OUTFLOW: ID= 1 (0119)	24.490	0.453	3.42	58.28

PEAK FLOW REDUCTION [Qout/Qin](%)= 11.42
TIME SHIFT OF PEAK FLOW (min)=125.00
MAXIMUM STORAGE USED (ha.m.)= 0.7333

DUHYD (0120)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.= 0.015		(ha)	(cms)	(hrs)	(mm)
#of Inlets= 1	TOTAL HYD.(ID= 1):	24.49	0.45	3.42	58.28
Total(cms)= 0.0	MAJOR SYS.(ID= 2):	15.72	0.44	3.42	58.28
	MINOR SYS.(ID= 3):	8.77	0.02	1.25	58.28

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\66deb195
Ptotal= 79.45 mm	Comments: 50-Year-4-Hour-Chicago

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.93	1.17	40.22	2.17	13.20	3.17	6.98
0.33	6.74	1.33	164.22	2.33	11.37	3.33	6.51
0.50	7.85	1.50	51.92	2.50	10.03	3.50	6.11
0.67	9.50	1.67	28.58	2.67	9.00	3.67	5.77
0.83	12.27	1.83	20.23	2.83	8.19	3.83	5.46
1.00	18.04	2.00	15.88	3.00	7.53	4.00	5.19

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

--------------------
| CALIB            |
| STANDHYD (  0108)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n             =    0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    5.93 | 1.083   40.22 | 2.083   13.20 |  3.08    6.98
              0.167    5.93 | 1.167   40.22 | 2.167   13.20 |  3.17    6.98
              0.250    6.74 | 1.250  164.22 | 2.250   11.37 |  3.25    6.51
              0.333    6.74 | 1.333  164.22 | 2.333   11.37 |  3.33    6.51
              0.417    7.85 | 1.417   51.92 | 2.417   10.03 |  3.42    6.11
              0.500    7.85 | 1.500   51.92 | 2.500   10.03 |  3.50    6.11
              0.583    9.50 | 1.583   28.58 | 2.583    9.00 |  3.58    5.77
              0.667    9.50 | 1.667   28.58 | 2.667    9.00 |  3.67    5.77
              0.750   12.27 | 1.750   20.23 | 2.750    8.19 |  3.75    5.46
              0.833   12.27 | 1.833   20.23 | 2.833    8.19 |  3.83    5.46
              0.917   18.04 | 1.917   15.88 | 2.917    7.53 |  3.92    5.19
              1.000   18.04 | 2.000   15.88 | 3.000    7.53 |  4.00    5.19

     Max.Eff.Inten.(mm/hr)=     164.22        84.53
                  over (min)       5.00        10.00
     Storage Coeff.  (min)=       1.72 (ii)    5.45 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.16
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.27         0.04       0.298 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42        1.33
     RUNOFF VOLUME    (mm)=      78.45        42.57       69.48
     TOTAL RAINFALL   (mm)=      79.45        79.45       79.45
     RUNOFF COEFFICIENT   =       0.99         0.54        0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0118)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.0750      0.0396

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0108)    0.780     0.298      1.33      69.48
   OUTFLOW: ID= 1 (  0118)    0.780     0.053      1.75      69.32

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.76
                  TIME SHIFT OF PEAK FLOW         (min)= 25.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0280

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\66deb195
| Ptotal= 79.45 mm |    Comments: 50-Year-4-Hour-Chicago
--------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    5.93 |  1.17   40.22 |  2.17   13.20 |  3.17    6.98
               0.33    6.74 |  1.33  164.22 |  2.33   11.37 |  3.33    6.51
               0.50    7.85 |  1.50   51.92 |  2.50   10.03 |  3.50    6.11
               0.67    9.50 |  1.67   28.58 |  2.67    9.00 |  3.67    5.77
               0.83   12.27 |  1.83   20.23 |  2.83    8.19 |  3.83    5.46
               1.00   18.04 |  2.00   15.88 |  3.00    7.53 |  4.00    5.19

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

--------------------
| CALIB            |
| STANDHYD (  0112)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n             =    0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    5.93 | 1.083   40.22 | 2.083   13.20 |  3.08    6.98
              0.167    5.93 | 1.167   40.22 | 2.167   13.20 |  3.17    6.98
              0.250    6.74 | 1.250  164.22 | 2.250   11.37 |  3.25    6.51
              0.333    6.74 | 1.333  164.22 | 2.333   11.37 |  3.33    6.51
              0.417    7.85 | 1.417   51.92 | 2.417   10.03 |  3.42    6.11
              0.500    7.85 | 1.500   51.92 | 2.500   10.03 |  3.50    6.11
              0.583    9.50 | 1.583   28.58 | 2.583    9.00 |  3.58    5.77
              0.667    9.50 | 1.667   28.58 | 2.667    9.00 |  3.67    5.77
              0.750   12.27 | 1.750   20.23 | 2.750    8.19 |  3.75    5.46
              0.833   12.27 | 1.833   20.23 | 2.833    8.19 |  3.83    5.46
              0.917   18.04 | 1.917   15.88 | 2.917    7.53 |  3.92    5.19
              1.000   18.04 | 2.000   15.88 | 3.000    7.53 |  4.00    5.19
```

```
     Max.Eff.Inten.(mm/hr)=     164.22        84.53
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.89 (ii)    5.62 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.15
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.36         0.05          0.407 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      78.45        42.57          69.48
     TOTAL RAINFALL   (mm)=      79.45        79.45          79.45
     RUNOFF COEFFICIENT   =       0.99         0.54           0.87

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0117)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0600      0.0645

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0112)      1.070      0.407      1.33      69.48
   OUTFLOW: ID= 1 (  0117)      1.070      0.043      2.00      69.23

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.44
                  TIME SHIFT OF PEAK FLOW         (min)= 40.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0457

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\66deb195
| Ptotal= 79.45 mm |    Comments: 50-Year-4-Hour-Chicago
--------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    5.93 |  1.17   40.22 |  2.17   13.20 |  3.17    6.98
               0.33    6.74 |  1.33  164.22 |  2.33   11.37 |  3.33    6.51
               0.50    7.85 |  1.50   51.92 |  2.50   10.03 |  3.50    6.11
               0.67    9.50 |  1.67   28.58 |  2.67    9.00 |  3.67    5.77
               0.83   12.27 |  1.83   20.23 |  2.83    8.19 |  3.83    5.46
               1.00   18.04 |  2.00   15.88 |  3.00    7.53 |  4.00    5.19

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

--------------------
| CALIB            |
| STANDHYD (  0121)|   Area    (ha)=   0.27

|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083   5.93 | 1.083   40.22 | 2.083   13.20 |  3.08    6.98
               0.167   5.93 | 1.167   40.22 | 2.167   13.20 |  3.17    6.98
               0.250   6.74 | 1.250  164.22 | 2.250   11.37 |  3.25    6.51
               0.333   6.74 | 1.333  164.22 | 2.333   11.37 |  3.33    6.51
               0.417   7.85 | 1.417   51.92 | 2.417   10.03 |  3.42    6.11
               0.500   7.85 | 1.500   51.92 | 2.500   10.03 |  3.50    6.11
               0.583   9.50 | 1.583   28.58 | 2.583    9.00 |  3.58    5.77
               0.667   9.50 | 1.667   28.58 | 2.667    9.00 |  3.67    5.77
               0.750  12.27 | 1.750   20.23 | 2.750    8.19 |  3.75    5.46
               0.833  12.27 | 1.833   20.23 | 2.833    8.19 |  3.83    5.46
               0.917  18.04 | 1.917   15.88 | 2.917    7.53 |  3.92    5.19
               1.000  18.04 | 2.000   15.88 | 3.000    7.53 |  4.00    5.19

     Max.Eff.Inten.(mm/hr)=     164.22        38.20
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.25 (ii)    5.30 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.16
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.01          0.093 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      78.45        22.09          62.10
     TOTAL RAINFALL   (mm)=      79.45        79.45          79.45
     RUNOFF COEFFICIENT   =       0.99         0.28           0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0460      0.0093

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)      0.270      0.093      1.33      62.10
   OUTFLOW: ID= 1 (  0115)      0.270      0.031      1.50      61.92
```

```
                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.55
                TIME SHIF OF PEAK FLOW         (min)= 10.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0063

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0115):     0.27   0.031     1.50    61.92
     + ID2= 2 (  0117):     1.07   0.043     2.00    69.23
       ================================================
       ID = 3 (  0110):     1.34   0.070     1.58    67.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0110):     1.34   0.070     1.58    67.76
     + ID2= 2 (  0118):     0.78   0.053     1.75    69.32
       ================================================
       ID = 1 (  0110):     2.12   0.122     1.67    68.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0110):     2.12   0.122     1.67    68.33
     + ID2= 2 (  0120):    15.72   0.438     3.42    58.28
       ================================================
       ID = 3 (  0110):    17.84   0.515     3.08    59.47

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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```
                    *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\47e9e017-3331-468b-b654-d5647fad0ad6\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\47e9e017-3331-468b-b654-d5647fad0ad6\scen


DATE: 10-31-2019                          TIME: 10:48:50

USER:


COMMENTS: _____________________________________________________

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  ********************************************
  ** SIMULATION : 5-50-Year-4-Hour-Chicago-MTO  **
  ********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 773.304
| Ptotal= 67.06 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.64 |  1.17   26.68 |  2.17   11.15 |  3.17    6.50
                0.33    6.30 |  1.33  154.65 |  2.33    9.85 |  3.33    6.12
                0.50    7.19 |  1.50   32.75 |  2.50    8.86 |  3.50    5.79
                0.67    8.47 |  1.67   20.65 |  2.67    8.09 |  3.67    5.50
                0.83   10.49 |  1.83   15.75 |  2.83    7.46 |  3.83    5.24
                1.00   14.35 |  2.00   12.97 |  3.00    6.94 |  4.00    5.01

--------------------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0107)|   Area    (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.26
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      82.87        40.00
     Mannings n           =      0.013        0.250
```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.64	1.083	26.68	2.083	11.15	3.08	6.50
0.167	5.64	1.167	26.68	2.167	11.15	3.17	6.50
0.250	6.30	1.250	154.65	2.250	9.85	3.25	6.12
0.333	6.30	1.333	154.65	2.333	9.85	3.33	6.12
0.417	7.19	1.417	32.75	2.417	8.86	3.42	5.79
0.500	7.19	1.500	32.75	2.500	8.86	3.50	5.79
0.583	8.47	1.583	20.65	2.583	8.09	3.58	5.50
0.667	8.47	1.667	20.65	2.667	8.09	3.67	5.50
0.750	10.49	1.750	15.75	2.750	7.46	3.75	5.24
0.833	10.49	1.833	15.75	2.833	7.46	3.83	5.24
0.917	14.35	1.917	12.97	2.917	6.94	3.92	5.01
1.000	14.35	2.000	12.97	3.000	6.94	4.00	5.01

			TOTALS
Max.Eff.Inten.(mm/hr)=	154.65	30.70	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.92 (ii)	5.74 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
PEAK FLOW (cms)=	0.33	0.02	0.344 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	66.06	16.15	53.58
TOTAL RAINFALL (mm)=	67.06	67.06	67.06
RUNOFF COEFFICIENT =	0.99	0.24	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0111)
IN= 2---> OUT= 1
DT= 5.0 min

	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	1.030	0.344	1.33	53.58
OUTFLOW: ID= 1 (0111)	1.030	0.066	1.58	53.49

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.18
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.0262

CHICAGO STORM	IDF curve parameters: A= 773.304
Ptotal= 67.06 mm	B= 0.000
	C= 0.699

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	5.64	1.17	26.68	2.17	11.15	3.17	6.50
0.33	6.30	1.33	154.65	2.33	9.85	3.33	6.12
0.50	7.19	1.50	32.75	2.50	8.86	3.50	5.79
0.67	8.47	1.67	20.65	2.67	8.09	3.67	5.50
0.83	10.49	1.83	15.75	2.83	7.46	3.83	5.24
1.00	14.35	2.00	12.97	3.00	6.94	4.00	5.01

CALIB	
STANDHYD (0109)	Area (ha)= 8.10
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.08	2.03
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	232.38	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.64	1.083	26.68	2.083	11.15	3.08	6.50
0.167	5.64	1.167	26.68	2.167	11.15	3.17	6.50
0.250	6.30	1.250	154.65	2.250	9.85	3.25	6.12
0.333	6.30	1.333	154.65	2.333	9.85	3.33	6.12
0.417	7.19	1.417	32.75	2.417	8.86	3.42	5.79
0.500	7.19	1.500	32.75	2.500	8.86	3.50	5.79
0.583	8.47	1.583	20.65	2.583	8.09	3.58	5.50
0.667	8.47	1.667	20.65	2.667	8.09	3.67	5.50
0.750	10.49	1.750	15.75	2.750	7.46	3.75	5.24
0.833	10.49	1.833	15.75	2.833	7.46	3.83	5.24
0.917	14.35	1.917	12.97	2.917	6.94	3.92	5.01
1.000	14.35	2.000	12.97	3.000	6.94	4.00	5.01

			TOTALS
Max.Eff.Inten.(mm/hr)=	154.65	30.70	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.56 (ii)	7.38 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.26	0.13	
PEAK FLOW (cms)=	2.48	0.12	2.576 (iii)
TIME TO PEAK (hrs)=	1.33	1.42	1.33
RUNOFF VOLUME (mm)=	66.06	16.15	53.58
TOTAL RAINFALL (mm)=	67.06	67.06	67.06

```
     RUNOFF COEFFICIENT   =       0.99         0.24          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0116)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2090     0.3700
                         0.0146     0.2491   |   0.2910     0.4360
                         0.0800     0.2550   |   0.3580     0.4850
                         0.1520     0.3150   |   0.4290     0.5350

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0109)     8.100     2.576      1.33      53.58
   OUTFLOW: ID= 1 (  0116)     8.100     0.151      2.75      52.55

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.88
                  TIME SHIFT OF PEAK FLOW         (min)= 85.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.3146

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--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 773.304
| Ptotal= 67.06 mm |                          B=   0.000
--------------------                          C=   0.699
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  4.00 hrs
                        Storm time step    = 10.00 min
                        Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    5.64 |  1.17   26.68 |  2.17   11.15 |  3.17    6.50
               0.33    6.30 |  1.33  154.65 |  2.33    9.85 |  3.33    6.12
               0.50    7.19 |  1.50   32.75 |  2.50    8.86 |  3.50    5.79
               0.67    8.47 |  1.67   20.65 |  2.67    8.09 |  3.67    5.50
               0.83   10.49 |  1.83   15.75 |  2.83    7.46 |  3.83    5.24
               1.00   14.35 |  2.00   12.97 |  3.00    6.94 |  4.00    5.01


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--------------------
| CALIB            |
| STANDHYD (  0113)|   Area     (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91         6.45
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     320.00        40.00
     Mannings n            =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    5.64 | 1.083   26.68 | 2.083   11.15 |  3.08    6.50
               0.167    5.64 | 1.167   26.68 | 2.167   11.15 |  3.17    6.50
               0.250    6.30 | 1.250  154.65 | 2.250    9.85 |  3.25    6.12
               0.333    6.30 | 1.333  154.65 | 2.333    9.85 |  3.33    6.12
               0.417    7.19 | 1.417   32.75 | 2.417    8.86 |  3.42    5.79
               0.500    7.19 | 1.500   32.75 | 2.500    8.86 |  3.50    5.79
               0.583    8.47 | 1.583   20.65 | 2.583    8.09 |  3.58    5.50
               0.667    8.47 | 1.667   20.65 | 2.667    8.09 |  3.67    5.50
               0.750   10.49 | 1.750   15.75 | 2.750    7.46 |  3.75    5.24
               0.833   10.49 | 1.833   15.75 | 2.833    7.46 |  3.83    5.24
               0.917   14.35 | 1.917   12.97 | 2.917    6.94 |  3.92    5.01
               1.000   14.35 | 2.000   12.97 | 3.000    6.94 |  4.00    5.01

     Max.Eff.Inten.(mm/hr)=     154.65        25.13
               over (min)          5.00        20.00
     Storage Coeff.  (min)=       4.31 (ii)   16.57 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.23         0.06
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.51         0.25         3.600 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58          1.33
     RUNOFF VOLUME    (mm)=      66.06        16.95         45.44
     TOTAL RAINFALL   (mm)=      67.06        67.06         67.06
     RUNOFF COEFFICIENT   =       0.99         0.25          0.68

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0114)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0111):     1.03    0.066     1.58    53.49
     + ID2= 2 (  0113):    15.36    3.600     1.33    45.44
       ================================================
       ID = 3 (  0114):    16.39    3.650     1.33    45.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD  (  0114)|
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|   3 +  2 =  1    |          AREA    QPEAK    TPEAK      R.V.
--------------------          (ha)     (cms)    (hrs)      (mm)
        ID1= 3 (  0114):     16.39    3.650     1.33     45.94
      + ID2= 2 (  0116):      8.10    0.151     2.75     52.55
        ====================================================
        ID = 1 (  0114):     24.49    3.660     1.33     48.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR(  0119)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |      OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |  0.4045      0.7000
                           0.0151     0.0001   |  0.5514      0.8000
                           0.0151     0.1301   |  0.7611      0.9000
                           0.0440     0.4217   |  0.9325      0.9500
                           0.2194     0.6000   |  1.1147      1.0500

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0114)     24.490     3.660      1.33      48.13
   OUTFLOW: ID= 1 (  0119)     24.490     0.319      4.00      48.13

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.72
                  TIME SHIFT OF PEAK FLOW         (min)=160.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6540

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--------------------
| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.32      4.00   48.13
     ================================================
     MAJOR SYS.(ID= 2):  13.94      0.30      4.00   48.13
     MINOR SYS.(ID= 3):  10.55      0.02      1.25   48.13

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 773.304
| Ptotal= 67.06 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    5.64 |  1.17   26.68 |  2.17   11.15 |  3.17    6.50
                0.33    6.30 |  1.33  154.65 |  2.33    9.85 |  3.33    6.12
                0.50    7.19 |  1.50   32.75 |  2.50    8.86 |  3.50    5.79
                0.67    8.47 |  1.67   20.65 |  2.67    8.09 |  3.67    5.50
                0.83   10.49 |  1.83   15.75 |  2.83    7.46 |  3.83    5.24
                1.00   14.35 |  2.00   12.97 |  3.00    6.94 |  4.00    5.01

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--------------------
| CALIB            |
| STANDHYD (  0108)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                    IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=           0.58          0.19
     Dep. Storage     (mm)=           1.00          5.00
     Average Slope     (%)=           1.00          2.00
     Length            (m)=          72.11         40.00
     Mannings n           =          0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083   5.64 | 1.083   26.68 | 2.083   11.15 |  3.08    6.50
                0.167   5.64 | 1.167   26.68 | 2.167   11.15 |  3.17    6.50
                0.250   6.30 | 1.250  154.65 | 2.250    9.85 |  3.25    6.12
                0.333   6.30 | 1.333  154.65 | 2.333    9.85 |  3.33    6.12
                0.417   7.19 | 1.417   32.75 | 2.417    8.86 |  3.42    5.79
                0.500   7.19 | 1.500   32.75 | 2.500    8.86 |  3.50    5.79
                0.583   8.47 | 1.583   20.65 | 2.583    8.09 |  3.58    5.50
                0.667   8.47 | 1.667   20.65 | 2.667    8.09 |  3.67    5.50
                0.750  10.49 | 1.750   15.75 | 2.750    7.46 |  3.75    5.24
                0.833  10.49 | 1.833   15.75 | 2.833    7.46 |  3.83    5.24
                0.917  14.35 | 1.917   12.97 | 2.917    6.94 |  3.92    5.01
                1.000  14.35 | 2.000   12.97 | 3.000    6.94 |  4.00    5.01

     Max.Eff.Inten.(mm/hr)=     154.65         70.84
                over (min)        5.00         10.00
     Storage Coeff.  (min)=       1.76 (ii)    5.58 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.32          0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.25          0.03        0.276 (iii)
     TIME TO PEAK    (hrs)=       1.33          1.42         1.33
     RUNOFF VOLUME    (mm)=      66.06         32.69        57.72
     TOTAL RAINFALL   (mm)=      67.06         67.06        67.06
     RUNOFF COEFFICIENT   =       0.99          0.49         0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0118)|
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| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0750      0.0396

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0108)      0.780     0.276      1.33      57.72
   OUTFLOW: ID= 1 (  0118)      0.780     0.043      1.67      57.55

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.61
                  TIME SHIFT OF PEAK FLOW         (min)= 20.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0227

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--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 773.304
| Ptotal= 67.06 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    5.64 |  1.17   26.68 |  2.17   11.15 |  3.17    6.50
               0.33    6.30 |  1.33  154.65 |  2.33    9.85 |  3.33    6.12
               0.50    7.19 |  1.50   32.75 |  2.50    8.86 |  3.50    5.79
               0.67    8.47 |  1.67   20.65 |  2.67    8.09 |  3.67    5.50
               0.83   10.49 |  1.83   15.75 |  2.83    7.46 |  3.83    5.24
               1.00   14.35 |  2.00   12.97 |  3.00    6.94 |  4.00    5.01

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--------------------
| CALIB            |
| STANDHYD (  0112)|   Area    (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                        ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    5.64 | 1.083   26.68 | 2.083   11.15 |  3.08    6.50
              0.167    5.64 | 1.167   26.68 | 2.167   11.15 |  3.17    6.50
              0.250    6.30 | 1.250  154.65 | 2.250    9.85 |  3.25    6.12
              0.333    6.30 | 1.333  154.65 | 2.333    9.85 |  3.33    6.12
              0.417    7.19 | 1.417   32.75 | 2.417    8.86 |  3.42    5.79
              0.500    7.19 | 1.500   32.75 | 2.500    8.86 |  3.50    5.79
              0.583    8.47 | 1.583   20.65 | 2.583    8.09 |  3.58    5.50
              0.667    8.47 | 1.667   20.65 | 2.667    8.09 |  3.67    5.50
              0.750   10.49 | 1.750   15.75 | 2.750    7.46 |  3.75    5.24
              0.833   10.49 | 1.833   15.75 | 2.833    7.46 |  3.83    5.24
              0.917   14.35 | 1.917   12.97 | 2.917    6.94 |  3.92    5.01
              1.000   14.35 | 2.000   12.97 | 3.000    6.94 |  4.00    5.01

     Max.Eff.Inten.(mm/hr)=     154.65        70.84
               over (min)          5.00        10.00
     Storage Coeff.  (min)=       1.94 (ii)    5.76 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.34         0.04          0.377 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      66.06        32.69          57.72
     TOTAL RAINFALL   (mm)=      67.06        67.06          67.06
     RUNOFF COEFFICIENT   =       0.99         0.49           0.86

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0117)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.0600      0.0645

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0112)      1.070     0.377      1.33      57.72
   OUTFLOW: ID= 1 (  0117)      1.070     0.034      2.00      57.47

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.12
                  TIME SHIFT OF PEAK FLOW         (min)= 40.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0370

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--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 773.304
| Ptotal= 67.06 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    5.64 |  1.17   26.68 |  2.17   11.15 |  3.17    6.50
               0.33    6.30 |  1.33  154.65 |  2.33    9.85 |  3.33    6.12
               0.50    7.19 |  1.50   32.75 |  2.50    8.86 |  3.50    5.79
```

0.67	8.47	1.67	20.65	2.67	8.09	3.67	5.50
0.83	10.49	1.83	15.75	2.83	7.46	3.83	5.24
1.00	14.35	2.00	12.97	3.00	6.94	4.00	5.01

CALIB
STANDHYD (0121) | Area (ha)= 0.27
ID= 1 DT= 5.0 min | Total Imp(%)= 71.00 Dir. Conn.(%)= 71.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.64	1.083	26.68	2.083	11.15	3.08	6.50
0.167	5.64	1.167	26.68	2.167	11.15	3.17	6.50
0.250	6.30	1.250	154.65	2.250	9.85	3.25	6.12
0.333	6.30	1.333	154.65	2.333	9.85	3.33	6.12
0.417	7.19	1.417	32.75	2.417	8.86	3.42	5.79
0.500	7.19	1.500	32.75	2.500	8.86	3.50	5.79
0.583	8.47	1.583	20.65	2.583	8.09	3.58	5.50
0.667	8.47	1.667	20.65	2.667	8.09	3.67	5.50
0.750	10.49	1.750	15.75	2.750	7.46	3.75	5.24
0.833	10.49	1.833	15.75	2.833	7.46	3.83	5.24
0.917	14.35	1.917	12.97	2.917	6.94	3.92	5.01
1.000	14.35	2.000	12.97	3.000	6.94	4.00	5.01

Max.Eff.Inten.(mm/hr)=		154.65	30.70	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.28 (ii)	5.43 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.33	0.16	
				TOTALS
PEAK FLOW	(cms)=	0.08	0.01	0.087 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	66.06	16.15	51.58
TOTAL RAINFALL	(mm)=	67.06	67.06	67.06
RUNOFF COEFFICIENT	=	0.99	0.24	0.77

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0115)|

IN= 2---> OUT= 1 |				
DT= 5.0 min |	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0121)	0.270	0.087	1.33	51.58
OUTFLOW: ID= 1 (0115)	0.270	0.027	1.42	51.42

PEAK FLOW REDUCTION [Qout/Qin](%)= 30.83
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0054

ADD HYD (0110)|
1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0115):	0.27	0.027	1.42	51.42
+ ID2= 2 (0117):	1.07	0.034	2.00	57.47
ID = 3 (0110):	1.34	0.057	1.58	56.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)|
3 + 2 = 1 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0110):	1.34	0.057	1.58	56.25
+ ID2= 2 (0118):	0.78	0.043	1.67	57.55
ID = 1 (0110):	2.12	0.100	1.58	56.73

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)|
1 + 2 = 3 |

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0110):	2.12	0.100	1.58	56.73
+ ID2= 2 (0120):	13.94	0.304	4.00	48.13
ID = 3 (0110):	16.06	0.356	3.92	49.26

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
      V    V   I    SSSSS  U   U    A    L
      V    V   I    SS     U   U   A A   L
       V  V    I     SS    U   U  AAAAA  L
```

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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***** D E T A I L E D O U T P U T *****

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  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
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  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
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DATE: 10-31-2019                          TIME: 10:48:56

USER:


COMMENTS: _____________________________________________________________
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  ************************************************
  ** SIMULATION : 5-50-Year-6-Hour-SCS-Type-II  **
  ************************************************
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|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\573d0df0
| Ptotal= 95.90 mm |    Comments: 50-Year-6-Hour-SCS-Type-II
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	9.59	3.75	21.10	5.50	3.84
0.50	3.84	2.25	9.59	4.00	9.59	5.75	3.84
0.75	3.84	2.50	11.51	4.25	9.59	6.00	3.84
1.00	5.75	2.75	11.51	4.50	7.67	6.25	3.84
1.25	5.75	3.00	57.54	4.75	7.67		
1.50	5.75	3.25	149.60	5.00	5.75		
1.75	5.75	3.50	21.10	5.25	5.75		

```
--------------------
| CALIB            |
| STANDHYD (  0107)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.75	3.250	149.60	4.83	5.75
0.167	0.00	1.750	5.75	3.333	21.10	4.92	5.75
0.250	0.00	1.833	9.59	3.417	21.10	5.00	5.75
0.333	3.84	1.917	9.59	3.500	21.10	5.08	5.75
0.417	3.84	2.000	9.59	3.583	21.10	5.17	5.75
0.500	3.84	2.083	9.59	3.667	21.10	5.25	5.75
0.583	3.84	2.167	9.59	3.750	21.10	5.33	3.84
0.667	3.84	2.250	9.59	3.833	9.59	5.42	3.84
0.750	3.84	2.333	11.51	3.917	9.59	5.50	3.84
0.833	5.75	2.417	11.51	4.000	9.59	5.58	3.84
0.917	5.75	2.500	11.51	4.083	9.59	5.67	3.84
1.000	5.75	2.583	11.51	4.167	9.59	5.75	3.84
1.083	5.75	2.667	11.51	4.250	9.59	5.83	3.84
1.167	5.75	2.750	11.51	4.333	7.67	5.92	3.84
1.250	5.75	2.833	57.54	4.417	7.67	6.00	3.84
1.333	5.75	2.917	57.54	4.500	7.67	6.08	3.84
1.417	5.75	3.000	57.54	4.583	7.67	6.17	3.84
1.500	5.75	3.083	149.60	4.667	7.67	6.25	3.84
1.583	5.75	3.167	149.60	4.750	7.67		

Max.Eff.Inten.(mm/hr)	=	149.60	60.50	
over	(min)	5.00	10.00	
Storage Coeff.	(min)=	1.94 (ii)	5.81 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	10.00	
Unit Hyd. peak	(cms)=	0.31	0.15	
				TOTALS
PEAK FLOW	(cms)=	0.32	0.04	0.356 (iii)
TIME TO PEAK	(hrs)=	3.25	3.25	3.25
RUNOFF VOLUME	(mm)=	94.90	30.90	78.90
TOTAL RAINFALL	(mm)=	95.90	95.90	95.90
RUNOFF COEFFICIENT	=	0.99	0.32	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0111)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |
--------------------
```

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)

```
                        0.0000     0.0000   |   0.1120      0.0442

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0107)    1.030     0.356      3.25      78.90
   OUTFLOW: ID= 1 (  0111)    1.030     0.101      3.33      78.81

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.35
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0399
```

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|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\573d0df0
| Ptotal= 95.90 mm |    Comments: 50-Year-6-Hour-SCS-Type-II
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	9.59	3.75	21.10	5.50	3.84
0.50	3.84	2.25	9.59	4.00	9.59	5.75	3.84
0.75	3.84	2.50	11.51	4.25	9.59	6.00	3.84
1.00	5.75	2.75	11.51	4.50	7.67	6.25	3.84
1.25	5.75	3.00	57.54	4.75	7.67		
1.50	5.75	3.25	149.60	5.00	5.75		
1.75	5.75	3.50	21.10	5.25	5.75		

```
--------------------
| CALIB            |
| STANDHYD (  0109)|   Area     (ha)=   8.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.08          2.03
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     232.38         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.75	3.250	149.60	4.83	5.75
0.167	0.00	1.750	5.75	3.333	21.10	4.92	5.75
0.250	0.00	1.833	9.59	3.417	21.10	5.00	5.75
0.333	3.84	1.917	9.59	3.500	21.10	5.08	5.75
0.417	3.84	2.000	9.59	3.583	21.10	5.17	5.75
0.500	3.84	2.083	9.59	3.667	21.10	5.25	5.75
0.583	3.84	2.167	9.59	3.750	21.10	5.33	3.84
0.667	3.84	2.250	9.59	3.833	9.59	5.42	3.84
0.750	3.84	2.333	11.51	3.917	9.59	5.50	3.84
0.833	5.75	2.417	11.51	4.000	9.59	5.58	3.84
0.917	5.75	2.500	11.51	4.083	9.59	5.67	3.84
1.000	5.75	2.583	11.51	4.167	9.59	5.75	3.84
1.083	5.75	2.667	11.51	4.250	9.59	5.83	3.84
1.167	5.75	2.750	11.51	4.333	7.67	5.92	3.84
1.250	5.75	2.833	57.54	4.417	7.67	6.00	3.84
1.333	5.75	2.917	57.54	4.500	7.67	6.08	3.84
1.417	5.75	3.000	57.54	4.583	7.67	6.17	3.84
1.500	5.75	3.083	149.60	4.667	7.67	6.25	3.84
1.583	5.75	3.167	149.60	4.750	7.67		

```
     Max.Eff.Inten.(mm/hr)=     149.60        60.50
                  over (min)       5.00        10.00
     Storage Coeff.  (min)=       3.61 (ii)    7.48 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.25         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.50         0.26          2.758 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=      94.90        30.90          78.90
     TOTAL RAINFALL   (mm)=      95.90        95.90          95.90
     RUNOFF COEFFICIENT   =       0.99         0.32           0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| RESERVOIR(  0116)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.2090      0.3700
                         0.0146     0.2491    |   0.2910      0.4360
                         0.0800     0.2550    |   0.3580      0.4850
                         0.1520     0.3150    |   0.4290      0.5350

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0109)    8.100     2.758      3.25      78.90
   OUTFLOW: ID= 1 (  0116)    8.100     0.317      3.83      77.80

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.51
                  TIME SHIFT OF PEAK FLOW         (min)= 35.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4561
```

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|                  |              ata\Local\Temp\
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| Ptotal= 95.90 mm |    Comments: 50-Year-6-Hour-SCS-Type-II
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```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	9.59	3.75	21.10	5.50	3.84

0.50	3.84	2.25	9.59	4.00	9.59	5.75	3.84
0.75	3.84	2.50	11.51	4.25	9.59	6.00	3.84
1.00	5.75	2.75	11.51	4.50	7.67	6.25	3.84
1.25	5.75	3.00	57.54	4.75	7.67		
1.50	5.75	3.25	149.60	5.00	5.75		
1.75	5.75	3.50	21.10	5.25	5.75		

CALIB
STANDHYD (0113) | Area (ha)= 15.36
ID= 1 DT= 5.0 min | Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.75	3.250	149.60	4.83	5.75
0.167	0.00	1.750	5.75	3.333	21.10	4.92	5.75
0.250	0.00	1.833	9.59	3.417	21.10	5.00	5.75
0.333	3.84	1.917	9.59	3.500	21.10	5.08	5.75
0.417	3.84	2.000	9.59	3.583	21.10	5.17	5.75
0.500	3.84	2.083	9.59	3.667	21.10	5.25	5.75
0.583	3.84	2.167	9.59	3.750	21.10	5.33	3.84
0.667	3.84	2.250	9.59	3.833	9.59	5.42	3.84
0.750	3.84	2.333	11.51	3.917	9.59	5.50	3.84
0.833	5.75	2.417	11.51	4.000	9.59	5.58	3.84
0.917	5.75	2.500	11.51	4.083	9.59	5.67	3.84
1.000	5.75	2.583	11.51	4.167	9.59	5.75	3.84
1.083	5.75	2.667	11.51	4.250	9.59	5.83	3.84
1.167	5.75	2.750	11.51	4.333	7.67	5.92	3.84
1.250	5.75	2.833	57.54	4.417	7.67	6.00	3.84
1.333	5.75	2.917	57.54	4.500	7.67	6.08	3.84
1.417	5.75	3.000	57.54	4.583	7.67	6.17	3.84
1.500	5.75	3.083	149.60	4.667	7.67	6.25	3.84
1.583	5.75	3.167	149.60	4.750	7.67		

Max.Eff.Inten.(mm/hr)=		149.60	63.22	
over (min)		5.00	15.00	
Storage Coeff. (min)=		4.37 (ii)	12.85 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.23	0.08	
				TOTALS
PEAK FLOW	(cms)=	3.63	0.66	4.182 (iii)
TIME TO PEAK	(hrs)=	3.25	3.33	3.25
RUNOFF VOLUME	(mm)=	94.90	32.27	68.60
TOTAL RAINFALL	(mm)=	95.90	95.90	95.90
RUNOFF COEFFICIENT	=	0.99	0.34	0.72

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0114)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0111):	1.03	0.101	3.33	78.81
+ ID2= 2 (0113):	15.36	4.182	3.25	68.60
ID = 3 (0114):	16.39	4.273	3.25	69.24

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0114)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0114):	16.39	4.273	3.25	69.24
+ ID2= 2 (0116):	8.10	0.317	3.83	77.80
ID = 1 (0114):	24.49	4.476	3.25	72.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0119)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.4045	0.7000
0.0151	0.0001	0.5514	0.8000
0.0151	0.1301	0.7611	0.9000
0.0440	0.4217	0.9325	0.9500
0.2194	0.6000	1.1147	1.0500

		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0114)		24.490	4.476	3.25	72.07
OUTFLOW: ID= 1 (0119)		24.490	0.664	4.33	72.07
PEAK FLOW REDUCTION [Qout/Qin](%)=		14.83			
TIME SHIFT OF PEAK FLOW	(min)=	65.00			
MAXIMUM STORAGE USED	(ha.m.)=	0.8536			

DUHYD (0120)
Inlet Cap.= 0.015
#of Inlets= 1
Total(cms)= 0.0

AREA	QPEAK	TPEAK	R.V.

```
--------------------      (ha)      (cms)      (hrs)     (mm)
     TOTAL HYD.(ID= 1):  24.49       0.66       4.33    72.07
     ================================================
     MAJOR SYS.(ID= 2):  17.25       0.65       4.33    72.07
     MINOR SYS.(ID= 3):   7.24       0.02       2.67    72.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
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|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\573d0df0
| Ptotal= 95.90 mm |    Comments: 50-Year-6-Hour-SCS-Type-II
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	9.59	3.75	21.10	5.50	3.84
0.50	3.84	2.25	9.59	4.00	9.59	5.75	3.84
0.75	3.84	2.50	11.51	4.25	9.59	6.00	3.84
1.00	5.75	2.75	11.51	4.50	7.67	6.25	3.84
1.25	5.75	3.00	57.54	4.75	7.67		
1.50	5.75	3.25	149.60	5.00	5.75		
1.75	5.75	3.50	21.10	5.25	5.75		

```
--------------------
| CALIB            |
| STANDHYD (  0108)|   Area    (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	5.75	3.250	149.60	4.83	5.75
0.167	0.00	1.750	5.75	3.333	21.10	4.92	5.75
0.250	0.00	1.833	9.59	3.417	21.10	5.00	5.75
0.333	3.84	1.917	9.59	3.500	21.10	5.08	5.75
0.417	3.84	2.000	9.59	3.583	21.10	5.17	5.75
0.500	3.84	2.083	9.59	3.667	21.10	5.25	5.75
0.583	3.84	2.167	9.59	3.750	21.10	5.33	3.84
0.667	3.84	2.250	9.59	3.833	9.59	5.42	3.84
0.750	3.84	2.333	11.51	3.917	9.59	5.50	3.84
0.833	5.75	2.417	11.51	4.000	9.59	5.58	3.84
0.917	5.75	2.500	11.51	4.083	9.59	5.67	3.84
1.000	5.75	2.583	11.51	4.167	9.59	5.75	3.84
1.083	5.75	2.667	11.51	4.250	9.59	5.83	3.84
1.167	5.75	2.750	11.51	4.333	7.67	5.92	3.84
1.250	5.75	2.833	57.54	4.417	7.67	6.00	3.84
1.333	5.75	2.917	57.54	4.500	7.67	6.08	3.84
1.417	5.75	3.000	57.54	4.583	7.67	6.17	3.84
1.500	5.75	3.083	149.60	4.667	7.67	6.25	3.84
1.583	5.75	3.167	149.60	4.750	7.67		

```
     Max.Eff.Inten.(mm/hr)=     149.60       109.42
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.79 (ii)    5.66 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.24         0.05          0.294 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=      94.90        56.34          85.25
     TOTAL RAINFALL   (mm)=      95.90        95.90          95.90
     RUNOFF COEFFICIENT   =       0.99         0.59           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------
| RESERVOIR(  0118)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                         0.0000     0.0000    |   0.0750     0.0396

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0108)      0.780     0.294      3.25      85.25
   OUTFLOW: ID= 1 (  0118)      0.780     0.067      3.42      85.09

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.66
                  TIME SHIFT OF PEAK FLOW          (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0353
```

```
--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\573d0df0
| Ptotal= 95.90 mm |    Comments: 50-Year-6-Hour-SCS-Type-II
--------------------
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	9.59	3.75	21.10	5.50	3.84
0.50	3.84	2.25	9.59	4.00	9.59	5.75	3.84
0.75	3.84	2.50	11.51	4.25	9.59	6.00	3.84
1.00	5.75	2.75	11.51	4.50	7.67	6.25	3.84
1.25	5.75	3.00	57.54	4.75	7.67		
1.50	5.75	3.25	149.60	5.00	5.75		
1.75	5.75	3.50	21.10	5.25	5.75		

```
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0112)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 | 1.667    5.75 | 3.250  149.60 |  4.83    5.75
              0.167    0.00 | 1.750    5.75 | 3.333   21.10 |  4.92    5.75
              0.250    0.00 | 1.833    9.59 | 3.417   21.10 |  5.00    5.75
              0.333    3.84 | 1.917    9.59 | 3.500   21.10 |  5.08    5.75
              0.417    3.84 | 2.000    9.59 | 3.583   21.10 |  5.17    5.75
              0.500    3.84 | 2.083    9.59 | 3.667   21.10 |  5.25    5.75
              0.583    3.84 | 2.167    9.59 | 3.750   21.10 |  5.33    3.84
              0.667    3.84 | 2.250    9.59 | 3.833    9.59 |  5.42    3.84
              0.750    3.84 | 2.333   11.51 | 3.917    9.59 |  5.50    3.84
              0.833    5.75 | 2.417   11.51 | 4.000    9.59 |  5.58    3.84
              0.917    5.75 | 2.500   11.51 | 4.083    9.59 |  5.67    3.84
              1.000    5.75 | 2.583   11.51 | 4.167    9.59 |  5.75    3.84
              1.083    5.75 | 2.667   11.51 | 4.250    9.59 |  5.83    3.84
              1.167    5.75 | 2.750   11.51 | 4.333    7.67 |  5.92    3.84
              1.250    5.75 | 2.833   57.54 | 4.417    7.67 |  6.00    3.84
              1.333    5.75 | 2.917   57.54 | 4.500    7.67 |  6.08    3.84
              1.417    5.75 | 3.000   57.54 | 4.583    7.67 |  6.17    3.84
              1.500    5.75 | 3.083  149.60 | 4.667    7.67 |  6.25    3.84
              1.583    5.75 | 3.167  149.60 | 4.750    7.67 |

     Max.Eff.Inten.(mm/hr)=     149.60       109.42
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.96 (ii)    5.84 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.15
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.33         0.07          0.403 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=      94.90        56.34          85.26
     TOTAL RAINFALL   (mm)=      95.90        95.90          95.90
     RUNOFF COEFFICIENT   =       0.99         0.59           0.89

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
```

```
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0117)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0600     0.0645

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0112)      1.070     0.403      3.25      85.26
   OUTFLOW: ID= 1 (  0117)      1.070     0.053      3.75      85.01

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.25
                  TIME SHIFT OF PEAK FLOW          (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0575

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

--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\573d0df0
| Ptotal= 95.90 mm |    Comments: 50-Year-6-Hour-SCS-Type-II
--------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.25    0.00 |  2.00    9.59 |  3.75   21.10 |  5.50    3.84
               0.50    3.84 |  2.25    9.59 |  4.00    9.59 |  5.75    3.84
               0.75    3.84 |  2.50   11.51 |  4.25    9.59 |  6.00    3.84
               1.00    5.75 |  2.75   11.51 |  4.50    7.67 |  6.25    3.84
               1.25    5.75 |  3.00   57.54 |  4.75    7.67 |
               1.50    5.75 |  3.25  149.60 |  5.00    5.75 |
               1.75    5.75 |  3.50   21.10 |  5.25    5.75 |

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

--------------------
| CALIB            |
| STANDHYD (  0121)|   Area     (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 | 1.667    5.75 | 3.250  149.60 |  4.83    5.75
              0.167    0.00 | 1.750    5.75 | 3.333   21.10 |  4.92    5.75
              0.250    0.00 | 1.833    9.59 | 3.417   21.10 |  5.00    5.75
              0.333    3.84 | 1.917    9.59 | 3.500   21.10 |  5.08    5.75
```

```
               0.417    3.84 | 2.000    9.59 | 3.583   21.10 |  5.17    5.75
               0.500    3.84 | 2.083    9.59 | 3.667   21.10 |  5.25    5.75
               0.583    3.84 | 2.167    9.59 | 3.750   21.10 |  5.33    3.84
               0.667    3.84 | 2.250    9.59 | 3.833    9.59 |  5.42    3.84
               0.750    3.84 | 2.333   11.51 | 3.917    9.59 |  5.50    3.84
               0.833    5.75 | 2.417   11.51 | 4.000    9.59 |  5.58    3.84
               0.917    5.75 | 2.500   11.51 | 4.083    9.59 |  5.67    3.84
               1.000    5.75 | 2.583   11.51 | 4.167    9.59 |  5.75    3.84
               1.083    5.75 | 2.667   11.51 | 4.250    9.59 |  5.83    3.84
               1.167    5.75 | 2.750   11.51 | 4.333    7.67 |  5.92    3.84
               1.250    5.75 | 2.833   57.54 | 4.417    7.67 |  6.00    3.84
               1.333    5.75 | 2.917   57.54 | 4.500    7.67 |  6.08    3.84
               1.417    5.75 | 3.000   57.54 | 4.583    7.67 |  6.17    3.84
               1.500    5.75 | 3.083  149.60 | 4.667    7.67 |  6.25    3.84
               1.583    5.75 | 3.167  149.60 | 4.750    7.67 |

    Max.Eff.Inten.(mm/hr)=     149.60        60.50
                over (min)        5.00        10.00
    Storage Coeff.  (min)=        1.30 (ii)    5.50 (ii)
    Unit Hyd. Tpeak (min)=        5.00        10.00
    Unit Hyd. peak  (cms)=        0.33         0.16
                                                        *TOTALS*
    PEAK FLOW       (cms)=        0.08         0.01          0.091 (iii)
    TIME TO PEAK    (hrs)=        3.25         3.25           3.25
    RUNOFF VOLUME    (mm)=       94.90        30.90          76.33
    TOTAL RAINFALL   (mm)=       95.90        95.90          95.90
    RUNOFF COEFFICIENT   =        0.99         0.32           0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  59.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460     0.0093

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)    0.270     0.091      3.25      76.33
   OUTFLOW: ID= 1 (  0115)    0.270     0.040      3.33      76.17

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 43.94
                  TIME SHIFT OF PEAK FLOW         (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0083

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):     0.27   0.040     3.33    76.17
      + ID2= 2 (  0117):     1.07   0.053     3.75    85.01
        ================================================
        ID = 3 (  0110):     1.34   0.090     3.33    83.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0110):     1.34   0.090     3.33    83.23
      + ID2= 2 (  0118):     0.78   0.067     3.42    85.09
        ================================================
        ID = 1 (  0110):     2.12   0.156     3.33    83.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0110):     2.12   0.156     3.33    83.91
      + ID2= 2 (  0120):    17.25   0.649     4.33    72.07
        ================================================
        ID = 3 (  0110):    19.37   0.763     4.25    73.36

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\655c8738-0166-4376-a7f2-6b4a84bf9e97\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\655c8738-0166-4376-a7f2-6b4a84bf9e97\scen
```

DATE: 10-31-2019 TIME: 10:48:53

USER:

COMMENTS: _____

*****

```
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.1120      0.0442

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0107)      1.030     0.358      6.25      93.79
   OUTFLOW: ID= 1 (  0111)      1.030     0.102      6.33      93.70

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 28.52
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0404

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--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\aa0b6fb5
| Ptotal=112.50 mm |    Comments: 100-Year-12-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  3.50    4.50 |  6.75   20.25 | 10.00    3.94
                0.50    2.81 |  3.75    4.50 |  7.00    9.00 | 10.25    3.94
                0.75    2.81 |  4.00    4.50 |  7.25    9.00 | 10.50    2.25
                1.00    2.81 |  4.25    4.50 |  7.50    6.75 | 10.75    2.25
                1.25    2.81 |  4.50    6.75 |  7.75    6.75 | 11.00    2.25
                1.50    2.81 |  4.75    6.75 |  8.00    6.75 | 11.25    2.25
                1.75    2.81 |  5.00    9.00 |  8.25    6.75 | 11.50    2.25
                2.00    2.81 |  5.25    9.00 |  8.50    3.94 | 11.75    2.25
                2.25    2.81 |  5.50   13.50 |  8.75    3.94 | 12.00    2.25
                2.50    3.38 |  5.75   13.50 |  9.00    3.94 | 12.25    2.25
                2.75    3.37 |  6.00   54.00 |  9.25    3.94 |
                3.00    3.38 |  6.25  148.50 |  9.50    3.94 |
                3.25    3.38 |  6.50   20.25 |  9.75    3.94 |

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

--------------------
| CALIB            |
| STANDHYD (  0109)|   Area    (ha)=   8.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.08         2.03
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     232.38        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083   0.00 | 3.167    3.38 | 6.250  148.50 |  9.33    3.94
                0.167   0.00 | 3.250    3.38 | 6.333   20.25 |  9.42    3.94
                0.250   0.00 | 3.333    4.50 | 6.417   20.25 |  9.50    3.94
                0.333   2.81 | 3.417    4.50 | 6.500   20.25 |  9.58    3.94
                0.417   2.81 | 3.500    4.50 | 6.583   20.25 |  9.67    3.94
                0.500   2.81 | 3.583    4.50 | 6.667   20.25 |  9.75    3.94
                0.583   2.81 | 3.667    4.50 | 6.750   20.25 |  9.83    3.94
                0.667   2.81 | 3.750    4.50 | 6.833    9.00 |  9.92    3.94
                0.750   2.81 | 3.833    4.50 | 6.917    9.00 | 10.00    3.94
                0.833   2.81 | 3.917    4.50 | 7.000    9.00 | 10.08    3.94
                0.917   2.81 | 4.000    4.50 | 7.083    9.00 | 10.17    3.94
                1.000   2.81 | 4.083    4.50 | 7.167    9.00 | 10.25    3.94
                1.083   2.81 | 4.167    4.50 | 7.250    9.00 | 10.33    2.25
                1.167   2.81 | 4.250    4.50 | 7.333    6.75 | 10.42    2.25
                1.250   2.81 | 4.333    6.75 | 7.417    6.75 | 10.50    2.25
                1.333   2.81 | 4.417    6.75 | 7.500    6.75 | 10.58    2.25
                1.417   2.81 | 4.500    6.75 | 7.583    6.75 | 10.67    2.25
                1.500   2.81 | 4.583    6.75 | 7.667    6.75 | 10.75    2.25
                1.583   2.81 | 4.667    6.75 | 7.750    6.75 | 10.83    2.25
                1.667   2.81 | 4.750    6.75 | 7.833    6.75 | 10.92    2.25
                1.750   2.81 | 4.833    9.00 | 7.917    6.75 | 11.00    2.25
                1.833   2.81 | 4.917    9.00 | 8.000    6.75 | 11.08    2.25
                1.917   2.81 | 5.000    9.00 | 8.083    6.75 | 11.17    2.25
                2.000   2.81 | 5.083    9.00 | 8.167    6.75 | 11.25    2.25
                2.083   2.81 | 5.167    9.00 | 8.250    6.75 | 11.33    2.25
                2.167   2.81 | 5.250    9.00 | 8.333    3.94 | 11.42    2.25
                2.250   2.81 | 5.333   13.50 | 8.417    3.94 | 11.50    2.25
                2.333   3.37 | 5.417   13.50 | 8.500    3.94 | 11.58    2.25
                2.417   3.38 | 5.500   13.50 | 8.583    3.94 | 11.67    2.25
                2.500   3.38 | 5.583   13.50 | 8.667    3.94 | 11.75    2.25
                2.583   3.37 | 5.667   13.50 | 8.750    3.94 | 11.83    2.25
                2.667   3.37 | 5.750   13.50 | 8.833    3.94 | 11.92    2.25
                2.750   3.37 | 5.833   54.00 | 8.917    3.94 | 12.00    2.25
                2.833   3.37 | 5.917   54.00 | 9.000    3.94 | 12.08    2.25
                2.917   3.38 | 6.000   54.00 | 9.083    3.94 | 12.17    2.25
                3.000   3.38 | 6.083  148.50 | 9.167    3.94 | 12.25    2.25
                3.083   3.37 | 6.167  148.50 | 9.250    3.94 |

     Max.Eff.Inten.(mm/hr)=     148.50        66.52
               over (min)          5.00        10.00
     Storage Coeff.  (min)=       3.62 (ii)    7.50 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.25         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.48         0.29         2.771 (iii)
     TIME TO PEAK    (hrs)=       6.25         6.25          6.25
     RUNOFF VOLUME    (mm)=     111.50        40.69         93.80
     TOTAL RAINFALL   (mm)=     112.50       112.50        112.50
     RUNOFF COEFFICIENT   =       0.99         0.36          0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0116)|
| IN= 2---> OUT= 1 |
```

DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2090	0.3700
	0.0146	0.2491	0.2910	0.4360
	0.0800	0.2550	0.3580	0.4850
	0.1520	0.3150	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	2.771	6.25	93.80
OUTFLOW: ID= 1 (0116)	8.100	0.370	6.75	92.59

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.36
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.4942

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\aa0b6fb5
Ptotal=112.50 mm	Comments: 100-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.50	6.75	20.25	10.00	3.94
0.50	2.81	3.75	4.50	7.00	9.00	10.25	3.94
0.75	2.81	4.00	4.50	7.25	9.00	10.50	2.25
1.00	2.81	4.25	4.50	7.50	6.75	10.75	2.25
1.25	2.81	4.50	6.75	7.75	6.75	11.00	2.25
1.50	2.81	4.75	6.75	8.00	6.75	11.25	2.25
1.75	2.81	5.00	9.00	8.25	6.75	11.50	2.25
2.00	2.81	5.25	9.00	8.50	3.94	11.75	2.25
2.25	2.81	5.50	13.50	8.75	3.94	12.00	2.25
2.50	3.38	5.75	13.50	9.00	3.94	12.25	2.25
2.75	3.37	6.00	54.00	9.25	3.94		
3.00	3.38	6.25	148.50	9.50	3.94		
3.25	3.38	6.50	20.25	9.75	3.94		

CALIB STANDHYD (0113) ID= 1 DT= 5.0 min	Area (ha)= 15.36	Total Imp(%)= 58.00	Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.38	6.250	148.50	9.33	3.94
0.167	0.00	3.250	3.38	6.333	20.25	9.42	3.94
0.250	0.00	3.333	4.50	6.417	20.25	9.50	3.94
0.333	2.81	3.417	4.50	6.500	20.25	9.58	3.94
0.417	2.81	3.500	4.50	6.583	20.25	9.67	3.94
0.500	2.81	3.583	4.50	6.667	20.25	9.75	3.94
0.583	2.81	3.667	4.50	6.750	20.25	9.83	3.94
0.667	2.81	3.750	4.50	6.833	9.00	9.92	3.94
0.750	2.81	3.833	4.50	6.917	9.00	10.00	3.94
0.833	2.81	3.917	4.50	7.000	9.00	10.08	3.94
0.917	2.81	4.000	4.50	7.083	9.00	10.17	3.94
1.000	2.81	4.083	4.50	7.167	9.00	10.25	3.94
1.083	2.81	4.167	4.50	7.250	9.00	10.33	2.25
1.167	2.81	4.250	4.50	7.333	6.75	10.42	2.25
1.250	2.81	4.333	6.75	7.417	6.75	10.50	2.25
1.333	2.81	4.417	6.75	7.500	6.75	10.58	2.25
1.417	2.81	4.500	6.75	7.583	6.75	10.67	2.25
1.500	2.81	4.583	6.75	7.667	6.75	10.75	2.25
1.583	2.81	4.667	6.75	7.750	6.75	10.83	2.25
1.667	2.81	4.750	6.75	7.833	6.75	10.92	2.25
1.750	2.81	4.833	9.00	7.917	6.75	11.00	2.25
1.833	2.81	4.917	9.00	8.000	6.75	11.08	2.25
1.917	2.81	5.000	9.00	8.083	6.75	11.17	2.25
2.000	2.81	5.083	9.00	8.167	6.75	11.25	2.25
2.083	2.81	5.167	9.00	8.250	6.75	11.33	2.25
2.167	2.81	5.250	9.00	8.333	3.94	11.42	2.25
2.250	2.81	5.333	13.50	8.417	3.94	11.50	2.25
2.333	3.37	5.417	13.50	8.500	3.94	11.58	2.25
2.417	3.38	5.500	13.50	8.583	3.94	11.67	2.25
2.500	3.38	5.583	13.50	8.667	3.94	11.75	2.25
2.583	3.37	5.667	13.50	8.750	3.94	11.83	2.25
2.667	3.37	5.750	13.50	8.833	3.94	11.92	2.25
2.750	3.37	5.833	54.00	8.917	3.94	12.00	2.25
2.833	3.37	5.917	54.00	9.000	3.94	12.08	2.25
2.917	3.38	6.000	54.00	9.083	3.94	12.17	2.25
3.000	3.38	6.083	148.50	9.167	3.94	12.25	2.25
3.083	3.37	6.167	148.50	9.250	3.94		

				TOTALS
Max.Eff.Inten.(mm/hr)=		148.50	69.33	
over (min)		5.00	15.00	
Storage Coeff. (min)=		4.38 (ii)	12.55 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.23	0.08	
PEAK FLOW	(cms)=	3.60	0.76	4.248 (iii)
TIME TO PEAK	(hrs)=	6.25	6.33	6.25
RUNOFF VOLUME	(mm)=	111.50	42.39	82.47
TOTAL RAINFALL	(mm)=	112.50	112.50	112.50
RUNOFF COEFFICIENT	=	0.99	0.38	0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0114)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0111):      1.03    0.102     6.33    93.70
     + ID2= 2 (  0113):     15.36    4.248     6.25    82.47
       ================================================
       ID = 3 (  0114):     16.39    4.340     6.25    83.18

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

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--------------------
| ADD HYD  (  0114)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0114):     16.39    4.340     6.25    83.18
     + ID2= 2 (  0116):      8.10    0.370     6.75    92.59
       ================================================
       ID = 1 (  0114):     24.49    4.604     6.25    86.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| RESERVOIR(  0119)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4045     0.7000
                         0.0151     0.0001   |   0.5514     0.8000
                         0.0151     0.1301   |   0.7611     0.9000
                         0.0440     0.4217   |   0.9325     0.9500
                         0.2194     0.6000   |   1.1147     1.0500

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0114)     24.490     4.604      6.25      86.29
   OUTFLOW: ID= 1 (  0119)     24.490     0.806      7.08      86.29

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.51
                  TIME SHIFT OF PEAK FLOW          (min)= 50.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.9133
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| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.81      7.08   86.29
     ================================================
     MAJOR SYS.(ID= 2):  18.18      0.79      7.08   86.29
     MINOR SYS.(ID= 3):   6.31      0.02      4.83   86.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\aa0b6fb5
| Ptotal=112.50 mm |    Comments: 100-Year-12-Hour-SCS-Type-II
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.50	6.75	20.25	10.00	3.94
0.50	2.81	3.75	4.50	7.00	9.00	10.25	3.94
0.75	2.81	4.00	4.50	7.25	9.00	10.50	2.25
1.00	2.81	4.25	4.50	7.50	6.75	10.75	2.25
1.25	2.81	4.50	6.75	7.75	6.75	11.00	2.25
1.50	2.81	4.75	6.75	8.00	6.75	11.25	2.25
1.75	2.81	5.00	9.00	8.25	6.75	11.50	2.25
2.00	2.81	5.25	9.00	8.50	3.94	11.75	2.25
2.25	2.81	5.50	13.50	8.75	3.94	12.00	2.25
2.50	3.38	5.75	13.50	9.00	3.94	12.25	2.25
2.75	3.37	6.00	54.00	9.25	3.94		
3.00	3.38	6.25	148.50	9.50	3.94		
3.25	3.38	6.50	20.25	9.75	3.94		

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| CALIB            |
| STANDHYD (  0108)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
```

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.38	6.250	148.50	9.33	3.94
0.167	0.00	3.250	3.38	6.333	20.25	9.42	3.94
0.250	0.00	3.333	4.50	6.417	20.25	9.50	3.94
0.333	2.81	3.417	4.50	6.500	20.25	9.58	3.94
0.417	2.81	3.500	4.50	6.583	20.25	9.67	3.94
0.500	2.81	3.583	4.50	6.667	20.25	9.75	3.94
0.583	2.81	3.667	4.50	6.750	20.25	9.83	3.94
0.667	2.81	3.750	4.50	6.833	9.00	9.92	3.94
0.750	2.81	3.833	4.50	6.917	9.00	10.00	3.94
0.833	2.81	3.917	4.50	7.000	9.00	10.08	3.94
0.917	2.81	4.000	4.50	7.083	9.00	10.17	3.94
1.000	2.81	4.083	4.50	7.167	9.00	10.25	3.94
1.083	2.81	4.167	4.50	7.250	9.00	10.33	2.25
1.167	2.81	4.250	4.50	7.333	6.75	10.42	2.25
1.250	2.81	4.333	6.75	7.417	6.75	10.50	2.25
1.333	2.81	4.417	6.75	7.500	6.75	10.58	2.25
1.417	2.81	4.500	6.75	7.583	6.75	10.67	2.25

1.500	2.81	4.583	6.75	7.667	6.75	10.75	2.25
1.583	2.81	4.667	6.75	7.750	6.75	10.83	2.25
1.667	2.81	4.750	6.75	7.833	6.75	10.92	2.25
1.750	2.81	4.833	9.00	7.917	6.75	11.00	2.25
1.833	2.81	4.917	9.00	8.000	6.75	11.08	2.25
1.917	2.81	5.000	9.00	8.083	6.75	11.17	2.25
2.000	2.81	5.083	9.00	8.167	6.75	11.25	2.25
2.083	2.81	5.167	9.00	8.250	6.75	11.33	2.25
2.167	2.81	5.250	9.00	8.333	3.94	11.42	2.25
2.250	2.81	5.333	13.50	8.417	3.94	11.50	2.25
2.333	3.37	5.417	13.50	8.500	3.94	11.58	2.25
2.417	3.38	5.500	13.50	8.583	3.94	11.67	2.25
2.500	3.38	5.583	13.50	8.667	3.94	11.75	2.25
2.583	3.37	5.667	13.50	8.750	3.94	11.83	2.25
2.667	3.37	5.750	13.50	8.833	3.94	11.92	2.25
2.750	3.37	5.833	54.00	8.917	3.94	12.00	2.25
2.833	3.37	5.917	54.00	9.000	3.94	12.08	2.25
2.917	3.38	6.000	54.00	9.083	3.94	12.17	2.25
3.000	3.38	6.083	148.50	9.167	3.94	12.25	2.25
3.083	3.37	6.167	148.50	9.250	3.94		

			TOTALS
Max.Eff.Inten.(mm/hr)=	148.50	114.47	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.79 (ii)	5.68 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.32	0.15	
PEAK FLOW (cms)=	0.24	0.05	0.295 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	111.50	70.79	101.32
TOTAL RAINFALL (mm)=	112.50	112.50	112.50
RUNOFF COEFFICIENT =	0.99	0.63	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0118)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	0.780	0.295	6.25	101.32
OUTFLOW: ID= 1 (0118)	0.780	0.068	6.42	101.15

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.07
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0361

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\aa0b6fb5
Ptotal=112.50 mm	Comments: 100-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.50	6.75	20.25	10.00	3.94
0.50	2.81	3.75	4.50	7.00	9.00	10.25	3.94
0.75	2.81	4.00	4.50	7.25	9.00	10.50	2.25
1.00	2.81	4.25	4.50	7.50	6.75	10.75	2.25
1.25	2.81	4.50	6.75	7.75	6.75	11.00	2.25
1.50	2.81	4.75	6.75	8.00	6.75	11.25	2.25
1.75	2.81	5.00	9.00	8.25	6.75	11.50	2.25
2.00	2.81	5.25	9.00	8.50	3.94	11.75	2.25
2.25	2.81	5.50	13.50	8.75	3.94	12.00	2.25
2.50	3.38	5.75	13.50	9.00	3.94	12.25	2.25
2.75	3.37	6.00	54.00	9.25	3.94		
3.00	3.38	6.25	148.50	9.50	3.94		
3.25	3.38	6.50	20.25	9.75	3.94		

CALIB			
STANDHYD (0112)	Area (ha)=	1.07	
ID= 1 DT= 5.0 min	Total Imp(%)=	75.00	Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.80	0.27
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	84.46	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.38	6.250	148.50	9.33	3.94
0.167	0.00	3.250	3.38	6.333	20.25	9.42	3.94
0.250	0.00	3.333	4.50	6.417	20.25	9.50	3.94
0.333	2.81	3.417	4.50	6.500	20.25	9.58	3.94
0.417	2.81	3.500	4.50	6.583	20.25	9.67	3.94
0.500	2.81	3.583	4.50	6.667	20.25	9.75	3.94
0.583	2.81	3.667	4.50	6.750	20.25	9.83	3.94
0.667	2.81	3.750	4.50	6.833	9.00	9.92	3.94
0.750	2.81	3.833	4.50	6.917	9.00	10.00	3.94
0.833	2.81	3.917	4.50	7.000	9.00	10.08	3.94
0.917	2.81	4.000	4.50	7.083	9.00	10.17	3.94
1.000	2.81	4.083	4.50	7.167	9.00	10.25	3.94
1.083	2.81	4.167	4.50	7.250	9.00	10.33	2.25
1.167	2.81	4.250	4.50	7.333	6.75	10.42	2.25
1.250	2.81	4.333	6.75	7.417	6.75	10.50	2.25
1.333	2.81	4.417	6.75	7.500	6.75	10.58	2.25
1.417	2.81	4.500	6.75	7.583	6.75	10.67	2.25
1.500	2.81	4.583	6.75	7.667	6.75	10.75	2.25

1.583	2.81	4.667	6.75	7.750	6.75	10.83	2.25
1.667	2.81	4.750	6.75	7.833	6.75	10.92	2.25
1.750	2.81	4.833	9.00	7.917	6.75	11.00	2.25
1.833	2.81	4.917	9.00	8.000	6.75	11.08	2.25
1.917	2.81	5.000	9.00	8.083	6.75	11.17	2.25
2.000	2.81	5.083	9.00	8.167	6.75	11.25	2.25
2.083	2.81	5.167	9.00	8.250	6.75	11.33	2.25
2.167	2.81	5.250	9.00	8.333	3.94	11.42	2.25
2.250	2.81	5.333	13.50	8.417	3.94	11.50	2.25
2.333	3.37	5.417	13.50	8.500	3.94	11.58	2.25
2.417	3.38	5.500	13.50	8.583	3.94	11.67	2.25
2.500	3.38	5.583	13.50	8.667	3.94	11.75	2.25
2.583	3.37	5.667	13.50	8.750	3.94	11.83	2.25
2.667	3.37	5.750	13.50	8.833	3.94	11.92	2.25
2.750	3.37	5.833	54.00	8.917	3.94	12.00	2.25
2.833	3.37	5.917	54.00	9.000	3.94	12.08	2.25
2.917	3.38	6.000	54.00	9.083	3.94	12.17	2.25
3.000	3.38	6.083	148.50	9.167	3.94	12.25	2.25
3.083	3.37	6.167	148.50	9.250	3.94		

Max.Eff.Inten.(mm/hr)=	148.50	114.47	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.97 (ii)	5.85 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
			TOTALS
PEAK FLOW (cms)=	0.33	0.07	0.405 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	111.50	70.79	101.32
TOTAL RAINFALL (mm)=	112.50	112.50	112.50
RUNOFF COEFFICIENT =	0.99	0.63	0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0117)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0112)	1.070	0.405	6.25	101.32
OUTFLOW: ID= 1 (0117)	1.070	0.056	6.75	101.07

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.72
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.0597

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\aa0b6fb5
Ptotal=112.50 mm	Comments: 100-Year-12-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	3.50	4.50	6.75	20.25	10.00	3.94
0.50	2.81	3.75	4.50	7.00	9.00	10.25	3.94
0.75	2.81	4.00	4.50	7.25	9.00	10.50	2.25
1.00	2.81	4.25	4.50	7.50	6.75	10.75	2.25
1.25	2.81	4.50	6.75	7.75	6.75	11.00	2.25
1.50	2.81	4.75	6.75	8.00	6.75	11.25	2.25
1.75	2.81	5.00	9.00	8.25	6.75	11.50	2.25
2.00	2.81	5.25	9.00	8.50	3.94	11.75	2.25
2.25	2.81	5.50	13.50	8.75	3.94	12.00	2.25
2.50	3.38	5.75	13.50	9.00	3.94	12.25	2.25
2.75	3.37	6.00	54.00	9.25	3.94		
3.00	3.38	6.25	148.50	9.50	3.94		
3.25	3.38	6.50	20.25	9.75	3.94		

CALIB			
STANDHYD (0121)	Area (ha)= 0.27		
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00	Dir. Conn.(%)= 71.00	
		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	3.167	3.38	6.250	148.50	9.33	3.94
0.167	0.00	3.250	3.38	6.333	20.25	9.42	3.94
0.250	0.00	3.333	4.50	6.417	20.25	9.50	3.94
0.333	2.81	3.417	4.50	6.500	20.25	9.58	3.94
0.417	2.81	3.500	4.50	6.583	20.25	9.67	3.94
0.500	2.81	3.583	4.50	6.667	20.25	9.75	3.94
0.583	2.81	3.667	4.50	6.750	20.25	9.83	3.94
0.667	2.81	3.750	4.50	6.833	9.00	9.92	3.94
0.750	2.81	3.833	4.50	6.917	9.00	10.00	3.94
0.833	2.81	3.917	4.50	7.000	9.00	10.08	3.94
0.917	2.81	4.000	4.50	7.083	9.00	10.17	3.94
1.000	2.81	4.083	4.50	7.167	9.00	10.25	3.94
1.083	2.81	4.167	4.50	7.250	9.00	10.33	2.25
1.167	2.81	4.250	4.50	7.333	6.75	10.42	2.25
1.250	2.81	4.333	6.75	7.417	6.75	10.50	2.25
1.333	2.81	4.417	6.75	7.500	6.75	10.58	2.25
1.417	2.81	4.500	6.75	7.583	6.75	10.67	2.25
1.500	2.81	4.583	6.75	7.667	6.75	10.75	2.25
1.583	2.81	4.667	6.75	7.750	6.75	10.83	2.25

1.667	2.81	4.750	6.75	7.833	6.75	10.92	2.25
1.750	2.81	4.833	9.00	7.917	6.75	11.00	2.25
1.833	2.81	4.917	9.00	8.000	6.75	11.08	2.25
1.917	2.81	5.000	9.00	8.083	6.75	11.17	2.25
2.000	2.81	5.083	9.00	8.167	6.75	11.25	2.25
2.083	2.81	5.167	9.00	8.250	6.75	11.33	2.25
2.167	2.81	5.250	9.00	8.333	3.94	11.42	2.25
2.250	2.81	5.333	13.50	8.417	3.94	11.50	2.25
2.333	3.37	5.417	13.50	8.500	3.94	11.58	2.25
2.417	3.38	5.500	13.50	8.583	3.94	11.67	2.25
2.500	3.38	5.583	13.50	8.667	3.94	11.75	2.25
2.583	3.37	5.667	13.50	8.750	3.94	11.83	2.25
2.667	3.37	5.750	13.50	8.833	3.94	11.92	2.25
2.750	3.37	5.833	54.00	8.917	3.94	12.00	2.25
2.833	3.37	5.917	54.00	9.000	3.94	12.08	2.25
2.917	3.38	6.000	54.00	9.083	3.94	12.17	2.25
3.000	3.38	6.083	148.50	9.167	3.94	12.25	2.25
3.083	3.37	6.167	148.50	9.250	3.94		

			TOTALS
Max.Eff.Inten.(mm/hr)=	148.50	66.52	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.30 (ii)	5.52 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.33	0.16	
PEAK FLOW (cms)=	0.08	0.01	0.091 (iii)
TIME TO PEAK (hrs)=	6.25	6.25	6.25
RUNOFF VOLUME (mm)=	111.50	40.69	90.95
TOTAL RAINFALL (mm)=	112.50	112.50	112.50
RUNOFF COEFFICIENT =	0.99	0.36	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0115)	
IN= 2---> OUT= 1	
DT= 5.0 min	OUTFLOW (cms) / STORAGE (ha.m.) / OUTFLOW (cms) / STORAGE (ha.m.)
	0.0000 / 0.0000 / 0.0460 / 0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0121)	0.270	0.091	6.25	90.95
OUTFLOW: ID= 1 (0115)	0.270	0.040	6.33	90.78

PEAK FLOW REDUCTION [Qout/Qin](%)= 43.88
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0084

ADD HYD (0110)	
1 + 2 = 3	AREA (ha) / QPEAK (cms) / TPEAK (hrs) / R.V. (mm)
ID1= 1 (0115):	0.27 / 0.040 / 6.33 / 90.78
+ ID2= 2 (0117):	1.07 / 0.056 / 6.75 / 101.07
ID = 3 (0110):	1.34 / 0.093 / 6.33 / 99.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)	
3 + 2 = 1	AREA (ha) / QPEAK (cms) / TPEAK (hrs) / R.V. (mm)
ID1= 3 (0110):	1.34 / 0.093 / 6.33 / 99.00
+ ID2= 2 (0118):	0.78 / 0.068 / 6.42 / 101.15
ID = 1 (0110):	2.12 / 0.161 / 6.33 / 99.79

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)	
1 + 2 = 3	AREA (ha) / QPEAK (cms) / TPEAK (hrs) / R.V. (mm)
ID1= 1 (0110):	2.12 / 0.161 / 6.33 / 99.79
+ ID2= 2 (0120):	18.18 / 0.791 / 7.08 / 86.29
ID = 3 (0110):	20.30 / 0.921 / 7.00 / 87.70

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

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

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***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
Output filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\8edd3fa7-86f0-4620-a0e5-566b07671fa3\scen

Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-86e9-d1c81bbaf91e\8edd3fa7-86f0-4620-a0e5-566b07671fa3\scen

DATE: 10-31-2019 TIME: 10:48:55

USER:

COMMENTS: _____

****
** SIMULATION : 6-100-Year-24-Hour-SCS-Type-I **
****

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\04046152
Ptotal=133.60 mm	Comments: 100-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.67	12.75	19.24	19.00	2.40
0.50	1.34	6.75	2.67	13.00	9.89	19.25	2.40
0.75	1.34	7.00	2.67	13.25	9.89	19.50	2.40
1.00	1.34	7.25	2.67	13.50	1.87	19.75	2.40
1.25	1.34	7.50	2.67	13.75	1.87	20.00	2.40
1.50	1.34	7.75	2.67	14.00	10.96	20.25	2.40
1.75	1.34	8.00	2.67	14.25	10.96	20.50	1.60
2.00	1.34	8.25	2.67	14.50	4.01	20.75	1.60
2.25	2.40	8.50	3.61	14.75	4.01	21.00	1.60
2.50	1.74	8.75	3.61	15.00	4.01	21.25	1.60
2.75	1.74	9.00	3.61	15.25	4.01	21.50	1.60
3.00	1.74	9.25	3.61	15.50	4.01	21.75	1.60
3.25	1.74	9.50	4.28	15.75	4.01	22.00	1.60
3.50	1.74	9.75	4.28	16.00	4.01	22.25	1.60
3.75	1.74	10.00	4.81	16.25	4.01	22.50	1.60
4.00	1.74	10.25	4.81	16.50	2.40	22.75	1.60
4.25	1.74	10.50	6.15	16.75	2.40	23.00	1.60
4.50	2.14	10.75	6.15	17.00	2.40	23.25	1.60
4.75	2.14	11.00	8.28	17.25	2.40	23.50	1.60
5.00	2.14	11.25	8.28	17.50	2.40	23.75	1.60
5.25	2.14	11.50	12.83	17.75	2.40	24.00	1.60
5.50	2.14	11.75	12.83	18.00	2.40	24.25	1.60
5.75	2.14	12.00	55.58	18.25	2.40		
6.00	2.14	12.25	147.49	18.50	2.40		
6.25	2.14	12.50	19.24	18.75	2.40		

CALIB	
STANDHYD (0107)	Area (ha)= 1.03
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.77	0.26
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	82.87	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.14	12.250	147.49	18.33	2.40
0.167	0.00	6.250	2.14	12.333	19.25	18.42	2.40
0.250	0.00	6.333	2.67	12.417	19.24	18.50	2.40
0.333	1.34	6.417	2.67	12.500	19.24	18.58	2.40
0.417	1.34	6.500	2.67	12.583	19.24	18.67	2.40
0.500	1.34	6.583	2.67	12.667	19.24	18.75	2.40
0.583	1.34	6.667	2.67	12.750	19.24	18.83	2.40
0.667	1.34	6.750	2.67	12.833	9.89	18.92	2.40
0.750	1.34	6.833	2.67	12.917	9.89	19.00	2.40
0.833	1.34	6.917	2.67	13.000	9.89	19.08	2.40
0.917	1.34	7.000	2.67	13.083	9.89	19.17	2.40
1.000	1.34	7.083	2.67	13.167	9.89	19.25	2.40
1.083	1.34	7.167	2.67	13.250	9.89	19.33	2.40
1.167	1.34	7.250	2.67	13.333	1.87	19.42	2.40
1.250	1.34	7.333	2.67	13.417	1.87	19.50	2.40
1.333	1.34	7.417	2.67	13.500	1.87	19.58	2.40
1.417	1.34	7.500	2.67	13.583	1.87	19.67	2.40
1.500	1.34	7.583	2.67	13.667	1.87	19.75	2.40
1.583	1.34	7.667	2.67	13.750	1.87	19.83	2.40
1.667	1.34	7.750	2.67	13.833	10.95	19.92	2.40
1.750	1.34	7.833	2.67	13.917	10.96	20.00	2.40
1.833	1.34	7.917	2.67	14.000	10.96	20.08	2.40
1.917	1.34	8.000	2.67	14.083	10.96	20.17	2.40
2.000	1.34	8.083	2.67	14.167	10.96	20.25	2.40
2.083	2.40	8.167	2.67	14.250	10.96	20.33	1.60
2.167	2.40	8.250	2.67	14.333	4.01	20.42	1.60
2.250	2.40	8.333	3.61	14.417	4.01	20.50	1.60
2.333	1.74	8.417	3.61	14.500	4.01	20.58	1.60
2.417	1.74	8.500	3.61	14.583	4.01	20.67	1.60
2.500	1.74	8.583	3.61	14.667	4.01	20.75	1.60
2.583	1.74	8.667	3.61	14.750	4.01	20.83	1.60
2.667	1.74	8.750	3.61	14.833	4.01	20.92	1.60
2.750	1.74	8.833	3.61	14.917	4.01	21.00	1.60
2.833	1.74	8.917	3.61	15.000	4.01	21.08	1.60
2.917	1.74	9.000	3.61	15.083	4.01	21.17	1.60
3.000	1.74	9.083	3.61	15.167	4.01	21.25	1.60
3.083	1.74	9.167	3.61	15.250	4.01	21.33	1.60
3.167	1.74	9.250	3.61	15.333	4.01	21.42	1.60
3.250	1.74	9.333	4.28	15.417	4.01	21.50	1.60
3.333	1.74	9.417	4.28	15.500	4.01	21.58	1.60
3.417	1.74	9.500	4.28	15.583	4.01	21.67	1.60
3.500	1.74	9.583	4.28	15.667	4.01	21.75	1.60
3.583	1.74	9.667	4.28	15.750	4.01	21.83	1.60
3.667	1.74	9.750	4.28	15.833	4.01	21.92	1.60
3.750	1.74	9.833	4.81	15.917	4.01	22.00	1.60
3.833	1.74	9.917	4.81	16.000	4.01	22.08	1.60

3.917	1.74	10.000	4.81	16.083	4.01	22.17	1.60
4.000	1.74	10.083	4.81	16.167	4.01	22.25	1.60
4.083	1.74	10.167	4.81	16.250	4.01	22.33	1.60
4.167	1.74	10.250	4.81	16.333	2.41	22.42	1.60
4.250	1.74	10.333	6.15	16.417	2.40	22.50	1.60
4.333	2.14	10.417	6.15	16.500	2.40	22.58	1.60
4.417	2.14	10.500	6.15	16.583	2.40	22.67	1.60
4.500	2.14	10.583	6.15	16.667	2.40	22.75	1.60
4.583	2.14	10.667	6.15	16.750	2.40	22.83	1.60
4.667	2.14	10.750	6.15	16.833	2.40	22.92	1.60
4.750	2.14	10.833	8.28	16.917	2.40	23.00	1.60
4.833	2.14	10.917	8.28	17.000	2.40	23.08	1.60
4.917	2.14	11.000	8.28	17.083	2.40	23.17	1.60
5.000	2.14	11.083	8.28	17.167	2.40	23.25	1.60
5.083	2.14	11.167	8.28	17.250	2.40	23.33	1.60
5.167	2.14	11.250	8.28	17.333	2.40	23.42	1.60
5.250	2.14	11.333	12.83	17.417	2.40	23.50	1.60
5.333	2.14	11.417	12.83	17.500	2.40	23.58	1.60
5.417	2.14	11.500	12.83	17.583	2.40	23.67	1.60
5.500	2.14	11.583	12.83	17.667	2.40	23.75	1.60
5.583	2.14	11.667	12.83	17.750	2.40	23.83	1.60
5.667	2.14	11.750	12.83	17.833	2.40	23.92	1.60
5.750	2.14	11.833	55.57	17.917	2.40	24.00	1.60
5.833	2.14	11.917	55.58	18.000	2.40	24.08	1.60
5.917	2.14	12.000	55.58	18.083	2.40	24.17	1.60
6.000	2.14	12.083	147.48	18.167	2.40	24.25	1.60
6.083	2.14	12.167	147.49	18.250	2.40		

			TOTALS
Max.Eff.Inten.(mm/hr)=	147.49	72.47	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.95 (ii)	5.85 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
PEAK FLOW (cms)=	0.32	0.04	0.361 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	132.60	54.20	113.00
TOTAL RAINFALL (mm)=	133.60	133.60	133.60
RUNOFF COEFFICIENT =	0.99	0.41	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0111)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	1.030	0.361	12.25	113.00
OUTFLOW: ID= 1 (0111)	1.030	0.103	12.33	112.91

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.60
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0407

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\04046152
Ptotal=133.60 mm	Comments: 100-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.67	12.75	19.24	19.00	2.40
0.50	1.34	6.75	2.67	13.00	9.89	19.25	2.40
0.75	1.34	7.00	2.67	13.25	9.89	19.50	2.40
1.00	1.34	7.25	2.67	13.50	1.87	19.75	2.40
1.25	1.34	7.50	2.67	13.75	1.87	20.00	2.40
1.50	1.34	7.75	2.67	14.00	10.96	20.25	2.40
1.75	1.34	8.00	2.67	14.25	10.96	20.50	1.60
2.00	1.34	8.25	2.67	14.50	4.01	20.75	1.60
2.25	2.40	8.50	3.61	14.75	4.01	21.00	1.60
2.50	1.74	8.75	3.61	15.00	4.01	21.25	1.60
2.75	1.74	9.00	3.61	15.25	4.01	21.50	1.60
3.00	1.74	9.25	3.61	15.50	4.01	21.75	1.60
3.25	1.74	9.50	4.28	15.75	4.01	22.00	1.60
3.50	1.74	9.75	4.28	16.00	4.01	22.25	1.60
3.75	1.74	10.00	4.81	16.25	4.01	22.50	1.60
4.00	1.74	10.25	4.81	16.50	2.40	22.75	1.60
4.25	1.74	10.50	6.15	16.75	2.40	23.00	1.60
4.50	2.14	10.75	6.15	17.00	2.40	23.25	1.60
4.75	2.14	11.00	8.28	17.25	2.40	23.50	1.60
5.00	2.14	11.25	8.28	17.50	2.40	23.75	1.60
5.25	2.14	11.50	12.83	17.75	2.40	24.00	1.60
5.50	2.14	11.75	12.83	18.00	2.40	24.25	1.60
5.75	2.14	12.00	55.58	18.25	2.40		
6.00	2.14	12.25	147.49	18.50	2.40		
6.25	2.14	12.50	19.24	18.75	2.40		

CALIB			
STANDHYD (0109)	Area (ha)= 8.10		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	6.08	2.03
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	232.38	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME	RAIN	TIME	RAIN	TIME	RAIN	TIME	RAIN

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.083	0.00	6.167	2.14	12.250	147.49	18.33	2.40
0.167	0.00	6.250	2.14	12.333	19.25	18.42	2.40
0.250	0.00	6.333	2.67	12.417	19.24	18.50	2.40
0.333	1.34	6.417	2.67	12.500	19.24	18.58	2.40
0.417	1.34	6.500	2.67	12.583	19.24	18.67	2.40
0.500	1.34	6.583	2.67	12.667	19.24	18.75	2.40
0.583	1.34	6.667	2.67	12.750	19.24	18.83	2.40
0.667	1.34	6.750	2.67	12.833	9.89	18.92	2.40
0.750	1.34	6.833	2.67	12.917	9.89	19.00	2.40
0.833	1.34	6.917	2.67	13.000	9.89	19.08	2.40
0.917	1.34	7.000	2.67	13.083	9.89	19.17	2.40
1.000	1.34	7.083	2.67	13.167	9.89	19.25	2.40
1.083	1.34	7.167	2.67	13.250	9.89	19.33	2.40
1.167	1.34	7.250	2.67	13.333	1.87	19.42	2.40
1.250	1.34	7.333	2.67	13.417	1.87	19.50	2.40
1.333	1.34	7.417	2.67	13.500	1.87	19.58	2.40
1.417	1.34	7.500	2.67	13.583	1.87	19.67	2.40
1.500	1.34	7.583	2.67	13.667	1.87	19.75	2.40
1.583	1.34	7.667	2.67	13.750	1.87	19.83	2.40
1.667	1.34	7.750	2.67	13.833	10.95	19.92	2.40
1.750	1.34	7.833	2.67	13.917	10.96	20.00	2.40
1.833	1.34	7.917	2.67	14.000	10.96	20.08	2.40
1.917	1.34	8.000	2.67	14.083	10.96	20.17	2.40
2.000	1.34	8.083	2.67	14.167	10.96	20.25	2.40
2.083	2.40	8.167	2.67	14.250	10.96	20.33	1.60
2.167	2.40	8.250	2.67	14.333	4.01	20.42	1.60
2.250	2.40	8.333	3.61	14.417	4.01	20.50	1.60
2.333	1.74	8.417	3.61	14.500	4.01	20.58	1.60
2.417	1.74	8.500	3.61	14.583	4.01	20.67	1.60
2.500	1.74	8.583	3.61	14.667	4.01	20.75	1.60
2.583	1.74	8.667	3.61	14.750	4.01	20.83	1.60
2.667	1.74	8.750	3.61	14.833	4.01	20.92	1.60
2.750	1.74	8.833	3.61	14.917	4.01	21.00	1.60
2.833	1.74	8.917	3.61	15.000	4.01	21.08	1.60
2.917	1.74	9.000	3.61	15.083	4.01	21.17	1.60
3.000	1.74	9.083	3.61	15.167	4.01	21.25	1.60
3.083	1.74	9.167	3.61	15.250	4.01	21.33	1.60
3.167	1.74	9.250	3.61	15.333	4.01	21.42	1.60
3.250	1.74	9.333	4.28	15.417	4.01	21.50	1.60
3.333	1.74	9.417	4.28	15.500	4.01	21.58	1.60
3.417	1.74	9.500	4.28	15.583	4.01	21.67	1.60
3.500	1.74	9.583	4.28	15.667	4.01	21.75	1.60
3.583	1.74	9.667	4.28	15.750	4.01	21.83	1.60
3.667	1.74	9.750	4.28	15.833	4.01	21.92	1.60
3.750	1.74	9.833	4.81	15.917	4.01	22.00	1.60
3.833	1.74	9.917	4.81	16.000	4.01	22.08	1.60
3.917	1.74	10.000	4.81	16.083	4.01	22.17	1.60
4.000	1.74	10.083	4.81	16.167	4.01	22.25	1.60
4.083	1.74	10.167	4.81	16.250	4.01	22.33	1.60
4.167	1.74	10.250	4.81	16.333	2.41	22.42	1.60
4.250	1.74	10.333	6.15	16.417	2.40	22.50	1.60
4.333	2.14	10.417	6.15	16.500	2.40	22.58	1.60
4.417	2.14	10.500	6.15	16.583	2.40	22.67	1.60
4.500	2.14	10.583	6.15	16.667	2.40	22.75	1.60
4.583	2.14	10.667	6.15	16.750	2.40	22.83	1.60
4.667	2.14	10.750	6.15	16.833	2.40	22.92	1.60
4.750	2.14	10.833	8.28	16.917	2.40	23.00	1.60
4.833	2.14	10.917	8.28	17.000	2.40	23.08	1.60
4.917	2.14	11.000	8.28	17.083	2.40	23.17	1.60
5.000	2.14	11.083	8.28	17.167	2.40	23.25	1.60
5.083	2.14	11.167	8.28	17.250	2.40	23.33	1.60
5.167	2.14	11.250	8.28	17.333	2.40	23.42	1.60
5.250	2.14	11.333	12.83	17.417	2.40	23.50	1.60
5.333	2.14	11.417	12.83	17.500	2.40	23.58	1.60
5.417	2.14	11.500	12.83	17.583	2.40	23.67	1.60
5.500	2.14	11.583	12.83	17.667	2.40	23.75	1.60
5.583	2.14	11.667	12.83	17.750	2.40	23.83	1.60
5.667	2.14	11.750	12.83	17.833	2.40	23.92	1.60
5.750	2.14	11.833	55.57	17.917	2.40	24.00	1.60
5.833	2.14	11.917	55.58	18.000	2.40	24.08	1.60
5.917	2.14	12.000	55.58	18.083	2.40	24.17	1.60
6.000	2.14	12.083	147.48	18.167	2.40	24.25	1.60
6.083	2.14	12.167	147.49	18.250	2.40		

Max.Eff.Inten.(mm/hr)=	147.49	72.47	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.63 (ii)	7.52 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.25	0.13	
			TOTALS
PEAK FLOW (cms)=	2.46	0.32	2.787 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	132.60	54.20	113.00
TOTAL RAINFALL (mm)=	133.60	133.60	133.60
RUNOFF COEFFICIENT =	0.99	0.41	0.85

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0116)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.2090	0.3700
	0.0146	0.2491	0.2910	0.4360
	0.0800	0.2550	0.3580	0.4850
	0.1520	0.3150	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	2.787	12.25	113.00
OUTFLOW: ID= 1 (0116)	8.100	0.426	12.58	111.46

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.27
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.5326

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\

	62db8e6a-efdc-4744-84df-b014686ad4f1\04046152
Ptotal=133.60 mm	Comments: 100-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.67	12.75	19.24	19.00	2.40
0.50	1.34	6.75	2.67	13.00	9.89	19.25	2.40
0.75	1.34	7.00	2.67	13.25	9.89	19.50	2.40
1.00	1.34	7.25	2.67	13.50	1.87	19.75	2.40
1.25	1.34	7.50	2.67	13.75	1.87	20.00	2.40
1.50	1.34	7.75	2.67	14.00	10.96	20.25	2.40
1.75	1.34	8.00	2.67	14.25	10.96	20.50	1.60
2.00	1.34	8.25	2.67	14.50	4.01	20.75	1.60
2.25	2.40	8.50	3.61	14.75	4.01	21.00	1.60
2.50	1.74	8.75	3.61	15.00	4.01	21.25	1.60
2.75	1.74	9.00	3.61	15.25	4.01	21.50	1.60
3.00	1.74	9.25	3.61	15.50	4.01	21.75	1.60
3.25	1.74	9.50	4.28	15.75	4.01	22.00	1.60
3.50	1.74	9.75	4.28	16.00	4.01	22.25	1.60
3.75	1.74	10.00	4.81	16.25	4.01	22.50	1.60
4.00	1.74	10.25	4.81	16.50	2.40	22.75	1.60
4.25	1.74	10.50	6.15	16.75	2.40	23.00	1.60
4.50	2.14	10.75	6.15	17.00	2.40	23.25	1.60
4.75	2.14	11.00	8.28	17.25	2.40	23.50	1.60
5.00	2.14	11.25	8.28	17.50	2.40	23.75	1.60
5.25	2.14	11.50	12.83	17.75	2.40	24.00	1.60
5.50	2.14	11.75	12.83	18.00	2.40	24.25	1.60
5.75	2.14	12.00	55.58	18.25	2.40		
6.00	2.14	12.25	147.49	18.50	2.40		
6.25	2.14	12.50	19.24	18.75	2.40		

CALIB	
STANDHYD (0113)	Area (ha)= 15.36
ID= 1 DT= 5.0 min	Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.14	12.250	147.49	18.33	2.40
0.167	0.00	6.250	2.14	12.333	19.25	18.42	2.40
0.250	0.00	6.333	2.67	12.417	19.24	18.50	2.40
0.333	1.34	6.417	2.67	12.500	19.24	18.58	2.40
0.417	1.34	6.500	2.67	12.583	19.24	18.67	2.40
0.500	1.34	6.583	2.67	12.667	19.24	18.75	2.40
0.583	1.34	6.667	2.67	12.750	19.24	18.83	2.40
0.667	1.34	6.750	2.67	12.833	9.89	18.92	2.40
0.750	1.34	6.833	2.67	12.917	9.89	19.00	2.40
0.833	1.34	6.917	2.67	13.000	9.89	19.08	2.40
0.917	1.34	7.000	2.67	13.083	9.89	19.17	2.40
1.000	1.34	7.083	2.67	13.167	9.89	19.25	2.40
1.083	1.34	7.167	2.67	13.250	9.89	19.33	2.40
1.167	1.34	7.250	2.67	13.333	1.87	19.42	2.40
1.250	1.34	7.333	2.67	13.417	1.87	19.50	2.40
1.333	1.34	7.417	2.67	13.500	1.87	19.58	2.40
1.417	1.34	7.500	2.67	13.583	1.87	19.67	2.40
1.500	1.34	7.583	2.67	13.667	1.87	19.75	2.40
1.583	1.34	7.667	2.67	13.750	1.87	19.83	2.40
1.667	1.34	7.750	2.67	13.833	10.95	19.92	2.40
1.750	1.34	7.833	2.67	13.917	10.96	20.00	2.40
1.833	1.34	7.917	2.67	14.000	10.96	20.08	2.40
1.917	1.34	8.000	2.67	14.083	10.96	20.17	2.40
2.000	1.34	8.083	2.67	14.167	10.96	20.25	2.40
2.083	2.40	8.167	2.67	14.250	10.96	20.33	1.60
2.167	2.40	8.250	2.67	14.333	4.01	20.42	1.60
2.250	2.40	8.333	3.61	14.417	4.01	20.50	1.60
2.333	1.74	8.417	3.61	14.500	4.01	20.58	1.60
2.417	1.74	8.500	3.61	14.583	4.01	20.67	1.60
2.500	1.74	8.583	3.61	14.667	4.01	20.75	1.60
2.583	1.74	8.667	3.61	14.750	4.01	20.83	1.60
2.667	1.74	8.750	3.61	14.833	4.01	20.92	1.60
2.750	1.74	8.833	3.61	14.917	4.01	21.00	1.60
2.833	1.74	8.917	3.61	15.000	4.01	21.08	1.60
2.917	1.74	9.000	3.61	15.083	4.01	21.17	1.60
3.000	1.74	9.083	3.61	15.167	4.01	21.25	1.60
3.083	1.74	9.167	3.61	15.250	4.01	21.33	1.60
3.167	1.74	9.250	3.61	15.333	4.01	21.42	1.60
3.250	1.74	9.333	4.28	15.417	4.01	21.50	1.60
3.333	1.74	9.417	4.28	15.500	4.01	21.58	1.60
3.417	1.74	9.500	4.28	15.583	4.01	21.67	1.60
3.500	1.74	9.583	4.28	15.667	4.01	21.75	1.60
3.583	1.74	9.667	4.28	15.750	4.01	21.83	1.60
3.667	1.74	9.750	4.28	15.833	4.01	21.92	1.60
3.750	1.74	9.833	4.81	15.917	4.01	22.00	1.60
3.833	1.74	9.917	4.81	16.000	4.01	22.08	1.60
3.917	1.74	10.000	4.81	16.083	4.01	22.17	1.60
4.000	1.74	10.083	4.81	16.167	4.01	22.25	1.60
4.083	1.74	10.167	4.81	16.250	4.01	22.33	1.60
4.167	1.74	10.250	4.81	16.333	2.41	22.42	1.60
4.250	1.74	10.333	6.15	16.417	2.40	22.50	1.60
4.333	2.14	10.417	6.15	16.500	2.40	22.58	1.60
4.417	2.14	10.500	6.15	16.583	2.40	22.67	1.60
4.500	2.14	10.583	6.15	16.667	2.40	22.75	1.60
4.583	2.14	10.667	6.15	16.750	2.40	22.83	1.60
4.667	2.14	10.750	6.15	16.833	2.40	22.92	1.60
4.750	2.14	10.833	8.28	16.917	2.40	23.00	1.60
4.833	2.14	10.917	8.28	17.000	2.40	23.08	1.60
4.917	2.14	11.000	8.28	17.083	2.40	23.17	1.60
5.000	2.14	11.083	8.28	17.167	2.40	23.25	1.60
5.083	2.14	11.167	8.28	17.250	2.40	23.33	1.60
5.167	2.14	11.250	8.28	17.333	2.40	23.42	1.60
5.250	2.14	11.333	12.83	17.417	2.40	23.50	1.60
5.333	2.14	11.417	12.83	17.500	2.40	23.58	1.60
5.417	2.14	11.500	12.83	17.583	2.40	23.67	1.60
5.500	2.14	11.583	12.83	17.667	2.40	23.75	1.60
5.583	2.14	11.667	12.83	17.750	2.40	23.83	1.60
5.667	2.14	11.750	12.83	17.833	2.40	23.92	1.60
5.750	2.14	11.833	55.57	17.917	2.40	24.00	1.60

5.833	2.14	11.917	55.58	18.000	2.40	24.08	1.60
5.917	2.14	12.000	55.58	18.083	2.40	24.17	1.60
6.000	2.14	12.083	147.48	18.167	2.40	24.25	1.60
6.083	2.14	12.167	147.49	18.250	2.40		

			TOTALS
Max.Eff.Inten.(mm/hr)=	147.49	75.34	
over (min)	5.00	15.00	
Storage Coeff. (min)=	4.39 (ii)	12.30 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.23	0.09	
PEAK FLOW (cms)=	3.57	0.85	4.323 (iii)
TIME TO PEAK (hrs)=	12.25	12.33	12.25
RUNOFF VOLUME (mm)=	132.60	56.30	100.55
TOTAL RAINFALL (mm)=	133.60	133.60	133.60
RUNOFF COEFFICIENT =	0.99	0.42	0.75

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 60.6 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

ADD HYD (0114)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0111):		1.03	0.103	12.33	112.91
+ ID2= 2 (0113):		15.36	4.323	12.25	100.55
ID = 3 (0114):		16.39	4.416	12.25	101.33

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0114)		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0114):		16.39	4.416	12.25	101.33
+ ID2= 2 (0116):		8.10	0.426	12.58	111.46
ID = 1 (0114):		24.49	4.745	12.25	104.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0119)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.4045	0.7000
	0.0151	0.0001	0.5514	0.8000
	0.0151	0.1301	0.7611	0.9000
	0.0440	0.4217	0.9325	0.9500
	0.2194	0.6000	1.1147	1.0500

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0114)	24.490	4.745	12.25	104.68
OUTFLOW: ID= 1 (0119)	24.490	0.981	12.92	104.68

PEAK FLOW REDUCTION [Qout/Qin](%)= 20.68
TIME SHIFT OF PEAK FLOW (min)= 40.00
MAXIMUM STORAGE USED (ha.m.)= 0.9769

DUHYD (0120)		AREA	QPEAK	TPEAK	R.V.
Inlet Cap.= 0.015					
#of Inlets= 1					
Total(cms)= 0.0		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		24.49	0.98	12.92	104.68
MAJOR SYS.(ID= 2):		18.78	0.97	12.92	104.68
MINOR SYS.(ID= 3):		5.71	0.02	8.83	104.68

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\04046152
Ptotal=133.60 mm	Comments: 100-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.67	12.75	19.24	19.00	2.40
0.50	1.34	6.75	2.67	13.00	9.89	19.25	2.40
0.75	1.34	7.00	2.67	13.25	9.89	19.50	2.40
1.00	1.34	7.25	2.67	13.50	1.87	19.75	2.40
1.25	1.34	7.50	2.67	13.75	1.87	20.00	2.40
1.50	1.34	7.75	2.67	14.00	10.96	20.25	2.40
1.75	1.34	8.00	2.67	14.25	10.96	20.50	1.60
2.00	1.34	8.25	2.67	14.50	4.01	20.75	1.60
2.25	2.40	8.50	3.61	14.75	4.01	21.00	1.60
2.50	1.74	8.75	3.61	15.00	4.01	21.25	1.60
2.75	1.74	9.00	3.61	15.25	4.01	21.50	1.60
3.00	1.74	9.25	3.61	15.50	4.01	21.75	1.60
3.25	1.74	9.50	4.28	15.75	4.01	22.00	1.60
3.50	1.74	9.75	4.28	16.00	4.01	22.25	1.60
3.75	1.74	10.00	4.81	16.25	4.01	22.50	1.60
4.00	1.74	10.25	4.81	16.50	2.40	22.75	1.60
4.25	1.74	10.50	6.15	16.75	2.40	23.00	1.60
4.50	2.14	10.75	6.15	17.00	2.40	23.25	1.60
4.75	2.14	11.00	8.28	17.25	2.40	23.50	1.60
5.00	2.14	11.25	8.28	17.50	2.40	23.75	1.60
5.25	2.14	11.50	12.83	17.75	2.40	24.00	1.60
5.50	2.14	11.75	12.83	18.00	2.40	24.25	1.60
5.75	2.14	12.00	55.58	18.25	2.40		
6.00	2.14	12.25	147.49	18.50	2.40		

6.25	2.14	12.50	19.24	18.75	2.40

CALIB	
STANDHYD (0108)	Area (ha)= 0.78
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.58	0.19
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	72.11	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.14	12.250	147.49	18.33	2.40
0.167	0.00	6.250	2.14	12.333	19.25	18.42	2.40
0.250	0.00	6.333	2.67	12.417	19.24	18.50	2.40
0.333	1.34	6.417	2.67	12.500	19.24	18.58	2.40
0.417	1.34	6.500	2.67	12.583	19.24	18.67	2.40
0.500	1.34	6.583	2.67	12.667	19.24	18.75	2.40
0.583	1.34	6.667	2.67	12.750	19.24	18.83	2.40
0.667	1.34	6.750	2.67	12.833	9.89	18.92	2.40
0.750	1.34	6.833	2.67	12.917	9.89	19.00	2.40
0.833	1.34	6.917	2.67	13.000	9.89	19.08	2.40
0.917	1.34	7.000	2.67	13.083	9.89	19.17	2.40
1.000	1.34	7.083	2.67	13.167	9.89	19.25	2.40
1.083	1.34	7.167	2.67	13.250	9.89	19.33	2.40
1.167	1.34	7.250	2.67	13.333	1.87	19.42	2.40
1.250	1.34	7.333	2.67	13.417	1.87	19.50	2.40
1.333	1.34	7.417	2.67	13.500	1.87	19.58	2.40
1.417	1.34	7.500	2.67	13.583	1.87	19.67	2.40
1.500	1.34	7.583	2.67	13.667	1.87	19.75	2.40
1.583	1.34	7.667	2.67	13.750	1.87	19.83	2.40
1.667	1.34	7.750	2.67	13.833	10.95	19.92	2.40
1.750	1.34	7.833	2.67	13.917	10.96	20.00	2.40
1.833	1.34	7.917	2.67	14.000	10.96	20.08	2.40
1.917	1.34	8.000	2.67	14.083	10.96	20.17	2.40
2.000	1.34	8.083	2.67	14.167	10.96	20.25	2.40
2.083	2.40	8.167	2.67	14.250	10.96	20.33	1.60
2.167	2.40	8.250	2.67	14.333	4.01	20.42	1.60
2.250	2.40	8.333	3.61	14.417	4.01	20.50	1.60
2.333	1.74	8.417	3.61	14.500	4.01	20.58	1.60
2.417	1.74	8.500	3.61	14.583	4.01	20.67	1.60
2.500	1.74	8.583	3.61	14.667	4.01	20.75	1.60
2.583	1.74	8.667	3.61	14.750	4.01	20.83	1.60
2.667	1.74	8.750	3.61	14.833	4.01	20.92	1.60
2.750	1.74	8.833	3.61	14.917	4.01	21.00	1.60
2.833	1.74	8.917	3.61	15.000	4.01	21.08	1.60
2.917	1.74	9.000	3.61	15.083	4.01	21.17	1.60
3.000	1.74	9.083	3.61	15.167	4.01	21.25	1.60
3.083	1.74	9.167	3.61	15.250	4.01	21.33	1.60
3.167	1.74	9.250	3.61	15.333	4.01	21.42	1.60
3.250	1.74	9.333	4.28	15.417	4.01	21.50	1.60
3.333	1.74	9.417	4.28	15.500	4.01	21.58	1.60
3.417	1.74	9.500	4.28	15.583	4.01	21.67	1.60
3.500	1.74	9.583	4.28	15.667	4.01	21.75	1.60
3.583	1.74	9.667	4.28	15.750	4.01	21.83	1.60
3.667	1.74	9.750	4.28	15.833	4.01	21.92	1.60
3.750	1.74	9.833	4.81	15.917	4.01	22.00	1.60
3.833	1.74	9.917	4.81	16.000	4.01	22.08	1.60
3.917	1.74	10.000	4.81	16.083	4.01	22.17	1.60
4.000	1.74	10.083	4.81	16.167	4.01	22.25	1.60
4.083	1.74	10.167	4.81	16.250	4.01	22.33	1.60
4.167	1.74	10.250	4.81	16.333	2.41	22.42	1.60
4.250	1.74	10.333	6.15	16.417	2.40	22.50	1.60
4.333	2.14	10.417	6.15	16.500	2.40	22.58	1.60
4.417	2.14	10.500	6.15	16.583	2.40	22.67	1.60
4.500	2.14	10.583	6.15	16.667	2.40	22.75	1.60
4.583	2.14	10.667	6.15	16.750	2.40	22.83	1.60
4.667	2.14	10.750	6.15	16.833	2.40	22.92	1.60
4.750	2.14	10.833	8.28	16.917	2.40	23.00	1.60
4.833	2.14	10.917	8.28	17.000	2.40	23.08	1.60
4.917	2.14	11.000	8.28	17.083	2.40	23.17	1.60
5.000	2.14	11.083	8.28	17.167	2.40	23.25	1.60
5.083	2.14	11.167	8.28	17.250	2.40	23.33	1.60
5.167	2.14	11.250	8.28	17.333	2.40	23.42	1.60
5.250	2.14	11.333	12.83	17.417	2.40	23.50	1.60
5.333	2.14	11.417	12.83	17.500	2.40	23.58	1.60
5.417	2.14	11.500	12.83	17.583	2.40	23.67	1.60
5.500	2.14	11.583	12.83	17.667	2.40	23.75	1.60
5.583	2.14	11.667	12.83	17.750	2.40	23.83	1.60
5.667	2.14	11.750	12.83	17.833	2.40	23.92	1.60
5.750	2.14	11.833	55.57	17.917	2.40	24.00	1.60
5.833	2.14	11.917	55.58	18.000	2.40	24.08	1.60
5.917	2.14	12.000	55.58	18.083	2.40	24.17	1.60
6.000	2.14	12.083	147.48	18.167	2.40	24.25	1.60
6.083	2.14	12.167	147.49	18.250	2.40		

Max.Eff.Inten.(mm/hr)=	147.49	118.82		
over (min)	5.00	10.00		
Storage Coeff. (min)=	1.80 (ii)	5.69 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.32	0.15		
			TOTALS	
PEAK FLOW (cms)=	0.24	0.06	0.297 (iii)	
TIME TO PEAK (hrs)=	12.25	12.25	12.25	
RUNOFF VOLUME (mm)=	132.60	89.71	121.87	
TOTAL RAINFALL (mm)=	133.60	133.60	133.60	
RUNOFF COEFFICIENT =	0.99	0.67	0.91	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0118)	
IN= 2---> OUT= 1	

DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	0.780	0.297	12.25	121.87
OUTFLOW: ID= 1 (0118)	0.780	0.069	12.42	121.71

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.24
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.0366

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\04046152
Ptotal=133.60 mm	Comments: 100-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.67	12.75	19.24	19.00	2.40
0.50	1.34	6.75	2.67	13.00	9.89	19.25	2.40
0.75	1.34	7.00	2.67	13.25	9.89	19.50	2.40
1.00	1.34	7.25	2.67	13.50	1.87	19.75	2.40
1.25	1.34	7.50	2.67	13.75	1.87	20.00	2.40
1.50	1.34	7.75	2.67	14.00	10.96	20.25	2.40
1.75	1.34	8.00	2.67	14.25	10.96	20.50	1.60
2.00	1.34	8.25	2.67	14.50	4.01	20.75	1.60
2.25	2.40	8.50	3.61	14.75	4.01	21.00	1.60
2.50	1.74	8.75	3.61	15.00	4.01	21.25	1.60
2.75	1.74	9.00	3.61	15.25	4.01	21.50	1.60
3.00	1.74	9.25	3.61	15.50	4.01	21.75	1.60
3.25	1.74	9.50	4.28	15.75	4.01	22.00	1.60
3.50	1.74	9.75	4.28	16.00	4.01	22.25	1.60
3.75	1.74	10.00	4.81	16.25	4.01	22.50	1.60
4.00	1.74	10.25	4.81	16.50	2.40	22.75	1.60
4.25	1.74	10.50	6.15	16.75	2.40	23.00	1.60
4.50	2.14	10.75	6.15	17.00	2.40	23.25	1.60
4.75	2.14	11.00	8.28	17.25	2.40	23.50	1.60
5.00	2.14	11.25	8.28	17.50	2.40	23.75	1.60
5.25	2.14	11.50	12.83	17.75	2.40	24.00	1.60
5.50	2.14	11.75	12.83	18.00	2.40	24.25	1.60
5.75	2.14	12.00	55.58	18.25	2.40		
6.00	2.14	12.25	147.49	18.50	2.40		
6.25	2.14	12.50	19.24	18.75	2.40		

CALIB	
STANDHYD (0112)	Area (ha)= 1.07
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.80	0.27
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	84.46	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.14	12.250	147.49	18.33	2.40
0.167	0.00	6.250	2.14	12.333	19.25	18.42	2.40
0.250	0.00	6.333	2.67	12.417	19.24	18.50	2.40
0.333	1.34	6.417	2.67	12.500	19.24	18.58	2.40
0.417	1.34	6.500	2.67	12.583	19.24	18.67	2.40
0.500	1.34	6.583	2.67	12.667	19.24	18.75	2.40
0.583	1.34	6.667	2.67	12.750	19.24	18.83	2.40
0.667	1.34	6.750	2.67	12.833	9.89	18.92	2.40
0.750	1.34	6.833	2.67	12.917	9.89	19.00	2.40
0.833	1.34	6.917	2.67	13.000	9.89	19.08	2.40
0.917	1.34	7.000	2.67	13.083	9.89	19.17	2.40
1.000	1.34	7.083	2.67	13.167	9.89	19.25	2.40
1.083	1.34	7.167	2.67	13.250	9.89	19.33	2.40
1.167	1.34	7.250	2.67	13.333	1.87	19.42	2.40
1.250	1.34	7.333	2.67	13.417	1.87	19.50	2.40
1.333	1.34	7.417	2.67	13.500	1.87	19.58	2.40
1.417	1.34	7.500	2.67	13.583	1.87	19.67	2.40
1.500	1.34	7.583	2.67	13.667	1.87	19.75	2.40
1.583	1.34	7.667	2.67	13.750	1.87	19.83	2.40
1.667	1.34	7.750	2.67	13.833	10.95	19.92	2.40
1.750	1.34	7.833	2.67	13.917	10.96	20.00	2.40
1.833	1.34	7.917	2.67	14.000	10.96	20.08	2.40
1.917	1.34	8.000	2.67	14.083	10.96	20.17	2.40
2.000	1.34	8.083	2.67	14.167	10.96	20.25	2.40
2.083	2.40	8.167	2.67	14.250	10.96	20.33	1.60
2.167	2.40	8.250	2.67	14.333	4.01	20.42	1.60
2.250	2.40	8.333	3.61	14.417	4.01	20.50	1.60
2.333	1.74	8.417	3.61	14.500	4.01	20.58	1.60
2.417	1.74	8.500	3.61	14.583	4.01	20.67	1.60
2.500	1.74	8.583	3.61	14.667	4.01	20.75	1.60
2.583	1.74	8.667	3.61	14.750	4.01	20.83	1.60
2.667	1.74	8.750	3.61	14.833	4.01	20.92	1.60
2.750	1.74	8.833	3.61	14.917	4.01	21.00	1.60
2.833	1.74	8.917	3.61	15.000	4.01	21.08	1.60
2.917	1.74	9.000	3.61	15.083	4.01	21.17	1.60
3.000	1.74	9.083	3.61	15.167	4.01	21.25	1.60
3.083	1.74	9.167	3.61	15.250	4.01	21.33	1.60
3.167	1.74	9.250	3.61	15.333	4.01	21.42	1.60
3.250	1.74	9.333	4.28	15.417	4.01	21.50	1.60
3.333	1.74	9.417	4.28	15.500	4.01	21.58	1.60
3.417	1.74	9.500	4.28	15.583	4.01	21.67	1.60
3.500	1.74	9.583	4.28	15.667	4.01	21.75	1.60
3.583	1.74	9.667	4.28	15.750	4.01	21.83	1.60
3.667	1.74	9.750	4.28	15.833	4.01	21.92	1.60
3.750	1.74	9.833	4.81	15.917	4.01	22.00	1.60
3.833	1.74	9.917	4.81	16.000	4.01	22.08	1.60
3.917	1.74	10.000	4.81	16.083	4.01	22.17	1.60
4.000	1.74	10.083	4.81	16.167	4.01	22.25	1.60
4.083	1.74	10.167	4.81	16.250	4.01	22.33	1.60
4.167	1.74	10.250	4.81	16.333	2.41	22.42	1.60
4.250	1.74	10.333	6.15	16.417	2.40	22.50	1.60

4.333	2.14	10.417	6.15	16.500	2.40	22.58	1.60
4.417	2.14	10.500	6.15	16.583	2.40	22.67	1.60
4.500	2.14	10.583	6.15	16.667	2.40	22.75	1.60
4.583	2.14	10.667	6.15	16.750	2.40	22.83	1.60
4.667	2.14	10.750	6.15	16.833	2.40	22.92	1.60
4.750	2.14	10.833	8.28	16.917	2.40	23.00	1.60
4.833	2.14	10.917	8.28	17.000	2.40	23.08	1.60
4.917	2.14	11.000	8.28	17.083	2.40	23.17	1.60
5.000	2.14	11.083	8.28	17.167	2.40	23.25	1.60
5.083	2.14	11.167	8.28	17.250	2.40	23.33	1.60
5.167	2.14	11.250	8.28	17.333	2.40	23.42	1.60
5.250	2.14	11.333	12.83	17.417	2.40	23.50	1.60
5.333	2.14	11.417	12.83	17.500	2.40	23.58	1.60
5.417	2.14	11.500	12.83	17.583	2.40	23.67	1.60
5.500	2.14	11.583	12.83	17.667	2.40	23.75	1.60
5.583	2.14	11.667	12.83	17.750	2.40	23.83	1.60
5.667	2.14	11.750	12.83	17.833	2.40	23.92	1.60
5.750	2.14	11.833	55.57	17.917	2.40	24.00	1.60
5.833	2.14	11.917	55.58	18.000	2.40	24.08	1.60
5.917	2.14	12.000	55.58	18.083	2.40	24.17	1.60
6.000	2.14	12.083	147.48	18.167	2.40	24.25	1.60
6.083	2.14	12.167	147.49	18.250	2.40		

			TOTALS
Max.Eff.Inten.(mm/hr)=	147.49	118.82	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.98 (ii)	5.87 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.31	0.15	
PEAK FLOW (cms)=	0.33	0.08	0.406 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	132.60	89.71	121.87
TOTAL RAINFALL (mm)=	133.60	133.60	133.60
RUNOFF COEFFICIENT =	0.99	0.67	0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0117)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0600	0.0645

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0112)	1.070	0.406	12.25	121.87
OUTFLOW: ID= 1 (0117)	1.070	0.056	12.67	121.62

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.88
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 0.0606

READ STORM	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\04046152
Ptotal=133.60 mm	Comments: 100-Year-24-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	6.50	2.67	12.75	19.24	19.00	2.40
0.50	1.34	6.75	2.67	13.00	9.89	19.25	2.40
0.75	1.34	7.00	2.67	13.25	9.89	19.50	2.40
1.00	1.34	7.25	2.67	13.50	1.87	19.75	2.40
1.25	1.34	7.50	2.67	13.75	1.87	20.00	2.40
1.50	1.34	7.75	2.67	14.00	10.96	20.25	2.40
1.75	1.34	8.00	2.67	14.25	10.96	20.50	1.60
2.00	1.34	8.25	2.67	14.50	4.01	20.75	1.60
2.25	2.40	8.50	3.61	14.75	4.01	21.00	1.60
2.50	1.74	8.75	3.61	15.00	4.01	21.25	1.60
2.75	1.74	9.00	3.61	15.25	4.01	21.50	1.60
3.00	1.74	9.25	3.61	15.50	4.01	21.75	1.60
3.25	1.74	9.50	4.28	15.75	4.01	22.00	1.60
3.50	1.74	9.75	4.28	16.00	4.01	22.25	1.60
3.75	1.74	10.00	4.81	16.25	4.01	22.50	1.60
4.00	1.74	10.25	4.81	16.50	2.40	22.75	1.60
4.25	1.74	10.50	6.15	16.75	2.40	23.00	1.60
4.50	2.14	10.75	6.15	17.00	2.40	23.25	1.60
4.75	2.14	11.00	8.28	17.25	2.40	23.50	1.60
5.00	2.14	11.25	8.28	17.50	2.40	23.75	1.60
5.25	2.14	11.50	12.83	17.75	2.40	24.00	1.60
5.50	2.14	11.75	12.83	18.00	2.40	24.25	1.60
5.75	2.14	12.00	55.58	18.25	2.40		
6.00	2.14	12.25	147.49	18.50	2.40		
6.25	2.14	12.50	19.24	18.75	2.40		

CALIB		
STANDHYD (0121)	Area (ha)= 0.27	
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00	Dir. Conn.(%)= 71.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.19	0.08
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	42.43	40.00
Mannings n =	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	6.167	2.14	12.250	147.49	18.33	2.40
0.167	0.00	6.250	2.14	12.333	19.25	18.42	2.40
0.250	0.00	6.333	2.67	12.417	19.24	18.50	2.40
0.333	1.34	6.417	2.67	12.500	19.24	18.58	2.40

0.417	1.34	6.500	2.67	12.583	19.24	18.67	2.40
0.500	1.34	6.583	2.67	12.667	19.24	18.75	2.40
0.583	1.34	6.667	2.67	12.750	19.24	18.83	2.40
0.667	1.34	6.750	2.67	12.833	9.89	18.92	2.40
0.750	1.34	6.833	2.67	12.917	9.89	19.00	2.40
0.833	1.34	6.917	2.67	13.000	9.89	19.08	2.40
0.917	1.34	7.000	2.67	13.083	9.89	19.17	2.40
1.000	1.34	7.083	2.67	13.167	9.89	19.25	2.40
1.083	1.34	7.167	2.67	13.250	9.89	19.33	2.40
1.167	1.34	7.250	2.67	13.333	1.87	19.42	2.40
1.250	1.34	7.333	2.67	13.417	1.87	19.50	2.40
1.333	1.34	7.417	2.67	13.500	1.87	19.58	2.40
1.417	1.34	7.500	2.67	13.583	1.87	19.67	2.40
1.500	1.34	7.583	2.67	13.667	1.87	19.75	2.40
1.583	1.34	7.667	2.67	13.750	1.87	19.83	2.40
1.667	1.34	7.750	2.67	13.833	10.95	19.92	2.40
1.750	1.34	7.833	2.67	13.917	10.96	20.00	2.40
1.833	1.34	7.917	2.67	14.000	10.96	20.08	2.40
1.917	1.34	8.000	2.67	14.083	10.96	20.17	2.40
2.000	1.34	8.083	2.67	14.167	10.96	20.25	2.40
2.083	2.40	8.167	2.67	14.250	10.96	20.33	1.60
2.167	2.40	8.250	2.67	14.333	4.01	20.42	1.60
2.250	2.40	8.333	3.61	14.417	4.01	20.50	1.60
2.333	1.74	8.417	3.61	14.500	4.01	20.58	1.60
2.417	1.74	8.500	3.61	14.583	4.01	20.67	1.60
2.500	1.74	8.583	3.61	14.667	4.01	20.75	1.60
2.583	1.74	8.667	3.61	14.750	4.01	20.83	1.60
2.667	1.74	8.750	3.61	14.833	4.01	20.92	1.60
2.750	1.74	8.833	3.61	14.917	4.01	21.00	1.60
2.833	1.74	8.917	3.61	15.000	4.01	21.08	1.60
2.917	1.74	9.000	3.61	15.083	4.01	21.17	1.60
3.000	1.74	9.083	3.61	15.167	4.01	21.25	1.60
3.083	1.74	9.167	3.61	15.250	4.01	21.33	1.60
3.167	1.74	9.250	3.61	15.333	4.01	21.42	1.60
3.250	1.74	9.333	4.28	15.417	4.01	21.50	1.60
3.333	1.74	9.417	4.28	15.500	4.01	21.58	1.60
3.417	1.74	9.500	4.28	15.583	4.01	21.67	1.60
3.500	1.74	9.583	4.28	15.667	4.01	21.75	1.60
3.583	1.74	9.667	4.28	15.750	4.01	21.83	1.60
3.667	1.74	9.750	4.28	15.833	4.01	21.92	1.60
3.750	1.74	9.833	4.81	15.917	4.01	22.00	1.60
3.833	1.74	9.917	4.81	16.000	4.01	22.08	1.60
3.917	1.74	10.000	4.81	16.083	4.01	22.17	1.60
4.000	1.74	10.083	4.81	16.167	4.01	22.25	1.60
4.083	1.74	10.167	4.81	16.250	4.01	22.33	1.60
4.167	1.74	10.250	4.81	16.333	2.41	22.42	1.60
4.250	1.74	10.333	6.15	16.417	2.40	22.50	1.60
4.333	2.14	10.417	6.15	16.500	2.40	22.58	1.60
4.417	2.14	10.500	6.15	16.583	2.40	22.67	1.60
4.500	2.14	10.583	6.15	16.667	2.40	22.75	1.60
4.583	2.14	10.667	6.15	16.750	2.40	22.83	1.60
4.667	2.14	10.750	6.15	16.833	2.40	22.92	1.60
4.750	2.14	10.833	8.28	16.917	2.40	23.00	1.60
4.833	2.14	10.917	8.28	17.000	2.40	23.08	1.60
4.917	2.14	11.000	8.28	17.083	2.40	23.17	1.60
5.000	2.14	11.083	8.28	17.167	2.40	23.25	1.60
5.083	2.14	11.167	8.28	17.250	2.40	23.33	1.60
5.167	2.14	11.250	8.28	17.333	2.40	23.42	1.60
5.250	2.14	11.333	12.83	17.417	2.40	23.50	1.60
5.333	2.14	11.417	12.83	17.500	2.40	23.58	1.60
5.417	2.14	11.500	12.83	17.583	2.40	23.67	1.60
5.500	2.14	11.583	12.83	17.667	2.40	23.75	1.60
5.583	2.14	11.667	12.83	17.750	2.40	23.83	1.60
5.667	2.14	11.750	12.83	17.833	2.40	23.92	1.60
5.750	2.14	11.833	55.57	17.917	2.40	24.00	1.60
5.833	2.14	11.917	55.58	18.000	2.40	24.08	1.60
5.917	2.14	12.000	55.58	18.083	2.40	24.17	1.60
6.000	2.14	12.083	147.48	18.167	2.40	24.25	1.60
6.083	2.14	12.167	147.49	18.250	2.40		

			TOTALS
Max.Eff.Inten.(mm/hr)=	147.49	72.47	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.31 (ii)	5.53 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.33	0.16	
PEAK FLOW (cms)=	0.08	0.01	0.092 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	132.60	54.20	109.85
TOTAL RAINFALL (mm)=	133.60	133.60	133.60
RUNOFF COEFFICIENT =	0.99	0.41	0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0115)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0460	0.0093

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0121)	0.270	0.092	12.25	109.85
OUTFLOW: ID= 1 (0115)	0.270	0.041	12.33	109.69

PEAK FLOW REDUCTION [Qout/Qin](%)= 44.06
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0085

ADD HYD (0110)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0115):	0.27	0.041	12.33	109.69
+ ID2= 2 (0117):	1.07	0.056	12.67	121.62
ID = 3 (0110):	1.34	0.095	12.33	119.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0110):     1.34   0.095    12.33   119.22
      + ID2= 2 (  0118):     0.78   0.069    12.42   121.71
        ================================================
        ID = 1 (  0110):     2.12   0.163    12.33   120.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0110):     2.12   0.163    12.33   120.14
      + ID2= 2 (  0120):    18.78   0.966    12.92   104.68
        ================================================
        ID = 3 (  0110):    20.90   1.106    12.83   106.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


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DATE: 10-31-2019                          TIME: 10:48:47

USER:
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COMMENTS: _____

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  ***********************************************
  ** SIMULATION : 6-100-Year-4-Hour-Chicago-Bar **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\3fa9f526
| Ptotal= 87.58 mm |    Comments: 100-Year-4-Hour-Chicago
--------------------
                TIME     RAIN |  TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
                0.17     6.41 |  1.17    45.22 |  2.17    14.50 |  3.17     7.56
                0.33     7.29 |  1.33   180.15 |  2.33    12.44 |  3.33     7.04
                0.50     8.52 |  1.50    58.54 |  2.50    10.94 |  3.50     6.60
                0.67    10.36 |  1.67    31.96 |  2.67     9.80 |  3.67     6.22
                0.83    13.45 |  1.83    22.45 |  2.83     8.90 |  3.83     5.89
                1.00    19.96 |  2.00    17.52 |  3.00     8.16 |  4.00     5.59

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| CALIB            |
| STANDHYD (  0107)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77         0.26
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      82.87        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME     RAIN |  TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                 hrs    mm/hr |   hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
               0.083     6.41 | 1.083    45.22 | 2.083    14.50 |  3.08     7.56
               0.167     6.41 | 1.167    45.22 | 2.167    14.50 |  3.17     7.56
               0.250     7.29 | 1.250   180.15 | 2.250    12.44 |  3.25     7.04
               0.333     7.29 | 1.333   180.15 | 2.333    12.44 |  3.33     7.04
               0.417     8.52 | 1.417    58.54 | 2.417    10.94 |  3.42     6.60
               0.500     8.52 | 1.500    58.54 | 2.500    10.94 |  3.50     6.60
               0.583    10.36 | 1.583    31.96 | 2.583     9.80 |  3.58     6.22
               0.667    10.36 | 1.667    31.96 | 2.667     9.80 |  3.67     6.22
               0.750    13.45 | 1.750    22.45 | 2.750     8.90 |  3.75     5.89
               0.833    13.45 | 1.833    22.45 | 2.833     8.90 |  3.83     5.89
               0.917    19.96 | 1.917    17.52 | 2.917     8.16 |  3.92     5.59
               1.000    19.96 | 2.000    17.52 | 3.000     8.16 |  4.00     5.59

    Max.Eff.Inten.(mm/hr)=     180.15        45.95
```

```
              over (min)        5.00        10.00
     Storage Coeff.  (min)=     1.80 (ii)    5.40 (ii)
     Unit Hyd. Tpeak (min)=     5.00        10.00
     Unit Hyd. peak  (cms)=     0.32         0.16
                                                    *TOTALS*
     PEAK FLOW       (cms)=     0.39         0.03      0.408 (iii)
     TIME TO PEAK    (hrs)=     1.33         1.42       1.33
     RUNOFF VOLUME    (mm)=    86.58        26.32      71.51
     TOTAL RAINFALL   (mm)=    87.58        87.58      87.58
     RUNOFF COEFFICIENT   =     0.99         0.30       0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0111)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.1120      0.0442

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0107)   1.030     0.408      1.33      71.51
   OUTFLOW: ID= 1 (  0111)   1.030     0.089      1.58      71.42

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 21.89
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0352

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\3fa9f526
| Ptotal= 87.58 mm |    Comments: 100-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    6.41 |  1.17   45.22 |  2.17   14.50 |  3.17    7.56
                0.33    7.29 |  1.33  180.15 |  2.33   12.44 |  3.33    7.04
                0.50    8.52 |  1.50   58.54 |  2.50   10.94 |  3.50    6.60
                0.67   10.36 |  1.67   31.96 |  2.67    9.80 |  3.67    6.22
                0.83   13.45 |  1.83   22.45 |  2.83    8.90 |  3.83    5.89
                1.00   19.96 |  2.00   17.52 |  3.00    8.16 |  4.00    5.59

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--------------------
| CALIB            |
| STANDHYD (  0109)|   Area     (ha)=   8.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.08         2.03
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     232.38        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                                  ---- TRANSFORMED HYETOGRAPH ----
              TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
             0.083    6.41 | 1.083   45.22 | 2.083   14.50 |  3.08    7.56
             0.167    6.41 | 1.167   45.22 | 2.167   14.50 |  3.17    7.56
             0.250    7.29 | 1.250  180.15 | 2.250   12.44 |  3.25    7.04
             0.333    7.29 | 1.333  180.15 | 2.333   12.44 |  3.33    7.04
             0.417    8.52 | 1.417   58.54 | 2.417   10.94 |  3.42    6.60
             0.500    8.52 | 1.500   58.54 | 2.500   10.94 |  3.50    6.60
             0.583   10.36 | 1.583   31.96 | 2.583    9.80 |  3.58    6.22
             0.667   10.36 | 1.667   31.96 | 2.667    9.80 |  3.67    6.22
             0.750   13.45 | 1.750   22.45 | 2.750    8.90 |  3.75    5.89
             0.833   13.45 | 1.833   22.45 | 2.833    8.90 |  3.83    5.89
             0.917   19.96 | 1.917   17.52 | 2.917    8.16 |  3.92    5.59
             1.000   19.96 | 2.000   17.52 | 3.000    8.16 |  4.00    5.59

     Max.Eff.Inten.(mm/hr)=     180.15        45.95
              over (min)          5.00        10.00
     Storage Coeff.  (min)=       3.35 (ii)    6.94 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.26         0.14
                                                    *TOTALS*
     PEAK FLOW       (cms)=       2.92         0.20      3.080 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42       1.33
     RUNOFF VOLUME    (mm)=      86.58        26.32      71.51
     TOTAL RAINFALL   (mm)=      87.58        87.58      87.58
     RUNOFF COEFFICIENT   =       0.99         0.30       0.82

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0116)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |  0.2090      0.3700
                         0.0146     0.2491   |  0.2910      0.4360
                         0.0800     0.2550   |  0.3580      0.4850
                         0.1520     0.3150   |  0.4290      0.5350

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0109)   8.100     3.080      1.33      71.51
```

```
   OUTFLOW: ID= 1 (  0116)      8.100      0.251      2.33      70.46

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.17
                  TIME SHIFT OF PEAK FLOW          (min)= 60.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4042

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\3fa9f526
| Ptotal= 87.58 mm |    Comments: 100-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    6.41 |  1.17   45.22 |  2.17   14.50 |  3.17    7.56
                0.33    7.29 |  1.33  180.15 |  2.33   12.44 |  3.33    7.04
                0.50    8.52 |  1.50   58.54 |  2.50   10.94 |  3.50    6.60
                0.67   10.36 |  1.67   31.96 |  2.67    9.80 |  3.67    6.22
                0.83   13.45 |  1.83   22.45 |  2.83    8.90 |  3.83    5.89
                1.00   19.96 |  2.00   17.52 |  3.00    8.16 |  4.00    5.59

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--------------------
| CALIB            |
| STANDHYD (  0113)|   Area     (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       8.91         6.45
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     320.00        40.00
     Mannings n            =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    6.41 | 1.083   45.22 | 2.083   14.50 |  3.08    7.56
               0.167    6.41 | 1.167   45.22 | 2.167   14.50 |  3.17    7.56
               0.250    7.29 | 1.250  180.15 | 2.250   12.44 |  3.25    7.04
               0.333    7.29 | 1.333  180.15 | 2.333   12.44 |  3.33    7.04
               0.417    8.52 | 1.417   58.54 | 2.417   10.94 |  3.42    6.60
               0.500    8.52 | 1.500   58.54 | 2.500   10.94 |  3.50    6.60
               0.583   10.36 | 1.583   31.96 | 2.583    9.80 |  3.58    6.22
               0.667   10.36 | 1.667   31.96 | 2.667    9.80 |  3.67    6.22
               0.750   13.45 | 1.750   22.45 | 2.750    8.90 |  3.75    5.89
               0.833   13.45 | 1.833   22.45 | 2.833    8.90 |  3.83    5.89
               0.917   19.96 | 1.917   17.52 | 2.917    8.16 |  3.92    5.59
               1.000   19.96 | 2.000   17.52 | 3.000    8.16 |  4.00    5.59

     Max.Eff.Inten.(mm/hr)=     180.15        48.40
                 over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.06 (ii)    8.96 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.24         0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.17         0.60          4.627 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      86.58        27.53          61.78
     TOTAL RAINFALL   (mm)=      87.58        87.58          87.58
     RUNOFF COEFFICIENT   =       0.99         0.31           0.71

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0114)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0111):     1.03   0.089     1.58    71.42
     + ID2= 2 (  0113):    15.36   4.627     1.33    61.78
       ================================================
       ID = 3 (  0114):    16.39   4.692     1.33    62.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0114)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0114):    16.39   4.692     1.33    62.38
     + ID2= 2 (  0116):     8.10   0.251     2.33    70.46
       ================================================
       ID = 1 (  0114):    24.49   4.705     1.33    65.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR(  0119)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |   0.4045     0.7000
                        0.0151     0.0001    |   0.5514     0.8000
                        0.0151     0.1301    |   0.7611     0.9000
                        0.0440     0.4217    |   0.9325     0.9500
                        0.2194     0.6000    |   1.1147     1.0500

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0114)     24.490     4.705      1.33       65.05
   OUTFLOW: ID= 1 (  0119)     24.490     0.542      3.17       65.06

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.52
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                TIME SHIFT OF PEAK FLOW         (min)=110.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.7936

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--------------------
| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):  24.49      0.54      3.17    65.06
     ================================================
     MAJOR SYS.(ID= 2):  16.60      0.53      3.17    65.06
     MINOR SYS.(ID= 3):   7.89      0.02      1.25    65.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\3fa9f526
| Ptotal= 87.58 mm |    Comments: 100-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    6.41 |  1.17   45.22 |  2.17   14.50 |  3.17    7.56
                0.33    7.29 |  1.33  180.15 |  2.33   12.44 |  3.33    7.04
                0.50    8.52 |  1.50   58.54 |  2.50   10.94 |  3.50    6.60
                0.67   10.36 |  1.67   31.96 |  2.67    9.80 |  3.67    6.22
                0.83   13.45 |  1.83   22.45 |  2.83    8.90 |  3.83    5.89
                1.00   19.96 |  2.00   17.52 |  3.00    8.16 |  4.00    5.59

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--------------------
| CALIB            |
| STANDHYD (  0108)|   Area    (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    6.41 | 1.083   45.22 | 2.083   14.50 |  3.08    7.56
               0.167    6.41 | 1.167   45.22 | 2.167   14.50 |  3.17    7.56
               0.250    7.29 | 1.250  180.15 | 2.250   12.44 |  3.25    7.04
               0.333    7.29 | 1.333  180.15 | 2.333   12.44 |  3.33    7.04
               0.417    8.52 | 1.417   58.54 | 2.417   10.94 |  3.42    6.60
               0.500    8.52 | 1.500   58.54 | 2.500   10.94 |  3.50    6.60
               0.583   10.36 | 1.583   31.96 | 2.583    9.80 |  3.58    6.22
               0.667   10.36 | 1.667   31.96 | 2.667    9.80 |  3.67    6.22
               0.750   13.45 | 1.750   22.45 | 2.750    8.90 |  3.75    5.89
               0.833   13.45 | 1.833   22.45 | 2.833    8.90 |  3.83    5.89
               0.917   19.96 | 1.917   17.52 | 2.917    8.16 |  3.92    5.59
               1.000   19.96 | 2.000   17.52 | 3.000    8.16 |  4.00    5.59

     Max.Eff.Inten.(mm/hr)=     180.15        98.77
               over (min)          5.00        10.00
     Storage Coeff.  (min)=       1.66 (ii)    5.25 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.29         0.04          0.330 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      86.58        49.30          77.26
     TOTAL RAINFALL   (mm)=      87.58        87.58          87.58
     RUNOFF COEFFICIENT   =       0.99         0.56           0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0118)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE    |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)    |   (cms)     (ha.m.)
                        0.0000      0.0000    |   0.0750     0.0396

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0108)     0.780     0.330      1.33      77.26
   OUTFLOW: ID= 1 (  0118)     0.780     0.059      1.75      77.09

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.92
                TIME SHIFT OF PEAK FLOW         (min)= 25.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.0313

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\3fa9f526
| Ptotal= 87.58 mm |    Comments: 100-Year-4-Hour-Chicago
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    6.41 |  1.17   45.22 |  2.17   14.50 |  3.17    7.56
                0.33    7.29 |  1.33  180.15 |  2.33   12.44 |  3.33    7.04
                0.50    8.52 |  1.50   58.54 |  2.50   10.94 |  3.50    6.60
                0.67   10.36 |  1.67   31.96 |  2.67    9.80 |  3.67    6.22
                0.83   13.45 |  1.83   22.45 |  2.83    8.90 |  3.83    5.89
                1.00   19.96 |  2.00   17.52 |  3.00    8.16 |  4.00    5.59
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--------------------
| CALIB            |
| STANDHYD (  0112)|   Area     (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    6.41 | 1.083   45.22 | 2.083   14.50 |  3.08    7.56
              0.167    6.41 | 1.167   45.22 | 2.167   14.50 |  3.17    7.56
              0.250    7.29 | 1.250  180.15 | 2.250   12.44 |  3.25    7.04
              0.333    7.29 | 1.333  180.15 | 2.333   12.44 |  3.33    7.04
              0.417    8.52 | 1.417   58.54 | 2.417   10.94 |  3.42    6.60
              0.500    8.52 | 1.500   58.54 | 2.500   10.94 |  3.50    6.60
              0.583   10.36 | 1.583   31.96 | 2.583    9.80 |  3.58    6.22
              0.667   10.36 | 1.667   31.96 | 2.667    9.80 |  3.67    6.22
              0.750   13.45 | 1.750   22.45 | 2.750    8.90 |  3.75    5.89
              0.833   13.45 | 1.833   22.45 | 2.833    8.90 |  3.83    5.89
              0.917   19.96 | 1.917   17.52 | 2.917    8.16 |  3.92    5.59
              1.000   19.96 | 2.000   17.52 | 3.000    8.16 |  4.00    5.59

     Max.Eff.Inten.(mm/hr)=     180.15        98.77
                  over (min)       5.00        10.00
     Storage Coeff.  (min)=       1.82 (ii)    5.42 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.16
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.40         0.06       0.451 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42        1.33
     RUNOFF VOLUME    (mm)=      86.58        49.30       77.26
     TOTAL RAINFALL   (mm)=      87.58        87.58       87.58
     RUNOFF COEFFICIENT   =       0.99         0.56        0.88

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0117)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |   0.0600      0.0645

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
     INFLOW : ID= 2 (  0112)      1.070     0.451      1.33      77.26
     OUTFLOW: ID= 1 (  0117)      1.070     0.048      2.00      77.00

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.52
                    TIME SHIFT OF PEAK FLOW         (min)= 40.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.0511

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

--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\3fa9f526
| Ptotal= 87.58 mm |    Comments: 100-Year-4-Hour-Chicago
--------------------
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.17     6.41 |  1.17   45.22 |  2.17   14.50 |  3.17    7.56
              0.33     7.29 |  1.33  180.15 |  2.33   12.44 |  3.33    7.04
              0.50     8.52 |  1.50   58.54 |  2.50   10.94 |  3.50    6.60
              0.67    10.36 |  1.67   31.96 |  2.67    9.80 |  3.67    6.22
              0.83    13.45 |  1.83   22.45 |  2.83    8.90 |  3.83    5.89
              1.00    19.96 |  2.00   17.52 |  3.00    8.16 |  4.00    5.59

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--------------------
| CALIB            |
| STANDHYD (  0121)|   Area     (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n             =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    6.41 | 1.083   45.22 | 2.083   14.50 |  3.08    7.56
              0.167    6.41 | 1.167   45.22 | 2.167   14.50 |  3.17    7.56
              0.250    7.29 | 1.250  180.15 | 2.250   12.44 |  3.25    7.04
              0.333    7.29 | 1.333  180.15 | 2.333   12.44 |  3.33    7.04
              0.417    8.52 | 1.417   58.54 | 2.417   10.94 |  3.42    6.60
              0.500    8.52 | 1.500   58.54 | 2.500   10.94 |  3.50    6.60
              0.583   10.36 | 1.583   31.96 | 2.583    9.80 |  3.58    6.22
              0.667   10.36 | 1.667   31.96 | 2.667    9.80 |  3.67    6.22
              0.750   13.45 | 1.750   22.45 | 2.750    8.90 |  3.75    5.89
              0.833   13.45 | 1.833   22.45 | 2.833    8.90 |  3.83    5.89
              0.917   19.96 | 1.917   17.52 | 2.917    8.16 |  3.92    5.59
              1.000   19.96 | 2.000   17.52 | 3.000    8.16 |  4.00    5.59
```

```
     Max.Eff.Inten.(mm/hr)=     180.15        45.95
                 over (min)       5.00        10.00
     Storage Coeff.  (min)=       1.21 (ii)    5.11 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.16
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.10         0.01          0.103 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      86.58        26.32          69.09
     TOTAL RAINFALL   (mm)=      87.58        87.58          87.58
     RUNOFF COEFFICIENT   =       0.99         0.30           0.79

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.0460     0.0093

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)      0.270     0.103      1.33      69.09
   OUTFLOW: ID= 1 (  0115)      0.270     0.035      1.50      68.93

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 33.83
                  TIME SHIFT OF PEAK FLOW         (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0071

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0115):     0.27   0.035     1.50    68.93
     + ID2= 2 (  0117):     1.07   0.048     2.00    77.00
       ================================================
       ID = 3 (  0110):     1.34   0.078     1.58    75.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0110):     1.34   0.078     1.58    75.38
     + ID2= 2 (  0118):     0.78   0.059     1.75    77.09
       ================================================
       ID = 1 (  0110):     2.12   0.137     1.67    76.01

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0110):     2.12   0.137     1.67    76.01
     + ID2= 2 (  0120):    16.60   0.527     3.17    65.06
       ================================================
       ID = 3 (  0110):    18.72   0.619     2.83    66.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

       OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
      O   O    T      T    H   H   Y Y   MM MM  O   O
      O   O    T      T    H   H    Y    M   M  O   O
       OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\b5982af7-17f9-4deb-becf-12272f7cf35c\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\b5982af7-17f9-4deb-becf-12272f7cf35c\scen


DATE: 10-31-2019                          TIME: 10:48:59

USER:


COMMENTS: _____

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  ********************************************
  ** SIMULATION : 6-100-Year-4-Hour-Chicago-MTO **
  ********************************************
```

```
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 848.534
| Ptotal= 73.59 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.19	1.17	29.28	2.17	12.23	3.17	7.13
0.33	6.91	1.33	169.70	2.33	10.80	3.33	6.71
0.50	7.89	1.50	35.93	2.50	9.72	3.50	6.35
0.67	9.29	1.67	22.66	2.67	8.87	3.67	6.03
0.83	11.51	1.83	17.28	2.83	8.18	3.83	5.75
1.00	15.74	2.00	14.23	3.00	7.61	4.00	5.50

```
--------------------
| CALIB            |
| STANDHYD (  0107)|   Area    (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.77         0.26
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=     82.87        40.00
     Mannings n           =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.19	1.083	29.28	2.083	12.23	3.08	7.13
0.167	6.19	1.167	29.28	2.167	12.23	3.17	7.13
0.250	6.91	1.250	169.69	2.250	10.80	3.25	6.71
0.333	6.91	1.333	169.70	2.333	10.80	3.33	6.71
0.417	7.89	1.417	35.93	2.417	9.72	3.42	6.35
0.500	7.89	1.500	35.93	2.500	9.72	3.50	6.35
0.583	9.29	1.583	22.66	2.583	8.87	3.58	6.03
0.667	9.29	1.667	22.66	2.667	8.87	3.67	6.03
0.750	11.51	1.750	17.28	2.750	8.18	3.75	5.75
0.833	11.51	1.833	17.28	2.833	8.18	3.83	5.75
0.917	15.74	1.917	14.23	2.917	7.61	3.92	5.50
1.000	15.74	2.000	14.23	3.000	7.61	4.00	5.50

```
     Max.Eff.Inten.(mm/hr)=     169.70        37.02
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.85 (ii)    5.53 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.16
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.36         0.02          0.380 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42          1.33
     RUNOFF VOLUME    (mm)=      72.59        19.19         59.23
     TOTAL RAINFALL   (mm)=      73.59        73.59         73.59
     RUNOFF COEFFICIENT   =       0.99         0.26          0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------
| RESERVOIR(  0111)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------       (cms)     (ha.m.)   |   (cms)     (ha.m.)
                           0.0000     0.0000   |   0.1120     0.0442

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0107)      1.030     0.380      1.33      59.23
   OUTFLOW: ID= 1 (  0111)      1.030     0.073      1.58      59.14

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 19.19
                  TIME SHIFT OF PEAK FLOW         (min)= 15.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0290

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 848.534
| Ptotal= 73.59 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.19	1.17	29.28	2.17	12.23	3.17	7.13
0.33	6.91	1.33	169.70	2.33	10.80	3.33	6.71
0.50	7.89	1.50	35.93	2.50	9.72	3.50	6.35
0.67	9.29	1.67	22.66	2.67	8.87	3.67	6.03
0.83	11.51	1.83	17.28	2.83	8.18	3.83	5.75
1.00	15.74	2.00	14.23	3.00	7.61	4.00	5.50

```
--------------------
| CALIB            |
| STANDHYD (  0109)|   Area    (ha)=   8.10
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      6.08         2.03
     Dep. Storage     (mm)=      1.00         5.00
```

Average Slope	(%)=	1.00	2.00
Length	(m)=	232.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.19	1.083	29.28	2.083	12.23	3.08	7.13
0.167	6.19	1.167	29.28	2.167	12.23	3.17	7.13
0.250	6.91	1.250	169.69	2.250	10.80	3.25	6.71
0.333	6.91	1.333	169.70	2.333	10.80	3.33	6.71
0.417	7.89	1.417	35.93	2.417	9.72	3.42	6.35
0.500	7.89	1.500	35.93	2.500	9.72	3.50	6.35
0.583	9.29	1.583	22.66	2.583	8.87	3.58	6.03
0.667	9.29	1.667	22.66	2.667	8.87	3.67	6.03
0.750	11.51	1.750	17.28	2.750	8.18	3.75	5.75
0.833	11.51	1.833	17.28	2.833	8.18	3.83	5.75
0.917	15.74	1.917	14.23	2.917	7.61	3.92	5.50
1.000	15.74	2.000	14.23	3.000	7.61	4.00	5.50

Max.Eff.Inten.(mm/hr)=		169.70	37.02	
over (min)		5.00	10.00	
Storage Coeff. (min)=		3.43 (ii)	7.11 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.26	0.14	
				TOTALS
PEAK FLOW	(cms)=	2.73	0.15	2.854 (iii)
TIME TO PEAK	(hrs)=	1.33	1.42	1.33
RUNOFF VOLUME	(mm)=	72.59	19.19	59.24
TOTAL RAINFALL	(mm)=	73.59	73.59	73.59
RUNOFF COEFFICIENT	=	0.99	0.26	0.81

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0116)
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.2090	0.3700
0.0146	0.2491	0.2910	0.4360
0.0800	0.2550	0.3580	0.4850
0.1520	0.3150	0.4290	0.5350

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0109)	8.100	2.854	1.33	59.24
OUTFLOW: ID= 1 (0116)	8.100	0.178	2.58	58.19

PEAK FLOW REDUCTION [Qout/Qin](%)= 6.23

TIME SHIFT OF PEAK FLOW (min)= 75.00
MAXIMUM STORAGE USED (ha.m.)= 0.3399

CHICAGO STORM
Ptotal= 73.59 mm

IDF curve parameters: A= 848.534
B= 0.000
C= 0.699
used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.17	6.19	1.17	29.28	2.17	12.23	3.17	7.13
0.33	6.91	1.33	169.70	2.33	10.80	3.33	6.71
0.50	7.89	1.50	35.93	2.50	9.72	3.50	6.35
0.67	9.29	1.67	22.66	2.67	8.87	3.67	6.03
0.83	11.51	1.83	17.28	2.83	8.18	3.83	5.75
1.00	15.74	2.00	14.23	3.00	7.61	4.00	5.50

CALIB
STANDHYD (0113)
ID= 1 DT= 5.0 min

Area (ha)= 15.36
Total Imp(%)= 58.00 Dir. Conn.(%)= 58.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	8.91	6.45
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	320.00	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.19	1.083	29.28	2.083	12.23	3.08	7.13
0.167	6.19	1.167	29.28	2.167	12.23	3.17	7.13
0.250	6.91	1.250	169.69	2.250	10.80	3.25	6.71
0.333	6.91	1.333	169.70	2.333	10.80	3.33	6.71
0.417	7.89	1.417	35.93	2.417	9.72	3.42	6.35
0.500	7.89	1.500	35.93	2.500	9.72	3.50	6.35
0.583	9.29	1.583	22.66	2.583	8.87	3.58	6.03
0.667	9.29	1.667	22.66	2.667	8.87	3.67	6.03
0.750	11.51	1.750	17.28	2.750	8.18	3.75	5.75
0.833	11.51	1.833	17.28	2.833	8.18	3.83	5.75
0.917	15.74	1.917	14.23	2.917	7.61	3.92	5.50
1.000	15.74	2.000	14.23	3.000	7.61	4.00	5.50

Max.Eff.Inten.(mm/hr)=		169.70	30.20
over (min)		5.00	20.00
Storage Coeff. (min)=		4.15 (ii)	15.55 (ii)
Unit Hyd. Tpeak (min)=		5.00	20.00

```
     Unit Hyd. peak  (cms)=       0.24         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       3.88         0.32          3.994 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      72.59        20.13          50.55
     TOTAL RAINFALL   (mm)=      73.59        73.59          73.59
     RUNOFF COEFFICIENT   =       0.99         0.27           0.69

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0114)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0111):     1.03   0.073     1.58    59.14
      + ID2= 2 (  0113):    15.36   3.994     1.33    50.55
        ====================================================
        ID = 3 (  0114):    16.39   4.050     1.33    51.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0114)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0114):    16.39   4.050     1.33    51.09
      + ID2= 2 (  0116):     8.10   0.178     2.58    58.19
        ====================================================
        ID = 1 (  0114):    24.49   4.061     1.33    53.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| RESERVOIR(  0119)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                        0.0000     0.0000    |   0.4045     0.7000
                        0.0151     0.0001    |   0.5514     0.8000
                        0.0151     0.1301    |   0.7611     0.9000
                        0.0440     0.4217    |   0.9325     0.9500
                        0.2194     0.6000    |   1.1147     1.0500

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0114)    24.490     4.061      1.33      53.44
   OUTFLOW: ID= 1 (  0119)    24.490     0.392      3.75      53.44

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.65

                  TIME SHIFT OF PEAK FLOW         (min)=145.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.6933

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--------------------
| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK     R.V.
--------------------      (ha)     (cms)     (hrs)     (mm)
     TOTAL HYD.(ID= 1):  24.49      0.39      3.75    53.44
     ==========================================================
     MAJOR SYS.(ID= 2):  14.95      0.38      3.75    53.44
     MINOR SYS.(ID= 3):   9.54      0.02      1.25    53.44

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 848.534
| Ptotal= 73.59 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.17    6.19 |  1.17   29.28 |  2.17   12.23 |  3.17    7.13
                0.33    6.91 |  1.33  169.70 |  2.33   10.80 |  3.33    6.71
                0.50    7.89 |  1.50   35.93 |  2.50    9.72 |  3.50    6.35
                0.67    9.29 |  1.67   22.66 |  2.67    8.87 |  3.67    6.03
                0.83   11.51 |  1.83   17.28 |  2.83    8.18 |  3.83    5.75
                1.00   15.74 |  2.00   14.23 |  3.00    7.61 |  4.00    5.50

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| CALIB            |
| STANDHYD (  0108)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58          0.19
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      72.11         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    6.19 | 1.083   29.28 | 2.083   12.23 |  3.08    7.13
               0.167    6.19 | 1.167   29.28 | 2.167   12.23 |  3.17    7.13
               0.250    6.91 | 1.250  169.69 | 2.250   10.80 |  3.25    6.71
```

0.333	6.91	1.333	169.70	2.333	10.80	3.33	6.71
0.417	7.89	1.417	35.93	2.417	9.72	3.42	6.35
0.500	7.89	1.500	35.93	2.500	9.72	3.50	6.35
0.583	9.29	1.583	22.66	2.583	8.87	3.58	6.03
0.667	9.29	1.667	22.66	2.667	8.87	3.67	6.03
0.750	11.51	1.750	17.28	2.750	8.18	3.75	5.75
0.833	11.51	1.833	17.28	2.833	8.18	3.83	5.75
0.917	15.74	1.917	14.23	2.917	7.61	3.92	5.50
1.000	15.74	2.000	14.23	3.000	7.61	4.00	5.50

Max.Eff.Inten.(mm/hr)=	169.70	83.20		
over (min)	5.00	10.00		
Storage Coeff. (min)=	1.70 (ii)	5.38 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.32	0.16		
			TOTALS	
PEAK FLOW (cms)=	0.28	0.03	0.306 (iii)	
TIME TO PEAK (hrs)=	1.33	1.42	1.33	
RUNOFF VOLUME (mm)=	72.59	37.83	63.90	
TOTAL RAINFALL (mm)=	73.59	73.59	73.59	
RUNOFF COEFFICIENT =	0.99	0.51	0.87	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0118)				
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.0750	0.0396

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0108)	0.780	0.306	1.33	63.90
OUTFLOW: ID= 1 (0118)	0.780	0.048	1.67	63.73

PEAK FLOW REDUCTION [Qout/Qin](%)= 15.62
TIME SHIFT OF PEAK FLOW (min)= 20.00
MAXIMUM STORAGE USED (ha.m.)= 0.0252

CHICAGO STORM	IDF curve parameters: A= 848.534
Ptotal= 73.59 mm	B= 0.000
	C= 0.699

used in: INTENSITY = A / (t + B)^C

Duration of storm = 4.00 hrs
Storm time step = 10.00 min
Time to peak ratio = 0.33

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	6.19	1.083	29.28	2.083	12.23	3.08	7.13
0.167	6.19	1.167	29.28	2.167	12.23	3.17	7.13
0.250	6.91	1.250	169.69	2.250	10.80	3.25	6.71
0.333	6.91	1.333	169.70	2.333	10.80	3.33	6.71
0.417	7.89	1.417	35.93	2.417	9.72	3.42	6.35
0.500	7.89	1.500	35.93	2.500	9.72	3.50	6.35
0.583	9.29	1.583	22.66	2.583	8.87	3.58	6.03
0.667	9.29	1.667	22.66	2.667	8.87	3.67	6.03
0.750	11.51	1.750	17.28	2.750	8.18	3.75	5.75
0.833	11.51	1.833	17.28	2.833	8.18	3.83	5.75
0.917	15.74	1.917	14.23	2.917	7.61	3.92	5.50
1.000	15.74	2.000	14.23	3.000	7.61	4.00	5.50

CALIB			
STANDHYD (0112)	Area (ha)= 1.07		
ID= 1 DT= 5.0 min	Total Imp(%)= 75.00	Dir. Conn.(%)= 75.00	
	IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=	0.80	0.27	
Dep. Storage (mm)=	1.00	5.00	
Average Slope (%)=	1.00	2.00	
Length (m)=	84.46	40.00	
Mannings n =	0.013	0.250	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

Max.Eff.Inten.(mm/hr)=	169.70	83.20		
over (min)	5.00	10.00		
Storage Coeff. (min)=	1.87 (ii)	5.55 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.32	0.16		
			TOTALS	
PEAK FLOW (cms)=	0.38	0.05	0.418 (iii)	
TIME TO PEAK (hrs)=	1.33	1.42	1.33	
RUNOFF VOLUME (mm)=	72.59	37.83	63.90	
TOTAL RAINFALL (mm)=	73.59	73.59	73.59	
RUNOFF COEFFICIENT =	0.99	0.51	0.87	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 82.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0117)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0600      0.0645

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0112)      1.070     0.418      1.33      63.90
   OUTFLOW: ID= 1 (  0117)      1.070     0.038      2.00      63.65

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.12
                  TIME SHIFT OF PEAK FLOW          (min)= 40.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0410

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--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 848.534
| Ptotal= 73.59 mm |                          B=   0.000
--------------------                          C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  4.00 hrs
                       Storm time step    = 10.00 min
                       Time to peak ratio =  0.33

               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.17    6.19 |  1.17   29.28 |  2.17   12.23 |  3.17    7.13
               0.33    6.91 |  1.33  169.70 |  2.33   10.80 |  3.33    6.71
               0.50    7.89 |  1.50   35.93 |  2.50    9.72 |  3.50    6.35
               0.67    9.29 |  1.67   22.66 |  2.67    8.87 |  3.67    6.03
               0.83   11.51 |  1.83   17.28 |  2.83    8.18 |  3.83    5.75
               1.00   15.74 |  2.00   14.23 |  3.00    7.61 |  4.00    5.50


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--------------------
| CALIB            |
| STANDHYD (  0121)|   Area     (ha)=   0.27
|ID= 1 DT= 5.0 min |   Total Imp(%)=  71.00   Dir. Conn.(%)=  71.00
--------------------

                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.19         0.08
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      42.43        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    6.19 | 1.083   29.28 | 2.083   12.23 |  3.08    7.13
               0.167    6.19 | 1.167   29.28 | 2.167   12.23 |  3.17    7.13
               0.250    6.91 | 1.250  169.69 | 2.250   10.80 |  3.25    6.71
               0.333    6.91 | 1.333  169.70 | 2.333   10.80 |  3.33    6.71
               0.417    7.89 | 1.417   35.93 | 2.417    9.72 |  3.42    6.35
               0.500    7.89 | 1.500   35.93 | 2.500    9.72 |  3.50    6.35
               0.583    9.29 | 1.583   22.66 | 2.583    8.87 |  3.58    6.03
               0.667    9.29 | 1.667   22.66 | 2.667    8.87 |  3.67    6.03
               0.750   11.51 | 1.750   17.28 | 2.750    8.18 |  3.75    5.75
               0.833   11.51 | 1.833   17.28 | 2.833    8.18 |  3.83    5.75
               0.917   15.74 | 1.917   14.23 | 2.917    7.61 |  3.92    5.50
               1.000   15.74 | 2.000   14.23 | 3.000    7.61 |  4.00    5.50

     Max.Eff.Inten.(mm/hr)=     169.70        37.02
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.24 (ii)    5.23 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.01          0.096 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.42           1.33
     RUNOFF VOLUME    (mm)=      72.59        19.19          57.09
     TOTAL RAINFALL   (mm)=      73.59        73.59          73.59
     RUNOFF COEFFICIENT   =       0.99         0.26           0.78

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  59.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| RESERVOIR(  0115)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0460      0.0093

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0121)      0.270     0.096      1.33      57.09
   OUTFLOW: ID= 1 (  0115)      0.270     0.029      1.42      56.92

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 30.82
                  TIME SHIFT OF PEAK FLOW          (min)=  5.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0060

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--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):     0.27    0.029     1.42    56.92
      + ID2= 2 (  0117):     1.07    0.038     2.00    63.65
        ================================================
        ID = 3 (  0110):     1.34    0.063     1.58    62.29

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0110)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0110):     1.34   0.063     1.58    62.29
      + ID2= 2 (  0118):     0.78   0.048     1.67    63.73
        ================================================
        ID = 1 (  0110):     2.12   0.111     1.58    62.82

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0110)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0110):     2.12   0.111     1.58    62.82
      + ID2= 2 (  0120):    14.95   0.377     3.75    53.44
        ================================================
        ID = 3 (  0110):    17.07   0.440     3.50    54.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

        OOO   TTTTT  TTTTT  H   H  Y   Y  M   M   OOO    TM
       O   O    T      T    H   H   Y Y   MM MM  O   O
       O   O    T      T    H   H    Y    M   M  O   O
        OOO     T      T    H   H    Y    M   M   OOO
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                  *****  D E T A I L E D   O U T P U T *****


  Input   filename: C:\Program Files (x86)\Visual OTTHYMO 5.0\VO2\voin.dat
  Output  filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\f3d0fd71-2654-4225-ba3c-f609f8011de5\scen
  Summary filename: C:\Users\ssoumik\AppData\Local\Civica\VH5\8b6a24ee-1200-4210-
86e9-d1c81bbaf91e\f3d0fd71-2654-4225-ba3c-f609f8011de5\scen


DATE: 10-31-2019                          TIME: 10:49:03

USER:
```

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COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 6-100-Year-6-Hour-SCS-Type-II **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\a340cffa
| Ptotal=106.50 mm |    Comments: 100-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   10.65 |  3.75   23.43 |  5.50    4.26
                0.50    4.26 |  2.25   10.65 |  4.00   10.65 |  5.75    4.26
                0.75    4.26 |  2.50   12.78 |  4.25   10.65 |  6.00    4.26
                1.00    6.39 |  2.75   12.78 |  4.50    8.52 |  6.25    4.26
                1.25    6.39 |  3.00   63.90 |  4.75    8.52 |
                1.50    6.39 |  3.25  166.14 |  5.00    6.39 |
                1.75    6.39 |  3.50   23.43 |  5.25    6.39 |

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| CALIB            |
| STANDHYD (  0107)|   Area     (ha)=   1.03
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.77          0.26
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      82.87         40.00
     Mannings n           =      0.013         0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                          ---- TRANSFORMED HYETOGRAPH ----
 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
0.083    0.00 | 1.667    6.39 | 3.250  166.14 |  4.83    6.39
0.167    0.00 | 1.750    6.39 | 3.333   23.43 |  4.92    6.39
0.250    0.00 | 1.833   10.65 | 3.417   23.43 |  5.00    6.39
0.333    4.26 | 1.917   10.65 | 3.500   23.43 |  5.08    6.39
0.417    4.26 | 2.000   10.65 | 3.583   23.43 |  5.17    6.39
0.500    4.26 | 2.083   10.65 | 3.667   23.43 |  5.25    6.39
0.583    4.26 | 2.167   10.65 | 3.750   23.43 |  5.33    4.26
0.667    4.26 | 2.250   10.65 | 3.833   10.65 |  5.42    4.26
0.750    4.26 | 2.333   12.78 | 3.917   10.65 |  5.50    4.26
0.833    6.39 | 2.417   12.78 | 4.000   10.65 |  5.58    4.26
0.917    6.39 | 2.500   12.78 | 4.083   10.65 |  5.67    4.26
1.000    6.39 | 2.583   12.78 | 4.167   10.65 |  5.75    4.26
1.083    6.39 | 2.667   12.78 | 4.250   10.65 |  5.83    4.26
```

1.167	6.39	2.750	12.78	4.333	8.52	5.92	4.26
1.250	6.39	2.833	63.90	4.417	8.52	6.00	4.26
1.333	6.39	2.917	63.90	4.500	8.52	6.08	4.26
1.417	6.39	3.000	63.90	4.583	8.52	6.17	4.26
1.500	6.39	3.083	166.14	4.667	8.52	6.25	4.26
1.583	6.39	3.167	166.14	4.750	8.52		

Max.Eff.Inten.(mm/hr)=	166.14	72.41	
over (min)	5.00	10.00	
Storage Coeff. (min)=	1.86 (ii)	5.58 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.32	0.16	
			TOTALS
PEAK FLOW (cms)=	0.36	0.04	0.400 (iii)
TIME TO PEAK (hrs)=	3.25	3.25	3.25
RUNOFF VOLUME (mm)=	105.50	37.06	88.38
TOTAL RAINFALL (mm)=	106.50	106.50	106.50
RUNOFF COEFFICIENT =	0.99	0.35	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0111) IN= 2---> OUT= 1 DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.1120	0.0442

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0107)	1.030	0.400	3.25	88.38
OUTFLOW: ID= 1 (0111)	1.030	0.113	3.33	88.29

PEAK FLOW REDUCTION [Qout/Qin](%)= 28.32
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0447

READ STORM Ptotal=106.50 mm	Filename: C:\Users\ssoumik\AppData\Local\Temp\62db8e6a-efdc-4744-84df-b014686ad4f1\a340cffa Comments: 100-Year-6-Hour-SCS-Type-II

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.25	0.00	2.00	10.65	3.75	23.43	5.50	4.26
0.50	4.26	2.25	10.65	4.00	10.65	5.75	4.26
0.75	4.26	2.50	12.78	4.25	10.65	6.00	4.26
1.00	6.39	2.75	12.78	4.50	8.52	6.25	4.26
1.25	6.39	3.00	63.90	4.75	8.52		
1.50	6.39	3.25	166.14	5.00	6.39		
1.75	6.39	3.50	23.43	5.25	6.39		

CALIB STANDHYD (0109) ID= 1 DT= 5.0 min	Area (ha)= 8.10 Total Imp(%)= 75.00 Dir. Conn.(%)= 75.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	6.08	2.03
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	232.38	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.39	3.250	166.14	4.83	6.39
0.167	0.00	1.750	6.39	3.333	23.43	4.92	6.39
0.250	0.00	1.833	10.65	3.417	23.43	5.00	6.39
0.333	4.26	1.917	10.65	3.500	23.43	5.08	6.39
0.417	4.26	2.000	10.65	3.583	23.43	5.17	6.39
0.500	4.26	2.083	10.65	3.667	23.43	5.25	6.39
0.583	4.26	2.167	10.65	3.750	23.43	5.33	4.26
0.667	4.26	2.250	10.65	3.833	10.65	5.42	4.26
0.750	4.26	2.333	12.78	3.917	10.65	5.50	4.26
0.833	6.39	2.417	12.78	4.000	10.65	5.58	4.26
0.917	6.39	2.500	12.78	4.083	10.65	5.67	4.26
1.000	6.39	2.583	12.78	4.167	10.65	5.75	4.26
1.083	6.39	2.667	12.78	4.250	10.65	5.83	4.26
1.167	6.39	2.750	12.78	4.333	8.52	5.92	4.26
1.250	6.39	2.833	63.90	4.417	8.52	6.00	4.26
1.333	6.39	2.917	63.90	4.500	8.52	6.08	4.26
1.417	6.39	3.000	63.90	4.583	8.52	6.17	4.26
1.500	6.39	3.083	166.14	4.667	8.52	6.25	4.26
1.583	6.39	3.167	166.14	4.750	8.52		

Max.Eff.Inten.(mm/hr)=	166.14	72.41	
over (min)	5.00	10.00	
Storage Coeff. (min)=	3.46 (ii)	7.17 (ii)	
Unit Hyd. Tpeak (min)=	5.00	10.00	
Unit Hyd. peak (cms)=	0.26	0.14	
			TOTALS
PEAK FLOW (cms)=	2.78	0.31	3.095 (iii)
TIME TO PEAK (hrs)=	3.25	3.25	3.25
RUNOFF VOLUME (mm)=	105.50	37.06	88.39
TOTAL RAINFALL (mm)=	106.50	106.50	106.50
RUNOFF COEFFICIENT =	0.99	0.35	0.83

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.

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

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--------------------
| RESERVOIR(  0116)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.2090     0.3700
                         0.0146     0.2491   |   0.2910     0.4360
                         0.0800     0.2550   |   0.3580     0.4850
                         0.1520     0.3150   |   0.4290     0.5350

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0109)     8.100     3.095      3.25      88.39
   OUTFLOW: ID= 1 (  0116)     8.100     0.383      3.83      87.28

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.37
                  TIME SHIFT OF PEAK FLOW         (min)= 35.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5039

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\a340cffa
| Ptotal=106.50 mm |    Comments: 100-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   10.65 |  3.75   23.43 |  5.50    4.26
                0.50    4.26 |  2.25   10.65 |  4.00   10.65 |  5.75    4.26
                0.75    4.26 |  2.50   12.78 |  4.25   10.65 |  6.00    4.26
                1.00    6.39 |  2.75   12.78 |  4.50    8.52 |  6.25    4.26
                1.25    6.39 |  3.00   63.90 |  4.75    8.52 |
                1.50    6.39 |  3.25  166.14 |  5.00    6.39 |
                1.75    6.39 |  3.50   23.43 |  5.25    6.39 |

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| CALIB            |
| STANDHYD (  0113)|   Area    (ha)=  15.36
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  58.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      8.91         6.45
     Dep. Storage     (mm)=      1.00         5.00
     Average Slope     (%)=      1.00         2.00
     Length            (m)=    320.00        40.00
     Mannings n           =     0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083   0.00 | 1.667    6.39 | 3.250  166.14 |  4.83    6.39
                0.167   0.00 | 1.750    6.39 | 3.333   23.43 |  4.92    6.39
                0.250   0.00 | 1.833   10.65 | 3.417   23.43 |  5.00    6.39
                0.333   4.26 | 1.917   10.65 | 3.500   23.43 |  5.08    6.39
                0.417   4.26 | 2.000   10.65 | 3.583   23.43 |  5.17    6.39
                0.500   4.26 | 2.083   10.65 | 3.667   23.43 |  5.25    6.39
                0.583   4.26 | 2.167   10.65 | 3.750   23.43 |  5.33    4.26
                0.667   4.26 | 2.250   10.65 | 3.833   10.65 |  5.42    4.26
                0.750   4.26 | 2.333   12.78 | 3.917   10.65 |  5.50    4.26
                0.833   6.39 | 2.417   12.78 | 4.000   10.65 |  5.58    4.26
                0.917   6.39 | 2.500   12.78 | 4.083   10.65 |  5.67    4.26
                1.000   6.39 | 2.583   12.78 | 4.167   10.65 |  5.75    4.26
                1.083   6.39 | 2.667   12.78 | 4.250   10.65 |  5.83    4.26
                1.167   6.39 | 2.750   12.78 | 4.333    8.52 |  5.92    4.26
                1.250   6.39 | 2.833   63.90 | 4.417    8.52 |  6.00    4.26
                1.333   6.39 | 2.917   63.90 | 4.500    8.52 |  6.08    4.26
                1.417   6.39 | 3.000   63.90 | 4.583    8.52 |  6.17    4.26
                1.500   6.39 | 3.083  166.14 | 4.667    8.52 |  6.25    4.26
                1.583   6.39 | 3.167  166.14 | 4.750    8.52 |

     Max.Eff.Inten.(mm/hr)=     166.14        75.53
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       4.19 (ii)   12.09 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.24         0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       4.04         0.82          4.731 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.33           3.25
     RUNOFF VOLUME    (mm)=     105.50        38.64          77.42
     TOTAL RAINFALL   (mm)=     106.50       106.50         106.50
     RUNOFF COEFFICIENT   =       0.99         0.36           0.73

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  60.6    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| ADD HYD  (  0114)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0111):     1.03    0.113     3.33    88.29
     + ID2= 2 (  0113):    15.36    4.731     3.25    77.42
       ==================================================
       ID = 3 (  0114):    16.39    4.833     3.25    78.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0114)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0114):    16.39    4.833     3.25    78.10
```

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      + ID2= 2 (  0116):     8.10   0.383     3.83    87.28
        ================================================
        ID = 1 (  0114):    24.49   5.089     3.25    81.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR(  0119)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.4045     0.7000
                         0.0151     0.0001   |   0.5514     0.8000
                         0.0151     0.1301   |   0.7611     0.9000
                         0.0440     0.4217   |   0.9325     0.9500
                         0.2194     0.6000   |   1.1147     1.0500

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0114)     24.490      5.089      3.25      81.14
   OUTFLOW: ID= 1 (  0119)     24.490      0.866      4.08      81.14

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 17.02
                  TIME SHIFT OF PEAK FLOW          (min)= 50.00
                  MAXIMUM  STORAGE   USED        (ha.m.)=  0.9309

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--------------------
| DUHYD    (  0120)|
| Inlet Cap.= 0.015|
| #of Inlets=     1|
| Total(cms)=   0.0|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  24.49      0.87      4.08   81.14
     ================================================
     MAJOR SYS.(ID= 2):  18.04      0.85      4.08   81.14
     MINOR SYS.(ID= 3):   6.45      0.02      2.50   81.14

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\a340cffa
| Ptotal=106.50 mm |    Comments: 100-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   10.65 |  3.75   23.43 |  5.50    4.26
                0.50    4.26 |  2.25   10.65 |  4.00   10.65 |  5.75    4.26
                0.75    4.26 |  2.50   12.78 |  4.25   10.65 |  6.00    4.26
                1.00    6.39 |  2.75   12.78 |  4.50    8.52 |  6.25    4.26
                1.25    6.39 |  3.00   63.90 |  4.75    8.52 |
                1.50    6.39 |  3.25  166.14 |  5.00    6.39 |
                1.75    6.39 |  3.50   23.43 |  5.25    6.39 |

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--------------------
| CALIB            |
| STANDHYD (  0108)|   Area     (ha)=   0.78
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------

                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.58         0.19
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      72.11        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    6.39 | 3.250  166.14 |  4.83    6.39
               0.167    0.00 | 1.750    6.39 | 3.333   23.43 |  4.92    6.39
               0.250    0.00 | 1.833   10.65 | 3.417   23.43 |  5.00    6.39
               0.333    4.26 | 1.917   10.65 | 3.500   23.43 |  5.08    6.39
               0.417    4.26 | 2.000   10.65 | 3.583   23.43 |  5.17    6.39
               0.500    4.26 | 2.083   10.65 | 3.667   23.43 |  5.25    6.39
               0.583    4.26 | 2.167   10.65 | 3.750   23.43 |  5.33    4.26
               0.667    4.26 | 2.250   10.65 | 3.833   10.65 |  5.42    4.26
               0.750    4.26 | 2.333   12.78 | 3.917   10.65 |  5.50    4.26
               0.833    6.39 | 2.417   12.78 | 4.000   10.65 |  5.58    4.26
               0.917    6.39 | 2.500   12.78 | 4.083   10.65 |  5.67    4.26
               1.000    6.39 | 2.583   12.78 | 4.167   10.65 |  5.75    4.26
               1.083    6.39 | 2.667   12.78 | 4.250   10.65 |  5.83    4.26
               1.167    6.39 | 2.750   12.78 | 4.333    8.52 |  5.92    4.26
               1.250    6.39 | 2.833   63.90 | 4.417    8.52 |  6.00    4.26
               1.333    6.39 | 2.917   63.90 | 4.500    8.52 |  6.08    4.26
               1.417    6.39 | 3.000   63.90 | 4.583    8.52 |  6.17    4.26
               1.500    6.39 | 3.083  166.14 | 4.667    8.52 |  6.25    4.26
               1.583    6.39 | 3.167  166.14 | 4.750    8.52 |

     Max.Eff.Inten.(mm/hr)=     166.14       126.27
               over (min)          5.00        10.00
     Storage Coeff.  (min)=       1.71 (ii)    5.43 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.16
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.27         0.06          0.330 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=     105.50        65.51          95.50
     TOTAL RAINFALL   (mm)=     106.50       106.50         106.50
     RUNOFF COEFFICIENT   =       0.99         0.62           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0118)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0750     0.0396

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0108)    0.780     0.330      3.25      95.50
   OUTFLOW: ID= 1 (  0118)    0.780     0.075      3.42      95.33

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 22.67
                  TIME SHIFT OF PEAK FLOW          (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0396

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|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\a340cffa
| Ptotal=106.50 mm |    Comments: 100-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25    0.00 |  2.00   10.65 |  3.75   23.43 |  5.50    4.26
                0.50    4.26 |  2.25   10.65 |  4.00   10.65 |  5.75    4.26
                0.75    4.26 |  2.50   12.78 |  4.25   10.65 |  6.00    4.26
                1.00    6.39 |  2.75   12.78 |  4.50    8.52 |  6.25    4.26
                1.25    6.39 |  3.00   63.90 |  4.75    8.52 |
                1.50    6.39 |  3.25  166.14 |  5.00    6.39 |
                1.75    6.39 |  3.50   23.43 |  5.25    6.39 |

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| CALIB            |
| STANDHYD (  0112)|   Area    (ha)=   1.07
|ID= 1 DT= 5.0 min |   Total Imp(%)=  75.00   Dir. Conn.(%)=  75.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.80         0.27
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      84.46        40.00
     Mannings n           =      0.013        0.250

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                        ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 1.667    6.39 | 3.250  166.14 |  4.83    6.39
               0.167    0.00 | 1.750    6.39 | 3.333   23.43 |  4.92    6.39
               0.250    0.00 | 1.833   10.65 | 3.417   23.43 |  5.00    6.39
               0.333    4.26 | 1.917   10.65 | 3.500   23.43 |  5.08    6.39
               0.417    4.26 | 2.000   10.65 | 3.583   23.43 |  5.17    6.39
               0.500    4.26 | 2.083   10.65 | 3.667   23.43 |  5.25    6.39
               0.583    4.26 | 2.167   10.65 | 3.750   23.43 |  5.33    4.26
               0.667    4.26 | 2.250   10.65 | 3.833   10.65 |  5.42    4.26
               0.750    4.26 | 2.333   12.78 | 3.917   10.65 |  5.50    4.26
               0.833    6.39 | 2.417   12.78 | 4.000   10.65 |  5.58    4.26
               0.917    6.39 | 2.500   12.78 | 4.083   10.65 |  5.67    4.26
               1.000    6.39 | 2.583   12.78 | 4.167   10.65 |  5.75    4.26
               1.083    6.39 | 2.667   12.78 | 4.250   10.65 |  5.83    4.26
               1.167    6.39 | 2.750   12.78 | 4.333    8.52 |  5.92    4.26
               1.250    6.39 | 2.833   63.90 | 4.417    8.52 |  6.00    4.26
               1.333    6.39 | 2.917   63.90 | 4.500    8.52 |  6.08    4.26
               1.417    6.39 | 3.000   63.90 | 4.583    8.52 |  6.17    4.26
               1.500    6.39 | 3.083  166.14 | 4.667    8.52 |  6.25    4.26
               1.583    6.39 | 3.167  166.14 | 4.750    8.52 |

     Max.Eff.Inten.(mm/hr)=     166.14       126.27
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.88 (ii)    5.60 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.15
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.37         0.08          0.452 (iii)
     TIME TO PEAK    (hrs)=       3.25         3.25           3.25
     RUNOFF VOLUME    (mm)=     105.50        65.51          95.50
     TOTAL RAINFALL   (mm)=     106.50       106.50         106.50
     RUNOFF COEFFICIENT   =       0.99         0.62           0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  82.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| RESERVOIR(  0117)|
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.0600     0.0645

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0112)    1.070     0.452      3.25      95.50
   OUTFLOW: ID= 1 (  0117)    1.070     0.060      3.75      95.25

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 13.25
                  TIME SHIFT OF PEAK FLOW          (min)= 30.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.0644

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

--------------------
|    READ STORM    |    Filename: C:\Users\ssoumik\AppD
|                  |              ata\Local\Temp\
|                  |              62db8e6a-efdc-4744-84df-b014686ad4f1\a340cffa
| Ptotal=106.50 mm |    Comments: 100-Year-6-Hour-SCS-Type-II
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
```

hrs	mm/hr	hrs	mm/hr	hrs	mm/hr	hrs	mm/hr
0.25	0.00	2.00	10.65	3.75	23.43	5.50	4.26
0.50	4.26	2.25	10.65	4.00	10.65	5.75	4.26
0.75	4.26	2.50	12.78	4.25	10.65	6.00	4.26
1.00	6.39	2.75	12.78	4.50	8.52	6.25	4.26
1.25	6.39	3.00	63.90	4.75	8.52		
1.50	6.39	3.25	166.14	5.00	6.39		
1.75	6.39	3.50	23.43	5.25	6.39		

CALIB			
STANDHYD (0121)	Area (ha)= 0.27		
ID= 1 DT= 5.0 min	Total Imp(%)= 71.00	Dir. Conn.(%)= 71.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.19	0.08
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	42.43	40.00
Mannings n	=	0.013	0.250

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	0.00	1.667	6.39	3.250	166.14	4.83	6.39
0.167	0.00	1.750	6.39	3.333	23.43	4.92	6.39
0.250	0.00	1.833	10.65	3.417	23.43	5.00	6.39
0.333	4.26	1.917	10.65	3.500	23.43	5.08	6.39
0.417	4.26	2.000	10.65	3.583	23.43	5.17	6.39
0.500	4.26	2.083	10.65	3.667	23.43	5.25	6.39
0.583	4.26	2.167	10.65	3.750	23.43	5.33	4.26
0.667	4.26	2.250	10.65	3.833	10.65	5.42	4.26
0.750	4.26	2.333	12.78	3.917	10.65	5.50	4.26
0.833	6.39	2.417	12.78	4.000	10.65	5.58	4.26
0.917	6.39	2.500	12.78	4.083	10.65	5.67	4.26
1.000	6.39	2.583	12.78	4.167	10.65	5.75	4.26
1.083	6.39	2.667	12.78	4.250	10.65	5.83	4.26
1.167	6.39	2.750	12.78	4.333	8.52	5.92	4.26
1.250	6.39	2.833	63.90	4.417	8.52	6.00	4.26
1.333	6.39	2.917	63.90	4.500	8.52	6.08	4.26
1.417	6.39	3.000	63.90	4.583	8.52	6.17	4.26
1.500	6.39	3.083	166.14	4.667	8.52	6.25	4.26
1.583	6.39	3.167	166.14	4.750	8.52		

Max.Eff.Inten.(mm/hr)=		166.14	72.41	
over (min)		5.00	10.00	
Storage Coeff. (min)=		1.25 (ii)	5.27 (ii)	
Unit Hyd. Tpeak (min)=		5.00	10.00	
Unit Hyd. peak (cms)=		0.33	0.16	
				TOTALS
PEAK FLOW	(cms)=	0.09	0.01	0.102 (iii)
TIME TO PEAK	(hrs)=	3.25	3.25	3.25
RUNOFF VOLUME	(mm)=	105.50	37.06	85.64
TOTAL RAINFALL	(mm)=	106.50	106.50	106.50
RUNOFF COEFFICIENT	=	0.99	0.35	0.80

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 59.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

RESERVOIR(0115)						
IN= 2---> OUT= 1						
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)		OUTFLOW (cms)	STORAGE (ha.m.)	
	0.0000	0.0000		0.0460	0.0093	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0121)	0.270	0.102	3.25	85.64
OUTFLOW: ID= 1 (0115)	0.270	0.045	3.33	85.48

PEAK FLOW REDUCTION [Qout/Qin](%)= 43.87
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.0093

ADD HYD (0110)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0115):	0.27	0.045	3.33	85.48	
+ ID2= 2 (0117):	1.07	0.060	3.75	95.25	
ID = 3 (0110):	1.34	0.101	3.33	93.28	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)					
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 3 (0110):	1.34	0.101	3.33	93.28	
+ ID2= 2 (0118):	0.78	0.075	3.42	95.33	
ID = 1 (0110):	2.12	0.175	3.33	94.04	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0110)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)	
ID1= 1 (0110):	2.12	0.175	3.33	94.04	
+ ID2= 2 (0120):	18.04	0.851	4.08	81.14	

```
      ================================================
      ID = 3 (  0110):    20.16   0.991     4.00    82.49

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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WATER BALANCE [SWM POND OPTION 1 & 2]

Project No: 4560- DiPoce-Barrie

2019-10-29 13:44

TABLE 1: WATER BUDGET - PRE DEVELOPMENT
WATER BALANCE/WATER BUDGET ASSESSMENT

	Site		
Catchment Designation		Impermeable Area*	Total
Area (m^2)	258200	0	258200
Pervious Area (m^2)	258200	0	258200
Impervious Area (m^2)	0	0	0
Infiltration Factors			
Topography Infiltration Factor (Rolling Land)*	0.2	N/A	
Soil Infiltration Factor (Silty to Sandy Glacial Till)*	0.3	N/A	
Land Cover Infiltration Factor (Cultivated Land)*	0.1	N/A	
MOE Infiltration Factor	0.6	N/A	
Inputs (per unit area)			
Precipitation (mm/year)**	933	0	**933**
Total Inputs (mm/year)	933	0	**933**
Outputs (mm/year)			
Precipitation Surplus	336	0	336
Net Surplus	336	0	336
Downspout Disconnection Retention	0	0	0
Evapotranspiration**	597	0	597
Roof Evapotranspiration	0	0	0
Rooftop Runoff Lawn Evaporation	0	0	0
Total Evapotranspiration	**597**	**0**	**597**
Infiltration	202	0	202
Rooftop Infiltration	0	0	0
Total Infiltration	**202**	**0**	**202**
Runoff Pervious Area	134	0	134
Runoff Impervious Area	0	0	0
Total Runoff	**134**	**0**	**134**
Total Outputs	**933**	**0**	933
Difference (Inputs - Outputs)	0	0	0
Input (Volumes - m^3/year)			
Precipitation	240901	0	240901
Total Inputs	**240901**	**0**	**240901**
Outputs (Volumes - m^3/year)			
Precipitation Surplus	86755	0	86755
Net Surplus	86755	0	86755
Downspout Disconnection Retention	0	0	0
Evapotranspiration	154145	0	154145
Roof Evapotranspiration	0	0	0
Rooftop Runoff Lawn Evaporation	0	0	0
Total Evapotranspiration	154145	0	**154145**
Infiltration	52053	0	52053
Rooftop Infiltration	0	0	0
Total Infiltration	**52053**	**0**	**52053**
Runoff Pervious Area	34702	0	34702
Runoff Impervious Area	0	0	0
Total Runoff	**34702**	**0**	**34702**
Total Outputs	**240901**	**0**	**240901**
Difference (Inputs - Outputs)	0	0	0

*Data based on MOE

**Precipitation and Evapotranspiration data based on Environment Canada-Barrie WPCC Station (1978-2006)

Project No: 4560- DiPoce-Barrie #########

TABLE 2: WATER BUDGET - POST-DEVELOPMENT WITHOUT MITIGATION 356 12500

WATER BALANCE/WATER BUDGET ASSESSMENT

	Site																										
Catchment Designation	**Backyard**	**Front Lawn**	**Roofs**	**Front Porch**	**Park (93% Pervious)**	**Park (7% Impervious)**	**Service Corridor (93% Pervious)**	**Service Corridor (7% Impervious)**	**Pond (50% Impervious)**	**Pond (50% Pervious)**	**School (71% Impervious)**	**School (29% Pervious)**	**ROW-18m (75% Impervious)**	**ROW-18m (25% Pervious)**	**ROW- 24m (75% Impervious)**	**ROW-24m (25% Impervious)**	**Block 39 (75% Impervious)**	**Block 39 (25% Pervious)**	**Block 40 (75% Impervious)**	**Block 40 (25% Pervious)**	**Block 41 (75% Impervious)**	**Block 41 (25% Pervious)**	**Block 42 (71% Impervious)**	**Block 42 (29% Pervious)**	**Pipeline Coriddor + Undeveloped Lands (7% Impervious)**	**Pipeline Coriddor + Undeveloped Lands (93%Pervious)**	**Paths**	**Driveways**	**Total**
Area (m^2)	10379	5589	29541	684	22971	1729	372	28	6250	6250	15620	6480	13350	4450	11400	3800	7725	2575	8025	2675	5850	1650	1917	783	5875	76725	1400	4106	258200
Pervious Area (m^2)	10379	5589	0	0	22971	0	372	0	0	6250	0	6480	0	4450		3800	0	2575	0	2675	0	1650	0	783	0	76725	0	0	144699
Impervious Area (m^2)	0	0	29541	684	0	1729	0	28	6250	0	15620	0	13350	0	11400	0	7725	0	8025	0	5850	0	1917	0	5875	0	1400	4106	113501
Infiltration Factors																													
Topography Infiltration Factor (Rolling Land)*	0.2	0.2	N/A	N/A	0.2	N/A	0.2	N/A	N/A	0.2	N/A	0.2	N/A	0.2	0.2	0.2	N/A	0.2	N/A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	N/A	N/A	
Soil Infiltration Factor (Silty to Sandy Glacial Till)*	0.3	0.3	N/A	N/A	0.3	N/A	0.3	N/A	N/A	0.3	N/A	0.3	N/A	0.3	0.3	0.3	N/A	0.3	N/A	0.3	0.3	0.3	0.3	0.3	0.3	0.3	N/A	N/A	
Land Cover Infiltration Factor (Cultivated Land)*	0.1	0.1	N/A	N/A	0.1	N/A	0.1	N/A	N/A	0.1	N/A	0.1	N/A	0.1	0.1	0.1	N/A	0.1	N/A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	N/A	N/A	
MOE Infiltration Factor	**0.6**	**0.6**	**N/A**	**N/A**	**0.6**	**N/A**	**0.6**	**N/A**	**N/A**	**0.6**	**N/A**	**0.6**	**N/A**	**0.6**	**0.6**	**0.6**	**N/A**	**0.6**	**N/A**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**N/A**	**N/A**	
Inputs (per unit area)																													
Precipitation (mm/year)**	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933
Total Inputs (m^3/year)	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933
Outputs (per unit area)																													
Precipitation Surplus (mm/year)	336	336	840	840	336	840	336	840	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	840	346
Net Surplus (mm/year)	336	336	840	840	336	840	336	840	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	840	346
Downspout Disconnection Retention	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration (mm/year)	597	597	0	93	597	93	597	93	93	597	93	597	93	597	93	597	93	597	93	597	93	597	93	597	93	597	93	93	158
Roof Evapotranspiration (mm/year)	0	0	93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Rooftop Runoff Lawn Evaporation (mm/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Evapotranspiration (mm/yr)	**597**	**597**	**93**	**93**	**597**	**93**	**597**	**93**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**93**	169
Infiltration (mm/year)	202	202	0	0	202	0	202	0	0	202	0	202	0	202	0	202	0	202	0	202	0	202	0	202	0	202	0	0	47
Rooftop Infiltration (mm/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mitigation (mm/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Infiltration (mm/year)	**202**	**202**	**0**	**0**	**202**	**0**	**202**	**0**	**0**	**202**	**0**	**202**	**0**	**202**	**0**	**202**	**0**	**202**	**0**	**202**	**0**	**202**	**0**	**202**	**0**	**202**	**0**	**0**	47
Runoff Pervious Area (mm/year)	134	134	0	0	134	0	134	0	0	134	0	134	0	134	0	134	0	134	0	134	0	134	0	134	0	134	0	0	31
Runoff Impervious Area (mm/year)	0	0	840	840	0	840	0	840	840	0	840	0	840	0	840	0	840	0	840	0	840	0	840	0	840	0	840	840	268
Total Runoff (mm/year)	**134**	**134**	**840**	**840**	**134**	**840**	**134**	**840**	**840**	**134**	**840**	**134**	**840**	**134**	**840**	**134**	**840**	**134**	**840**	**134**	**840**	**134**	**840**	**134**	**840**	**134**	**840**	**840**	299
Total Outputs (mm/year)	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	515
Difference (Inputs - Outputs)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Input Volumes																													
Precipitation (m^3/year)	9684	5214	27562	639	21432	1613	347	26	5831	5831	14573	6046	12456	4152	10636	3545	7207	2402	7487	2496	5458	1539	1789	731	5481	71584	1306	3831	**240901**
Total Inputs (m^3/year)	**9684**	**5214**	**27562**	**639**	**21432**	**1613**	**347**	**26**	**5831**	**5831**	**14573**	**6046**	**12456**	**4152**	**10636**	**3545**	**7207**	**2402**	**7487**	**2496**	**5458**	**1539**	**1789**	**731**	**5481**	**71584**	**1306**	**3831**	**240901**
Outputs (Volumes)																													
Precipitation Surplus (m^3/year)	3487	1878	24806	575	7718	1452	125	24	5248	2100	13116	2177	11210	1495	9573	1277	6487	865	6739	899	4912	554	1610	263	4933	25780	1176	3448	143926
Net Surplus (m^3/year)	3487	1878	24806	575	7718	1452	125	24	5248	2100	13116	2177	11210	1495	9573	1277	6487	865	6739	899	4912	554	1610	263	4933	25780	1176	3448	143926
Downspout Disconnection Retention (m^3/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration (m^3/year)	6196	3337	0	64	13714	161	222	3	583	3731	1457	3869	1246	2657	1064	2269	721	1537	749	1597	546	985	179	467	548	45805	131	383	94219
Roof Evapotranspiration (m^3/year)	0	0	2756	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2756
Rooftop Runoff Lawn Evaporation (m^3/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Evapotranspiration (m^3/year)	**6196**	**3337**	**2756**	**64**	**13714**	**161**	**222**	**3**	**583**	**3731**	**1457**	**3869**	**1246**	**2657**	**1064**	**2269**	**721**	**1537**	**749**	**1597**	**546**	**985**	**179**	**467**	**548**	**45805**	**131**	**383**	**96975**
Infiltration (m^3/year)	2092	1127	0	0	4631	0	75	0	0	1260	0	1306	0	897	0	766	0	519	0	539	0	333	0	158	0	15468	0	0	29171
Rooftop Infiltration (m^3/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mitigation (m^3/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Infiltration (m^3/year)	**2092**	**1127**	**0**	**0**	**4631**	**0**	**75**	**0**	**0**	**1260**	**0**	**1306**	**0**	**897**	**0**	**766**	**0**	**519**	**0**	**539**	**0**	**333**	**0**	**158**	**0**	**15468**	**0**	**0**	**29171**
Runoff Pervious Area (m^3/year)	1395	751	0	0	3087	0	50	0	0	840	0	871	0	598	0	511	0	346	0	360	0	222	0	105	0	10312	0	0	19448
Runoff Impervious Area (m^3/year)	0	0	24806	575	0	1452	0	24	5248	0	13116	0	11210	0	9573	0	6487	0	6739	0	4912	0	1610	0	4933	0	1176	3448	95307
Total Runoff (m^3/year)	**1395**	**751**	**24806**	**575**	**3087**	**1452**	**50**	**24**	**5248**	**840**	**13116**	**871**	**11210**	**598**	**9573**	**511**	**6487**	**346**	**6739**	**360**	**4912**	**222**	**1610**	**105**	**4933**	**10312**	**1176**	**3448**	**114754**
Total Outputs (m^3/year)	**9684**	**5214**	**27562**	**639**	**21432**	**1613**	**347**	**26**	**5831**	**5831**	**14573**	**6046**	**12456**	**4152**	**10636**	**3545**	**7207**	**2402**	**7487**	**2496**	**5458**	**1539**	**1789**	**731**	**5481**	**71584**	**1306**	**3831**	**240901**
Difference (Inputs - Outputs)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**

*Data based on MOE

**Precipitation and Evapotranspiration data based on Environment Canada-Barrie WPCC Station (1978-2006)

Project No: 4560- DiPoce-Barrie

2019-10-31

TABLE 3: WATER BUDGET - POST-DEVELOPMENT WITH MITIGATION
WATER BALANCE/WATER BUDGET ASSESSMENT

	Site																										
Catchment Designation	**Backyard**	**Front Lawn**	**Roofs**	**Front Porch**	**Park (93% Pervious)**	**Park (7% Impervious)**	**Service Corridor (93% Pervious)**	**Service Corridor (7% Impervious)**	**Pond (50% Impervious)**	**Pond (50% Pervious)**	**School (71% Impervious)**	**School (29% Pervious)**	**ROW-18m (75% Impervious)**	**ROW-18m (25% Pervious)**	**ROW- 24m (75% Impervious)**	**ROW-24m (25% Impervious)**	**Block 39 (75% Impervious)**	**Block 39 (25% Pervious)**	**Block 40 (75% Impervious)**	**Block 40 (25% Pervious)**	**Block 41 (75% Impervious)**	**Block 41 (25% Pervious)**	**Block 42 (71% Impervious)**	**Block 42 (29% Pervious)**	**Pipeline Coriddor + Undeveloped Lands (7% Impervious)**	**Pipeline Coriddor + Undeveloped Lands (93%Pervious)**	**Paths**	**Driveways**	**Total**
Area (m^2)	10379	5589	29541	684	22971	1729	372	28	6250	6250	15620	6480	13350	4450	11400	3800	7725	2575	8025	2675	5850	1650	1917	783	5875	76725	1400	4106	258200
Pervious Area (m^2)	10379	5589	0	0	22971	0	372	0	0	6250	0	6480	0	4450	0	3800	0	2575	0	2675	0	1650	0	783	0	76725	0	0	144699
Impervious Area (m^2)	0	0	29541	684	0	1729	0	28	6250	0	15620	0	13350	0	11400	0	7725	0	8025	0	5850	0	1917	0	5875	0	1400	4106	113501
Infiltration Factors																													
Topography Infiltration Factor (Rolling Land)*	0.2	0.2	N/A	N/A	0.2	N/A	0.2	N/A	N/A	0.2	N/A	0.2	N/A	0.2	0.2	0.2	N/A	0.2	0.2	0.2	N/A	0.2	0.2	0.2	0.2	0.2	N/A	N/A	
Soil Infiltration Factor (Silty to Sandy Glacial Till)*	0.3	0.3	N/A	N/A	0.3	N/A	0.3	N/A	N/A	0.3	N/A	0.3	N/A	0.3	0.3	0.3	N/A	0.3	0.3	0.3	N/A	0.3	0.3	0.3	0.3	0.3	N/A	N/A	
Land Cover Infiltration Factor (Cultivated Land)*	0.1	0.1	N/A	N/A	0.1	N/A	0.1	N/A	N/A	0.1	N/A	0.1	N/A	0.1	0.1	0.1	N/A	0.1	0.1	0.1	N/A	0.1	0.1	0.1	0.1	0.1	N/A	N/A	
MOE Infiltration Factor	**0.6**	**0.6**	**N/A**	**N/A**	**0.6**	**N/A**	**0.6**	**N/A**	**N/A**	**0.6**	**N/A**	**0.6**	**N/A**	**0.6**	**0.6**	**0.6**	**N/A**	**0.6**	**0.6**	**0.6**	**N/A**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**N/A**	**N/A**	
Inputs (per unit area)																													
Precipitation (mm/year)**	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933
Total Inputs (m^3/year)	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933
Outputs (per unit area)																													
Precipitation Surplus (mm/year)	336	336	840	840	336	840	336	840	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	840	557
Net Surplus (mm/year)	336	336	840	840	336	840	336	840	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	840	557
Downspout Disconnection Retention	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration (mm/year)	597	597	0	93	597	93	597	93	93	597	93	597	93	597	93	597	93	597	93	597	93	597	93	597	93	597	93	93	365
Roof Evapotranspiration (mm/year)	0	0	93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Rooftop Runoff Lawn Evaporation (mm/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Evapotranspiration (mm/yr)	**597**	**597**	**93**	**93**	**597**	**93**	**597**	**93**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**93**	**376**
Infiltration (mm/year)	202	202	0	0	202	0	202	0	0	202	0	202	0	202	0	202	0	202	0	202	0	202	0	202	0	202	0	0	113
Rooftop Infiltration (mm/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mitigation (Infiltration trenches) (mm/year)	0	0	0	0	0	220	0	0	0	0	220	0	0	0	0	0	220	0	220	0	220	0	220	0	0	0	0	0	35
Mitigation (Infiltration within the Pond)(mm/year)	0	0	483	483	0	483	0	483	483	0	483	0	483	0	483	0	0	0	0	0	0	0	0	0	483	0	483	483	168
Total Infiltration (mm/year)	**202**	**202**	**483**	**483**	**202**	**703**	**202**	**483**	**483**	**202**	**703**	**202**	**483**	**202**	**483**	**202**	**220**	**202**	**220**	**202**	**220**	**202**	**220**	**202**	**483**	**202**	**483**	**483**	**316**
Runoff Pervious Area (mm/year)	134	134	0	0	134	0	134	0	0	134	0	134	0	134	0	134	0	134	0	134	0	134	0	134	0	134	0	0	75
Runoff Impervious Area (mm/year)	0	0	357	357	0	137	0	357	357	0	137	0	357	0	357	0	620	0	620	0	620	0	620	0	357	0	357	357	166
Total Runoff (mm/year)	**134**	**134**	**357**	**357**	**134**	**137**	**134**	**357**	**357**	**134**	**137**	**134**	**357**	**134**	**357**	**134**	**620**	**134**	**620**	**134**	**620**	**134**	**620**	**134**	**357**	**134**	**357**	**357**	**241**
Total Outputs (mm/year)	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**
Difference (Inputs - Outputs)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Input Volumes																													
Precipitation (m^3/year)	9684	5214	27562	639	21432	1613	347	26	5831	5831	14573	6046	12456	4152	10636	3545	7207	2402	7487	2496	5458	1539	1789	731	5481	71584	1306	3831	**240901**
Total Inputs (m^3/year)	**9684**	**5214**	**27562**	**639**	**21432**	**1613**	**347**	**26**	**5831**	**5831**	**14573**	**6046**	**12456**	**4152**	**10636**	**3545**	**7207**	**2402**	**7487**	**2496**	**5458**	**1539**	**1789**	**731**	**5481**	**71584**	**1306**	**3831**	**240901**
Outputs (Volumes)																													
Precipitation Surplus (m^3/year)	3487	1878	24806	575	7718	1452	125	24	5248	2100	13116	2177	11210	1495	9573	1277	6487	865	6739	899	4912	554	1610	263	4933	25780	1176	3448	143926
Net Surplus (m^3/year)	3487	1878	24806	575	7718	1452	125	24	5248	2100	13116	2177	11210	1495	9573	1277	6487	865	6739	899	4912	554	1610	263	4933	25780	1176	3448	143926
Downspout Disconnection Retention (m^3/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration (m^3/year)	6196	3337	0	64	13714	161	222	3	583	3731	1457	3869	1246	2657	1064	2269	721	1537	749	1597	546	985	179	467	548	45805	131	383	94219
Roof Evapotranspiration (m^3/year)	0	0	2756	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2756
Rooftop Runoff Lawn Evaporation (m^3/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Evapotranspiration (m^3/year)	**6196**	**3337**	**2756**	**64**	**13714**	**161**	**222**	**3**	**583**	**3731**	**1457**	**3869**	**1246**	**2657**	**1064**	**2269**	**721**	**1537**	**749**	**1597**	**546**	**985**	**179**	**467**	**548**	**45805**	**131**	**383**	**96975**
Infiltration (m^3/year)	2092	1127	0	0	4631	0	75	0	0	1260	0	1306	0	897	0	766	0	519	0	539	0	333	0	158	0	15468	0	0	29171
Rooftop Infiltration (m^3/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mitigation (Infiltration Trenches) (m^3/year)	0	0	0	0	0	380	0	0	0	0	3436	0	0	0	0	0	1700	0	1766	0	1287	0	422	0	0	0	0	0	8991
Mitigation (Infiltration within the SWM Pond) (m^3/year)	0	0	14268	331	0	835	0	14	3019	0	7544	0	6448	0	5506	0	0	0	0	0	0	0	0	0	2838	0	676	1983	43462
Total Infiltration (m^3/year)	**2092**	**1127**	**14268**	**331**	**4631**	**1215**	**75**	**14**	**3019**	**1260**	**10981**	**1306**	**6448**	**897**	**5506**	**766**	**1700**	**519**	**1766**	**539**	**1287**	**333**	**422**	**158**	**2838**	**15468**	**676**	**1983**	**81624**
Runoff Pervious Area (m^3/year)	1395	751	0	0	3087	0	50	0	0	840	0	871	0	598	0	511	0	346	0	360	0	222	0	105	0	10312	0	0	19448
Runoff Impervious Area (m^3/year)	0	0	10537	244	0	236	0	10	2229	0	2135	0	4762	0	4066	0	4787	0	4973	0	3625	0	1188	0	2096	0	499	1465	42854
Total Runoff (m^3/year)	**1395**	**751**	**10537**	**244**	**3087**	**236**	**50**	**10**	**2229**	**840**	**2135**	**871**	**4762**	**598**	**4066**	**511**	**4787**	**346**	**4973**	**360**	**3625**	**222**	**1188**	**105**	**2096**	**10312**	**499**	**1465**	**62301**
Total Outputs (m^3/year)	**9684**	**5214**	**27562**	**639**	**21432**	**1613**	**347**	**26**	**5831**	**5831**	**14573**	**6046**	**12456**	**4152**	**10636**	**3545**	**7207**	**2402**	**7487**	**2496**	**5458**	**1539**	**1789**	**731**	**5481**	**71584**	**1306**	**3831**	**240901**
Difference (Inputs - Outputs)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**

*Data based on MOE

**Precipitation and Evapotranspiration data based on Environment Canada-Barrie WPCC Station (1978-2006)

TABLE 4: WATER BUDGET -SUMMARY TABLE

Characteristics	Site				
	Pre-development	Post-development	Change (Pre to Post)	Post-development with	Change (pre to post with mitigation)
Inputs (Volumes)					
Precipitation (m^3/year)	240901	240901	0%	240901	0.0%
Total Inputs (m^3/year)	240901	240901	0%	240901	0.0%
Outputs (Volumes)					
Precipitation surplus (m^3/year)	86755	143926	66%	143926	66%
Net Surplus (m^3/year)	86755	143926	66%	143926	66%
Total Evapotranspiration (m^3/year)	154145	96975	-37%	96975	-37%
Total Infiltration (m^3/year)	52053	29171	-44%	81624	57%
Total Runoff (m^3/year)	34702	114754	231%	62301	80%
Total Outputs (m^3/year)	240901	240901	0%	240901	0%

Total Infiltration req'd: **22882** **m^3/yr**
to match post to pre

Water Balance Mitigation Calculations

Pre Development Infiltration =	**52,053**	**m^3/y**
Post Development Infiltration without mitigation =	**29,171**	**m^3/y**
Post to Pre Deficit =	**22,882**	**m^3/y**
Mitigation Measures		
Top Soil Amendment =	**0**	**m^3/y**
Rooftop infilitration =	**0**	**m^3/y**
Infiltration Trench within the Park Block=	**380**	**m^3/y**
Infiltration Trench within the School Block=	**3,436**	**m^3/y**
Infiltration Trench within the SWM pond=	**43,462**	**m^3/y**
Infiltration Trench within the Block 39=	**1,700**	**m^3/y**
Infiltration Trench within the Block 40=	**1,766**	**m^3/y**
Infiltration Trench within the Block 41=	**1,287**	**m^3/y**
Infiltration Trench within the Block 42=	**422**	**m^3/y**
Mitgation Voulme Provided =	**52,453**	**m^3/y**
Deficit =	**-29,571**	**m^3/y**

In order to meet the annual pre-development infiltration deficit, the runoff from the site directed to infitlration trenches shall be equal to the annual deficit volume. Therefore,

Infiltration Trench within the SWM pond=

9.00 ha x Annual Precipitation Depth = 43,462 m^3/year

Required Annual Precpitation Depth to meet deficit = 483 mm/yr

A precipitation analysis (rainfall & snowfall) was conducted to estimate an event with sufficient precipitation that produces an annual runoff volume of 43463 m^3/year (or a total depth of annual rainfall equal to 483 mm)

The analysis was performed on daily precipitation data collected from Barrie from 1978 to 2006 by Environment Canada. The data was then arranged into four categories for each year: Total Annual Depth of Precipitation from events less than or equal to 5mm, 10mm, 15mm and 20mm. This yearly data was then used to determine an average annual precipitation depth.

Based on this analysis, it is concluded that precipitation events of depth less than or equal to *12.50 mm* will produce an annual amount of precipitation equal to 483 mm/yr

The total required infiltration trench volume is 12.5 mm x 9 ha x 10 = 1125 m^3

Infiltration Trench within the Park Block=

0.17 ha x Annual Precipitation Depth = 380 m^3/year

Required Annual Precpitation Depth to meet deficit = 220 mm/yr

A precipitation analysis (rainfall & snowfall) was conducted to estimate an event with sufficient precipitation that produces an annual runoff volume of 381 m^3/year (or a total depth of annual rainfall equal to 220 mm)

The analysis was performed on daily precipitation data collected from Barrie from 1978 to 2006 by Environment Canada. The data was then arranged into four categories for each year: Total Annual Depth of Precipitation from events less than or equal to 5mm, 10mm, 15mm and 20mm. This yearly data was then used to determine an average annual precipitation depth.

Based on this analysis, it is concluded that precipitation events of depth less than or equal to *5.00 mm* will produce an annual amount of precipitation equal to 220 mm/yr

The total required infiltration trench volume is 5 mm x 0.17 ha x 10 = 8.6 m^3

Infiltration Trench within the School Block=

1.56 ha x Annual Precipitation Depth = 3,436 m^3/year

Required Annual Precpitation Depth to meet deficit = 220 mm/yr

A precipitation analysis (rainfall & snowfall) was conducted to estimate an event with sufficient precipitation that produces an annual runoff volume of 3437 m^3/year (or a total depth of annual rainfall equal to 220 mm)

The analysis was performed on daily precipitation data collected from Barrie from 1978 to 2006 by Environment Canada. The data was then arranged into four categories for each year: Total Annual Depth of Precipitation from events less than or equal to 5mm, 10mm, 15mm and 20mm. This yearly data was then used to determine an average annual precipitation depth.

Based on this analysis, it is concluded that precipitation events of depth less than or equal to *5.00 mm* will produce an annual amount of precipitation equal to 220 mm/yr

The total required infiltration trench volume is 5 mm x 1.56 ha x 10 = 78 m^3

Infiltration Trench within the Block 39=

0.77 ha x Annual Precipitation Depth = 1,700 m^3/year

Required Annual Precpitation Depth to meet deficit = 220 mm/yr

A precipitation analysis (rainfall & snowfall) was conducted to estimate an event with sufficient precipitation that produces an annual runoff volume of 1700 m^3/year (or a total depth of annual rainfall equal to 220 mm)

The analysis was performed on daily precipitation data collected from Barrie from 1978 to 2006 by Environment Canada. The data was then arranged into four categories for each year: Total Annual Depth of Precipitation from events less than or equal to 5mm, 10mm, 15mm and 20mm. This yearly data was then used to determine an average annual precipitation depth.

Based on this analysis, it is concluded that precipitation events of depth less than or equal to *5.00 mm* will produce an annual amount of precipitation equal to 220 mm/yr

The total required infiltration trench volume is 5 mm x 0.77 ha x 10 = 39 m^3

Infiltration Trench within the Block 40=

0.80 ha x Annual Precipitation Depth = 1,766 m^3/year

Required Annual Precpitation Depth to meet deficit = 220 mm/yr

A precipitation analysis (rainfall & snowfall) was conducted to estimate an event with sufficient precipitation that produces an annual runoff volume of 1766 m^3/year (or a total depth of annual rainfall equal to 220 mm)

The analysis was performed on daily precipitation data collected from Barrie from 1978 to 2006 by Environment Canada. The data was then arranged into four categories for each year: Total Annual Depth of Precipitation from events less than or equal to 5mm, 10mm, 15mm and 20mm. This yearly data was then used to determine an average annual precipitation depth.

Based on this analysis, it is concluded that precipitation events of depth less than or equal to *5.00 mm* will produce an annual amount of precipitation equal to 220 mm/yr

The total required infiltration trench volume is 5 mm x 0.8 ha x 10 = 40 m^3

Infiltration Trench within the Block 41=

0.59 ha x Annual Precipitation Depth = 1,287 m^3/year

Required Annual Precpitation Depth to meet deficit = 220 mm/yr

A precipitation analysis (rainfall & snowfall) was conducted to estimate an event with sufficient precipitation that produces an annual runoff volume of 1287 m^3/year (or a total depth of annual rainfall equal to 220 mm)

The analysis was performed on daily precipitation data collected from Barrie from 1978 to 2006 by Environment Canada. The data was then arranged into four categories for each year: Total Annual Depth of Precipitation from events less than or equal to 5mm, 10mm, 15mm and 20mm. This yearly data was then used to determine an average annual precipitation depth.

Based on this analysis, it is concluded that precipitation events of depth less than or equal to *5.00 mm* will produce an annual amount of precipitation equal to 220 mm/yr

The total required infiltration trench volume is 5 mm x 0.59 ha x 10 = 29 m^3

Infiltration Trench within the Block 42=

0.19 ha x Annual Precipitation Depth = 422 m^3/year

Required Annual Precpitation Depth to meet deficit = 220 mm/yr

A precipitation analysis (rainfall & snowfall) was conducted to estimate an event with sufficient precipitation that produces an annual runoff volume of 422 m^3/year (or a total depth of annual rainfall equal to 220 mm)

The analysis was performed on daily precipitation data collected from Barrie from 1978 to 2006 by Environment Canada. The data was then arranged into four categories for each year: Total Annual Depth of Precipitation from events less than or equal to 5mm, 10mm, 15mm and 20mm. This yearly data was then used to determine an average annual precipitation depth.

Based on this analysis, it is concluded that precipitation events of depth less than or equal to *5.00 mm* will produce an annual amount of precipitation equal to 220 mm/yr

The total required infiltration trench volume is 5 mm x 0.19 ha x 10 = 10 m^3

WATER BALANCE [SWM POND OPTION 3]

Project No: 4560- DiPoce-Barrie

2019-10-29 13:44

TABLE 1: WATER BUDGET - PRE DEVELOPMENT
WATER BALANCE/WATER BUDGET ASSESSMENT

	Site		
Catchment Designation		Impermeable Area*	Total
Area (m^2)	258200	0	258200
Pervious Area (m^2)	258200	0	258200
Impervious Area (m^2)	0	0	0
Infiltration Factors			
Topography Infiltration Factor (Rolling Land)*	0.2	N/A	
Soil Infiltration Factor (Silty to Sandy Glacial Till)*	0.3	N/A	
Land Cover Infiltration Factor (Cultivated Land)*	0.1	N/A	
MOE Infiltration Factor	0.6	N/A	
Inputs (per unit area)			
Precipitation (mm/year)**	933	0	**933**
Total Inputs (mm/year)	933	0	**933**
Outputs (mm/year)			
Precipitation Surplus	336	0	336
Net Surplus	336	0	336
Downspout Disconnection Retention	0	0	0
Evapotranspiration**	597	0	597
Roof Evapotranspiration	0	0	0
Rooftop Runoff Lawn Evaporation	0	0	0
Total Evapotranspiration	**597**	**0**	**597**
Infiltration	202	0	202
Rooftop Infiltration	0	0	0
Total Infiltration	**202**	**0**	**202**
Runoff Pervious Area	134	0	134
Runoff Impervious Area	0	0	0
Total Runoff	**134**	**0**	**134**
Total Outputs	**933**	**0**	933
Difference (Inputs - Outputs)	0	0	0
Input (Volumes - m^3/year)			
Precipitation	240901	0	240901
Total Inputs	**240901**	**0**	**240901**
Outputs (Volumes - m^3/year)			
Precipitation Surplus	86755	0	86755
Net Surplus	86755	0	86755
Downspout Disconnection Retention	0	0	0
Evapotranspiration	154145	0	154145
Roof Evapotranspiration	0	0	0
Rooftop Runoff Lawn Evaporation	0	0	0
Total Evapotranspiration	154145	0	**154145**
Infiltration	52053	0	52053
Rooftop Infiltration	0	0	0
Total Infiltration	**52053**	**0**	**52053**
Runoff Pervious Area	34702	0	34702
Runoff Impervious Area	0	0	0
Total Runoff	**34702**	**0**	**34702**
Total Outputs	**240901**	**0**	**240901**
Difference (Inputs - Outputs)	0	0	0

*Data based on MOE

**Precipitation and Evapotranspiration data based on Environment Canada-Barrie WPCC Station (1978-2006)

Project No: 4560- DiPoce-Barrie #########

TABLE 2: WATER BUDGET - POST-DEVELOPMENT WITHOUT MITIGATION 356 12500

WATER BALANCE/WATER BUDGET ASSESSMENT

	Site																										
Catchment Designation	**Backyard**	**Front Lawn**	**Roofs**	**Front Porch**	**Park (93% Pervious)**	**Park (7% Impervious)**	**Service Corridor (93% Pervious)**	**Service Corridor (7% Impervious)**	**Pond (50% Impervious)**	**Pond (50% Pervious)**	**School (71% Impervious)**	**School (29% Pervious)**	**ROW-18m (75% Impervious)**	**ROW-18m (25% Pervious)**	**ROW- 24m (75% Impervious)**	**ROW-24m (25% Impervious)**	**Block 39 (75% Impervious)**	**Block 39 (25% Pervious)**	**Block 40 (75% Impervious)**	**Block 40 (25% Pervious)**	**Block 41 (75% Impervious)**	**Block 41 (25% Pervious)**	**Block 42 (71% Impervious)**	**Block 42 (29% Pervious)**	**Pipeline Coriddor + Undeveloped Lands (7% Impervious)**	**Pipeline Coriddor + Undeveloped Lands (93%Pervious)**	**Paths**	**Driveways**	**Total**
Area (m^2)	10379	5589	29541	684	22971	1729	372	28	6250	6250	15620	6480	13350	4450	11400	3800	7725	2575	8025	2675	5850	1650	1917	783	5875	76725	1400	4106	258200
Pervious Area (m^2)	10379	5589	0	0	22971	0	372	0	0	6250	0	6480	0	4450		3800	0	2575	0	2675	0	1650	0	783	0	76725	0	0	144699
Impervious Area (m^2)	0	0	29541	684	0	1729	0	28	6250	0	15620	0	13350	0	11400	0	7725	0	8025	0	5850	0	1917	0	5875	0	1400	4106	113501
Infiltration Factors																													
Topography Infiltration Factor (Rolling Land)*	0.2	0.2	N/A	N/A	0.2	N/A	0.2	N/A	N/A	0.2	N/A	0.2	N/A	0.2	0.2	0.2	N/A	0.2	N/A	0.2	0.2	0.2	0.2	0.2	0.2	0.2	N/A	N/A	
Soil Infiltration Factor (Silty to Sandy Glacial Till)*	0.3	0.3	N/A	N/A	0.3	N/A	0.3	N/A	N/A	0.3	N/A	0.3	N/A	0.3	0.3	0.3	N/A	0.3	N/A	0.3	0.3	0.3	0.3	0.3	0.3	0.3	N/A	N/A	
Land Cover Infiltration Factor (Cultivated Land)*	0.1	0.1	N/A	N/A	0.1	N/A	0.1	N/A	N/A	0.1	N/A	0.1	N/A	0.1	0.1	0.1	N/A	0.1	N/A	0.1	0.1	0.1	0.1	0.1	0.1	0.1	N/A	N/A	
MOE Infiltration Factor	**0.6**	**0.6**	**N/A**	**N/A**	**0.6**	**N/A**	**0.6**	**N/A**	**N/A**	**0.6**	**N/A**	**0.6**	**N/A**	**0.6**	**0.6**	**0.6**	**N/A**	**0.6**	**N/A**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**N/A**	**N/A**	
Inputs (per unit area)																													
Precipitation (mm/year)**	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933
Total Inputs (m^3/year)	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933
Outputs (per unit area)																													
Precipitation Surplus (mm/year)	336	336	840	840	336	840	336	840	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	840	346
Net Surplus (mm/year)	336	336	840	840	336	840	336	840	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	840	346
Downspout Disconnection Retention	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration (mm/year)	597	597	0	93	597	93	597	93	93	597	93	597	93	597	93	597	93	597	93	597	93	597	93	597	93	597	93	93	158
Roof Evapotranspiration (mm/year)	0	0	93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Rooftop Runoff Lawn Evaporation (mm/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Evapotranspiration (mm/yr)	**597**	**597**	**93**	**93**	**597**	**93**	**597**	**93**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**93**	169
Infiltration (mm/year)	202	202	0	0	202	0	202	0	0	202	0	202	0	202	0	202	0	202	0	202	0	202	0	202	0	202	0	0	47
Rooftop Infiltration (mm/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mitigation (mm/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Infiltration (mm/year)	**202**	**202**	**0**	**0**	**202**	**0**	**202**	**0**	**0**	**202**	**0**	**202**	**0**	**202**	**0**	**202**	**0**	**202**	**0**	**202**	**0**	**202**	**0**	**202**	**0**	**202**	**0**	**0**	47
Runoff Pervious Area (mm/year)	134	134	0	0	134	0	134	0	0	134	0	134	0	134	0	134	0	134	0	134	0	134	0	134	0	134	0	0	31
Runoff Impervious Area (mm/year)	0	0	840	840	0	840	0	840	840	0	840	0	840	0	840	0	840	0	840	0	840	0	840	0	840	0	840	840	268
Total Runoff (mm/year)	**134**	**134**	**840**	**840**	**134**	**840**	**134**	**840**	**840**	**134**	**840**	**134**	**840**	**134**	**840**	**134**	**840**	**134**	**840**	**134**	**840**	**134**	**840**	**134**	**840**	**134**	**840**	**840**	299
Total Outputs (mm/year)	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	515
Difference (Inputs - Outputs)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Input Volumes																													
Precipitation (m^3/year)	9684	5214	27562	639	21432	1613	347	26	5831	5831	14573	6046	12456	4152	10636	3545	7207	2402	7487	2496	5458	1539	1789	731	5481	71584	1306	3831	**240901**
Total Inputs (m^3/year)	**9684**	**5214**	**27562**	**639**	**21432**	**1613**	**347**	**26**	**5831**	**5831**	**14573**	**6046**	**12456**	**4152**	**10636**	**3545**	**7207**	**2402**	**7487**	**2496**	**5458**	**1539**	**1789**	**731**	**5481**	**71584**	**1306**	**3831**	**240901**
Outputs (Volumes)																													
Precipitation Surplus (m^3/year)	3487	1878	24806	575	7718	1452	125	24	5248	2100	13116	2177	11210	1495	9573	1277	6487	865	6739	899	4912	554	1610	263	4933	25780	1176	3448	143926
Net Surplus (m^3/year)	3487	1878	24806	575	7718	1452	125	24	5248	2100	13116	2177	11210	1495	9573	1277	6487	865	6739	899	4912	554	1610	263	4933	25780	1176	3448	143926
Downspout Disconnection Retention (m^3/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration (m^3/year)	6196	3337	0	64	13714	161	222	3	583	3731	1457	3869	1246	2657	1064	2269	721	1537	749	1597	546	985	179	467	548	45805	131	383	94219
Roof Evapotranspiration (m^3/year)	0	0	2756	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2756
Rooftop Runoff Lawn Evaporation (m^3/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Evapotranspiration (m^3/year)	**6196**	**3337**	**2756**	**64**	**13714**	**161**	**222**	**3**	**583**	**3731**	**1457**	**3869**	**1246**	**2657**	**1064**	**2269**	**721**	**1537**	**749**	**1597**	**546**	**985**	**179**	**467**	**548**	**45805**	**131**	**383**	**96975**
Infiltration (m^3/year)	2092	1127	0	0	4631	0	75	0	0	1260	0	1306	0	897	0	766	0	519	0	539	0	333	0	158	0	15468	0	0	29171
Rooftop Infiltration (m^3/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mitigation (m^3/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Infiltration (m^3/year)	**2092**	**1127**	**0**	**0**	**4631**	**0**	**75**	**0**	**0**	**1260**	**0**	**1306**	**0**	**897**	**0**	**766**	**0**	**519**	**0**	**539**	**0**	**333**	**0**	**158**	**0**	**15468**	**0**	**0**	**29171**
Runoff Pervious Area (m^3/year)	1395	751	0	0	3087	0	50	0	0	840	0	871	0	598	0	511	0	346	0	360	0	222	0	105	0	10312	0	0	19448
Runoff Impervious Area (m^3/year)	0	0	24806	575	0	1452	0	24	5248	0	13116	0	11210	0	9573	0	6487	0	6739	0	4912	0	1610	0	4933	0	1176	3448	95307
Total Runoff (m^3/year)	**1395**	**751**	**24806**	**575**	**3087**	**1452**	**50**	**24**	**5248**	**840**	**13116**	**871**	**11210**	**598**	**9573**	**511**	**6487**	**346**	**6739**	**360**	**4912**	**222**	**1610**	**105**	**4933**	**10312**	**1176**	**3448**	**114754**
Total Outputs (m^3/year)	**9684**	**5214**	**27562**	**639**	**21432**	**1613**	**347**	**26**	**5831**	**5831**	**14573**	**6046**	**12456**	**4152**	**10636**	**3545**	**7207**	**2402**	**7487**	**2496**	**5458**	**1539**	**1789**	**731**	**5481**	**71584**	**1306**	**3831**	**240901**
Difference (Inputs - Outputs)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**

*Data based on MOE

**Precipitation and Evapotranspiration data based on Environment Canada-Barrie WPCC Station (1978-2006)

Project No: 4560- DiPoce-Barrie

2019-10-31

TABLE 3: WATER BUDGET - POST-DEVELOPMENT WITH MITIGATION
WATER BALANCE/WATER BUDGET ASSESSMENT

	Site																										
Catchment Designation	**Backyard**	**Front Lawn**	**Roofs**	**Front Porch**	**Park (93% Pervious)**	**Park (7% Impervious)**	**Service Corridor (93% Pervious)**	**Service Corridor (7% Impervious)**	**Pond (50% Impervious)**	**Pond (50% Pervious)**	**School (71% Impervious)**	**School (29% Pervious)**	**ROW-18m (75% Impervious)**	**ROW-18m (25% Pervious)**	**ROW- 24m (75% Impervious)**	**ROW-24m (25% Impervious)**	**Block 39 (75% Impervious)**	**Block 39 (25% Pervious)**	**Block 40 (75% Impervious)**	**Block 40 (25% Pervious)**	**Block 41 (75% Impervious)**	**Block 41 (25% Pervious)**	**Block 42 (71% Impervious)**	**Block 42 (29% Pervious)**	**Pipeline Coriddor + Undeveloped Lands (7% Impervious)**	**Pipeline Coriddor + Undeveloped Lands (93%Pervious)**	**Paths**	**Driveways**	**Total**
Area (m^2)	10379	5589	29541	684	22971	1729	372	28	6250	6250	15620	6480	13350	4450	11400	3800	7725	2575	8025	2675	5850	1650	1917	783	5875	76725	1400	4106	258200
Pervious Area (m^2)	10379	5589	0	0	22971	0	372	0	0	6250	0	6480	0	4450	0	3800	0	2575	0	2675	0	1650	0	783	0	76725	0	0	144699
Impervious Area (m^2)	0	0	29541	684	0	1729	0	28	6250	0	15620	0	13350	0	11400	0	7725	0	8025	0	5850	0	1917	0	5875	0	1400	4106	113501
Infiltration Factors																													
Topography Infiltration Factor (Rolling Land)*	0.2	0.2	N/A	N/A	0.2	N/A	0.2	N/A	N/A	0.2	N/A	0.2	N/A	0.2	0.2	0.2	N/A	0.2	0.2	0.2	N/A	0.2	0.2	0.2	0.2	0.2	N/A	N/A	
Soil Infiltration Factor (Silty to Sandy Glacial Till)*	0.3	0.3	N/A	N/A	0.3	N/A	0.3	N/A	N/A	0.3	N/A	0.3	N/A	0.3	0.3	0.3	N/A	0.3	0.3	0.3	N/A	0.3	0.3	0.3	0.3	0.3	N/A	N/A	
Land Cover Infiltration Factor (Cultivated Land)*	0.1	0.1	N/A	N/A	0.1	N/A	0.1	N/A	N/A	0.1	N/A	0.1	N/A	0.1	0.1	0.1	N/A	0.1	0.1	0.1	N/A	0.1	0.1	0.1	0.1	0.1	N/A	N/A	
MOE Infiltration Factor	**0.6**	**0.6**	**N/A**	**N/A**	**0.6**	**N/A**	**0.6**	**N/A**	**N/A**	**0.6**	**N/A**	**0.6**	**N/A**	**0.6**	**0.6**	**0.6**	**N/A**	**0.6**	**0.6**	**0.6**	**N/A**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**N/A**	**N/A**	
Inputs (per unit area)																													
Precipitation (mm/year)**	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933
Total Inputs (m^3/year)	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933	933
Outputs (per unit area)																													
Precipitation Surplus (mm/year)	336	336	840	840	336	840	336	840	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	840	557
Net Surplus (mm/year)	336	336	840	840	336	840	336	840	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	336	840	840	557
Downspout Disconnection Retention	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration (mm/year)	597	597	0	93	597	93	597	93	93	597	93	597	93	597	93	597	93	597	93	597	93	597	93	597	93	597	93	93	365
Roof Evapotranspiration (mm/year)	0	0	93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Rooftop Runoff Lawn Evaporation (mm/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Evapotranspiration (mm/yr)	**597**	**597**	**93**	**93**	**597**	**93**	**597**	**93**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**597**	**93**	**93**	**376**
Infiltration (mm/year)	202	202	0	0	202	0	202	0	0	202	0	202	0	202	0	202	0	202	0	202	0	202	0	202	0	202	0	0	113
Rooftop Infiltration (mm/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mitigation (Infiltration trenches) (mm/year)	0	0	0	0	0	220	0	0	0	0	220	0	0	0	0	0	220	0	220	0	220	0	220	0	0	0	0	0	35
Mitigation (Infiltration within the Pond)(mm/year)	0	0	278	278	0	278	0	278	278	0	278	0	278	0	278	0	0	0	0	0	0	0	0	0	278	0	278	278	97
Total Infiltration (mm/year)	**202**	**202**	**278**	**278**	**202**	**498**	**202**	**278**	**278**	**202**	**498**	**202**	**278**	**202**	**278**	**202**	**220**	**202**	**220**	**202**	**220**	**202**	**220**	**202**	**278**	**202**	**278**	**278**	**245**
Runoff Pervious Area (mm/year)	134	134	0	0	134	0	134	0	0	134	0	134	0	134	0	134	0	134	0	134	0	134	0	134	0	134	0	0	75
Runoff Impervious Area (mm/year)	0	0	562	562	0	342	0	562	562	0	342	0	562	0	562	0	620	0	620	0	620	0	620	0	562	0	562	562	237
Total Runoff (mm/year)	**134**	**134**	**562**	**562**	**134**	**342**	**134**	**562**	**562**	**134**	**342**	**134**	**562**	**134**	**562**	**134**	**620**	**134**	**620**	**134**	**620**	**134**	**620**	**134**	**562**	**134**	**562**	**562**	**313**
Total Outputs (mm/year)	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**	**933**
Difference (Inputs - Outputs)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Input Volumes																													
Precipitation (m^3/year)	9684	5214	27562	639	21432	1613	347	26	5831	5831	14573	6046	12456	4152	10636	3545	7207	2402	7487	2496	5458	1539	1789	731	5481	71584	1306	3831	**240901**
Total Inputs (m^3/year)	**9684**	**5214**	**27562**	**639**	**21432**	**1613**	**347**	**26**	**5831**	**5831**	**14573**	**6046**	**12456**	**4152**	**10636**	**3545**	**7207**	**2402**	**7487**	**2496**	**5458**	**1539**	**1789**	**731**	**5481**	**71584**	**1306**	**3831**	**240901**
Outputs (Volumes)																													
Precipitation Surplus (m^3/year)	3487	1878	24806	575	7718	1452	125	24	5248	2100	13116	2177	11210	1495	9573	1277	6487	865	6739	899	4912	554	1610	263	4933	25780	1176	3448	143926
Net Surplus (m^3/year)	3487	1878	24806	575	7718	1452	125	24	5248	2100	13116	2177	11210	1495	9573	1277	6487	865	6739	899	4912	554	1610	263	4933	25780	1176	3448	143926
Downspout Disconnection Retention (m^3/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Evapotranspiration (m^3/year)	6196	3337	0	64	13714	161	222	3	583	3731	1457	3869	1246	2657	1064	2269	721	1537	749	1597	546	985	179	467	548	45805	131	383	94219
Roof Evapotranspiration (m^3/year)	0	0	2756	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2756
Rooftop Runoff Lawn Evaporation (m^3/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Evapotranspiration (m^3/year)	**6196**	**3337**	**2756**	**64**	**13714**	**161**	**222**	**3**	**583**	**3731**	**1457**	**3869**	**1246**	**2657**	**1064**	**2269**	**721**	**1537**	**749**	**1597**	**546**	**985**	**179**	**467**	**548**	**45805**	**131**	**383**	**96975**
Infiltration (m^3/year)	2092	1127	0	0	4631	0	75	0	0	1260	0	1306	0	897	0	766	0	519	0	539	0	333	0	158	0	15468	0	0	29171
Rooftop Infiltration (m^3/year)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mitigation (Infiltration Trenches) (m^3/year)	0	0	0	0	0	380	0	0	0	0	3436	0	0	0	0	0	1700	0	1766	0	1287	0	422	0	0	0	0	0	8991
Mitigation (Infiltration within the SWM Pond) (m^3/year)	0	0	8212	190	0	481	0	8	1738	0	4342	0	3711	0	3169	0	0	0	0	0	0	0	0	0	1633	0	389	1142	25015
Total Infiltration (m^3/year)	**2092**	**1127**	**8212**	**190**	**4631**	**861**	**75**	**8**	**1738**	**1260**	**7779**	**1306**	**3711**	**897**	**3169**	**766**	**1700**	**519**	**1766**	**539**	**1287**	**333**	**422**	**158**	**1633**	**15468**	**389**	**1142**	**63177**
Runoff Pervious Area (m^3/year)	1395	751	0	0	3087	0	50	0	0	840	0	871	0	598	0	511	0	346	0	360	0	222	0	105	0	10312	0	0	19448
Runoff Impervious Area (m^3/year)	0	0	16593	384	0	591	0	16	3511	0	5337	0	7499	0	6403	0	4787	0	4973	0	3625	0	1188	0	3300	0	786	2306	61301
Total Runoff (m^3/year)	**1395**	**751**	**16593**	**384**	**3087**	**591**	**50**	**16**	**3511**	**840**	**5337**	**871**	**7499**	**598**	**6403**	**511**	**4787**	**346**	**4973**	**360**	**3625**	**222**	**1188**	**105**	**3300**	**10312**	**786**	**2306**	**80748**
Total Outputs (m^3/year)	**9684**	**5214**	**27562**	**639**	**21432**	**1613**	**347**	**26**	**5831**	**5831**	**14573**	**6046**	**12456**	**4152**	**10636**	**3545**	**7207**	**2402**	**7487**	**2496**	**5458**	**1539**	**1789**	**731**	**5481**	**71584**	**1306**	**3831**	**240901**
Difference (Inputs - Outputs)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**

*Data based on MOE

**Precipitation and Evapotranspiration data based on Environment Canada-Barrie WPCC Station (1978-2006)

TABLE 4: WATER BUDGET -SUMMARY TABLE

Characteristics	Site				
	Pre-development	Post-development	Change (Pre to Post)	Post-development with	Change (pre to post with mitigation)
Inputs (Volumes)					
Precipitation (m^3/year)	240901	240901	0%	240901	0.0%
Total Inputs (m^3/year)	240901	240901	0%	240901	0.0%
Outputs (Volumes)					
Precipitation surplus (m^3/year)	86755	143926	66%	143926	66%
Net Surplus (m^3/year)	86755	143926	66%	143926	66%
Total Evapotranspiration (m^3/year)	154145	96975	-37%	96975	-37%
Total Infiltration (m^3/year)	52053	29171	-44%	63177	21%
Total Runoff (m^3/year)	34702	114754	231%	80748	133%
Total Outputs (m^3/year)	240901	240901	0%	240901	0%

Total Infiltration req'd: **22882** **m^3/yr**
to match post to pre

Water Balance Mitigation Calculations

Pre Development Infiltration =	**52,053**	**m^3/y**
Post Development Infiltration without mitigation =	**29,171**	**m^3/y**
Post to Pre Deficit =	**22,882**	**m^3/y**
Mitigation Measures		
Top Soil Amendment =	**0**	**m^3/y**
Rooftop infilitration =	**0**	**m^3/y**
Infiltration Trench within the Park Block=	**380**	**m^3/y**
Infiltration Trench within the School Block=	**3,436**	**m^3/y**
Infiltration Trench within the SWM pond=	**25,015**	**m^3/y**
Infiltration Trench within the Block 39=	**1,700**	**m^3/y**
Infiltration Trench within the Block 40=	**1,766**	**m^3/y**
Infiltration Trench within the Block 41=	**1,287**	**m^3/y**
Infiltration Trench within the Block 42=	**422**	**m^3/y**
Mitgation Voulme Provided =	**34,006**	**m^3/y**
Deficit =	**-11,124**	**m^3/y**

In order to meet the annual pre-development infiltration deficit, the runoff from the site directed to infitlration trenches shall be equal to the annual deficit volume. Therefore,

Infiltration Trench within the SWM pond=

9.00 ha x Annual Precipitation Depth = 25,015 m^3/year

Required Annual Precpitation Depth to meet deficit = 278 mm/yr

A precipitation analysis (rainfall & snowfall) was conducted to estimate an event with sufficient precipitation that produces an annual runoff volume of 25016 m^3/year (or a total depth of annual rainfall equal to 278 mm)

The analysis was performed on daily precipitation data collected from Barrie from 1978 to 2006 by Environment Canada. The data was then arranged into four categories for each year: Total Annual Depth of Precipitation from events less than or equal to 5mm, 10mm, 15mm and 20mm. This yearly data was then used to determine an average annual precipitation depth.

Based on this analysis, it is concluded that precipitation events of depth less than or equal to *6.50 mm* will produce an annual amount of precipitation equal to 278 mm/yr

The total required infiltration trench volume is 6.5 mm x 9 ha x 10 = 585 m^3

Infiltration Trench within the Park Block=

0.17 ha x Annual Precipitation Depth = 380 m^3/year

Required Annual Precpitation Depth to meet deficit = 220 mm/yr

A precipitation analysis (rainfall & snowfall) was conducted to estimate an event with sufficient precipitation that produces an annual runoff volume of 381 m^3/year (or a total depth of annual rainfall equal to 220 mm)

The analysis was performed on daily precipitation data collected from Barrie from 1978 to 2006 by Environment Canada. The data was then arranged into four categories for each year: Total Annual Depth of Precipitation from events less than or equal to 5mm, 10mm, 15mm and 20mm. This yearly data was then used to determine an average annual precipitation depth.

Based on this analysis, it is concluded that precipitation events of depth less than or equal to *5.00 mm* will produce an annual amount of precipitation equal to 220 mm/yr

The total required infiltration trench volume is 5 mm x 0.17 ha x 10 = 8.6 m^3

Infiltration Trench within the School Block=

1.56 ha x Annual Precipitation Depth = 3,436 m^3/year

Required Annual Precpitation Depth to meet deficit = 220 mm/yr

A precipitation analysis (rainfall & snowfall) was conducted to estimate an event with sufficient precipitation that produces an annual runoff volume of 3437 m^3/year (or a total depth of annual rainfall equal to 220 mm)

The analysis was performed on daily precipitation data collected from Barrie from 1978 to 2006 by Environment Canada. The data was then arranged into four categories for each year: Total Annual Depth of Precipitation from events less than or equal to 5mm, 10mm, 15mm and 20mm. This yearly data was then used to determine an average annual precipitation depth.

Based on this analysis, it is concluded that precipitation events of depth less than or equal to *5.00 mm* will produce an annual amount of precipitation equal to 220 mm/yr

The total required infiltration trench volume is 5 mm x 1.56 ha x 10 = 78 m^3

Infiltration Trench within the Block 39=

0.77 ha x Annual Precipitation Depth = 1,700 m^3/year

Required Annual Precpitation Depth to meet deficit = 220 mm/yr

A precipitation analysis (rainfall & snowfall) was conducted to estimate an event with sufficient precipitation that produces an annual runoff volume of 1700 m^3/year (or a total depth of annual rainfall equal to 220 mm)

The analysis was performed on daily precipitation data collected from Barrie from 1978 to 2006 by Environment Canada. The data was then arranged into four categories for each year: Total Annual Depth of Precipitation from events less than or equal to 5mm, 10mm, 15mm and 20mm. This yearly data was then used to determine an average annual precipitation depth.

Based on this analysis, it is concluded that precipitation events of depth less than or equal to *5.00 mm* will produce an annual amount of precipitation equal to 220 mm/yr

The total required infiltration trench volume is 5 mm x 0.77 ha x 10 = 39 m^3

Infiltration Trench within the Block 40=

0.80 ha x Annual Precipitation Depth = 1,766 m^3/year

Required Annual Precpitation Depth to meet deficit = 220 mm/yr

A precipitation analysis (rainfall & snowfall) was conducted to estimate an event with sufficient precipitation that produces an annual runoff volume of 1766 m^3/year (or a total depth of annual rainfall equal to 220 mm)

The analysis was performed on daily precipitation data collected from Barrie from 1978 to 2006 by Environment Canada. The data was then arranged into four categories for each year: Total Annual Depth of Precipitation from events less than or equal to 5mm, 10mm, 15mm and 20mm. This yearly data was then used to determine an average annual precipitation depth.

Based on this analysis, it is concluded that precipitation events of depth less than or equal to *5.00 mm* will produce an annual amount of precipitation equal to 220 mm/yr

The total required infiltration trench volume is 5 mm x 0.8 ha x 10 = 40 m^3

Infiltration Trench within the Block 41=

0.59 ha x Annual Precipitation Depth = 1,287 m^3/year

Required Annual Precpitation Depth to meet deficit = 220 mm/yr

A precipitation analysis (rainfall & snowfall) was conducted to estimate an event with sufficient precipitation that produces an annual runoff volume of 1287 m^3/year (or a total depth of annual rainfall equal to 220 mm)

The analysis was performed on daily precipitation data collected from Barrie from 1978 to 2006 by Environment Canada. The data was then arranged into four categories for each year: Total Annual Depth of Precipitation from events less than or equal to 5mm, 10mm, 15mm and 20mm. This yearly data was then used to determine an average annual precipitation depth.

Based on this analysis, it is concluded that precipitation events of depth less than or equal to *5.00 mm* will produce an annual amount of precipitation equal to 220 mm/yr

The total required infiltration trench volume is 5 mm x 0.59 ha x 10 = 29 m^3

Infiltration Trench within the Block 42=

0.19 ha x Annual Precipitation Depth = 422 m^3/year

Required Annual Precpitation Depth to meet deficit = 220 mm/yr

A precipitation analysis (rainfall & snowfall) was conducted to estimate an event with sufficient precipitation that produces an annual runoff volume of 422 m^3/year (or a total depth of annual rainfall equal to 220 mm)

The analysis was performed on daily precipitation data collected from Barrie from 1978 to 2006 by Environment Canada. The data was then arranged into four categories for each year: Total Annual Depth of Precipitation from events less than or equal to 5mm, 10mm, 15mm and 20mm. This yearly data was then used to determine an average annual precipitation depth.

Based on this analysis, it is concluded that precipitation events of depth less than or equal to *5.00 mm* will produce an annual amount of precipitation equal to 220 mm/yr

The total required infiltration trench volume is 5 mm x 0.19 ha x 10 = 10 m^3

	Rainfall Depth					
Year	≤5mm	≤10mm	≤15mm	≤20mm	≤25mm	≤50mm
1978	157	375	524	599	715	967
1979	201	429	604	703	815	1032
1980	210	403	530	697	788	854
1981	208	383	589	659	726	975
1982	209	445	627	715	852	954
1983	174	408	610	664	688	875
1984	182	329	587	727	822	980
1985	208	484	612	749	891	990
1986	227	466	614	702	727	1015
1987	141	359	500	673	785	916
1988	213	477	621	706	773	1131
1989	168	407	612	719	789	845
1990	254	438	608	714	786	860
1991	215	402	572	657	704	770
1992	225	432	544	707	729	821
1993	174	436	604	800	892	919
1994	197	452	626	693	740	802
1995	221	458	577	734	878	1122
1996	205	441	617	790	877	1050
1997	211	502	628	715	783	855
1998	196	336	433	559	628	864
1999	186	324	401	483	575	639
2000	215	467	527	611	768	1023
2001	185	498	656	692	804	928
2002	200	403	557	664	707	883
2003	198	531	659	797	935	1028
2004	187	465	654	776	863	934
2005	178	419	504	543	613	1163
2006	175	391	524	633	703	876
AVERAGE	**197**	**426**	**577**	**685**	**771**	**933**

########

Precipitation Depth (mm)	Annual Precipitation (mm/year)
5	197
10	426
15	577
20	685
25	771
50	933

y = -0.5122 x^2 + 43.943 x + 13.584

Precipitation Depth	Annual Precipitation (Based on Eqn above)
5	220
10	402
15	557
20	688
25	792
50	930

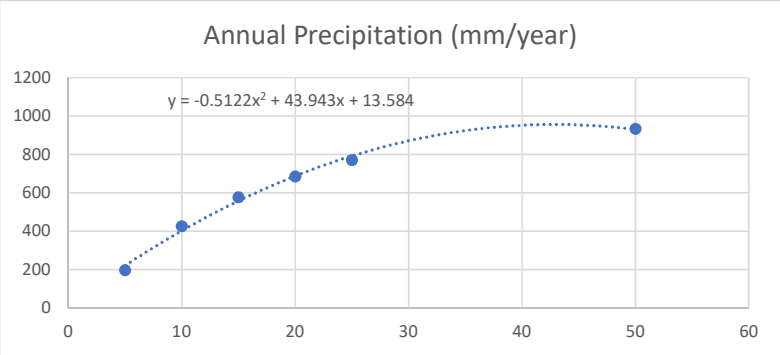


Table 1: Average Monthly Temperature

Monthly Average Temperature Calculation Based on Data from Environment Canada Barrie Station (˚C)												
Month/Year	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
1978	-9.4	-10.8	-4.7	2.8	13.1	16.5	20.6	19.8	14.4	8.2	2.6	-3.6
1979	-9.7	-12.3	0.3	4.3	11.1	17.8	20.4	18.6	15.3	8	4.2	-2.2
1980	-6.3	-9.7		5.5	13.2	14.8	20.1	20.9	14.5	6.3	1.2	-8.3
1981	-12.5	-3	-1	7	11.5	17.2	20.7	19.5	14.1	6.4	2.5	-3.9
1982	-11.6	-8.7	-4	3.4	14.1	15.1	20.4	16.4	14.4	9.2	3.3	-0.3
1983	-6.2	-5.2	-1.4	4.6	9.4	18	21.3	20.9	16	8.9	1.8	-7.6
1984	-11.9	-3.7	-6.8	6.1	9.5	17.8	19.4	20.3	13.3	9.9	2.5	-1.2
1985	-10	-6.9	-1.6	6.3	12.6	15.5	19.2	18.8	16.3	9.4	2.3	-5.5
1986	-8	-8.4	-1.1	7.2	14.1	16.1	20.3	18.1	14.3	8.4	0.7	-2.3
1987	-6.1	-7	0.1	8.3	13.5	18.4	22.1	19.4	15.7			
1988*						17.2	22.5	21	15	6.5	3.9	-4.4
1989	-4.2	-8.3	-4.7	3.7	12.2	18.2	21.6	19.2	15.2	9.2	0.5	-12.5
1990	-2.5	-5.8	-1	7.1	11.1	17.8	20.4	20.2	14.8	8.4	4.1	-2.5
1991	-8	-5.1	-0.8	7.5	15.8	19.7	21	20.9	14.5	9.5	1.6	-4
1992	-7	-6.4	-3.6	4.1	12.1	16	17.3	17.4	14.5	6.4	2	-2.8
1993	-6.1	-11.6	-4.6	4.9	11.4	16.3	20.8	20.5	12.8	7.1	1.9	-4.1
1994	-15.1	-10.7	-3	6	10.8	18.4	20.7	18	15.4	9.4	4.3	-1.5
1995	-4.8	-9.8	0.1	2.6	12.4	19.8	20.9	21.5	13.5	10.2	-0.4	-7
1996	-9.3	-7.6	-4.6	3.2	11.1	18.2	19.2	20.4	15.6	8.7	0	-1.4
1997	-8.6	-5.6	-3.8	4.1	8.9	19.4	20	17.8	14.5	8.3	1.7	-2
1998	-4.5	-2.6	-0.3	6.8	16.1	18.3	20.6	20.6	16.3	9.7	3.8	-0.6
1999	-8.3	-4.3	-1.7	6.5	14.8	19.7	22.6	18.8	16.3	8.2	4.3	-2
2000	-7.2	-4.2	3	5.5	13.2	17.7	19.6	19.5	15.3	10.3	2.6	-7.8
2001	-5.1	-4.9	-2.2	6.7	14.5	19	20.3	22.1	15.4	9.8	6.6	0.9
2002	-1.5	-2.8	-0.9	6.7	10.5	18.6	23.1	21.3	18.7	7.7	2	-3.4
2003	-10.4	-11.1	-3.3	3.2	11.4	17.7	20.7	21.3	15.8	8	3.8	-1.9
2004	-11.9	-6.4	0.3	6	12.1	16.7	20.3	18	17.9	9.1	3.7	-5.4
2005	-8.8	-7.4	-3.9	6	11.1	21.1	22.9	21.4	18.1	11	3.8	-4.3
2006	-2.4	-7	6.1	7.2	13.5	18.5	22.7	20.4	14.5	8	4.7	0.9
Average	**-7.8**	**-7.0**	**-1.8**	**5.5**	**12.3**	**17.8**	**20.7**	**19.8**	**15.3**	**8.6**	**2.7**	**-3.6**

Table 2: Average Monthly Precipitation

Monthly Average Precipitation Calculation Based on Data from Environment Canada Barrie Station (mm)												
Month/Year	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
1978	306	41.8	20	50.5	81.4	66.7	29.6	113.5	87.4	73.3	35.4	126.2
1979	154.8	57	6.7	85.2	75.2	72.1	25.4	81.5	41.4	146.4	91.4	76.5
1980	47.8	19.4	65	86.2	29.7	92.4	166.3	39.4	77.1	91.6	40.6	173.6
1981	101.4	58.7	41.1	49.9	94.5	71.6	57.7	126.3	76.7	83.9	73.4	47.3
1982	148.1	35.9	70.8	45.3	46.8	119.8	68.7	98.3	68.1	45.6	103.9	102.9
1983*		34		78.8		26	61.2	59.6	76.9	80.8	85.5	84.6
1984	55.4	73.1	129.6	51.9	95.3	44.8	40.8	83.6	117.7	43.1	65.4	79.5
1985	167.7	106.1	56.2	52.7	86.9	44.3	92.8	159.1	62.9	74.8	97.2	40.2
1986	62.9	55.2	45.5	66.7	92.8	97	76.1	124.9	303	76.8	40.6	53
1987	47.2	23.6	79.4	40.4	59.2	126.6	145	80.2	67	86.6	101	59.4
1988	53	118.2	24.6	60	73	27.4	87.3	91.8	126.6	118.2	68.6	76
1989	55	31	48	28.6	117.2	89.2	2.8	96.4	75.1	90.3	120.2	91
1990	40	47	60.2	51.8	87.8	81.2	66.4	35	105.2	108.4	90.2	86.6
1991	43.4	33.8	62.4	124.8	70.4	35	114	36	58.2	65.6	57	69.2
1992	47.3	41	37.6	60.1	55.3	32.6	86.3	106.5	95.7	53.4	125.2	87.8
1993	134.4	68.6	35	75.2	80.2	93.3	71.2	76.6	122.8	61.3	63.2	36.7
1994	106.4	44.9	34.4	55.8	105	59	48.6	74	88.8	57.8	69	58
1995	105.3	69.1	30.6	91.2	57.2	132	113.3	158	63.7	130.9	194.8	150.4
1996	69.2	47	73.4	114.8	76.8	102.2	117.6	68.2	187.4	88.4	65.5	95.5
1997	127	90.8	86.5	47.8	83	93.1	28.4	91.6	56	67.7	49.6	33.5
1998	95.9	40.6	101.2	50.4	38.5	89.1	28	162.2	91.7	32.8	58.7	64
1999	87.6	29.8	23	23.8	60.4	146.9	105.7	68.8	97.9	75.8	111.4	44.1
2000	43.6	47.8	61.1	57	133	219.5	53.8	97.2	94.9	27.9	108.5	175.6
2001	43.2	116.7	49.2	35.4	100.1	85.6	41.7	61.4	85.6	157.6	73.2	78.4
2002	36.5	96	79.8	91.5	127.8	73	64.2	83.4	53.2	66.4	63	48.5
2003	85.5	73.5	55.5	48.5	81.3	61.3	90.7	170.6	76.6	104.6	148.4	91.1
2004	176.5	45	80.5	41.7	147.4	43.3	151.8	39.8	39.4	56.2	80.7	86
2005	56	56.4	28.8	107.5	34.3	124.4	60.2	49.9	81.8	38.2	107.1	51
2006	75	123	3	66.4	55.2	87.1	133.6	38.4	70.1	122.6	66.3	35.3
Average	**91.9**	**59.5**	**53.2**	**63.4**	**80.2**	**84.0**	**76.9**	**88.7**	**91.3**	**80.2**	**84.7**	**79.4**

**Precipitation and Evapotranspiration data based on Environment Canada-Barrie WPCC Station (1978-2006)

Table 3: CLIMATIC WATER BUDGET: CLIMATE 1978-2006 (BARRIE WPCC Station)
Potential Evapotranspiration

	Table 3: Thornthwaite (1948)							
Month	T Mean Temperature (ºC)	I Heat Index	E Potential Evapo-transpiration (mm)	Daylight Correction Value	Adjusted Potential Evapo-transpiration (mm)	P Total Precipitation (mm)	S Surplus (mm)	D Deficit (mm)
January	-10.40	0.00	0.00	0.81	0.00	91.86	91.86	
February	-11.10	0.00	0.00	0.81	0.00	59.48	59.48	
March	-3.30	0.00	0.00	1.02	0.00	53.18	53.18	
April	3.20	0.51	13.95	1.13	15.72	63.44	47.72	
May	11.40	3.48	55.04	1.27	70.11	80.20	10.09	
June	17.70	6.78	88.53	1.28	113.65	84.02	0.00	29.63
July	20.70	8.59	104.84	1.30	136.69	76.87	0.00	59.82
August	21.30	8.97	108.13	1.21	130.33	88.70	0.00	41.63
September	15.80	5.71	78.31	1.04	81.44	91.34	9.90	
October	8.00	2.04	37.54	0.94	35.41	80.24	44.83	
November	3.80	0.66	16.80	0.80	13.38	84.66	71.28	
December	-1.90	0.00	0.00	0.76	0.00	79.38	79.38	
Total		36.74			597	933		131.09

Total Water Surplus = **337**

Notes:

1. Average values of precipitation and temperature were used (see the attached calculations, Table 1)
2. Water budget adjusted for latitude and daylight
3. Mean temperature (ºC) represents calculated mean of day temperature for the month
4. Precipitation and temperature data from Environment Canada Richmond Hill Station, located at Barrie WPCC Latitude 44°22'33.012" N, Longitude 79°41'23.010" W, Elevation 221.00 masl Which is the closest station
5. Total Water Surplus (Thornthwaite 1948) is calculated as total precipitation minus adjusted potential evapotranspiration
6. Heat Index, $I = (T/5)^{1.514}$
7. Potential Evapotranspiration (mm), $E = 16.2x(10xT/I_{total})^{a}$ when $T < 0.0$ ºC $E = 0.0$ when $T < 0.0$ ºC
8. Empirical Exponent $a = 0.675 \times 10^{-6} x (I_{total})^{3} - 0.771 \times 10^{-4} \times (I_{total})^{2} + 0.1792 \times 10^{-1} \times (I_{total}) + 0.49239$

a = 1.080209

	Northern Latitude	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	**0°**	1.04	0.94	1.04	1.01	1.04	1.01	1.04	1.04	1.01	1.04	1.01	1.04
10	**10°**	1.00	0.91	1.03	1.03	1.08	1.06	1.08	1.07	1.02	1.02	0.98	0.99
20	**20°**	0.95	0.90	1.03	1.05	1.13	1.11	1.14	1.11	1.02	1.00	0.93	0.94
30	**30°**	0.90	0.87	1.03	1.08	1.18	1.17	1.20	1.14	1.03	0.98	0.89	0.88
35	**35°**	0.87	0.85	1.03	1.09	1.21	1.21	1.23	1.16	1.03	0.97	0.86	0.85
40	**40°**	0.84	0.83	1.03	1.11	1.24	1.25	1.27	1.18	1.04	0.96	0.83	0.81
45	**45°**	0.80	0.81	1.02	1.13	1.28	1.29	1.31	1.21	1.04	0.94	0.79	0.75
50	**50°**	0.74	0.78	1.02	1.15	1.33	1.36	1.37	1.25	1.06	0.92	0.76	0.70

	Between 40-45												
Latitude	44.22	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
		0.80624	0.81312	1.02156	1.12688	1.27376	1.28376	1.30376	1.20532	1.04	0.94312	0.79624	0.75936

QUALITY CONTROL

2019-10-29

DiPoce
WATER QUALITY REQUIREMENT CALCULATIONS
Permanent Pool Treatment - SWM Pond H [OPTION 1]

MOE SWM Planning & Design Manual Table 3.2: Water Quality Storage Requirements Based on Receiving Waters

Protection Level	SWMP Type	Storage Volume (m^3/ha) for Impervious Level					
		0%	35%	55%	70%	85%	100%
Normal	Wet Pond	40	90	110	130	150	150

* For wet ponds, all of the storage, except for 40 m^3/ha represents the permanent pool volume.
The 40 m^3/ha represents extended detention storage.

Input:

Estimated Imperviousness =	58%	
Area* =	15.36	ha
Level of Protection:	Normal	(70% TSS Removal)

Calculation:

Total Storage Volume Required =	114	m^3/ha →	1,751	m^3
Permanent Pool Volume =	74	m^3/ha →	**1,137**	m^3
Active Storage Volume =	40	m^3/ha →	614	m^3

2019-10-29

DiPoce
WATER QUALITY REQUIREMENT CALCULATIONS
Permanent Pool Treatment - SWM Pond H [OPTION 2 & 3]

MOE SWM Planning & Design Manual Table 3.2: Water Quality Storage Requirements Based on Receiving Waters

Protection Level	SWMP Type	Storage Volume (m^3/ha) for Impervious Level					
		0%	35%	55%	70%	85%	100%
Enhanced	Wet Pond	40	140	190	225	250	110

* For wet ponds, all of the storage, except for 40 m^3/ha represents the permanent pool volume.
The 40 m^3/ha represents extended detention storage.

Input:

Estimated Imperviousness =	58%	
Area* =	15.36	ha
Level of Protection:	Enhanced	(80% TSS Removal)

Calculation:

Total Storage Volume Required =	197	m^3/ha →	3,026	m^3
Permanent Pool Volume =	157	m^3/ha →	**2,412**	m^3
Active Storage Volume =	40	m^3/ha →	614	m^3

Project No.: 4560
Project Name: DiPoce (Innisfil) Inc. Development
WATER QUALITY REQUIREMENT CALCULATIONS
Infiltration Treatment - SWM Pond H

MOE SWM Planning & Design Manual Table 3.2: Water Quality Storage Requirements Based on Receiving Waters

Protection Level	SWMP Type	Storage Volume (m^3/ha) for Impervious Level					
		0%	35%	55%	70%	85%	100%
Normal	Infiltration	20	20	20	25	30	40

* For wet ponds, all of the storage, except for 40 m^3/ha represents the permanent pool volume. The 40 m^3/ha represents extended detention storage.

Input:

Estimated Imperviousness = 58%
Area* = 16.39 ha
Level of Protection: Normal
SWMP Type : Wet Pond

Calculation:

Permanent Pool Volume = 21 m^3/ha → **344** m^3

Printed 29-Oct-19

VOLUME CONTROL

Project No.: 4560
Project Name: DiPoce (Innisfil) Development
Location: City of Barrie

TIMP CALCS FOR VOLUME CONTROL

Interim Condition

	Area	TIMP	XIMP
Catchment 200+206	14.43	58%	58%
Catchment 201	1.03	75%	75%
Catchment 208E	8.1	7%	7%
Catchment 209E	0.93	50%	50%
TOTAL	24.49	42%	42%

Ultimate Condition (Development of Site Plan 208)

	Area	TIMP	XIMP
Catchment 200+206	14.43	58%	58%
Catchment 201	1.03	75%	75%
Catchment 209E	0.93	50%	50%
TOTAL	16.39	59%	59%

Printed 29-Oct-19

Project No.: 4560
Project Name: Di Poce (Innisfil) Inc. Development
Location: City of Barrie

SCHAEFFERS CONSULTING ENGINEERS

Volume Control Requirement Calculation

Interim Condition - SWM Pond Option 1

Information:

Estimated Imperviousness =	42%		
Area* =	24.49	ha	
Retained Storm Event =	12.5	mm	
Infiltration Rate =	55	mm/hr	**Based on the latest in-situ testing conducted by RJ Burnside in October 2019. Please Refer to Appendix A for the Hydrogeology Report.*
Safety Factor =	2.5		
Available Infil. Footprint Area =	2463.613	m^2	

Calculation:

Volumetric Control Requirement =	1285.725	m^3
Infiltration Flux =	54.20	m^3/hr
Drawdown Time =	23.72	hours

Ultimate Condition (Development of Site Plan 208) - SWM Pond Option 1

Information

Estimated Imperviousness =	59%		
Area* =	16.39	ha	
Retained Storm Event =	12.5	mm	
Infiltration Rate =	55.0	mm/hr	**Based on the latest in-situ testing conducted by RJ Burnside in October 2019. Please Refer to Appendix A for the Hydrogeology Report.*
Safety Factor =	2.5		
Available Infil. Footprint Area =	2463.613	m^2	

Calculation:

Volumetric Control Requirement =	1208.7625	m^3
Infiltration Flux =	54.20	m^3/hr
Drawdown Time =	22.302	hours

Project No.: 4560
Project Name: Di Poce (Innisfil) Inc. Development
Location: City of Barrie

SCHAEFFERS
CONSULTING ENGINEERS

Volume Control Requirement Calculation

Interim Condition - SWM Pond Option 2

Information:

Estimated Imperviousness =	42%	
Area* =	24.49	ha
Retained Storm Event =	12.5	mm
Infiltration Rate* =	55	mm/hr
Safety Factor =	2.5	
Available Infil. Footprint Area =	964.377	m^2

**Based on the average 40 mm/hr to 70 mm/hr latest in-situ testing conducted by RJ Burnside in October 2019. Please Refer to Appendix A for the Hydrogeology Report.*

Calculation:

Volumetric Control Requirement =	1285.725	m^3
Infiltration Flux =	21.22	m^3/hr
Drawdown Time =	60.60	hours

Ultimate Condition (Development of Site Plan 208)

Information

Estimated Imperviousness =	59%	
Area* =	16.39	ha
Retained Storm Event =	12.5	mm
Infiltration Rate =	55.0	mm/hr
Safety Factor =	2.5	
Available Infil. Footprint Area =	964.377	m^2

Calculation:

Volumetric Control Requirement =	1208.7625	m^3
Infiltration Flux =	21.22	m^3/hr
Drawdown Time =	56.973	hours

Project No.: 4560
Project Name: Di Poce (Innisfil) Inc. Development
Location: City of Barrie

SCHAEFFERS CONSULTING ENGINEERS

Volume Control Requirement Calculation

Interim Condition - SWM Pond Option 2

Information:

Estimated Imperviousness =	42%	
Area* =	24.49	ha
Retained Storm Event =	6.5	mm
Infiltration Rate* =	55	mm/hr
Safety Factor =	2.5	
Available Infil. Footprint Area =	510.172	m^2

Calculation:

Volumetric Control Requirement =	668.577	m^3
Infiltration Flux =	11.22	m^3/hr
Drawdown Time =	59.57	hours

Ultimate Condition (Development of Site Plan 208)

Information

Estimated Imperviousness =	59%	
Area* =	16.39	ha
Retained Storm Event =	6.5	mm
Infiltration Rate =	55.0	mm/hr
Safety Factor =	2.5	
Available Infil. Footprint Area =	1500	m^2

**Based on the average 40 mm/hr to 70 mm/hr latest in-situ testing conducted by RJ Burnside in October 2019. Please Refer to Appendix A for the Hydrogeology Report.*

Calculation:

Volumetric Control Requirement =	628.5565	m^3
Infiltration Flux =	33.00	m^3/hr
Drawdown Time =	19.047	hours

FOREBAY SIZING

PROJECT NO: *4560*
DESCRIPTION: *DI POCE (INNISFIL) INC. DEVELOPMENT*
DATE: *Dec-18*

SCHAEFFERS
CONSULTING ENGINEERS

FOREBAY SETTLING LENGTH

ref: SWM Planning & Design Manual (MOE, March 2003)

$Dist = (rQ_p / V_s)^{1/2}$, where

Dist = forebay length (m)
r = Length to width ratio of forebay (>2:1)
Q_p = peak flowrate from the pond during design quality storm (m^3/s)
V_s = settling velocity in the forebay (m/s)

r =	2		(2:1)
Q_p =	0.044	m^3/s	(required erosion outflow rate)
V_s =	0.0003	m	(based on 150μm particles)

Dist = 17 metres

DISPERSION LENGTH

ref: SWM Planning & Design Manual (MOE, March 2003)

$D = 8Q / dV_f$, where

D = length of dispersion (m)
Q = 10 year inlet flowrate (m^3/s)
d = depth of permanent pool in forebay (m)
V_f = desired velocity in the forebay (m/s)

Q =	2.996	m^3/s	(from hydrologic model)
d =	1.50	m	
V_f =	0.5	m/s	(MOEE empirical value)

Dist = 32 m

Forebay Length Required: 32 metres
Forebay Length Provided: 39 metres

PHOSPHORUS BUDGET

Development Export Summary

Development :4560 - DiPoce Inc. Properties- Residential Development

Updated : Sept 2014

Pre-Development Phosphorus Export

DEVELOPMENT : 4560 - DiPoce Inc. Properties- Residential Development

Landuse		Area (ha)	P coeff (kg/ha)	Pload (kg/yr)
Agricultural				
Cropland	ROW Crop NVCA- Catchment 1	0.87		0.14
Cropland	ROW Crop NVCA- Catchment 1	1.04		0.17
Cropland	ROW Crop NVCA- Catchment 1	11.98		1.93
	Agricultural Land use Class Total :	**13.89**		**2.24**
Natural Heritage				
Forest		0.27	0.06	0.02
Forest		1.19	0.06	0.07
Transition		0.28	0.07	0.02
Transition		0.34	0.07	0.02
Transition		0.76	0.07	0.05
Transition		1.32	0.07	0.09
Wetland		0.05	0.05	
Wetland		0.14	0.05	0.01
	Natural Heritage Land use Class Total :	**4.35**		**0.28**
	Development Total :	**18.24**		**2.52**

Updated : Sept 2014

Cropland Site Sediment & Phosphorus Pre-Development Export

DEVELOPMENT : 4560 - DiPoce Inc. Properties- Residential Development

COLOUR KEY : Site Specific Input | Constant / Lookup | Calculation

SubArea : ROW Crop NVCA- Catchment 200+206

Slope Area (ha)	11.98	R (rainfall / runoff for Lake Simcoe)	120.00
Surface Slope Gradient (%)	3.88	K (soil errodability factor)	0.04
Length of Slope (m)	339.00	NN (determined by slope)	0.40
Cropt Type Factor)	0.02	LS (slope length gradient factor)	1.01
Tillage Type Factor	0.25	C (crop management factor)	0.01
		P (prevention + capture)	0.25
		Soil Loss (kg/year)	0.01
		Phosphorus export (kg/ha/yr)	0.16
		Phosphorus load (kg/yr)	1.93

SubArea : ROW Crop NVCA- Catchment 201

Slope Area (ha)	1.04	R (rainfall / runoff for Lake Simcoe)	120.00
Surface Slope Gradient (%)	2.81	K (soil errodability factor)	0.04
Length of Slope (m)	98.00	NN (determined by slope)	0.30
Cropt Type Factor)	0.02	LS (slope length gradient factor)	0.38
Tillage Type Factor	0.25	C (crop management factor)	0.01
		P (prevention + capture)	0.25
		Soil Loss (kg/year)	0.00
		Phosphorus export (kg/ha/yr)	0.16
		Phosphorus load (kg/yr)	0.17

SubArea : ROW Crop NVCA- Catchment 202

Slope Area (ha)	0.87	R (rainfall / runoff for Lake Simcoe)	120.00
Surface Slope Gradient (%)	4.44	K (soil errodability factor)	0.04
Length of Slope (m)	144.00	NN (determined by slope)	0.40
Cropt Type Factor)	0.02	LS (slope length gradient factor)	0.84
Tillage Type Factor	0.25	C (crop management factor)	0.01
		P (prevention + capture)	0.25
		Soil Loss (kg/year)	0.01
		Phosphorus export (kg/ha/yr)	0.16
		Phosphorus load (kg/yr)	0.14

PRE Developed Area (ha) :	**13.89**
Phosphorus export (kg/ha/yr) :	**0.48**
Phosphorus load (kg/yr) :	**2.24**

Updated : Sept 2014

Post-Development Phosphorus Export

DEVELOPMENT : 4560 - DiPoce Inc. Properties- Residential Development

Landuse	Area (ha)	P coeff (kg/ha)	Pload (kg/yr)
Natural Heritage			
Open Water	1.25	0.26	0.33
Turf/Sod	0.04	0.11	
Turf/Sod	2.47	0.11	0.27
Natural Heritage Land use Class Total :	**3.76**		**0.60**
Urban			
Commercial	0.27	0.20	0.05
Commercial	2.20	0.20	0.44
Residential	0.78	0.41	0.32
Residential	0.96	0.41	0.39
Residential	1.03	0.41	0.42
Residential	1.07	0.41	0.44
Residential	4.07	0.41	1.67
Transportation	0.14	0.50	0.07
Transportation	1.52	0.50	0.76
Transportation	1.78	0.50	0.89
Urban Land use Class Total :	**13.82**		**5.45**
Development Total :	**17.58**		**6.05**

Updated : Sept 2014

Cropland Site Sediment & Phosphorus Post-Development Export

DEVELOPMENT : 4560 - DiPoce Inc. Properties- Residential Development

COLOUR KEY : Site Specific Input | Constant / Lookup | Calculation

SubArea :

Slope Area (ha)	R (rainfall / runoff for Lake Simcoe)
Surface Slope Gradient (%)	K (soil errodability factor)
Length of Slope (m)	NN (determined by slope)
Cropt Type Factor)	LS (slope length gradient factor)
Tillage Type Factor	C (crop management factor)
	P (prevention + capture)
	Soil Loss (kg/year)
	Phosphorus export (kg/ha/yr)
	Phosphorus load (kg/yr)

PRE Developed Area (ha) :

Phosphorus export (kg/ha/yr) :

Phosphorus load (kg/yr) :

Updated : Sept 2014

Post Dev BMP

Area (ha)	Treated Area %	P coefficient	P coefficient	P Load Reduction (kg/yr)	Rationale
Best Management Practices (BMP) Applied (and Rationale)					
Transportation					
3.30	100	0.50	91 %	1.50	Row 18m & 24m:Trea tment Train Approach- Jellyfish Units (50%) --> SWM Pond (55%) --> Infiltration in SWM Pond (60%) --> Overall a 91% efficiency achieved (Calculations
User Entry					
Residential					
0.98	100	0.41	91 %	0.37	7 m Lots: Townhouse Front Yards- Treatment Train Approach- Jellyfish Units (50%) --> SWM Pond (55%) --> Infiltration in SWM Pond (60%) --> Overall a 91% efficiency
User Entry					
Open Water					
1.25	100	0.26	82 %	0.27	SWM Pond: Treatment Train Approach --> SWM Pond (55%) --> Infiltration in SWM Pond (60%) --> Overall a 82% efficiency achieved (Calculations attached)
User Entry					
Transportation					
0.09	100	0.50	91 %	0.04	Paths: Treatment Train Approach- Jellyfish Units (50%) --> SWM Pond (55%) --> Infiltration in SWM Pond (60%) --> Overall a 91% efficiency achieved (Calculations
User Entry					
Commercial					
2.21	100	0.20	82 %	0.36	School: Treatment Train Approach- SWM Pond (55%) --> Infiltration in SWM Pond (60%) --> Overall a 82% efficiency achieved (Calculations Attached)
User Entry					
Turf/Sod					
2.48	100	0.11	82 %	0.22	Park: Treatment Train Approach- SWM Pond (55%) --> Infiltration in SWM Pond (60%) --> Overall a 82% efficiency achieved (Calculations Attached) 55
User Entry					
Turf/Sod					
0.04	100	0.11	91 %		Service Corridor: Treatment Train Approach- Jellyfish Untis (50%)--> SWM Pond (55%) --> Infiltration in SWM Pond (60%) --> Overall a 91% efficiency achieved (Calculations
User Entry					
Residential					
4.15	100	0.41	91 %	1.55	7 m Lots: Rooftops and Backyards- Treatment Train Approach- Jellyfish Units (50%) --> SWM Pond (55%) --> Infiltration in SWM Pond (60%) --> Overall a 91%
User Entry					

Residential					
1.54	100	0.41	60 %	0.38	Medium Density- Block 40: Treatment Train approach - Infiltration within Site (60%)
Soakaways - Infiltration Trenches					

Residential					
1.04	100	0.41	60 %	0.26	Medium Density- Block 39: Treatment Train approach - Infiltration within Site (60%)
Soakaways - Infiltration Trenches					

Residential					
0.88	100	0.41	60 %	0.22	Medium Density- Block 41: Treatment Train approach - Infiltration within Site (60%)
Soakaways - Infiltration Trenches					

Commercial					
0.28	100	0.20	60 %	0.03	Commercial Block 42: Treatment Train approach - Infiltration within Site (60%)
Soakaways - Infiltration Trenches					

Updated : Sept 2014

Development Area P and BMP Summary

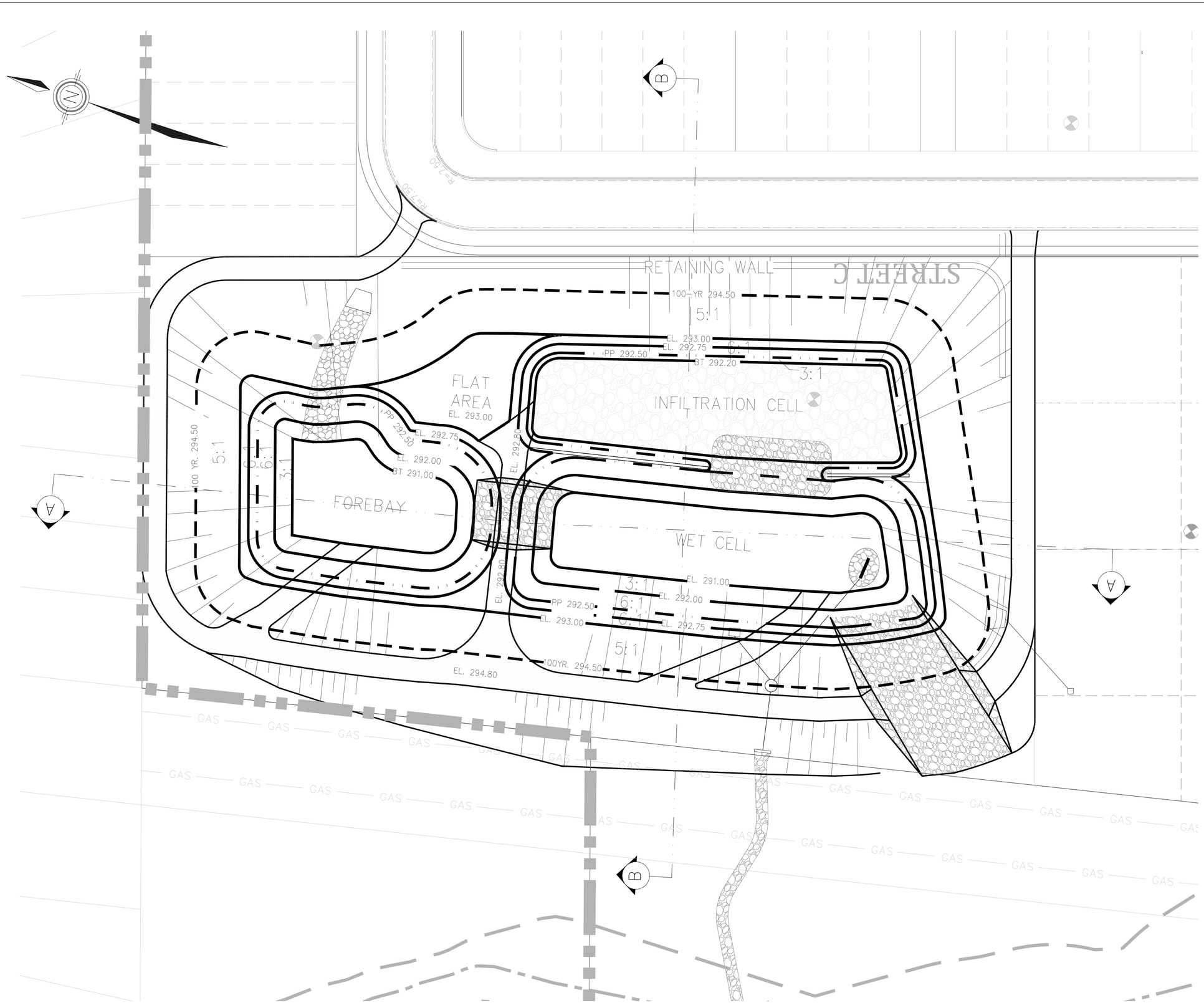
Total PreDevelopment Area (ha):	18.24
PreDevelopment Area excluding Wetlands (ha):	18.05
Total PostDevelopment Area (ha):	17.58
Total Area treated by BMP's (ha):	18.24
Treated Area total:	18.24
Total PreDevelopment Load (kg/yr):	2.52
Total PostDevelopment Load (kg/yr):	6.05
Total P Load Reduction with BMP's (kg/yr):	5.20
Minimum P Load Reduction Required:	3.53
Total PostDevelopment Load with BMP's (kg/yr)	0.85

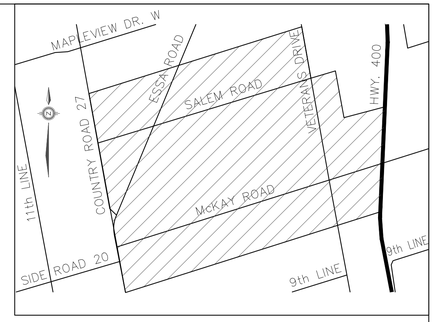
Conclusion : No Net Increase in P Load.

Updated : Sept 2014

Post Dev Construction

SWM POND OPTION 2





REVISIONS

No.	DESCRIPTION	By	Date

CITY OF BARRIE BENCHMARK No. XX–X

ELEVATIONS SHOW HEREON ARE GEODETIC AND ARE RELATED TO CITY OF BARRIE BENCH MARK No. 00–0 HAVING AN ELEVATION OF 000.000METRES.

APPROVED AS TO FORM IN RELIANCE, UPON THE PROFESSIONAL SKILL AND ABILITY OF SCHAEFFERS CONSULTING ENGINEERS AS TO DESIGN AND SPECIFICATION.

DIRECTOR OF DEVELOPMENT ENGINEERING & INFRASTRUCTURE PLANNING SERVICES. DATE

DI POCE MANAGEMENT LIMITED

SCHAEFFERS
CONSULTING ENGINEERS
6 Ronrose Drive, Concord,
Ontario L4K 4R3
Tel: (905) 738-6100
Fax: (905) 738-6875
E-mail: design@schaeffers.com
SCHAEFFER & ASSOCIATES LTD.

PROJECT No. 2017 - 4560 | DRAWING No.

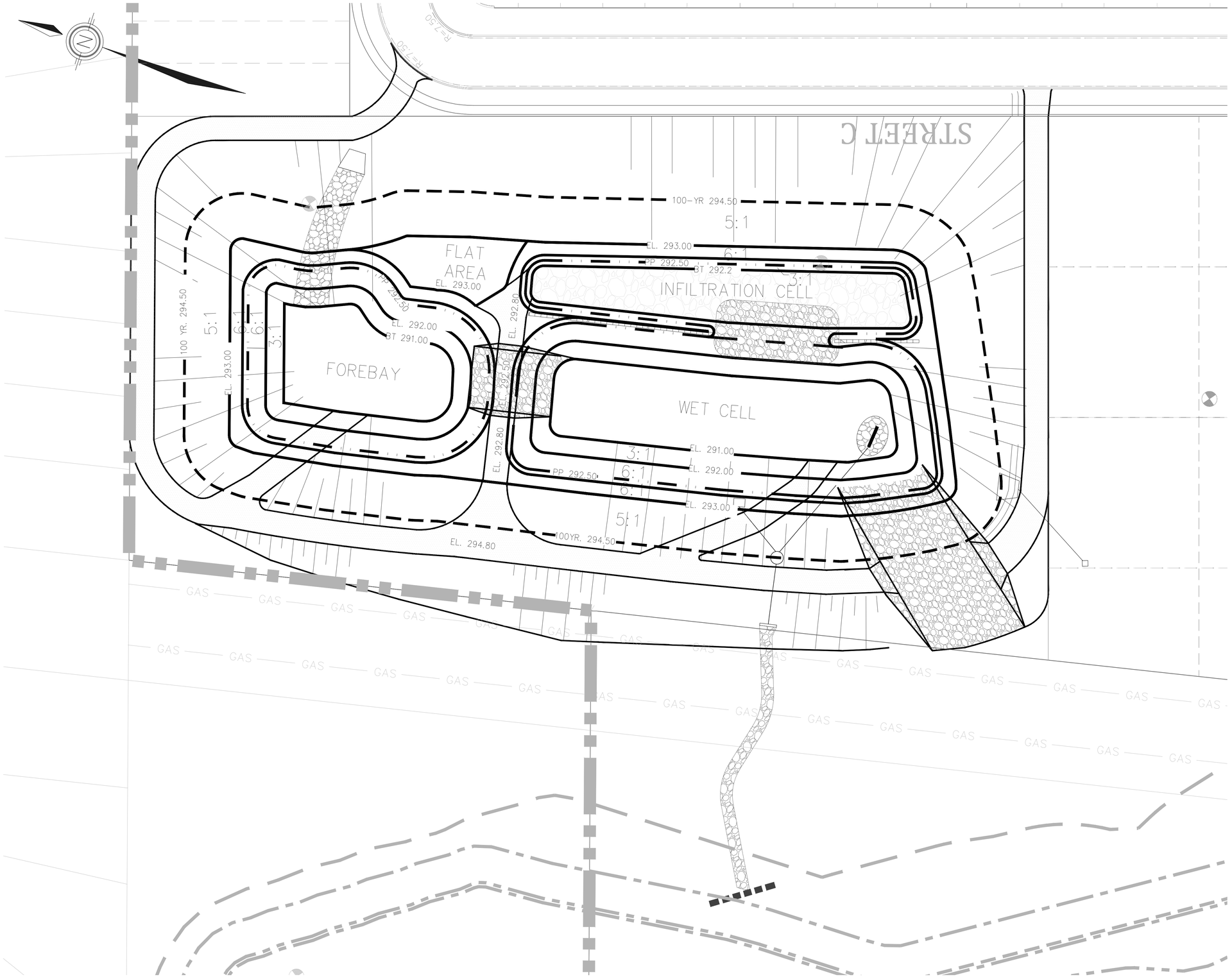
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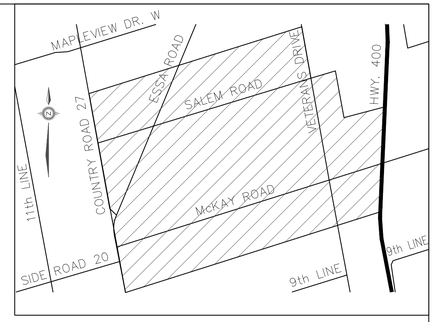
The City of BARRIE

D19 XXXXX | 19T–XXXXX

DESIGNED BY: T.O.	DATE: OCTOBER 2019	CHECKED BY: K.S.
DRAWN BY: K.S. .		APPROVED BY: K.S.
SCALE: 1:300		DWG. No. SWM–1 (OPTION 2)

SWM POND OPTION 3





REVISIONS			
No.	DESCRIPTION	By	Date

CITY OF BARRIE BENCHMARK No. XX–X

ELEVATIONS SHOW HEREON ARE GEODETIC AND ARE RELATED TO CITY OF BARRIE BENCH MARK No. 00–0 HAVING AN ELEVATION OF 000.000METRES.

APPROVED AS TO FORM IN RELIANCE, UPON THE PROFESSIONAL SKILL AND ABILITY OF SCHAEFFERS CONSULTING ENGINEERS AS TO DESIGN AND SPECIFICATION.

DIRECTOR OF DEVELOPMENT ENGINEERING & INFRASTRUCTURE PLANNING SERVICES — DATE

DI POCE MANAGEMENT LIMITED

SCHAEFFERS
CONSULTING ENGINEERS
SCHAEFFER & ASSOCIATES LTD.
6 Ronrose Drive, Concord, Ontario L4K 4R3
Tel: (905) 738-6100
Fax: (905) 738-6875
E-mail: design@schaeffers.com

PROJECT No. 2017 - 4560 | DRAWING No.

SCALE

The City of BARRIE

D19 XXXXX | 19T–XXXXX

DESIGNED BY: T.O.	DATE: OCTOBER 2019	CHECKED BY: K.S.
DRAWN BY: K.S. .		APPROVED BY: K.S.
SCALE: 1: 300		DWG. No. SWM–1 (OPTION 3)

APPENDIX C

Proposed Sanitary Flow Calculation

Project No. 4560

Proposed Residential Development, City of Barrie

Site Area:	25.82	ha
Infiltration Rate:	0.1000	L/ha/sec
Residential Generation Rate:	225	L/capita/day
Commercial Generation	28	m3/ha/day

Summary of Average Residential Sanitary Generation Calculation

Tenure Type	Units	Unit Density (cap/unit)	Population	Sanitary Demand (L/cap/day)	Average Demand (L/s)
Townhouses-Residential	194	2.57	499	225	1.299
Medium Density-Residential	136	2.57	350	225	0.911
Commercial	0.275 ha	115/ha	32	225	0.083
Total			**881**		**2.294**

Summary of Sanitary Design Flow Calculation

Average Residential Demand (L/s)	Residential Population (persons)	Harmon's Peaking Factor (M)*	Commercial Demand (L/ha/s)	Commercial Area (ha)	Infiltration (L/ha/s)	Total Area (ha)	Total Peak Flow (L/s)
2.294	881	3.83	0.32	0.27	0.1000	25.82	**11.47**

* Based on equivalent population method

$M = 1 + 14/(4 + (P/1000)^{0.5})$

APPENDIX D

Di Poce Residential Subdivision

City of Barrie

October 2019

Demands			
Average daily demand		225	L/cap/day
Minimum hour factor		0.4	
Maximum day factor		2.75	
Peak hour factor		4.13	
Fire Flow	Institutional:	200	L/s
	Commercial:	283	L/s
	Townhouses:	150	L/s
	Medium Density Block:	150	L/s
Population Densities			
Total population		881	
Persons per unit	Institutional flow:	28	m^3/day/ha
	Medium density (47 units per ha):	2.571	persons per unit
	Townhouses:	2.571	persons per unit
	Parks:	50	persons/ha

Node	Elevation (m)	Units					Population	Demand			
		Institutional (ha)	Commercial (ha)	Medium Density Block [ha]	Townhouses	Park (ha)	Residential & Commercial	Average Day (L/s)	Maximum Day (L/s)	Peak Hour (L/s)	Minimum Hour (L/s)
J-6	298.71						0	0.00	0.00	0.00	0.00
J-112	299.42				11		28	0.07	0.20	0.30	0.03
J-113	296.46				15		39	0.10	0.28	0.42	0.04
J-114	297.51				32		82	0.21	0.59	0.88	0.09
J-115	300.14				13		33	0.09	0.24	0.35	0.03
J-116	302.23				18		46	0.12	0.33	0.49	0.05
J-117	300.49				24		62	0.16	0.44	0.67	0.06
J-118	306.41				27		69	0.18	0.49	0.74	0.07
J-119	305.84						0	0.00	0.00	0.00	0.00
J-120	309.1				9	2.47	24	0.38	1.05	1.57	0.15
J-121	303.59				28		72	0.19	0.52	0.77	0.08
J-122	298.46			0.88			108	0.28	0.77	1.16	0.11
J-123	298.91			2.00	7		260	0.68	1.86	2.80	0.27
J-124	304.33	2.20			10		26	0.07	0.19	0.28	0.03
J-125	296.41		0.27				32	0.08	0.23	0.34	0.03
	Total	2.20	0.27	2.88	194	2.47	881	2.61	7.18	10.79	1.04

Di Poce Residential Subdivision

City of Barrie

November 2018

Demands			
Average daily demand		225	L/cap/day
Minimum hour factor		0.4	
Maximum day factor		2.75	
Peak hour factor		4.13	
Fire Flow	Institutional:	200	L/s
	Commercial:	283	L/s
	Townhouses:	150	L/s
	Medium Density Block:	150	L/s
Population Densities			
Persons per unit	Institutional flow:	28	m^3/day/ha
	Medium density (47 units per ha):	2.571	persons per unit
	Townhouses:	2.571	persons per unit
	Parks:	50	persons/ha

Node	Elevation (m)	Units					Population	Flow	Demand			
		Institutional (ha)	Commercial (ha)	Medium Density Block [ha]	Townhouses	Park (ha)	Residential	Institutional/Commercial Flow [L/s]	Average Day (l/s)	Maximum Day (l/s)	Peak Hour (l/s)	Minimum Hour (l/s)
J-6	298.71						0		0.00	0.00	0.00	0.00
J-112	299.42				7		18		0.05	0.13	0.19	0.02
J-113	296.46				8		21		0.05	0.15	0.23	0.02
J-114	297.51				54		139		0.36	1.00	1.49	0.14
J-115	300.14				8		21		0.05	0.15	0.23	0.02
J-116	302.23				16		42		0.11	0.30	0.45	0.04
J-117	300.49				24		62		0.16	0.44	0.67	0.06
J-118	306.41				33		85		0.22	0.61	0.91	0.09
J-119	305.84						0		0.00	0.00	0.00	0.00
J-120	309.1				9	2.48	24+park equivalent population		0.39	1.06	1.59	0.15
J-121	303.59				28		72		0.19	0.52	0.77	0.08
J-122	298.46			0.88			108		0.28	0.77	1.16	0.11
J-123	298.91			2.58			314		0.82	2.25	3.38	0.33
J-124	304.33	2.21			12		31	0.72	0.80	2.19	3.29	0.32
J-125	296.41		0.28				0	0.09	0.09	0.25	0.37	0.04
				Total:	199		932		3.57	9.81	14.74	1.43

Scenario: Average
Current Time Step: 0.000 h
FlexTable: Junction Table

ID	Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)	Pressure Head (m)
4750	J-125	296.41	0.09	348.88	515	52.47
4715	J-113	296.46	0.05	348.86	514	52.40
4717	J-114	297.51	0.36	348.86	504	51.35
4741	J-122	298.46	0.28	348.87	494	50.41
4435	J-6	298.71	0.00	348.87	492	50.16
4744	J-123	298.91	0.82	348.87	490	49.96
4712	J-112	299.42	0.05	348.86	485	49.44
4719	J-115	300.14	0.05	348.86	478	48.72
4725	J-117	300.49	0.16	348.86	474	48.37
4721	J-116	302.23	0.11	348.86	457	46.63
4738	J-121	303.59	0.19	348.86	444	45.27
4747	J-124	304.33	0.80	348.86	437	44.53
4731	J-119	305.84	0.00	348.86	422	43.02
4729	J-118	306.41	0.22	348.86	416	42.45
4735	J-120	309.10	0.39	348.86	390	39.76

Scenario: Average
Current Time Step: 0.000 h
FlexTable: Pipe Table

ID	Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Material	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Darcy-Weisbach e (mm)
4736	P-6(1)(1)(1)	41	J-60	J-120	300.0	PVC	120.0	-2.59	0.04	0.0015
4748	P-6(1)(1)(2)(1)	145	J-120	J-124	300.0	PVC	120.0	-2.98	0.04	0.0015
4749	P-6(1)(1)(2)(2)	64	J-124	J-116	300.0	PVC	120.0	-3.78	0.05	0.0015
4726	P-6(1)(2)(1)	83	J-116	J-117	300.0	PVC	120.0	-3.39	0.05	0.0015
4727	P-6(1)(2)(2)	81	J-117	J-112	300.0	PVC	120.0	-4.20	0.06	0.0015
4745	P-6(2)(1)(1)	63	J-112	J-123	300.0	PVC	120.0	-4.97	0.07	0.0015
4746	P-6(2)(1)(2)	143	J-123	J-122	300.0	PVC	120.0	-5.79	0.08	0.0015
4743	P-6(2)(2)	44	J-122	J-6	300.0	PVC	120.0	-6.07	0.09	0.0015
4751	P-7(1)	96	J-6	J-125	300.0	PVC	120.0	-6.07	0.09	0.0015
4752	P-7(2)	345	J-125	3S119-A	300.0	PVC	120.0	-6.16	0.09	0.0015
4716	P-162	148	J-112	J-113	200.0	PVC	110.0	0.73	0.02	0.0015
4718	P-163	140	J-113	J-114	200.0	PVC	110.0	0.68	0.02	0.0015
4720	P-164	144	J-114	J-115	200.0	PVC	110.0	0.55	0.02	0.0015
4724	P-165	120	J-115	J-116	200.0	PVC	110.0	0.50	0.02	0.0015
4728	P-166	187	J-114	J-117	200.0	PVC	110.0	-0.24	0.01	0.0015
4739	P-167(1)(1)	160	J-117	J-121	300.0	PVC	120.0	0.41	0.01	0.0015
4740	P-167(1)(2)	116	J-121	J-119	300.0	PVC	120.0	0.22	0.00	0.0015
4733	P-167(2)	111	J-119	J-118	50.0	Copper	135.0	0.00	0.00	0.0015
4734	P-168	10	J-118	J-119	300.0	PVC	120.0	-0.22	0.00	0.0015

Scenario: MDD+FF
Current Time Step: 0.000 h
Fire Flow Node FlexTable: Fire Flow Report

ID	Label	Fire Flow Iterations	Satisfies Fire Flow Constraints?	Fire Flow (Needed) (L/s)	Fire Flow (Available) (L/s)	Pressure (Calculated Residual) (kPa)	Demand (L/s)	Hydraulic Grade (m)
4435	J-6	2	True	76.00	77.00	448	0.00	347.32
4712	J-112	2	True	150.00	151.00	393	0.13	347.32
4715	J-113	2	True	150.00	151.00	362	0.15	347.32
4717	J-114	2	True	150.00	151.00	373	1.00	347.32
4719	J-115	2	True	150.00	151.00	333	0.15	347.32
4721	J-116	2	True	150.00	151.00	368	0.30	347.32
4725	J-117	2	True	150.00	151.00	383	0.44	347.32
4729	J-118	2	True	0.00	221.00	171	0.61	347.32
4731	J-119	2	True	150.00	151.00	287	0.00	347.32
4735	J-120	2	True	150.00	151.00	308	1.06	347.32
4738	J-121	2	True	150.00	151.00	327	0.52	347.32
4741	J-122	2	True	150.00	151.00	401	0.77	347.32
4744	J-123	2	True	150.00	151.00	397	2.25	347.32
4747	J-124	2	True	200.00	201.00	308	2.19	347.32
4750	J-125	2	True	283.00	284.00	286	0.25	347.32

Scenario: MDD+FF
Current Time Step: 0.000 h
FlexTable: Junction Table

ID	Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)	Pressure Head (m)
4750	J-125	296.41	0.25	347.32	498	50.91
4715	J-113	296.46	0.15	347.32	498	50.86
4717	J-114	297.51	1.00	347.32	487	49.81
4741	J-122	298.46	0.77	347.32	478	48.86
4435	J-6	298.71	0.00	347.32	476	48.61
4744	J-123	298.91	2.25	347.32	474	48.41
4712	J-112	299.42	0.13	347.32	469	47.90
4719	J-115	300.14	0.15	347.32	462	47.18
4725	J-117	300.49	0.44	347.32	458	46.83
4721	J-116	302.23	0.30	347.32	441	45.09
4738	J-121	303.59	0.52	347.32	428	43.73
4747	J-124	304.33	2.19	347.32	421	42.99
4731	J-119	305.84	0.00	347.32	406	41.48
4729	J-118	306.41	0.61	347.32	400	40.91
4735	J-120	309.10	1.06	347.32	374	38.22

Scenario: MDD+FF
Current Time Step: 0.000 h
FlexTable: Pipe Table

ID	Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Material	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Darcy-Weisbach e (mm)
4736	P-6(1)(1)(1)	41	J-60	J-120	300.0	PVC	120.0	5.92	0.08	0.0015
4748	P-6(1)(1)(2)(1)	145	J-120	J-124	300.0	PVC	120.0	4.86	0.07	0.0015
4749	P-6(1)(1)(2)(2)	64	J-124	J-116	300.0	PVC	120.0	2.67	0.04	0.0015
4726	P-6(1)(2)(1)	83	J-116	J-117	300.0	PVC	120.0	1.83	0.03	0.0015
4727	P-6(1)(2)(2)	81	J-117	J-112	300.0	PVC	120.0	-0.13	0.00	0.0015
4745	P-6(2)(1)(1)	63	J-112	J-123	300.0	PVC	120.0	-0.63	0.01	0.0015
4746	P-6(2)(1)(2)	143	J-123	J-122	300.0	PVC	120.0	-2.88	0.04	0.0015
4743	P-6(2)(2)	44	J-122	J-6	300.0	PVC	120.0	-3.65	0.05	0.0015
4751	P-7(1)	96	J-6	J-125	300.0	PVC	120.0	-3.65	0.05	0.0015
4752	P-7(2)	345	J-125	3S119-A	300.0	PVC	120.0	-3.90	0.06	0.0015
4716	P-162	148	J-112	J-113	200.0	PVC	110.0	0.37	0.01	0.0015
4718	P-163	140	J-113	J-114	200.0	PVC	110.0	0.22	0.01	0.0015
4720	P-164	144	J-114	J-115	200.0	PVC	110.0	-0.39	0.01	0.0015
4724	P-165	120	J-115	J-116	200.0	PVC	110.0	-0.54	0.02	0.0015
4728	P-166	187	J-114	J-117	200.0	PVC	110.0	-0.39	0.01	0.0015
4739	P-167(1)(1)	160	J-117	J-121	300.0	PVC	120.0	1.13	0.02	0.0015
4740	P-167(1)(2)	116	J-121	J-119	300.0	PVC	120.0	0.61	0.01	0.0015
4733	P-167(2)	111	J-119	J-118	50.0	Copper	135.0	0.00	0.00	0.0015
4734	P-168	10	J-118	J-119	300.0	PVC	120.0	-0.61	0.01	0.0015

Scenario: Minimum
Current Time Step: 0.000 h
FlexTable: Junction Table

ID	Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)	Pressure Head (m)
4750	J-125	296.41	0.04	348.99	516	52.58
4715	J-113	296.46	0.02	349.00	515	52.54
4717	J-114	297.51	0.14	349.00	505	51.49
4741	J-122	298.46	0.11	349.00	496	50.54
4435	J-6	298.71	0.00	349.00	493	50.29
4744	J-123	298.91	0.33	349.00	491	50.09
4712	J-112	299.42	0.02	349.00	486	49.58
4719	J-115	300.14	0.02	349.00	479	48.86
4725	J-117	300.49	0.06	349.00	476	48.51
4721	J-116	302.23	0.04	349.00	459	46.77
4738	J-121	303.59	0.07	349.00	445	45.41
4747	J-124	304.33	0.32	349.00	438	44.67
4731	J-119	305.84	0.00	349.00	423	43.16
4729	J-118	306.41	0.09	349.00	418	42.59
4735	J-120	309.10	0.15	349.00	391	39.90

Scenario: Minimum
Current Time Step: 0.000 h
FlexTable: Pipe Table

ID	Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Material	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Darcy-Weisbach e (mm)
4736	P-6(1)(1)(1)	41	J-60	J-120	300.0	PVC	120.0	2.94	0.04	0.0015
4748	P-6(1)(1)(2)(1)	145	J-120	J-124	300.0	PVC	120.0	2.79	0.04	0.0015
4749	P-6(1)(1)(2)(2)	64	J-124	J-116	300.0	PVC	120.0	2.47	0.03	0.0015
4726	P-6(1)(2)(1)	83	J-116	J-117	300.0	PVC	120.0	2.06	0.03	0.0015
4727	P-6(1)(2)(2)	81	J-117	J-112	300.0	PVC	120.0	1.77	0.02	0.0015
4745	P-6(2)(1)(1)	63	J-112	J-123	300.0	PVC	120.0	2.01	0.03	0.0015
4746	P-6(2)(1)(2)	143	J-123	J-122	300.0	PVC	120.0	1.68	0.02	0.0015
4743	P-6(2)(2)	44	J-122	J-6	300.0	PVC	120.0	1.57	0.02	0.0015
4751	P-7(1)	96	J-6	J-125	300.0	PVC	120.0	1.57	0.02	0.0015
4752	P-7(2)	345	J-125	3S119-A	300.0	PVC	120.0	1.53	0.02	0.0015
4716	P-162	148	J-112	J-113	200.0	PVC	110.0	-0.26	0.01	0.0015
4718	P-163	140	J-113	J-114	200.0	PVC	110.0	-0.28	0.01	0.0015
4720	P-164	144	J-114	J-115	200.0	PVC	110.0	-0.35	0.01	0.0015
4724	P-165	120	J-115	J-116	200.0	PVC	110.0	-0.37	0.01	0.0015
4728	P-166	187	J-114	J-117	200.0	PVC	110.0	-0.08	0.00	0.0015
4739	P-167(1)(1)	160	J-117	J-121	300.0	PVC	120.0	0.16	0.00	0.0015
4740	P-167(1)(2)	116	J-121	J-119	300.0	PVC	120.0	0.09	0.00	0.0015
4733	P-167(2)	111	J-119	J-118	50.0	Copper	135.0	0.00	0.00	0.0015
4734	P-168	10	J-118	J-119	300.0	PVC	120.0	-0.09	0.00	0.0015

Scenario: Peak Hour
Current Time Step: 0.000 h
FlexTable: Junction Table

ID	Label	Elevation (m)	Demand (L/s)	Hydraulic Grade (m)	Pressure (kPa)	Pressure Head (m)
4750	J-125	296.41	0.37	348.37	510	51.96
4715	J-113	296.46	0.23	348.33	509	51.87
4717	J-114	297.51	1.49	348.33	498	50.82
4741	J-122	298.46	1.16	348.35	489	49.89
4435	J-6	298.71	0.00	348.36	487	49.65
4744	J-123	298.91	3.38	348.34	485	49.43
4712	J-112	299.42	0.19	348.34	480	48.92
4719	J-115	300.14	0.23	348.33	473	48.19
4725	J-117	300.49	0.67	348.33	469	47.84
4721	J-116	302.23	0.45	348.33	452	46.10
4738	J-121	303.59	0.77	348.33	439	44.74
4747	J-124	304.33	3.29	348.33	432	44.00
4731	J-119	305.84	0.00	348.33	417	42.49
4729	J-118	306.41	0.91	348.33	411	41.92
4735	J-120	309.10	1.59	348.33	385	39.23

Scenario: Peak Hour
Current Time Step: 0.000 h
FlexTable: Pipe Table

ID	Label	Length (Scaled) (m)	Start Node	Stop Node	Diameter (mm)	Material	Hazen-Williams C	Flow (L/s)	Velocity (m/s)	Darcy-Weisbach e (mm)
4736	P-6(1)(1)(1)	41	J-60	J-120	300.0	PVC	120.0	2.87	0.04	0.0015
4748	P-6(1)(1)(2)(1)	145	J-120	J-124	300.0	PVC	120.0	1.28	0.02	0.0015
4749	P-6(1)(1)(2)(2)	64	J-124	J-116	300.0	PVC	120.0	-2.01	0.03	0.0015
4726	P-6(1)(2)(1)	83	J-116	J-117	300.0	PVC	120.0	-2.69	0.04	0.0015
4727	P-6(1)(2)(2)	81	J-117	J-112	300.0	PVC	120.0	-5.63	0.08	0.0015
4745	P-6(2)(1)(1)	63	J-112	J-123	300.0	PVC	120.0	-6.95	0.10	0.0015
4746	P-6(2)(1)(2)	143	J-123	J-122	300.0	PVC	120.0	-10.33	0.15	0.0015
4743	P-6(2)(2)	44	J-122	J-6	300.0	PVC	120.0	-11.49	0.16	0.0015
4751	P-7(1)	96	J-6	J-125	300.0	PVC	120.0	-11.49	0.16	0.0015
4752	P-7(2)	345	J-125	3S119-A	300.0	PVC	120.0	-11.86	0.17	0.0015
4716	P-162	148	J-112	J-113	200.0	PVC	110.0	1.14	0.04	0.0015
4718	P-163	140	J-113	J-114	200.0	PVC	110.0	0.91	0.03	0.0015
4720	P-164	144	J-114	J-115	200.0	PVC	110.0	0.00	0.00	0.0015
4724	P-165	120	J-115	J-116	200.0	PVC	110.0	-0.23	0.01	0.0015
4728	P-166	187	J-114	J-117	200.0	PVC	110.0	-0.58	0.02	0.0015
4739	P-167(1)(1)	160	J-117	J-121	300.0	PVC	120.0	1.68	0.02	0.0015
4740	P-167(1)(2)	116	J-121	J-119	300.0	PVC	120.0	0.91	0.01	0.0015
4733	P-167(2)	111	J-119	J-118	50.0	Copper	135.0	0.00	0.00	0.0015
4734	P-168	10	J-118	J-119	300.0	PVC	120.0	-0.91	0.01	0.0015



Color Coding Legend

Pipe: Diameter (mm)

	<=	150.0
	<=	200.0
	<=	250.0
	<=	300.0
	<=	400.0
	<=	500.0
		Other

Scenario: MDDTFF

Color Coding Legend

Pipe: Diameter (mm)

	<=	150.0
	<=	200.0
	<=	250.0
	<=	300.0
	<=	400.0
	<=	500.0
		Other



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