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Summit View Residential Subdivision, Phase 3

STORMWATER MANAGEMENT REPORT

Poplar Developments I Inc.

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Issue	Date	Description
1	May 3, 2023	Draft Plan Submission

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1 Introduction

Tatham Engineering Limited (Tatham) has been retained to prepare a Stormwater Management (SWM) Report in support of the draft plan of subdivision for Phase 3 of the Summit View Residential Subdivision located in the Town of Collingwood. The site is legally described as Part of Lot 40, Concession 10, Geographic Township of Nottawasaga, Town of Collingwood, County of Simcoe. Figure 1 is a site location plan showing the location of the subject property, herein recognized as the development lands.

1.1 SITE DESCRIPTION

Phase 3 consists of 6.9 ha of land located northwest of the intersection of Poplar Sideroad and High Street in the Town of Collingwood. The site is bounded by Phases 1 and 2 of the existing Summit View Subdivision to the north and west, High Street and the existing Mountaincroft Subdivision to the east, and Poplar Sideroad as well as rural and residential lands in the Township of Clearview to the south.

1.2 OBJECTIVES

The primary objective of this report is to demonstrate that the proposed development will not adversely affect local surface water quantity or quality conditions. This will be accomplished by evaluating the effect of the development on local drainage conditions and, where necessary, providing solutions to mitigate any adverse impacts. This will involve an evaluation of existing and proposed site conditions with respect to stormwater runoff and conveyance. The Summit View stormwater management (SWM) report was originally prepared in October 2017 and has been updated/revised in March 2018 and May 2019 to support the construction of Phases 1 and 2. This report has been prepared to address the SWM for the proposed draft plan of subdivision for Phase 3 of the Summit View development which includes 6.9 ha of undeveloped land southwest of the existing Summit View subdivision.

1.3 GUIDELINES AND BACKGROUND REPORTS

This report was prepared recognizing Provincial, Municipal and Conservation Authority guidelines on water resources and the environment, including the following publications:

- The Ministry of the Environment (MECP) Stormwater Management Practices Planning and Design Manual (2003);
- Corporation of the Town of Collingwood Development Standards, (August 5, 2022); and
- Nottawasaga Valley Conservation Authority Stormwater Technical Guide (2013).

The following engineering reports supporting the surrounding residential developments and municipal road improvements have been referenced:

- Summit View Residential Subdivision, Stormwater Management Report, Tatham, May 2019; and
- Mountain View Residential Subdivision Stormwater Management Report, Tatham, September 2006.

2 Pre-Development Drainage Conditions

2.1 BACKGROUND INFORMATION

Information regarding the existing topography, ground cover and drainage patterns was obtained through collection of detailed topographic survey data, GIS base mapping and field observation.

2.2 PRE-DEVELOPMENT CONDITIONS

The soil classification for the site is defined as Tioga sand loam (Type A). Under existing conditions, the Summit View development lands (Phases 1, 2 and 3) are defined by 4 drainage outlets. The pre-development drainage patterns are depicted on the enclosed Drawing DP-1 (Appendix A).

The drainage outlets impacted by the development of Phase 3 are Outlets #1, #3A, and #3B. This report will focus on the proposed Phase 3 development and its impact on these outlets. Descriptions of the site outlets are summarized in the following sections.

2.2.1 Outlet #1 – Black Ash Creek 1

Under pre-development conditions, the northwest portion of the site drains via overland flow in a northwesterly direction to an intermittent drainage channel that outlets through the property to the north. The intermittent drainage channel flows north and west eventually outlets to Black Ash Creek. Black Ash Creek is the main receiver of flow from the site and was channelized for flood control approximately 15 years ago. This area is identified as Catchment 101 (Drawing DP-1, Appendix A) with a total area of 9.85 ha.

2.2.2 Outlet #2 – Black Ash Creek 2

Under pre-development conditions, the southwest portion of the site drains via an overland flow swale that outlets in a northern direction to Black Ash Creek. This area is identified as Catchment 102 (Drawing DP-1, Appendix A) with a total area of 4.52 ha.

2.2.3 Outlet #3A / #3B – High Street/Mountaincroft

Under pre-development conditions, Catchments 115, 116, 117 and 303 (Drawing DP-1, Appendix A) drain to the High Street/Mountaincroft system. Catchments 115 and 117 drain overland across the subject property, outlet to the High Street ditch, and are intercepted by a 600 mm diameter culvert crossing High Street connected to the Mountaincroft storm sewer system identified as Outlet #3A. Flow entering the Mountaincroft storm sewer system at Outlet #3A is conveyed to

the Mountaincroft SWM facility which was designed to accept this external flow. The capacity of the road crossing culvert is 0.364 m^3/s. Flows in excess of 0.364 m^3/s combine with the runoff from Catchment 116 and are conveyed north within the High Street ditch to Outlet #3B. Outlet #3B consists of a ditch inlet catchbasin which connects to the Mountaincroft drainage system via a 300 mm diameter storm sewer. Flows exceeding the capacity of Outlet #3B continue north along High Street.

Drainage to Outlet 3A is modeled as Catchments 115 and 117 (Drawing DP-1, Appendix A) with a total area of 15.5 ha. Drainage to Outlet #3B is modeled as Catchment 203 plus the overflow from Outlet #3A. The pre-development conditions peak flow summary for Outlets #3A and #3B are summarized in Table 1.

2.2.4 Outlet #4 – Existing Pond

Under existing conditions, a small portion of the subject lands in the southwest corner of the site drains via overland flow to an existing pond on an adjacent property. This area is identified as Catchment 103 (refer to Drawing DP-1) with a total area of 0.66 ha.

2.3 PRE-DEVELOPMENT HYDROLOGIC ANALYSIS

The pre-development site conditions have been modelled using the Visual OTTHYMO (V06) hydrologic modelling software. The rainfall intensity-duration-frequency (IDF) curves were obtained from the MTO IDF Curve Look-up tool using the site location and applied to the 4-hour Chicago design storm distribution. The 2-year through 100-year design storms were analyzed as well as the 4-hour 25mm Chicago and Regional (Timmins) storm events. Detailed existing condition model results are provided in Appendix A. Table 1 includes a summary of the peak pre-development flowrates at Outlets #3A and #3B.

Table 1: Pre-Development Conditions Peak Flow Summary

STORM EVENT	OUTLET #3A (CATCHMENTS 115, 117) (m^3/s)		OUTLET #3B (CATCHMENT 116 & OVERFLOW FROM 3A)	
	4-hr. CHI	24-hr. SCS	4-hr. CHI	24-hr. SCS
2-year	0.059	0.196	0.027	0.083
5-year	0.119	0.346	0.054	0.147
10-year	0.167	0.461	0.077	0.292
25-year	0.238	0.621	0.109	0.521
50-year	0.297	0.747	0.136	0.702
100-year	0.360	0.879	0.166	0.891
Timmins	0.945		0.988	
25 mm 4-hr. Chicago	0.048		0.022	

3 Proposed Drainage Conditions

3.1 DESIGN CRITERIA

This SWM Report is subject to the review and approval of the Town of Collingwood, MECP, and the Nottawasaga Valley Conservation Authority (NVCA). Issues to be addressed and criteria to be met regarding the development of the site are summarized below.

3.1.1 Stormwater Quality Control

Water quality controls must be provided to satisfy the *2003 MOE SWM Practices Planning and Design Manual*. Black Ash Creek and the Oak Street Canal are the receiving watercourses for the site's drainage and therefore Enhanced water quality protection is required corresponding to 80% long term total suspended solids removal.

3.1.2 Stormwater Quantity Control

The recent channelization of Black Ash Creek through the Town of Collingwood and Black Ash Creek Subwatershed Study allows for peak flows to be released uncontrolled to Black Ash Creek therefore post to pre-development control is not required for drainage to this outlet. Major storm event flows must be conveyed safely to Black Ash Creek.

The existing Summit View SWM pond provides extended detention control for the 25 mm storm event for water quality and erosion control purposes. Flows directed to the High Street/Mountaincroft system will be controlled and discharged at pre-development levels. The Town has requested the amount of flow directed to High Street be minimized to the extent possible.

3.1.3 Phosphorus Loading Balance

The NVCA requires a "best efforts" approach to achieving phosphorus balance for the development site by attempting to match post-development phosphorus loads to pre-development levels.

3.1.4 Siltation and Erosion Control

Recommendations for a siltation and erosion control strategy will be provided for implementation during construction.

3.2 PROPOSED DEVELOPMENT

Phases 1 and 2 of the Summit View development has been constructed and includes 406 residential units (233 single detached, 86 semi-detached, and 87 townhouse units). Phase 3 of the proposed development will include an additional 135 residential units (38 semi- detached lots, and 97 townhouse units). The development also includes 2 park blocks with a total area of 0.35 ha. Phase 3 will be serviced by connections to High Street and the existing Summit View Subdivision. The proposed development will have a network of internal streets with 20.0 m right-of-ways (ROWs), all designed with an urban cross-section in accordance with Town standards. The proposed development will have an isolated window street adjacent to Poplar Sideroad with a 15m ROW.

Most of the drainage from the site will outlet to Black Ash Creek via the existing SWM pond designed for quality and extended detention erosion control. The eastern limit of the development adjacent to High Street will continue to drain to the High Street/Mountaincroft drainage system.

4 Proposed SWM Plan

The majority of the proposed development, Catchment 208 (6.40 ha), will be directed to the existing SWM facility constructed during Phase 1 of the Summit View development. The SWM facility was designed to service the entire Summit View development including the Phase 3 lands. A small portion of the proposed development, Catchment 207 (2.21 ha), will continue to drain to the High Street / Mountaincroft system. The post-development condition drainage patterns are depicted on Drawing DP-2 (Appendix B) and should be referenced while reviewing this section of the report.

To manage minor storm runoff, storm sewers and catchbasins will be designed per the Town of Collingwood standards to convey peak flows from the 5-year storm event. As per current Town policy, all lots will be provided with storm service lateral connections for sump pumps. The majority of the proposed storm sewer system will connect to the existing Summit View storm sewer system which outlets to the existing SWM facility. A small portion (Catchment 207) will connect to the existing High Street/Mountaincroft storm sewer system which outlets to the existing Mountaincroft SWM pond.

Major storm drainage, greater than the 5-year storm, will be conveyed via overland flow routes contained primarily in the ROWs to the existing Summit View major drainage system and SWM facility. The majority of flows from Phase 3 will outlet to Black Ash Creek via the SWM pond. The SWM pond will safely convey peak flows from major storm events to the Black Ash Creek. Flows to High Street will be controlled to pre-development levels or less. Detailed SWM plan components are included the following sections.

The post-development site conditions have been modelled using the Visual OTTHYMO (V06) hydrologic modelling software. Rainfall IDF curves were obtained from the MTO IDF Curve Look-up tool using the site location and applied to the 4-hour Chicago and 24-hour SCS design storm distributions. The 2-year through 100-year design storms were analyzed as well as the 4-hour 25mm Chicago and Regional (Timmins) storm events. Detailed proposed condition model results are provided in Appendix B.

4.1 EXTERNAL TILE DRAIN FLOW

During construction of the initial phases of the Summit View Subdivision, two 125 mm inner diameter vitrified clay tile drains were encountered on site during site pre-grading. They have been intercepted and connected to the existing Summit View storm sewer on Rowland Street which drains to the existing Summit View SWM facility. The drains are suspected to help drain the field to the southwest of the Phase 2 lands.

Flow monitoring measurements were conducted during spring 2019 rainfall events to determine the peak flow rate discharging from each tile drain. Peak flows were measured at 1 L/s and were noted to be sustained for much of the spring period.

It is apparent through the monitoring conducted that the flows from the tile drains were not affected/correlated with rainfall events. The flows are not directly connected to a surface water inlet and thus the time of concentration of the tile drains is reasonably delayed from the time of concentration of the development site. At this time, it appears that no external tile drains are connected to the Phase 3 lands. Should they be encountered, a similar strategy will be employed, and additional external tile drains will be intercepted by the Phase 3 storm sewer system and ultimately directed to the existing Summit View SWM facility.

4.2 SWM POND (OUTLET #1)

4.2.1 Contributing Drainage Area

The SWM pond is located in the northwest corner of the development and upon completion of Phase 3, will receive flow from 26.8 ha of land. The tributary drainage area includes mix of single detached, semi-detached, townhouse residential units, and public parks. These tributary areas are represented by Catchments 201, 208, and 301 (Drawing DP-2, Appendix B).

The post-development VO model created for the Summit View development was updated to reflect the current development proposal for Phase 3 and assess the performance of the existing SWM facility. The SWM facility operating characteristics under proposed conditions are summarized in Table 2. A detailed VO model output is included in Appendix B.

The SWM pond and outlet configuration are summarized as follows:

- 300 mm dia. reverse graded low flow storm outlet with a 150 mm orifice plate connected to a double ditch inlet catchbasin at an invert elevation of 198.50 m for extended detention and minor storm quantity control;
- a double ditch inlet catchbasin with a rim elevation of 199.20 m with an 825 mm dia. outlet pipe to convey flows for storms greater than the 25 mm event; and
- a trapezoidal emergency overflow weir with a bottom width of 4.7 m is set at an elevation of 200.10 m to provide an emergency outlet and for storms exceeding the regulatory storm event.

A detailed stage-storage-discharge table for the SWM pond is included in Appendix C. Drawings SWM-1 and SWM-2 enclosed in Appendix D illustrating the existing Summit View SWM pond.

Table 2: Summary of SWM Pond Stage Storage Discharge

STORM EVENT	DISCHARGE (m^3/s)		STORAGE VOLUME (m^3)		WATER SURFACE EVALUATION (m)	
	4-hr. CHI	24-hr. SCS	4-hr. CHI	24-hr. SCS	4-hr. CHI	24-hr. SCS
2-year	0.038	0.229	2327	3010	199.16	199.33
5-year	0.154	0.694	2874	3640	199.30	199.47
10-year	0.276	1.178	3090	4082	199.35	199.57
25-year	0.471	1.859	3388	4583	199.42	199.68
50-year	0.669	2.054	3610	5079	199.47	199.78
100-year	0.885	2.124	4487	5721	199.66	199.91
Timmins	2.018		4707		199.71	
25 mm 4-hr. Chicago	0.033		1780		199.02	

The results shown in Table 2 confirm that the water quantity storage volume provided will control the 100 year and Regional (Timmins) storms safely without using the emergency spillway. An emergency spillway is provided with a freeboard of 0.65 m to the top of pond to provide safe conveyance of storm events greater than the 100 year or Regional Storm. The results also confirm that the 25 mm storm event will be contained within the extended detention portion of the SWM facility.

4.2.2 Stormwater Quality

The SWM pond has been designed in accordance with MECP Guidelines to provide enhanced level water quality control. Table 3.2 of the MECP SWM Manual provides sizing criteria for enhanced level protection based on the imperviousness of the contributing drainage area. The tributary drainage area has been determined to be 49% impervious.

Based on Table 3.2 of the MECP SWM Manual, a water quality storage volume of 174.25 m^3/ha is required to provide an enhanced level of protection. The total required storage volume for the 26.8 ha drainage area is therefore 4672 m^3, of which 3599 m^3 is to be permanent pool and 1072 m^3 is to be extended detention. The existing pond provides 3829 m^3 of permanent pool volume and 2482 m^3 of maximum extended detention volume for a total water quality storage volume of 6311 m^3 which exceeds the MECP requirements. The water quality calculations and SWM pond volume table are included in Appendix C.

4.2.3 Erosion Control (Extended Detention)

The erosion control extended detention storage volume is determined to be the greater of the active storage requirement (40 m^3/ha) or the 25 mm storm volume as described in the MECP SWM Manual. The active storage requirement is 1072 m^3 for the 26.8 ha drainage area. From the hydrologic model, the 25 mm 4-hour Chicago storm produces a runoff depth of 7.8 mm over the 26.8 ha drainage area. Based on the 25mm storm event, an extended detention volume of 2091 m^3 is required. The existing Summit View SWM pond provides 2482 m^3 of extended detention volume. The existing SWM pond exceeds the MECP requirements.

Using the falling head orifice equation, the 25 mm storm is released over a period of approximately 25.5 hours, exceeding the MECP requirement of 24 hours. Detailed erosion control and pond drawdown calculations are included in Appendix C.

4.3 HIGH STREET/MOUNTAINCROFT OUTLET (OUTLETS #3A / #3B)

As mentioned in Section 2.2.3, runoff from pre-development Catchments 115, 116, and 117 drain to Outlets 3A and 3B (High Street) as shown on Drawing DP-1 (Appendix A). These pre-development catchments are tributary to the existing Mountaincroft SWM pond.

A small portion of the proposed development identified as Catchment 207 will continue to drain to the High Street drainage system (Outlet #3A) as shown on Drawing DP-2 (Appendix B). Additionally, Catchment 203 associated with Phase 1 of the development will continue to drain to Outlet #3B. Table 4 summarizes the existing and proposed flows to Outlets #3A and #3B.

Table 3: Outlet #3A (Mountaincroft) Post-Development Condition Peak Flow Summary

STORM EVENT	OUTLET #3A (CATCHMENTS 115, 117) (m^3/s)		OUTLET #3B (CATCHMENT 116 & OVERFLOW FROM 3A)	
	4-hr. CHI	24-hr. SCS	4-hr. CHI	24-hr. SCS
2-year	0.061 (0.059)	0.093 (0.196)	0.029 (0.027)	0.043 (0.083)
5-year	0.089 (0.119)	0.161 (0.346)	0.042 (0.054)	0.079 (0.147)
10-year	0.109 (0.167)	0.208 (0.461)	0.051 (0.077)	0.103 (0.292)
25-year	0.143 (0.238)	0.273(0.621)	0.070 (0.109)	0.136 (0.521)
50-year	0.166 (0.297)	0.325 (0.747)	0.082 0.136)	0.187 (0.702)
100-year	0.192 (0.360)	0.422 (0.879)	0.095(0.166)	0.219 (0.891)
Timmins	0.271 (0.945)		0.104 (0.988)	
25 mm 4-hr. Chicago	0.051 (0.048)		0.024 (0.022)	

Note: Values in brackets represent pre-development condition flow from Catchments 115, 117, and 303.

Peak flow rates generated from the proposed development are below pre-development levels with the exception of the 25mm and 2-year storm events. The majority of runoff is generated from rear yards and roof tops which are considered clean from a water quality perspective. A small portion of runoff will be generated by the future ROW. To collect and convey the runoff generated by the proposed development, 2 strategies are proposed:

- A storm sewer to collect runoff from the ROW for up to the 5-year event. The storm sewer is proposed to connect to the existing High Street/Mountaincroft system as illustrated on Drawing CSG-1 (Appendix D).
- Flows generated by rear yard runoff will be collected by the existing 600 mm diameter culvert (Outlet #3A) crossing High Street and connecting to the Mountaincroft storm sewer system. As noted in Section 2.2.3, the capacity of the road crossing culvert is 0.364 m^3/s. Flows in excess of the culvert capacity will continue to drain north through the High Street ditch to Outlet #3B.

The increase in post development runoff during the 25mm and 2-year events is minimal and will not impact the performance of the storm sewer systems noted above. As these lands are tributary of the Mountaincroft pond, quantity control will continue to be provided by the existing Mountaincroft SWM pond. It is noted that the Phase 3 development will decrease the total

drainage area contributing to High Street and the Mountaincroft SWM facility and decrease peak flowrates thereby improving the performance of the Mountaincroft SWM facility and the downstream drainage system.

Similarly, quality control for this runoff will be provided by the Mountaincroft pond. A preliminary assessment of the ponds tributary area has been completed. Under existing conditions, the Mountaincroft SWM facility has a tributary drainage area of approximately 79.5 ha with an imperviousness of 12%. Following the development of Phase 3, the tributary drainage area will be reduced to 67.0 ha with an imperviousness of 13.3%. Based on Table 3.2 of the MECP design manual, the water quality storage requirement is 85.0 m^3/ha. The pond is required to provide 5698 m^3 of water quality storage, 2681 m^3 of extended detention, and 3016 m^3 of permanent pool. The existing Mountaincroft pond provides 4786 m^3 of permanent pool volume and 4142 m^3 of extended detention volume. The existing Mountaincroft SWM pond has sufficient capacity to provide enhanced level quality treatment to the runoff generated by catchments 207. The final Mountaincroft SWM Report prepared by Tatham is included in Appendix E and a water quality calculation sheet is included in Appendix C.

4.4 PHOSPHORUS LOADING BUDGET

Phosphorous calculations using the NVCA phosphorous budget tool are included in Appendix F for reference. It was determined that there will be no net increase in phosphorus loading under post-development conditions.

Although the calculations confirm that the post development will not increase phosphorous loading, these calculations are included for information purposes only with phosphorous reduction being achieved on a best effort basis.

5 Siltation and Erosion Control Plan

The proposed development is expected to occur in stages. The earthworks, roads and infrastructure will be constructed first, followed by construction of individual buildings. In all stages, erosion and sediment controls will be implemented for all construction activities including topsoil stripping, road construction, foundation excavation and stockpiling of materials. The basic principles considered to minimize erosion and sedimentation and resultant negative environmental impacts include:

1. minimize wherever possible local disturbance activities (e.g. grading);
2. expose the smallest possible land area, where practical, to erosion for the shortest possible time;
3. institute control measures where needed and as required immediately;
4. implement control measures before the outset of construction activities; and
5. carry out regular inspections for all control measures and repair or maintain as necessary.

The proposed grading, servicing and building construction should be carried out in such a manner that a minimum amount of erosion occurs and such that sedimentation facilities control any erosion that does occur.

Erosion and silt/sediment control measures will include but not be limited to the following:

1. erection of silt fences around the construction sites;
2. provide sediment traps (e.g. berms, geotextiles, stone barriers and swales) to control runoff and lower velocities to promote settling of solids;
3. provide stone “mud mats” at construction vehicle access points to minimize off-site tracking of material; and
4. confine refuelling/servicing equipment to areas well away from inlets to the minor or major system elements.

Removal of all erosion and sediment controls within the development should only be done once construction is complete and areas disturbed by construction activities have been stabilized.

6 Summary

The proposed development will consist of 6.9 ha of semi-detached residential, townhouse residential, and public park land uses in the Town of Collingwood. The majority of existing drainage patterns will be redirected via a combination of storm sewers and the road network to the existing Summit View SWM facility.

The majority of the Phase 3 development will drain to the existing Summit View SWMF constructed during a previous phase of development. As this SWMF discharges to Black Ash Creek within the Town of Collingwood, water quantity control is not required. The existing SWMF will provide enhanced level water quality control and erosion control in accordance with MECP guidelines.

A small portion of the proposed development will continue to drain to the High Street/Mountaincroft drainage system and the Mountaincroft SWM facility as under existing conditions. Quantity and quality controls will continue to be provided by the existing Mountaincroft SWM facility. The drainage area contributing to this system will be reduced by the Phase 3 development thereby reducing peak flows and improving the performance of the existing Mountaincroft SWMF.

As confirmed using the NVCA Phosphorus Loading Tool, there will be no net increase in phosphorus loading under post-development.

Siltation and erosion control will be provided with the proper construction mitigation efforts. Long-term erosion control will be enhanced with an effective revegetation strategy.

We trust the above presentation of the Stormwater Management Report is sufficient to allow the proposed development to proceed to draft plan approval.





SUMMIT VIEW RESIDENTIAL DEVELOPMENT

Figure 1: Site Location Plan

Appendix A:
Existing Conditions Hydrology

LEGEND

CATCHMENT ID — 101
AREA IN HECTARES — 0.54
% IMPERVIOUS/CN NUMBER — 63.0
PRE-DEVELOPMENT CATCHMENT AREA
EXISTING FLOW DIRECTION

EXISTING RESIDENTIAL LOTS

OUTLET 1
OUTLET 3B
OUTLET 3A
OUTLET 2
OUTLET 4
EX. POND
BLACK ASH CREEK
HIGH STREET
POPLAR SIDEROAD
PHASE 3 LANDS

101 — 9.85 | 62.3
102 — 4.52 | 62.4
103 — 0.66 | 62.4
115 — 9.34 | 62.6
116 — 6.57 | 62.9
117 — 5.73 | 64.6

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DRAWING REFERENCES

LEGAL SURVEY INFORMATION SHOWN ON THIS PLAN PREPARED BY VAN HARTEN SURVEY INC., PLAN OF SUBDIVISION, DATED SEPTEMBER 26, 2019.

TOPOGRAPHIC INFORMATION SHOWN ON THIS PLAN BASED ON LAND INFORMATION ONTARIO BASE MAPPING.

RIGHT-OF-WAY AND LOT FABRIC SHOWN ON THIS PLAN HAVE BEEN TAKEN FROM SUMMIT VIEW PHASE 3 DRAFT PLAN OF SUBDIVISION, PREPARED BY MHBC PLANNING, DATED DEC 21, 2022.

BENCHMARKS

No.	REVISION DESCRIPTION	DATE
1.	DRAFT PLAN SUBMISSION	MAY/23

ENGINEER STAMP

SUMMIT VIEW - PHASE 3
RESIDENTIAL DEVELOPMENT
TOWN OF COLLINGWOOD

PRE DEVELOPMENT DRAINAGE PLAN

TATHAM ENGINEERING

DESIGN: EL	FILE: 118039	DWG: DP-1
DRAWN: EL/KRL	DATE: JAN 2023	
CHECK: DJH	SCALE: 1:1,500	

Drawing Name: 118039 – DP01.dwg, Plotted: Apr 28, 2023

TATHAM ENGINEERING

Impervious Area & Runoff Coefficient Calculations - Pre Development

Project Details

Summit View Phase 3	118039

Prepared By

EL	Dec/22

Data Sources	MTO Drainage Management Manual Design Chart 1.07 (1997)

Watershed: NVCA

Impervious Area and Runoff Coefficient (C) for Catchment

Catchment ID		**101**			**102**			**103**					
Catchment Area		9.85			4.52			0.66					
Land Cover Category	**C**	**Area (ha)**	**TIMP (ha)**	**XIMP (ha)**	**.**	**TIMP (ha)**	**XIMP (ha)**	**Area (ha)**	**TIMP (ha)**	**XIMP (ha)**	**Area (ha)**	**TIMP (ha)**	**XIMP (ha)**
Single Residential	0.40												
Multi - Residential	0.55												
Apartment	0.65												
Commercial	0.85												
Industrial	0.85												
Right-of-Ways	0.70												
Paved	0.90	0.10	0.10	0.10	0.05	0.05	0.05	0.01	0.01	0.01			
Roof	0.90												
Gravel	0.75												
Woodland	0.28												
Pasture/Lawns	0.17												
Meadows	0.32												
Cultivated	0.47	9.75			4.47			0.65					
Waterbody	0.50												
Runoff Coefficient (C)		0.47			0.47			0.48					
Catchment TIMP (%)		1.0%			1.1%			1.5%					
Catchment XIMP (%)		1.0%			1.1%			1.4%					
Hydrograph Type		NASHYD			NASHYD			NASHYD					

Notes:

TIMP - Total Impervious Area
XIMP - Directly Connected Impervious Area
TIMP, XIMP & C values averaged/estimated & should be adjusted to reflect site-specific parameters

TATHAM ENGINEERING

Impervious Area & Runoff Coefficient Calculations - Pre Development

Project Details

Summit View Phase 3	118039

Prepared By

EL	Dec/22

Data Sources	MTO Drainage Management Manual Design Chart 1.07 (1997)

Watershed: NVCA

Impervious Area and Runoff Coefficient (C) for Catchment

Catchment ID		**115**			**116**			**117**					
Catchment Area		9.34			6.57			5.73					
Land Cover Category	**C**	**Area (ha)**	**TIMP (ha)**	**XIMP (ha)**	**.**	**TIMP (ha)**	**XIMP (ha)**	**Area (ha)**	**TIMP (ha)**	**XIMP (ha)**	**Area (ha)**	**TIMP (ha)**	**XIMP (ha)**
Single Residential	0.40												
Multi - Residential	0.55												
Apartment	0.65												
Commercial	0.85												
Industrial	0.85												
Right-of-Ways	0.70												
Paved	0.90	0.06	0.06	0.06	0.10	0.10	0.10	0.11	0.11	0.10			
Roof	0.90	0.05	0.05					0.17	0.17				
Gravel	0.75	0.07	0.06	0.04	0.07	0.06	0.04	0.16	0.13	0.08			
Woodland	0.28												
Pasture/Lawns	0.17												
Meadows	0.32												
Cultivated	0.47	9.16			6.40			5.29					
Waterbody	0.50												
Runoff Coefficient (C)		0.48			0.48			0.50					
Catchment TIMP (%)		1.8%			2.4%			7.1%					
Catchment XIMP (%)		1.0%			2.0%			3.2%					
Hydrograph Type		NASHYD			NASHYD			NASHYD					

Notes:

TIMP - Total Impervious Area
XIMP - Directly Connected Impervious Area
TIMP, XIMP & C values averaged/estimated & should be adjusted to reflect site-specific parameters

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (NasHYD)

Project Details

Summit View Phase 3	118039

Prepared By

EL	Jan/23

Data Sources

Detailed Soil Survey Reports for Ontario, NVCA Stormwater Technical Guide (2013), MTO Drainage Management Manual (1997)

Pre-Development Condition

Watershed:	NVCA
Catchment ID:	101
Catchment Area (ha):	9.85
Impervious %:	1%

Average Curve Number (CN), Runoff Coefficient (C) and Initial Abstraction (IA)

Soil Symbol		**Tis**											
Soil Series		Tioga											
Hydrologic Soils Group		A											
Soil Texture		Sand Loam											
Runoff Coefficient Type		1											
Area (ha)		9.85											
Percentage of Catchment		100%											
Land Cover Category	**IA**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**
Impervious	2	0.10	100	0.95									
Gravel	3		89	0.09									
Woodland	10		32	0.08									
Pasture/Lawns	5		49	0.10									
Meadows	8		38	0.09									
Cultivated	7	9.75	62	0.22									
Waterbody	12		50	0.05									
Average CN		62.35											
Average C		0.23											
Average IA		6.95											

Time to Peak Calculations

Max. Catchment Elev. (m):	209.50
Min. Catchment Elev. (m):	199.50
Catchment Length (m):	765
Catchment Slope (%):	1.31%
Method: Airport Method	
Time of Concentration (mins):	72.05

Summary

Catchment CN:	62.3
Catchment C:	0.23
Catchment IA (mm):	6.95
Time of Concentration (hrs):	1.20
Catchment Time to Peak (hrs):	0.80
Catchment Time Step (mins):	9.61

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (NasHYD)

Project Details

Summit View Phase 3	118039

Prepared By

EL	Jan/23

Data Sources

Detailed Soil Survey Reports for Ontario, NVCA Stormwater Technical Guide (2013), MTO Drainage Management Manual (1997)

Pre-Development Condition

Watershed:	NVCA
Catchment ID:	102
Catchment Area (ha):	4.52
Impervious %:	1%

Average Curve Number (CN), Runoff Coefficient (C) and Initial Abstraction (IA)

Soil Symbol		**Tis**											
Soil Series		Tioga											
Hydrologic Soils Group		A											
Soil Texture		Sand Loam											
Runoff Coefficient Type		1											
Area (ha)		4.52											
Percentage of Catchment		100%											
Land Cover Category	**IA**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**
Impervious	2	0.05	100	0.95									
Gravel	3		89	0.09									
Woodland	10		32	0.08									
Pasture/Lawns	5		49	0.10									
Meadows	8		38	0.09									
Cultivated	7	4.47	62	0.22									
Waterbody	12		50	0.05									
Average CN		62.42											
Average C		0.23											
Average IA		6.94											

Time to Peak Calculations

Max. Catchment Elev. (m):	214.50
Min. Catchment Elev. (m):	205.00
Catchment Length (m):	283
Catchment Slope (%):	3.36%
Method: Airport Method	
Time of Concentration (mins):	32.06

Summary

Catchment CN:	62.4
Catchment C:	0.23
Catchment IA (mm):	6.94
Time of Concentration (hrs):	0.53
Catchment Time to Peak (hrs):	0.36
Catchment Time Step (mins):	4.28

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (NasHYD)

Project Details

Summit View Phase 3	118039

Prepared By

EL	Jan/23

Data Sources

Detailed Soil Survey Reports for Ontario, NVCA Stormwater Technical Guide (2013), MTO Drainage Management Manual (1997)

Pre-Development Condition

Watershed:	NVCA
Catchment ID:	103
Catchment Area (ha):	0.66
Impervious %:	1%

Average Curve Number (CN), Runoff Coefficient (C) and Initial Abstraction (IA)

Soil Symbol		**Tis**											
Soil Series		Tioga											
Hydrologic Soils Group		A											
Soil Texture		Sand Loam											
Runoff Coefficient Type		1											
Area (ha)		0.66											
Percentage of Catchment		100%											
Land Cover Category	**IA**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**
Impervious	2	0.01	100	0.95									
Gravel	3		89	0.14									
Woodland	10		32	0.12									
Pasture/Lawns	5		49	0.15									
Meadows	8		38	0.14									
Cultivated	7	0.65	62	0.30									
Waterbody	12		50	0.05									
Average CN		62.40											
Average C		0.31											
Average IA		6.95											

Time to Peak Calculations

Max. Catchment Elev. (m):	214.00
Min. Catchment Elev. (m):	208.50
Catchment Length (m):	95
Catchment Slope (%):	5.79%
Method: Airport Method	
Time of Concentration (mins):	14.12

Summary

Catchment CN:	62.4
Catchment C:	0.31
Catchment IA (mm):	6.95
Time of Concentration (hrs):	0.24
Catchment Time to Peak (hrs):	0.16
Catchment Time Step (mins):	1.88

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (NasHYD)

Project Details

Summit View Phase 3	118039

Prepared By

EL	Jan/23

Data Sources

Detailed Soil Survey Reports for Ontario, NVCA Stormwater Technical Guide (2013), MTO Drainage Management Manual (1997)

Pre-Development Condition

Watershed:	NVCA
Catchment ID:	115
Catchment Area (ha):	9.34
Impervious %:	2%

Average Curve Number (CN), Runoff Coefficient (C) and Initial Abstraction (IA)

Soil Symbol		**Tis**											
Soil Series		Tioga											
Hydrologic Soils Group		A											
Soil Texture		Sand Loam											
Runoff Coefficient Type		1											
Area (ha)		9.34											
Percentage of Catchment		100%											
Land Cover Category	**IA**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**
Impervious	2	0.11	100	0.95									
Gravel	3	0.07	89	0.09									
Woodland	10		32	0.08									
Pasture/Lawns	5		49	0.10									
Meadows	8		38	0.09									
Cultivated	7	9.16	62	0.22									
Waterbody	12		50	0.05									
Average CN		62.65											
Average C		0.23											
Average IA		6.91											

Time to Peak Calculations

Max. Catchment Elev. (m):	209.00
Min. Catchment Elev. (m):	200.00
Catchment Length (m):	636
Catchment Slope (%):	1.42%
Method: Airport Method	
Time of Concentration (mins):	63.96

Summary

Catchment CN:	62.6
Catchment C:	0.23
Catchment IA (mm):	6.91
Time of Concentration (hrs):	1.07
Catchment Time to Peak (hrs):	0.71
Catchment Time Step (mins):	8.53

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (NasHYD)

Project Details

Summit View Phase 3	118039

Prepared By

EL	Jan/23

Data Sources

Detailed Soil Survey Reports for Ontario, NVCA Stormwater Technical Guide (2013), MTO Drainage Management Manual (1997)

Pre-Development Condition

Watershed:	NVCA
Catchment ID:	116
Catchment Area (ha):	6.57
Impervious %:	2%

Average Curve Number (CN), Runoff Coefficient (C) and Initial Abstraction (IA)

Soil Symbol		**Tis**											
Soil Series		Tioga											
Hydrologic Soils Group		A											
Soil Texture		Sand Loam											
Runoff Coefficient Type		1											
Area (ha)		6.57											
Percentage of Catchment		100%											
Land Cover Category	**IA**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**
Impervious	2	0.10	100	0.95									
Gravel	3	0.07	89	0.09									
Woodland	10		32	0.08									
Pasture/Lawns	5		49	0.10									
Meadows	8		38	0.09									
Cultivated	7	6.40	62	0.22									
Waterbody	12		50	0.05									
Average CN		62.87											
Average C		0.23											
Average IA		6.88											

Time to Peak Calculations

Max. Catchment Elev. (m):	206.00
Min. Catchment Elev. (m):	198.00
Catchment Length (m):	452
Catchment Slope (%):	1.77%
Method: Airport Method	
Time of Concentration (mins):	49.96

Summary

Catchment CN:	62.9
Catchment C:	0.23
Catchment IA (mm):	6.88
Time of Concentration (hrs):	0.83
Catchment Time to Peak (hrs):	0.56
Catchment Time Step (mins):	6.66

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (NasHYD)

Project Details

Summit View Phase 3	118039

Prepared By

EL	Jan/23

Data Sources

Detailed Soil Survey Reports for Ontario, NVCA Stormwater Technical Guide (2013), MTO Drainage Management Manual (1997)

Pre-Development Condition

Watershed:	NVCA
Catchment ID:	117
Catchment Area (ha):	5.73
Impervious %:	7%

Average Curve Number (CN), Runoff Coefficient (C) and Initial Abstraction (IA)

Soil Symbol		**Tis**											
Soil Series		Tioga											
Hydrologic Soils Group		A											
Soil Texture		Sand Loam											
Runoff Coefficient Type		1											
Area (ha)		5.73											
Percentage of Catchment		100%											
Land Cover Category	**IA**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**
Impervious	2	0.28	100	0.95									
Gravel	3	0.16	89	0.09									
Woodland	10		32	0.08									
Pasture/Lawns	5		49	0.10									
Meadows	8		38	0.09									
Cultivated	7	5.29	62	0.22									
Waterbody	12		50	0.05									
Average CN		64.61											
Average C		0.25											
Average IA		6.64											

Time to Peak Calculations

Max. Catchment Elev. (m):	208.00
Min. Catchment Elev. (m):	202.00
Catchment Length (m):	318
Catchment Slope (%):	1.89%
Method: Airport Method	
Time of Concentration (mins):	39.98

Summary

Catchment CN:	64.6
Catchment C:	0.25
Catchment IA (mm):	6.64
Time of Concentration (hrs):	0.67
Catchment Time to Peak (hrs):	0.44
Catchment Time Step (mins):	5.33

Ontario IDF CURVE LOOKUP

Active coordinate

44° 28' 45" N, 80° 13' 45" W (44.479167,-80.229167)

Retrieved: Tue, 03 Jan 2023 19:40:16 GMT



Location summary

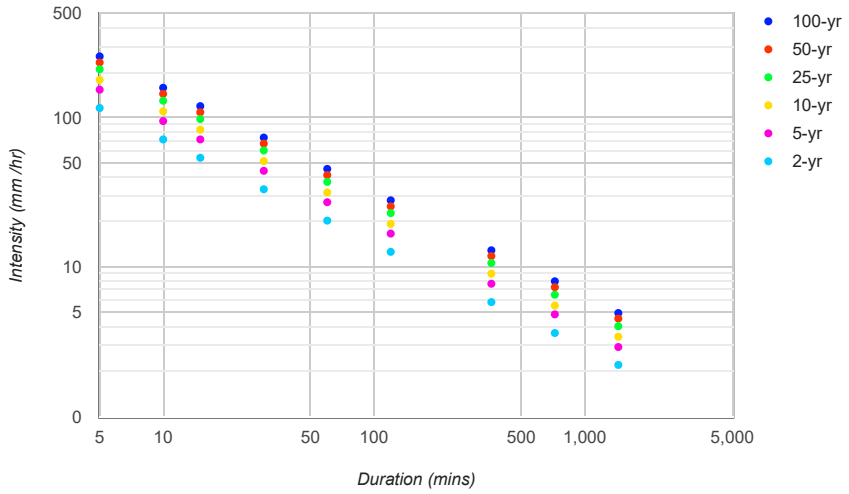
These are the locations in the selection.

IDF Curve: 44° 28' 45" N, 80° 13' 45" W (44.479167,-80.229167)

Results

An IDF curve was found.

Coordinate: 44.479167, -80.229167
IDF curve year: 2010



Coefficient summary

IDF Curve: 44° 28' 45" N, 80° 13' 45" W (44.479167,-80.229167)

Retrieved: Tue, 03 Jan 2023 19:40:16 GMT

Data year: 2010
IDF curve year: 2010

Return period	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
A	20.4	27.1	31.5	37.1	41.2	45.3
B	-0.699	-0.699	-0.699	-0.699	-0.699	-0.699

Statistics

Rainfall intensity (mm hr^{-1})

Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
2-yr	115.9	71.4	53.8	33.1	20.4	12.6	5.8	3.6	2.2
5-yr	153.9	94.8	71.4	44.0	27.1	16.7	7.7	4.8	2.9
10-yr	178.9	110.2	83.0	51.1	31.5	19.4	9.0	5.5	3.4
25-yr	210.7	129.8	97.8	60.2	37.1	22.9	10.6	6.5	4.0
50-yr	234.0	144.2	108.6	66.9	41.2	25.4	11.8	7.3	4.5
100-yr	257.3	158.5	119.4	73.5	45.3	27.9	12.9	8.0	4.9

Rainfall depth (mm)

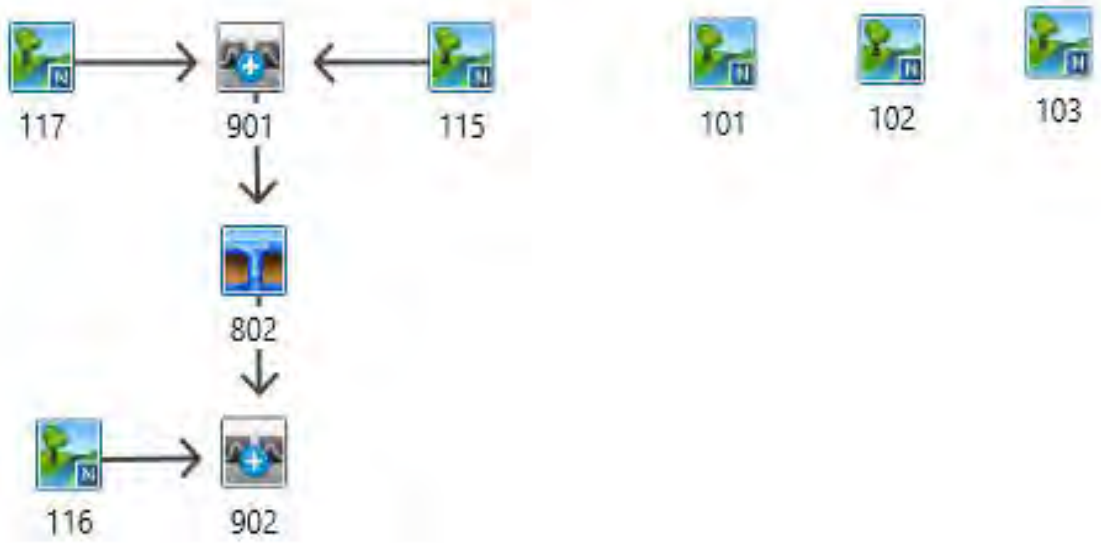
Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
2-yr	9.7	11.9	13.4	16.6	20.4	25.1	35.0	43.1	53.1
5-yr	12.8	15.8	17.9	22.0	27.1	33.4	46.5	57.3	70.5
10-yr	14.9	18.4	20.8	25.6	31.5	38.8	54.0	66.5	82.0
25-yr	17.6	21.6	24.4	30.1	37.1	45.7	63.6	78.4	96.6
50-yr	19.5	24.0	27.1	33.4	41.2	50.8	70.7	87.0	107.2
100-yr	21.4	26.4	29.8	36.8	45.3	55.8	77.7	95.7	117.9

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Last Modified: September 2016

PROJECT	Summit View - Phase 3	FILE	118039
	Town of Collingwood	DATE	Jan./23
SUBJECT	Visual OTTHYMO Schematic	NAME	E.Lundquist
	Pre-Development	PAGE	1



NASHYD

ROUTE PIPE

DUHYD

STANDHYD

ROUTE CHANNEL

DIVERT HYD

ADDHYD

ROUTE RESERVOIR

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

       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       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 6.1\VO2\voin.dat

  Output  filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\4f
4649b4-8d10-45a2-8401-5443e5cd3336\s
  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\4f
4649b4-8d10-45a2-8401-5443e5cd3336\s


DATE: 01/19/2023                          TIME: 07:32:45

USER:



COMMENTS: _____________________________________________________


--------------------------------------------------------------------------------
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  ************************************************
  ** SIMULATION : CHIC25MM                      **
  ************************************************


--------------------
|    READ STORM    |    Filename: C:\Users\elundquist\AppD
|                  |              ata\Local\Temp\
|                  |              e0653103-a8f7-4f32-b07e-592e3707cc35\075ba338
| Ptotal= 24.97 mm |    Comments: CHIC25MM
--------------------
                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.10    1.29 |  1.10    2.81 |  2.10   13.05 |  3.10    2.04
                  0.20    1.36 |  1.20    3.22 |  2.20    8.44 |  3.20    1.89
                  0.30    1.44 |  1.30    3.77 |  2.30    6.21 |  3.30    1.76
                  0.40    1.53 |  1.40    4.55 |  2.40    4.91 |  3.40    1.65
                  0.50    1.63 |  1.50    5.77 |  2.50    4.06 |  3.50    1.55
                  0.60    1.75 |  1.60    7.86 |  2.60    3.47 |  3.60    1.46
                  0.70    1.89 |  1.70   12.27 |  2.70    3.03 |  3.70    1.39
                  0.80    2.06 |  1.80   26.17 |  2.80    2.70 |  3.80    1.32
                  0.90    2.26 |  1.90   72.58 |  2.90    2.43 |  3.90    1.26
                  1.00    2.50 |  2.00   26.96 |  3.00    2.22 |  4.00    1.20

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

--------------------
| CALIB            |
| NASHYD   (  0117)|   Area    (ha)=   5.73   Curve Number   (CN)= 64.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.64   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44

        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    1.29 | 1.083    2.81 | 2.083   13.05 |  3.08    2.04
               0.167    1.35 | 1.167    3.14 | 2.167    9.36 |  3.17    1.92
               0.250    1.41 | 1.250    3.55 | 2.250    7.10 |  3.25    1.81
               0.333    1.48 | 1.333    4.08 | 2.333    5.69 |  3.33    1.72
               0.417    1.55 | 1.417    4.79 | 2.417    4.74 |  3.42    1.63
               0.500    1.63 | 1.500    5.77 | 2.500    4.06 |  3.50    1.55
               0.583    1.75 | 1.583    7.86 | 2.583    3.47 |  3.58    1.46
               0.667    1.86 | 1.667   11.39 | 2.667    3.12 |  3.67    1.40
               0.750    1.99 | 1.750   20.61 | 2.750    2.83 |  3.75    1.35
               0.833    2.14 | 1.833   44.73 | 2.833    2.59 |  3.83    1.30
               0.917    2.31 | 1.917   63.46 | 2.917    2.39 |  3.92    1.25
               1.000    2.50 | 2.000   26.96 | 3.000    2.22 |  4.00    1.20

    Unit Hyd Qpeak  (cms)=   0.497

    PEAK FLOW       (cms)=   0.025 (i)
    TIME TO PEAK    (hrs)=   2.417
    RUNOFF VOLUME    (mm)=   2.133
    TOTAL RAINFALL   (mm)=  24.971
    RUNOFF COEFFICIENT   =   0.085
```

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

CALIB					
NASHYD (0115)	Area (ha)=	9.34	Curve Number (CN)=	62.6	
ID= 1 DT= 5.0 min	Ia (mm)=	6.91	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.71			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.29	1.083	2.81	2.083	13.05	3.08	2.04
0.167	1.35	1.167	3.14	2.167	9.36	3.17	1.92
0.250	1.41	1.250	3.55	2.250	7.10	3.25	1.81
0.333	1.48	1.333	4.08	2.333	5.69	3.33	1.72
0.417	1.55	1.417	4.79	2.417	4.74	3.42	1.63
0.500	1.63	1.500	5.77	2.500	4.06	3.50	1.55
0.583	1.75	1.583	7.86	2.583	3.47	3.58	1.46
0.667	1.86	1.667	11.39	2.667	3.12	3.67	1.40
0.750	1.99	1.750	20.61	2.750	2.83	3.75	1.35
0.833	2.14	1.833	44.73	2.833	2.59	3.83	1.30
0.917	2.31	1.917	63.46	2.917	2.39	3.92	1.25
1.000	2.50	2.000	26.96	3.000	2.22	4.00	1.20

Unit Hyd Qpeak (cms)=	0.502	
PEAK FLOW (cms)=	0.026	(i)
TIME TO PEAK (hrs)=	2.833	
RUNOFF VOLUME (mm)=	1.921	
TOTAL RAINFALL (mm)=	24.971	
RUNOFF COEFFICIENT =	0.077	

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

CALIB					
STANDHYD (0303)	Area (ha)=	0.37			
ID= 1 DT= 5.0 min	Total Imp(%)=	97.30	Dir. Conn.(%)=	92.40	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.36	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	49.67	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	1.29	1.083	2.81	2.083	13.05	3.08	2.04
0.167	1.35	1.167	3.14	2.167	9.36	3.17	1.92
0.250	1.41	1.250	3.55	2.250	7.10	3.25	1.81
0.333	1.48	1.333	4.08	2.333	5.69	3.33	1.72
0.417	1.55	1.417	4.79	2.417	4.74	3.42	1.63
0.500	1.63	1.500	5.77	2.500	4.06	3.50	1.55
0.583	1.75	1.583	7.86	2.583	3.47	3.58	1.46
0.667	1.86	1.667	11.39	2.667	3.12	3.67	1.40
0.750	1.99	1.750	20.61	2.750	2.83	3.75	1.35
0.833	2.14	1.833	44.73	2.833	2.59	3.83	1.30
0.917	2.31	1.917	63.46	2.917	2.39	3.92	1.25
1.000	2.50	2.000	26.96	3.000	2.22	4.00	1.20

Max.Eff.Inten.(mm/hr)=	63.46	28.61		
over (min)	5.00	5.00		
Storage Coeff. (min)=	2.01	(ii) 4.07	(ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00		
Unit Hyd. peak (cms)=	0.31	0.24		
				TOTALS
PEAK FLOW (cms)=	0.06	0.00		0.059 (iii)
TIME TO PEAK (hrs)=	1.92	1.92		1.92
RUNOFF VOLUME (mm)=	23.97	4.59		22.50
TOTAL RAINFALL (mm)=	24.97	24.97		24.97
RUNOFF COEFFICIENT =	0.96	0.18		0.90

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (0801)				
Inlet Cap.= 0.109				
#of Inlets= 1				
Total(cms)= 0.1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	0.37	0.06	1.92	22.50

==========

```
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   0.37      0.06      1.92   22.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0901)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):     9.34   0.026     2.83     1.92
      + ID2= 2 (  0117):     5.73   0.025     2.42     2.13
        ================================================
        ID = 3 (  0901):    15.07   0.048     2.58     2.00

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

--------------------
| ADD HYD  (  0901)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0801 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0001 = HYDROGRAPH 0003
        ID1= 3 (  0901):    15.07   0.048     2.58     2.00
      + ID2= 2 (  0801):     0.00   0.000     0.00     0.00
        ================================================
        ID = 1 (  0901):    15.07   0.048     2.58     2.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.364|
| #of Inlets=     1|
| Total(cms)=   0.4|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.07      0.05      2.58    2.00
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  15.07      0.05      2.58    2.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0116)|   Area    (ha)=   6.57   Curve Number   (CN)= 62.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.88   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.56

         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    1.29 | 1.083    2.81 | 2.083   13.05 |  3.08    2.04
                 0.167    1.35 | 1.167    3.14 | 2.167    9.36 |  3.17    1.92
                 0.250    1.41 | 1.250    3.55 | 2.250    7.10 |  3.25    1.81
                 0.333    1.48 | 1.333    4.08 | 2.333    5.69 |  3.33    1.72
                 0.417    1.55 | 1.417    4.79 | 2.417    4.74 |  3.42    1.63
                 0.500    1.63 | 1.500    5.77 | 2.500    4.06 |  3.50    1.55
                 0.583    1.75 | 1.583    7.86 | 2.583    3.47 |  3.58    1.46
                 0.667    1.86 | 1.667   11.39 | 2.667    3.12 |  3.67    1.40
                 0.750    1.99 | 1.750   20.61 | 2.750    2.83 |  3.75    1.35
                 0.833    2.14 | 1.833   44.73 | 2.833    2.59 |  3.83    1.30
                 0.917    2.31 | 1.917   63.46 | 2.917    2.39 |  3.92    1.25
                 1.000    2.50 | 2.000   26.96 | 3.000    2.22 |  4.00    1.20

     Unit Hyd Qpeak  (cms)=   0.448

     PEAK FLOW       (cms)=   0.022 (i)
     TIME TO PEAK    (hrs)=   2.583
     RUNOFF VOLUME    (mm)=   1.949
     TOTAL RAINFALL   (mm)=  24.971
     RUNOFF COEFFICIENT   =   0.078

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

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

--------------------
| ADD HYD  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
        ID1= 1 (  0116):     6.57   0.022     2.58     1.95
      + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (  0902):     6.57   0.022     2.58     1.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0101)|   Area    (ha)=   9.85   Curve Number   (CN)= 62.3
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.95   # of Linear Res.(N)= 3.00
```

-------------------- U.H. Tp(hrs)= 0.80

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.29	1.083	2.81	2.083	13.05	3.08	2.04
0.167	1.35	1.167	3.14	2.167	9.36	3.17	1.92
0.250	1.41	1.250	3.55	2.250	7.10	3.25	1.81
0.333	1.48	1.333	4.08	2.333	5.69	3.33	1.72
0.417	1.55	1.417	4.79	2.417	4.74	3.42	1.63
0.500	1.63	1.500	5.77	2.500	4.06	3.50	1.55
0.583	1.75	1.583	7.86	2.583	3.47	3.58	1.46
0.667	1.86	1.667	11.39	2.667	3.12	3.67	1.40
0.750	1.99	1.750	20.61	2.750	2.83	3.75	1.35
0.833	2.14	1.833	44.73	2.833	2.59	3.83	1.30
0.917	2.31	1.917	63.46	2.917	2.39	3.92	1.25
1.000	2.50	2.000	26.96	3.000	2.22	4.00	1.20

Unit Hyd Qpeak (cms)= 0.470

PEAK FLOW (cms)= 0.025 (i)
TIME TO PEAK (hrs)= 2.917
RUNOFF VOLUME (mm)= 1.891
TOTAL RAINFALL (mm)= 24.971
RUNOFF COEFFICIENT = 0.076

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

CALIB NASHYD (0102) ID= 1 DT= 5.0 min	Area (ha)= 4.52 Curve Number (CN)= 62.4 Ia (mm)= 6.94 # of Linear Res.(N)= 3.00 U.H. Tp(hrs)= 0.36

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.29	1.083	2.81	2.083	13.05	3.08	2.04
0.167	1.35	1.167	3.14	2.167	9.36	3.17	1.92
0.250	1.41	1.250	3.55	2.250	7.10	3.25	1.81
0.333	1.48	1.333	4.08	2.333	5.69	3.33	1.72
0.417	1.55	1.417	4.79	2.417	4.74	3.42	1.63
0.500	1.63	1.500	5.77	2.500	4.06	3.50	1.55
0.583	1.75	1.583	7.86	2.583	3.47	3.58	1.46
0.667	1.86	1.667	11.39	2.667	3.12	3.67	1.40
0.750	1.99	1.750	20.61	2.750	2.83	3.75	1.35
0.833	2.14	1.833	44.73	2.833	2.59	3.83	1.30
0.917	2.31	1.917	63.46	2.917	2.39	3.92	1.25
1.000	2.50	2.000	26.96	3.000	2.22	4.00	1.20

Unit Hyd Qpeak (cms)= 0.480

PEAK FLOW (cms)= 0.020 (i)
TIME TO PEAK (hrs)= 2.333
RUNOFF VOLUME (mm)= 1.900
TOTAL RAINFALL (mm)= 24.971
RUNOFF COEFFICIENT = 0.076

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

CALIB NASHYD (0103) ID= 1 DT= 5.0 min	Area (ha)= 0.66 Curve Number (CN)= 62.4 Ia (mm)= 6.95 # of Linear Res.(N)= 3.00 U.H. Tp(hrs)= 0.16

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.29	1.083	2.81	2.083	13.05	3.08	2.04
0.167	1.35	1.167	3.14	2.167	9.36	3.17	1.92
0.250	1.41	1.250	3.55	2.250	7.10	3.25	1.81
0.333	1.48	1.333	4.08	2.333	5.69	3.33	1.72
0.417	1.55	1.417	4.79	2.417	4.74	3.42	1.63
0.500	1.63	1.500	5.77	2.500	4.06	3.50	1.55
0.583	1.75	1.583	7.86	2.583	3.47	3.58	1.46
0.667	1.86	1.667	11.39	2.667	3.12	3.67	1.40
0.750	1.99	1.750	20.61	2.750	2.83	3.75	1.35
0.833	2.14	1.833	44.73	2.833	2.59	3.83	1.30
0.917	2.31	1.917	63.46	2.917	2.39	3.92	1.25
1.000	2.50	2.000	26.96	3.000	2.22	4.00	1.20

Unit Hyd Qpeak (cms)= 0.158

PEAK FLOW (cms)= 0.005 (i)
TIME TO PEAK (hrs)= 2.083
RUNOFF VOLUME (mm)= 1.889
TOTAL RAINFALL (mm)= 24.971
RUNOFF COEFFICIENT = 0.076

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

```
       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       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 6.1\VO2\voin.dat

Output filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\cd5c64c1-6ac9-47d4-9d66-e7e5d60cc2f6\s
Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\cd5c64c1-6ac9-47d4-9d66-e7e5d60cc2f6\s

DATE: 01/19/2023 TIME: 07:32:45

USER:

COMMENTS: _____

****
** SIMULATION : 2yr 4hr 10min Chicago **
****

CHICAGO STORM
Ptotal= 30.95 mm

IDF curve parameters: A= 356.909
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	2.60	1.17	12.32	2.17	5.15	3.17	3.00
0.33	2.91	1.33	71.38	2.33	4.54	3.33	2.82
0.50	3.32	1.50	15.11	2.50	4.09	3.50	2.67
0.67	3.91	1.67	9.53	2.67	3.73	3.67	2.54
0.83	4.84	1.83	7.27	2.83	3.44	3.83	2.42
1.00	6.62	2.00	5.99	3.00	3.20	4.00	2.31

CALIB
NASHYD (0117)
ID= 1 DT= 5.0 min

Area (ha)= 5.73 Curve Number (CN)= 64.6
Ia (mm)= 6.64 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.44

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.60	1.083	12.32	2.083	5.15	3.08	3.00
0.167	2.60	1.167	12.32	2.167	5.15	3.17	3.00
0.250	2.91	1.250	71.38	2.250	4.54	3.25	2.82
0.333	2.91	1.333	71.38	2.333	4.54	3.33	2.82
0.417	3.32	1.417	15.11	2.417	4.09	3.42	2.67
0.500	3.32	1.500	15.11	2.500	4.09	3.50	2.67
0.583	3.91	1.583	9.53	2.583	3.73	3.58	2.54
0.667	3.91	1.667	9.53	2.667	3.73	3.67	2.54
0.750	4.84	1.750	7.27	2.750	3.44	3.75	2.42
0.833	4.84	1.833	7.27	2.833	3.44	3.83	2.42
0.917	6.62	1.917	5.99	2.917	3.20	3.92	2.31
1.000	6.62	2.000	5.99	3.000	3.20	4.00	2.31

Unit Hyd Qpeak (cms)= 0.497

PEAK FLOW (cms)= 0.029 (i)
TIME TO PEAK (hrs)= 1.917

```
     RUNOFF VOLUME    (mm)=   3.615
     TOTAL RAINFALL   (mm)=  30.952
     RUNOFF COEFFICIENT   =   0.117

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0115)|   Area    (ha)=   9.34   Curve Number   (CN)= 62.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.91   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.71

         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    2.60 | 1.083   12.32 | 2.083    5.15 |  3.08    3.00
               0.167    2.60 | 1.167   12.32 | 2.167    5.15 |  3.17    3.00
               0.250    2.91 | 1.250   71.38 | 2.250    4.54 |  3.25    2.82
               0.333    2.91 | 1.333   71.38 | 2.333    4.54 |  3.33    2.82
               0.417    3.32 | 1.417   15.11 | 2.417    4.09 |  3.42    2.67
               0.500    3.32 | 1.500   15.11 | 2.500    4.09 |  3.50    2.67
               0.583    3.91 | 1.583    9.53 | 2.583    3.73 |  3.58    2.54
               0.667    3.91 | 1.667    9.53 | 2.667    3.73 |  3.67    2.54
               0.750    4.84 | 1.750    7.27 | 2.750    3.44 |  3.75    2.42
               0.833    4.84 | 1.833    7.27 | 2.833    3.44 |  3.83    2.42
               0.917    6.62 | 1.917    5.99 | 2.917    3.20 |  3.92    2.31
               1.000    6.62 | 2.000    5.99 | 3.000    3.20 |  4.00    2.31

     Unit Hyd Qpeak  (cms)=   0.502

     PEAK FLOW       (cms)=   0.033 (i)
     TIME TO PEAK    (hrs)=   2.417
     RUNOFF VOLUME    (mm)=   3.288
     TOTAL RAINFALL   (mm)=  30.952
     RUNOFF COEFFICIENT   =   0.106

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0303)|   Area    (ha)=   0.37
|ID= 1 DT= 5.0 min |   Total Imp(%)=  97.30   Dir. Conn.(%)=  92.40
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.36         0.01
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      49.67        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    2.60 | 1.083   12.32 | 2.083    5.15 |  3.08    3.00
               0.167    2.60 | 1.167   12.32 | 2.167    5.15 |  3.17    3.00
               0.250    2.91 | 1.250   71.38 | 2.250    4.54 |  3.25    2.82
               0.333    2.91 | 1.333   71.38 | 2.333    4.54 |  3.33    2.82
               0.417    3.32 | 1.417   15.11 | 2.417    4.09 |  3.42    2.67
               0.500    3.32 | 1.500   15.11 | 2.500    4.09 |  3.50    2.67
               0.583    3.91 | 1.583    9.53 | 2.583    3.73 |  3.58    2.54
               0.667    3.91 | 1.667    9.53 | 2.667    3.73 |  3.67    2.54
               0.750    4.84 | 1.750    7.27 | 2.750    3.44 |  3.75    2.42
               0.833    4.84 | 1.833    7.27 | 2.833    3.44 |  3.83    2.42
               0.917    6.62 | 1.917    5.99 | 2.917    3.20 |  3.92    2.31
               1.000    6.62 | 2.000    5.99 | 3.000    3.20 |  4.00    2.31

     Max.Eff.Inten.(mm/hr)=      71.38        37.08
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      1.92 (ii)    3.89 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=      0.31         0.25
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.07         0.00          0.069 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.33           1.33
     RUNOFF VOLUME    (mm)=     29.95         6.92          28.20
     TOTAL RAINFALL   (mm)=     30.95        30.95          30.95
     RUNOFF COEFFICIENT   =      0.97         0.22           0.91

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  49.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0801)|
| Inlet Cap.= 0.109|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
```

```
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   0.37      0.07      1.33   28.20
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   0.37      0.07      1.33   28.20

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

```
--------------------
| ADD HYD  (  0901)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0115):     9.34   0.033     2.42     3.29
     + ID2= 2 (  0117):     5.73   0.029     1.92     3.61
       ================================================
       ID = 3 (  0901):    15.07   0.059     2.17     3.41

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

```
--------------------
| ADD HYD  (  0901)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0801 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0001 = HYDROGRAPH 0003
       ID1= 3 (  0901):    15.07   0.059     2.17     3.41
     + ID2= 2 (  0801):     0.00   0.000     0.00     0.00
       ================================================
       ID = 1 (  0901):    15.07   0.059     2.17     3.41

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

```
--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.364|
| #of Inlets=     1|
| Total(cms)=   0.4|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.07      0.06      2.17    3.41
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  15.07      0.06      2.17    3.41

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

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

```
| CALIB            |
| NASHYD   (  0116)|   Area    (ha)=   6.57   Curve Number   (CN)= 62.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.88   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.56

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
		---- TRANSFORMED HYETOGRAPH ----					
0.083	2.60	1.083	12.32	2.083	5.15	3.08	3.00
0.167	2.60	1.167	12.32	2.167	5.15	3.17	3.00
0.250	2.91	1.250	71.38	2.250	4.54	3.25	2.82
0.333	2.91	1.333	71.38	2.333	4.54	3.33	2.82
0.417	3.32	1.417	15.11	2.417	4.09	3.42	2.67
0.500	3.32	1.500	15.11	2.500	4.09	3.50	2.67
0.583	3.91	1.583	9.53	2.583	3.73	3.58	2.54
0.667	3.91	1.667	9.53	2.667	3.73	3.67	2.54
0.750	4.84	1.750	7.27	2.750	3.44	3.75	2.42
0.833	4.84	1.833	7.27	2.833	3.44	3.83	2.42
0.917	6.62	1.917	5.99	2.917	3.20	3.92	2.31
1.000	6.62	2.000	5.99	3.000	3.20	4.00	2.31

```
     Unit Hyd Qpeak  (cms)=   0.448

     PEAK FLOW       (cms)=   0.027 (i)
     TIME TO PEAK    (hrs)=   2.167
     RUNOFF VOLUME    (mm)=   3.332
     TOTAL RAINFALL   (mm)=  30.952
     RUNOFF COEFFICIENT   =   0.108

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

```
--------------------
| ADD HYD  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
       ID1= 1 (  0116):     6.57   0.027     2.17     3.33
     + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
       ================================================
       ID = 3 (  0902):     6.57   0.027     2.17     3.33

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

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

CALIB					
NASHYD (0101)	Area (ha)=	9.85	Curve Number (CN)=	62.3	
ID= 1 DT= 5.0 min	Ia (mm)=	6.95	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.80			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.60	1.083	12.32	2.083	5.15	3.08	3.00
0.167	2.60	1.167	12.32	2.167	5.15	3.17	3.00
0.250	2.91	1.250	71.38	2.250	4.54	3.25	2.82
0.333	2.91	1.333	71.38	2.333	4.54	3.33	2.82
0.417	3.32	1.417	15.11	2.417	4.09	3.42	2.67
0.500	3.32	1.500	15.11	2.500	4.09	3.50	2.67
0.583	3.91	1.583	9.53	2.583	3.73	3.58	2.54
0.667	3.91	1.667	9.53	2.667	3.73	3.67	2.54
0.750	4.84	1.750	7.27	2.750	3.44	3.75	2.42
0.833	4.84	1.833	7.27	2.833	3.44	3.83	2.42
0.917	6.62	1.917	5.99	2.917	3.20	3.92	2.31
1.000	6.62	2.000	5.99	3.000	3.20	4.00	2.31

Unit Hyd Qpeak (cms)= 0.470

PEAK FLOW (cms)= 0.032 (i)
TIME TO PEAK (hrs)= 2.583
RUNOFF VOLUME (mm)= 3.242
TOTAL RAINFALL (mm)= 30.952
RUNOFF COEFFICIENT = 0.105

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

CALIB					
NASHYD (0102)	Area (ha)=	4.52	Curve Number (CN)=	62.4	
ID= 1 DT= 5.0 min	Ia (mm)=	6.94	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.36			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.60	1.083	12.32	2.083	5.15	3.08	3.00
0.167	2.60	1.167	12.32	2.167	5.15	3.17	3.00
0.250	2.91	1.250	71.38	2.250	4.54	3.25	2.82
0.333	2.91	1.333	71.38	2.333	4.54	3.33	2.82
0.417	3.32	1.417	15.11	2.417	4.09	3.42	2.67
0.500	3.32	1.500	15.11	2.500	4.09	3.50	2.67
0.583	3.91	1.583	9.53	2.583	3.73	3.58	2.54
0.667	3.91	1.667	9.53	2.667	3.73	3.67	2.54
0.750	4.84	1.750	7.27	2.750	3.44	3.75	2.42
0.833	4.84	1.833	7.27	2.833	3.44	3.83	2.42
0.917	6.62	1.917	5.99	2.917	3.20	3.92	2.31
1.000	6.62	2.000	5.99	3.000	3.20	4.00	2.31

Unit Hyd Qpeak (cms)= 0.480

PEAK FLOW (cms)= 0.023 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 3.256
TOTAL RAINFALL (mm)= 30.952
RUNOFF COEFFICIENT = 0.105

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

CALIB					
NASHYD (0103)	Area (ha)=	0.66	Curve Number (CN)=	62.4	
ID= 1 DT= 5.0 min	Ia (mm)=	6.95	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.16			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.60	1.083	12.32	2.083	5.15	3.08	3.00
0.167	2.60	1.167	12.32	2.167	5.15	3.17	3.00
0.250	2.91	1.250	71.38	2.250	4.54	3.25	2.82
0.333	2.91	1.333	71.38	2.333	4.54	3.33	2.82
0.417	3.32	1.417	15.11	2.417	4.09	3.42	2.67
0.500	3.32	1.500	15.11	2.500	4.09	3.50	2.67
0.583	3.91	1.583	9.53	2.583	3.73	3.58	2.54
0.667	3.91	1.667	9.53	2.667	3.73	3.67	2.54
0.750	4.84	1.750	7.27	2.750	3.44	3.75	2.42
0.833	4.84	1.833	7.27	2.833	3.44	3.83	2.42
0.917	6.62	1.917	5.99	2.917	3.20	3.92	2.31
1.000	6.62	2.000	5.99	3.000	3.20	4.00	2.31

Unit Hyd Qpeak (cms)= 0.158

PEAK FLOW (cms)= 0.005 (i)
TIME TO PEAK (hrs)= 1.500

```
     RUNOFF VOLUME    (mm)=   3.239
     TOTAL RAINFALL   (mm)=  30.952
     RUNOFF COEFFICIENT   =   0.105

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

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================================================================================
=======================

       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       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 6.1\VO2\voin.dat

  Output  filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\14
63badc-9a37-4691-a408-08ffa5ebccfb\s
  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\14
63badc-9a37-4691-a408-08ffa5ebccfb\s


DATE: 01/19/2023                          TIME: 07:32:45

USER:



COMMENTS: _____________________________________________________________


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  ***********************************************
```

```
  ** SIMULATION : 5yr 4hr 10min Chicago         **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 474.130
| Ptotal= 41.12 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    3.46 |  1.17   16.36 |  2.17    6.84 |  3.17    3.98
                0.33    3.86 |  1.33   94.82 |  2.33    6.04 |  3.33    3.75
                0.50    4.41 |  1.50   20.08 |  2.50    5.43 |  3.50    3.55
                0.67    5.19 |  1.67   12.66 |  2.67    4.96 |  3.67    3.37
                0.83    6.43 |  1.83    9.65 |  2.83    4.57 |  3.83    3.21
                1.00    8.80 |  2.00    7.95 |  3.00    4.25 |  4.00    3.07


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0117)|   Area    (ha)=   5.73   Curve Number   (CN)= 64.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.64   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44

        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    3.46 | 1.083   16.36 | 2.083    6.84 |  3.08    3.98
               0.167    3.46 | 1.167   16.36 | 2.167    6.84 |  3.17    3.98
               0.250    3.86 | 1.250   94.82 | 2.250    6.04 |  3.25    3.75
               0.333    3.86 | 1.333   94.82 | 2.333    6.04 |  3.33    3.75
               0.417    4.41 | 1.417   20.08 | 2.417    5.43 |  3.42    3.55
               0.500    4.41 | 1.500   20.08 | 2.500    5.43 |  3.50    3.55
               0.583    5.19 | 1.583   12.66 | 2.583    4.96 |  3.58    3.37
               0.667    5.19 | 1.667   12.66 | 2.667    4.96 |  3.67    3.37
               0.750    6.43 | 1.750    9.65 | 2.750    4.57 |  3.75    3.21
               0.833    6.43 | 1.833    9.65 | 2.833    4.57 |  3.83    3.21
               0.917    8.80 | 1.917    7.95 | 2.917    4.25 |  3.92    3.07
               1.000    8.80 | 2.000    7.95 | 3.000    4.25 |  4.00    3.07

     Unit Hyd Qpeak  (cms)=   0.497
```

PEAK FLOW (cms)= 0.059 (i)
TIME TO PEAK (hrs)= 1.917
RUNOFF VOLUME (mm)= 6.844
TOTAL RAINFALL (mm)= 41.118
RUNOFF COEFFICIENT = 0.166

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

CALIB					
NASHYD (0115)	Area (ha)=	9.34	Curve Number (CN)=	62.6	
ID= 1 DT= 5.0 min	Ia (mm)=	6.91	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.71			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.46	1.083	16.36	2.083	6.84	3.08	3.98
0.167	3.46	1.167	16.36	2.167	6.84	3.17	3.98
0.250	3.86	1.250	94.82	2.250	6.04	3.25	3.75
0.333	3.86	1.333	94.82	2.333	6.04	3.33	3.75
0.417	4.41	1.417	20.08	2.417	5.43	3.42	3.55
0.500	4.41	1.500	20.08	2.500	5.43	3.50	3.55
0.583	5.19	1.583	12.66	2.583	4.96	3.58	3.37
0.667	5.19	1.667	12.66	2.667	4.96	3.67	3.37
0.750	6.43	1.750	9.65	2.750	4.57	3.75	3.21
0.833	6.43	1.833	9.65	2.833	4.57	3.83	3.21
0.917	8.80	1.917	7.95	2.917	4.25	3.92	3.07
1.000	8.80	2.000	7.95	3.000	4.25	4.00	3.07

Unit Hyd Qpeak (cms)= 0.502

PEAK FLOW (cms)= 0.066 (i)
TIME TO PEAK (hrs)= 2.333
RUNOFF VOLUME (mm)= 6.292
TOTAL RAINFALL (mm)= 41.118
RUNOFF COEFFICIENT = 0.153

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

CALIB					
STANDHYD (0303)	Area (ha)=	0.37			
ID= 1 DT= 5.0 min	Total Imp(%)=	97.30	Dir. Conn.(%)=	92.40	

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	0.36	0.01
Dep. Storage (mm)=	1.00	5.00
Average Slope (%)=	1.00	2.00
Length (m)=	49.67	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	3.46	1.083	16.36	2.083	6.84	3.08	3.98
0.167	3.46	1.167	16.36	2.167	6.84	3.17	3.98
0.250	3.86	1.250	94.82	2.250	6.04	3.25	3.75
0.333	3.86	1.333	94.82	2.333	6.04	3.33	3.75
0.417	4.41	1.417	20.08	2.417	5.43	3.42	3.55
0.500	4.41	1.500	20.08	2.500	5.43	3.50	3.55
0.583	5.19	1.583	12.66	2.583	4.96	3.58	3.37
0.667	5.19	1.667	12.66	2.667	4.96	3.67	3.37
0.750	6.43	1.750	9.65	2.750	4.57	3.75	3.21
0.833	6.43	1.833	9.65	2.833	4.57	3.83	3.21
0.917	8.80	1.917	7.95	2.917	4.25	3.92	3.07
1.000	8.80	2.000	7.95	3.000	4.25	4.00	3.07

Max.Eff.Inten.(mm/hr)=	94.82	64.46		
over (min)	5.00	5.00		
Storage Coeff. (min)=	1.71 (ii)	3.47 (ii)		
Unit Hyd. Tpeak (min)=	5.00	5.00		
Unit Hyd. peak (cms)=	0.32	0.26		
				TOTALS
PEAK FLOW (cms)=	0.09	0.00		0.092 (iii)
TIME TO PEAK (hrs)=	1.33	1.33		1.33
RUNOFF VOLUME (mm)=	40.12	11.61		37.95
TOTAL RAINFALL (mm)=	41.12	41.12		41.12
RUNOFF COEFFICIENT =	0.98	0.28		0.92

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (0801)

```
| Inlet Cap.= 0.109|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   0.37      0.09      1.33   37.95
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   0.37      0.09      1.33   37.95

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

```
--------------------
| ADD HYD  (  0901)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0115):     9.34   0.066     2.33     6.29
     + ID2= 2 (  0117):     5.73   0.059     1.92     6.84
       ================================================
       ID = 3 (  0901):    15.07   0.119     2.08     6.50

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

```
--------------------
| ADD HYD  (  0901)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0801 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0001 = HYDROGRAPH 0003
       ID1= 3 (  0901):    15.07   0.119     2.08     6.50
     + ID2= 2 (  0801):     0.00   0.000     0.00     0.00
       ================================================
       ID = 1 (  0901):    15.07   0.119     2.08     6.50

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

```
--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.364|
| #of Inlets=     1|
| Total(cms)=   0.4|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.07      0.12      2.08    6.50
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  15.07      0.12      2.08    6.50

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

```
--------------------
| CALIB            |
| NASHYD   (  0116)|   Area    (ha)=   6.57   Curve Number   (CN)= 62.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.88   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.56

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
		---- TRANSFORMED HYETOGRAPH ----					
0.083	3.46	1.083	16.36	2.083	6.84	3.08	3.98
0.167	3.46	1.167	16.36	2.167	6.84	3.17	3.98
0.250	3.86	1.250	94.82	2.250	6.04	3.25	3.75
0.333	3.86	1.333	94.82	2.333	6.04	3.33	3.75
0.417	4.41	1.417	20.08	2.417	5.43	3.42	3.55
0.500	4.41	1.500	20.08	2.500	5.43	3.50	3.55
0.583	5.19	1.583	12.66	2.583	4.96	3.58	3.37
0.667	5.19	1.667	12.66	2.667	4.96	3.67	3.37
0.750	6.43	1.750	9.65	2.750	4.57	3.75	3.21
0.833	6.43	1.833	9.65	2.833	4.57	3.83	3.21
0.917	8.80	1.917	7.95	2.917	4.25	3.92	3.07
1.000	8.80	2.000	7.95	3.000	4.25	4.00	3.07

```
    Unit Hyd Qpeak  (cms)=   0.448

    PEAK FLOW       (cms)=   0.054 (i)
    TIME TO PEAK    (hrs)=   2.083
    RUNOFF VOLUME    (mm)=   6.369
    TOTAL RAINFALL   (mm)=  41.118
    RUNOFF COEFFICIENT   =   0.155

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

```
--------------------
| ADD HYD  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
       ID1= 1 (  0116):     6.57   0.054     2.08     6.37
     + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
       ================================================
       ID = 3 (  0902):     6.57   0.054     2.08     6.37
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0101)	Area (ha)=	9.85	Curve Number (CN)=	62.3	
ID= 1 DT= 5.0 min	Ia (mm)=	6.95	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.80			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.46	1.083	16.36	2.083	6.84	3.08	3.98
0.167	3.46	1.167	16.36	2.167	6.84	3.17	3.98
0.250	3.86	1.250	94.82	2.250	6.04	3.25	3.75
0.333	3.86	1.333	94.82	2.333	6.04	3.33	3.75
0.417	4.41	1.417	20.08	2.417	5.43	3.42	3.55
0.500	4.41	1.500	20.08	2.500	5.43	3.50	3.55
0.583	5.19	1.583	12.66	2.583	4.96	3.58	3.37
0.667	5.19	1.667	12.66	2.667	4.96	3.67	3.37
0.750	6.43	1.750	9.65	2.750	4.57	3.75	3.21
0.833	6.43	1.833	9.65	2.833	4.57	3.83	3.21
0.917	8.80	1.917	7.95	2.917	4.25	3.92	3.07
1.000	8.80	2.000	7.95	3.000	4.25	4.00	3.07

Unit Hyd Qpeak (cms)= 0.470

PEAK FLOW (cms)= 0.064 (i)
TIME TO PEAK (hrs)= 2.500
RUNOFF VOLUME (mm)= 6.214
TOTAL RAINFALL (mm)= 41.118
RUNOFF COEFFICIENT = 0.151

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

CALIB					
NASHYD (0102)	Area (ha)=	4.52	Curve Number (CN)=	62.4	
ID= 1 DT= 5.0 min	Ia (mm)=	6.94	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.36			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.46	1.083	16.36	2.083	6.84	3.08	3.98
0.167	3.46	1.167	16.36	2.167	6.84	3.17	3.98
0.250	3.86	1.250	94.82	2.250	6.04	3.25	3.75
0.333	3.86	1.333	94.82	2.333	6.04	3.33	3.75
0.417	4.41	1.417	20.08	2.417	5.43	3.42	3.55
0.500	4.41	1.500	20.08	2.500	5.43	3.50	3.55
0.583	5.19	1.583	12.66	2.583	4.96	3.58	3.37
0.667	5.19	1.667	12.66	2.667	4.96	3.67	3.37
0.750	6.43	1.750	9.65	2.750	4.57	3.75	3.21
0.833	6.43	1.833	9.65	2.833	4.57	3.83	3.21
0.917	8.80	1.917	7.95	2.917	4.25	3.92	3.07
1.000	8.80	2.000	7.95	3.000	4.25	4.00	3.07

Unit Hyd Qpeak (cms)= 0.480

PEAK FLOW (cms)= 0.048 (i)
TIME TO PEAK (hrs)= 1.750
RUNOFF VOLUME (mm)= 6.238
TOTAL RAINFALL (mm)= 41.118
RUNOFF COEFFICIENT = 0.152

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

CALIB					
NASHYD (0103)	Area (ha)=	0.66	Curve Number (CN)=	62.4	
ID= 1 DT= 5.0 min	Ia (mm)=	6.95	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.16			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.46	1.083	16.36	2.083	6.84	3.08	3.98
0.167	3.46	1.167	16.36	2.167	6.84	3.17	3.98
0.250	3.86	1.250	94.82	2.250	6.04	3.25	3.75
0.333	3.86	1.333	94.82	2.333	6.04	3.33	3.75
0.417	4.41	1.417	20.08	2.417	5.43	3.42	3.55
0.500	4.41	1.500	20.08	2.500	5.43	3.50	3.55
0.583	5.19	1.583	12.66	2.583	4.96	3.58	3.37
0.667	5.19	1.667	12.66	2.667	4.96	3.67	3.37
0.750	6.43	1.750	9.65	2.750	4.57	3.75	3.21
0.833	6.43	1.833	9.65	2.833	4.57	3.83	3.21
0.917	8.80	1.917	7.95	2.917	4.25	3.92	3.07
1.000	8.80	2.000	7.95	3.000	4.25	4.00	3.07

Unit Hyd Qpeak (cms)= 0.158

```
     PEAK FLOW      (cms)=   0.011 (i)
     TIME TO PEAK   (hrs)=   1.417
     RUNOFF VOLUME   (mm)=   6.207
     TOTAL RAINFALL  (mm)=  41.118
     RUNOFF COEFFICIENT  =   0.151

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

--------------------------------------------------------------------------------
================================================================================
======================

       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       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 6.1\VO2\voin.dat

  Output  filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\8c
b81532-3486-4f1c-b8e5-f311022a6103\s
  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\8c
b81532-3486-4f1c-b8e5-f311022a6103\s


DATE: 01/19/2023                          TIME: 07:32:45

USER:



COMMENTS: _____________________________________________________________
```

```
  ************************************************
  ** SIMULATION : 10yr 4hr 10min Chicago        **
  ************************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 551.110
| Ptotal= 47.79 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	4.02	1.17	19.02	2.17	7.95	3.17	4.63
0.33	4.49	1.33	110.21	2.33	7.02	3.33	4.36
0.50	5.12	1.50	23.34	2.50	6.32	3.50	4.13
0.67	6.03	1.67	14.72	2.67	5.76	3.67	3.92
0.83	7.47	1.83	11.22	2.83	5.32	3.83	3.74
1.00	10.22	2.00	9.24	3.00	4.94	4.00	3.57

```
--------------------
| CALIB            |
| NASHYD   (  0117)|   Area    (ha)=   5.73   Curve Number   (CN)= 64.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.64   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.02	1.083	19.02	2.083	7.95	3.08	4.63
0.167	4.02	1.167	19.02	2.167	7.95	3.17	4.63
0.250	4.49	1.250	110.21	2.250	7.02	3.25	4.36
0.333	4.49	1.333	110.21	2.333	7.02	3.33	4.36
0.417	5.12	1.417	23.34	2.417	6.32	3.42	4.13
0.500	5.12	1.500	23.34	2.500	6.32	3.50	4.13
0.583	6.03	1.583	14.72	2.583	5.76	3.58	3.92
0.667	6.03	1.667	14.72	2.667	5.76	3.67	3.92
0.750	7.47	1.750	11.22	2.750	5.32	3.75	3.74
0.833	7.47	1.833	11.22	2.833	5.32	3.83	3.74
0.917	10.22	1.917	9.24	2.917	4.94	3.92	3.57

1.000	10.22	2.000	9.24	3.000	4.94	4.00	3.57

Unit Hyd Qpeak (cms)= 0.497

PEAK FLOW (cms)= 0.084 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 9.390
TOTAL RAINFALL (mm)= 47.794
RUNOFF COEFFICIENT = 0.196

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

CALIB					
NASHYD (0115)	Area (ha)=	9.34	Curve Number (CN)=	62.6	
ID= 1 DT= 5.0 min	Ia (mm)=	6.91	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.71			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.02	1.083	19.02	2.083	7.95	3.08	4.63
0.167	4.02	1.167	19.02	2.167	7.95	3.17	4.63
0.250	4.49	1.250	110.21	2.250	7.02	3.25	4.36
0.333	4.49	1.333	110.21	2.333	7.02	3.33	4.36
0.417	5.12	1.417	23.34	2.417	6.32	3.42	4.13
0.500	5.12	1.500	23.34	2.500	6.32	3.50	4.13
0.583	6.03	1.583	14.72	2.583	5.76	3.58	3.92
0.667	6.03	1.667	14.72	2.667	5.76	3.67	3.92
0.750	7.47	1.750	11.22	2.750	5.32	3.75	3.74
0.833	7.47	1.833	11.22	2.833	5.32	3.83	3.74
0.917	10.22	1.917	9.24	2.917	4.94	3.92	3.57
1.000	10.22	2.000	9.24	3.000	4.94	4.00	3.57

Unit Hyd Qpeak (cms)= 0.502

PEAK FLOW (cms)= 0.093 (i)
TIME TO PEAK (hrs)= 2.250
RUNOFF VOLUME (mm)= 8.677
TOTAL RAINFALL (mm)= 47.794
RUNOFF COEFFICIENT = 0.182

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

CALIB			
STANDHYD (0303)	Area (ha)=	0.37	
ID= 1 DT= 5.0 min	Total Imp(%)=	97.30	Dir. Conn.(%)= 92.40

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.36	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	49.67	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	4.02	1.083	19.02	2.083	7.95	3.08	4.63
0.167	4.02	1.167	19.02	2.167	7.95	3.17	4.63
0.250	4.49	1.250	110.21	2.250	7.02	3.25	4.36
0.333	4.49	1.333	110.21	2.333	7.02	3.33	4.36
0.417	5.12	1.417	23.34	2.417	6.32	3.42	4.13
0.500	5.12	1.500	23.34	2.500	6.32	3.50	4.13
0.583	6.03	1.583	14.72	2.583	5.76	3.58	3.92
0.667	6.03	1.667	14.72	2.667	5.76	3.67	3.92
0.750	7.47	1.750	11.22	2.750	5.32	3.75	3.74
0.833	7.47	1.833	11.22	2.833	5.32	3.83	3.74
0.917	10.22	1.917	9.24	2.917	4.94	3.92	3.57
1.000	10.22	2.000	9.24	3.000	4.94	4.00	3.57

Max.Eff.Inten.(mm/hr)=		110.21	85.48	
over (min)		5.00	5.00	
Storage Coeff. (min)=		1.61 (ii)	3.27 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		0.32	0.27	
				TOTALS
PEAK FLOW	(cms)=	0.10	0.00	0.107 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	46.79	15.13	44.39
TOTAL RAINFALL	(mm)=	47.79	47.79	47.79
RUNOFF COEFFICIENT	=	0.98	0.32	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

```
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0801)|
| Inlet Cap.= 0.109|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   0.37      0.11      1.33   44.39
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   0.37      0.11      1.33   44.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0901)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):     9.34   0.093     2.25     8.68
      + ID2= 2 (  0117):     5.73   0.084     1.83     9.39
        ==================================================
        ID = 3 (  0901):    15.07   0.167     2.08     8.95

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

--------------------
| ADD HYD  (  0901)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0801 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0001 = HYDROGRAPH 0003
        ID1= 3 (  0901):    15.07   0.167     2.08     8.95
      + ID2= 2 (  0801):     0.00   0.000     0.00     0.00
        ==================================================
        ID = 1 (  0901):    15.07   0.167     2.08     8.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.364|
| #of Inlets=     1|
| Total(cms)=   0.4|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.07      0.17      2.08    8.95
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  15.07      0.17      2.08    8.95

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0116)|   Area    (ha)=   6.57   Curve Number   (CN)= 62.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.88   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.56

         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    4.02 | 1.083   19.02 | 2.083    7.95 |  3.08    4.63
               0.167    4.02 | 1.167   19.02 | 2.167    7.95 |  3.17    4.63
               0.250    4.49 | 1.250  110.21 | 2.250    7.02 |  3.25    4.36
               0.333    4.49 | 1.333  110.21 | 2.333    7.02 |  3.33    4.36
               0.417    5.12 | 1.417   23.34 | 2.417    6.32 |  3.42    4.13
               0.500    5.12 | 1.500   23.34 | 2.500    6.32 |  3.50    4.13
               0.583    6.03 | 1.583   14.72 | 2.583    5.76 |  3.58    3.92
               0.667    6.03 | 1.667   14.72 | 2.667    5.76 |  3.67    3.92
               0.750    7.47 | 1.750   11.22 | 2.750    5.32 |  3.75    3.74
               0.833    7.47 | 1.833   11.22 | 2.833    5.32 |  3.83    3.74
               0.917   10.22 | 1.917    9.24 | 2.917    4.94 |  3.92    3.57
               1.000   10.22 | 2.000    9.24 | 3.000    4.94 |  4.00    3.57

     Unit Hyd Qpeak  (cms)=   0.448

     PEAK FLOW       (cms)=   0.077 (i)
     TIME TO PEAK    (hrs)=   2.083
     RUNOFF VOLUME    (mm)=   8.776
     TOTAL RAINFALL   (mm)=  47.794
     RUNOFF COEFFICIENT   =   0.184

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

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

--------------------
| ADD HYD  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
        ID1= 1 (  0116):     6.57   0.077     2.08     8.78
      + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
```

```
       ================================================
       ID = 3 (  0902):     6.57   0.077     2.08     8.78

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0101)|   Area    (ha)=   9.85   Curve Number   (CN)= 62.3
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.95   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.80

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.02	1.083	19.02	2.083	7.95	3.08	4.63
0.167	4.02	1.167	19.02	2.167	7.95	3.17	4.63
0.250	4.49	1.250	110.21	2.250	7.02	3.25	4.36
0.333	4.49	1.333	110.21	2.333	7.02	3.33	4.36
0.417	5.12	1.417	23.34	2.417	6.32	3.42	4.13
0.500	5.12	1.500	23.34	2.500	6.32	3.50	4.13
0.583	6.03	1.583	14.72	2.583	5.76	3.58	3.92
0.667	6.03	1.667	14.72	2.667	5.76	3.67	3.92
0.750	7.47	1.750	11.22	2.750	5.32	3.75	3.74
0.833	7.47	1.833	11.22	2.833	5.32	3.83	3.74
0.917	10.22	1.917	9.24	2.917	4.94	3.92	3.57
1.000	10.22	2.000	9.24	3.000	4.94	4.00	3.57

```
     Unit Hyd Qpeak  (cms)=   0.470

     PEAK FLOW       (cms)=   0.090 (i)
     TIME TO PEAK    (hrs)=   2.417
     RUNOFF VOLUME    (mm)=   8.575
     TOTAL RAINFALL   (mm)=  47.794
     RUNOFF COEFFICIENT   =   0.179

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0102)|   Area    (ha)=   4.52   Curve Number   (CN)= 62.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.94   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.36

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.02	1.083	19.02	2.083	7.95	3.08	4.63
0.167	4.02	1.167	19.02	2.167	7.95	3.17	4.63
0.250	4.49	1.250	110.21	2.250	7.02	3.25	4.36
0.333	4.49	1.333	110.21	2.333	7.02	3.33	4.36
0.417	5.12	1.417	23.34	2.417	6.32	3.42	4.13
0.500	5.12	1.500	23.34	2.500	6.32	3.50	4.13
0.583	6.03	1.583	14.72	2.583	5.76	3.58	3.92
0.667	6.03	1.667	14.72	2.667	5.76	3.67	3.92
0.750	7.47	1.750	11.22	2.750	5.32	3.75	3.74
0.833	7.47	1.833	11.22	2.833	5.32	3.83	3.74
0.917	10.22	1.917	9.24	2.917	4.94	3.92	3.57
1.000	10.22	2.000	9.24	3.000	4.94	4.00	3.57

```
     Unit Hyd Qpeak  (cms)=   0.480

     PEAK FLOW       (cms)=   0.068 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=   8.606
     TOTAL RAINFALL   (mm)=  47.794
     RUNOFF COEFFICIENT   =   0.180

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0103)|   Area    (ha)=   0.66   Curve Number   (CN)= 62.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.95   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.16

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.02	1.083	19.02	2.083	7.95	3.08	4.63
0.167	4.02	1.167	19.02	2.167	7.95	3.17	4.63
0.250	4.49	1.250	110.21	2.250	7.02	3.25	4.36
0.333	4.49	1.333	110.21	2.333	7.02	3.33	4.36
0.417	5.12	1.417	23.34	2.417	6.32	3.42	4.13
0.500	5.12	1.500	23.34	2.500	6.32	3.50	4.13
0.583	6.03	1.583	14.72	2.583	5.76	3.58	3.92
0.667	6.03	1.667	14.72	2.667	5.76	3.67	3.92
0.750	7.47	1.750	11.22	2.750	5.32	3.75	3.74
0.833	7.47	1.833	11.22	2.833	5.32	3.83	3.74
0.917	10.22	1.917	9.24	2.917	4.94	3.92	3.57

```
             1.000   10.22 | 2.000    9.24 | 3.000    4.94 |  4.00    3.57

     Unit Hyd Qpeak  (cms)=   0.158

     PEAK FLOW       (cms)=   0.016 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=   8.564
     TOTAL RAINFALL   (mm)=  47.794
     RUNOFF COEFFICIENT   =   0.179

     (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 6.1.2001)
       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 6.1\VO2\voin.dat

  Output  filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\d1
c0b7e9-c591-4c32-8c3d-67cab0f5cad7\s
  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\d1
c0b7e9-c591-4c32-8c3d-67cab0f5cad7\s


DATE: 01/19/2023                          TIME: 07:32:45

USER:
```

```
COMMENTS: _____________________________________________________

---------------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : 25yr 4hr 10min Chicago       **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 649.085
| Ptotal= 56.29 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    4.73 |  1.17   22.40 |  2.17    9.36 |  3.17    5.45
                0.33    5.29 |  1.33  129.81 |  2.33    8.26 |  3.33    5.13
                0.50    6.04 |  1.50   27.49 |  2.50    7.44 |  3.50    4.86
                0.67    7.11 |  1.67   17.33 |  2.67    6.79 |  3.67    4.62
                0.83    8.80 |  1.83   13.22 |  2.83    6.26 |  3.83    4.40
                1.00   12.04 |  2.00   10.89 |  3.00    5.82 |  4.00    4.21


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--------------------
| CALIB            |
| NASHYD   (  0117)|   Area    (ha)=   5.73   Curve Number   (CN)= 64.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.64   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44

        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    4.73 | 1.083   22.40 | 2.083    9.36 |  3.08    5.45
               0.167    4.73 | 1.167   22.40 | 2.167    9.36 |  3.17    5.45
               0.250    5.29 | 1.250  129.81 | 2.250    8.26 |  3.25    5.13
               0.333    5.29 | 1.333  129.81 | 2.333    8.26 |  3.33    5.13
               0.417    6.04 | 1.417   27.49 | 2.417    7.44 |  3.42    4.86
               0.500    6.04 | 1.500   27.49 | 2.500    7.44 |  3.50    4.86
               0.583    7.11 | 1.583   17.33 | 2.583    6.79 |  3.58    4.62
               0.667    7.11 | 1.667   17.33 | 2.667    6.79 |  3.67    4.62
```

0.750	8.80	1.750	13.22	2.750	6.26	3.75	4.40
0.833	8.80	1.833	13.22	2.833	6.26	3.83	4.40
0.917	12.04	1.917	10.89	2.917	5.82	3.92	4.21
1.000	12.04	2.000	10.89	3.000	5.82	4.00	4.21

Unit Hyd Qpeak (cms)= 0.497

PEAK FLOW (cms)= 0.120 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 13.053
TOTAL RAINFALL (mm)= 56.290
RUNOFF COEFFICIENT = 0.232

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

CALIB					
NASHYD (0115)	Area (ha)=	9.34	Curve Number (CN)=	62.6	
ID= 1 DT= 5.0 min	Ia (mm)=	6.91	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.71			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.73	1.083	22.40	2.083	9.36	3.08	5.45
0.167	4.73	1.167	22.40	2.167	9.36	3.17	5.45
0.250	5.29	1.250	129.81	2.250	8.26	3.25	5.13
0.333	5.29	1.333	129.81	2.333	8.26	3.33	5.13
0.417	6.04	1.417	27.49	2.417	7.44	3.42	4.86
0.500	6.04	1.500	27.49	2.500	7.44	3.50	4.86
0.583	7.11	1.583	17.33	2.583	6.79	3.58	4.62
0.667	7.11	1.667	17.33	2.667	6.79	3.67	4.62
0.750	8.80	1.750	13.22	2.750	6.26	3.75	4.40
0.833	8.80	1.833	13.22	2.833	6.26	3.83	4.40
0.917	12.04	1.917	10.89	2.917	5.82	3.92	4.21
1.000	12.04	2.000	10.89	3.000	5.82	4.00	4.21

Unit Hyd Qpeak (cms)= 0.502

PEAK FLOW (cms)= 0.133 (i)
TIME TO PEAK (hrs)= 2.250
RUNOFF VOLUME (mm)= 12.123
TOTAL RAINFALL (mm)= 56.290
RUNOFF COEFFICIENT = 0.215

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

CALIB					
STANDHYD (0303)	Area (ha)=	0.37			
ID= 1 DT= 5.0 min	Total Imp(%)=	97.30	Dir. Conn.(%)=	92.40	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.36	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	49.67	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	4.73	1.083	22.40	2.083	9.36	3.08	5.45
0.167	4.73	1.167	22.40	2.167	9.36	3.17	5.45
0.250	5.29	1.250	129.81	2.250	8.26	3.25	5.13
0.333	5.29	1.333	129.81	2.333	8.26	3.33	5.13
0.417	6.04	1.417	27.49	2.417	7.44	3.42	4.86
0.500	6.04	1.500	27.49	2.500	7.44	3.50	4.86
0.583	7.11	1.583	17.33	2.583	6.79	3.58	4.62
0.667	7.11	1.667	17.33	2.667	6.79	3.67	4.62
0.750	8.80	1.750	13.22	2.750	6.26	3.75	4.40
0.833	8.80	1.833	13.22	2.833	6.26	3.83	4.40
0.917	12.04	1.917	10.89	2.917	5.82	3.92	4.21
1.000	12.04	2.000	10.89	3.000	5.82	4.00	4.21

Max.Eff.Inten.(mm/hr)=		129.81	115.26	
over (min)		5.00	5.00	
Storage Coeff. (min)=		1.51 (ii)	3.06 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		0.33	0.27	
				TOTALS
PEAK FLOW	(cms)=	0.12	0.00	0.127 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	55.29	20.02	52.61
TOTAL RAINFALL	(mm)=	56.29	56.29	56.29
RUNOFF COEFFICIENT	=	0.98	0.36	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

```
          THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0801)|
| Inlet Cap.= 0.109|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   0.37      0.13      1.33   52.61
     ================================================
     MAJOR SYS.(ID= 2):   0.02      0.02      1.33   52.61
     MINOR SYS.(ID= 3):   0.35      0.11      1.25   52.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0901)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):     9.34   0.133     2.25    12.12
      + ID2= 2 (  0117):     5.73   0.120     1.83    13.05
        ================================================
        ID = 3 (  0901):    15.07   0.238     2.00    12.48

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

--------------------
| ADD HYD  (  0901)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0901):    15.07   0.238     2.00    12.48
      + ID2= 2 (  0801):     0.02   0.018     1.33    52.61
        ================================================
        ID = 1 (  0901):    15.09   0.238     2.00    12.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.364|
| #of Inlets=     1|
| Total(cms)=   0.4|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.09      0.24      2.00   12.52
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  15.09      0.24      2.00   12.52

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0116)|   Area    (ha)=   6.57   Curve Number   (CN)= 62.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.88   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.56

          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    4.73 | 1.083   22.40 | 2.083    9.36 |  3.08    5.45
              0.167    4.73 | 1.167   22.40 | 2.167    9.36 |  3.17    5.45
              0.250    5.29 | 1.250  129.81 | 2.250    8.26 |  3.25    5.13
              0.333    5.29 | 1.333  129.81 | 2.333    8.26 |  3.33    5.13
              0.417    6.04 | 1.417   27.49 | 2.417    7.44 |  3.42    4.86
              0.500    6.04 | 1.500   27.49 | 2.500    7.44 |  3.50    4.86
              0.583    7.11 | 1.583   17.33 | 2.583    6.79 |  3.58    4.62
              0.667    7.11 | 1.667   17.33 | 2.667    6.79 |  3.67    4.62
              0.750    8.80 | 1.750   13.22 | 2.750    6.26 |  3.75    4.40
              0.833    8.80 | 1.833   13.22 | 2.833    6.26 |  3.83    4.40
              0.917   12.04 | 1.917   10.89 | 2.917    5.82 |  3.92    4.21
              1.000   12.04 | 2.000   10.89 | 3.000    5.82 |  4.00    4.21

     Unit Hyd Qpeak  (cms)=   0.448

     PEAK FLOW       (cms)=   0.109 (i)
     TIME TO PEAK    (hrs)=   2.000
     RUNOFF VOLUME    (mm)=  12.254
     TOTAL RAINFALL   (mm)=  56.290
     RUNOFF COEFFICIENT   =   0.218

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

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

--------------------
| ADD HYD  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
        ID1= 1 (  0116):     6.57   0.109     2.00    12.25
```

```
 + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
   ================================================
   ID = 3 (  0902):     6.57   0.109     2.00    12.25

  NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0101)|   Area    (ha)=   9.85   Curve Number   (CN)= 62.3
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.95   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.80

      NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.73	1.083	22.40	2.083	9.36	3.08	5.45
0.167	4.73	1.167	22.40	2.167	9.36	3.17	5.45
0.250	5.29	1.250	129.81	2.250	8.26	3.25	5.13
0.333	5.29	1.333	129.81	2.333	8.26	3.33	5.13
0.417	6.04	1.417	27.49	2.417	7.44	3.42	4.86
0.500	6.04	1.500	27.49	2.500	7.44	3.50	4.86
0.583	7.11	1.583	17.33	2.583	6.79	3.58	4.62
0.667	7.11	1.667	17.33	2.667	6.79	3.67	4.62
0.750	8.80	1.750	13.22	2.750	6.26	3.75	4.40
0.833	8.80	1.833	13.22	2.833	6.26	3.83	4.40
0.917	12.04	1.917	10.89	2.917	5.82	3.92	4.21
1.000	12.04	2.000	10.89	3.000	5.82	4.00	4.21

```
    Unit Hyd Qpeak  (cms)=   0.470

    PEAK FLOW       (cms)=   0.129 (i)
    TIME TO PEAK    (hrs)=   2.417
    RUNOFF VOLUME    (mm)=  11.990
    TOTAL RAINFALL   (mm)=  56.290
    RUNOFF COEFFICIENT   =   0.213

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0102)|   Area    (ha)=   4.52   Curve Number   (CN)= 62.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.94   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.36

      NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.73	1.083	22.40	2.083	9.36	3.08	5.45
0.167	4.73	1.167	22.40	2.167	9.36	3.17	5.45
0.250	5.29	1.250	129.81	2.250	8.26	3.25	5.13
0.333	5.29	1.333	129.81	2.333	8.26	3.33	5.13
0.417	6.04	1.417	27.49	2.417	7.44	3.42	4.86
0.500	6.04	1.500	27.49	2.500	7.44	3.50	4.86
0.583	7.11	1.583	17.33	2.583	6.79	3.58	4.62
0.667	7.11	1.667	17.33	2.667	6.79	3.67	4.62
0.750	8.80	1.750	13.22	2.750	6.26	3.75	4.40
0.833	8.80	1.833	13.22	2.833	6.26	3.83	4.40
0.917	12.04	1.917	10.89	2.917	5.82	3.92	4.21
1.000	12.04	2.000	10.89	3.000	5.82	4.00	4.21

```
    Unit Hyd Qpeak  (cms)=   0.480

    PEAK FLOW       (cms)=   0.098 (i)
    TIME TO PEAK    (hrs)=   1.750
    RUNOFF VOLUME    (mm)=  12.030
    TOTAL RAINFALL   (mm)=  56.290
    RUNOFF COEFFICIENT   =   0.214

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0103)|   Area    (ha)=   0.66   Curve Number   (CN)= 62.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.95   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.16

      NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.73	1.083	22.40	2.083	9.36	3.08	5.45
0.167	4.73	1.167	22.40	2.167	9.36	3.17	5.45
0.250	5.29	1.250	129.81	2.250	8.26	3.25	5.13
0.333	5.29	1.333	129.81	2.333	8.26	3.33	5.13
0.417	6.04	1.417	27.49	2.417	7.44	3.42	4.86
0.500	6.04	1.500	27.49	2.500	7.44	3.50	4.86
0.583	7.11	1.583	17.33	2.583	6.79	3.58	4.62
0.667	7.11	1.667	17.33	2.667	6.79	3.67	4.62
0.750	8.80	1.750	13.22	2.750	6.26	3.75	4.40
0.833	8.80	1.833	13.22	2.833	6.26	3.83	4.40

```
             0.917   12.04 | 1.917   10.89 | 2.917    5.82 |  3.92    4.21
             1.000   12.04 | 2.000   10.89 | 3.000    5.82 |  4.00    4.21

     Unit Hyd Qpeak  (cms)=   0.158

     PEAK FLOW       (cms)=   0.024 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  11.974
     TOTAL RAINFALL   (mm)=  56.290
     RUNOFF COEFFICIENT   =   0.213

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

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       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       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: 01/19/2023                          TIME: 07:32:45

USER:
```

COMMENTS: _____

```
  **********************************************
  ** SIMULATION : 50yr 4hr 10min Chicago        **
  **********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 720.817
| Ptotal= 62.51 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    5.26 |  1.17   24.87 |  2.17   10.39 |  3.17    6.06
                0.33    5.87 |  1.33  144.15 |  2.33    9.18 |  3.33    5.70
                0.50    6.70 |  1.50   30.52 |  2.50    8.26 |  3.50    5.40
                0.67    7.89 |  1.67   19.25 |  2.67    7.54 |  3.67    5.13
                0.83    9.78 |  1.83   14.68 |  2.83    6.95 |  3.83    4.89
                1.00   13.37 |  2.00   12.09 |  3.00    6.47 |  4.00    4.67


---------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0117)|   Area    (ha)=   5.73   Curve Number   (CN)= 64.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.64   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44

        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    5.26 | 1.083   24.87 | 2.083   10.39 |  3.08    6.06
               0.167    5.26 | 1.167   24.87 | 2.167   10.39 |  3.17    6.06
               0.250    5.87 | 1.250  144.15 | 2.250    9.18 |  3.25    5.70
               0.333    5.87 | 1.333  144.15 | 2.333    9.18 |  3.33    5.70
               0.417    6.70 | 1.417   30.52 | 2.417    8.26 |  3.42    5.40
               0.500    6.70 | 1.500   30.52 | 2.500    8.26 |  3.50    5.40
               0.583    7.89 | 1.583   19.25 | 2.583    7.54 |  3.58    5.13
```

0.667	7.89	1.667	19.25	2.667	7.54	3.67	5.13
0.750	9.78	1.750	14.68	2.750	6.95	3.75	4.89
0.833	9.78	1.833	14.68	2.833	6.95	3.83	4.89
0.917	13.37	1.917	12.09	2.917	6.47	3.92	4.67
1.000	13.37	2.000	12.09	3.000	6.47	4.00	4.67

Unit Hyd Qpeak (cms)= 0.497

PEAK FLOW (cms)= 0.149 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 16.002
TOTAL RAINFALL (mm)= 62.511
RUNOFF COEFFICIENT = 0.256

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

CALIB					
NASHYD (0115)	Area (ha)= 9.34	Curve Number (CN)= 62.6			
ID= 1 DT= 5.0 min	Ia (mm)= 6.91	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= 0.71				

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.26	1.083	24.87	2.083	10.39	3.08	6.06
0.167	5.26	1.167	24.87	2.167	10.39	3.17	6.06
0.250	5.87	1.250	144.15	2.250	9.18	3.25	5.70
0.333	5.87	1.333	144.15	2.333	9.18	3.33	5.70
0.417	6.70	1.417	30.52	2.417	8.26	3.42	5.40
0.500	6.70	1.500	30.52	2.500	8.26	3.50	5.40
0.583	7.89	1.583	19.25	2.583	7.54	3.58	5.13
0.667	7.89	1.667	19.25	2.667	7.54	3.67	5.13
0.750	9.78	1.750	14.68	2.750	6.95	3.75	4.89
0.833	9.78	1.833	14.68	2.833	6.95	3.83	4.89
0.917	13.37	1.917	12.09	2.917	6.47	3.92	4.67
1.000	13.37	2.000	12.09	3.000	6.47	4.00	4.67

Unit Hyd Qpeak (cms)= 0.502

PEAK FLOW (cms)= 0.165 (i)
TIME TO PEAK (hrs)= 2.250
RUNOFF VOLUME (mm)= 14.909
TOTAL RAINFALL (mm)= 62.511
RUNOFF COEFFICIENT = 0.239

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

CALIB			
STANDHYD (0303)	Area (ha)= 0.37		
ID= 1 DT= 5.0 min	Total Imp(%)= 97.30	Dir. Conn.(%)= 92.40	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.36	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	49.67	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	5.26	1.083	24.87	2.083	10.39	3.08	6.06
0.167	5.26	1.167	24.87	2.167	10.39	3.17	6.06
0.250	5.87	1.250	144.15	2.250	9.18	3.25	5.70
0.333	5.87	1.333	144.15	2.333	9.18	3.33	5.70
0.417	6.70	1.417	30.52	2.417	8.26	3.42	5.40
0.500	6.70	1.500	30.52	2.500	8.26	3.50	5.40
0.583	7.89	1.583	19.25	2.583	7.54	3.58	5.13
0.667	7.89	1.667	19.25	2.667	7.54	3.67	5.13
0.750	9.78	1.750	14.68	2.750	6.95	3.75	4.89
0.833	9.78	1.833	14.68	2.833	6.95	3.83	4.89
0.917	13.37	1.917	12.09	2.917	6.47	3.92	4.67
1.000	13.37	2.000	12.09	3.000	6.47	4.00	4.67

Max.Eff.Inten.(mm/hr)=	144.15	138.97		
over (min)	5.00	5.00		
Storage Coeff. (min)=	1.45 (ii)	2.93 (ii)		
Unit Hyd. Tpeak (min)=	5.00	5.00		
Unit Hyd. peak (cms)=	0.33	0.28		
			TOTALS	
PEAK FLOW (cms)=	0.14	0.00	0.141 (iii)	
TIME TO PEAK (hrs)=	1.33	1.33	1.33	
RUNOFF VOLUME (mm)=	61.51	23.85	58.65	
TOTAL RAINFALL (mm)=	62.51	62.51	62.51	
RUNOFF COEFFICIENT =	0.98	0.38	0.94	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)

```
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0801)|
| Inlet Cap.= 0.109|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   0.37      0.14      1.33   58.65
     ==================================================
     MAJOR SYS.(ID= 2):   0.03      0.03      1.33   58.65
     MINOR SYS.(ID= 3):   0.34      0.11      1.25   58.65

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0901)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):     9.34   0.165     2.25    14.91
      + ID2= 2 (  0117):     5.73   0.149     1.83    16.00
        ==================================================
        ID = 3 (  0901):    15.07   0.297     2.00    15.32

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

--------------------
| ADD HYD  (  0901)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0901):    15.07   0.297     2.00    15.32
      + ID2= 2 (  0801):     0.03   0.032     1.33    58.65
        ==================================================
        ID = 1 (  0901):    15.10   0.297     2.00    15.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.364|
| #of Inlets=     1|
| Total(cms)=   0.4|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.10      0.30      2.00   15.41
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  15.10      0.30      2.00   15.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0116)|   Area    (ha)=   6.57   Curve Number   (CN)= 62.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.88   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.56

         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    5.26 | 1.083   24.87 | 2.083   10.39 |  3.08    6.06
               0.167    5.26 | 1.167   24.87 | 2.167   10.39 |  3.17    6.06
               0.250    5.87 | 1.250  144.15 | 2.250    9.18 |  3.25    5.70
               0.333    5.87 | 1.333  144.15 | 2.333    9.18 |  3.33    5.70
               0.417    6.70 | 1.417   30.52 | 2.417    8.26 |  3.42    5.40
               0.500    6.70 | 1.500   30.52 | 2.500    8.26 |  3.50    5.40
               0.583    7.89 | 1.583   19.25 | 2.583    7.54 |  3.58    5.13
               0.667    7.89 | 1.667   19.25 | 2.667    7.54 |  3.67    5.13
               0.750    9.78 | 1.750   14.68 | 2.750    6.95 |  3.75    4.89
               0.833    9.78 | 1.833   14.68 | 2.833    6.95 |  3.83    4.89
               0.917   13.37 | 1.917   12.09 | 2.917    6.47 |  3.92    4.67
               1.000   13.37 | 2.000   12.09 | 3.000    6.47 |  4.00    4.67

     Unit Hyd Qpeak  (cms)=   0.448

     PEAK FLOW       (cms)=   0.136 (i)
     TIME TO PEAK    (hrs)=   2.000
     RUNOFF VOLUME    (mm)=  15.063
     TOTAL RAINFALL   (mm)=  62.511
     RUNOFF COEFFICIENT   =   0.241

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

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

--------------------
| ADD HYD  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
```

```
   ID1= 1 (  0116):     6.57   0.136     2.00    15.06
 + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
   ================================================
   ID = 3 (  0902):     6.57   0.136     2.00    15.06

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

CALIB					
NASHYD (0101)	Area (ha)=	9.85	Curve Number (CN)=	62.3	
ID= 1 DT= 5.0 min	Ia (mm)=	6.95	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.80			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.26	1.083	24.87	2.083	10.39	3.08	6.06
0.167	5.26	1.167	24.87	2.167	10.39	3.17	6.06
0.250	5.87	1.250	144.15	2.250	9.18	3.25	5.70
0.333	5.87	1.333	144.15	2.333	9.18	3.33	5.70
0.417	6.70	1.417	30.52	2.417	8.26	3.42	5.40
0.500	6.70	1.500	30.52	2.500	8.26	3.50	5.40
0.583	7.89	1.583	19.25	2.583	7.54	3.58	5.13
0.667	7.89	1.667	19.25	2.667	7.54	3.67	5.13
0.750	9.78	1.750	14.68	2.750	6.95	3.75	4.89
0.833	9.78	1.833	14.68	2.833	6.95	3.83	4.89
0.917	13.37	1.917	12.09	2.917	6.47	3.92	4.67
1.000	13.37	2.000	12.09	3.000	6.47	4.00	4.67

Unit Hyd Qpeak (cms)= 0.470

PEAK FLOW (cms)= 0.160 (i)
TIME TO PEAK (hrs)= 2.417
RUNOFF VOLUME (mm)= 14.752
TOTAL RAINFALL (mm)= 62.511
RUNOFF COEFFICIENT = 0.236

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

CALIB					
NASHYD (0102)	Area (ha)=	4.52	Curve Number (CN)=	62.4	
ID= 1 DT= 5.0 min	Ia (mm)=	6.94	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.36			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.26	1.083	24.87	2.083	10.39	3.08	6.06
0.167	5.26	1.167	24.87	2.167	10.39	3.17	6.06
0.250	5.87	1.250	144.15	2.250	9.18	3.25	5.70
0.333	5.87	1.333	144.15	2.333	9.18	3.33	5.70
0.417	6.70	1.417	30.52	2.417	8.26	3.42	5.40
0.500	6.70	1.500	30.52	2.500	8.26	3.50	5.40
0.583	7.89	1.583	19.25	2.583	7.54	3.58	5.13
0.667	7.89	1.667	19.25	2.667	7.54	3.67	5.13
0.750	9.78	1.750	14.68	2.750	6.95	3.75	4.89
0.833	9.78	1.833	14.68	2.833	6.95	3.83	4.89
0.917	13.37	1.917	12.09	2.917	6.47	3.92	4.67
1.000	13.37	2.000	12.09	3.000	6.47	4.00	4.67

Unit Hyd Qpeak (cms)= 0.480

PEAK FLOW (cms)= 0.122 (i)
TIME TO PEAK (hrs)= 1.750
RUNOFF VOLUME (mm)= 14.800
TOTAL RAINFALL (mm)= 62.511
RUNOFF COEFFICIENT = 0.237

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

CALIB					
NASHYD (0103)	Area (ha)=	0.66	Curve Number (CN)=	62.4	
ID= 1 DT= 5.0 min	Ia (mm)=	6.95	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.16			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.26	1.083	24.87	2.083	10.39	3.08	6.06
0.167	5.26	1.167	24.87	2.167	10.39	3.17	6.06
0.250	5.87	1.250	144.15	2.250	9.18	3.25	5.70
0.333	5.87	1.333	144.15	2.333	9.18	3.33	5.70
0.417	6.70	1.417	30.52	2.417	8.26	3.42	5.40
0.500	6.70	1.500	30.52	2.500	8.26	3.50	5.40
0.583	7.89	1.583	19.25	2.583	7.54	3.58	5.13
0.667	7.89	1.667	19.25	2.667	7.54	3.67	5.13
0.750	9.78	1.750	14.68	2.750	6.95	3.75	4.89

```
              0.833    9.78 | 1.833   14.68 | 2.833    6.95 |  3.83    4.89
              0.917   13.37 | 1.917   12.09 | 2.917    6.47 |  3.92    4.67
              1.000   13.37 | 2.000   12.09 | 3.000    6.47 |  4.00    4.67

     Unit Hyd Qpeak  (cms)=   0.158

     PEAK FLOW      (cms)=   0.030 (i)
     TIME TO PEAK   (hrs)=   1.417
     RUNOFF VOLUME   (mm)=  14.731
     TOTAL RAINFALL  (mm)=  62.511
     RUNOFF COEFFICIENT  =   0.236

     (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 6.1.2001)
       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:
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9bd939-4101-4bc6-abb2-15b2da3698cf\s
  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\ee
9bd939-4101-4bc6-abb2-15b2da3698cf\s


DATE: 01/19/2023                          TIME: 07:32:45

USER:
```

COMMENTS: _____

```
  ********************************************
  ** SIMULATION : 100yr 4hr 10min Chicago       **
  ********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 792.549
| Ptotal= 68.73 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    5.78 |  1.17   27.35 |  2.17   11.43 |  3.17    6.66
      0.33    6.46 |  1.33  158.50 |  2.33   10.09 |  3.33    6.27
      0.50    7.37 |  1.50   33.56 |  2.50    9.08 |  3.50    5.93
      0.67    8.68 |  1.67   21.16 |  2.67    8.29 |  3.67    5.64
      0.83   10.75 |  1.83   16.14 |  2.83    7.64 |  3.83    5.37
      1.00   14.70 |  2.00   13.29 |  3.00    7.11 |  4.00    5.14


--------------------
| CALIB            |
| NASHYD   (  0117)|   Area    (ha)=   5.73   Curve Number   (CN)= 64.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.64   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44

        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    5.78 | 1.083   27.35 | 2.083   11.43 |  3.08    6.66
     0.167    5.78 | 1.167   27.35 | 2.167   11.43 |  3.17    6.66
     0.250    6.46 | 1.250  158.50 | 2.250   10.09 |  3.25    6.27
     0.333    6.46 | 1.333  158.50 | 2.333   10.09 |  3.33    6.27
     0.417    7.37 | 1.417   33.56 | 2.417    9.08 |  3.42    5.93
     0.500    7.37 | 1.500   33.56 | 2.500    9.08 |  3.50    5.93
```

0.583	8.68	1.583	21.16	2.583	8.29	3.58	5.64
0.667	8.68	1.667	21.16	2.667	8.29	3.67	5.64
0.750	10.75	1.750	16.14	2.750	7.64	3.75	5.37
0.833	10.75	1.833	16.14	2.833	7.64	3.83	5.37
0.917	14.70	1.917	13.29	2.917	7.11	3.92	5.14
1.000	14.70	2.000	13.29	3.000	7.11	4.00	5.14

Unit Hyd Qpeak (cms)= 0.497

PEAK FLOW (cms)= 0.180 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 19.153
TOTAL RAINFALL (mm)= 68.732
RUNOFF COEFFICIENT = 0.279

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

CALIB	
NASHYD (0115)	Area (ha)= 9.34 Curve Number (CN)= 62.6
ID= 1 DT= 5.0 min	Ia (mm)= 6.91 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.71

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.78	1.083	27.35	2.083	11.43	3.08	6.66
0.167	5.78	1.167	27.35	2.167	11.43	3.17	6.66
0.250	6.46	1.250	158.50	2.250	10.09	3.25	6.27
0.333	6.46	1.333	158.50	2.333	10.09	3.33	6.27
0.417	7.37	1.417	33.56	2.417	9.08	3.42	5.93
0.500	7.37	1.500	33.56	2.500	9.08	3.50	5.93
0.583	8.68	1.583	21.16	2.583	8.29	3.58	5.64
0.667	8.68	1.667	21.16	2.667	8.29	3.67	5.64
0.750	10.75	1.750	16.14	2.750	7.64	3.75	5.37
0.833	10.75	1.833	16.14	2.833	7.64	3.83	5.37
0.917	14.70	1.917	13.29	2.917	7.11	3.92	5.14
1.000	14.70	2.000	13.29	3.000	7.11	4.00	5.14

Unit Hyd Qpeak (cms)= 0.502

PEAK FLOW (cms)= 0.200 (i)
TIME TO PEAK (hrs)= 2.250
RUNOFF VOLUME (mm)= 17.895
TOTAL RAINFALL (mm)= 68.732
RUNOFF COEFFICIENT = 0.260

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

CALIB	
STANDHYD (0303)	Area (ha)= 0.37
ID= 1 DT= 5.0 min	Total Imp(%)= 97.30 Dir. Conn.(%)= 92.40

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.36	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	49.67	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	5.78	1.083	27.35	2.083	11.43	3.08	6.66
0.167	5.78	1.167	27.35	2.167	11.43	3.17	6.66
0.250	6.46	1.250	158.50	2.250	10.09	3.25	6.27
0.333	6.46	1.333	158.50	2.333	10.09	3.33	6.27
0.417	7.37	1.417	33.56	2.417	9.08	3.42	5.93
0.500	7.37	1.500	33.56	2.500	9.08	3.50	5.93
0.583	8.68	1.583	21.16	2.583	8.29	3.58	5.64
0.667	8.68	1.667	21.16	2.667	8.29	3.67	5.64
0.750	10.75	1.750	16.14	2.750	7.64	3.75	5.37
0.833	10.75	1.833	16.14	2.833	7.64	3.83	5.37
0.917	14.70	1.917	13.29	2.917	7.11	3.92	5.14
1.000	14.70	2.000	13.29	3.000	7.11	4.00	5.14

Max.Eff.Inten.(mm/hr)=		158.50	164.13	
over (min)		5.00	5.00	
Storage Coeff. (min)=		1.40 (ii)	2.82 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		0.33	0.28	
				TOTALS
PEAK FLOW	(cms)=	0.15	0.01	0.155 (iii)
TIME TO PEAK	(hrs)=	1.33	1.33	1.33
RUNOFF VOLUME	(mm)=	67.73	27.87	64.70
TOTAL RAINFALL	(mm)=	68.73	68.73	68.73
RUNOFF COEFFICIENT	=	0.99	0.41	0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:

```
          CN*  =  49.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0801)|
| Inlet Cap.= 0.109|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   0.37      0.16      1.33   64.70
     ==================================================
     MAJOR SYS.(ID= 2):   0.04      0.05      1.33   64.70
     MINOR SYS.(ID= 3):   0.33      0.11      1.25   64.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

--------------------
| ADD HYD  (  0901)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):     9.34   0.200     2.25    17.90
      + ID2= 2 (  0117):     5.73   0.180     1.83    19.15
        ================================================
        ID = 3 (  0901):    15.07   0.360     2.00    18.37

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

--------------------
| ADD HYD  (  0901)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0901):    15.07   0.360     2.00    18.37
      + ID2= 2 (  0801):     0.04   0.046     1.33    64.70
        ================================================
        ID = 1 (  0901):    15.11   0.360     2.00    18.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.364|
| #of Inlets=     1|
| Total(cms)=   0.4|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.11      0.36      2.00   18.50
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  15.11      0.36      2.00   18.50

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0116)|   Area    (ha)=   6.57   Curve Number   (CN)= 62.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.88   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.56

         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    5.78 | 1.083   27.35 | 2.083   11.43 |  3.08    6.66
             0.167    5.78 | 1.167   27.35 | 2.167   11.43 |  3.17    6.66
             0.250    6.46 | 1.250  158.50 | 2.250   10.09 |  3.25    6.27
             0.333    6.46 | 1.333  158.50 | 2.333   10.09 |  3.33    6.27
             0.417    7.37 | 1.417   33.56 | 2.417    9.08 |  3.42    5.93
             0.500    7.37 | 1.500   33.56 | 2.500    9.08 |  3.50    5.93
             0.583    8.68 | 1.583   21.16 | 2.583    8.29 |  3.58    5.64
             0.667    8.68 | 1.667   21.16 | 2.667    8.29 |  3.67    5.64
             0.750   10.75 | 1.750   16.14 | 2.750    7.64 |  3.75    5.37
             0.833   10.75 | 1.833   16.14 | 2.833    7.64 |  3.83    5.37
             0.917   14.70 | 1.917   13.29 | 2.917    7.11 |  3.92    5.14
             1.000   14.70 | 2.000   13.29 | 3.000    7.11 |  4.00    5.14

     Unit Hyd Qpeak  (cms)=   0.448

     PEAK FLOW       (cms)=   0.166 (i)
     TIME TO PEAK    (hrs)=   2.000
     RUNOFF VOLUME    (mm)=  18.073
     TOTAL RAINFALL   (mm)=  68.732
     RUNOFF COEFFICIENT   =   0.263

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

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--------------------
| ADD HYD  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
```

*** W A R N I N G : HYDROGRAPH   0003 = HYDROGRAPH 0001
ID1= 1 (0116): 6.57 0.166 2.00 18.07
+ ID2= 2 (0802): 0.00 0.000 0.00 0.00
ID = 3 (0902): 6.57 0.166 2.00 18.07

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
NASHYD (0101)	Area (ha)= 9.85 Curve Number (CN)= 62.3
ID= 1 DT= 5.0 min	Ia (mm)= 6.95 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.80

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.78	1.083	27.35	2.083	11.43	3.08	6.66
0.167	5.78	1.167	27.35	2.167	11.43	3.17	6.66
0.250	6.46	1.250	158.50	2.250	10.09	3.25	6.27
0.333	6.46	1.333	158.50	2.333	10.09	3.33	6.27
0.417	7.37	1.417	33.56	2.417	9.08	3.42	5.93
0.500	7.37	1.500	33.56	2.500	9.08	3.50	5.93
0.583	8.68	1.583	21.16	2.583	8.29	3.58	5.64
0.667	8.68	1.667	21.16	2.667	8.29	3.67	5.64
0.750	10.75	1.750	16.14	2.750	7.64	3.75	5.37
0.833	10.75	1.833	16.14	2.833	7.64	3.83	5.37
0.917	14.70	1.917	13.29	2.917	7.11	3.92	5.14
1.000	14.70	2.000	13.29	3.000	7.11	4.00	5.14

Unit Hyd Qpeak (cms)= 0.470

PEAK FLOW (cms)= 0.193 (i)
TIME TO PEAK (hrs)= 2.333
RUNOFF VOLUME (mm)= 17.713
TOTAL RAINFALL (mm)= 68.732
RUNOFF COEFFICIENT = 0.258

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

CALIB	
NASHYD (0102)	Area (ha)= 4.52 Curve Number (CN)= 62.4
ID= 1 DT= 5.0 min	Ia (mm)= 6.94 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.36

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.78	1.083	27.35	2.083	11.43	3.08	6.66
0.167	5.78	1.167	27.35	2.167	11.43	3.17	6.66
0.250	6.46	1.250	158.50	2.250	10.09	3.25	6.27
0.333	6.46	1.333	158.50	2.333	10.09	3.33	6.27
0.417	7.37	1.417	33.56	2.417	9.08	3.42	5.93
0.500	7.37	1.500	33.56	2.500	9.08	3.50	5.93
0.583	8.68	1.583	21.16	2.583	8.29	3.58	5.64
0.667	8.68	1.667	21.16	2.667	8.29	3.67	5.64
0.750	10.75	1.750	16.14	2.750	7.64	3.75	5.37
0.833	10.75	1.833	16.14	2.833	7.64	3.83	5.37
0.917	14.70	1.917	13.29	2.917	7.11	3.92	5.14
1.000	14.70	2.000	13.29	3.000	7.11	4.00	5.14

Unit Hyd Qpeak (cms)= 0.480

PEAK FLOW (cms)= 0.148 (i)
TIME TO PEAK (hrs)= 1.750
RUNOFF VOLUME (mm)= 17.769
TOTAL RAINFALL (mm)= 68.732
RUNOFF COEFFICIENT = 0.259

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

CALIB	
NASHYD (0103)	Area (ha)= 0.66 Curve Number (CN)= 62.4
ID= 1 DT= 5.0 min	Ia (mm)= 6.95 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.16

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.78	1.083	27.35	2.083	11.43	3.08	6.66
0.167	5.78	1.167	27.35	2.167	11.43	3.17	6.66
0.250	6.46	1.250	158.50	2.250	10.09	3.25	6.27
0.333	6.46	1.333	158.50	2.333	10.09	3.33	6.27
0.417	7.37	1.417	33.56	2.417	9.08	3.42	5.93
0.500	7.37	1.500	33.56	2.500	9.08	3.50	5.93
0.583	8.68	1.583	21.16	2.583	8.29	3.58	5.64
0.667	8.68	1.667	21.16	2.667	8.29	3.67	5.64

```
            0.750   10.75 | 1.750   16.14 | 2.750    7.64 |  3.75    5.37
            0.833   10.75 | 1.833   16.14 | 2.833    7.64 |  3.83    5.37
            0.917   14.70 | 1.917   13.29 | 2.917    7.11 |  3.92    5.14
            1.000   14.70 | 2.000   13.29 | 3.000    7.11 |  4.00    5.14

     Unit Hyd Qpeak  (cms)=   0.158

     PEAK FLOW       (cms)=   0.037 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  17.687
     TOTAL RAINFALL   (mm)=  68.732
     RUNOFF COEFFICIENT   =   0.257

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

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       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       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:
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  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\ab
385a92-7e85-4158-bfa9-faf707f43599\s


DATE: 01/19/2023                          TIME: 07:37:50

USER:



COMMENTS: _____________________________________________________________


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  ***********************************************
  ** SIMULATION : 2yr 24hr 15min SCS           **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\elundquist\AppD
|                  |              ata\Local\Temp\
|                  |              eec61fe4-ea1d-4b25-930d-6bd365b221af\e3305fc8
| Ptotal= 53.10 mm |    Comments: 2yr 24hr 15min SCS
--------------------
```

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	0.96	12.75	7.65	19.00	0.96
0.50	0.58	6.75	0.96	13.00	3.93	19.25	0.96
0.75	0.58	7.00	0.96	13.25	3.93	19.50	0.96
1.00	0.58	7.25	0.96	13.50	2.87	19.75	0.96
1.25	0.58	7.50	1.17	13.75	2.87	20.00	0.96
1.50	0.58	7.75	1.17	14.00	2.23	20.25	0.96
1.75	0.58	8.00	1.17	14.25	2.23	20.50	0.64
2.00	0.58	8.25	1.17	14.50	1.59	20.75	0.64
2.25	0.58	8.50	1.38	14.75	1.59	21.00	0.64
2.50	0.69	8.75	1.38	15.00	1.59	21.25	0.64
2.75	0.69	9.00	1.49	15.25	1.59	21.50	0.64
3.00	0.69	9.25	1.49	15.50	1.59	21.75	0.64
3.25	0.69	9.50	1.70	15.75	1.59	22.00	0.64
3.50	0.69	9.75	1.70	16.00	1.59	22.25	0.64
3.75	0.69	10.00	1.91	16.25	1.59	22.50	0.64
4.00	0.69	10.25	1.91	16.50	0.96	22.75	0.64
4.25	0.69	10.50	2.44	16.75	0.96	23.00	0.64
4.50	0.85	10.75	2.44	17.00	0.96	23.25	0.64
4.75	0.85	11.00	3.29	17.25	0.96	23.50	0.64
5.00	0.85	11.25	3.29	17.50	0.96	23.75	0.64
5.25	0.85	11.50	5.10	17.75	0.96	24.00	0.64
5.50	0.85	11.75	5.10	18.00	0.96	24.25	0.64
5.75	0.85	12.00	15.72	18.25	0.96		
6.00	0.85	12.25	64.99	18.50	0.96		
6.25	0.85	12.50	7.65	18.75	0.96		

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| CALIB            |
| NASHYD   (  0117)|   Area    (ha)=   6.10   Curve Number   (CN)= 66.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.35   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.42

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- 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	0.85	12.250	64.99	18.33	0.96
0.167	0.00	6.250	0.85	12.333	7.65	18.42	0.96
0.250	0.00	6.333	0.96	12.417	7.65	18.50	0.96
0.333	0.58	6.417	0.96	12.500	7.65	18.58	0.96
0.417	0.58	6.500	0.96	12.583	7.65	18.67	0.96

0.500	0.58	6.583	0.96	12.667	7.65	18.75	0.96
0.583	0.58	6.667	0.96	12.750	7.65	18.83	0.96
0.667	0.58	6.750	0.96	12.833	3.93	18.92	0.96
0.750	0.58	6.833	0.96	12.917	3.93	19.00	0.96
0.833	0.58	6.917	0.96	13.000	3.93	19.08	0.96
0.917	0.58	7.000	0.96	13.083	3.93	19.17	0.96
1.000	0.58	7.083	0.96	13.167	3.93	19.25	0.96
1.083	0.58	7.167	0.96	13.250	3.93	19.33	0.96
1.167	0.58	7.250	0.96	13.333	2.87	19.42	0.96
1.250	0.58	7.333	1.17	13.417	2.87	19.50	0.96
1.333	0.58	7.417	1.17	13.500	2.87	19.58	0.96
1.417	0.58	7.500	1.17	13.583	2.87	19.67	0.96
1.500	0.58	7.583	1.17	13.667	2.87	19.75	0.96
1.583	0.58	7.667	1.17	13.750	2.87	19.83	0.96
1.667	0.58	7.750	1.17	13.833	2.23	19.92	0.96
1.750	0.58	7.833	1.17	13.917	2.23	20.00	0.96
1.833	0.58	7.917	1.17	14.000	2.23	20.08	0.96
1.917	0.58	8.000	1.17	14.083	2.23	20.17	0.96
2.000	0.58	8.083	1.17	14.167	2.23	20.25	0.96
2.083	0.58	8.167	1.17	14.250	2.23	20.33	0.64
2.167	0.58	8.250	1.17	14.333	1.59	20.42	0.64
2.250	0.58	8.333	1.38	14.417	1.59	20.50	0.64
2.333	0.69	8.417	1.38	14.500	1.59	20.58	0.64
2.417	0.69	8.500	1.38	14.583	1.59	20.67	0.64
2.500	0.69	8.583	1.38	14.667	1.59	20.75	0.64
2.583	0.69	8.667	1.38	14.750	1.59	20.83	0.64
2.667	0.69	8.750	1.38	14.833	1.59	20.92	0.64
2.750	0.69	8.833	1.49	14.917	1.59	21.00	0.64
2.833	0.69	8.917	1.49	15.000	1.59	21.08	0.64
2.917	0.69	9.000	1.49	15.083	1.59	21.17	0.64
3.000	0.69	9.083	1.49	15.167	1.59	21.25	0.64
3.083	0.69	9.167	1.49	15.250	1.59	21.33	0.64
3.167	0.69	9.250	1.49	15.333	1.59	21.42	0.64
3.250	0.69	9.333	1.70	15.417	1.59	21.50	0.64
3.333	0.69	9.417	1.70	15.500	1.59	21.58	0.64
3.417	0.69	9.500	1.70	15.583	1.59	21.67	0.64
3.500	0.69	9.583	1.70	15.667	1.59	21.75	0.64
3.583	0.69	9.667	1.70	15.750	1.59	21.83	0.64
3.667	0.69	9.750	1.70	15.833	1.59	21.92	0.64
3.750	0.69	9.833	1.91	15.917	1.59	22.00	0.64
3.833	0.69	9.917	1.91	16.000	1.59	22.08	0.64
3.917	0.69	10.000	1.91	16.083	1.59	22.17	0.64
4.000	0.69	10.083	1.91	16.167	1.59	22.25	0.64
4.083	0.69	10.167	1.91	16.250	1.59	22.33	0.64
4.167	0.69	10.250	1.91	16.333	0.96	22.42	0.64
4.250	0.69	10.333	2.44	16.417	0.96	22.50	0.64
4.333	0.85	10.417	2.44	16.500	0.96	22.58	0.64
4.417	0.85	10.500	2.44	16.583	0.96	22.67	0.64
4.500	0.85	10.583	2.44	16.667	0.96	22.75	0.64
4.583	0.85	10.667	2.44	16.750	0.96	22.83	0.64
4.667	0.85	10.750	2.44	16.833	0.96	22.92	0.64
4.750	0.85	10.833	3.29	16.917	0.96	23.00	0.64
4.833	0.85	10.917	3.29	17.000	0.96	23.08	0.64
4.917	0.85	11.000	3.29	17.083	0.96	23.17	0.64
5.000	0.85	11.083	3.29	17.167	0.96	23.25	0.64
5.083	0.85	11.167	3.29	17.250	0.96	23.33	0.64
5.167	0.85	11.250	3.29	17.333	0.96	23.42	0.64
5.250	0.85	11.333	5.10	17.417	0.96	23.50	0.64
5.333	0.85	11.417	5.10	17.500	0.96	23.58	0.64
5.417	0.85	11.500	5.10	17.583	0.96	23.67	0.64
5.500	0.85	11.583	5.10	17.667	0.96	23.75	0.64
5.583	0.85	11.667	5.10	17.750	0.96	23.83	0.64
5.667	0.85	11.750	5.10	17.833	0.96	23.92	0.64
5.750	0.85	11.833	15.72	17.917	0.96	24.00	0.64
5.833	0.85	11.917	15.72	18.000	0.96	24.08	0.64
5.917	0.85	12.000	15.72	18.083	0.96	24.17	0.64
6.000	0.85	12.083	64.99	18.167	0.96	24.25	0.64
6.083	0.85	12.167	64.99	18.250	0.96		

Unit Hyd Qpeak (cms)= 0.555

PEAK FLOW (cms)= 0.111 (i)
TIME TO PEAK (hrs)= 12.583
RUNOFF VOLUME (mm)= 12.633
TOTAL RAINFALL (mm)= 53.100
RUNOFF COEFFICIENT = 0.238

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

CALIB					
NASHYD (0115)	Area	(ha)=	9.34	Curve Number	(CN)= 62.6
ID= 1 DT= 5.0 min	Ia	(mm)=	6.91	# of Linear Res.	(N)= 3.00
	U.H. Tp(hrs)=		0.71		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	0.85	12.250	64.99	18.33	0.96
0.167	0.00	6.250	0.85	12.333	7.65	18.42	0.96
0.250	0.00	6.333	0.96	12.417	7.65	18.50	0.96
0.333	0.58	6.417	0.96	12.500	7.65	18.58	0.96
0.417	0.58	6.500	0.96	12.583	7.65	18.67	0.96
0.500	0.58	6.583	0.96	12.667	7.65	18.75	0.96
0.583	0.58	6.667	0.96	12.750	7.65	18.83	0.96
0.667	0.58	6.750	0.96	12.833	3.93	18.92	0.96

0.750	0.58	6.833	0.96	12.917	3.93	19.00	0.96
0.833	0.58	6.917	0.96	13.000	3.93	19.08	0.96
0.917	0.58	7.000	0.96	13.083	3.93	19.17	0.96
1.000	0.58	7.083	0.96	13.167	3.93	19.25	0.96
1.083	0.58	7.167	0.96	13.250	3.93	19.33	0.96
1.167	0.58	7.250	0.96	13.333	2.87	19.42	0.96
1.250	0.58	7.333	1.17	13.417	2.87	19.50	0.96
1.333	0.58	7.417	1.17	13.500	2.87	19.58	0.96
1.417	0.58	7.500	1.17	13.583	2.87	19.67	0.96
1.500	0.58	7.583	1.17	13.667	2.87	19.75	0.96
1.583	0.58	7.667	1.17	13.750	2.87	19.83	0.96
1.667	0.58	7.750	1.17	13.833	2.23	19.92	0.96
1.750	0.58	7.833	1.17	13.917	2.23	20.00	0.96
1.833	0.58	7.917	1.17	14.000	2.23	20.08	0.96
1.917	0.58	8.000	1.17	14.083	2.23	20.17	0.96
2.000	0.58	8.083	1.17	14.167	2.23	20.25	0.96
2.083	0.58	8.167	1.17	14.250	2.23	20.33	0.64
2.167	0.58	8.250	1.17	14.333	1.59	20.42	0.64
2.250	0.58	8.333	1.38	14.417	1.59	20.50	0.64
2.333	0.69	8.417	1.38	14.500	1.59	20.58	0.64
2.417	0.69	8.500	1.38	14.583	1.59	20.67	0.64
2.500	0.69	8.583	1.38	14.667	1.59	20.75	0.64
2.583	0.69	8.667	1.38	14.750	1.59	20.83	0.64
2.667	0.69	8.750	1.38	14.833	1.59	20.92	0.64
2.750	0.69	8.833	1.49	14.917	1.59	21.00	0.64
2.833	0.69	8.917	1.49	15.000	1.59	21.08	0.64
2.917	0.69	9.000	1.49	15.083	1.59	21.17	0.64
3.000	0.69	9.083	1.49	15.167	1.59	21.25	0.64
3.083	0.69	9.167	1.49	15.250	1.59	21.33	0.64
3.167	0.69	9.250	1.49	15.333	1.59	21.42	0.64
3.250	0.69	9.333	1.70	15.417	1.59	21.50	0.64
3.333	0.69	9.417	1.70	15.500	1.59	21.58	0.64
3.417	0.69	9.500	1.70	15.583	1.59	21.67	0.64
3.500	0.69	9.583	1.70	15.667	1.59	21.75	0.64
3.583	0.69	9.667	1.70	15.750	1.59	21.83	0.64
3.667	0.69	9.750	1.70	15.833	1.59	21.92	0.64
3.750	0.69	9.833	1.91	15.917	1.59	22.00	0.64
3.833	0.69	9.917	1.91	16.000	1.59	22.08	0.64
3.917	0.69	10.000	1.91	16.083	1.59	22.17	0.64
4.000	0.69	10.083	1.91	16.167	1.59	22.25	0.64
4.083	0.69	10.167	1.91	16.250	1.59	22.33	0.64
4.167	0.69	10.250	1.91	16.333	0.96	22.42	0.64
4.250	0.69	10.333	2.44	16.417	0.96	22.50	0.64
4.333	0.85	10.417	2.44	16.500	0.96	22.58	0.64
4.417	0.85	10.500	2.44	16.583	0.96	22.67	0.64
4.500	0.85	10.583	2.44	16.667	0.96	22.75	0.64
4.583	0.85	10.667	2.44	16.750	0.96	22.83	0.64
4.667	0.85	10.750	2.44	16.833	0.96	22.92	0.64
4.750	0.85	10.833	3.29	16.917	0.96	23.00	0.64
4.833	0.85	10.917	3.29	17.000	0.96	23.08	0.64
4.917	0.85	11.000	3.29	17.083	0.96	23.17	0.64
5.000	0.85	11.083	3.29	17.167	0.96	23.25	0.64
5.083	0.85	11.167	3.29	17.250	0.96	23.33	0.64
5.167	0.85	11.250	3.29	17.333	0.96	23.42	0.64
5.250	0.85	11.333	5.10	17.417	0.96	23.50	0.64
5.333	0.85	11.417	5.10	17.500	0.96	23.58	0.64
5.417	0.85	11.500	5.10	17.583	0.96	23.67	0.64
5.500	0.85	11.583	5.10	17.667	0.96	23.75	0.64
5.583	0.85	11.667	5.10	17.750	0.96	23.83	0.64
5.667	0.85	11.750	5.10	17.833	0.96	23.92	0.64
5.750	0.85	11.833	15.72	17.917	0.96	24.00	0.64
5.833	0.85	11.917	15.72	18.000	0.96	24.08	0.64
5.917	0.85	12.000	15.72	18.083	0.96	24.17	0.64
6.000	0.85	12.083	64.99	18.167	0.96	24.25	0.64
6.083	0.85	12.167	64.99	18.250	0.96		

Unit Hyd Qpeak (cms)= 0.502

PEAK FLOW (cms)= 0.098 (i)
TIME TO PEAK (hrs)= 12.917
RUNOFF VOLUME (mm)= 10.778
TOTAL RAINFALL (mm)= 53.100
RUNOFF COEFFICIENT = 0.203

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

CALIB STANDHYD (0303) ID= 1 DT= 5.0 min

Area (ha)= 0.37
Total Imp(%)= 97.30 Dir. Conn.(%)= 92.40

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.36	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	49.67	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	0.85	12.250	64.99	18.33	0.96
0.167	0.00	6.250	0.85	12.333	7.65	18.42	0.96
0.250	0.00	6.333	0.96	12.417	7.65	18.50	0.96
0.333	0.58	6.417	0.96	12.500	7.65	18.58	0.96
0.417	0.58	6.500	0.96	12.583	7.65	18.67	0.96

0.500	0.58	6.583	0.96	12.667	7.65	18.75	0.96
0.583	0.58	6.667	0.96	12.750	7.65	18.83	0.96
0.667	0.58	6.750	0.96	12.833	3.93	18.92	0.96
0.750	0.58	6.833	0.96	12.917	3.93	19.00	0.96
0.833	0.58	6.917	0.96	13.000	3.93	19.08	0.96
0.917	0.58	7.000	0.96	13.083	3.93	19.17	0.96
1.000	0.58	7.083	0.96	13.167	3.93	19.25	0.96
1.083	0.58	7.167	0.96	13.250	3.93	19.33	0.96
1.167	0.58	7.250	0.96	13.333	2.87	19.42	0.96
1.250	0.58	7.333	1.17	13.417	2.87	19.50	0.96
1.333	0.58	7.417	1.17	13.500	2.87	19.58	0.96
1.417	0.58	7.500	1.17	13.583	2.87	19.67	0.96
1.500	0.58	7.583	1.17	13.667	2.87	19.75	0.96
1.583	0.58	7.667	1.17	13.750	2.87	19.83	0.96
1.667	0.58	7.750	1.17	13.833	2.23	19.92	0.96
1.750	0.58	7.833	1.17	13.917	2.23	20.00	0.96
1.833	0.58	7.917	1.17	14.000	2.23	20.08	0.96
1.917	0.58	8.000	1.17	14.083	2.23	20.17	0.96
2.000	0.58	8.083	1.17	14.167	2.23	20.25	0.96
2.083	0.58	8.167	1.17	14.250	2.23	20.33	0.64
2.167	0.58	8.250	1.17	14.333	1.59	20.42	0.64
2.250	0.58	8.333	1.38	14.417	1.59	20.50	0.64
2.333	0.69	8.417	1.38	14.500	1.59	20.58	0.64
2.417	0.69	8.500	1.38	14.583	1.59	20.67	0.64
2.500	0.69	8.583	1.38	14.667	1.59	20.75	0.64
2.583	0.69	8.667	1.38	14.750	1.59	20.83	0.64
2.667	0.69	8.750	1.38	14.833	1.59	20.92	0.64
2.750	0.69	8.833	1.49	14.917	1.59	21.00	0.64
2.833	0.69	8.917	1.49	15.000	1.59	21.08	0.64
2.917	0.69	9.000	1.49	15.083	1.59	21.17	0.64
3.000	0.69	9.083	1.49	15.167	1.59	21.25	0.64
3.083	0.69	9.167	1.49	15.250	1.59	21.33	0.64
3.167	0.69	9.250	1.49	15.333	1.59	21.42	0.64
3.250	0.69	9.333	1.70	15.417	1.59	21.50	0.64
3.333	0.69	9.417	1.70	15.500	1.59	21.58	0.64
3.417	0.69	9.500	1.70	15.583	1.59	21.67	0.64
3.500	0.69	9.583	1.70	15.667	1.59	21.75	0.64
3.583	0.69	9.667	1.70	15.750	1.59	21.83	0.64
3.667	0.69	9.750	1.70	15.833	1.59	21.92	0.64
3.750	0.69	9.833	1.91	15.917	1.59	22.00	0.64
3.833	0.69	9.917	1.91	16.000	1.59	22.08	0.64
3.917	0.69	10.000	1.91	16.083	1.59	22.17	0.64
4.000	0.69	10.083	1.91	16.167	1.59	22.25	0.64
4.083	0.69	10.167	1.91	16.250	1.59	22.33	0.64
4.167	0.69	10.250	1.91	16.333	0.96	22.42	0.64
4.250	0.69	10.333	2.44	16.417	0.96	22.50	0.64
4.333	0.85	10.417	2.44	16.500	0.96	22.58	0.64
4.417	0.85	10.500	2.44	16.583	0.96	22.67	0.64
4.500	0.85	10.583	2.44	16.667	0.96	22.75	0.64
4.583	0.85	10.667	2.44	16.750	0.96	22.83	0.64
4.667	0.85	10.750	2.44	16.833	0.96	22.92	0.64
4.750	0.85	10.833	3.29	16.917	0.96	23.00	0.64
4.833	0.85	10.917	3.29	17.000	0.96	23.08	0.64
4.917	0.85	11.000	3.29	17.083	0.96	23.17	0.64
5.000	0.85	11.083	3.29	17.167	0.96	23.25	0.64
5.083	0.85	11.167	3.29	17.250	0.96	23.33	0.64
5.167	0.85	11.250	3.29	17.333	0.96	23.42	0.64
5.250	0.85	11.333	5.10	17.417	0.96	23.50	0.64
5.333	0.85	11.417	5.10	17.500	0.96	23.58	0.64
5.417	0.85	11.500	5.10	17.583	0.96	23.67	0.64
5.500	0.85	11.583	5.10	17.667	0.96	23.75	0.64
5.583	0.85	11.667	5.10	17.750	0.96	23.83	0.64
5.667	0.85	11.750	5.10	17.833	0.96	23.92	0.64
5.750	0.85	11.833	15.72	17.917	0.96	24.00	0.64
5.833	0.85	11.917	15.72	18.000	0.96	24.08	0.64
5.917	0.85	12.000	15.72	18.083	0.96	24.17	0.64
6.000	0.85	12.083	64.99	18.167	0.96	24.25	0.64
6.083	0.85	12.167	64.99	18.250	0.96		

Max.Eff.Inten.(mm/hr)=	64.99	74.19	
over (min)	5.00	5.00	
Storage Coeff. (min)=	1.99 (ii)	4.04 (ii)	
Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.31	0.24	
			TOTALS
PEAK FLOW (cms)=	0.06	0.00	0.064 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	52.10	18.14	49.51
TOTAL RAINFALL (mm)=	53.10	53.10	53.10
RUNOFF COEFFICIENT =	0.98	0.34	0.93

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (0801)				
Inlet Cap.= 0.109				
#of Inlets= 1				
Total(cms)= 0.1|	AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		0.37	0.06	12.25	49.51
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		0.37	0.06	12.25	49.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0901)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0115):	9.34	0.098	12.92	10.78
	+ ID2= 2 (0117):	6.10	0.111	12.58	12.63
	ID = 3 (0901):	15.44	0.196	12.67	11.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0901)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)

*** W A R N I N G : HYDROGRAPH 0801 <ID= 2> IS DRY.
*** W A R N I N G : HYDROGRAPH 0001 = HYDROGRAPH 0003

	ID1= 3 (0901):	15.44	0.196	12.67	11.51
	+ ID2= 2 (0801):	0.00	0.000	0.00	0.00
	ID = 1 (0901):	15.44	0.196	12.67	11.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0802)
Inlet Cap.= 0.364
#of Inlets= 1
Total(cms)= 0.4

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):	15.44	0.20	12.67	11.51
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	15.44	0.20	12.67	11.51

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0116) | ID= 1 DT= 5.0 min |

Area (ha)= 6.57 Curve Number (CN)= 62.9
Ia (mm)= 6.88 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.56

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	0.85	12.250	64.99	18.33	0.96
0.167	0.00	6.250	0.85	12.333	7.65	18.42	0.96
0.250	0.00	6.333	0.96	12.417	7.65	18.50	0.96
0.333	0.58	6.417	0.96	12.500	7.65	18.58	0.96
0.417	0.58	6.500	0.96	12.583	7.65	18.67	0.96
0.500	0.58	6.583	0.96	12.667	7.65	18.75	0.96
0.583	0.58	6.667	0.96	12.750	7.65	18.83	0.96
0.667	0.58	6.750	0.96	12.833	3.93	18.92	0.96
0.750	0.58	6.833	0.96	12.917	3.93	19.00	0.96
0.833	0.58	6.917	0.96	13.000	3.93	19.08	0.96
0.917	0.58	7.000	0.96	13.083	3.93	19.17	0.96
1.000	0.58	7.083	0.96	13.167	3.93	19.25	0.96
1.083	0.58	7.167	0.96	13.250	3.93	19.33	0.96
1.167	0.58	7.250	0.96	13.333	2.87	19.42	0.96
1.250	0.58	7.333	1.17	13.417	2.87	19.50	0.96
1.333	0.58	7.417	1.17	13.500	2.87	19.58	0.96
1.417	0.58	7.500	1.17	13.583	2.87	19.67	0.96
1.500	0.58	7.583	1.17	13.667	2.87	19.75	0.96
1.583	0.58	7.667	1.17	13.750	2.87	19.83	0.96
1.667	0.58	7.750	1.17	13.833	2.23	19.92	0.96
1.750	0.58	7.833	1.17	13.917	2.23	20.00	0.96
1.833	0.58	7.917	1.17	14.000	2.23	20.08	0.96
1.917	0.58	8.000	1.17	14.083	2.23	20.17	0.96
2.000	0.58	8.083	1.17	14.167	2.23	20.25	0.96
2.083	0.58	8.167	1.17	14.250	2.23	20.33	0.64
2.167	0.58	8.250	1.17	14.333	1.59	20.42	0.64
2.250	0.58	8.333	1.38	14.417	1.59	20.50	0.64
2.333	0.69	8.417	1.38	14.500	1.59	20.58	0.64
2.417	0.69	8.500	1.38	14.583	1.59	20.67	0.64
2.500	0.69	8.583	1.38	14.667	1.59	20.75	0.64
2.583	0.69	8.667	1.38	14.750	1.59	20.83	0.64
2.667	0.69	8.750	1.38	14.833	1.59	20.92	0.64
2.750	0.69	8.833	1.49	14.917	1.59	21.00	0.64
2.833	0.69	8.917	1.49	15.000	1.59	21.08	0.64
2.917	0.69	9.000	1.49	15.083	1.59	21.17	0.64
3.000	0.69	9.083	1.49	15.167	1.59	21.25	0.64
3.083	0.69	9.167	1.49	15.250	1.59	21.33	0.64
3.167	0.69	9.250	1.49	15.333	1.59	21.42	0.64
3.250	0.69	9.333	1.70	15.417	1.59	21.50	0.64
3.333	0.69	9.417	1.70	15.500	1.59	21.58	0.64
3.417	0.69	9.500	1.70	15.583	1.59	21.67	0.64
3.500	0.69	9.583	1.70	15.667	1.59	21.75	0.64
3.583	0.69	9.667	1.70	15.750	1.59	21.83	0.64
3.667	0.69	9.750	1.70	15.833	1.59	21.92	0.64

3.750	0.69	9.833	1.91	15.917	1.59	22.00	0.64
3.833	0.69	9.917	1.91	16.000	1.59	22.08	0.64
3.917	0.69	10.000	1.91	16.083	1.59	22.17	0.64
4.000	0.69	10.083	1.91	16.167	1.59	22.25	0.64
4.083	0.69	10.167	1.91	16.250	1.59	22.33	0.64
4.167	0.69	10.250	1.91	16.333	0.96	22.42	0.64
4.250	0.69	10.333	2.44	16.417	0.96	22.50	0.64
4.333	0.85	10.417	2.44	16.500	0.96	22.58	0.64
4.417	0.85	10.500	2.44	16.583	0.96	22.67	0.64
4.500	0.85	10.583	2.44	16.667	0.96	22.75	0.64
4.583	0.85	10.667	2.44	16.750	0.96	22.83	0.64
4.667	0.85	10.750	2.44	16.833	0.96	22.92	0.64
4.750	0.85	10.833	3.29	16.917	0.96	23.00	0.64
4.833	0.85	10.917	3.29	17.000	0.96	23.08	0.64
4.917	0.85	11.000	3.29	17.083	0.96	23.17	0.64
5.000	0.85	11.083	3.29	17.167	0.96	23.25	0.64
5.083	0.85	11.167	3.29	17.250	0.96	23.33	0.64
5.167	0.85	11.250	3.29	17.333	0.96	23.42	0.64
5.250	0.85	11.333	5.10	17.417	0.96	23.50	0.64
5.333	0.85	11.417	5.10	17.500	0.96	23.58	0.64
5.417	0.85	11.500	5.10	17.583	0.96	23.67	0.64
5.500	0.85	11.583	5.10	17.667	0.96	23.75	0.64
5.583	0.85	11.667	5.10	17.750	0.96	23.83	0.64
5.667	0.85	11.750	5.10	17.833	0.96	23.92	0.64
5.750	0.85	11.833	15.72	17.917	0.96	24.00	0.64
5.833	0.85	11.917	15.72	18.000	0.96	24.08	0.64
5.917	0.85	12.000	15.72	18.083	0.96	24.17	0.64
6.000	0.85	12.083	64.99	18.167	0.96	24.25	0.64
6.083	0.85	12.167	64.99	18.250	0.96		

Unit Hyd Qpeak (cms)= 0.448

PEAK FLOW (cms)= 0.083 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 10.897
TOTAL RAINFALL (mm)= 53.100
RUNOFF COEFFICIENT = 0.205

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

ADD HYD (0902)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
*** W A R N I N G : HYDROGRAPH 0802 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
ID1= 1 (0116):		6.57	0.083	12.75	10.90
+ ID2= 2 (0802):		0.00	0.000	0.00	0.00
==========					
ID = 3 (0902):		6.57	0.083	12.75	10.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0101)	Area (ha)= 9.85	Curve Number (CN)= 62.3	
ID= 1 DT= 5.0 min	Ia (mm)= 6.95	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.80		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	0.85	12.250	64.99	18.33	0.96
0.167	0.00	6.250	0.85	12.333	7.65	18.42	0.96
0.250	0.00	6.333	0.96	12.417	7.65	18.50	0.96
0.333	0.58	6.417	0.96	12.500	7.65	18.58	0.96
0.417	0.58	6.500	0.96	12.583	7.65	18.67	0.96
0.500	0.58	6.583	0.96	12.667	7.65	18.75	0.96
0.583	0.58	6.667	0.96	12.750	7.65	18.83	0.96
0.667	0.58	6.750	0.96	12.833	3.93	18.92	0.96
0.750	0.58	6.833	0.96	12.917	3.93	19.00	0.96
0.833	0.58	6.917	0.96	13.000	3.93	19.08	0.96
0.917	0.58	7.000	0.96	13.083	3.93	19.17	0.96
1.000	0.58	7.083	0.96	13.167	3.93	19.25	0.96
1.083	0.58	7.167	0.96	13.250	3.93	19.33	0.96
1.167	0.58	7.250	0.96	13.333	2.87	19.42	0.96
1.250	0.58	7.333	1.17	13.417	2.87	19.50	0.96
1.333	0.58	7.417	1.17	13.500	2.87	19.58	0.96
1.417	0.58	7.500	1.17	13.583	2.87	19.67	0.96
1.500	0.58	7.583	1.17	13.667	2.87	19.75	0.96
1.583	0.58	7.667	1.17	13.750	2.87	19.83	0.96
1.667	0.58	7.750	1.17	13.833	2.23	19.92	0.96
1.750	0.58	7.833	1.17	13.917	2.23	20.00	0.96
1.833	0.58	7.917	1.17	14.000	2.23	20.08	0.96
1.917	0.58	8.000	1.17	14.083	2.23	20.17	0.96
2.000	0.58	8.083	1.17	14.167	2.23	20.25	0.96
2.083	0.58	8.167	1.17	14.250	2.23	20.33	0.64
2.167	0.58	8.250	1.17	14.333	1.59	20.42	0.64
2.250	0.58	8.333	1.38	14.417	1.59	20.50	0.64
2.333	0.69	8.417	1.38	14.500	1.59	20.58	0.64
2.417	0.69	8.500	1.38	14.583	1.59	20.67	0.64
2.500	0.69	8.583	1.38	14.667	1.59	20.75	0.64
2.583	0.69	8.667	1.38	14.750	1.59	20.83	0.64
2.667	0.69	8.750	1.38	14.833	1.59	20.92	0.64
2.750	0.69	8.833	1.49	14.917	1.59	21.00	0.64

2.833	0.69	8.917	1.49	15.000	1.59	21.08	0.64
2.917	0.69	9.000	1.49	15.083	1.59	21.17	0.64
3.000	0.69	9.083	1.49	15.167	1.59	21.25	0.64
3.083	0.69	9.167	1.49	15.250	1.59	21.33	0.64
3.167	0.69	9.250	1.49	15.333	1.59	21.42	0.64
3.250	0.69	9.333	1.70	15.417	1.59	21.50	0.64
3.333	0.69	9.417	1.70	15.500	1.59	21.58	0.64
3.417	0.69	9.500	1.70	15.583	1.59	21.67	0.64
3.500	0.69	9.583	1.70	15.667	1.59	21.75	0.64
3.583	0.69	9.667	1.70	15.750	1.59	21.83	0.64
3.667	0.69	9.750	1.70	15.833	1.59	21.92	0.64
3.750	0.69	9.833	1.91	15.917	1.59	22.00	0.64
3.833	0.69	9.917	1.91	16.000	1.59	22.08	0.64
3.917	0.69	10.000	1.91	16.083	1.59	22.17	0.64
4.000	0.69	10.083	1.91	16.167	1.59	22.25	0.64
4.083	0.69	10.167	1.91	16.250	1.59	22.33	0.64
4.167	0.69	10.250	1.91	16.333	0.96	22.42	0.64
4.250	0.69	10.333	2.44	16.417	0.96	22.50	0.64
4.333	0.85	10.417	2.44	16.500	0.96	22.58	0.64
4.417	0.85	10.500	2.44	16.583	0.96	22.67	0.64
4.500	0.85	10.583	2.44	16.667	0.96	22.75	0.64
4.583	0.85	10.667	2.44	16.750	0.96	22.83	0.64
4.667	0.85	10.750	2.44	16.833	0.96	22.92	0.64
4.750	0.85	10.833	3.29	16.917	0.96	23.00	0.64
4.833	0.85	10.917	3.29	17.000	0.96	23.08	0.64
4.917	0.85	11.000	3.29	17.083	0.96	23.17	0.64
5.000	0.85	11.083	3.29	17.167	0.96	23.25	0.64
5.083	0.85	11.167	3.29	17.250	0.96	23.33	0.64
5.167	0.85	11.250	3.29	17.333	0.96	23.42	0.64
5.250	0.85	11.333	5.10	17.417	0.96	23.50	0.64
5.333	0.85	11.417	5.10	17.500	0.96	23.58	0.64
5.417	0.85	11.500	5.10	17.583	0.96	23.67	0.64
5.500	0.85	11.583	5.10	17.667	0.96	23.75	0.64
5.583	0.85	11.667	5.10	17.750	0.96	23.83	0.64
5.667	0.85	11.750	5.10	17.833	0.96	23.92	0.64
5.750	0.85	11.833	15.72	17.917	0.96	24.00	0.64
5.833	0.85	11.917	15.72	18.000	0.96	24.08	0.64
5.917	0.85	12.000	15.72	18.083	0.96	24.17	0.64
6.000	0.85	12.083	64.99	18.167	0.96	24.25	0.64
6.083	0.85	12.167	64.99	18.250	0.96		

Unit Hyd Qpeak (cms)= 0.470

PEAK FLOW (cms)= 0.093 (i)
TIME TO PEAK (hrs)= 13.000
RUNOFF VOLUME (mm)= 10.657
TOTAL RAINFALL (mm)= 53.100
RUNOFF COEFFICIENT = 0.201

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

CALIB			
NASHYD (0102)	Area (ha)=	4.52	Curve Number (CN)= 62.4
ID= 1 DT= 5.0 min	Ia (mm)=	6.94	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.36	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	0.85	12.250	64.99	18.33	0.96
0.167	0.00	6.250	0.85	12.333	7.65	18.42	0.96
0.250	0.00	6.333	0.96	12.417	7.65	18.50	0.96
0.333	0.58	6.417	0.96	12.500	7.65	18.58	0.96
0.417	0.58	6.500	0.96	12.583	7.65	18.67	0.96
0.500	0.58	6.583	0.96	12.667	7.65	18.75	0.96
0.583	0.58	6.667	0.96	12.750	7.65	18.83	0.96
0.667	0.58	6.750	0.96	12.833	3.93	18.92	0.96
0.750	0.58	6.833	0.96	12.917	3.93	19.00	0.96
0.833	0.58	6.917	0.96	13.000	3.93	19.08	0.96
0.917	0.58	7.000	0.96	13.083	3.93	19.17	0.96
1.000	0.58	7.083	0.96	13.167	3.93	19.25	0.96
1.083	0.58	7.167	0.96	13.250	3.93	19.33	0.96
1.167	0.58	7.250	0.96	13.333	2.87	19.42	0.96
1.250	0.58	7.333	1.17	13.417	2.87	19.50	0.96
1.333	0.58	7.417	1.17	13.500	2.87	19.58	0.96
1.417	0.58	7.500	1.17	13.583	2.87	19.67	0.96
1.500	0.58	7.583	1.17	13.667	2.87	19.75	0.96
1.583	0.58	7.667	1.17	13.750	2.87	19.83	0.96
1.667	0.58	7.750	1.17	13.833	2.23	19.92	0.96
1.750	0.58	7.833	1.17	13.917	2.23	20.00	0.96
1.833	0.58	7.917	1.17	14.000	2.23	20.08	0.96
1.917	0.58	8.000	1.17	14.083	2.23	20.17	0.96
2.000	0.58	8.083	1.17	14.167	2.23	20.25	0.96
2.083	0.58	8.167	1.17	14.250	2.23	20.33	0.64
2.167	0.58	8.250	1.17	14.333	1.59	20.42	0.64
2.250	0.58	8.333	1.38	14.417	1.59	20.50	0.64
2.333	0.69	8.417	1.38	14.500	1.59	20.58	0.64
2.417	0.69	8.500	1.38	14.583	1.59	20.67	0.64
2.500	0.69	8.583	1.38	14.667	1.59	20.75	0.64
2.583	0.69	8.667	1.38	14.750	1.59	20.83	0.64
2.667	0.69	8.750	1.38	14.833	1.59	20.92	0.64
2.750	0.69	8.833	1.49	14.917	1.59	21.00	0.64
2.833	0.69	8.917	1.49	15.000	1.59	21.08	0.64
2.917	0.69	9.000	1.49	15.083	1.59	21.17	0.64
3.000	0.69	9.083	1.49	15.167	1.59	21.25	0.64

3.083	0.69	9.167	1.49	15.250	1.59	21.33	0.64
3.167	0.69	9.250	1.49	15.333	1.59	21.42	0.64
3.250	0.69	9.333	1.70	15.417	1.59	21.50	0.64
3.333	0.69	9.417	1.70	15.500	1.59	21.58	0.64
3.417	0.69	9.500	1.70	15.583	1.59	21.67	0.64
3.500	0.69	9.583	1.70	15.667	1.59	21.75	0.64
3.583	0.69	9.667	1.70	15.750	1.59	21.83	0.64
3.667	0.69	9.750	1.70	15.833	1.59	21.92	0.64
3.750	0.69	9.833	1.91	15.917	1.59	22.00	0.64
3.833	0.69	9.917	1.91	16.000	1.59	22.08	0.64
3.917	0.69	10.000	1.91	16.083	1.59	22.17	0.64
4.000	0.69	10.083	1.91	16.167	1.59	22.25	0.64
4.083	0.69	10.167	1.91	16.250	1.59	22.33	0.64
4.167	0.69	10.250	1.91	16.333	0.96	22.42	0.64
4.250	0.69	10.333	2.44	16.417	0.96	22.50	0.64
4.333	0.85	10.417	2.44	16.500	0.96	22.58	0.64
4.417	0.85	10.500	2.44	16.583	0.96	22.67	0.64
4.500	0.85	10.583	2.44	16.667	0.96	22.75	0.64
4.583	0.85	10.667	2.44	16.750	0.96	22.83	0.64
4.667	0.85	10.750	2.44	16.833	0.96	22.92	0.64
4.750	0.85	10.833	3.29	16.917	0.96	23.00	0.64
4.833	0.85	10.917	3.29	17.000	0.96	23.08	0.64
4.917	0.85	11.000	3.29	17.083	0.96	23.17	0.64
5.000	0.85	11.083	3.29	17.167	0.96	23.25	0.64
5.083	0.85	11.167	3.29	17.250	0.96	23.33	0.64
5.167	0.85	11.250	3.29	17.333	0.96	23.42	0.64
5.250	0.85	11.333	5.10	17.417	0.96	23.50	0.64
5.333	0.85	11.417	5.10	17.500	0.96	23.58	0.64
5.417	0.85	11.500	5.10	17.583	0.96	23.67	0.64
5.500	0.85	11.583	5.10	17.667	0.96	23.75	0.64
5.583	0.85	11.667	5.10	17.750	0.96	23.83	0.64
5.667	0.85	11.750	5.10	17.833	0.96	23.92	0.64
5.750	0.85	11.833	15.72	17.917	0.96	24.00	0.64
5.833	0.85	11.917	15.72	18.000	0.96	24.08	0.64
5.917	0.85	12.000	15.72	18.083	0.96	24.17	0.64
6.000	0.85	12.083	64.99	18.167	0.96	24.25	0.64
6.083	0.85	12.167	64.99	18.250	0.96		

Unit Hyd Qpeak (cms)= 0.480

PEAK FLOW (cms)= 0.077 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 10.694
TOTAL RAINFALL (mm)= 53.100
RUNOFF COEFFICIENT = 0.201

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

CALIB			
NASHYD (0103)	Area (ha)=	0.66	Curve Number (CN)= 62.4
ID= 1 DT= 5.0 min	Ia (mm)=	6.95	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.16	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	0.85	12.250	64.99	18.33	0.96
0.167	0.00	6.250	0.85	12.333	7.65	18.42	0.96
0.250	0.00	6.333	0.96	12.417	7.65	18.50	0.96
0.333	0.58	6.417	0.96	12.500	7.65	18.58	0.96
0.417	0.58	6.500	0.96	12.583	7.65	18.67	0.96
0.500	0.58	6.583	0.96	12.667	7.65	18.75	0.96
0.583	0.58	6.667	0.96	12.750	7.65	18.83	0.96
0.667	0.58	6.750	0.96	12.833	3.93	18.92	0.96
0.750	0.58	6.833	0.96	12.917	3.93	19.00	0.96
0.833	0.58	6.917	0.96	13.000	3.93	19.08	0.96
0.917	0.58	7.000	0.96	13.083	3.93	19.17	0.96
1.000	0.58	7.083	0.96	13.167	3.93	19.25	0.96
1.083	0.58	7.167	0.96	13.250	3.93	19.33	0.96
1.167	0.58	7.250	0.96	13.333	2.87	19.42	0.96
1.250	0.58	7.333	1.17	13.417	2.87	19.50	0.96
1.333	0.58	7.417	1.17	13.500	2.87	19.58	0.96
1.417	0.58	7.500	1.17	13.583	2.87	19.67	0.96
1.500	0.58	7.583	1.17	13.667	2.87	19.75	0.96
1.583	0.58	7.667	1.17	13.750	2.87	19.83	0.96
1.667	0.58	7.750	1.17	13.833	2.23	19.92	0.96
1.750	0.58	7.833	1.17	13.917	2.23	20.00	0.96
1.833	0.58	7.917	1.17	14.000	2.23	20.08	0.96
1.917	0.58	8.000	1.17	14.083	2.23	20.17	0.96
2.000	0.58	8.083	1.17	14.167	2.23	20.25	0.96
2.083	0.58	8.167	1.17	14.250	2.23	20.33	0.64
2.167	0.58	8.250	1.17	14.333	1.59	20.42	0.64
2.250	0.58	8.333	1.38	14.417	1.59	20.50	0.64
2.333	0.69	8.417	1.38	14.500	1.59	20.58	0.64
2.417	0.69	8.500	1.38	14.583	1.59	20.67	0.64
2.500	0.69	8.583	1.38	14.667	1.59	20.75	0.64
2.583	0.69	8.667	1.38	14.750	1.59	20.83	0.64
2.667	0.69	8.750	1.38	14.833	1.59	20.92	0.64
2.750	0.69	8.833	1.49	14.917	1.59	21.00	0.64
2.833	0.69	8.917	1.49	15.000	1.59	21.08	0.64
2.917	0.69	9.000	1.49	15.083	1.59	21.17	0.64
3.000	0.69	9.083	1.49	15.167	1.59	21.25	0.64
3.083	0.69	9.167	1.49	15.250	1.59	21.33	0.64
3.167	0.69	9.250	1.49	15.333	1.59	21.42	0.64
3.250	0.69	9.333	1.70	15.417	1.59	21.50	0.64

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   3.333    0.69 |  9.417    1.70 |15.500    1.59 |  21.58    0.64
   3.417    0.69 |  9.500    1.70 |15.583    1.59 |  21.67    0.64
   3.500    0.69 |  9.583    1.70 |15.667    1.59 |  21.75    0.64
   3.583    0.69 |  9.667    1.70 |15.750    1.59 |  21.83    0.64
   3.667    0.69 |  9.750    1.70 |15.833    1.59 |  21.92    0.64
   3.750    0.69 |  9.833    1.91 |15.917    1.59 |  22.00    0.64
   3.833    0.69 |  9.917    1.91 |16.000    1.59 |  22.08    0.64
   3.917    0.69 | 10.000    1.91 |16.083    1.59 |  22.17    0.64
   4.000    0.69 | 10.083    1.91 |16.167    1.59 |  22.25    0.64
   4.083    0.69 | 10.167    1.91 |16.250    1.59 |  22.33    0.64
   4.167    0.69 | 10.250    1.91 |16.333    0.96 |  22.42    0.64
   4.250    0.69 | 10.333    2.44 |16.417    0.96 |  22.50    0.64
   4.333    0.85 | 10.417    2.44 |16.500    0.96 |  22.58    0.64
   4.417    0.85 | 10.500    2.44 |16.583    0.96 |  22.67    0.64
   4.500    0.85 | 10.583    2.44 |16.667    0.96 |  22.75    0.64
   4.583    0.85 | 10.667    2.44 |16.750    0.96 |  22.83    0.64
   4.667    0.85 | 10.750    2.44 |16.833    0.96 |  22.92    0.64
   4.750    0.85 | 10.833    3.29 |16.917    0.96 |  23.00    0.64
   4.833    0.85 | 10.917    3.29 |17.000    0.96 |  23.08    0.64
   4.917    0.85 | 11.000    3.29 |17.083    0.96 |  23.17    0.64
   5.000    0.85 | 11.083    3.29 |17.167    0.96 |  23.25    0.64
   5.083    0.85 | 11.167    3.29 |17.250    0.96 |  23.33    0.64
   5.167    0.85 | 11.250    3.29 |17.333    0.96 |  23.42    0.64
   5.250    0.85 | 11.333    5.10 |17.417    0.96 |  23.50    0.64
   5.333    0.85 | 11.417    5.10 |17.500    0.96 |  23.58    0.64
   5.417    0.85 | 11.500    5.10 |17.583    0.96 |  23.67    0.64
   5.500    0.85 | 11.583    5.10 |17.667    0.96 |  23.75    0.64
   5.583    0.85 | 11.667    5.10 |17.750    0.96 |  23.83    0.64
   5.667    0.85 | 11.750    5.10 |17.833    0.96 |  23.92    0.64
   5.750    0.85 | 11.833   15.72 |17.917    0.96 |  24.00    0.64
   5.833    0.85 | 11.917   15.72 |18.000    0.96 |  24.08    0.64
   5.917    0.85 | 12.000   15.72 |18.083    0.96 |  24.17    0.64
   6.000    0.85 | 12.083   64.99 |18.167    0.96 |  24.25    0.64
   6.083    0.85 | 12.167   64.99 |18.250    0.96 |

     Unit Hyd Qpeak  (cms)=   0.158

     PEAK FLOW       (cms)=   0.019 (i)
     TIME TO PEAK    (hrs)=  12.250
     RUNOFF VOLUME    (mm)=  10.643
     TOTAL RAINFALL   (mm)=  53.100
     RUNOFF COEFFICIENT   =   0.200

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

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       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
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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 6.1\VO2\voin.dat

  Output  filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\6d
dccb53-443a-4676-b2b0-eb5189036c76\s
  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\6d
dccb53-443a-4676-b2b0-eb5189036c76\s


DATE: 01/19/2023                          TIME: 07:37:50

USER:



COMMENTS: _____________________________________________________________

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  ********************************************
  ** SIMULATION : 5yr 24hr 15min SCS           **
  ********************************************


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|    READ STORM    |    Filename: C:\Users\elundquist\AppD
|                  |              ata\Local\Temp\
|                  |              eec61fe4-ea1d-4b25-930d-6bd365b221af\ccf46f37
| Ptotal= 70.54 mm |    Comments: 5yr 24hr 15min SCS
--------------------
                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	1.27	12.75	10.16	19.00	1.27
0.50	0.78	6.75	1.27	13.00	5.22	19.25	1.27
0.75	0.78	7.00	1.27	13.25	5.22	19.50	1.27
1.00	0.78	7.25	1.27	13.50	3.81	19.75	1.27
1.25	0.78	7.50	1.55	13.75	3.81	20.00	1.27
1.50	0.78	7.75	1.55	14.00	2.96	20.25	1.27
1.75	0.78	8.00	1.55	14.25	2.96	20.50	0.85
2.00	0.78	8.25	1.55	14.50	2.12	20.75	0.85
2.25	0.78	8.50	1.83	14.75	2.12	21.00	0.85
2.50	0.92	8.75	1.83	15.00	2.12	21.25	0.85
2.75	0.92	9.00	1.98	15.25	2.12	21.50	0.85
3.00	0.92	9.25	1.98	15.50	2.12	21.75	0.85
3.25	0.92	9.50	2.26	15.75	2.12	22.00	0.85
3.50	0.92	9.75	2.26	16.00	2.12	22.25	0.85
3.75	0.92	10.00	2.54	16.25	2.12	22.50	0.85
4.00	0.92	10.25	2.54	16.50	1.27	22.75	0.85
4.25	0.92	10.50	3.24	16.75	1.27	23.00	0.85
4.50	1.13	10.75	3.24	17.00	1.27	23.25	0.85
4.75	1.13	11.00	4.37	17.25	1.27	23.50	0.85
5.00	1.13	11.25	4.37	17.50	1.27	23.75	0.85
5.25	1.13	11.50	6.77	17.75	1.27	24.00	0.85
5.50	1.13	11.75	6.77	18.00	1.27	24.25	0.85
5.75	1.13	12.00	20.88	18.25	1.27		
6.00	1.13	12.25	86.34	18.50	1.27		
6.25	1.13	12.50	10.16	18.75	1.27		

CALIB					
NASHYD (0117)	Area	(ha)=	6.10	Curve Number (CN)=	66.8
ID= 1 DT= 5.0 min	Ia	(mm)=	6.35	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.42		

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	1.13	12.250	86.34	18.33	1.27
0.167	0.00	6.250	1.13	12.333	10.17	18.42	1.27
0.250	0.00	6.333	1.27	12.417	10.16	18.50	1.27
0.333	0.78	6.417	1.27	12.500	10.16	18.58	1.27
0.417	0.78	6.500	1.27	12.583	10.16	18.67	1.27
0.500	0.78	6.583	1.27	12.667	10.16	18.75	1.27
0.583	0.78	6.667	1.27	12.750	10.16	18.83	1.27
0.667	0.78	6.750	1.27	12.833	5.22	18.92	1.27
0.750	0.78	6.833	1.27	12.917	5.22	19.00	1.27
0.833	0.78	6.917	1.27	13.000	5.22	19.08	1.27
0.917	0.78	7.000	1.27	13.083	5.22	19.17	1.27
1.000	0.78	7.083	1.27	13.167	5.22	19.25	1.27
1.083	0.78	7.167	1.27	13.250	5.22	19.33	1.27
1.167	0.78	7.250	1.27	13.333	3.81	19.42	1.27
1.250	0.78	7.333	1.55	13.417	3.81	19.50	1.27
1.333	0.78	7.417	1.55	13.500	3.81	19.58	1.27
1.417	0.78	7.500	1.55	13.583	3.81	19.67	1.27
1.500	0.78	7.583	1.55	13.667	3.81	19.75	1.27
1.583	0.78	7.667	1.55	13.750	3.81	19.83	1.27
1.667	0.78	7.750	1.55	13.833	2.96	19.92	1.27
1.750	0.78	7.833	1.55	13.917	2.96	20.00	1.27
1.833	0.78	7.917	1.55	14.000	2.96	20.08	1.27
1.917	0.78	8.000	1.55	14.083	2.96	20.17	1.27
2.000	0.78	8.083	1.55	14.167	2.96	20.25	1.27
2.083	0.78	8.167	1.55	14.250	2.96	20.33	0.85
2.167	0.78	8.250	1.55	14.333	2.12	20.42	0.85
2.250	0.78	8.333	1.83	14.417	2.12	20.50	0.85
2.333	0.92	8.417	1.83	14.500	2.12	20.58	0.85
2.417	0.92	8.500	1.83	14.583	2.12	20.67	0.85
2.500	0.92	8.583	1.83	14.667	2.12	20.75	0.85
2.583	0.92	8.667	1.83	14.750	2.12	20.83	0.85
2.667	0.92	8.750	1.83	14.833	2.12	20.92	0.85
2.750	0.92	8.833	1.98	14.917	2.12	21.00	0.85
2.833	0.92	8.917	1.98	15.000	2.12	21.08	0.85
2.917	0.92	9.000	1.98	15.083	2.12	21.17	0.85
3.000	0.92	9.083	1.98	15.167	2.12	21.25	0.85
3.083	0.92	9.167	1.98	15.250	2.12	21.33	0.85
3.167	0.92	9.250	1.98	15.333	2.12	21.42	0.85
3.250	0.92	9.333	2.26	15.417	2.12	21.50	0.85
3.333	0.92	9.417	2.26	15.500	2.12	21.58	0.85
3.417	0.92	9.500	2.26	15.583	2.12	21.67	0.85
3.500	0.92	9.583	2.26	15.667	2.12	21.75	0.85
3.583	0.92	9.667	2.26	15.750	2.12	21.83	0.85
3.667	0.92	9.750	2.26	15.833	2.12	21.92	0.85
3.750	0.92	9.833	2.54	15.917	2.12	22.00	0.85
3.833	0.92	9.917	2.54	16.000	2.12	22.08	0.85
3.917	0.92	10.000	2.54	16.083	2.12	22.17	0.85
4.000	0.92	10.083	2.54	16.167	2.12	22.25	0.85
4.083	0.92	10.167	2.54	16.250	2.12	22.33	0.85
4.167	0.92	10.250	2.54	16.333	1.27	22.42	0.85
4.250	0.92	10.333	3.24	16.417	1.27	22.50	0.85
4.333	1.13	10.417	3.24	16.500	1.27	22.58	0.85
4.417	1.13	10.500	3.24	16.583	1.27	22.67	0.85
4.500	1.13	10.583	3.24	16.667	1.27	22.75	0.85
4.583	1.13	10.667	3.24	16.750	1.27	22.83	0.85
4.667	1.13	10.750	3.24	16.833	1.27	22.92	0.85
4.750	1.13	10.833	4.37	16.917	1.27	23.00	0.85
4.833	1.13	10.917	4.37	17.000	1.27	23.08	0.85
4.917	1.13	11.000	4.37	17.083	1.27	23.17	0.85

5.000	1.13	11.083	4.37	17.167	1.27	23.25	0.85
5.083	1.13	11.167	4.37	17.250	1.27	23.33	0.85
5.167	1.13	11.250	4.37	17.333	1.27	23.42	0.85
5.250	1.13	11.333	6.77	17.417	1.27	23.50	0.85
5.333	1.13	11.417	6.77	17.500	1.27	23.58	0.85
5.417	1.13	11.500	6.77	17.583	1.27	23.67	0.85
5.500	1.13	11.583	6.77	17.667	1.27	23.75	0.85
5.583	1.13	11.667	6.77	17.750	1.27	23.83	0.85
5.667	1.13	11.750	6.77	17.833	1.27	23.92	0.85
5.750	1.13	11.833	20.88	17.917	1.27	24.00	0.85
5.833	1.13	11.917	20.88	18.000	1.27	24.08	0.85
5.917	1.13	12.000	20.88	18.083	1.27	24.17	0.85
6.000	1.13	12.083	86.33	18.167	1.27	24.25	0.85
6.083	1.13	12.167	86.34	18.250	1.27		

Unit Hyd Qpeak (cms)= 0.555

PEAK FLOW (cms)= 0.194 (i)
TIME TO PEAK (hrs)= 12.583
RUNOFF VOLUME (mm)= 21.635
TOTAL RAINFALL (mm)= 70.540
RUNOFF COEFFICIENT = 0.307

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

CALIB			
NASHYD (0115)	Area (ha)=	9.34	Curve Number (CN)= 62.6
ID= 1 DT= 5.0 min	Ia (mm)=	6.91	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.71	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.13	12.250	86.34	18.33	1.27
0.167	0.00	6.250	1.13	12.333	10.17	18.42	1.27
0.250	0.00	6.333	1.27	12.417	10.16	18.50	1.27
0.333	0.78	6.417	1.27	12.500	10.16	18.58	1.27
0.417	0.78	6.500	1.27	12.583	10.16	18.67	1.27
0.500	0.78	6.583	1.27	12.667	10.16	18.75	1.27
0.583	0.78	6.667	1.27	12.750	10.16	18.83	1.27
0.667	0.78	6.750	1.27	12.833	5.22	18.92	1.27
0.750	0.78	6.833	1.27	12.917	5.22	19.00	1.27
0.833	0.78	6.917	1.27	13.000	5.22	19.08	1.27
0.917	0.78	7.000	1.27	13.083	5.22	19.17	1.27
1.000	0.78	7.083	1.27	13.167	5.22	19.25	1.27
1.083	0.78	7.167	1.27	13.250	5.22	19.33	1.27
1.167	0.78	7.250	1.27	13.333	3.81	19.42	1.27
1.250	0.78	7.333	1.55	13.417	3.81	19.50	1.27
1.333	0.78	7.417	1.55	13.500	3.81	19.58	1.27
1.417	0.78	7.500	1.55	13.583	3.81	19.67	1.27
1.500	0.78	7.583	1.55	13.667	3.81	19.75	1.27
1.583	0.78	7.667	1.55	13.750	3.81	19.83	1.27
1.667	0.78	7.750	1.55	13.833	2.96	19.92	1.27
1.750	0.78	7.833	1.55	13.917	2.96	20.00	1.27
1.833	0.78	7.917	1.55	14.000	2.96	20.08	1.27
1.917	0.78	8.000	1.55	14.083	2.96	20.17	1.27
2.000	0.78	8.083	1.55	14.167	2.96	20.25	1.27
2.083	0.78	8.167	1.55	14.250	2.96	20.33	0.85
2.167	0.78	8.250	1.55	14.333	2.12	20.42	0.85
2.250	0.78	8.333	1.83	14.417	2.12	20.50	0.85
2.333	0.92	8.417	1.83	14.500	2.12	20.58	0.85
2.417	0.92	8.500	1.83	14.583	2.12	20.67	0.85
2.500	0.92	8.583	1.83	14.667	2.12	20.75	0.85
2.583	0.92	8.667	1.83	14.750	2.12	20.83	0.85
2.667	0.92	8.750	1.83	14.833	2.12	20.92	0.85
2.750	0.92	8.833	1.98	14.917	2.12	21.00	0.85
2.833	0.92	8.917	1.98	15.000	2.12	21.08	0.85
2.917	0.92	9.000	1.98	15.083	2.12	21.17	0.85
3.000	0.92	9.083	1.98	15.167	2.12	21.25	0.85
3.083	0.92	9.167	1.98	15.250	2.12	21.33	0.85
3.167	0.92	9.250	1.98	15.333	2.12	21.42	0.85
3.250	0.92	9.333	2.26	15.417	2.12	21.50	0.85
3.333	0.92	9.417	2.26	15.500	2.12	21.58	0.85
3.417	0.92	9.500	2.26	15.583	2.12	21.67	0.85
3.500	0.92	9.583	2.26	15.667	2.12	21.75	0.85
3.583	0.92	9.667	2.26	15.750	2.12	21.83	0.85
3.667	0.92	9.750	2.26	15.833	2.12	21.92	0.85
3.750	0.92	9.833	2.54	15.917	2.12	22.00	0.85
3.833	0.92	9.917	2.54	16.000	2.12	22.08	0.85
3.917	0.92	10.000	2.54	16.083	2.12	22.17	0.85
4.000	0.92	10.083	2.54	16.167	2.12	22.25	0.85
4.083	0.92	10.167	2.54	16.250	2.12	22.33	0.85
4.167	0.92	10.250	2.54	16.333	1.27	22.42	0.85
4.250	0.92	10.333	3.24	16.417	1.27	22.50	0.85
4.333	1.13	10.417	3.24	16.500	1.27	22.58	0.85
4.417	1.13	10.500	3.24	16.583	1.27	22.67	0.85
4.500	1.13	10.583	3.24	16.667	1.27	22.75	0.85
4.583	1.13	10.667	3.24	16.750	1.27	22.83	0.85
4.667	1.13	10.750	3.24	16.833	1.27	22.92	0.85
4.750	1.13	10.833	4.37	16.917	1.27	23.00	0.85
4.833	1.13	10.917	4.37	17.000	1.27	23.08	0.85
4.917	1.13	11.000	4.37	17.083	1.27	23.17	0.85
5.000	1.13	11.083	4.37	17.167	1.27	23.25	0.85
5.083	1.13	11.167	4.37	17.250	1.27	23.33	0.85
5.167	1.13	11.250	4.37	17.333	1.27	23.42	0.85

5.250	1.13	11.333	6.77	17.417	1.27	23.50	0.85
5.333	1.13	11.417	6.77	17.500	1.27	23.58	0.85
5.417	1.13	11.500	6.77	17.583	1.27	23.67	0.85
5.500	1.13	11.583	6.77	17.667	1.27	23.75	0.85
5.583	1.13	11.667	6.77	17.750	1.27	23.83	0.85
5.667	1.13	11.750	6.77	17.833	1.27	23.92	0.85
5.750	1.13	11.833	20.88	17.917	1.27	24.00	0.85
5.833	1.13	11.917	20.88	18.000	1.27	24.08	0.85
5.917	1.13	12.000	20.88	18.083	1.27	24.17	0.85
6.000	1.13	12.083	86.33	18.167	1.27	24.25	0.85
6.083	1.13	12.167	86.34	18.250	1.27		

Unit Hyd Qpeak (cms)= 0.502

PEAK FLOW (cms)= 0.175 (i)
TIME TO PEAK (hrs)= 12.917
RUNOFF VOLUME (mm)= 18.798
TOTAL RAINFALL (mm)= 70.540
RUNOFF COEFFICIENT = 0.266

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

CALIB
STANDHYD (0303)
ID= 1 DT= 5.0 min

Area (ha)= 0.37
Total Imp(%)= 97.30 Dir. Conn.(%)= 92.40

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.36	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	49.67	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	1.13	12.250	86.34	18.33	1.27
0.167	0.00	6.250	1.13	12.333	10.17	18.42	1.27
0.250	0.00	6.333	1.27	12.417	10.16	18.50	1.27
0.333	0.78	6.417	1.27	12.500	10.16	18.58	1.27
0.417	0.78	6.500	1.27	12.583	10.16	18.67	1.27
0.500	0.78	6.583	1.27	12.667	10.16	18.75	1.27
0.583	0.78	6.667	1.27	12.750	10.16	18.83	1.27
0.667	0.78	6.750	1.27	12.833	5.22	18.92	1.27
0.750	0.78	6.833	1.27	12.917	5.22	19.00	1.27
0.833	0.78	6.917	1.27	13.000	5.22	19.08	1.27
0.917	0.78	7.000	1.27	13.083	5.22	19.17	1.27
1.000	0.78	7.083	1.27	13.167	5.22	19.25	1.27
1.083	0.78	7.167	1.27	13.250	5.22	19.33	1.27
1.167	0.78	7.250	1.27	13.333	3.81	19.42	1.27
1.250	0.78	7.333	1.55	13.417	3.81	19.50	1.27
1.333	0.78	7.417	1.55	13.500	3.81	19.58	1.27
1.417	0.78	7.500	1.55	13.583	3.81	19.67	1.27
1.500	0.78	7.583	1.55	13.667	3.81	19.75	1.27
1.583	0.78	7.667	1.55	13.750	3.81	19.83	1.27
1.667	0.78	7.750	1.55	13.833	2.96	19.92	1.27
1.750	0.78	7.833	1.55	13.917	2.96	20.00	1.27
1.833	0.78	7.917	1.55	14.000	2.96	20.08	1.27
1.917	0.78	8.000	1.55	14.083	2.96	20.17	1.27
2.000	0.78	8.083	1.55	14.167	2.96	20.25	1.27
2.083	0.78	8.167	1.55	14.250	2.96	20.33	0.85
2.167	0.78	8.250	1.55	14.333	2.12	20.42	0.85
2.250	0.78	8.333	1.83	14.417	2.12	20.50	0.85
2.333	0.92	8.417	1.83	14.500	2.12	20.58	0.85
2.417	0.92	8.500	1.83	14.583	2.12	20.67	0.85
2.500	0.92	8.583	1.83	14.667	2.12	20.75	0.85
2.583	0.92	8.667	1.83	14.750	2.12	20.83	0.85
2.667	0.92	8.750	1.83	14.833	2.12	20.92	0.85
2.750	0.92	8.833	1.98	14.917	2.12	21.00	0.85
2.833	0.92	8.917	1.98	15.000	2.12	21.08	0.85
2.917	0.92	9.000	1.98	15.083	2.12	21.17	0.85
3.000	0.92	9.083	1.98	15.167	2.12	21.25	0.85
3.083	0.92	9.167	1.98	15.250	2.12	21.33	0.85
3.167	0.92	9.250	1.98	15.333	2.12	21.42	0.85
3.250	0.92	9.333	2.26	15.417	2.12	21.50	0.85
3.333	0.92	9.417	2.26	15.500	2.12	21.58	0.85
3.417	0.92	9.500	2.26	15.583	2.12	21.67	0.85
3.500	0.92	9.583	2.26	15.667	2.12	21.75	0.85
3.583	0.92	9.667	2.26	15.750	2.12	21.83	0.85
3.667	0.92	9.750	2.26	15.833	2.12	21.92	0.85
3.750	0.92	9.833	2.54	15.917	2.12	22.00	0.85
3.833	0.92	9.917	2.54	16.000	2.12	22.08	0.85
3.917	0.92	10.000	2.54	16.083	2.12	22.17	0.85
4.000	0.92	10.083	2.54	16.167	2.12	22.25	0.85
4.083	0.92	10.167	2.54	16.250	2.12	22.33	0.85
4.167	0.92	10.250	2.54	16.333	1.27	22.42	0.85
4.250	0.92	10.333	3.24	16.417	1.27	22.50	0.85
4.333	1.13	10.417	3.24	16.500	1.27	22.58	0.85
4.417	1.13	10.500	3.24	16.583	1.27	22.67	0.85
4.500	1.13	10.583	3.24	16.667	1.27	22.75	0.85
4.583	1.13	10.667	3.24	16.750	1.27	22.83	0.85
4.667	1.13	10.750	3.24	16.833	1.27	22.92	0.85
4.750	1.13	10.833	4.37	16.917	1.27	23.00	0.85
4.833	1.13	10.917	4.37	17.000	1.27	23.08	0.85
4.917	1.13	11.000	4.37	17.083	1.27	23.17	0.85

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               5.000    1.13 |11.083    4.37 |17.167    1.27 | 23.25    0.85
               5.083    1.13 |11.167    4.37 |17.250    1.27 | 23.33    0.85
               5.167    1.13 |11.250    4.37 |17.333    1.27 | 23.42    0.85
               5.250    1.13 |11.333    6.77 |17.417    1.27 | 23.50    0.85
               5.333    1.13 |11.417    6.77 |17.500    1.27 | 23.58    0.85
               5.417    1.13 |11.500    6.77 |17.583    1.27 | 23.67    0.85
               5.500    1.13 |11.583    6.77 |17.667    1.27 | 23.75    0.85
               5.583    1.13 |11.667    6.77 |17.750    1.27 | 23.83    0.85
               5.667    1.13 |11.750    6.77 |17.833    1.27 | 23.92    0.85
               5.750    1.13 |11.833   20.88 |17.917    1.27 | 24.00    0.85
               5.833    1.13 |11.917   20.88 |18.000    1.27 | 24.08    0.85
               5.917    1.13 |12.000   20.88 |18.083    1.27 | 24.17    0.85
               6.000    1.13 |12.083   86.33 |18.167    1.27 | 24.25    0.85
               6.083    1.13 |12.167   86.34 |18.250    1.27 |

     Max.Eff.Inten.(mm/hr)=      86.34       119.10
               over (min)        5.00         5.00
     Storage Coeff.  (min)=      1.78 (ii)    3.60 (ii)
     Unit Hyd. Tpeak (min)=      5.00         5.00
     Unit Hyd. peak  (cms)=      0.32         0.26
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.08         0.00          0.085 (iii)
     TIME TO PEAK    (hrs)=     12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=     69.54        29.07          66.46
     TOTAL RAINFALL   (mm)=     70.54        70.54          70.54
     RUNOFF COEFFICIENT   =      0.99         0.41           0.94

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  49.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0801)|
| Inlet Cap.= 0.109|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   0.37      0.09     12.25   66.46
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   0.37      0.09     12.25   66.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| ADD HYD  (  0901)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0115):     9.34   0.175    12.92    18.80
     + ID2= 2 (  0117):     6.10   0.194    12.58    21.63
       ================================================
       ID = 3 (  0901):    15.44   0.346    12.67    19.92

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

--------------------
| ADD HYD  (  0901)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0801 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0001 = HYDROGRAPH 0003
       ID1= 3 (  0901):    15.44   0.346    12.67    19.92
     + ID2= 2 (  0801):     0.00   0.000     0.00     0.00
       ================================================
       ID = 1 (  0901):    15.44   0.346    12.67    19.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.364|
| #of Inlets=     1|
| Total(cms)=   0.4|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.44      0.35     12.67   19.92
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):  15.44      0.35     12.67   19.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD   (  0116)|   Area    (ha)=   6.57   Curve Number   (CN)= 62.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.88   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.56

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                              ---- 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	1.13	12.250	86.34	18.33	1.27
0.167	0.00	6.250	1.13	12.333	10.17	18.42	1.27
0.250	0.00	6.333	1.27	12.417	10.16	18.50	1.27
0.333	0.78	6.417	1.27	12.500	10.16	18.58	1.27
0.417	0.78	6.500	1.27	12.583	10.16	18.67	1.27
0.500	0.78	6.583	1.27	12.667	10.16	18.75	1.27
0.583	0.78	6.667	1.27	12.750	10.16	18.83	1.27
0.667	0.78	6.750	1.27	12.833	5.22	18.92	1.27
0.750	0.78	6.833	1.27	12.917	5.22	19.00	1.27
0.833	0.78	6.917	1.27	13.000	5.22	19.08	1.27
0.917	0.78	7.000	1.27	13.083	5.22	19.17	1.27
1.000	0.78	7.083	1.27	13.167	5.22	19.25	1.27
1.083	0.78	7.167	1.27	13.250	5.22	19.33	1.27
1.167	0.78	7.250	1.27	13.333	3.81	19.42	1.27
1.250	0.78	7.333	1.55	13.417	3.81	19.50	1.27
1.333	0.78	7.417	1.55	13.500	3.81	19.58	1.27
1.417	0.78	7.500	1.55	13.583	3.81	19.67	1.27
1.500	0.78	7.583	1.55	13.667	3.81	19.75	1.27
1.583	0.78	7.667	1.55	13.750	3.81	19.83	1.27
1.667	0.78	7.750	1.55	13.833	2.96	19.92	1.27
1.750	0.78	7.833	1.55	13.917	2.96	20.00	1.27
1.833	0.78	7.917	1.55	14.000	2.96	20.08	1.27
1.917	0.78	8.000	1.55	14.083	2.96	20.17	1.27
2.000	0.78	8.083	1.55	14.167	2.96	20.25	1.27
2.083	0.78	8.167	1.55	14.250	2.96	20.33	0.85
2.167	0.78	8.250	1.55	14.333	2.12	20.42	0.85
2.250	0.78	8.333	1.83	14.417	2.12	20.50	0.85
2.333	0.92	8.417	1.83	14.500	2.12	20.58	0.85
2.417	0.92	8.500	1.83	14.583	2.12	20.67	0.85
2.500	0.92	8.583	1.83	14.667	2.12	20.75	0.85
2.583	0.92	8.667	1.83	14.750	2.12	20.83	0.85
2.667	0.92	8.750	1.83	14.833	2.12	20.92	0.85
2.750	0.92	8.833	1.98	14.917	2.12	21.00	0.85
2.833	0.92	8.917	1.98	15.000	2.12	21.08	0.85
2.917	0.92	9.000	1.98	15.083	2.12	21.17	0.85
3.000	0.92	9.083	1.98	15.167	2.12	21.25	0.85
3.083	0.92	9.167	1.98	15.250	2.12	21.33	0.85
3.167	0.92	9.250	1.98	15.333	2.12	21.42	0.85
3.250	0.92	9.333	2.26	15.417	2.12	21.50	0.85
3.333	0.92	9.417	2.26	15.500	2.12	21.58	0.85
3.417	0.92	9.500	2.26	15.583	2.12	21.67	0.85
3.500	0.92	9.583	2.26	15.667	2.12	21.75	0.85
3.583	0.92	9.667	2.26	15.750	2.12	21.83	0.85
3.667	0.92	9.750	2.26	15.833	2.12	21.92	0.85
3.750	0.92	9.833	2.54	15.917	2.12	22.00	0.85
3.833	0.92	9.917	2.54	16.000	2.12	22.08	0.85
3.917	0.92	10.000	2.54	16.083	2.12	22.17	0.85
4.000	0.92	10.083	2.54	16.167	2.12	22.25	0.85
4.083	0.92	10.167	2.54	16.250	2.12	22.33	0.85
4.167	0.92	10.250	2.54	16.333	1.27	22.42	0.85
4.250	0.92	10.333	3.24	16.417	1.27	22.50	0.85
4.333	1.13	10.417	3.24	16.500	1.27	22.58	0.85
4.417	1.13	10.500	3.24	16.583	1.27	22.67	0.85
4.500	1.13	10.583	3.24	16.667	1.27	22.75	0.85
4.583	1.13	10.667	3.24	16.750	1.27	22.83	0.85
4.667	1.13	10.750	3.24	16.833	1.27	22.92	0.85
4.750	1.13	10.833	4.37	16.917	1.27	23.00	0.85
4.833	1.13	10.917	4.37	17.000	1.27	23.08	0.85
4.917	1.13	11.000	4.37	17.083	1.27	23.17	0.85
5.000	1.13	11.083	4.37	17.167	1.27	23.25	0.85
5.083	1.13	11.167	4.37	17.250	1.27	23.33	0.85
5.167	1.13	11.250	4.37	17.333	1.27	23.42	0.85
5.250	1.13	11.333	6.77	17.417	1.27	23.50	0.85
5.333	1.13	11.417	6.77	17.500	1.27	23.58	0.85
5.417	1.13	11.500	6.77	17.583	1.27	23.67	0.85
5.500	1.13	11.583	6.77	17.667	1.27	23.75	0.85
5.583	1.13	11.667	6.77	17.750	1.27	23.83	0.85
5.667	1.13	11.750	6.77	17.833	1.27	23.92	0.85
5.750	1.13	11.833	20.88	17.917	1.27	24.00	0.85
5.833	1.13	11.917	20.88	18.000	1.27	24.08	0.85
5.917	1.13	12.000	20.88	18.083	1.27	24.17	0.85
6.000	1.13	12.083	86.33	18.167	1.27	24.25	0.85
6.083	1.13	12.167	86.34	18.250	1.27		

Unit Hyd Qpeak (cms)= 0.448

PEAK FLOW (cms)= 0.147 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 18.983
TOTAL RAINFALL (mm)= 70.540
RUNOFF COEFFICIENT = 0.269

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

ADD HYD (0902)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
*** W A R N I N G : HYDROGRAPH 0802 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
	ID1= 1 (0116):	6.57	0.147	12.75	18.98
	+ ID2= 2 (0802):	0.00	0.000	0.00	0.00
	ID = 3 (0902):	6.57	0.147	12.75	18.98

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| CALIB            |
| NASHYD   (  0101)|   Area    (ha)=   9.85   Curve Number   (CN)= 62.3
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.95   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.80

        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	1.13	12.250	86.34	18.33	1.27
0.167	0.00	6.250	1.13	12.333	10.17	18.42	1.27
0.250	0.00	6.333	1.27	12.417	10.16	18.50	1.27
0.333	0.78	6.417	1.27	12.500	10.16	18.58	1.27
0.417	0.78	6.500	1.27	12.583	10.16	18.67	1.27
0.500	0.78	6.583	1.27	12.667	10.16	18.75	1.27
0.583	0.78	6.667	1.27	12.750	10.16	18.83	1.27
0.667	0.78	6.750	1.27	12.833	5.22	18.92	1.27
0.750	0.78	6.833	1.27	12.917	5.22	19.00	1.27
0.833	0.78	6.917	1.27	13.000	5.22	19.08	1.27
0.917	0.78	7.000	1.27	13.083	5.22	19.17	1.27
1.000	0.78	7.083	1.27	13.167	5.22	19.25	1.27
1.083	0.78	7.167	1.27	13.250	5.22	19.33	1.27
1.167	0.78	7.250	1.27	13.333	3.81	19.42	1.27
1.250	0.78	7.333	1.55	13.417	3.81	19.50	1.27
1.333	0.78	7.417	1.55	13.500	3.81	19.58	1.27
1.417	0.78	7.500	1.55	13.583	3.81	19.67	1.27
1.500	0.78	7.583	1.55	13.667	3.81	19.75	1.27
1.583	0.78	7.667	1.55	13.750	3.81	19.83	1.27
1.667	0.78	7.750	1.55	13.833	2.96	19.92	1.27
1.750	0.78	7.833	1.55	13.917	2.96	20.00	1.27
1.833	0.78	7.917	1.55	14.000	2.96	20.08	1.27
1.917	0.78	8.000	1.55	14.083	2.96	20.17	1.27
2.000	0.78	8.083	1.55	14.167	2.96	20.25	1.27
2.083	0.78	8.167	1.55	14.250	2.96	20.33	0.85
2.167	0.78	8.250	1.55	14.333	2.12	20.42	0.85
2.250	0.78	8.333	1.83	14.417	2.12	20.50	0.85
2.333	0.92	8.417	1.83	14.500	2.12	20.58	0.85
2.417	0.92	8.500	1.83	14.583	2.12	20.67	0.85
2.500	0.92	8.583	1.83	14.667	2.12	20.75	0.85
2.583	0.92	8.667	1.83	14.750	2.12	20.83	0.85
2.667	0.92	8.750	1.83	14.833	2.12	20.92	0.85
2.750	0.92	8.833	1.98	14.917	2.12	21.00	0.85
2.833	0.92	8.917	1.98	15.000	2.12	21.08	0.85
2.917	0.92	9.000	1.98	15.083	2.12	21.17	0.85
3.000	0.92	9.083	1.98	15.167	2.12	21.25	0.85
3.083	0.92	9.167	1.98	15.250	2.12	21.33	0.85
3.167	0.92	9.250	1.98	15.333	2.12	21.42	0.85
3.250	0.92	9.333	2.26	15.417	2.12	21.50	0.85
3.333	0.92	9.417	2.26	15.500	2.12	21.58	0.85
3.417	0.92	9.500	2.26	15.583	2.12	21.67	0.85
3.500	0.92	9.583	2.26	15.667	2.12	21.75	0.85
3.583	0.92	9.667	2.26	15.750	2.12	21.83	0.85
3.667	0.92	9.750	2.26	15.833	2.12	21.92	0.85
3.750	0.92	9.833	2.54	15.917	2.12	22.00	0.85
3.833	0.92	9.917	2.54	16.000	2.12	22.08	0.85
3.917	0.92	10.000	2.54	16.083	2.12	22.17	0.85
4.000	0.92	10.083	2.54	16.167	2.12	22.25	0.85
4.083	0.92	10.167	2.54	16.250	2.12	22.33	0.85
4.167	0.92	10.250	2.54	16.333	1.27	22.42	0.85
4.250	0.92	10.333	3.24	16.417	1.27	22.50	0.85
4.333	1.13	10.417	3.24	16.500	1.27	22.58	0.85
4.417	1.13	10.500	3.24	16.583	1.27	22.67	0.85
4.500	1.13	10.583	3.24	16.667	1.27	22.75	0.85
4.583	1.13	10.667	3.24	16.750	1.27	22.83	0.85
4.667	1.13	10.750	3.24	16.833	1.27	22.92	0.85
4.750	1.13	10.833	4.37	16.917	1.27	23.00	0.85
4.833	1.13	10.917	4.37	17.000	1.27	23.08	0.85
4.917	1.13	11.000	4.37	17.083	1.27	23.17	0.85
5.000	1.13	11.083	4.37	17.167	1.27	23.25	0.85
5.083	1.13	11.167	4.37	17.250	1.27	23.33	0.85
5.167	1.13	11.250	4.37	17.333	1.27	23.42	0.85
5.250	1.13	11.333	6.77	17.417	1.27	23.50	0.85
5.333	1.13	11.417	6.77	17.500	1.27	23.58	0.85
5.417	1.13	11.500	6.77	17.583	1.27	23.67	0.85
5.500	1.13	11.583	6.77	17.667	1.27	23.75	0.85
5.583	1.13	11.667	6.77	17.750	1.27	23.83	0.85
5.667	1.13	11.750	6.77	17.833	1.27	23.92	0.85
5.750	1.13	11.833	20.88	17.917	1.27	24.00	0.85
5.833	1.13	11.917	20.88	18.000	1.27	24.08	0.85
5.917	1.13	12.000	20.88	18.083	1.27	24.17	0.85
6.000	1.13	12.083	86.33	18.167	1.27	24.25	0.85
6.083	1.13	12.167	86.34	18.250	1.27		

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     Unit Hyd Qpeak  (cms)=   0.470

     PEAK FLOW       (cms)=   0.167 (i)
     TIME TO PEAK    (hrs)=  13.000
     RUNOFF VOLUME    (mm)=  18.609
     TOTAL RAINFALL   (mm)=  70.540
     RUNOFF COEFFICIENT   =   0.264

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

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| CALIB            |
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| NASHYD (0102)| Area (ha)= 4.52 Curve Number (CN)= 62.4
|ID= 1 DT= 5.0 min | Ia (mm)= 6.94 # of Linear Res.(N)= 3.00
---------- U.H. Tp(hrs)= 0.36

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.13	12.250	86.34	18.33	1.27
0.167	0.00	6.250	1.13	12.333	10.17	18.42	1.27
0.250	0.00	6.333	1.27	12.417	10.16	18.50	1.27
0.333	0.78	6.417	1.27	12.500	10.16	18.58	1.27
0.417	0.78	6.500	1.27	12.583	10.16	18.67	1.27
0.500	0.78	6.583	1.27	12.667	10.16	18.75	1.27
0.583	0.78	6.667	1.27	12.750	10.16	18.83	1.27
0.667	0.78	6.750	1.27	12.833	5.22	18.92	1.27
0.750	0.78	6.833	1.27	12.917	5.22	19.00	1.27
0.833	0.78	6.917	1.27	13.000	5.22	19.08	1.27
0.917	0.78	7.000	1.27	13.083	5.22	19.17	1.27
1.000	0.78	7.083	1.27	13.167	5.22	19.25	1.27
1.083	0.78	7.167	1.27	13.250	5.22	19.33	1.27
1.167	0.78	7.250	1.27	13.333	3.81	19.42	1.27
1.250	0.78	7.333	1.55	13.417	3.81	19.50	1.27
1.333	0.78	7.417	1.55	13.500	3.81	19.58	1.27
1.417	0.78	7.500	1.55	13.583	3.81	19.67	1.27
1.500	0.78	7.583	1.55	13.667	3.81	19.75	1.27
1.583	0.78	7.667	1.55	13.750	3.81	19.83	1.27
1.667	0.78	7.750	1.55	13.833	2.96	19.92	1.27
1.750	0.78	7.833	1.55	13.917	2.96	20.00	1.27
1.833	0.78	7.917	1.55	14.000	2.96	20.08	1.27
1.917	0.78	8.000	1.55	14.083	2.96	20.17	1.27
2.000	0.78	8.083	1.55	14.167	2.96	20.25	1.27
2.083	0.78	8.167	1.55	14.250	2.96	20.33	0.85
2.167	0.78	8.250	1.55	14.333	2.12	20.42	0.85
2.250	0.78	8.333	1.83	14.417	2.12	20.50	0.85
2.333	0.92	8.417	1.83	14.500	2.12	20.58	0.85
2.417	0.92	8.500	1.83	14.583	2.12	20.67	0.85
2.500	0.92	8.583	1.83	14.667	2.12	20.75	0.85
2.583	0.92	8.667	1.83	14.750	2.12	20.83	0.85
2.667	0.92	8.750	1.83	14.833	2.12	20.92	0.85
2.750	0.92	8.833	1.98	14.917	2.12	21.00	0.85
2.833	0.92	8.917	1.98	15.000	2.12	21.08	0.85
2.917	0.92	9.000	1.98	15.083	2.12	21.17	0.85
3.000	0.92	9.083	1.98	15.167	2.12	21.25	0.85
3.083	0.92	9.167	1.98	15.250	2.12	21.33	0.85
3.167	0.92	9.250	1.98	15.333	2.12	21.42	0.85
3.250	0.92	9.333	2.26	15.417	2.12	21.50	0.85
3.333	0.92	9.417	2.26	15.500	2.12	21.58	0.85
3.417	0.92	9.500	2.26	15.583	2.12	21.67	0.85
3.500	0.92	9.583	2.26	15.667	2.12	21.75	0.85
3.583	0.92	9.667	2.26	15.750	2.12	21.83	0.85
3.667	0.92	9.750	2.26	15.833	2.12	21.92	0.85
3.750	0.92	9.833	2.54	15.917	2.12	22.00	0.85
3.833	0.92	9.917	2.54	16.000	2.12	22.08	0.85
3.917	0.92	10.000	2.54	16.083	2.12	22.17	0.85
4.000	0.92	10.083	2.54	16.167	2.12	22.25	0.85
4.083	0.92	10.167	2.54	16.250	2.12	22.33	0.85
4.167	0.92	10.250	2.54	16.333	1.27	22.42	0.85
4.250	0.92	10.333	3.24	16.417	1.27	22.50	0.85
4.333	1.13	10.417	3.24	16.500	1.27	22.58	0.85
4.417	1.13	10.500	3.24	16.583	1.27	22.67	0.85
4.500	1.13	10.583	3.24	16.667	1.27	22.75	0.85
4.583	1.13	10.667	3.24	16.750	1.27	22.83	0.85
4.667	1.13	10.750	3.24	16.833	1.27	22.92	0.85
4.750	1.13	10.833	4.37	16.917	1.27	23.00	0.85
4.833	1.13	10.917	4.37	17.000	1.27	23.08	0.85
4.917	1.13	11.000	4.37	17.083	1.27	23.17	0.85
5.000	1.13	11.083	4.37	17.167	1.27	23.25	0.85
5.083	1.13	11.167	4.37	17.250	1.27	23.33	0.85
5.167	1.13	11.250	4.37	17.333	1.27	23.42	0.85
5.250	1.13	11.333	6.77	17.417	1.27	23.50	0.85
5.333	1.13	11.417	6.77	17.500	1.27	23.58	0.85
5.417	1.13	11.500	6.77	17.583	1.27	23.67	0.85
5.500	1.13	11.583	6.77	17.667	1.27	23.75	0.85
5.583	1.13	11.667	6.77	17.750	1.27	23.83	0.85
5.667	1.13	11.750	6.77	17.833	1.27	23.92	0.85
5.750	1.13	11.833	20.88	17.917	1.27	24.00	0.85
5.833	1.13	11.917	20.88	18.000	1.27	24.08	0.85
5.917	1.13	12.000	20.88	18.083	1.27	24.17	0.85
6.000	1.13	12.083	86.33	18.167	1.27	24.25	0.85
6.083	1.13	12.167	86.34	18.250	1.27		

Unit Hyd Qpeak (cms)= 0.480

PEAK FLOW (cms)= 0.138 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 18.667
TOTAL RAINFALL (mm)= 70.540
RUNOFF COEFFICIENT = 0.265

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

CALIB	
NASHYD (0103)	Area (ha)= 0.66 Curve Number (CN)= 62.4
ID= 1 DT= 5.0 min	Ia (mm)= 6.95 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.16

NOTE: RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

---- 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	1.13	12.250	86.34	18.33	1.27
0.167	0.00	6.250	1.13	12.333	10.17	18.42	1.27
0.250	0.00	6.333	1.27	12.417	10.16	18.50	1.27
0.333	0.78	6.417	1.27	12.500	10.16	18.58	1.27
0.417	0.78	6.500	1.27	12.583	10.16	18.67	1.27
0.500	0.78	6.583	1.27	12.667	10.16	18.75	1.27
0.583	0.78	6.667	1.27	12.750	10.16	18.83	1.27
0.667	0.78	6.750	1.27	12.833	5.22	18.92	1.27
0.750	0.78	6.833	1.27	12.917	5.22	19.00	1.27
0.833	0.78	6.917	1.27	13.000	5.22	19.08	1.27
0.917	0.78	7.000	1.27	13.083	5.22	19.17	1.27
1.000	0.78	7.083	1.27	13.167	5.22	19.25	1.27
1.083	0.78	7.167	1.27	13.250	5.22	19.33	1.27
1.167	0.78	7.250	1.27	13.333	3.81	19.42	1.27
1.250	0.78	7.333	1.55	13.417	3.81	19.50	1.27
1.333	0.78	7.417	1.55	13.500	3.81	19.58	1.27
1.417	0.78	7.500	1.55	13.583	3.81	19.67	1.27
1.500	0.78	7.583	1.55	13.667	3.81	19.75	1.27
1.583	0.78	7.667	1.55	13.750	3.81	19.83	1.27
1.667	0.78	7.750	1.55	13.833	2.96	19.92	1.27
1.750	0.78	7.833	1.55	13.917	2.96	20.00	1.27
1.833	0.78	7.917	1.55	14.000	2.96	20.08	1.27
1.917	0.78	8.000	1.55	14.083	2.96	20.17	1.27
2.000	0.78	8.083	1.55	14.167	2.96	20.25	1.27
2.083	0.78	8.167	1.55	14.250	2.96	20.33	0.85
2.167	0.78	8.250	1.55	14.333	2.12	20.42	0.85
2.250	0.78	8.333	1.83	14.417	2.12	20.50	0.85
2.333	0.92	8.417	1.83	14.500	2.12	20.58	0.85
2.417	0.92	8.500	1.83	14.583	2.12	20.67	0.85
2.500	0.92	8.583	1.83	14.667	2.12	20.75	0.85
2.583	0.92	8.667	1.83	14.750	2.12	20.83	0.85
2.667	0.92	8.750	1.83	14.833	2.12	20.92	0.85
2.750	0.92	8.833	1.98	14.917	2.12	21.00	0.85
2.833	0.92	8.917	1.98	15.000	2.12	21.08	0.85
2.917	0.92	9.000	1.98	15.083	2.12	21.17	0.85
3.000	0.92	9.083	1.98	15.167	2.12	21.25	0.85
3.083	0.92	9.167	1.98	15.250	2.12	21.33	0.85
3.167	0.92	9.250	1.98	15.333	2.12	21.42	0.85
3.250	0.92	9.333	2.26	15.417	2.12	21.50	0.85
3.333	0.92	9.417	2.26	15.500	2.12	21.58	0.85
3.417	0.92	9.500	2.26	15.583	2.12	21.67	0.85
3.500	0.92	9.583	2.26	15.667	2.12	21.75	0.85
3.583	0.92	9.667	2.26	15.750	2.12	21.83	0.85
3.667	0.92	9.750	2.26	15.833	2.12	21.92	0.85
3.750	0.92	9.833	2.54	15.917	2.12	22.00	0.85
3.833	0.92	9.917	2.54	16.000	2.12	22.08	0.85
3.917	0.92	10.000	2.54	16.083	2.12	22.17	0.85
4.000	0.92	10.083	2.54	16.167	2.12	22.25	0.85
4.083	0.92	10.167	2.54	16.250	2.12	22.33	0.85
4.167	0.92	10.250	2.54	16.333	1.27	22.42	0.85
4.250	0.92	10.333	3.24	16.417	1.27	22.50	0.85
4.333	1.13	10.417	3.24	16.500	1.27	22.58	0.85
4.417	1.13	10.500	3.24	16.583	1.27	22.67	0.85
4.500	1.13	10.583	3.24	16.667	1.27	22.75	0.85
4.583	1.13	10.667	3.24	16.750	1.27	22.83	0.85
4.667	1.13	10.750	3.24	16.833	1.27	22.92	0.85
4.750	1.13	10.833	4.37	16.917	1.27	23.00	0.85
4.833	1.13	10.917	4.37	17.000	1.27	23.08	0.85
4.917	1.13	11.000	4.37	17.083	1.27	23.17	0.85
5.000	1.13	11.083	4.37	17.167	1.27	23.25	0.85
5.083	1.13	11.167	4.37	17.250	1.27	23.33	0.85
5.167	1.13	11.250	4.37	17.333	1.27	23.42	0.85
5.250	1.13	11.333	6.77	17.417	1.27	23.50	0.85
5.333	1.13	11.417	6.77	17.500	1.27	23.58	0.85
5.417	1.13	11.500	6.77	17.583	1.27	23.67	0.85
5.500	1.13	11.583	6.77	17.667	1.27	23.75	0.85
5.583	1.13	11.667	6.77	17.750	1.27	23.83	0.85
5.667	1.13	11.750	6.77	17.833	1.27	23.92	0.85
5.750	1.13	11.833	20.88	17.917	1.27	24.00	0.85
5.833	1.13	11.917	20.88	18.000	1.27	24.08	0.85
5.917	1.13	12.000	20.88	18.083	1.27	24.17	0.85
6.000	1.13	12.083	86.33	18.167	1.27	24.25	0.85
6.083	1.13	12.167	86.34	18.250	1.27		

Unit Hyd Qpeak (cms)=   0.158

PEAK FLOW   (cms)=   0.034 (i)
TIME TO PEAK   (hrs)= 12.250
RUNOFF VOLUME   (mm)= 18.581
TOTAL RAINFALL   (mm)= 70.540
RUNOFF COEFFICIENT   =   0.263

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

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      V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
      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 *****

Input filename: C:\Program Files (x86)\Visual OTTHYMO 6.1\VO2\voin.dat

Output filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\39b282a1-d2ca-4bf4-84ef-1910e79ed435\s
Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\39b282a1-d2ca-4bf4-84ef-1910e79ed435\s

DATE: 01/19/2023 TIME: 07:37:50

USER:

COMMENTS: _____

****
** SIMULATION : 10yr 24hr 15min SCS **
****

READ STORM	Filename: C:\Users\elundquist\AppData\Local\Temp\eec61fe4-ea1d-4b25-930d-6bd365b221af\5333ab3e
Ptotal= 81.99 mm	Comments: 10yr 24hr 15min SCS

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	1.48	12.75	11.81	19.00	1.48
0.50	0.90	6.75	1.48	13.00	6.07	19.25	1.48
0.75	0.90	7.00	1.48	13.25	6.07	19.50	1.48
1.00	0.90	7.25	1.48	13.50	4.43	19.75	1.48
1.25	0.90	7.50	1.80	13.75	4.43	20.00	1.48
1.50	0.90	7.75	1.80	14.00	3.44	20.25	1.48
1.75	0.90	8.00	1.80	14.25	3.44	20.50	0.98
2.00	0.90	8.25	1.80	14.50	2.46	20.75	0.98
2.25	0.90	8.50	2.13	14.75	2.46	21.00	0.98
2.50	1.07	8.75	2.13	15.00	2.46	21.25	0.98
2.75	1.07	9.00	2.30	15.25	2.46	21.50	0.98
3.00	1.07	9.25	2.30	15.50	2.46	21.75	0.98
3.25	1.07	9.50	2.62	15.75	2.46	22.00	0.98
3.50	1.07	9.75	2.62	16.00	2.46	22.25	0.98
3.75	1.07	10.00	2.95	16.25	2.46	22.50	0.98
4.00	1.07	10.25	2.95	16.50	1.48	22.75	0.98
4.25	1.07	10.50	3.77	16.75	1.48	23.00	0.98
4.50	1.31	10.75	3.77	17.00	1.48	23.25	0.98
4.75	1.31	11.00	5.08	17.25	1.48	23.50	0.98
5.00	1.31	11.25	5.08	17.50	1.48	23.75	0.98
5.25	1.31	11.50	7.87	17.75	1.48	24.00	0.98
5.50	1.31	11.75	7.87	18.00	1.48	24.25	0.98
5.75	1.31	12.00	24.27	18.25	1.48		
6.00	1.31	12.25	100.36	18.50	1.48		
6.25	1.31	12.50	11.81	18.75	1.48		

CALIB NASHYD (0117) ID= 1 DT= 5.0 min	Area (ha)= 6.10	Curve Number (CN)= 66.8
	Ia (mm)= 6.35	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.42	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.31	12.250	100.36	18.33	1.48
0.167	0.00	6.250	1.31	12.333	11.82	18.42	1.48
0.250	0.00	6.333	1.48	12.417	11.81	18.50	1.48
0.333	0.90	6.417	1.48	12.500	11.81	18.58	1.48
0.417	0.90	6.500	1.48	12.583	11.81	18.67	1.48
0.500	0.90	6.583	1.48	12.667	11.81	18.75	1.48
0.583	0.90	6.667	1.48	12.750	11.81	18.83	1.48
0.667	0.90	6.750	1.48	12.833	6.07	18.92	1.48
0.750	0.90	6.833	1.48	12.917	6.07	19.00	1.48
0.833	0.90	6.917	1.48	13.000	6.07	19.08	1.48
0.917	0.90	7.000	1.48	13.083	6.07	19.17	1.48
1.000	0.90	7.083	1.48	13.167	6.07	19.25	1.48
1.083	0.90	7.167	1.48	13.250	6.07	19.33	1.48

1.167	0.90	7.250	1.48	13.333	4.43	19.42	1.48
1.250	0.90	7.333	1.80	13.417	4.43	19.50	1.48
1.333	0.90	7.417	1.80	13.500	4.43	19.58	1.48
1.417	0.90	7.500	1.80	13.583	4.43	19.67	1.48
1.500	0.90	7.583	1.80	13.667	4.43	19.75	1.48
1.583	0.90	7.667	1.80	13.750	4.43	19.83	1.48
1.667	0.90	7.750	1.80	13.833	3.44	19.92	1.48
1.750	0.90	7.833	1.80	13.917	3.44	20.00	1.48
1.833	0.90	7.917	1.80	14.000	3.44	20.08	1.48
1.917	0.90	8.000	1.80	14.083	3.44	20.17	1.48
2.000	0.90	8.083	1.80	14.167	3.44	20.25	1.48
2.083	0.90	8.167	1.80	14.250	3.44	20.33	0.98
2.167	0.90	8.250	1.80	14.333	2.46	20.42	0.98
2.250	0.90	8.333	2.13	14.417	2.46	20.50	0.98
2.333	1.07	8.417	2.13	14.500	2.46	20.58	0.98
2.417	1.07	8.500	2.13	14.583	2.46	20.67	0.98
2.500	1.07	8.583	2.13	14.667	2.46	20.75	0.98
2.583	1.07	8.667	2.13	14.750	2.46	20.83	0.98
2.667	1.07	8.750	2.13	14.833	2.46	20.92	0.98
2.750	1.07	8.833	2.30	14.917	2.46	21.00	0.98
2.833	1.07	8.917	2.30	15.000	2.46	21.08	0.98
2.917	1.07	9.000	2.30	15.083	2.46	21.17	0.98
3.000	1.07	9.083	2.30	15.167	2.46	21.25	0.98
3.083	1.07	9.167	2.30	15.250	2.46	21.33	0.98
3.167	1.07	9.250	2.30	15.333	2.46	21.42	0.98
3.250	1.07	9.333	2.62	15.417	2.46	21.50	0.98
3.333	1.07	9.417	2.62	15.500	2.46	21.58	0.98
3.417	1.07	9.500	2.62	15.583	2.46	21.67	0.98
3.500	1.07	9.583	2.62	15.667	2.46	21.75	0.98
3.583	1.07	9.667	2.62	15.750	2.46	21.83	0.98
3.667	1.07	9.750	2.62	15.833	2.46	21.92	0.98
3.750	1.07	9.833	2.95	15.917	2.46	22.00	0.98
3.833	1.07	9.917	2.95	16.000	2.46	22.08	0.98
3.917	1.07	10.000	2.95	16.083	2.46	22.17	0.98
4.000	1.07	10.083	2.95	16.167	2.46	22.25	0.98
4.083	1.07	10.167	2.95	16.250	2.46	22.33	0.98
4.167	1.07	10.250	2.95	16.333	1.48	22.42	0.98
4.250	1.07	10.333	3.77	16.417	1.48	22.50	0.98
4.333	1.31	10.417	3.77	16.500	1.48	22.58	0.98
4.417	1.31	10.500	3.77	16.583	1.48	22.67	0.98
4.500	1.31	10.583	3.77	16.667	1.48	22.75	0.98
4.583	1.31	10.667	3.77	16.750	1.48	22.83	0.98
4.667	1.31	10.750	3.77	16.833	1.48	22.92	0.98
4.750	1.31	10.833	5.08	16.917	1.48	23.00	0.98
4.833	1.31	10.917	5.08	17.000	1.48	23.08	0.98
4.917	1.31	11.000	5.08	17.083	1.48	23.17	0.98
5.000	1.31	11.083	5.08	17.167	1.48	23.25	0.98
5.083	1.31	11.167	5.08	17.250	1.48	23.33	0.98
5.167	1.31	11.250	5.08	17.333	1.48	23.42	0.98
5.250	1.31	11.333	7.87	17.417	1.48	23.50	0.98
5.333	1.31	11.417	7.87	17.500	1.48	23.58	0.98
5.417	1.31	11.500	7.87	17.583	1.48	23.67	0.98
5.500	1.31	11.583	7.87	17.667	1.48	23.75	0.98
5.583	1.31	11.667	7.87	17.750	1.48	23.83	0.98
5.667	1.31	11.750	7.87	17.833	1.48	23.92	0.98
5.750	1.31	11.833	24.27	17.917	1.48	24.00	0.98
5.833	1.31	11.917	24.27	18.000	1.48	24.08	0.98
5.917	1.31	12.000	24.27	18.083	1.48	24.17	0.98
6.000	1.31	12.083	100.35	18.167	1.48	24.25	0.98
6.083	1.31	12.167	100.36	18.250	1.48		

Unit Hyd Qpeak (cms)= 0.555

PEAK FLOW (cms)= 0.256 (i)
TIME TO PEAK (hrs)= 12.583
RUNOFF VOLUME (mm)= 28.338
TOTAL RAINFALL (mm)= 81.990
RUNOFF COEFFICIENT = 0.346

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

CALIB NASHYD (0115)	Area (ha)= 9.34	Curve Number (CN)= 62.6
ID= 1 DT= 5.0 min	Ia (mm)= 6.91	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.71	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.31	12.250	100.36	18.33	1.48
0.167	0.00	6.250	1.31	12.333	11.82	18.42	1.48
0.250	0.00	6.333	1.48	12.417	11.81	18.50	1.48
0.333	0.90	6.417	1.48	12.500	11.81	18.58	1.48
0.417	0.90	6.500	1.48	12.583	11.81	18.67	1.48
0.500	0.90	6.583	1.48	12.667	11.81	18.75	1.48
0.583	0.90	6.667	1.48	12.750	11.81	18.83	1.48
0.667	0.90	6.750	1.48	12.833	6.07	18.92	1.48
0.750	0.90	6.833	1.48	12.917	6.07	19.00	1.48
0.833	0.90	6.917	1.48	13.000	6.07	19.08	1.48
0.917	0.90	7.000	1.48	13.083	6.07	19.17	1.48
1.000	0.90	7.083	1.48	13.167	6.07	19.25	1.48
1.083	0.90	7.167	1.48	13.250	6.07	19.33	1.48
1.167	0.90	7.250	1.48	13.333	4.43	19.42	1.48
1.250	0.90	7.333	1.80	13.417	4.43	19.50	1.48
1.333	0.90	7.417	1.80	13.500	4.43	19.58	1.48

1.417	0.90	7.500	1.80	13.583	4.43	19.67	1.48
1.500	0.90	7.583	1.80	13.667	4.43	19.75	1.48
1.583	0.90	7.667	1.80	13.750	4.43	19.83	1.48
1.667	0.90	7.750	1.80	13.833	3.44	19.92	1.48
1.750	0.90	7.833	1.80	13.917	3.44	20.00	1.48
1.833	0.90	7.917	1.80	14.000	3.44	20.08	1.48
1.917	0.90	8.000	1.80	14.083	3.44	20.17	1.48
2.000	0.90	8.083	1.80	14.167	3.44	20.25	1.48
2.083	0.90	8.167	1.80	14.250	3.44	20.33	0.98
2.167	0.90	8.250	1.80	14.333	2.46	20.42	0.98
2.250	0.90	8.333	2.13	14.417	2.46	20.50	0.98
2.333	1.07	8.417	2.13	14.500	2.46	20.58	0.98
2.417	1.07	8.500	2.13	14.583	2.46	20.67	0.98
2.500	1.07	8.583	2.13	14.667	2.46	20.75	0.98
2.583	1.07	8.667	2.13	14.750	2.46	20.83	0.98
2.667	1.07	8.750	2.13	14.833	2.46	20.92	0.98
2.750	1.07	8.833	2.30	14.917	2.46	21.00	0.98
2.833	1.07	8.917	2.30	15.000	2.46	21.08	0.98
2.917	1.07	9.000	2.30	15.083	2.46	21.17	0.98
3.000	1.07	9.083	2.30	15.167	2.46	21.25	0.98
3.083	1.07	9.167	2.30	15.250	2.46	21.33	0.98
3.167	1.07	9.250	2.30	15.333	2.46	21.42	0.98
3.250	1.07	9.333	2.62	15.417	2.46	21.50	0.98
3.333	1.07	9.417	2.62	15.500	2.46	21.58	0.98
3.417	1.07	9.500	2.62	15.583	2.46	21.67	0.98
3.500	1.07	9.583	2.62	15.667	2.46	21.75	0.98
3.583	1.07	9.667	2.62	15.750	2.46	21.83	0.98
3.667	1.07	9.750	2.62	15.833	2.46	21.92	0.98
3.750	1.07	9.833	2.95	15.917	2.46	22.00	0.98
3.833	1.07	9.917	2.95	16.000	2.46	22.08	0.98
3.917	1.07	10.000	2.95	16.083	2.46	22.17	0.98
4.000	1.07	10.083	2.95	16.167	2.46	22.25	0.98
4.083	1.07	10.167	2.95	16.250	2.46	22.33	0.98
4.167	1.07	10.250	2.95	16.333	1.48	22.42	0.98
4.250	1.07	10.333	3.77	16.417	1.48	22.50	0.98
4.333	1.31	10.417	3.77	16.500	1.48	22.58	0.98
4.417	1.31	10.500	3.77	16.583	1.48	22.67	0.98
4.500	1.31	10.583	3.77	16.667	1.48	22.75	0.98
4.583	1.31	10.667	3.77	16.750	1.48	22.83	0.98
4.667	1.31	10.750	3.77	16.833	1.48	22.92	0.98
4.750	1.31	10.833	5.08	16.917	1.48	23.00	0.98
4.833	1.31	10.917	5.08	17.000	1.48	23.08	0.98
4.917	1.31	11.000	5.08	17.083	1.48	23.17	0.98
5.000	1.31	11.083	5.08	17.167	1.48	23.25	0.98
5.083	1.31	11.167	5.08	17.250	1.48	23.33	0.98
5.167	1.31	11.250	5.08	17.333	1.48	23.42	0.98
5.250	1.31	11.333	7.87	17.417	1.48	23.50	0.98
5.333	1.31	11.417	7.87	17.500	1.48	23.58	0.98
5.417	1.31	11.500	7.87	17.583	1.48	23.67	0.98
5.500	1.31	11.583	7.87	17.667	1.48	23.75	0.98
5.583	1.31	11.667	7.87	17.750	1.48	23.83	0.98
5.667	1.31	11.750	7.87	17.833	1.48	23.92	0.98
5.750	1.31	11.833	24.27	17.917	1.48	24.00	0.98
5.833	1.31	11.917	24.27	18.000	1.48	24.08	0.98
5.917	1.31	12.000	24.27	18.083	1.48	24.17	0.98
6.000	1.31	12.083	100.35	18.167	1.48	24.25	0.98
6.083	1.31	12.167	100.36	18.250	1.48		

Unit Hyd Qpeak (cms)= 0.502

PEAK FLOW (cms)= 0.233 (i)
TIME TO PEAK (hrs)= 12.917
RUNOFF VOLUME (mm)= 24.851
TOTAL RAINFALL (mm)= 81.990
RUNOFF COEFFICIENT = 0.303

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

CALIB	
STANDHYD (0303)	Area (ha)= 0.37
ID= 1 DT= 5.0 min	Total Imp(%)= 97.30 Dir. Conn.(%)= 92.40

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.36	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	49.67	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	1.31	12.250	100.36	18.33	1.48
0.167	0.00	6.250	1.31	12.333	11.82	18.42	1.48
0.250	0.00	6.333	1.48	12.417	11.81	18.50	1.48
0.333	0.90	6.417	1.48	12.500	11.81	18.58	1.48
0.417	0.90	6.500	1.48	12.583	11.81	18.67	1.48
0.500	0.90	6.583	1.48	12.667	11.81	18.75	1.48
0.583	0.90	6.667	1.48	12.750	11.81	18.83	1.48
0.667	0.90	6.750	1.48	12.833	6.07	18.92	1.48
0.750	0.90	6.833	1.48	12.917	6.07	19.00	1.48
0.833	0.90	6.917	1.48	13.000	6.07	19.08	1.48
0.917	0.90	7.000	1.48	13.083	6.07	19.17	1.48
1.000	0.90	7.083	1.48	13.167	6.07	19.25	1.48
1.083	0.90	7.167	1.48	13.250	6.07	19.33	1.48

1.167	0.90	7.250	1.48	13.333	4.43	19.42	1.48
1.250	0.90	7.333	1.80	13.417	4.43	19.50	1.48
1.333	0.90	7.417	1.80	13.500	4.43	19.58	1.48
1.417	0.90	7.500	1.80	13.583	4.43	19.67	1.48
1.500	0.90	7.583	1.80	13.667	4.43	19.75	1.48
1.583	0.90	7.667	1.80	13.750	4.43	19.83	1.48
1.667	0.90	7.750	1.80	13.833	3.44	19.92	1.48
1.750	0.90	7.833	1.80	13.917	3.44	20.00	1.48
1.833	0.90	7.917	1.80	14.000	3.44	20.08	1.48
1.917	0.90	8.000	1.80	14.083	3.44	20.17	1.48
2.000	0.90	8.083	1.80	14.167	3.44	20.25	1.48
2.083	0.90	8.167	1.80	14.250	3.44	20.33	0.98
2.167	0.90	8.250	1.80	14.333	2.46	20.42	0.98
2.250	0.90	8.333	2.13	14.417	2.46	20.50	0.98
2.333	1.07	8.417	2.13	14.500	2.46	20.58	0.98
2.417	1.07	8.500	2.13	14.583	2.46	20.67	0.98
2.500	1.07	8.583	2.13	14.667	2.46	20.75	0.98
2.583	1.07	8.667	2.13	14.750	2.46	20.83	0.98
2.667	1.07	8.750	2.13	14.833	2.46	20.92	0.98
2.750	1.07	8.833	2.30	14.917	2.46	21.00	0.98
2.833	1.07	8.917	2.30	15.000	2.46	21.08	0.98
2.917	1.07	9.000	2.30	15.083	2.46	21.17	0.98
3.000	1.07	9.083	2.30	15.167	2.46	21.25	0.98
3.083	1.07	9.167	2.30	15.250	2.46	21.33	0.98
3.167	1.07	9.250	2.30	15.333	2.46	21.42	0.98
3.250	1.07	9.333	2.62	15.417	2.46	21.50	0.98
3.333	1.07	9.417	2.62	15.500	2.46	21.58	0.98
3.417	1.07	9.500	2.62	15.583	2.46	21.67	0.98
3.500	1.07	9.583	2.62	15.667	2.46	21.75	0.98
3.583	1.07	9.667	2.62	15.750	2.46	21.83	0.98
3.667	1.07	9.750	2.62	15.833	2.46	21.92	0.98
3.750	1.07	9.833	2.95	15.917	2.46	22.00	0.98
3.833	1.07	9.917	2.95	16.000	2.46	22.08	0.98
3.917	1.07	10.000	2.95	16.083	2.46	22.17	0.98
4.000	1.07	10.083	2.95	16.167	2.46	22.25	0.98
4.083	1.07	10.167	2.95	16.250	2.46	22.33	0.98
4.167	1.07	10.250	2.95	16.333	1.48	22.42	0.98
4.250	1.07	10.333	3.77	16.417	1.48	22.50	0.98
4.333	1.31	10.417	3.77	16.500	1.48	22.58	0.98
4.417	1.31	10.500	3.77	16.583	1.48	22.67	0.98
4.500	1.31	10.583	3.77	16.667	1.48	22.75	0.98
4.583	1.31	10.667	3.77	16.750	1.48	22.83	0.98
4.667	1.31	10.750	3.77	16.833	1.48	22.92	0.98
4.750	1.31	10.833	5.08	16.917	1.48	23.00	0.98
4.833	1.31	10.917	5.08	17.000	1.48	23.08	0.98
4.917	1.31	11.000	5.08	17.083	1.48	23.17	0.98
5.000	1.31	11.083	5.08	17.167	1.48	23.25	0.98
5.083	1.31	11.167	5.08	17.250	1.48	23.33	0.98
5.167	1.31	11.250	5.08	17.333	1.48	23.42	0.98
5.250	1.31	11.333	7.87	17.417	1.48	23.50	0.98
5.333	1.31	11.417	7.87	17.500	1.48	23.58	0.98
5.417	1.31	11.500	7.87	17.583	1.48	23.67	0.98
5.500	1.31	11.583	7.87	17.667	1.48	23.75	0.98
5.583	1.31	11.667	7.87	17.750	1.48	23.83	0.98
5.667	1.31	11.750	7.87	17.833	1.48	23.92	0.98
5.750	1.31	11.833	24.27	17.917	1.48	24.00	0.98
5.833	1.31	11.917	24.27	18.000	1.48	24.08	0.98
5.917	1.31	12.000	24.27	18.083	1.48	24.17	0.98
6.000	1.31	12.083	100.35	18.167	1.48	24.25	0.98
6.083	1.31	12.167	100.36	18.250	1.48		

```
     Max.Eff.Inten.(mm/hr)=     100.36       151.42
               over (min)        5.00         5.00
     Storage Coeff.  (min)=       1.68 (ii)    3.39 (ii)
     Unit Hyd. Tpeak (min)=       5.00         5.00
     Unit Hyd. peak  (cms)=       0.32         0.26
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.10         0.00          0.100 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=      80.99        36.95          77.64
     TOTAL RAINFALL   (mm)=      81.99        81.99          81.99
     RUNOFF COEFFICIENT   =       0.99         0.45           0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  49.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0801)|
| Inlet Cap.= 0.109|
| #of Inlets=     1|
| Total(cms)=   0.1|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   0.37      0.10     12.25   77.64
     ==========================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   0.37      0.10     12.25   77.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0901)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
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```
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0115):     9.34   0.233    12.92    24.85
      + ID2= 2 (  0117):     6.10   0.256    12.58    28.34
        ================================================
        ID = 3 (  0901):    15.44   0.461    12.67    26.23

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

--------------------
| ADD HYD  (  0901)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0801 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0001 = HYDROGRAPH 0003
        ID1= 3 (  0901):    15.44   0.461    12.67    26.23
      + ID2= 2 (  0801):     0.00   0.000     0.00     0.00
        ================================================
        ID = 1 (  0901):    15.44   0.461    12.67    26.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.364|
| #of Inlets=     1|
| Total(cms)=   0.4|      AREA     QPEAK     TPEAK    R.V.
--------------------       (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.44      0.46     12.67   26.23
     ================================================
     MAJOR SYS.(ID= 2):   0.63      0.10     12.67   26.23
     MINOR SYS.(ID= 3):  14.81      0.36     12.42   26.23

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD   (  0116)|   Area    (ha)=   6.57   Curve Number   (CN)= 62.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.88   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.56

         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    1.31 |12.250  100.36 | 18.33    1.48
              0.167    0.00 | 6.250    1.31 |12.333   11.82 | 18.42    1.48
              0.250    0.00 | 6.333    1.48 |12.417   11.81 | 18.50    1.48
              0.333    0.90 | 6.417    1.48 |12.500   11.81 | 18.58    1.48
              0.417    0.90 | 6.500    1.48 |12.583   11.81 | 18.67    1.48
              0.500    0.90 | 6.583    1.48 |12.667   11.81 | 18.75    1.48
              0.583    0.90 | 6.667    1.48 |12.750   11.81 | 18.83    1.48
              0.667    0.90 | 6.750    1.48 |12.833    6.07 | 18.92    1.48
              0.750    0.90 | 6.833    1.48 |12.917    6.07 | 19.00    1.48
              0.833    0.90 | 6.917    1.48 |13.000    6.07 | 19.08    1.48
              0.917    0.90 | 7.000    1.48 |13.083    6.07 | 19.17    1.48
              1.000    0.90 | 7.083    1.48 |13.167    6.07 | 19.25    1.48
              1.083    0.90 | 7.167    1.48 |13.250    6.07 | 19.33    1.48
              1.167    0.90 | 7.250    1.48 |13.333    4.43 | 19.42    1.48
              1.250    0.90 | 7.333    1.80 |13.417    4.43 | 19.50    1.48
              1.333    0.90 | 7.417    1.80 |13.500    4.43 | 19.58    1.48
              1.417    0.90 | 7.500    1.80 |13.583    4.43 | 19.67    1.48
              1.500    0.90 | 7.583    1.80 |13.667    4.43 | 19.75    1.48
              1.583    0.90 | 7.667    1.80 |13.750    4.43 | 19.83    1.48
              1.667    0.90 | 7.750    1.80 |13.833    3.44 | 19.92    1.48
              1.750    0.90 | 7.833    1.80 |13.917    3.44 | 20.00    1.48
              1.833    0.90 | 7.917    1.80 |14.000    3.44 | 20.08    1.48
              1.917    0.90 | 8.000    1.80 |14.083    3.44 | 20.17    1.48
              2.000    0.90 | 8.083    1.80 |14.167    3.44 | 20.25    1.48
              2.083    0.90 | 8.167    1.80 |14.250    3.44 | 20.33    0.98
              2.167    0.90 | 8.250    1.80 |14.333    2.46 | 20.42    0.98
              2.250    0.90 | 8.333    2.13 |14.417    2.46 | 20.50    0.98
              2.333    1.07 | 8.417    2.13 |14.500    2.46 | 20.58    0.98
              2.417    1.07 | 8.500    2.13 |14.583    2.46 | 20.67    0.98
              2.500    1.07 | 8.583    2.13 |14.667    2.46 | 20.75    0.98
              2.583    1.07 | 8.667    2.13 |14.750    2.46 | 20.83    0.98
              2.667    1.07 | 8.750    2.13 |14.833    2.46 | 20.92    0.98
              2.750    1.07 | 8.833    2.30 |14.917    2.46 | 21.00    0.98
              2.833    1.07 | 8.917    2.30 |15.000    2.46 | 21.08    0.98
              2.917    1.07 | 9.000    2.30 |15.083    2.46 | 21.17    0.98
              3.000    1.07 | 9.083    2.30 |15.167    2.46 | 21.25    0.98
              3.083    1.07 | 9.167    2.30 |15.250    2.46 | 21.33    0.98
              3.167    1.07 | 9.250    2.30 |15.333    2.46 | 21.42    0.98
              3.250    1.07 | 9.333    2.62 |15.417    2.46 | 21.50    0.98
              3.333    1.07 | 9.417    2.62 |15.500    2.46 | 21.58    0.98
              3.417    1.07 | 9.500    2.62 |15.583    2.46 | 21.67    0.98
              3.500    1.07 | 9.583    2.62 |15.667    2.46 | 21.75    0.98
              3.583    1.07 | 9.667    2.62 |15.750    2.46 | 21.83    0.98
              3.667    1.07 | 9.750    2.62 |15.833    2.46 | 21.92    0.98
              3.750    1.07 | 9.833    2.95 |15.917    2.46 | 22.00    0.98
              3.833    1.07 | 9.917    2.95 |16.000    2.46 | 22.08    0.98
              3.917    1.07 |10.000    2.95 |16.083    2.46 | 22.17    0.98
              4.000    1.07 |10.083    2.95 |16.167    2.46 | 22.25    0.98
              4.083    1.07 |10.167    2.95 |16.250    2.46 | 22.33    0.98
              4.167    1.07 |10.250    2.95 |16.333    1.48 | 22.42    0.98
              4.250    1.07 |10.333    3.77 |16.417    1.48 | 22.50    0.98
              4.333    1.31 |10.417    3.77 |16.500    1.48 | 22.58    0.98
```

4.417	1.31	10.500	3.77	16.583	1.48	22.67	0.98
4.500	1.31	10.583	3.77	16.667	1.48	22.75	0.98
4.583	1.31	10.667	3.77	16.750	1.48	22.83	0.98
4.667	1.31	10.750	3.77	16.833	1.48	22.92	0.98
4.750	1.31	10.833	5.08	16.917	1.48	23.00	0.98
4.833	1.31	10.917	5.08	17.000	1.48	23.08	0.98
4.917	1.31	11.000	5.08	17.083	1.48	23.17	0.98
5.000	1.31	11.083	5.08	17.167	1.48	23.25	0.98
5.083	1.31	11.167	5.08	17.250	1.48	23.33	0.98
5.167	1.31	11.250	5.08	17.333	1.48	23.42	0.98
5.250	1.31	11.333	7.87	17.417	1.48	23.50	0.98
5.333	1.31	11.417	7.87	17.500	1.48	23.58	0.98
5.417	1.31	11.500	7.87	17.583	1.48	23.67	0.98
5.500	1.31	11.583	7.87	17.667	1.48	23.75	0.98
5.583	1.31	11.667	7.87	17.750	1.48	23.83	0.98
5.667	1.31	11.750	7.87	17.833	1.48	23.92	0.98
5.750	1.31	11.833	24.27	17.917	1.48	24.00	0.98
5.833	1.31	11.917	24.27	18.000	1.48	24.08	0.98
5.917	1.31	12.000	24.27	18.083	1.48	24.17	0.98
6.000	1.31	12.083	100.35	18.167	1.48	24.25	0.98
6.083	1.31	12.167	100.36	18.250	1.48		

Unit Hyd Qpeak (cms)= 0.448

PEAK FLOW (cms)= 0.197 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 25.081
TOTAL RAINFALL (mm)= 81.990
RUNOFF COEFFICIENT = 0.306

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

ADD HYD (0902)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0116):	6.57	0.197	12.75	25.08
	+ ID2= 2 (0802):	0.63	0.097	12.67	26.23
	ID = 3 (0902):	7.20	0.292	12.67	25.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB NASHYD (0101)					
ID= 1 DT= 5.0 min	Area	(ha)=	9.85	Curve Number (CN)=	62.3
	Ia	(mm)=	6.95	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.80		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.31	12.250	100.36	18.33	1.48
0.167	0.00	6.250	1.31	12.333	11.82	18.42	1.48
0.250	0.00	6.333	1.48	12.417	11.81	18.50	1.48
0.333	0.90	6.417	1.48	12.500	11.81	18.58	1.48
0.417	0.90	6.500	1.48	12.583	11.81	18.67	1.48
0.500	0.90	6.583	1.48	12.667	11.81	18.75	1.48
0.583	0.90	6.667	1.48	12.750	11.81	18.83	1.48
0.667	0.90	6.750	1.48	12.833	6.07	18.92	1.48
0.750	0.90	6.833	1.48	12.917	6.07	19.00	1.48
0.833	0.90	6.917	1.48	13.000	6.07	19.08	1.48
0.917	0.90	7.000	1.48	13.083	6.07	19.17	1.48
1.000	0.90	7.083	1.48	13.167	6.07	19.25	1.48
1.083	0.90	7.167	1.48	13.250	6.07	19.33	1.48
1.167	0.90	7.250	1.48	13.333	4.43	19.42	1.48
1.250	0.90	7.333	1.80	13.417	4.43	19.50	1.48
1.333	0.90	7.417	1.80	13.500	4.43	19.58	1.48
1.417	0.90	7.500	1.80	13.583	4.43	19.67	1.48
1.500	0.90	7.583	1.80	13.667	4.43	19.75	1.48
1.583	0.90	7.667	1.80	13.750	4.43	19.83	1.48
1.667	0.90	7.750	1.80	13.833	3.44	19.92	1.48
1.750	0.90	7.833	1.80	13.917	3.44	20.00	1.48
1.833	0.90	7.917	1.80	14.000	3.44	20.08	1.48
1.917	0.90	8.000	1.80	14.083	3.44	20.17	1.48
2.000	0.90	8.083	1.80	14.167	3.44	20.25	1.48
2.083	0.90	8.167	1.80	14.250	3.44	20.33	0.98
2.167	0.90	8.250	1.80	14.333	2.46	20.42	0.98
2.250	0.90	8.333	2.13	14.417	2.46	20.50	0.98
2.333	1.07	8.417	2.13	14.500	2.46	20.58	0.98
2.417	1.07	8.500	2.13	14.583	2.46	20.67	0.98
2.500	1.07	8.583	2.13	14.667	2.46	20.75	0.98
2.583	1.07	8.667	2.13	14.750	2.46	20.83	0.98
2.667	1.07	8.750	2.13	14.833	2.46	20.92	0.98
2.750	1.07	8.833	2.30	14.917	2.46	21.00	0.98
2.833	1.07	8.917	2.30	15.000	2.46	21.08	0.98
2.917	1.07	9.000	2.30	15.083	2.46	21.17	0.98
3.000	1.07	9.083	2.30	15.167	2.46	21.25	0.98
3.083	1.07	9.167	2.30	15.250	2.46	21.33	0.98
3.167	1.07	9.250	2.30	15.333	2.46	21.42	0.98
3.250	1.07	9.333	2.62	15.417	2.46	21.50	0.98
3.333	1.07	9.417	2.62	15.500	2.46	21.58	0.98
3.417	1.07	9.500	2.62	15.583	2.46	21.67	0.98
3.500	1.07	9.583	2.62	15.667	2.46	21.75	0.98
3.583	1.07	9.667	2.62	15.750	2.46	21.83	0.98

3.667	1.07	9.750	2.62	15.833	2.46	21.92	0.98
3.750	1.07	9.833	2.95	15.917	2.46	22.00	0.98
3.833	1.07	9.917	2.95	16.000	2.46	22.08	0.98
3.917	1.07	10.000	2.95	16.083	2.46	22.17	0.98
4.000	1.07	10.083	2.95	16.167	2.46	22.25	0.98
4.083	1.07	10.167	2.95	16.250	2.46	22.33	0.98
4.167	1.07	10.250	2.95	16.333	1.48	22.42	0.98
4.250	1.07	10.333	3.77	16.417	1.48	22.50	0.98
4.333	1.31	10.417	3.77	16.500	1.48	22.58	0.98
4.417	1.31	10.500	3.77	16.583	1.48	22.67	0.98
4.500	1.31	10.583	3.77	16.667	1.48	22.75	0.98
4.583	1.31	10.667	3.77	16.750	1.48	22.83	0.98
4.667	1.31	10.750	3.77	16.833	1.48	22.92	0.98
4.750	1.31	10.833	5.08	16.917	1.48	23.00	0.98
4.833	1.31	10.917	5.08	17.000	1.48	23.08	0.98
4.917	1.31	11.000	5.08	17.083	1.48	23.17	0.98
5.000	1.31	11.083	5.08	17.167	1.48	23.25	0.98
5.083	1.31	11.167	5.08	17.250	1.48	23.33	0.98
5.167	1.31	11.250	5.08	17.333	1.48	23.42	0.98
5.250	1.31	11.333	7.87	17.417	1.48	23.50	0.98
5.333	1.31	11.417	7.87	17.500	1.48	23.58	0.98
5.417	1.31	11.500	7.87	17.583	1.48	23.67	0.98
5.500	1.31	11.583	7.87	17.667	1.48	23.75	0.98
5.583	1.31	11.667	7.87	17.750	1.48	23.83	0.98
5.667	1.31	11.750	7.87	17.833	1.48	23.92	0.98
5.750	1.31	11.833	24.27	17.917	1.48	24.00	0.98
5.833	1.31	11.917	24.27	18.000	1.48	24.08	0.98
5.917	1.31	12.000	24.27	18.083	1.48	24.17	0.98
6.000	1.31	12.083	100.35	18.167	1.48	24.25	0.98
6.083	1.31	12.167	100.36	18.250	1.48		

Unit Hyd Qpeak (cms)= 0.470

PEAK FLOW (cms)= 0.223 (i)
TIME TO PEAK (hrs)= 13.000
RUNOFF VOLUME (mm)= 24.617
TOTAL RAINFALL (mm)= 81.990
RUNOFF COEFFICIENT = 0.300

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

CALIB			
NASHYD (0102)	Area (ha)= 4.52	Curve Number (CN)= 62.4	
ID= 1 DT= 5.0 min	Ia (mm)= 6.94	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= 0.36		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.31	12.250	100.36	18.33	1.48
0.167	0.00	6.250	1.31	12.333	11.82	18.42	1.48
0.250	0.00	6.333	1.48	12.417	11.81	18.50	1.48
0.333	0.90	6.417	1.48	12.500	11.81	18.58	1.48
0.417	0.90	6.500	1.48	12.583	11.81	18.67	1.48
0.500	0.90	6.583	1.48	12.667	11.81	18.75	1.48
0.583	0.90	6.667	1.48	12.750	11.81	18.83	1.48
0.667	0.90	6.750	1.48	12.833	6.07	18.92	1.48
0.750	0.90	6.833	1.48	12.917	6.07	19.00	1.48
0.833	0.90	6.917	1.48	13.000	6.07	19.08	1.48
0.917	0.90	7.000	1.48	13.083	6.07	19.17	1.48
1.000	0.90	7.083	1.48	13.167	6.07	19.25	1.48
1.083	0.90	7.167	1.48	13.250	6.07	19.33	1.48
1.167	0.90	7.250	1.48	13.333	4.43	19.42	1.48
1.250	0.90	7.333	1.80	13.417	4.43	19.50	1.48
1.333	0.90	7.417	1.80	13.500	4.43	19.58	1.48
1.417	0.90	7.500	1.80	13.583	4.43	19.67	1.48
1.500	0.90	7.583	1.80	13.667	4.43	19.75	1.48
1.583	0.90	7.667	1.80	13.750	4.43	19.83	1.48
1.667	0.90	7.750	1.80	13.833	3.44	19.92	1.48
1.750	0.90	7.833	1.80	13.917	3.44	20.00	1.48
1.833	0.90	7.917	1.80	14.000	3.44	20.08	1.48
1.917	0.90	8.000	1.80	14.083	3.44	20.17	1.48
2.000	0.90	8.083	1.80	14.167	3.44	20.25	1.48
2.083	0.90	8.167	1.80	14.250	3.44	20.33	0.98
2.167	0.90	8.250	1.80	14.333	2.46	20.42	0.98
2.250	0.90	8.333	2.13	14.417	2.46	20.50	0.98
2.333	1.07	8.417	2.13	14.500	2.46	20.58	0.98
2.417	1.07	8.500	2.13	14.583	2.46	20.67	0.98
2.500	1.07	8.583	2.13	14.667	2.46	20.75	0.98
2.583	1.07	8.667	2.13	14.750	2.46	20.83	0.98
2.667	1.07	8.750	2.13	14.833	2.46	20.92	0.98
2.750	1.07	8.833	2.30	14.917	2.46	21.00	0.98
2.833	1.07	8.917	2.30	15.000	2.46	21.08	0.98
2.917	1.07	9.000	2.30	15.083	2.46	21.17	0.98
3.000	1.07	9.083	2.30	15.167	2.46	21.25	0.98
3.083	1.07	9.167	2.30	15.250	2.46	21.33	0.98
3.167	1.07	9.250	2.30	15.333	2.46	21.42	0.98
3.250	1.07	9.333	2.62	15.417	2.46	21.50	0.98
3.333	1.07	9.417	2.62	15.500	2.46	21.58	0.98
3.417	1.07	9.500	2.62	15.583	2.46	21.67	0.98
3.500	1.07	9.583	2.62	15.667	2.46	21.75	0.98
3.583	1.07	9.667	2.62	15.750	2.46	21.83	0.98
3.667	1.07	9.750	2.62	15.833	2.46	21.92	0.98
3.750	1.07	9.833	2.95	15.917	2.46	22.00	0.98
3.833	1.07	9.917	2.95	16.000	2.46	22.08	0.98

3.917	1.07	10.000	2.95	16.083	2.46	22.17	0.98
4.000	1.07	10.083	2.95	16.167	2.46	22.25	0.98
4.083	1.07	10.167	2.95	16.250	2.46	22.33	0.98
4.167	1.07	10.250	2.95	16.333	1.48	22.42	0.98
4.250	1.07	10.333	3.77	16.417	1.48	22.50	0.98
4.333	1.31	10.417	3.77	16.500	1.48	22.58	0.98
4.417	1.31	10.500	3.77	16.583	1.48	22.67	0.98
4.500	1.31	10.583	3.77	16.667	1.48	22.75	0.98
4.583	1.31	10.667	3.77	16.750	1.48	22.83	0.98
4.667	1.31	10.750	3.77	16.833	1.48	22.92	0.98
4.750	1.31	10.833	5.08	16.917	1.48	23.00	0.98
4.833	1.31	10.917	5.08	17.000	1.48	23.08	0.98
4.917	1.31	11.000	5.08	17.083	1.48	23.17	0.98
5.000	1.31	11.083	5.08	17.167	1.48	23.25	0.98
5.083	1.31	11.167	5.08	17.250	1.48	23.33	0.98
5.167	1.31	11.250	5.08	17.333	1.48	23.42	0.98
5.250	1.31	11.333	7.87	17.417	1.48	23.50	0.98
5.333	1.31	11.417	7.87	17.500	1.48	23.58	0.98
5.417	1.31	11.500	7.87	17.583	1.48	23.67	0.98
5.500	1.31	11.583	7.87	17.667	1.48	23.75	0.98
5.583	1.31	11.667	7.87	17.750	1.48	23.83	0.98
5.667	1.31	11.750	7.87	17.833	1.48	23.92	0.98
5.750	1.31	11.833	24.27	17.917	1.48	24.00	0.98
5.833	1.31	11.917	24.27	18.000	1.48	24.08	0.98
5.917	1.31	12.000	24.27	18.083	1.48	24.17	0.98
6.000	1.31	12.083	100.35	18.167	1.48	24.25	0.98
6.083	1.31	12.167	100.36	18.250	1.48		

Unit Hyd Qpeak (cms)= 0.480

PEAK FLOW (cms)= 0.184 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 24.688
TOTAL RAINFALL (mm)= 81.990
RUNOFF COEFFICIENT = 0.301

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

CALIB					
NASHYD (0103)	Area	(ha)=	0.66	Curve Number (CN)=	62.4
ID= 1 DT= 5.0 min	Ia	(mm)=	6.95	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.16		

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	1.31	12.250	100.36	18.33	1.48
0.167	0.00	6.250	1.31	12.333	11.82	18.42	1.48
0.250	0.00	6.333	1.48	12.417	11.81	18.50	1.48
0.333	0.90	6.417	1.48	12.500	11.81	18.58	1.48
0.417	0.90	6.500	1.48	12.583	11.81	18.67	1.48
0.500	0.90	6.583	1.48	12.667	11.81	18.75	1.48
0.583	0.90	6.667	1.48	12.750	11.81	18.83	1.48
0.667	0.90	6.750	1.48	12.833	6.07	18.92	1.48
0.750	0.90	6.833	1.48	12.917	6.07	19.00	1.48
0.833	0.90	6.917	1.48	13.000	6.07	19.08	1.48
0.917	0.90	7.000	1.48	13.083	6.07	19.17	1.48
1.000	0.90	7.083	1.48	13.167	6.07	19.25	1.48
1.083	0.90	7.167	1.48	13.250	6.07	19.33	1.48
1.167	0.90	7.250	1.48	13.333	4.43	19.42	1.48
1.250	0.90	7.333	1.80	13.417	4.43	19.50	1.48
1.333	0.90	7.417	1.80	13.500	4.43	19.58	1.48
1.417	0.90	7.500	1.80	13.583	4.43	19.67	1.48
1.500	0.90	7.583	1.80	13.667	4.43	19.75	1.48
1.583	0.90	7.667	1.80	13.750	4.43	19.83	1.48
1.667	0.90	7.750	1.80	13.833	3.44	19.92	1.48
1.750	0.90	7.833	1.80	13.917	3.44	20.00	1.48
1.833	0.90	7.917	1.80	14.000	3.44	20.08	1.48
1.917	0.90	8.000	1.80	14.083	3.44	20.17	1.48
2.000	0.90	8.083	1.80	14.167	3.44	20.25	1.48
2.083	0.90	8.167	1.80	14.250	3.44	20.33	0.98
2.167	0.90	8.250	1.80	14.333	2.46	20.42	0.98
2.250	0.90	8.333	2.13	14.417	2.46	20.50	0.98
2.333	1.07	8.417	2.13	14.500	2.46	20.58	0.98
2.417	1.07	8.500	2.13	14.583	2.46	20.67	0.98
2.500	1.07	8.583	2.13	14.667	2.46	20.75	0.98
2.583	1.07	8.667	2.13	14.750	2.46	20.83	0.98
2.667	1.07	8.750	2.13	14.833	2.46	20.92	0.98
2.750	1.07	8.833	2.30	14.917	2.46	21.00	0.98
2.833	1.07	8.917	2.30	15.000	2.46	21.08	0.98
2.917	1.07	9.000	2.30	15.083	2.46	21.17	0.98
3.000	1.07	9.083	2.30	15.167	2.46	21.25	0.98
3.083	1.07	9.167	2.30	15.250	2.46	21.33	0.98
3.167	1.07	9.250	2.30	15.333	2.46	21.42	0.98
3.250	1.07	9.333	2.62	15.417	2.46	21.50	0.98
3.333	1.07	9.417	2.62	15.500	2.46	21.58	0.98
3.417	1.07	9.500	2.62	15.583	2.46	21.67	0.98
3.500	1.07	9.583	2.62	15.667	2.46	21.75	0.98
3.583	1.07	9.667	2.62	15.750	2.46	21.83	0.98
3.667	1.07	9.750	2.62	15.833	2.46	21.92	0.98
3.750	1.07	9.833	2.95	15.917	2.46	22.00	0.98
3.833	1.07	9.917	2.95	16.000	2.46	22.08	0.98
3.917	1.07	10.000	2.95	16.083	2.46	22.17	0.98
4.000	1.07	10.083	2.95	16.167	2.46	22.25	0.98
4.083	1.07	10.167	2.95	16.250	2.46	22.33	0.98

4.167	1.07	10.250	2.95	16.333	1.48	22.42	0.98
4.250	1.07	10.333	3.77	16.417	1.48	22.50	0.98
4.333	1.31	10.417	3.77	16.500	1.48	22.58	0.98
4.417	1.31	10.500	3.77	16.583	1.48	22.67	0.98
4.500	1.31	10.583	3.77	16.667	1.48	22.75	0.98
4.583	1.31	10.667	3.77	16.750	1.48	22.83	0.98
4.667	1.31	10.750	3.77	16.833	1.48	22.92	0.98
4.750	1.31	10.833	5.08	16.917	1.48	23.00	0.98
4.833	1.31	10.917	5.08	17.000	1.48	23.08	0.98
4.917	1.31	11.000	5.08	17.083	1.48	23.17	0.98
5.000	1.31	11.083	5.08	17.167	1.48	23.25	0.98
5.083	1.31	11.167	5.08	17.250	1.48	23.33	0.98
5.167	1.31	11.250	5.08	17.333	1.48	23.42	0.98
5.250	1.31	11.333	7.87	17.417	1.48	23.50	0.98
5.333	1.31	11.417	7.87	17.500	1.48	23.58	0.98
5.417	1.31	11.500	7.87	17.583	1.48	23.67	0.98
5.500	1.31	11.583	7.87	17.667	1.48	23.75	0.98
5.583	1.31	11.667	7.87	17.750	1.48	23.83	0.98
5.667	1.31	11.750	7.87	17.833	1.48	23.92	0.98
5.750	1.31	11.833	24.27	17.917	1.48	24.00	0.98
5.833	1.31	11.917	24.27	18.000	1.48	24.08	0.98
5.917	1.31	12.000	24.27	18.083	1.48	24.17	0.98
6.000	1.31	12.083	100.35	18.167	1.48	24.25	0.98
6.083	1.31	12.167	100.36	18.250	1.48		

Unit Hyd Qpeak (cms)= 0.158

PEAK FLOW (cms)= 0.046 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 24.576
TOTAL RAINFALL (mm)= 81.990
RUNOFF COEFFICIENT = 0.300

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

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       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       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 6.1\VO2\voin.dat

Output filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\95c100b3-1e52-47ed-824c-7bb3ae51b41d\s
Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\95c100b3-1e52-47ed-824c-7bb3ae51b41d\s

DATE: 01/19/2023 TIME: 07:37:50

USER:

COMMENTS: _____

****
** SIMULATION : 25yr 24hr 15min SCS **
****

READ STORM	Filename: C:\Users\elundquist\AppData\Local\Temp\eec61fe4-ea1d-4b25-930d-6bd365b221af\c22f631c
Ptotal= 96.56 mm	Comments: 25yr 24hr 15min SCS

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	1.74	12.75	13.90	19.00	1.74
0.50	1.06	6.75	1.74	13.00	7.15	19.25	1.74
0.75	1.06	7.00	1.74	13.25	7.15	19.50	1.74
1.00	1.06	7.25	1.74	13.50	5.21	19.75	1.74
1.25	1.06	7.50	2.12	13.75	5.21	20.00	1.74
1.50	1.06	7.75	2.12	14.00	4.06	20.25	1.74
1.75	1.06	8.00	2.12	14.25	4.06	20.50	1.16
2.00	1.06	8.25	2.12	14.50	2.90	20.75	1.16
2.25	1.06	8.50	2.51	14.75	2.90	21.00	1.16

2.50	1.26	8.75	2.51	15.00	2.90	21.25	1.16
2.75	1.26	9.00	2.70	15.25	2.90	21.50	1.16
3.00	1.26	9.25	2.70	15.50	2.90	21.75	1.16
3.25	1.26	9.50	3.09	15.75	2.90	22.00	1.16
3.50	1.26	9.75	3.09	16.00	2.90	22.25	1.16
3.75	1.26	10.00	3.48	16.25	2.90	22.50	1.16
4.00	1.26	10.25	3.48	16.50	1.74	22.75	1.16
4.25	1.26	10.50	4.44	16.75	1.74	23.00	1.16
4.50	1.54	10.75	4.44	17.00	1.74	23.25	1.16
4.75	1.54	11.00	5.99	17.25	1.74	23.50	1.16
5.00	1.54	11.25	5.99	17.50	1.74	23.75	1.16
5.25	1.54	11.50	9.27	17.75	1.74	24.00	1.16
5.50	1.54	11.75	9.27	18.00	1.74	24.25	1.16
5.75	1.54	12.00	28.58	18.25	1.74		
6.00	1.54	12.25	118.19	18.50	1.74		
6.25	1.54	12.50	13.90	18.75	1.74		

CALIB			
NASHYD (0117)	Area (ha)=	6.10	Curve Number (CN)= 66.8
ID= 1 DT= 5.0 min	Ia (mm)=	6.35	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.42	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.54	12.250	118.19	18.33	1.74
0.167	0.00	6.250	1.54	12.333	13.92	18.42	1.74
0.250	0.00	6.333	1.74	12.417	13.90	18.50	1.74
0.333	1.06	6.417	1.74	12.500	13.90	18.58	1.74
0.417	1.06	6.500	1.74	12.583	13.90	18.67	1.74
0.500	1.06	6.583	1.74	12.667	13.90	18.75	1.74
0.583	1.06	6.667	1.74	12.750	13.90	18.83	1.74
0.667	1.06	6.750	1.74	12.833	7.15	18.92	1.74
0.750	1.06	6.833	1.74	12.917	7.15	19.00	1.74
0.833	1.06	6.917	1.74	13.000	7.15	19.08	1.74
0.917	1.06	7.000	1.74	13.083	7.15	19.17	1.74
1.000	1.06	7.083	1.74	13.167	7.15	19.25	1.74
1.083	1.06	7.167	1.74	13.250	7.15	19.33	1.74
1.167	1.06	7.250	1.74	13.333	5.21	19.42	1.74
1.250	1.06	7.333	2.12	13.417	5.21	19.50	1.74
1.333	1.06	7.417	2.12	13.500	5.21	19.58	1.74
1.417	1.06	7.500	2.12	13.583	5.21	19.67	1.74
1.500	1.06	7.583	2.12	13.667	5.21	19.75	1.74
1.583	1.06	7.667	2.12	13.750	5.21	19.83	1.74
1.667	1.06	7.750	2.12	13.833	4.06	19.92	1.74
1.750	1.06	7.833	2.12	13.917	4.06	20.00	1.74
1.833	1.06	7.917	2.12	14.000	4.06	20.08	1.74
1.917	1.06	8.000	2.12	14.083	4.06	20.17	1.74
2.000	1.06	8.083	2.12	14.167	4.06	20.25	1.74
2.083	1.06	8.167	2.12	14.250	4.06	20.33	1.16
2.167	1.06	8.250	2.12	14.333	2.90	20.42	1.16
2.250	1.06	8.333	2.51	14.417	2.90	20.50	1.16
2.333	1.26	8.417	2.51	14.500	2.90	20.58	1.16
2.417	1.26	8.500	2.51	14.583	2.90	20.67	1.16
2.500	1.26	8.583	2.51	14.667	2.90	20.75	1.16
2.583	1.26	8.667	2.51	14.750	2.90	20.83	1.16
2.667	1.26	8.750	2.51	14.833	2.90	20.92	1.16
2.750	1.26	8.833	2.70	14.917	2.90	21.00	1.16
2.833	1.26	8.917	2.70	15.000	2.90	21.08	1.16
2.917	1.26	9.000	2.70	15.083	2.90	21.17	1.16
3.000	1.26	9.083	2.70	15.167	2.90	21.25	1.16
3.083	1.26	9.167	2.70	15.250	2.90	21.33	1.16
3.167	1.26	9.250	2.70	15.333	2.90	21.42	1.16
3.250	1.26	9.333	3.09	15.417	2.90	21.50	1.16
3.333	1.26	9.417	3.09	15.500	2.90	21.58	1.16
3.417	1.26	9.500	3.09	15.583	2.90	21.67	1.16
3.500	1.26	9.583	3.09	15.667	2.90	21.75	1.16
3.583	1.26	9.667	3.09	15.750	2.90	21.83	1.16
3.667	1.26	9.750	3.09	15.833	2.90	21.92	1.16
3.750	1.26	9.833	3.48	15.917	2.90	22.00	1.16
3.833	1.26	9.917	3.48	16.000	2.90	22.08	1.16
3.917	1.26	10.000	3.48	16.083	2.90	22.17	1.16
4.000	1.26	10.083	3.48	16.167	2.90	22.25	1.16
4.083	1.26	10.167	3.48	16.250	2.90	22.33	1.16
4.167	1.26	10.250	3.48	16.333	1.74	22.42	1.16
4.250	1.26	10.333	4.44	16.417	1.74	22.50	1.16
4.333	1.54	10.417	4.44	16.500	1.74	22.58	1.16
4.417	1.54	10.500	4.44	16.583	1.74	22.67	1.16
4.500	1.54	10.583	4.44	16.667	1.74	22.75	1.16
4.583	1.54	10.667	4.44	16.750	1.74	22.83	1.16
4.667	1.54	10.750	4.44	16.833	1.74	22.92	1.16
4.750	1.54	10.833	5.99	16.917	1.74	23.00	1.16
4.833	1.54	10.917	5.99	17.000	1.74	23.08	1.16
4.917	1.54	11.000	5.99	17.083	1.74	23.17	1.16
5.000	1.54	11.083	5.99	17.167	1.74	23.25	1.16
5.083	1.54	11.167	5.99	17.250	1.74	23.33	1.16
5.167	1.54	11.250	5.99	17.333	1.74	23.42	1.16
5.250	1.54	11.333	9.27	17.417	1.74	23.50	1.16
5.333	1.54	11.417	9.27	17.500	1.74	23.58	1.16
5.417	1.54	11.500	9.27	17.583	1.74	23.67	1.16
5.500	1.54	11.583	9.27	17.667	1.74	23.75	1.16
5.583	1.54	11.667	9.27	17.750	1.74	23.83	1.16
5.667	1.54	11.750	9.27	17.833	1.74	23.92	1.16
5.750	1.54	11.833	28.58	17.917	1.74	24.00	1.16

5.833	1.54	11.917	28.58	18.000	1.74	24.08	1.16
5.917	1.54	12.000	28.58	18.083	1.74	24.17	1.16
6.000	1.54	12.083	118.18	18.167	1.74	24.25	1.16
6.083	1.54	12.167	118.19	18.250	1.74		

Unit Hyd Qpeak (cms)= 0.555

PEAK FLOW (cms)= 0.343 (i)
TIME TO PEAK (hrs)= 12.583
RUNOFF VOLUME (mm)= 37.593
TOTAL RAINFALL (mm)= 96.560
RUNOFF COEFFICIENT = 0.389

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

CALIB					
NASHYD (0115)	Area	(ha)=	9.34	Curve Number (CN)=	62.6
ID= 1 DT= 5.0 min	Ia	(mm)=	6.91	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.71		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.54	12.250	118.19	18.33	1.74
0.167	0.00	6.250	1.54	12.333	13.92	18.42	1.74
0.250	0.00	6.333	1.74	12.417	13.90	18.50	1.74
0.333	1.06	6.417	1.74	12.500	13.90	18.58	1.74
0.417	1.06	6.500	1.74	12.583	13.90	18.67	1.74
0.500	1.06	6.583	1.74	12.667	13.90	18.75	1.74
0.583	1.06	6.667	1.74	12.750	13.90	18.83	1.74
0.667	1.06	6.750	1.74	12.833	7.15	18.92	1.74
0.750	1.06	6.833	1.74	12.917	7.15	19.00	1.74
0.833	1.06	6.917	1.74	13.000	7.15	19.08	1.74
0.917	1.06	7.000	1.74	13.083	7.15	19.17	1.74
1.000	1.06	7.083	1.74	13.167	7.15	19.25	1.74
1.083	1.06	7.167	1.74	13.250	7.15	19.33	1.74
1.167	1.06	7.250	1.74	13.333	5.21	19.42	1.74
1.250	1.06	7.333	2.12	13.417	5.21	19.50	1.74
1.333	1.06	7.417	2.12	13.500	5.21	19.58	1.74
1.417	1.06	7.500	2.12	13.583	5.21	19.67	1.74
1.500	1.06	7.583	2.12	13.667	5.21	19.75	1.74
1.583	1.06	7.667	2.12	13.750	5.21	19.83	1.74
1.667	1.06	7.750	2.12	13.833	4.06	19.92	1.74
1.750	1.06	7.833	2.12	13.917	4.06	20.00	1.74
1.833	1.06	7.917	2.12	14.000	4.06	20.08	1.74
1.917	1.06	8.000	2.12	14.083	4.06	20.17	1.74
2.000	1.06	8.083	2.12	14.167	4.06	20.25	1.74
2.083	1.06	8.167	2.12	14.250	4.06	20.33	1.16
2.167	1.06	8.250	2.12	14.333	2.90	20.42	1.16
2.250	1.06	8.333	2.51	14.417	2.90	20.50	1.16
2.333	1.26	8.417	2.51	14.500	2.90	20.58	1.16
2.417	1.26	8.500	2.51	14.583	2.90	20.67	1.16
2.500	1.26	8.583	2.51	14.667	2.90	20.75	1.16
2.583	1.26	8.667	2.51	14.750	2.90	20.83	1.16
2.667	1.26	8.750	2.51	14.833	2.90	20.92	1.16
2.750	1.26	8.833	2.70	14.917	2.90	21.00	1.16
2.833	1.26	8.917	2.70	15.000	2.90	21.08	1.16
2.917	1.26	9.000	2.70	15.083	2.90	21.17	1.16
3.000	1.26	9.083	2.70	15.167	2.90	21.25	1.16
3.083	1.26	9.167	2.70	15.250	2.90	21.33	1.16
3.167	1.26	9.250	2.70	15.333	2.90	21.42	1.16
3.250	1.26	9.333	3.09	15.417	2.90	21.50	1.16
3.333	1.26	9.417	3.09	15.500	2.90	21.58	1.16
3.417	1.26	9.500	3.09	15.583	2.90	21.67	1.16
3.500	1.26	9.583	3.09	15.667	2.90	21.75	1.16
3.583	1.26	9.667	3.09	15.750	2.90	21.83	1.16
3.667	1.26	9.750	3.09	15.833	2.90	21.92	1.16
3.750	1.26	9.833	3.48	15.917	2.90	22.00	1.16
3.833	1.26	9.917	3.48	16.000	2.90	22.08	1.16
3.917	1.26	10.000	3.48	16.083	2.90	22.17	1.16
4.000	1.26	10.083	3.48	16.167	2.90	22.25	1.16
4.083	1.26	10.167	3.48	16.250	2.90	22.33	1.16
4.167	1.26	10.250	3.48	16.333	1.74	22.42	1.16
4.250	1.26	10.333	4.44	16.417	1.74	22.50	1.16
4.333	1.54	10.417	4.44	16.500	1.74	22.58	1.16
4.417	1.54	10.500	4.44	16.583	1.74	22.67	1.16
4.500	1.54	10.583	4.44	16.667	1.74	22.75	1.16
4.583	1.54	10.667	4.44	16.750	1.74	22.83	1.16
4.667	1.54	10.750	4.44	16.833	1.74	22.92	1.16
4.750	1.54	10.833	5.99	16.917	1.74	23.00	1.16
4.833	1.54	10.917	5.99	17.000	1.74	23.08	1.16
4.917	1.54	11.000	5.99	17.083	1.74	23.17	1.16
5.000	1.54	11.083	5.99	17.167	1.74	23.25	1.16
5.083	1.54	11.167	5.99	17.250	1.74	23.33	1.16
5.167	1.54	11.250	5.99	17.333	1.74	23.42	1.16
5.250	1.54	11.333	9.27	17.417	1.74	23.50	1.16
5.333	1.54	11.417	9.27	17.500	1.74	23.58	1.16
5.417	1.54	11.500	9.27	17.583	1.74	23.67	1.16
5.500	1.54	11.583	9.27	17.667	1.74	23.75	1.16
5.583	1.54	11.667	9.27	17.750	1.74	23.83	1.16
5.667	1.54	11.750	9.27	17.833	1.74	23.92	1.16
5.750	1.54	11.833	28.58	17.917	1.74	24.00	1.16
5.833	1.54	11.917	28.58	18.000	1.74	24.08	1.16
5.917	1.54	12.000	28.58	18.083	1.74	24.17	1.16
6.000	1.54	12.083	118.18	18.167	1.74	24.25	1.16

6.083	1.54	12.167	118.19	18.250	1.74														

Unit Hyd Qpeak (cms)= 0.502

PEAK FLOW (cms)= 0.315 (i)
TIME TO PEAK (hrs)= 12.917
RUNOFF VOLUME (mm)= 33.293
TOTAL RAINFALL (mm)= 96.560
RUNOFF COEFFICIENT = 0.345

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

CALIB	
STANDHYD (0303)	Area (ha)= 0.37
ID= 1 DT= 5.0 min	Total Imp(%)= 97.30 Dir. Conn.(%)= 92.40

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.36	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	49.67	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	1.54	12.250	118.19	18.33	1.74
0.167	0.00	6.250	1.54	12.333	13.92	18.42	1.74
0.250	0.00	6.333	1.74	12.417	13.90	18.50	1.74
0.333	1.06	6.417	1.74	12.500	13.90	18.58	1.74
0.417	1.06	6.500	1.74	12.583	13.90	18.67	1.74
0.500	1.06	6.583	1.74	12.667	13.90	18.75	1.74
0.583	1.06	6.667	1.74	12.750	13.90	18.83	1.74
0.667	1.06	6.750	1.74	12.833	7.15	18.92	1.74
0.750	1.06	6.833	1.74	12.917	7.15	19.00	1.74
0.833	1.06	6.917	1.74	13.000	7.15	19.08	1.74
0.917	1.06	7.000	1.74	13.083	7.15	19.17	1.74
1.000	1.06	7.083	1.74	13.167	7.15	19.25	1.74
1.083	1.06	7.167	1.74	13.250	7.15	19.33	1.74
1.167	1.06	7.250	1.74	13.333	5.21	19.42	1.74
1.250	1.06	7.333	2.12	13.417	5.21	19.50	1.74
1.333	1.06	7.417	2.12	13.500	5.21	19.58	1.74
1.417	1.06	7.500	2.12	13.583	5.21	19.67	1.74
1.500	1.06	7.583	2.12	13.667	5.21	19.75	1.74
1.583	1.06	7.667	2.12	13.750	5.21	19.83	1.74
1.667	1.06	7.750	2.12	13.833	4.06	19.92	1.74
1.750	1.06	7.833	2.12	13.917	4.06	20.00	1.74
1.833	1.06	7.917	2.12	14.000	4.06	20.08	1.74
1.917	1.06	8.000	2.12	14.083	4.06	20.17	1.74
2.000	1.06	8.083	2.12	14.167	4.06	20.25	1.74
2.083	1.06	8.167	2.12	14.250	4.06	20.33	1.16
2.167	1.06	8.250	2.12	14.333	2.90	20.42	1.16
2.250	1.06	8.333	2.51	14.417	2.90	20.50	1.16
2.333	1.26	8.417	2.51	14.500	2.90	20.58	1.16
2.417	1.26	8.500	2.51	14.583	2.90	20.67	1.16
2.500	1.26	8.583	2.51	14.667	2.90	20.75	1.16
2.583	1.26	8.667	2.51	14.750	2.90	20.83	1.16
2.667	1.26	8.750	2.51	14.833	2.90	20.92	1.16
2.750	1.26	8.833	2.70	14.917	2.90	21.00	1.16
2.833	1.26	8.917	2.70	15.000	2.90	21.08	1.16
2.917	1.26	9.000	2.70	15.083	2.90	21.17	1.16
3.000	1.26	9.083	2.70	15.167	2.90	21.25	1.16
3.083	1.26	9.167	2.70	15.250	2.90	21.33	1.16
3.167	1.26	9.250	2.70	15.333	2.90	21.42	1.16
3.250	1.26	9.333	3.09	15.417	2.90	21.50	1.16
3.333	1.26	9.417	3.09	15.500	2.90	21.58	1.16
3.417	1.26	9.500	3.09	15.583	2.90	21.67	1.16
3.500	1.26	9.583	3.09	15.667	2.90	21.75	1.16
3.583	1.26	9.667	3.09	15.750	2.90	21.83	1.16
3.667	1.26	9.750	3.09	15.833	2.90	21.92	1.16
3.750	1.26	9.833	3.48	15.917	2.90	22.00	1.16
3.833	1.26	9.917	3.48	16.000	2.90	22.08	1.16
3.917	1.26	10.000	3.48	16.083	2.90	22.17	1.16
4.000	1.26	10.083	3.48	16.167	2.90	22.25	1.16
4.083	1.26	10.167	3.48	16.250	2.90	22.33	1.16
4.167	1.26	10.250	3.48	16.333	1.74	22.42	1.16
4.250	1.26	10.333	4.44	16.417	1.74	22.50	1.16
4.333	1.54	10.417	4.44	16.500	1.74	22.58	1.16
4.417	1.54	10.500	4.44	16.583	1.74	22.67	1.16
4.500	1.54	10.583	4.44	16.667	1.74	22.75	1.16
4.583	1.54	10.667	4.44	16.750	1.74	22.83	1.16
4.667	1.54	10.750	4.44	16.833	1.74	22.92	1.16
4.750	1.54	10.833	5.99	16.917	1.74	23.00	1.16
4.833	1.54	10.917	5.99	17.000	1.74	23.08	1.16
4.917	1.54	11.000	5.99	17.083	1.74	23.17	1.16
5.000	1.54	11.083	5.99	17.167	1.74	23.25	1.16
5.083	1.54	11.167	5.99	17.250	1.74	23.33	1.16
5.167	1.54	11.250	5.99	17.333	1.74	23.42	1.16
5.250	1.54	11.333	9.27	17.417	1.74	23.50	1.16
5.333	1.54	11.417	9.27	17.500	1.74	23.58	1.16
5.417	1.54	11.500	9.27	17.583	1.74	23.67	1.16
5.500	1.54	11.583	9.27	17.667	1.74	23.75	1.16
5.583	1.54	11.667	9.27	17.750	1.74	23.83	1.16
5.667	1.54	11.750	9.27	17.833	1.74	23.92	1.16
5.750	1.54	11.833	28.58	17.917	1.74	24.00	1.16

	5.833	1.54	11.917	28.58	18.000	1.74	24.08	1.16
	5.917	1.54	12.000	28.58	18.083	1.74	24.17	1.16
	6.000	1.54	12.083	118.18	18.167	1.74	24.25	1.16
	6.083	1.54	12.167	118.19	18.250	1.74		

Max.Eff.Inten.(mm/hr)=	118.19	194.98		
over (min)	5.00	5.00		
Storage Coeff. (min)=	1.57 (ii)	3.18 (ii)		
Unit Hyd. Tpeak (min)=	5.00	5.00		
Unit Hyd. peak (cms)=	0.33	0.27		
			TOTALS	
PEAK FLOW (cms)=	0.11	0.01	0.118 (iii)	
TIME TO PEAK (hrs)=	12.25	12.25	12.25	
RUNOFF VOLUME (mm)=	95.56	47.61	91.91	
TOTAL RAINFALL (mm)=	96.56	96.56	96.56	
RUNOFF COEFFICIENT =	0.99	0.49	0.95	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (0801)				
Inlet Cap.= 0.109				
#of Inlets= 1				
Total(cms)= 0.1	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):	0.37	0.12	12.25	91.91
MAJOR SYS.(ID= 2):	0.01	0.01	12.25	91.91
MINOR SYS.(ID= 3):	0.36	0.11	12.08	91.91

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0901)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0115):	9.34	0.315	12.92	33.29
+ ID2= 2 (0117):	6.10	0.343	12.58	37.59
ID = 3 (0901):	15.44	0.621	12.67	34.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0901)				
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0901):	15.44	0.621	12.67	34.99
+ ID2= 2 (0801):	0.01	0.009	12.25	91.91
ID = 1 (0901):	15.45	0.621	12.67	35.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0802)				
Inlet Cap.= 0.364				
#of Inlets= 1				
Total(cms)= 0.4	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):	15.45	0.62	12.67	35.02
MAJOR SYS.(ID= 2):	1.85	0.26	12.67	35.02
MINOR SYS.(ID= 3):	13.60	0.36	12.33	35.02

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB			
NASHYD (0116)	Area (ha)=	6.57	Curve Number (CN)= 62.9
ID= 1 DT= 5.0 min	Ia (mm)=	6.88	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.56	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.54	12.250	118.19	18.33	1.74
0.167	0.00	6.250	1.54	12.333	13.92	18.42	1.74
0.250	0.00	6.333	1.74	12.417	13.90	18.50	1.74
0.333	1.06	6.417	1.74	12.500	13.90	18.58	1.74
0.417	1.06	6.500	1.74	12.583	13.90	18.67	1.74
0.500	1.06	6.583	1.74	12.667	13.90	18.75	1.74
0.583	1.06	6.667	1.74	12.750	13.90	18.83	1.74
0.667	1.06	6.750	1.74	12.833	7.15	18.92	1.74
0.750	1.06	6.833	1.74	12.917	7.15	19.00	1.74
0.833	1.06	6.917	1.74	13.000	7.15	19.08	1.74

0.917	1.06	7.000	1.74	13.083	7.15	19.17	1.74
1.000	1.06	7.083	1.74	13.167	7.15	19.25	1.74
1.083	1.06	7.167	1.74	13.250	7.15	19.33	1.74
1.167	1.06	7.250	1.74	13.333	5.21	19.42	1.74
1.250	1.06	7.333	2.12	13.417	5.21	19.50	1.74
1.333	1.06	7.417	2.12	13.500	5.21	19.58	1.74
1.417	1.06	7.500	2.12	13.583	5.21	19.67	1.74
1.500	1.06	7.583	2.12	13.667	5.21	19.75	1.74
1.583	1.06	7.667	2.12	13.750	5.21	19.83	1.74
1.667	1.06	7.750	2.12	13.833	4.06	19.92	1.74
1.750	1.06	7.833	2.12	13.917	4.06	20.00	1.74
1.833	1.06	7.917	2.12	14.000	4.06	20.08	1.74
1.917	1.06	8.000	2.12	14.083	4.06	20.17	1.74
2.000	1.06	8.083	2.12	14.167	4.06	20.25	1.74
2.083	1.06	8.167	2.12	14.250	4.06	20.33	1.16
2.167	1.06	8.250	2.12	14.333	2.90	20.42	1.16
2.250	1.06	8.333	2.51	14.417	2.90	20.50	1.16
2.333	1.26	8.417	2.51	14.500	2.90	20.58	1.16
2.417	1.26	8.500	2.51	14.583	2.90	20.67	1.16
2.500	1.26	8.583	2.51	14.667	2.90	20.75	1.16
2.583	1.26	8.667	2.51	14.750	2.90	20.83	1.16
2.667	1.26	8.750	2.51	14.833	2.90	20.92	1.16
2.750	1.26	8.833	2.70	14.917	2.90	21.00	1.16
2.833	1.26	8.917	2.70	15.000	2.90	21.08	1.16
2.917	1.26	9.000	2.70	15.083	2.90	21.17	1.16
3.000	1.26	9.083	2.70	15.167	2.90	21.25	1.16
3.083	1.26	9.167	2.70	15.250	2.90	21.33	1.16
3.167	1.26	9.250	2.70	15.333	2.90	21.42	1.16
3.250	1.26	9.333	3.09	15.417	2.90	21.50	1.16
3.333	1.26	9.417	3.09	15.500	2.90	21.58	1.16
3.417	1.26	9.500	3.09	15.583	2.90	21.67	1.16
3.500	1.26	9.583	3.09	15.667	2.90	21.75	1.16
3.583	1.26	9.667	3.09	15.750	2.90	21.83	1.16
3.667	1.26	9.750	3.09	15.833	2.90	21.92	1.16
3.750	1.26	9.833	3.48	15.917	2.90	22.00	1.16
3.833	1.26	9.917	3.48	16.000	2.90	22.08	1.16
3.917	1.26	10.000	3.48	16.083	2.90	22.17	1.16
4.000	1.26	10.083	3.48	16.167	2.90	22.25	1.16
4.083	1.26	10.167	3.48	16.250	2.90	22.33	1.16
4.167	1.26	10.250	3.48	16.333	1.74	22.42	1.16
4.250	1.26	10.333	4.44	16.417	1.74	22.50	1.16
4.333	1.54	10.417	4.44	16.500	1.74	22.58	1.16
4.417	1.54	10.500	4.44	16.583	1.74	22.67	1.16
4.500	1.54	10.583	4.44	16.667	1.74	22.75	1.16
4.583	1.54	10.667	4.44	16.750	1.74	22.83	1.16
4.667	1.54	10.750	4.44	16.833	1.74	22.92	1.16
4.750	1.54	10.833	5.99	16.917	1.74	23.00	1.16
4.833	1.54	10.917	5.99	17.000	1.74	23.08	1.16
4.917	1.54	11.000	5.99	17.083	1.74	23.17	1.16
5.000	1.54	11.083	5.99	17.167	1.74	23.25	1.16
5.083	1.54	11.167	5.99	17.250	1.74	23.33	1.16
5.167	1.54	11.250	5.99	17.333	1.74	23.42	1.16
5.250	1.54	11.333	9.27	17.417	1.74	23.50	1.16
5.333	1.54	11.417	9.27	17.500	1.74	23.58	1.16
5.417	1.54	11.500	9.27	17.583	1.74	23.67	1.16
5.500	1.54	11.583	9.27	17.667	1.74	23.75	1.16
5.583	1.54	11.667	9.27	17.750	1.74	23.83	1.16
5.667	1.54	11.750	9.27	17.833	1.74	23.92	1.16
5.750	1.54	11.833	28.58	17.917	1.74	24.00	1.16
5.833	1.54	11.917	28.58	18.000	1.74	24.08	1.16
5.917	1.54	12.000	28.58	18.083	1.74	24.17	1.16
6.000	1.54	12.083	118.18	18.167	1.74	24.25	1.16
6.083	1.54	12.167	118.19	18.250	1.74		

Unit Hyd Qpeak (cms)= 0.448

PEAK FLOW (cms)= 0.266 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 33.580
TOTAL RAINFALL (mm)= 96.560
RUNOFF COEFFICIENT = 0.348

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

ADD HYD (0902)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0116):	6.57	0.266	12.75	33.58
	+ ID2= 2 (0802):	1.85	0.257	12.67	35.02
	ID = 3 (0902):	8.42	0.521	12.67	33.89

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB					
NASHYD (0101)	Area (ha)=	9.85	Curve Number (CN)=	62.3	
ID= 1 DT= 5.0 min	Ia (mm)=	6.95	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.80			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.54	12.250	118.19	18.33	1.74

0.167	0.00	6.250	1.54	12.333	13.92	18.42	1.74
0.250	0.00	6.333	1.74	12.417	13.90	18.50	1.74
0.333	1.06	6.417	1.74	12.500	13.90	18.58	1.74
0.417	1.06	6.500	1.74	12.583	13.90	18.67	1.74
0.500	1.06	6.583	1.74	12.667	13.90	18.75	1.74
0.583	1.06	6.667	1.74	12.750	13.90	18.83	1.74
0.667	1.06	6.750	1.74	12.833	7.15	18.92	1.74
0.750	1.06	6.833	1.74	12.917	7.15	19.00	1.74
0.833	1.06	6.917	1.74	13.000	7.15	19.08	1.74
0.917	1.06	7.000	1.74	13.083	7.15	19.17	1.74
1.000	1.06	7.083	1.74	13.167	7.15	19.25	1.74
1.083	1.06	7.167	1.74	13.250	7.15	19.33	1.74
1.167	1.06	7.250	1.74	13.333	5.21	19.42	1.74
1.250	1.06	7.333	2.12	13.417	5.21	19.50	1.74
1.333	1.06	7.417	2.12	13.500	5.21	19.58	1.74
1.417	1.06	7.500	2.12	13.583	5.21	19.67	1.74
1.500	1.06	7.583	2.12	13.667	5.21	19.75	1.74
1.583	1.06	7.667	2.12	13.750	5.21	19.83	1.74
1.667	1.06	7.750	2.12	13.833	4.06	19.92	1.74
1.750	1.06	7.833	2.12	13.917	4.06	20.00	1.74
1.833	1.06	7.917	2.12	14.000	4.06	20.08	1.74
1.917	1.06	8.000	2.12	14.083	4.06	20.17	1.74
2.000	1.06	8.083	2.12	14.167	4.06	20.25	1.74
2.083	1.06	8.167	2.12	14.250	4.06	20.33	1.16
2.167	1.06	8.250	2.12	14.333	2.90	20.42	1.16
2.250	1.06	8.333	2.51	14.417	2.90	20.50	1.16
2.333	1.26	8.417	2.51	14.500	2.90	20.58	1.16
2.417	1.26	8.500	2.51	14.583	2.90	20.67	1.16
2.500	1.26	8.583	2.51	14.667	2.90	20.75	1.16
2.583	1.26	8.667	2.51	14.750	2.90	20.83	1.16
2.667	1.26	8.750	2.51	14.833	2.90	20.92	1.16
2.750	1.26	8.833	2.70	14.917	2.90	21.00	1.16
2.833	1.26	8.917	2.70	15.000	2.90	21.08	1.16
2.917	1.26	9.000	2.70	15.083	2.90	21.17	1.16
3.000	1.26	9.083	2.70	15.167	2.90	21.25	1.16
3.083	1.26	9.167	2.70	15.250	2.90	21.33	1.16
3.167	1.26	9.250	2.70	15.333	2.90	21.42	1.16
3.250	1.26	9.333	3.09	15.417	2.90	21.50	1.16
3.333	1.26	9.417	3.09	15.500	2.90	21.58	1.16
3.417	1.26	9.500	3.09	15.583	2.90	21.67	1.16
3.500	1.26	9.583	3.09	15.667	2.90	21.75	1.16
3.583	1.26	9.667	3.09	15.750	2.90	21.83	1.16
3.667	1.26	9.750	3.09	15.833	2.90	21.92	1.16
3.750	1.26	9.833	3.48	15.917	2.90	22.00	1.16
3.833	1.26	9.917	3.48	16.000	2.90	22.08	1.16
3.917	1.26	10.000	3.48	16.083	2.90	22.17	1.16
4.000	1.26	10.083	3.48	16.167	2.90	22.25	1.16
4.083	1.26	10.167	3.48	16.250	2.90	22.33	1.16
4.167	1.26	10.250	3.48	16.333	1.74	22.42	1.16
4.250	1.26	10.333	4.44	16.417	1.74	22.50	1.16
4.333	1.54	10.417	4.44	16.500	1.74	22.58	1.16
4.417	1.54	10.500	4.44	16.583	1.74	22.67	1.16
4.500	1.54	10.583	4.44	16.667	1.74	22.75	1.16
4.583	1.54	10.667	4.44	16.750	1.74	22.83	1.16
4.667	1.54	10.750	4.44	16.833	1.74	22.92	1.16
4.750	1.54	10.833	5.99	16.917	1.74	23.00	1.16
4.833	1.54	10.917	5.99	17.000	1.74	23.08	1.16
4.917	1.54	11.000	5.99	17.083	1.74	23.17	1.16
5.000	1.54	11.083	5.99	17.167	1.74	23.25	1.16
5.083	1.54	11.167	5.99	17.250	1.74	23.33	1.16
5.167	1.54	11.250	5.99	17.333	1.74	23.42	1.16
5.250	1.54	11.333	9.27	17.417	1.74	23.50	1.16
5.333	1.54	11.417	9.27	17.500	1.74	23.58	1.16
5.417	1.54	11.500	9.27	17.583	1.74	23.67	1.16
5.500	1.54	11.583	9.27	17.667	1.74	23.75	1.16
5.583	1.54	11.667	9.27	17.750	1.74	23.83	1.16
5.667	1.54	11.750	9.27	17.833	1.74	23.92	1.16
5.750	1.54	11.833	28.58	17.917	1.74	24.00	1.16
5.833	1.54	11.917	28.58	18.000	1.74	24.08	1.16
5.917	1.54	12.000	28.58	18.083	1.74	24.17	1.16
6.000	1.54	12.083	118.18	18.167	1.74	24.25	1.16
6.083	1.54	12.167	118.19	18.250	1.74		

Unit Hyd Qpeak (cms)= 0.470

PEAK FLOW (cms)= 0.302 (i)
TIME TO PEAK (hrs)= 13.000
RUNOFF VOLUME (mm)= 33.002
TOTAL RAINFALL (mm)= 96.560
RUNOFF COEFFICIENT = 0.342

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

CALIB			
NASHYD (0102)	Area (ha)=	4.52	Curve Number (CN)= 62.4
ID= 1 DT= 5.0 min	Ia (mm)=	6.94	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.36	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.54	12.250	118.19	18.33	1.74
0.167	0.00	6.250	1.54	12.333	13.92	18.42	1.74
0.250	0.00	6.333	1.74	12.417	13.90	18.50	1.74
0.333	1.06	6.417	1.74	12.500	13.90	18.58	1.74

0.417	1.06	6.500	1.74	12.583	13.90	18.67	1.74
0.500	1.06	6.583	1.74	12.667	13.90	18.75	1.74
0.583	1.06	6.667	1.74	12.750	13.90	18.83	1.74
0.667	1.06	6.750	1.74	12.833	7.15	18.92	1.74
0.750	1.06	6.833	1.74	12.917	7.15	19.00	1.74
0.833	1.06	6.917	1.74	13.000	7.15	19.08	1.74
0.917	1.06	7.000	1.74	13.083	7.15	19.17	1.74
1.000	1.06	7.083	1.74	13.167	7.15	19.25	1.74
1.083	1.06	7.167	1.74	13.250	7.15	19.33	1.74
1.167	1.06	7.250	1.74	13.333	5.21	19.42	1.74
1.250	1.06	7.333	2.12	13.417	5.21	19.50	1.74
1.333	1.06	7.417	2.12	13.500	5.21	19.58	1.74
1.417	1.06	7.500	2.12	13.583	5.21	19.67	1.74
1.500	1.06	7.583	2.12	13.667	5.21	19.75	1.74
1.583	1.06	7.667	2.12	13.750	5.21	19.83	1.74
1.667	1.06	7.750	2.12	13.833	4.06	19.92	1.74
1.750	1.06	7.833	2.12	13.917	4.06	20.00	1.74
1.833	1.06	7.917	2.12	14.000	4.06	20.08	1.74
1.917	1.06	8.000	2.12	14.083	4.06	20.17	1.74
2.000	1.06	8.083	2.12	14.167	4.06	20.25	1.74
2.083	1.06	8.167	2.12	14.250	4.06	20.33	1.16
2.167	1.06	8.250	2.12	14.333	2.90	20.42	1.16
2.250	1.06	8.333	2.51	14.417	2.90	20.50	1.16
2.333	1.26	8.417	2.51	14.500	2.90	20.58	1.16
2.417	1.26	8.500	2.51	14.583	2.90	20.67	1.16
2.500	1.26	8.583	2.51	14.667	2.90	20.75	1.16
2.583	1.26	8.667	2.51	14.750	2.90	20.83	1.16
2.667	1.26	8.750	2.51	14.833	2.90	20.92	1.16
2.750	1.26	8.833	2.70	14.917	2.90	21.00	1.16
2.833	1.26	8.917	2.70	15.000	2.90	21.08	1.16
2.917	1.26	9.000	2.70	15.083	2.90	21.17	1.16
3.000	1.26	9.083	2.70	15.167	2.90	21.25	1.16
3.083	1.26	9.167	2.70	15.250	2.90	21.33	1.16
3.167	1.26	9.250	2.70	15.333	2.90	21.42	1.16
3.250	1.26	9.333	3.09	15.417	2.90	21.50	1.16
3.333	1.26	9.417	3.09	15.500	2.90	21.58	1.16
3.417	1.26	9.500	3.09	15.583	2.90	21.67	1.16
3.500	1.26	9.583	3.09	15.667	2.90	21.75	1.16
3.583	1.26	9.667	3.09	15.750	2.90	21.83	1.16
3.667	1.26	9.750	3.09	15.833	2.90	21.92	1.16
3.750	1.26	9.833	3.48	15.917	2.90	22.00	1.16
3.833	1.26	9.917	3.48	16.000	2.90	22.08	1.16
3.917	1.26	10.000	3.48	16.083	2.90	22.17	1.16
4.000	1.26	10.083	3.48	16.167	2.90	22.25	1.16
4.083	1.26	10.167	3.48	16.250	2.90	22.33	1.16
4.167	1.26	10.250	3.48	16.333	1.74	22.42	1.16
4.250	1.26	10.333	4.44	16.417	1.74	22.50	1.16
4.333	1.54	10.417	4.44	16.500	1.74	22.58	1.16
4.417	1.54	10.500	4.44	16.583	1.74	22.67	1.16
4.500	1.54	10.583	4.44	16.667	1.74	22.75	1.16
4.583	1.54	10.667	4.44	16.750	1.74	22.83	1.16
4.667	1.54	10.750	4.44	16.833	1.74	22.92	1.16
4.750	1.54	10.833	5.99	16.917	1.74	23.00	1.16
4.833	1.54	10.917	5.99	17.000	1.74	23.08	1.16
4.917	1.54	11.000	5.99	17.083	1.74	23.17	1.16
5.000	1.54	11.083	5.99	17.167	1.74	23.25	1.16
5.083	1.54	11.167	5.99	17.250	1.74	23.33	1.16
5.167	1.54	11.250	5.99	17.333	1.74	23.42	1.16
5.250	1.54	11.333	9.27	17.417	1.74	23.50	1.16
5.333	1.54	11.417	9.27	17.500	1.74	23.58	1.16
5.417	1.54	11.500	9.27	17.583	1.74	23.67	1.16
5.500	1.54	11.583	9.27	17.667	1.74	23.75	1.16
5.583	1.54	11.667	9.27	17.750	1.74	23.83	1.16
5.667	1.54	11.750	9.27	17.833	1.74	23.92	1.16
5.750	1.54	11.833	28.58	17.917	1.74	24.00	1.16
5.833	1.54	11.917	28.58	18.000	1.74	24.08	1.16
5.917	1.54	12.000	28.58	18.083	1.74	24.17	1.16
6.000	1.54	12.083	118.18	18.167	1.74	24.25	1.16
6.083	1.54	12.167	118.19	18.250	1.74		

Unit Hyd Qpeak (cms)= 0.480

PEAK FLOW (cms)= 0.249 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 33.091
TOTAL RAINFALL (mm)= 96.560
RUNOFF COEFFICIENT = 0.343

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

CALIB NASHYD (0103) ID= 1 DT= 5.0 min	Area (ha)= 0.66	Curve Number (CN)= 62.4
	Ia (mm)= 6.95	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.16	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.54	12.250	118.19	18.33	1.74
0.167	0.00	6.250	1.54	12.333	13.92	18.42	1.74
0.250	0.00	6.333	1.74	12.417	13.90	18.50	1.74
0.333	1.06	6.417	1.74	12.500	13.90	18.58	1.74
0.417	1.06	6.500	1.74	12.583	13.90	18.67	1.74
0.500	1.06	6.583	1.74	12.667	13.90	18.75	1.74
0.583	1.06	6.667	1.74	12.750	13.90	18.83	1.74

0.667	1.06	6.750	1.74	12.833	7.15	18.92	1.74
0.750	1.06	6.833	1.74	12.917	7.15	19.00	1.74
0.833	1.06	6.917	1.74	13.000	7.15	19.08	1.74
0.917	1.06	7.000	1.74	13.083	7.15	19.17	1.74
1.000	1.06	7.083	1.74	13.167	7.15	19.25	1.74
1.083	1.06	7.167	1.74	13.250	7.15	19.33	1.74
1.167	1.06	7.250	1.74	13.333	5.21	19.42	1.74
1.250	1.06	7.333	2.12	13.417	5.21	19.50	1.74
1.333	1.06	7.417	2.12	13.500	5.21	19.58	1.74
1.417	1.06	7.500	2.12	13.583	5.21	19.67	1.74
1.500	1.06	7.583	2.12	13.667	5.21	19.75	1.74
1.583	1.06	7.667	2.12	13.750	5.21	19.83	1.74
1.667	1.06	7.750	2.12	13.833	4.06	19.92	1.74
1.750	1.06	7.833	2.12	13.917	4.06	20.00	1.74
1.833	1.06	7.917	2.12	14.000	4.06	20.08	1.74
1.917	1.06	8.000	2.12	14.083	4.06	20.17	1.74
2.000	1.06	8.083	2.12	14.167	4.06	20.25	1.74
2.083	1.06	8.167	2.12	14.250	4.06	20.33	1.16
2.167	1.06	8.250	2.12	14.333	2.90	20.42	1.16
2.250	1.06	8.333	2.51	14.417	2.90	20.50	1.16
2.333	1.26	8.417	2.51	14.500	2.90	20.58	1.16
2.417	1.26	8.500	2.51	14.583	2.90	20.67	1.16
2.500	1.26	8.583	2.51	14.667	2.90	20.75	1.16
2.583	1.26	8.667	2.51	14.750	2.90	20.83	1.16
2.667	1.26	8.750	2.51	14.833	2.90	20.92	1.16
2.750	1.26	8.833	2.70	14.917	2.90	21.00	1.16
2.833	1.26	8.917	2.70	15.000	2.90	21.08	1.16
2.917	1.26	9.000	2.70	15.083	2.90	21.17	1.16
3.000	1.26	9.083	2.70	15.167	2.90	21.25	1.16
3.083	1.26	9.167	2.70	15.250	2.90	21.33	1.16
3.167	1.26	9.250	2.70	15.333	2.90	21.42	1.16
3.250	1.26	9.333	3.09	15.417	2.90	21.50	1.16
3.333	1.26	9.417	3.09	15.500	2.90	21.58	1.16
3.417	1.26	9.500	3.09	15.583	2.90	21.67	1.16
3.500	1.26	9.583	3.09	15.667	2.90	21.75	1.16
3.583	1.26	9.667	3.09	15.750	2.90	21.83	1.16
3.667	1.26	9.750	3.09	15.833	2.90	21.92	1.16
3.750	1.26	9.833	3.48	15.917	2.90	22.00	1.16
3.833	1.26	9.917	3.48	16.000	2.90	22.08	1.16
3.917	1.26	10.000	3.48	16.083	2.90	22.17	1.16
4.000	1.26	10.083	3.48	16.167	2.90	22.25	1.16
4.083	1.26	10.167	3.48	16.250	2.90	22.33	1.16
4.167	1.26	10.250	3.48	16.333	1.74	22.42	1.16
4.250	1.26	10.333	4.44	16.417	1.74	22.50	1.16
4.333	1.54	10.417	4.44	16.500	1.74	22.58	1.16
4.417	1.54	10.500	4.44	16.583	1.74	22.67	1.16
4.500	1.54	10.583	4.44	16.667	1.74	22.75	1.16
4.583	1.54	10.667	4.44	16.750	1.74	22.83	1.16
4.667	1.54	10.750	4.44	16.833	1.74	22.92	1.16
4.750	1.54	10.833	5.99	16.917	1.74	23.00	1.16
4.833	1.54	10.917	5.99	17.000	1.74	23.08	1.16
4.917	1.54	11.000	5.99	17.083	1.74	23.17	1.16
5.000	1.54	11.083	5.99	17.167	1.74	23.25	1.16
5.083	1.54	11.167	5.99	17.250	1.74	23.33	1.16
5.167	1.54	11.250	5.99	17.333	1.74	23.42	1.16
5.250	1.54	11.333	9.27	17.417	1.74	23.50	1.16
5.333	1.54	11.417	9.27	17.500	1.74	23.58	1.16
5.417	1.54	11.500	9.27	17.583	1.74	23.67	1.16
5.500	1.54	11.583	9.27	17.667	1.74	23.75	1.16
5.583	1.54	11.667	9.27	17.750	1.74	23.83	1.16
5.667	1.54	11.750	9.27	17.833	1.74	23.92	1.16
5.750	1.54	11.833	28.58	17.917	1.74	24.00	1.16
5.833	1.54	11.917	28.58	18.000	1.74	24.08	1.16
5.917	1.54	12.000	28.58	18.083	1.74	24.17	1.16
6.000	1.54	12.083	118.18	18.167	1.74	24.25	1.16
6.083	1.54	12.167	118.19	18.250	1.74		

Unit Hyd Qpeak (cms)= 0.158

PEAK FLOW (cms)= 0.062 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 32.941
TOTAL RAINFALL (mm)= 96.560
RUNOFF COEFFICIENT = 0.341

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

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      V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
      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 6.1\VO2\voin.dat

Output filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\e9bfa1f9-45d6-497f-89e1-62becf706859\s
Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\e9bfa1f9-45d6-497f-89e1-62becf706859\s

DATE: 01/19/2023 TIME: 07:37:50

USER:

COMMENTS: _____

****
** SIMULATION : 50yr 24hr 15min SCS **
****

READ STORM	Filename: C:\Users\elundquist\AppData\Local\Temp\eec61fe4-ea1d-4b25-930d-6bd365b221af\e1a25d0b
Ptotal=107.24 mm	Comments: 50yr 24hr 15min SCS

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	1.93	12.75	15.44	19.00	1.93
0.50	1.18	6.75	1.93	13.00	7.94	19.25	1.93
0.75	1.18	7.00	1.93	13.25	7.94	19.50	1.93
1.00	1.18	7.25	1.93	13.50	5.79	19.75	1.93
1.25	1.18	7.50	2.36	13.75	5.79	20.00	1.93
1.50	1.18	7.75	2.36	14.00	4.50	20.25	1.93
1.75	1.18	8.00	2.36	14.25	4.50	20.50	1.29
2.00	1.18	8.25	2.36	14.50	3.22	20.75	1.29
2.25	1.18	8.50	2.79	14.75	3.22	21.00	1.29
2.50	1.39	8.75	2.79	15.00	3.22	21.25	1.29
2.75	1.39	9.00	3.00	15.25	3.22	21.50	1.29
3.00	1.39	9.25	3.00	15.50	3.22	21.75	1.29
3.25	1.39	9.50	3.43	15.75	3.22	22.00	1.29
3.50	1.39	9.75	3.43	16.00	3.22	22.25	1.29
3.75	1.39	10.00	3.86	16.25	3.22	22.50	1.29
4.00	1.39	10.25	3.86	16.50	1.93	22.75	1.29
4.25	1.39	10.50	4.93	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.93	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.65	17.25	1.93	23.50	1.29
5.00	1.72	11.25	6.65	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.30	17.75	1.93	24.00	1.29
5.50	1.72	11.75	10.30	18.00	1.93	24.25	1.29
5.75	1.72	12.00	31.74	18.25	1.93		
6.00	1.72	12.25	131.26	18.50	1.93		
6.25	1.72	12.50	15.44	18.75	1.93		

CALIB / NASHYD (0117) / ID= 1 DT= 5.0 min	Area (ha)= 6.10	Curve Number (CN)= 66.8	Ia (mm)= 6.35	# of Linear Res.(N)= 3.00	U.H. Tp(hrs)= 0.42

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	131.26	18.33	1.93
0.167	0.00	6.250	1.72	12.333	15.46	18.42	1.93
0.250	0.00	6.333	1.93	12.417	15.44	18.50	1.93
0.333	1.18	6.417	1.93	12.500	15.44	18.58	1.93
0.417	1.18	6.500	1.93	12.583	15.44	18.67	1.93
0.500	1.18	6.583	1.93	12.667	15.44	18.75	1.93
0.583	1.18	6.667	1.93	12.750	15.44	18.83	1.93
0.667	1.18	6.750	1.93	12.833	7.94	18.92	1.93
0.750	1.18	6.833	1.93	12.917	7.94	19.00	1.93
0.833	1.18	6.917	1.93	13.000	7.94	19.08	1.93
0.917	1.18	7.000	1.93	13.083	7.94	19.17	1.93
1.000	1.18	7.083	1.93	13.167	7.94	19.25	1.93
1.083	1.18	7.167	1.93	13.250	7.94	19.33	1.93
1.167	1.18	7.250	1.93	13.333	5.79	19.42	1.93
1.250	1.18	7.333	2.36	13.417	5.79	19.50	1.93
1.333	1.18	7.417	2.36	13.500	5.79	19.58	1.93
1.417	1.18	7.500	2.36	13.583	5.79	19.67	1.93
1.500	1.18	7.583	2.36	13.667	5.79	19.75	1.93
1.583	1.18	7.667	2.36	13.750	5.79	19.83	1.93
1.667	1.18	7.750	2.36	13.833	4.50	19.92	1.93
1.750	1.18	7.833	2.36	13.917	4.50	20.00	1.93
1.833	1.18	7.917	2.36	14.000	4.50	20.08	1.93
1.917	1.18	8.000	2.36	14.083	4.50	20.17	1.93
2.000	1.18	8.083	2.36	14.167	4.50	20.25	1.93
2.083	1.18	8.167	2.36	14.250	4.50	20.33	1.29
2.167	1.18	8.250	2.36	14.333	3.22	20.42	1.29
2.250	1.18	8.333	2.79	14.417	3.22	20.50	1.29

2.333	1.39	8.417	2.79	14.500	3.22	20.58	1.29
2.417	1.39	8.500	2.79	14.583	3.22	20.67	1.29
2.500	1.39	8.583	2.79	14.667	3.22	20.75	1.29
2.583	1.39	8.667	2.79	14.750	3.22	20.83	1.29
2.667	1.39	8.750	2.79	14.833	3.22	20.92	1.29
2.750	1.39	8.833	3.00	14.917	3.22	21.00	1.29
2.833	1.39	8.917	3.00	15.000	3.22	21.08	1.29
2.917	1.39	9.000	3.00	15.083	3.22	21.17	1.29
3.000	1.39	9.083	3.00	15.167	3.22	21.25	1.29
3.083	1.39	9.167	3.00	15.250	3.22	21.33	1.29
3.167	1.39	9.250	3.00	15.333	3.22	21.42	1.29
3.250	1.39	9.333	3.43	15.417	3.22	21.50	1.29
3.333	1.39	9.417	3.43	15.500	3.22	21.58	1.29
3.417	1.39	9.500	3.43	15.583	3.22	21.67	1.29
3.500	1.39	9.583	3.43	15.667	3.22	21.75	1.29
3.583	1.39	9.667	3.43	15.750	3.22	21.83	1.29
3.667	1.39	9.750	3.43	15.833	3.22	21.92	1.29
3.750	1.39	9.833	3.86	15.917	3.22	22.00	1.29
3.833	1.39	9.917	3.86	16.000	3.22	22.08	1.29
3.917	1.39	10.000	3.86	16.083	3.22	22.17	1.29
4.000	1.39	10.083	3.86	16.167	3.22	22.25	1.29
4.083	1.39	10.167	3.86	16.250	3.22	22.33	1.29
4.167	1.39	10.250	3.86	16.333	1.93	22.42	1.29
4.250	1.39	10.333	4.93	16.417	1.93	22.50	1.29
4.333	1.72	10.417	4.93	16.500	1.93	22.58	1.29
4.417	1.72	10.500	4.93	16.583	1.93	22.67	1.29
4.500	1.72	10.583	4.93	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.93	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.93	16.833	1.93	22.92	1.29
4.750	1.72	10.833	6.65	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.65	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.65	17.083	1.93	23.17	1.29
5.000	1.72	11.083	6.65	17.167	1.93	23.25	1.29
5.083	1.72	11.167	6.65	17.250	1.93	23.33	1.29
5.167	1.72	11.250	6.65	17.333	1.93	23.42	1.29
5.250	1.72	11.333	10.29	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.30	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.30	17.583	1.93	23.67	1.29
5.500	1.72	11.583	10.30	17.667	1.93	23.75	1.29
5.583	1.72	11.667	10.30	17.750	1.93	23.83	1.29
5.667	1.72	11.750	10.30	17.833	1.93	23.92	1.29
5.750	1.72	11.833	31.74	17.917	1.93	24.00	1.29
5.833	1.72	11.917	31.74	18.000	1.93	24.08	1.29
5.917	1.72	12.000	31.74	18.083	1.93	24.17	1.29
6.000	1.72	12.083	131.25	18.167	1.93	24.25	1.29
6.083	1.72	12.167	131.26	18.250	1.93		

Unit Hyd Qpeak (cms)= 0.555

PEAK FLOW (cms)= 0.411 (i)

TIME TO PEAK (hrs)= 12.583
RUNOFF VOLUME (mm)= 44.810
TOTAL RAINFALL (mm)= 107.240
RUNOFF COEFFICIENT = 0.418

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

CALIB			
NASHYD (0115)	Area (ha)=	9.34	Curve Number (CN)= 62.6
ID= 1 DT= 5.0 min	Ia (mm)=	6.91	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.71	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	131.26	18.33	1.93
0.167	0.00	6.250	1.72	12.333	15.46	18.42	1.93
0.250	0.00	6.333	1.93	12.417	15.44	18.50	1.93
0.333	1.18	6.417	1.93	12.500	15.44	18.58	1.93
0.417	1.18	6.500	1.93	12.583	15.44	18.67	1.93
0.500	1.18	6.583	1.93	12.667	15.44	18.75	1.93
0.583	1.18	6.667	1.93	12.750	15.44	18.83	1.93
0.667	1.18	6.750	1.93	12.833	7.94	18.92	1.93
0.750	1.18	6.833	1.93	12.917	7.94	19.00	1.93
0.833	1.18	6.917	1.93	13.000	7.94	19.08	1.93
0.917	1.18	7.000	1.93	13.083	7.94	19.17	1.93
1.000	1.18	7.083	1.93	13.167	7.94	19.25	1.93
1.083	1.18	7.167	1.93	13.250	7.94	19.33	1.93
1.167	1.18	7.250	1.93	13.333	5.79	19.42	1.93
1.250	1.18	7.333	2.36	13.417	5.79	19.50	1.93
1.333	1.18	7.417	2.36	13.500	5.79	19.58	1.93
1.417	1.18	7.500	2.36	13.583	5.79	19.67	1.93
1.500	1.18	7.583	2.36	13.667	5.79	19.75	1.93
1.583	1.18	7.667	2.36	13.750	5.79	19.83	1.93
1.667	1.18	7.750	2.36	13.833	4.50	19.92	1.93
1.750	1.18	7.833	2.36	13.917	4.50	20.00	1.93
1.833	1.18	7.917	2.36	14.000	4.50	20.08	1.93
1.917	1.18	8.000	2.36	14.083	4.50	20.17	1.93
2.000	1.18	8.083	2.36	14.167	4.50	20.25	1.93
2.083	1.18	8.167	2.36	14.250	4.50	20.33	1.29
2.167	1.18	8.250	2.36	14.333	3.22	20.42	1.29
2.250	1.18	8.333	2.79	14.417	3.22	20.50	1.29
2.333	1.39	8.417	2.79	14.500	3.22	20.58	1.29
2.417	1.39	8.500	2.79	14.583	3.22	20.67	1.29
2.500	1.39	8.583	2.79	14.667	3.22	20.75	1.29

2.583	1.39	8.667	2.79	14.750	3.22	20.83	1.29
2.667	1.39	8.750	2.79	14.833	3.22	20.92	1.29
2.750	1.39	8.833	3.00	14.917	3.22	21.00	1.29
2.833	1.39	8.917	3.00	15.000	3.22	21.08	1.29
2.917	1.39	9.000	3.00	15.083	3.22	21.17	1.29
3.000	1.39	9.083	3.00	15.167	3.22	21.25	1.29
3.083	1.39	9.167	3.00	15.250	3.22	21.33	1.29
3.167	1.39	9.250	3.00	15.333	3.22	21.42	1.29
3.250	1.39	9.333	3.43	15.417	3.22	21.50	1.29
3.333	1.39	9.417	3.43	15.500	3.22	21.58	1.29
3.417	1.39	9.500	3.43	15.583	3.22	21.67	1.29
3.500	1.39	9.583	3.43	15.667	3.22	21.75	1.29
3.583	1.39	9.667	3.43	15.750	3.22	21.83	1.29
3.667	1.39	9.750	3.43	15.833	3.22	21.92	1.29
3.750	1.39	9.833	3.86	15.917	3.22	22.00	1.29
3.833	1.39	9.917	3.86	16.000	3.22	22.08	1.29
3.917	1.39	10.000	3.86	16.083	3.22	22.17	1.29
4.000	1.39	10.083	3.86	16.167	3.22	22.25	1.29
4.083	1.39	10.167	3.86	16.250	3.22	22.33	1.29
4.167	1.39	10.250	3.86	16.333	1.93	22.42	1.29
4.250	1.39	10.333	4.93	16.417	1.93	22.50	1.29
4.333	1.72	10.417	4.93	16.500	1.93	22.58	1.29
4.417	1.72	10.500	4.93	16.583	1.93	22.67	1.29
4.500	1.72	10.583	4.93	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.93	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.93	16.833	1.93	22.92	1.29
4.750	1.72	10.833	6.65	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.65	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.65	17.083	1.93	23.17	1.29
5.000	1.72	11.083	6.65	17.167	1.93	23.25	1.29
5.083	1.72	11.167	6.65	17.250	1.93	23.33	1.29
5.167	1.72	11.250	6.65	17.333	1.93	23.42	1.29
5.250	1.72	11.333	10.29	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.30	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.30	17.583	1.93	23.67	1.29
5.500	1.72	11.583	10.30	17.667	1.93	23.75	1.29
5.583	1.72	11.667	10.30	17.750	1.93	23.83	1.29
5.667	1.72	11.750	10.30	17.833	1.93	23.92	1.29
5.750	1.72	11.833	31.74	17.917	1.93	24.00	1.29
5.833	1.72	11.917	31.74	18.000	1.93	24.08	1.29
5.917	1.72	12.000	31.74	18.083	1.93	24.17	1.29
6.000	1.72	12.083	131.25	18.167	1.93	24.25	1.29
6.083	1.72	12.167	131.26	18.250	1.93		

Unit Hyd Qpeak (cms)= 0.502

PEAK FLOW (cms)= 0.380 (i)
TIME TO PEAK (hrs)= 12.917
RUNOFF VOLUME (mm)= 39.931
TOTAL RAINFALL (mm)= 107.240

RUNOFF COEFFICIENT = 0.372

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

CALIB	
STANDHYD (0303)	Area (ha)= 0.37
ID= 1 DT= 5.0 min	Total Imp(%)= 97.30 Dir. Conn.(%)= 92.40

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.36	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	49.67	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	131.26	18.33	1.93
0.167	0.00	6.250	1.72	12.333	15.46	18.42	1.93
0.250	0.00	6.333	1.93	12.417	15.44	18.50	1.93
0.333	1.18	6.417	1.93	12.500	15.44	18.58	1.93
0.417	1.18	6.500	1.93	12.583	15.44	18.67	1.93
0.500	1.18	6.583	1.93	12.667	15.44	18.75	1.93
0.583	1.18	6.667	1.93	12.750	15.44	18.83	1.93
0.667	1.18	6.750	1.93	12.833	7.94	18.92	1.93
0.750	1.18	6.833	1.93	12.917	7.94	19.00	1.93
0.833	1.18	6.917	1.93	13.000	7.94	19.08	1.93
0.917	1.18	7.000	1.93	13.083	7.94	19.17	1.93
1.000	1.18	7.083	1.93	13.167	7.94	19.25	1.93
1.083	1.18	7.167	1.93	13.250	7.94	19.33	1.93
1.167	1.18	7.250	1.93	13.333	5.79	19.42	1.93
1.250	1.18	7.333	2.36	13.417	5.79	19.50	1.93
1.333	1.18	7.417	2.36	13.500	5.79	19.58	1.93
1.417	1.18	7.500	2.36	13.583	5.79	19.67	1.93
1.500	1.18	7.583	2.36	13.667	5.79	19.75	1.93
1.583	1.18	7.667	2.36	13.750	5.79	19.83	1.93
1.667	1.18	7.750	2.36	13.833	4.50	19.92	1.93
1.750	1.18	7.833	2.36	13.917	4.50	20.00	1.93
1.833	1.18	7.917	2.36	14.000	4.50	20.08	1.93
1.917	1.18	8.000	2.36	14.083	4.50	20.17	1.93
2.000	1.18	8.083	2.36	14.167	4.50	20.25	1.93
2.083	1.18	8.167	2.36	14.250	4.50	20.33	1.29
2.167	1.18	8.250	2.36	14.333	3.22	20.42	1.29
2.250	1.18	8.333	2.79	14.417	3.22	20.50	1.29

2.333	1.39	8.417	2.79	14.500	3.22	20.58	1.29
2.417	1.39	8.500	2.79	14.583	3.22	20.67	1.29
2.500	1.39	8.583	2.79	14.667	3.22	20.75	1.29
2.583	1.39	8.667	2.79	14.750	3.22	20.83	1.29
2.667	1.39	8.750	2.79	14.833	3.22	20.92	1.29
2.750	1.39	8.833	3.00	14.917	3.22	21.00	1.29
2.833	1.39	8.917	3.00	15.000	3.22	21.08	1.29
2.917	1.39	9.000	3.00	15.083	3.22	21.17	1.29
3.000	1.39	9.083	3.00	15.167	3.22	21.25	1.29
3.083	1.39	9.167	3.00	15.250	3.22	21.33	1.29
3.167	1.39	9.250	3.00	15.333	3.22	21.42	1.29
3.250	1.39	9.333	3.43	15.417	3.22	21.50	1.29
3.333	1.39	9.417	3.43	15.500	3.22	21.58	1.29
3.417	1.39	9.500	3.43	15.583	3.22	21.67	1.29
3.500	1.39	9.583	3.43	15.667	3.22	21.75	1.29
3.583	1.39	9.667	3.43	15.750	3.22	21.83	1.29
3.667	1.39	9.750	3.43	15.833	3.22	21.92	1.29
3.750	1.39	9.833	3.86	15.917	3.22	22.00	1.29
3.833	1.39	9.917	3.86	16.000	3.22	22.08	1.29
3.917	1.39	10.000	3.86	16.083	3.22	22.17	1.29
4.000	1.39	10.083	3.86	16.167	3.22	22.25	1.29
4.083	1.39	10.167	3.86	16.250	3.22	22.33	1.29
4.167	1.39	10.250	3.86	16.333	1.93	22.42	1.29
4.250	1.39	10.333	4.93	16.417	1.93	22.50	1.29
4.333	1.72	10.417	4.93	16.500	1.93	22.58	1.29
4.417	1.72	10.500	4.93	16.583	1.93	22.67	1.29
4.500	1.72	10.583	4.93	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.93	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.93	16.833	1.93	22.92	1.29
4.750	1.72	10.833	6.65	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.65	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.65	17.083	1.93	23.17	1.29
5.000	1.72	11.083	6.65	17.167	1.93	23.25	1.29
5.083	1.72	11.167	6.65	17.250	1.93	23.33	1.29
5.167	1.72	11.250	6.65	17.333	1.93	23.42	1.29
5.250	1.72	11.333	10.29	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.30	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.30	17.583	1.93	23.67	1.29
5.500	1.72	11.583	10.30	17.667	1.93	23.75	1.29
5.583	1.72	11.667	10.30	17.750	1.93	23.83	1.29
5.667	1.72	11.750	10.30	17.833	1.93	23.92	1.29
5.750	1.72	11.833	31.74	17.917	1.93	24.00	1.29
5.833	1.72	11.917	31.74	18.000	1.93	24.08	1.29
5.917	1.72	12.000	31.74	18.083	1.93	24.17	1.29
6.000	1.72	12.083	131.25	18.167	1.93	24.25	1.29
6.083	1.72	12.167	131.26	18.250	1.93		

Max.Eff.Inten.(mm/hr)=	131.26	228.25
over (min)	5.00	5.00
Storage Coeff. (min)=	1.51 (ii)	3.05 (ii)

Unit Hyd. Tpeak (min)=	5.00	5.00	
Unit Hyd. peak (cms)=	0.33	0.27	
			TOTALS
PEAK FLOW (cms)=	0.12	0.01	0.131 (iii)
TIME TO PEAK (hrs)=	12.25	12.25	12.25
RUNOFF VOLUME (mm)=	106.24	55.78	102.40
TOTAL RAINFALL (mm)=	107.24	107.24	107.24
RUNOFF COEFFICIENT =	0.99	0.52	0.95

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (0801)					
Inlet Cap.= 0.109					
#of Inlets= 1					
Total(cms)= 0.1	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
TOTAL HYD.(ID= 1):	0.37	0.13	12.25	102.40	
MAJOR SYS.(ID= 2):	0.02	0.02	12.25	102.40	
MINOR SYS.(ID= 3):	0.35	0.11	12.08	102.40	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0901)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0115):	9.34	0.380	12.92	39.93	
+ ID2= 2 (0117):	6.10	0.411	12.58	44.81	
ID = 3 (0901):	15.44	0.747	12.67	41.86	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0901)					
3 + 2 = 1	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 3 (0901):	15.44	0.747	12.67	41.86	

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      + ID2= 2 (  0801):     0.02   0.022    12.25   102.40
        ================================================
        ID = 1 (  0901):    15.46   0.747    12.67    41.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.364|
| #of Inlets=     1|
| Total(cms)=   0.4|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.46      0.75     12.67   41.93
     ================================================
     MAJOR SYS.(ID= 2):   2.65      0.38     12.67   41.93
     MINOR SYS.(ID= 3):  12.81      0.36     12.25   41.93

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD   (  0116)|   Area    (ha)=   6.57   Curve Number   (CN)= 62.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.88   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.56

         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    1.72 |12.250  131.26 | 18.33    1.93
               0.167    0.00 | 6.250    1.72 |12.333   15.46 | 18.42    1.93
               0.250    0.00 | 6.333    1.93 |12.417   15.44 | 18.50    1.93
               0.333    1.18 | 6.417    1.93 |12.500   15.44 | 18.58    1.93
               0.417    1.18 | 6.500    1.93 |12.583   15.44 | 18.67    1.93
               0.500    1.18 | 6.583    1.93 |12.667   15.44 | 18.75    1.93
               0.583    1.18 | 6.667    1.93 |12.750   15.44 | 18.83    1.93
               0.667    1.18 | 6.750    1.93 |12.833    7.94 | 18.92    1.93
               0.750    1.18 | 6.833    1.93 |12.917    7.94 | 19.00    1.93
               0.833    1.18 | 6.917    1.93 |13.000    7.94 | 19.08    1.93
               0.917    1.18 | 7.000    1.93 |13.083    7.94 | 19.17    1.93
               1.000    1.18 | 7.083    1.93 |13.167    7.94 | 19.25    1.93
               1.083    1.18 | 7.167    1.93 |13.250    7.94 | 19.33    1.93
               1.167    1.18 | 7.250    1.93 |13.333    5.79 | 19.42    1.93
               1.250    1.18 | 7.333    2.36 |13.417    5.79 | 19.50    1.93
               1.333    1.18 | 7.417    2.36 |13.500    5.79 | 19.58    1.93
               1.417    1.18 | 7.500    2.36 |13.583    5.79 | 19.67    1.93
               1.500    1.18 | 7.583    2.36 |13.667    5.79 | 19.75    1.93
               1.583    1.18 | 7.667    2.36 |13.750    5.79 | 19.83    1.93
               1.667    1.18 | 7.750    2.36 |13.833    4.50 | 19.92    1.93
               1.750    1.18 | 7.833    2.36 |13.917    4.50 | 20.00    1.93
               1.833    1.18 | 7.917    2.36 |14.000    4.50 | 20.08    1.93
               1.917    1.18 | 8.000    2.36 |14.083    4.50 | 20.17    1.93
               2.000    1.18 | 8.083    2.36 |14.167    4.50 | 20.25    1.93
               2.083    1.18 | 8.167    2.36 |14.250    4.50 | 20.33    1.29
               2.167    1.18 | 8.250    2.36 |14.333    3.22 | 20.42    1.29
               2.250    1.18 | 8.333    2.79 |14.417    3.22 | 20.50    1.29
               2.333    1.39 | 8.417    2.79 |14.500    3.22 | 20.58    1.29
               2.417    1.39 | 8.500    2.79 |14.583    3.22 | 20.67    1.29
               2.500    1.39 | 8.583    2.79 |14.667    3.22 | 20.75    1.29
               2.583    1.39 | 8.667    2.79 |14.750    3.22 | 20.83    1.29
               2.667    1.39 | 8.750    2.79 |14.833    3.22 | 20.92    1.29
               2.750    1.39 | 8.833    3.00 |14.917    3.22 | 21.00    1.29
               2.833    1.39 | 8.917    3.00 |15.000    3.22 | 21.08    1.29
               2.917    1.39 | 9.000    3.00 |15.083    3.22 | 21.17    1.29
               3.000    1.39 | 9.083    3.00 |15.167    3.22 | 21.25    1.29
               3.083    1.39 | 9.167    3.00 |15.250    3.22 | 21.33    1.29
               3.167    1.39 | 9.250    3.00 |15.333    3.22 | 21.42    1.29
               3.250    1.39 | 9.333    3.43 |15.417    3.22 | 21.50    1.29
               3.333    1.39 | 9.417    3.43 |15.500    3.22 | 21.58    1.29
               3.417    1.39 | 9.500    3.43 |15.583    3.22 | 21.67    1.29
               3.500    1.39 | 9.583    3.43 |15.667    3.22 | 21.75    1.29
               3.583    1.39 | 9.667    3.43 |15.750    3.22 | 21.83    1.29
               3.667    1.39 | 9.750    3.43 |15.833    3.22 | 21.92    1.29
               3.750    1.39 | 9.833    3.86 |15.917    3.22 | 22.00    1.29
               3.833    1.39 | 9.917    3.86 |16.000    3.22 | 22.08    1.29
               3.917    1.39 |10.000    3.86 |16.083    3.22 | 22.17    1.29
               4.000    1.39 |10.083    3.86 |16.167    3.22 | 22.25    1.29
               4.083    1.39 |10.167    3.86 |16.250    3.22 | 22.33    1.29
               4.167    1.39 |10.250    3.86 |16.333    1.93 | 22.42    1.29
               4.250    1.39 |10.333    4.93 |16.417    1.93 | 22.50    1.29
               4.333    1.72 |10.417    4.93 |16.500    1.93 | 22.58    1.29
               4.417    1.72 |10.500    4.93 |16.583    1.93 | 22.67    1.29
               4.500    1.72 |10.583    4.93 |16.667    1.93 | 22.75    1.29
               4.583    1.72 |10.667    4.93 |16.750    1.93 | 22.83    1.29
               4.667    1.72 |10.750    4.93 |16.833    1.93 | 22.92    1.29
               4.750    1.72 |10.833    6.65 |16.917    1.93 | 23.00    1.29
               4.833    1.72 |10.917    6.65 |17.000    1.93 | 23.08    1.29
               4.917    1.72 |11.000    6.65 |17.083    1.93 | 23.17    1.29
               5.000    1.72 |11.083    6.65 |17.167    1.93 | 23.25    1.29
               5.083    1.72 |11.167    6.65 |17.250    1.93 | 23.33    1.29
               5.167    1.72 |11.250    6.65 |17.333    1.93 | 23.42    1.29
               5.250    1.72 |11.333   10.29 |17.417    1.93 | 23.50    1.29
               5.333    1.72 |11.417   10.30 |17.500    1.93 | 23.58    1.29
               5.417    1.72 |11.500   10.30 |17.583    1.93 | 23.67    1.29
               5.500    1.72 |11.583   10.30 |17.667    1.93 | 23.75    1.29
               5.583    1.72 |11.667   10.30 |17.750    1.93 | 23.83    1.29
               5.667    1.72 |11.750   10.30 |17.833    1.93 | 23.92    1.29
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5.750	1.72	11.833	31.74	17.917	1.93	24.00	1.29
5.833	1.72	11.917	31.74	18.000	1.93	24.08	1.29
5.917	1.72	12.000	31.74	18.083	1.93	24.17	1.29
6.000	1.72	12.083	131.25	18.167	1.93	24.25	1.29
6.083	1.72	12.167	131.26	18.250	1.93		

Unit Hyd Qpeak (cms)= 0.448

PEAK FLOW (cms)= 0.320 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 40.259
TOTAL RAINFALL (mm)= 107.240
RUNOFF COEFFICIENT = 0.375

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

ADD HYD (0902)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0116):	6.57	0.320	12.75	40.26
+ ID2= 2 (0802):	2.65	0.383	12.67	41.93
ID = 3 (0902):	9.22	0.702	12.67	40.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB
NASHYD (0101) | ID= 1 DT= 5.0 min

Area (ha)= 9.85 Curve Number (CN)= 62.3
Ia (mm)= 6.95 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.80

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	131.26	18.33	1.93
0.167	0.00	6.250	1.72	12.333	15.46	18.42	1.93
0.250	0.00	6.333	1.93	12.417	15.44	18.50	1.93
0.333	1.18	6.417	1.93	12.500	15.44	18.58	1.93
0.417	1.18	6.500	1.93	12.583	15.44	18.67	1.93
0.500	1.18	6.583	1.93	12.667	15.44	18.75	1.93
0.583	1.18	6.667	1.93	12.750	15.44	18.83	1.93
0.667	1.18	6.750	1.93	12.833	7.94	18.92	1.93
0.750	1.18	6.833	1.93	12.917	7.94	19.00	1.93
0.833	1.18	6.917	1.93	13.000	7.94	19.08	1.93
0.917	1.18	7.000	1.93	13.083	7.94	19.17	1.93
1.000	1.18	7.083	1.93	13.167	7.94	19.25	1.93
1.083	1.18	7.167	1.93	13.250	7.94	19.33	1.93
1.167	1.18	7.250	1.93	13.333	5.79	19.42	1.93
1.250	1.18	7.333	2.36	13.417	5.79	19.50	1.93
1.333	1.18	7.417	2.36	13.500	5.79	19.58	1.93
1.417	1.18	7.500	2.36	13.583	5.79	19.67	1.93
1.500	1.18	7.583	2.36	13.667	5.79	19.75	1.93
1.583	1.18	7.667	2.36	13.750	5.79	19.83	1.93
1.667	1.18	7.750	2.36	13.833	4.50	19.92	1.93
1.750	1.18	7.833	2.36	13.917	4.50	20.00	1.93
1.833	1.18	7.917	2.36	14.000	4.50	20.08	1.93
1.917	1.18	8.000	2.36	14.083	4.50	20.17	1.93
2.000	1.18	8.083	2.36	14.167	4.50	20.25	1.93
2.083	1.18	8.167	2.36	14.250	4.50	20.33	1.29
2.167	1.18	8.250	2.36	14.333	3.22	20.42	1.29
2.250	1.18	8.333	2.79	14.417	3.22	20.50	1.29
2.333	1.39	8.417	2.79	14.500	3.22	20.58	1.29
2.417	1.39	8.500	2.79	14.583	3.22	20.67	1.29
2.500	1.39	8.583	2.79	14.667	3.22	20.75	1.29
2.583	1.39	8.667	2.79	14.750	3.22	20.83	1.29
2.667	1.39	8.750	2.79	14.833	3.22	20.92	1.29
2.750	1.39	8.833	3.00	14.917	3.22	21.00	1.29
2.833	1.39	8.917	3.00	15.000	3.22	21.08	1.29
2.917	1.39	9.000	3.00	15.083	3.22	21.17	1.29
3.000	1.39	9.083	3.00	15.167	3.22	21.25	1.29
3.083	1.39	9.167	3.00	15.250	3.22	21.33	1.29
3.167	1.39	9.250	3.00	15.333	3.22	21.42	1.29
3.250	1.39	9.333	3.43	15.417	3.22	21.50	1.29
3.333	1.39	9.417	3.43	15.500	3.22	21.58	1.29
3.417	1.39	9.500	3.43	15.583	3.22	21.67	1.29
3.500	1.39	9.583	3.43	15.667	3.22	21.75	1.29
3.583	1.39	9.667	3.43	15.750	3.22	21.83	1.29
3.667	1.39	9.750	3.43	15.833	3.22	21.92	1.29
3.750	1.39	9.833	3.86	15.917	3.22	22.00	1.29
3.833	1.39	9.917	3.86	16.000	3.22	22.08	1.29
3.917	1.39	10.000	3.86	16.083	3.22	22.17	1.29
4.000	1.39	10.083	3.86	16.167	3.22	22.25	1.29
4.083	1.39	10.167	3.86	16.250	3.22	22.33	1.29
4.167	1.39	10.250	3.86	16.333	1.93	22.42	1.29
4.250	1.39	10.333	4.93	16.417	1.93	22.50	1.29
4.333	1.72	10.417	4.93	16.500	1.93	22.58	1.29
4.417	1.72	10.500	4.93	16.583	1.93	22.67	1.29
4.500	1.72	10.583	4.93	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.93	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.93	16.833	1.93	22.92	1.29
4.750	1.72	10.833	6.65	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.65	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.65	17.083	1.93	23.17	1.29

5.000	1.72	11.083	6.65	17.167	1.93	23.25	1.29
5.083	1.72	11.167	6.65	17.250	1.93	23.33	1.29
5.167	1.72	11.250	6.65	17.333	1.93	23.42	1.29
5.250	1.72	11.333	10.29	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.30	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.30	17.583	1.93	23.67	1.29
5.500	1.72	11.583	10.30	17.667	1.93	23.75	1.29
5.583	1.72	11.667	10.30	17.750	1.93	23.83	1.29
5.667	1.72	11.750	10.30	17.833	1.93	23.92	1.29
5.750	1.72	11.833	31.74	17.917	1.93	24.00	1.29
5.833	1.72	11.917	31.74	18.000	1.93	24.08	1.29
5.917	1.72	12.000	31.74	18.083	1.93	24.17	1.29
6.000	1.72	12.083	131.25	18.167	1.93	24.25	1.29
6.083	1.72	12.167	131.26	18.250	1.93		

Unit Hyd Qpeak (cms)= 0.470

PEAK FLOW (cms)= 0.364 (i)
TIME TO PEAK (hrs)= 13.000
RUNOFF VOLUME (mm)= 39.599
TOTAL RAINFALL (mm)= 107.240
RUNOFF COEFFICIENT = 0.369

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

CALIB			
NASHYD (0102)	Area (ha)=	4.52	Curve Number (CN)= 62.4
ID= 1 DT= 5.0 min	Ia (mm)=	6.94	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.36	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	131.26	18.33	1.93
0.167	0.00	6.250	1.72	12.333	15.46	18.42	1.93
0.250	0.00	6.333	1.93	12.417	15.44	18.50	1.93
0.333	1.18	6.417	1.93	12.500	15.44	18.58	1.93
0.417	1.18	6.500	1.93	12.583	15.44	18.67	1.93
0.500	1.18	6.583	1.93	12.667	15.44	18.75	1.93
0.583	1.18	6.667	1.93	12.750	15.44	18.83	1.93
0.667	1.18	6.750	1.93	12.833	7.94	18.92	1.93
0.750	1.18	6.833	1.93	12.917	7.94	19.00	1.93
0.833	1.18	6.917	1.93	13.000	7.94	19.08	1.93
0.917	1.18	7.000	1.93	13.083	7.94	19.17	1.93
1.000	1.18	7.083	1.93	13.167	7.94	19.25	1.93
1.083	1.18	7.167	1.93	13.250	7.94	19.33	1.93
1.167	1.18	7.250	1.93	13.333	5.79	19.42	1.93
1.250	1.18	7.333	2.36	13.417	5.79	19.50	1.93
1.333	1.18	7.417	2.36	13.500	5.79	19.58	1.93
1.417	1.18	7.500	2.36	13.583	5.79	19.67	1.93
1.500	1.18	7.583	2.36	13.667	5.79	19.75	1.93
1.583	1.18	7.667	2.36	13.750	5.79	19.83	1.93
1.667	1.18	7.750	2.36	13.833	4.50	19.92	1.93
1.750	1.18	7.833	2.36	13.917	4.50	20.00	1.93
1.833	1.18	7.917	2.36	14.000	4.50	20.08	1.93
1.917	1.18	8.000	2.36	14.083	4.50	20.17	1.93
2.000	1.18	8.083	2.36	14.167	4.50	20.25	1.93
2.083	1.18	8.167	2.36	14.250	4.50	20.33	1.29
2.167	1.18	8.250	2.36	14.333	3.22	20.42	1.29
2.250	1.18	8.333	2.79	14.417	3.22	20.50	1.29
2.333	1.39	8.417	2.79	14.500	3.22	20.58	1.29
2.417	1.39	8.500	2.79	14.583	3.22	20.67	1.29
2.500	1.39	8.583	2.79	14.667	3.22	20.75	1.29
2.583	1.39	8.667	2.79	14.750	3.22	20.83	1.29
2.667	1.39	8.750	2.79	14.833	3.22	20.92	1.29
2.750	1.39	8.833	3.00	14.917	3.22	21.00	1.29
2.833	1.39	8.917	3.00	15.000	3.22	21.08	1.29
2.917	1.39	9.000	3.00	15.083	3.22	21.17	1.29
3.000	1.39	9.083	3.00	15.167	3.22	21.25	1.29
3.083	1.39	9.167	3.00	15.250	3.22	21.33	1.29
3.167	1.39	9.250	3.00	15.333	3.22	21.42	1.29
3.250	1.39	9.333	3.43	15.417	3.22	21.50	1.29
3.333	1.39	9.417	3.43	15.500	3.22	21.58	1.29
3.417	1.39	9.500	3.43	15.583	3.22	21.67	1.29
3.500	1.39	9.583	3.43	15.667	3.22	21.75	1.29
3.583	1.39	9.667	3.43	15.750	3.22	21.83	1.29
3.667	1.39	9.750	3.43	15.833	3.22	21.92	1.29
3.750	1.39	9.833	3.86	15.917	3.22	22.00	1.29
3.833	1.39	9.917	3.86	16.000	3.22	22.08	1.29
3.917	1.39	10.000	3.86	16.083	3.22	22.17	1.29
4.000	1.39	10.083	3.86	16.167	3.22	22.25	1.29
4.083	1.39	10.167	3.86	16.250	3.22	22.33	1.29
4.167	1.39	10.250	3.86	16.333	1.93	22.42	1.29
4.250	1.39	10.333	4.93	16.417	1.93	22.50	1.29
4.333	1.72	10.417	4.93	16.500	1.93	22.58	1.29
4.417	1.72	10.500	4.93	16.583	1.93	22.67	1.29
4.500	1.72	10.583	4.93	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.93	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.93	16.833	1.93	22.92	1.29
4.750	1.72	10.833	6.65	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.65	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.65	17.083	1.93	23.17	1.29
5.000	1.72	11.083	6.65	17.167	1.93	23.25	1.29
5.083	1.72	11.167	6.65	17.250	1.93	23.33	1.29
5.167	1.72	11.250	6.65	17.333	1.93	23.42	1.29

5.250	1.72	11.333	10.29	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.30	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.30	17.583	1.93	23.67	1.29
5.500	1.72	11.583	10.30	17.667	1.93	23.75	1.29
5.583	1.72	11.667	10.30	17.750	1.93	23.83	1.29
5.667	1.72	11.750	10.30	17.833	1.93	23.92	1.29
5.750	1.72	11.833	31.74	17.917	1.93	24.00	1.29
5.833	1.72	11.917	31.74	18.000	1.93	24.08	1.29
5.917	1.72	12.000	31.74	18.083	1.93	24.17	1.29
6.000	1.72	12.083	131.25	18.167	1.93	24.25	1.29
6.083	1.72	12.167	131.26	18.250	1.93		

Unit Hyd Qpeak (cms)= 0.480

PEAK FLOW (cms)= 0.300 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 39.700
TOTAL RAINFALL (mm)= 107.240
RUNOFF COEFFICIENT = 0.370

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

CALIB			
NASHYD (0103)	Area (ha)=	0.66	Curve Number (CN)= 62.4
ID= 1 DT= 5.0 min	Ia (mm)=	6.95	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.16	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	131.26	18.33	1.93
0.167	0.00	6.250	1.72	12.333	15.46	18.42	1.93
0.250	0.00	6.333	1.93	12.417	15.44	18.50	1.93
0.333	1.18	6.417	1.93	12.500	15.44	18.58	1.93
0.417	1.18	6.500	1.93	12.583	15.44	18.67	1.93
0.500	1.18	6.583	1.93	12.667	15.44	18.75	1.93
0.583	1.18	6.667	1.93	12.750	15.44	18.83	1.93
0.667	1.18	6.750	1.93	12.833	7.94	18.92	1.93
0.750	1.18	6.833	1.93	12.917	7.94	19.00	1.93
0.833	1.18	6.917	1.93	13.000	7.94	19.08	1.93
0.917	1.18	7.000	1.93	13.083	7.94	19.17	1.93
1.000	1.18	7.083	1.93	13.167	7.94	19.25	1.93
1.083	1.18	7.167	1.93	13.250	7.94	19.33	1.93
1.167	1.18	7.250	1.93	13.333	5.79	19.42	1.93
1.250	1.18	7.333	2.36	13.417	5.79	19.50	1.93
1.333	1.18	7.417	2.36	13.500	5.79	19.58	1.93
1.417	1.18	7.500	2.36	13.583	5.79	19.67	1.93
1.500	1.18	7.583	2.36	13.667	5.79	19.75	1.93
1.583	1.18	7.667	2.36	13.750	5.79	19.83	1.93
1.667	1.18	7.750	2.36	13.833	4.50	19.92	1.93
1.750	1.18	7.833	2.36	13.917	4.50	20.00	1.93
1.833	1.18	7.917	2.36	14.000	4.50	20.08	1.93
1.917	1.18	8.000	2.36	14.083	4.50	20.17	1.93
2.000	1.18	8.083	2.36	14.167	4.50	20.25	1.93
2.083	1.18	8.167	2.36	14.250	4.50	20.33	1.29
2.167	1.18	8.250	2.36	14.333	3.22	20.42	1.29
2.250	1.18	8.333	2.79	14.417	3.22	20.50	1.29
2.333	1.39	8.417	2.79	14.500	3.22	20.58	1.29
2.417	1.39	8.500	2.79	14.583	3.22	20.67	1.29
2.500	1.39	8.583	2.79	14.667	3.22	20.75	1.29
2.583	1.39	8.667	2.79	14.750	3.22	20.83	1.29
2.667	1.39	8.750	2.79	14.833	3.22	20.92	1.29
2.750	1.39	8.833	3.00	14.917	3.22	21.00	1.29
2.833	1.39	8.917	3.00	15.000	3.22	21.08	1.29
2.917	1.39	9.000	3.00	15.083	3.22	21.17	1.29
3.000	1.39	9.083	3.00	15.167	3.22	21.25	1.29
3.083	1.39	9.167	3.00	15.250	3.22	21.33	1.29
3.167	1.39	9.250	3.00	15.333	3.22	21.42	1.29
3.250	1.39	9.333	3.43	15.417	3.22	21.50	1.29
3.333	1.39	9.417	3.43	15.500	3.22	21.58	1.29
3.417	1.39	9.500	3.43	15.583	3.22	21.67	1.29
3.500	1.39	9.583	3.43	15.667	3.22	21.75	1.29
3.583	1.39	9.667	3.43	15.750	3.22	21.83	1.29
3.667	1.39	9.750	3.43	15.833	3.22	21.92	1.29
3.750	1.39	9.833	3.86	15.917	3.22	22.00	1.29
3.833	1.39	9.917	3.86	16.000	3.22	22.08	1.29
3.917	1.39	10.000	3.86	16.083	3.22	22.17	1.29
4.000	1.39	10.083	3.86	16.167	3.22	22.25	1.29
4.083	1.39	10.167	3.86	16.250	3.22	22.33	1.29
4.167	1.39	10.250	3.86	16.333	1.93	22.42	1.29
4.250	1.39	10.333	4.93	16.417	1.93	22.50	1.29
4.333	1.72	10.417	4.93	16.500	1.93	22.58	1.29
4.417	1.72	10.500	4.93	16.583	1.93	22.67	1.29
4.500	1.72	10.583	4.93	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.93	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.93	16.833	1.93	22.92	1.29
4.750	1.72	10.833	6.65	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.65	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.65	17.083	1.93	23.17	1.29
5.000	1.72	11.083	6.65	17.167	1.93	23.25	1.29
5.083	1.72	11.167	6.65	17.250	1.93	23.33	1.29
5.167	1.72	11.250	6.65	17.333	1.93	23.42	1.29
5.250	1.72	11.333	10.29	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.30	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.30	17.583	1.93	23.67	1.29

5.500	1.72	11.583	10.30	17.667	1.93	23.75	1.29
5.583	1.72	11.667	10.30	17.750	1.93	23.83	1.29
5.667	1.72	11.750	10.30	17.833	1.93	23.92	1.29
5.750	1.72	11.833	31.74	17.917	1.93	24.00	1.29
5.833	1.72	11.917	31.74	18.000	1.93	24.08	1.29
5.917	1.72	12.000	31.74	18.083	1.93	24.17	1.29
6.000	1.72	12.083	131.25	18.167	1.93	24.25	1.29
6.083	1.72	12.167	131.26	18.250	1.93		

Unit Hyd Qpeak (cms)= 0.158

PEAK FLOW (cms)= 0.075 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 39.522
TOTAL RAINFALL (mm)= 107.240
RUNOFF COEFFICIENT = 0.369

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

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V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
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 6.1\VO2\voin.dat

Output filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\3a
a1e9c0-07a2-4e37-94eb-c0f21fd34667\s
Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\3a
a1e9c0-07a2-4e37-94eb-c0f21fd34667\s

DATE: 01/19/2023 TIME: 07:37:50

USER:

COMMENTS: _____

****
** SIMULATION : 100yr 24hr 15min SCS **
****

READ STORM	Filename: C:\Users\elundquist\AppData\Local\Temp\eec61fe4-ea1d-4b25-930d-6bd365b221af\595b3911
Ptotal=117.91 mm	Comments: 100yr 24hr 15min SCS

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	2.12	12.75	16.98	19.00	2.12
0.50	1.30	6.75	2.12	13.00	8.73	19.25	2.12
0.75	1.30	7.00	2.12	13.25	8.73	19.50	2.12
1.00	1.30	7.25	2.12	13.50	6.37	19.75	2.12
1.25	1.30	7.50	2.59	13.75	6.37	20.00	2.12
1.50	1.30	7.75	2.59	14.00	4.95	20.25	2.12
1.75	1.30	8.00	2.59	14.25	4.95	20.50	1.41
2.00	1.30	8.25	2.59	14.50	3.54	20.75	1.41
2.25	1.30	8.50	3.07	14.75	3.54	21.00	1.41
2.50	1.53	8.75	3.07	15.00	3.54	21.25	1.41
2.75	1.53	9.00	3.30	15.25	3.54	21.50	1.41
3.00	1.53	9.25	3.30	15.50	3.54	21.75	1.41
3.25	1.53	9.50	3.77	15.75	3.54	22.00	1.41
3.50	1.53	9.75	3.77	16.00	3.54	22.25	1.41
3.75	1.53	10.00	4.24	16.25	3.54	22.50	1.41
4.00	1.53	10.25	4.24	16.50	2.12	22.75	1.41
4.25	1.53	10.50	5.42	16.75	2.12	23.00	1.41
4.50	1.89	10.75	5.42	17.00	2.12	23.25	1.41
4.75	1.89	11.00	7.31	17.25	2.12	23.50	1.41
5.00	1.89	11.25	7.31	17.50	2.12	23.75	1.41
5.25	1.89	11.50	11.32	17.75	2.12	24.00	1.41
5.50	1.89	11.75	11.32	18.00	2.12	24.25	1.41
5.75	1.89	12.00	34.90	18.25	2.12		
6.00	1.89	12.25	144.32	18.50	2.12		
6.25	1.89	12.50	16.98	18.75	2.12		

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| CALIB            |
| NASHYD   (  0117)|   Area    (ha)=   6.10   Curve Number   (CN)= 66.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.35   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.42

        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	1.89	12.250	144.32	18.33	2.12
0.167	0.00	6.250	1.89	12.333	17.00	18.42	2.12
0.250	0.00	6.333	2.12	12.417	16.98	18.50	2.12
0.333	1.30	6.417	2.12	12.500	16.98	18.58	2.12
0.417	1.30	6.500	2.12	12.583	16.98	18.67	2.12
0.500	1.30	6.583	2.12	12.667	16.98	18.75	2.12
0.583	1.30	6.667	2.12	12.750	16.98	18.83	2.12
0.667	1.30	6.750	2.12	12.833	8.73	18.92	2.12
0.750	1.30	6.833	2.12	12.917	8.73	19.00	2.12
0.833	1.30	6.917	2.12	13.000	8.73	19.08	2.12
0.917	1.30	7.000	2.12	13.083	8.73	19.17	2.12
1.000	1.30	7.083	2.12	13.167	8.73	19.25	2.12
1.083	1.30	7.167	2.12	13.250	8.73	19.33	2.12
1.167	1.30	7.250	2.12	13.333	6.37	19.42	2.12
1.250	1.30	7.333	2.59	13.417	6.37	19.50	2.12
1.333	1.30	7.417	2.59	13.500	6.37	19.58	2.12
1.417	1.30	7.500	2.59	13.583	6.37	19.67	2.12
1.500	1.30	7.583	2.59	13.667	6.37	19.75	2.12
1.583	1.30	7.667	2.59	13.750	6.37	19.83	2.12
1.667	1.30	7.750	2.59	13.833	4.95	19.92	2.12
1.750	1.30	7.833	2.59	13.917	4.95	20.00	2.12
1.833	1.30	7.917	2.59	14.000	4.95	20.08	2.12
1.917	1.30	8.000	2.59	14.083	4.95	20.17	2.12
2.000	1.30	8.083	2.59	14.167	4.95	20.25	2.12
2.083	1.30	8.167	2.59	14.250	4.95	20.33	1.41
2.167	1.30	8.250	2.59	14.333	3.54	20.42	1.41
2.250	1.30	8.333	3.07	14.417	3.54	20.50	1.41
2.333	1.53	8.417	3.07	14.500	3.54	20.58	1.41
2.417	1.53	8.500	3.07	14.583	3.54	20.67	1.41
2.500	1.53	8.583	3.07	14.667	3.54	20.75	1.41
2.583	1.53	8.667	3.07	14.750	3.54	20.83	1.41
2.667	1.53	8.750	3.07	14.833	3.54	20.92	1.41
2.750	1.53	8.833	3.30	14.917	3.54	21.00	1.41
2.833	1.53	8.917	3.30	15.000	3.54	21.08	1.41
2.917	1.53	9.000	3.30	15.083	3.54	21.17	1.41
3.000	1.53	9.083	3.30	15.167	3.54	21.25	1.41
3.083	1.53	9.167	3.30	15.250	3.54	21.33	1.41
3.167	1.53	9.250	3.30	15.333	3.54	21.42	1.41
3.250	1.53	9.333	3.77	15.417	3.54	21.50	1.41
3.333	1.53	9.417	3.77	15.500	3.54	21.58	1.41
3.417	1.53	9.500	3.77	15.583	3.54	21.67	1.41
3.500	1.53	9.583	3.77	15.667	3.54	21.75	1.41
3.583	1.53	9.667	3.77	15.750	3.54	21.83	1.41
3.667	1.53	9.750	3.77	15.833	3.54	21.92	1.41
3.750	1.53	9.833	4.24	15.917	3.54	22.00	1.41
3.833	1.53	9.917	4.24	16.000	3.54	22.08	1.41
3.917	1.53	10.000	4.24	16.083	3.54	22.17	1.41
4.000	1.53	10.083	4.24	16.167	3.54	22.25	1.41
4.083	1.53	10.167	4.24	16.250	3.54	22.33	1.41
4.167	1.53	10.250	4.24	16.333	2.12	22.42	1.41
4.250	1.53	10.333	5.42	16.417	2.12	22.50	1.41
4.333	1.89	10.417	5.42	16.500	2.12	22.58	1.41
4.417	1.89	10.500	5.42	16.583	2.12	22.67	1.41
4.500	1.89	10.583	5.42	16.667	2.12	22.75	1.41
4.583	1.89	10.667	5.42	16.750	2.12	22.83	1.41
4.667	1.89	10.750	5.42	16.833	2.12	22.92	1.41
4.750	1.89	10.833	7.31	16.917	2.12	23.00	1.41
4.833	1.89	10.917	7.31	17.000	2.12	23.08	1.41
4.917	1.89	11.000	7.31	17.083	2.12	23.17	1.41
5.000	1.89	11.083	7.31	17.167	2.12	23.25	1.41
5.083	1.89	11.167	7.31	17.250	2.12	23.33	1.41
5.167	1.89	11.250	7.31	17.333	2.12	23.42	1.41
5.250	1.89	11.333	11.32	17.417	2.12	23.50	1.41
5.333	1.89	11.417	11.32	17.500	2.12	23.58	1.41
5.417	1.89	11.500	11.32	17.583	2.12	23.67	1.41
5.500	1.89	11.583	11.32	17.667	2.12	23.75	1.41
5.583	1.89	11.667	11.32	17.750	2.12	23.83	1.41
5.667	1.89	11.750	11.32	17.833	2.12	23.92	1.41
5.750	1.89	11.833	34.90	17.917	2.12	24.00	1.41
5.833	1.89	11.917	34.90	18.000	2.12	24.08	1.41
5.917	1.89	12.000	34.90	18.083	2.12	24.17	1.41
6.000	1.89	12.083	144.31	18.167	2.12	24.25	1.41
6.083	1.89	12.167	144.32	18.250	2.12		

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    Unit Hyd Qpeak  (cms)=   0.555

    PEAK FLOW       (cms)=   0.482 (i)
    TIME TO PEAK    (hrs)=  12.583
    RUNOFF VOLUME    (mm)=  52.331
    TOTAL RAINFALL   (mm)= 117.910
    RUNOFF COEFFICIENT   =   0.444

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

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| CALIB            |
| NASHYD   (  0115)|   Area    (ha)=   9.34   Curve Number   (CN)= 62.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.91   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.71

        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	1.89	12.250	144.32	18.33	2.12
0.167	0.00	6.250	1.89	12.333	17.00	18.42	2.12
0.250	0.00	6.333	2.12	12.417	16.98	18.50	2.12
0.333	1.30	6.417	2.12	12.500	16.98	18.58	2.12
0.417	1.30	6.500	2.12	12.583	16.98	18.67	2.12
0.500	1.30	6.583	2.12	12.667	16.98	18.75	2.12
0.583	1.30	6.667	2.12	12.750	16.98	18.83	2.12
0.667	1.30	6.750	2.12	12.833	8.73	18.92	2.12
0.750	1.30	6.833	2.12	12.917	8.73	19.00	2.12
0.833	1.30	6.917	2.12	13.000	8.73	19.08	2.12
0.917	1.30	7.000	2.12	13.083	8.73	19.17	2.12
1.000	1.30	7.083	2.12	13.167	8.73	19.25	2.12
1.083	1.30	7.167	2.12	13.250	8.73	19.33	2.12
1.167	1.30	7.250	2.12	13.333	6.37	19.42	2.12
1.250	1.30	7.333	2.59	13.417	6.37	19.50	2.12
1.333	1.30	7.417	2.59	13.500	6.37	19.58	2.12
1.417	1.30	7.500	2.59	13.583	6.37	19.67	2.12
1.500	1.30	7.583	2.59	13.667	6.37	19.75	2.12
1.583	1.30	7.667	2.59	13.750	6.37	19.83	2.12
1.667	1.30	7.750	2.59	13.833	4.95	19.92	2.12
1.750	1.30	7.833	2.59	13.917	4.95	20.00	2.12
1.833	1.30	7.917	2.59	14.000	4.95	20.08	2.12
1.917	1.30	8.000	2.59	14.083	4.95	20.17	2.12
2.000	1.30	8.083	2.59	14.167	4.95	20.25	2.12
2.083	1.30	8.167	2.59	14.250	4.95	20.33	1.41
2.167	1.30	8.250	2.59	14.333	3.54	20.42	1.41
2.250	1.30	8.333	3.07	14.417	3.54	20.50	1.41
2.333	1.53	8.417	3.07	14.500	3.54	20.58	1.41
2.417	1.53	8.500	3.07	14.583	3.54	20.67	1.41
2.500	1.53	8.583	3.07	14.667	3.54	20.75	1.41
2.583	1.53	8.667	3.07	14.750	3.54	20.83	1.41
2.667	1.53	8.750	3.07	14.833	3.54	20.92	1.41
2.750	1.53	8.833	3.30	14.917	3.54	21.00	1.41
2.833	1.53	8.917	3.30	15.000	3.54	21.08	1.41
2.917	1.53	9.000	3.30	15.083	3.54	21.17	1.41
3.000	1.53	9.083	3.30	15.167	3.54	21.25	1.41
3.083	1.53	9.167	3.30	15.250	3.54	21.33	1.41
3.167	1.53	9.250	3.30	15.333	3.54	21.42	1.41
3.250	1.53	9.333	3.77	15.417	3.54	21.50	1.41
3.333	1.53	9.417	3.77	15.500	3.54	21.58	1.41
3.417	1.53	9.500	3.77	15.583	3.54	21.67	1.41
3.500	1.53	9.583	3.77	15.667	3.54	21.75	1.41
3.583	1.53	9.667	3.77	15.750	3.54	21.83	1.41
3.667	1.53	9.750	3.77	15.833	3.54	21.92	1.41
3.750	1.53	9.833	4.24	15.917	3.54	22.00	1.41
3.833	1.53	9.917	4.24	16.000	3.54	22.08	1.41
3.917	1.53	10.000	4.24	16.083	3.54	22.17	1.41
4.000	1.53	10.083	4.24	16.167	3.54	22.25	1.41
4.083	1.53	10.167	4.24	16.250	3.54	22.33	1.41
4.167	1.53	10.250	4.24	16.333	2.12	22.42	1.41
4.250	1.53	10.333	5.42	16.417	2.12	22.50	1.41
4.333	1.89	10.417	5.42	16.500	2.12	22.58	1.41
4.417	1.89	10.500	5.42	16.583	2.12	22.67	1.41
4.500	1.89	10.583	5.42	16.667	2.12	22.75	1.41
4.583	1.89	10.667	5.42	16.750	2.12	22.83	1.41
4.667	1.89	10.750	5.42	16.833	2.12	22.92	1.41
4.750	1.89	10.833	7.31	16.917	2.12	23.00	1.41
4.833	1.89	10.917	7.31	17.000	2.12	23.08	1.41
4.917	1.89	11.000	7.31	17.083	2.12	23.17	1.41
5.000	1.89	11.083	7.31	17.167	2.12	23.25	1.41
5.083	1.89	11.167	7.31	17.250	2.12	23.33	1.41
5.167	1.89	11.250	7.31	17.333	2.12	23.42	1.41
5.250	1.89	11.333	11.32	17.417	2.12	23.50	1.41
5.333	1.89	11.417	11.32	17.500	2.12	23.58	1.41
5.417	1.89	11.500	11.32	17.583	2.12	23.67	1.41
5.500	1.89	11.583	11.32	17.667	2.12	23.75	1.41
5.583	1.89	11.667	11.32	17.750	2.12	23.83	1.41
5.667	1.89	11.750	11.32	17.833	2.12	23.92	1.41
5.750	1.89	11.833	34.90	17.917	2.12	24.00	1.41
5.833	1.89	11.917	34.90	18.000	2.12	24.08	1.41
5.917	1.89	12.000	34.90	18.083	2.12	24.17	1.41
6.000	1.89	12.083	144.31	18.167	2.12	24.25	1.41
6.083	1.89	12.167	144.32	18.250	2.12		

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     Unit Hyd Qpeak  (cms)=   0.502

     PEAK FLOW       (cms)=   0.449 (i)
     TIME TO PEAK    (hrs)=  12.917
     RUNOFF VOLUME    (mm)=  46.892
     TOTAL RAINFALL   (mm)= 117.910
     RUNOFF COEFFICIENT   =   0.398

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

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| CALIB            |
| STANDHYD (  0303)|   Area    (ha)=   0.37
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|ID= 1 DT= 5.0 min | Total Imp(%)= 97.30 Dir. Conn.(%)= 92.40

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.36	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	49.67	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	1.89	12.250	144.32	18.33	2.12
0.167	0.00	6.250	1.89	12.333	17.00	18.42	2.12
0.250	0.00	6.333	2.12	12.417	16.98	18.50	2.12
0.333	1.30	6.417	2.12	12.500	16.98	18.58	2.12
0.417	1.30	6.500	2.12	12.583	16.98	18.67	2.12
0.500	1.30	6.583	2.12	12.667	16.98	18.75	2.12
0.583	1.30	6.667	2.12	12.750	16.98	18.83	2.12
0.667	1.30	6.750	2.12	12.833	8.73	18.92	2.12
0.750	1.30	6.833	2.12	12.917	8.73	19.00	2.12
0.833	1.30	6.917	2.12	13.000	8.73	19.08	2.12
0.917	1.30	7.000	2.12	13.083	8.73	19.17	2.12
1.000	1.30	7.083	2.12	13.167	8.73	19.25	2.12
1.083	1.30	7.167	2.12	13.250	8.73	19.33	2.12
1.167	1.30	7.250	2.12	13.333	6.37	19.42	2.12
1.250	1.30	7.333	2.59	13.417	6.37	19.50	2.12
1.333	1.30	7.417	2.59	13.500	6.37	19.58	2.12
1.417	1.30	7.500	2.59	13.583	6.37	19.67	2.12
1.500	1.30	7.583	2.59	13.667	6.37	19.75	2.12
1.583	1.30	7.667	2.59	13.750	6.37	19.83	2.12
1.667	1.30	7.750	2.59	13.833	4.95	19.92	2.12
1.750	1.30	7.833	2.59	13.917	4.95	20.00	2.12
1.833	1.30	7.917	2.59	14.000	4.95	20.08	2.12
1.917	1.30	8.000	2.59	14.083	4.95	20.17	2.12
2.000	1.30	8.083	2.59	14.167	4.95	20.25	2.12
2.083	1.30	8.167	2.59	14.250	4.95	20.33	1.41
2.167	1.30	8.250	2.59	14.333	3.54	20.42	1.41
2.250	1.30	8.333	3.07	14.417	3.54	20.50	1.41
2.333	1.53	8.417	3.07	14.500	3.54	20.58	1.41
2.417	1.53	8.500	3.07	14.583	3.54	20.67	1.41
2.500	1.53	8.583	3.07	14.667	3.54	20.75	1.41
2.583	1.53	8.667	3.07	14.750	3.54	20.83	1.41
2.667	1.53	8.750	3.07	14.833	3.54	20.92	1.41
2.750	1.53	8.833	3.30	14.917	3.54	21.00	1.41
2.833	1.53	8.917	3.30	15.000	3.54	21.08	1.41
2.917	1.53	9.000	3.30	15.083	3.54	21.17	1.41
3.000	1.53	9.083	3.30	15.167	3.54	21.25	1.41
3.083	1.53	9.167	3.30	15.250	3.54	21.33	1.41
3.167	1.53	9.250	3.30	15.333	3.54	21.42	1.41
3.250	1.53	9.333	3.77	15.417	3.54	21.50	1.41
3.333	1.53	9.417	3.77	15.500	3.54	21.58	1.41
3.417	1.53	9.500	3.77	15.583	3.54	21.67	1.41
3.500	1.53	9.583	3.77	15.667	3.54	21.75	1.41
3.583	1.53	9.667	3.77	15.750	3.54	21.83	1.41
3.667	1.53	9.750	3.77	15.833	3.54	21.92	1.41
3.750	1.53	9.833	4.24	15.917	3.54	22.00	1.41
3.833	1.53	9.917	4.24	16.000	3.54	22.08	1.41
3.917	1.53	10.000	4.24	16.083	3.54	22.17	1.41
4.000	1.53	10.083	4.24	16.167	3.54	22.25	1.41
4.083	1.53	10.167	4.24	16.250	3.54	22.33	1.41
4.167	1.53	10.250	4.24	16.333	2.12	22.42	1.41
4.250	1.53	10.333	5.42	16.417	2.12	22.50	1.41
4.333	1.89	10.417	5.42	16.500	2.12	22.58	1.41
4.417	1.89	10.500	5.42	16.583	2.12	22.67	1.41
4.500	1.89	10.583	5.42	16.667	2.12	22.75	1.41
4.583	1.89	10.667	5.42	16.750	2.12	22.83	1.41
4.667	1.89	10.750	5.42	16.833	2.12	22.92	1.41
4.750	1.89	10.833	7.31	16.917	2.12	23.00	1.41
4.833	1.89	10.917	7.31	17.000	2.12	23.08	1.41
4.917	1.89	11.000	7.31	17.083	2.12	23.17	1.41
5.000	1.89	11.083	7.31	17.167	2.12	23.25	1.41
5.083	1.89	11.167	7.31	17.250	2.12	23.33	1.41
5.167	1.89	11.250	7.31	17.333	2.12	23.42	1.41
5.250	1.89	11.333	11.32	17.417	2.12	23.50	1.41
5.333	1.89	11.417	11.32	17.500	2.12	23.58	1.41
5.417	1.89	11.500	11.32	17.583	2.12	23.67	1.41
5.500	1.89	11.583	11.32	17.667	2.12	23.75	1.41
5.583	1.89	11.667	11.32	17.750	2.12	23.83	1.41
5.667	1.89	11.750	11.32	17.833	2.12	23.92	1.41
5.750	1.89	11.833	34.90	17.917	2.12	24.00	1.41
5.833	1.89	11.917	34.90	18.000	2.12	24.08	1.41
5.917	1.89	12.000	34.90	18.083	2.12	24.17	1.41
6.000	1.89	12.083	144.31	18.167	2.12	24.25	1.41
6.083	1.89	12.167	144.32	18.250	2.12		

Max.Eff.Inten.(mm/hr)=		144.32	262.39	
over (min)		5.00	5.00	
Storage Coeff. (min)=		1.45 (ii)	2.93 (ii)	
Unit Hyd. Tpeak (min)=		5.00	5.00	
Unit Hyd. peak (cms)=		0.33	0.28	
				TOTALS
PEAK FLOW	(cms)=	0.14	0.01	0.144 (iii)
TIME TO PEAK	(hrs)=	12.25	12.25	12.25
RUNOFF VOLUME	(mm)=	116.91	64.21	112.90
TOTAL RAINFALL	(mm)=	117.91	117.91	117.91
RUNOFF COEFFICIENT	=	0.99	0.54	0.96

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

| DUHYD (0801)|
| Inlet Cap.= 0.109|
| #of Inlets= 1|
| Total(cms)= 0.1| AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
TOTAL HYD.(ID= 1): 0.37 0.14 12.25 112.90
MAJOR SYS.(ID= 2): 0.03 0.04 12.25 112.90
MINOR SYS.(ID= 3): 0.34 0.11 12.08 112.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (0901)|
| 1 + 2 = 3 | AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
ID1= 1 (0115): 9.34 0.449 12.92 46.89
+ ID2= 2 (0117): 6.10 0.482 12.58 52.33
ID = 3 (0901): 15.44 0.879 12.67 49.04

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| ADD HYD (0901)|
| 3 + 2 = 1 | AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
ID1= 3 (0901): 15.44 0.879 12.67 49.04
+ ID2= 2 (0801): 0.03 0.035 12.25 112.90
ID = 1 (0901): 15.47 0.879 12.67 49.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| DUHYD (0802)|
| Inlet Cap.= 0.364|
| #of Inlets= 1|
| Total(cms)= 0.4| AREA QPEAK TPEAK R.V.
(ha) (cms) (hrs) (mm)
TOTAL HYD.(ID= 1): 15.47 0.88 12.67 49.15
MAJOR SYS.(ID= 2): 3.36 0.51 12.67 49.15
MINOR SYS.(ID= 3): 12.11 0.36 12.25 49.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

| CALIB |
| NASHYD (0116)| Area (ha)= 6.57 Curve Number (CN)= 62.9
|ID= 1 DT= 5.0 min | Ia (mm)= 6.88 # of Linear Res.(N)= 3.00
U.H. Tp(hrs)= 0.56

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.89	12.250	144.32	18.33	2.12
0.167	0.00	6.250	1.89	12.333	17.00	18.42	2.12
0.250	0.00	6.333	2.12	12.417	16.98	18.50	2.12
0.333	1.30	6.417	2.12	12.500	16.98	18.58	2.12
0.417	1.30	6.500	2.12	12.583	16.98	18.67	2.12
0.500	1.30	6.583	2.12	12.667	16.98	18.75	2.12
0.583	1.30	6.667	2.12	12.750	16.98	18.83	2.12
0.667	1.30	6.750	2.12	12.833	8.73	18.92	2.12
0.750	1.30	6.833	2.12	12.917	8.73	19.00	2.12
0.833	1.30	6.917	2.12	13.000	8.73	19.08	2.12
0.917	1.30	7.000	2.12	13.083	8.73	19.17	2.12
1.000	1.30	7.083	2.12	13.167	8.73	19.25	2.12
1.083	1.30	7.167	2.12	13.250	8.73	19.33	2.12
1.167	1.30	7.250	2.12	13.333	6.37	19.42	2.12
1.250	1.30	7.333	2.59	13.417	6.37	19.50	2.12
1.333	1.30	7.417	2.59	13.500	6.37	19.58	2.12
1.417	1.30	7.500	2.59	13.583	6.37	19.67	2.12
1.500	1.30	7.583	2.59	13.667	6.37	19.75	2.12
1.583	1.30	7.667	2.59	13.750	6.37	19.83	2.12
1.667	1.30	7.750	2.59	13.833	4.95	19.92	2.12
1.750	1.30	7.833	2.59	13.917	4.95	20.00	2.12
1.833	1.30	7.917	2.59	14.000	4.95	20.08	2.12
1.917	1.30	8.000	2.59	14.083	4.95	20.17	2.12
2.000	1.30	8.083	2.59	14.167	4.95	20.25	2.12
2.083	1.30	8.167	2.59	14.250	4.95	20.33	1.41
2.167	1.30	8.250	2.59	14.333	3.54	20.42	1.41

2.250	1.30	8.333	3.07	14.417	3.54	20.50	1.41
2.333	1.53	8.417	3.07	14.500	3.54	20.58	1.41
2.417	1.53	8.500	3.07	14.583	3.54	20.67	1.41
2.500	1.53	8.583	3.07	14.667	3.54	20.75	1.41
2.583	1.53	8.667	3.07	14.750	3.54	20.83	1.41
2.667	1.53	8.750	3.07	14.833	3.54	20.92	1.41
2.750	1.53	8.833	3.30	14.917	3.54	21.00	1.41
2.833	1.53	8.917	3.30	15.000	3.54	21.08	1.41
2.917	1.53	9.000	3.30	15.083	3.54	21.17	1.41
3.000	1.53	9.083	3.30	15.167	3.54	21.25	1.41
3.083	1.53	9.167	3.30	15.250	3.54	21.33	1.41
3.167	1.53	9.250	3.30	15.333	3.54	21.42	1.41
3.250	1.53	9.333	3.77	15.417	3.54	21.50	1.41
3.333	1.53	9.417	3.77	15.500	3.54	21.58	1.41
3.417	1.53	9.500	3.77	15.583	3.54	21.67	1.41
3.500	1.53	9.583	3.77	15.667	3.54	21.75	1.41
3.583	1.53	9.667	3.77	15.750	3.54	21.83	1.41
3.667	1.53	9.750	3.77	15.833	3.54	21.92	1.41
3.750	1.53	9.833	4.24	15.917	3.54	22.00	1.41
3.833	1.53	9.917	4.24	16.000	3.54	22.08	1.41
3.917	1.53	10.000	4.24	16.083	3.54	22.17	1.41
4.000	1.53	10.083	4.24	16.167	3.54	22.25	1.41
4.083	1.53	10.167	4.24	16.250	3.54	22.33	1.41
4.167	1.53	10.250	4.24	16.333	2.12	22.42	1.41
4.250	1.53	10.333	5.42	16.417	2.12	22.50	1.41
4.333	1.89	10.417	5.42	16.500	2.12	22.58	1.41
4.417	1.89	10.500	5.42	16.583	2.12	22.67	1.41
4.500	1.89	10.583	5.42	16.667	2.12	22.75	1.41
4.583	1.89	10.667	5.42	16.750	2.12	22.83	1.41
4.667	1.89	10.750	5.42	16.833	2.12	22.92	1.41
4.750	1.89	10.833	7.31	16.917	2.12	23.00	1.41
4.833	1.89	10.917	7.31	17.000	2.12	23.08	1.41
4.917	1.89	11.000	7.31	17.083	2.12	23.17	1.41
5.000	1.89	11.083	7.31	17.167	2.12	23.25	1.41
5.083	1.89	11.167	7.31	17.250	2.12	23.33	1.41
5.167	1.89	11.250	7.31	17.333	2.12	23.42	1.41
5.250	1.89	11.333	11.32	17.417	2.12	23.50	1.41
5.333	1.89	11.417	11.32	17.500	2.12	23.58	1.41
5.417	1.89	11.500	11.32	17.583	2.12	23.67	1.41
5.500	1.89	11.583	11.32	17.667	2.12	23.75	1.41
5.583	1.89	11.667	11.32	17.750	2.12	23.83	1.41
5.667	1.89	11.750	11.32	17.833	2.12	23.92	1.41
5.750	1.89	11.833	34.90	17.917	2.12	24.00	1.41
5.833	1.89	11.917	34.90	18.000	2.12	24.08	1.41
5.917	1.89	12.000	34.90	18.083	2.12	24.17	1.41
6.000	1.89	12.083	144.31	18.167	2.12	24.25	1.41
6.083	1.89	12.167	144.32	18.250	2.12		

Unit Hyd Qpeak (cms)= 0.448

PEAK FLOW (cms)= 0.378 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 47.259
TOTAL RAINFALL (mm)= 117.910
RUNOFF COEFFICIENT = 0.401

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

ADD HYD (0902)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0116):	6.57	0.378	12.75	47.26
	+ ID2= 2 (0802):	3.36	0.515	12.67	49.15
	ID = 3 (0902):	9.93	0.891	12.67	47.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB NASHYD (0101)				
ID= 1 DT= 5.0 min	Area (ha)=	9.85	Curve Number (CN)=	62.3
	Ia (mm)=	6.95	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	0.80		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.89	12.250	144.32	18.33	2.12
0.167	0.00	6.250	1.89	12.333	17.00	18.42	2.12
0.250	0.00	6.333	2.12	12.417	16.98	18.50	2.12
0.333	1.30	6.417	2.12	12.500	16.98	18.58	2.12
0.417	1.30	6.500	2.12	12.583	16.98	18.67	2.12
0.500	1.30	6.583	2.12	12.667	16.98	18.75	2.12
0.583	1.30	6.667	2.12	12.750	16.98	18.83	2.12
0.667	1.30	6.750	2.12	12.833	8.73	18.92	2.12
0.750	1.30	6.833	2.12	12.917	8.73	19.00	2.12
0.833	1.30	6.917	2.12	13.000	8.73	19.08	2.12
0.917	1.30	7.000	2.12	13.083	8.73	19.17	2.12
1.000	1.30	7.083	2.12	13.167	8.73	19.25	2.12
1.083	1.30	7.167	2.12	13.250	8.73	19.33	2.12
1.167	1.30	7.250	2.12	13.333	6.37	19.42	2.12
1.250	1.30	7.333	2.59	13.417	6.37	19.50	2.12
1.333	1.30	7.417	2.59	13.500	6.37	19.58	2.12
1.417	1.30	7.500	2.59	13.583	6.37	19.67	2.12

1.500	1.30	7.583	2.59	13.667	6.37	19.75	2.12
1.583	1.30	7.667	2.59	13.750	6.37	19.83	2.12
1.667	1.30	7.750	2.59	13.833	4.95	19.92	2.12
1.750	1.30	7.833	2.59	13.917	4.95	20.00	2.12
1.833	1.30	7.917	2.59	14.000	4.95	20.08	2.12
1.917	1.30	8.000	2.59	14.083	4.95	20.17	2.12
2.000	1.30	8.083	2.59	14.167	4.95	20.25	2.12
2.083	1.30	8.167	2.59	14.250	4.95	20.33	1.41
2.167	1.30	8.250	2.59	14.333	3.54	20.42	1.41
2.250	1.30	8.333	3.07	14.417	3.54	20.50	1.41
2.333	1.53	8.417	3.07	14.500	3.54	20.58	1.41
2.417	1.53	8.500	3.07	14.583	3.54	20.67	1.41
2.500	1.53	8.583	3.07	14.667	3.54	20.75	1.41
2.583	1.53	8.667	3.07	14.750	3.54	20.83	1.41
2.667	1.53	8.750	3.07	14.833	3.54	20.92	1.41
2.750	1.53	8.833	3.30	14.917	3.54	21.00	1.41
2.833	1.53	8.917	3.30	15.000	3.54	21.08	1.41
2.917	1.53	9.000	3.30	15.083	3.54	21.17	1.41
3.000	1.53	9.083	3.30	15.167	3.54	21.25	1.41
3.083	1.53	9.167	3.30	15.250	3.54	21.33	1.41
3.167	1.53	9.250	3.30	15.333	3.54	21.42	1.41
3.250	1.53	9.333	3.77	15.417	3.54	21.50	1.41
3.333	1.53	9.417	3.77	15.500	3.54	21.58	1.41
3.417	1.53	9.500	3.77	15.583	3.54	21.67	1.41
3.500	1.53	9.583	3.77	15.667	3.54	21.75	1.41
3.583	1.53	9.667	3.77	15.750	3.54	21.83	1.41
3.667	1.53	9.750	3.77	15.833	3.54	21.92	1.41
3.750	1.53	9.833	4.24	15.917	3.54	22.00	1.41
3.833	1.53	9.917	4.24	16.000	3.54	22.08	1.41
3.917	1.53	10.000	4.24	16.083	3.54	22.17	1.41
4.000	1.53	10.083	4.24	16.167	3.54	22.25	1.41
4.083	1.53	10.167	4.24	16.250	3.54	22.33	1.41
4.167	1.53	10.250	4.24	16.333	2.12	22.42	1.41
4.250	1.53	10.333	5.42	16.417	2.12	22.50	1.41
4.333	1.89	10.417	5.42	16.500	2.12	22.58	1.41
4.417	1.89	10.500	5.42	16.583	2.12	22.67	1.41
4.500	1.89	10.583	5.42	16.667	2.12	22.75	1.41
4.583	1.89	10.667	5.42	16.750	2.12	22.83	1.41
4.667	1.89	10.750	5.42	16.833	2.12	22.92	1.41
4.750	1.89	10.833	7.31	16.917	2.12	23.00	1.41
4.833	1.89	10.917	7.31	17.000	2.12	23.08	1.41
4.917	1.89	11.000	7.31	17.083	2.12	23.17	1.41
5.000	1.89	11.083	7.31	17.167	2.12	23.25	1.41
5.083	1.89	11.167	7.31	17.250	2.12	23.33	1.41
5.167	1.89	11.250	7.31	17.333	2.12	23.42	1.41
5.250	1.89	11.333	11.32	17.417	2.12	23.50	1.41
5.333	1.89	11.417	11.32	17.500	2.12	23.58	1.41
5.417	1.89	11.500	11.32	17.583	2.12	23.67	1.41
5.500	1.89	11.583	11.32	17.667	2.12	23.75	1.41
5.583	1.89	11.667	11.32	17.750	2.12	23.83	1.41
5.667	1.89	11.750	11.32	17.833	2.12	23.92	1.41
5.750	1.89	11.833	34.90	17.917	2.12	24.00	1.41
5.833	1.89	11.917	34.90	18.000	2.12	24.08	1.41
5.917	1.89	12.000	34.90	18.083	2.12	24.17	1.41
6.000	1.89	12.083	144.31	18.167	2.12	24.25	1.41
6.083	1.89	12.167	144.32	18.250	2.12		

Unit Hyd Qpeak (cms)= 0.470

PEAK FLOW (cms)= 0.430 (i)
TIME TO PEAK (hrs)= 13.000
RUNOFF VOLUME (mm)= 46.519
TOTAL RAINFALL (mm)= 117.910
RUNOFF COEFFICIENT = 0.395

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

CALIB					
NASHYD (0102)	Area	(ha)=	4.52	Curve Number (CN)=	62.4
ID= 1 DT= 5.0 min	Ia	(mm)=	6.94	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=		0.36		

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.89	12.250	144.32	18.33	2.12
0.167	0.00	6.250	1.89	12.333	17.00	18.42	2.12
0.250	0.00	6.333	2.12	12.417	16.98	18.50	2.12
0.333	1.30	6.417	2.12	12.500	16.98	18.58	2.12
0.417	1.30	6.500	2.12	12.583	16.98	18.67	2.12
0.500	1.30	6.583	2.12	12.667	16.98	18.75	2.12
0.583	1.30	6.667	2.12	12.750	16.98	18.83	2.12
0.667	1.30	6.750	2.12	12.833	8.73	18.92	2.12
0.750	1.30	6.833	2.12	12.917	8.73	19.00	2.12
0.833	1.30	6.917	2.12	13.000	8.73	19.08	2.12
0.917	1.30	7.000	2.12	13.083	8.73	19.17	2.12
1.000	1.30	7.083	2.12	13.167	8.73	19.25	2.12
1.083	1.30	7.167	2.12	13.250	8.73	19.33	2.12
1.167	1.30	7.250	2.12	13.333	6.37	19.42	2.12
1.250	1.30	7.333	2.59	13.417	6.37	19.50	2.12
1.333	1.30	7.417	2.59	13.500	6.37	19.58	2.12
1.417	1.30	7.500	2.59	13.583	6.37	19.67	2.12
1.500	1.30	7.583	2.59	13.667	6.37	19.75	2.12
1.583	1.30	7.667	2.59	13.750	6.37	19.83	2.12
1.667	1.30	7.750	2.59	13.833	4.95	19.92	2.12

1.750	1.30	7.833	2.59	13.917	4.95	20.00	2.12
1.833	1.30	7.917	2.59	14.000	4.95	20.08	2.12
1.917	1.30	8.000	2.59	14.083	4.95	20.17	2.12
2.000	1.30	8.083	2.59	14.167	4.95	20.25	2.12
2.083	1.30	8.167	2.59	14.250	4.95	20.33	1.41
2.167	1.30	8.250	2.59	14.333	3.54	20.42	1.41
2.250	1.30	8.333	3.07	14.417	3.54	20.50	1.41
2.333	1.53	8.417	3.07	14.500	3.54	20.58	1.41
2.417	1.53	8.500	3.07	14.583	3.54	20.67	1.41
2.500	1.53	8.583	3.07	14.667	3.54	20.75	1.41
2.583	1.53	8.667	3.07	14.750	3.54	20.83	1.41
2.667	1.53	8.750	3.07	14.833	3.54	20.92	1.41
2.750	1.53	8.833	3.30	14.917	3.54	21.00	1.41
2.833	1.53	8.917	3.30	15.000	3.54	21.08	1.41
2.917	1.53	9.000	3.30	15.083	3.54	21.17	1.41
3.000	1.53	9.083	3.30	15.167	3.54	21.25	1.41
3.083	1.53	9.167	3.30	15.250	3.54	21.33	1.41
3.167	1.53	9.250	3.30	15.333	3.54	21.42	1.41
3.250	1.53	9.333	3.77	15.417	3.54	21.50	1.41
3.333	1.53	9.417	3.77	15.500	3.54	21.58	1.41
3.417	1.53	9.500	3.77	15.583	3.54	21.67	1.41
3.500	1.53	9.583	3.77	15.667	3.54	21.75	1.41
3.583	1.53	9.667	3.77	15.750	3.54	21.83	1.41
3.667	1.53	9.750	3.77	15.833	3.54	21.92	1.41
3.750	1.53	9.833	4.24	15.917	3.54	22.00	1.41
3.833	1.53	9.917	4.24	16.000	3.54	22.08	1.41
3.917	1.53	10.000	4.24	16.083	3.54	22.17	1.41
4.000	1.53	10.083	4.24	16.167	3.54	22.25	1.41
4.083	1.53	10.167	4.24	16.250	3.54	22.33	1.41
4.167	1.53	10.250	4.24	16.333	2.12	22.42	1.41
4.250	1.53	10.333	5.42	16.417	2.12	22.50	1.41
4.333	1.89	10.417	5.42	16.500	2.12	22.58	1.41
4.417	1.89	10.500	5.42	16.583	2.12	22.67	1.41
4.500	1.89	10.583	5.42	16.667	2.12	22.75	1.41
4.583	1.89	10.667	5.42	16.750	2.12	22.83	1.41
4.667	1.89	10.750	5.42	16.833	2.12	22.92	1.41
4.750	1.89	10.833	7.31	16.917	2.12	23.00	1.41
4.833	1.89	10.917	7.31	17.000	2.12	23.08	1.41
4.917	1.89	11.000	7.31	17.083	2.12	23.17	1.41
5.000	1.89	11.083	7.31	17.167	2.12	23.25	1.41
5.083	1.89	11.167	7.31	17.250	2.12	23.33	1.41
5.167	1.89	11.250	7.31	17.333	2.12	23.42	1.41
5.250	1.89	11.333	11.32	17.417	2.12	23.50	1.41
5.333	1.89	11.417	11.32	17.500	2.12	23.58	1.41
5.417	1.89	11.500	11.32	17.583	2.12	23.67	1.41
5.500	1.89	11.583	11.32	17.667	2.12	23.75	1.41
5.583	1.89	11.667	11.32	17.750	2.12	23.83	1.41
5.667	1.89	11.750	11.32	17.833	2.12	23.92	1.41
5.750	1.89	11.833	34.90	17.917	2.12	24.00	1.41
5.833	1.89	11.917	34.90	18.000	2.12	24.08	1.41
5.917	1.89	12.000	34.90	18.083	2.12	24.17	1.41
6.000	1.89	12.083	144.31	18.167	2.12	24.25	1.41
6.083	1.89	12.167	144.32	18.250	2.12		

Unit Hyd Qpeak (cms)= 0.480

PEAK FLOW (cms)= 0.354 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 46.633
TOTAL RAINFALL (mm)= 117.910
RUNOFF COEFFICIENT = 0.395

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

CALIB			
NASHYD (0103)	Area (ha)=	0.66	Curve Number (CN)= 62.4
ID= 1 DT= 5.0 min	Ia (mm)=	6.95	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.16	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.89	12.250	144.32	18.33	2.12
0.167	0.00	6.250	1.89	12.333	17.00	18.42	2.12
0.250	0.00	6.333	2.12	12.417	16.98	18.50	2.12
0.333	1.30	6.417	2.12	12.500	16.98	18.58	2.12
0.417	1.30	6.500	2.12	12.583	16.98	18.67	2.12
0.500	1.30	6.583	2.12	12.667	16.98	18.75	2.12
0.583	1.30	6.667	2.12	12.750	16.98	18.83	2.12
0.667	1.30	6.750	2.12	12.833	8.73	18.92	2.12
0.750	1.30	6.833	2.12	12.917	8.73	19.00	2.12
0.833	1.30	6.917	2.12	13.000	8.73	19.08	2.12
0.917	1.30	7.000	2.12	13.083	8.73	19.17	2.12
1.000	1.30	7.083	2.12	13.167	8.73	19.25	2.12
1.083	1.30	7.167	2.12	13.250	8.73	19.33	2.12
1.167	1.30	7.250	2.12	13.333	6.37	19.42	2.12
1.250	1.30	7.333	2.59	13.417	6.37	19.50	2.12
1.333	1.30	7.417	2.59	13.500	6.37	19.58	2.12
1.417	1.30	7.500	2.59	13.583	6.37	19.67	2.12
1.500	1.30	7.583	2.59	13.667	6.37	19.75	2.12
1.583	1.30	7.667	2.59	13.750	6.37	19.83	2.12
1.667	1.30	7.750	2.59	13.833	4.95	19.92	2.12
1.750	1.30	7.833	2.59	13.917	4.95	20.00	2.12
1.833	1.30	7.917	2.59	14.000	4.95	20.08	2.12
1.917	1.30	8.000	2.59	14.083	4.95	20.17	2.12

2.000	1.30	8.083	2.59	14.167	4.95	20.25	2.12
2.083	1.30	8.167	2.59	14.250	4.95	20.33	1.41
2.167	1.30	8.250	2.59	14.333	3.54	20.42	1.41
2.250	1.30	8.333	3.07	14.417	3.54	20.50	1.41
2.333	1.53	8.417	3.07	14.500	3.54	20.58	1.41
2.417	1.53	8.500	3.07	14.583	3.54	20.67	1.41
2.500	1.53	8.583	3.07	14.667	3.54	20.75	1.41
2.583	1.53	8.667	3.07	14.750	3.54	20.83	1.41
2.667	1.53	8.750	3.07	14.833	3.54	20.92	1.41
2.750	1.53	8.833	3.30	14.917	3.54	21.00	1.41
2.833	1.53	8.917	3.30	15.000	3.54	21.08	1.41
2.917	1.53	9.000	3.30	15.083	3.54	21.17	1.41
3.000	1.53	9.083	3.30	15.167	3.54	21.25	1.41
3.083	1.53	9.167	3.30	15.250	3.54	21.33	1.41
3.167	1.53	9.250	3.30	15.333	3.54	21.42	1.41
3.250	1.53	9.333	3.77	15.417	3.54	21.50	1.41
3.333	1.53	9.417	3.77	15.500	3.54	21.58	1.41
3.417	1.53	9.500	3.77	15.583	3.54	21.67	1.41
3.500	1.53	9.583	3.77	15.667	3.54	21.75	1.41
3.583	1.53	9.667	3.77	15.750	3.54	21.83	1.41
3.667	1.53	9.750	3.77	15.833	3.54	21.92	1.41
3.750	1.53	9.833	4.24	15.917	3.54	22.00	1.41
3.833	1.53	9.917	4.24	16.000	3.54	22.08	1.41
3.917	1.53	10.000	4.24	16.083	3.54	22.17	1.41
4.000	1.53	10.083	4.24	16.167	3.54	22.25	1.41
4.083	1.53	10.167	4.24	16.250	3.54	22.33	1.41
4.167	1.53	10.250	4.24	16.333	2.12	22.42	1.41
4.250	1.53	10.333	5.42	16.417	2.12	22.50	1.41
4.333	1.89	10.417	5.42	16.500	2.12	22.58	1.41
4.417	1.89	10.500	5.42	16.583	2.12	22.67	1.41
4.500	1.89	10.583	5.42	16.667	2.12	22.75	1.41
4.583	1.89	10.667	5.42	16.750	2.12	22.83	1.41
4.667	1.89	10.750	5.42	16.833	2.12	22.92	1.41
4.750	1.89	10.833	7.31	16.917	2.12	23.00	1.41
4.833	1.89	10.917	7.31	17.000	2.12	23.08	1.41
4.917	1.89	11.000	7.31	17.083	2.12	23.17	1.41
5.000	1.89	11.083	7.31	17.167	2.12	23.25	1.41
5.083	1.89	11.167	7.31	17.250	2.12	23.33	1.41
5.167	1.89	11.250	7.31	17.333	2.12	23.42	1.41
5.250	1.89	11.333	11.32	17.417	2.12	23.50	1.41
5.333	1.89	11.417	11.32	17.500	2.12	23.58	1.41
5.417	1.89	11.500	11.32	17.583	2.12	23.67	1.41
5.500	1.89	11.583	11.32	17.667	2.12	23.75	1.41
5.583	1.89	11.667	11.32	17.750	2.12	23.83	1.41
5.667	1.89	11.750	11.32	17.833	2.12	23.92	1.41
5.750	1.89	11.833	34.90	17.917	2.12	24.00	1.41
5.833	1.89	11.917	34.90	18.000	2.12	24.08	1.41
5.917	1.89	12.000	34.90	18.083	2.12	24.17	1.41
6.000	1.89	12.083	144.31	18.167	2.12	24.25	1.41
6.083	1.89	12.167	144.32	18.250	2.12		

Unit Hyd Qpeak (cms)= 0.158

PEAK FLOW (cms)= 0.088 (i)
TIME TO PEAK (hrs)= 12.250
RUNOFF VOLUME (mm)= 46.424
TOTAL RAINFALL (mm)= 117.910
RUNOFF COEFFICIENT = 0.394

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

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       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       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 6.1\VO2\voin.dat

  Output  filename:
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9d55d9-652c-4e78-96c6-d9617cda6ad3\s
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9d55d9-652c-4e78-96c6-d9617cda6ad3\s


DATE: 01/19/2023                          TIME: 07:40:37

USER:



COMMENTS: _____________________________________________________


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  ************************************************
  ** SIMULATION : TIMMINS                       **
  ************************************************


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|    READ STORM    |    Filename: C:\Users\elundquist\AppD
|                  |              ata\Local\Temp\
|                  |              62568617-f189-430e-945b-8734f67766b6\e6fd0853
| Ptotal=193.00 mm |    Comments: TIMMINS
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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	15.00	3.25	3.00	6.25	43.00	9.25	13.00
0.50	15.00	3.50	3.00	6.50	43.00	9.50	13.00
0.75	15.00	3.75	3.00	6.75	43.00	9.75	13.00
1.00	15.00	4.00	3.00	7.00	43.00	10.00	13.00
1.25	20.00	4.25	5.00	7.25	20.00	10.25	13.00
1.50	20.00	4.50	5.00	7.50	20.00	10.50	13.00
1.75	20.00	4.75	5.00	7.75	20.00	10.75	13.00
2.00	20.00	5.00	5.00	8.00	20.00	11.00	13.00
2.25	10.00	5.25	20.00	8.25	23.00	11.25	8.00
2.50	10.00	5.50	20.00	8.50	23.00	11.50	8.00
2.75	10.00	5.75	20.00	8.75	23.00	11.75	8.00
3.00	10.00	6.00	20.00	9.00	23.00	12.00	8.00

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| CALIB            |
| NASHYD   (  0117)|   Area    (ha)=   6.10   Curve Number   (CN)= 66.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.35   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.42

        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	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00

1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Unit Hyd Qpeak (cms)= 0.555

PEAK FLOW (cms)= 0.447 (i)
TIME TO PEAK (hrs)= 7.083
RUNOFF VOLUME (mm)= 111.332
TOTAL RAINFALL (mm)= 193.000
RUNOFF COEFFICIENT = 0.577

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

CALIB					
NASHYD (0115)	Area (ha)=	9.30	Curve Number (CN)=	62.6	
ID= 1 DT= 5.0 min	Ia (mm)=	6.91	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.71			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Unit Hyd Qpeak (cms)= 0.500

PEAK FLOW (cms)= 0.523 (i)
TIME TO PEAK (hrs)= 7.417
RUNOFF VOLUME (mm)= 102.501
TOTAL RAINFALL (mm)= 193.000
RUNOFF COEFFICIENT = 0.531

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

CALIB					
STANDHYD (0303)	Area (ha)=	0.37			
ID= 1 DT= 5.0 min	Total Imp(%)=	97.30	Dir. Conn.(%)=	92.40	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.36	0.01
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	49.67	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	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Max.Eff.Inten.(mm/hr)= 43.00 95.51
over (min) 5.00 5.00
Storage Coeff. (min)= 2.35 (ii) 4.76 (ii)
Unit Hyd. Tpeak (min)= 5.00 5.00
Unit Hyd. peak (cms)= 0.30 0.22

TOTALS
PEAK FLOW (cms)= 0.04 0.00 0.043 (iii)
TIME TO PEAK (hrs)= 6.75 7.00 7.00
RUNOFF VOLUME (mm)= 192.00 128.24 187.15
TOTAL RAINFALL (mm)= 193.00 193.00 193.00
RUNOFF COEFFICIENT = 0.99 0.66 0.97

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

DUHYD (0801)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.= 0.109					
#of Inlets= 1					
Total(cms)= 0.1	TOTAL HYD.(ID= 1):	0.37	0.04	7.00	187.15
	MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
	MINOR SYS.(ID= 3):	0.37	0.04	7.00	187.15

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0901)	1 + 2 = 3		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
	ID1= 1 (0115):		9.30	0.523	7.42	102.50
	+ ID2= 2 (0117):		6.10	0.447	7.08	111.33
	ID = 3 (0901):		15.40	0.945	7.25	106.00

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0901)	3 + 2 = 1		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH 0801 <ID= 2> IS DRY.						
*** W A R N I N G : HYDROGRAPH 0001 = HYDROGRAPH 0003						
	ID1= 3 (0901):		15.40	0.945	7.25	106.00

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      + ID2= 2 (  0801):     0.00   0.000     0.00     0.00
        ================================================
        ID = 1 (  0901):    15.40   0.945     7.25   106.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.364|
| #of Inlets=     1|
| Total(cms)=   0.4|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):  15.40      0.95      7.25  106.00
     ================================================
     MAJOR SYS.(ID= 2):   5.07      0.58      7.25  106.00
     MINOR SYS.(ID= 3):  10.33      0.36      6.17  106.00

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| NASHYD   (  0116)|   Area    (ha)=   6.57   Curve Number   (CN)= 62.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.88   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.56

         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   15.00 | 3.083    3.00 | 6.083   43.00 |  9.08   13.00
 0.167   15.00 | 3.167    3.00 | 6.167   43.00 |  9.17   13.00
 0.250   15.00 | 3.250    3.00 | 6.250   43.00 |  9.25   13.00
 0.333   15.00 | 3.333    3.00 | 6.333   43.00 |  9.33   13.00
 0.417   15.00 | 3.417    3.00 | 6.417   43.00 |  9.42   13.00
 0.500   15.00 | 3.500    3.00 | 6.500   43.00 |  9.50   13.00
 0.583   15.00 | 3.583    3.00 | 6.583   43.00 |  9.58   13.00
 0.667   15.00 | 3.667    3.00 | 6.667   43.00 |  9.67   13.00
 0.750   15.00 | 3.750    3.00 | 6.750   43.00 |  9.75   13.00
 0.833   15.00 | 3.833    3.00 | 6.833   43.00 |  9.83   13.00
 0.917   15.00 | 3.917    3.00 | 6.917   43.00 |  9.92   13.00
 1.000   15.00 | 4.000    3.00 | 7.000   43.00 | 10.00   13.00
 1.083   20.00 | 4.083    5.00 | 7.083   20.00 | 10.08   13.00
 1.167   20.00 | 4.167    5.00 | 7.167   20.00 | 10.17   13.00
 1.250   20.00 | 4.250    5.00 | 7.250   20.00 | 10.25   13.00
 1.333   20.00 | 4.333    5.00 | 7.333   20.00 | 10.33   13.00
 1.417   20.00 | 4.417    5.00 | 7.417   20.00 | 10.42   13.00
 1.500   20.00 | 4.500    5.00 | 7.500   20.00 | 10.50   13.00
 1.583   20.00 | 4.583    5.00 | 7.583   20.00 | 10.58   13.00
 1.667   20.00 | 4.667    5.00 | 7.667   20.00 | 10.67   13.00
 1.750   20.00 | 4.750    5.00 | 7.750   20.00 | 10.75   13.00
 1.833   20.00 | 4.833    5.00 | 7.833   20.00 | 10.83   13.00
 1.917   20.00 | 4.917    5.00 | 7.917   20.00 | 10.92   13.00
 2.000   20.00 | 5.000    5.00 | 8.000   20.00 | 11.00   13.00
 2.083   10.00 | 5.083   20.00 | 8.083   23.00 | 11.08    8.00
 2.167   10.00 | 5.167   20.00 | 8.167   23.00 | 11.17    8.00
 2.250   10.00 | 5.250   20.00 | 8.250   23.00 | 11.25    8.00
 2.333   10.00 | 5.333   20.00 | 8.333   23.00 | 11.33    8.00
 2.417   10.00 | 5.417   20.00 | 8.417   23.00 | 11.42    8.00
 2.500   10.00 | 5.500   20.00 | 8.500   23.00 | 11.50    8.00
 2.583   10.00 | 5.583   20.00 | 8.583   23.00 | 11.58    8.00
 2.667   10.00 | 5.667   20.00 | 8.667   23.00 | 11.67    8.00
 2.750   10.00 | 5.750   20.00 | 8.750   23.00 | 11.75    8.00
 2.833   10.00 | 5.833   20.00 | 8.833   23.00 | 11.83    8.00
 2.917   10.00 | 5.917   20.00 | 8.917   23.00 | 11.92    8.00
 3.000   10.00 | 6.000   20.00 | 9.000   23.00 | 12.00    8.00

     Unit Hyd Qpeak  (cms)=   0.448

     PEAK FLOW       (cms)=   0.407 (i)
     TIME TO PEAK    (hrs)=   7.250
     RUNOFF VOLUME    (mm)= 103.113
     TOTAL RAINFALL   (mm)= 193.000
     RUNOFF COEFFICIENT   =   0.534

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

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--------------------
| ADD HYD  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0116):     6.57    0.407     7.25   103.11
      + ID2= 2 (  0802):     5.07    0.581     7.25   106.00
        ================================================
        ID = 3 (  0902):    11.64    0.988     7.25   104.37

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| NASHYD   (  0101)|   Area    (ha)=   9.85   Curve Number   (CN)= 62.3
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.95   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.80

         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	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Unit Hyd Qpeak (cms)= 0.470

PEAK FLOW (cms)= 0.524 (i)
TIME TO PEAK (hrs)= 7.500
RUNOFF VOLUME (mm)= 101.880
TOTAL RAINFALL (mm)= 193.000
RUNOFF COEFFICIENT = 0.528

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

CALIB			
NASHYD (0102)	Area (ha)=	4.52	Curve Number (CN)= 62.4
ID= 1 DT= 5.0 min	Ia (mm)=	6.94	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.36	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Unit Hyd Qpeak (cms)= 0.480

PEAK FLOW (cms)= 0.313 (i)
TIME TO PEAK (hrs)= 7.083
RUNOFF VOLUME (mm)= 102.066
TOTAL RAINFALL (mm)= 193.000
RUNOFF COEFFICIENT = 0.529

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

CALIB	
NASHYD (0103)	Area (ha)= 0.66 Curve Number (CN)= 62.4
ID= 1 DT= 5.0 min	Ia (mm)= 6.95 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.16

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Unit Hyd Qpeak (cms)= 0.158

PEAK FLOW (cms)= 0.050 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 101.617
TOTAL RAINFALL (mm)= 193.000
RUNOFF COEFFICIENT = 0.527

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

Appendix B:
Proposed Conditions Hydrology

LEGEND

CATCHMENT ID — 101
AREA IN HECTARES — 0.54 | 63.0
% IMPERVIOUS/CN NUMBER
PRE-DEVELOPMENT CATCHMENT AREA
EXISTING FLOW DIRECTION
PROPOSED FLOW DIRECTION
PROPOSED STORM SEWER
EXISTING STORM SEWER

OUTLET 1
OUTLET 3B
OUTLET 3A
EXISTING SWM FACILITY
CONNECT TO EX. STORM SEWER
CONNECT TO EX. STORM SEWER
CONNECT TO EX. STORM SEWER
BLACK ASH CREEK
HIGH STREET
POPLAR SIDEROAD
FOLEY CRESCENT
PLEWES DRIVE
ARCHER AVENUE
MITCHELL AVENUE
MADENS CRESCENT
SHIPLEY AVENUE
STREET 'A'
STREET 'B'
STREET 'C'
EXISTING RESIDENTIAL MOUNTAINCROFT SUBDIVISION

201	18.69 | 51%
203	1.35 | 37%
207	2.21 | 41%
208	6.40 | 52%
301	1.72 | 1.3%
302	1.49 | 66.8

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DRAWING REFERENCES

LEGAL SURVEY INFORMATION SHOWN ON THIS PLAN PREPARED BY VAN HARTEN SURVEY INC., PLAN OF SUBDIVISION, DATED SEPTEMBER 26, 2019.

TOPOGRAPHIC INFORMATION SHOWN ON THIS PLAN BASED ON LAND INFORMATION ONTARIO BASE MAPPING.

RIGHT-OF-WAY AND LOT FABRIC SHOWN ON THIS PLAN HAVE BEEN TAKEN FROM SUMMIT VIEW PHASE 3 DRAFT PLAN OF SUBDIVISION, PREPARED BY MHBC PLANNING, DATED DEC 21, 2022.

BENCHMARKS

No.	REVISION DESCRIPTION	DATE
1.	DRAFT PLAN SUBMISSION	MAY/23

ENGINEER STAMP

SUMMIT VIEW - PHASE 3
RESIDENTIAL DEVELOPMENT
TOWN OF COLLINGWOOD

POST DEVELOPMENT DRAINAGE PLAN

TATHAM ENGINEERING

DESIGN: EL	FILE: 118039	DWG: **DP-2**
DRAWN: EL/KRL	DATE: JAN 2023	
CHECK: DJH	SCALE: 1:1,500	

Drawing Name: 118039 – DP02.dwg, Plotted: Apr 28, 2023

TATHAM ENGINEERING

Impervious Area & Runoff Coefficient Calculations - Post Development

Project Details

Summit View Phase 3	118039

Prepared By

EL	Dec/22

Data Sources	MTO Drainage Management Manual Design Chart 1.07 (1997)

Watershed: NVCA

Impervious Area and Runoff Coefficient (C) for Catchment

Catchment ID		**208**			**207**			**203**			**302**		
Catchment Area		6.40			2.21			1.35			1.49		
Land Cover Category	**C**	**Area (ha)**	**TIMP (ha)**	**XIMP (ha)**	**.**	**TIMP (ha)**	**XIMP (ha)**	**Area (ha)**	**TIMP (ha)**	**XIMP (ha)**	**Area (ha)**	**TIMP (ha)**	**XIMP (ha)**
Single - Rear	0.40	0.54	0.19					0.74	0.26				
Town	0.55	3.19	1.8	0.32	0.23	0.13	0.02	0.16	0.09	0.02			
Town - Rear	0.55				1.19	0.48							
Apartment	0.65												
Commercial	0.85												
Industrial	0.85												
Right-of-Ways	0.70	1.95	1.37	1.37	0.28	0.20	0.20	0.04	0.03	0.03			
Paved	0.90				0.10	0.10	0.10	0.10	0.10	0.10	0.08	0.08	0.08
Roof	0.90										0.03	0.03	
Gravel	0.75				0.02	0.01		0.06	0.03		0.11	0.06	
Woodland	0.28												
Pasture/Lawns	0.17	0.72			0.30			0.25			1.27		
Meadows	0.32												
Cultivated	0.47												
Waterbody	0.50												
Runoff Coefficient (C)		0.54			0.51			0.44			0.27		
Catchment TIMP (%)		51.7%			41.1%			37.4%			11.1%		
Catchment XIMP (%)		26.3%			14.2%			10.3%			5.1%		
Hydrograph Type		STANDHYD			STANDHYD			STANDHYD			NASHYD		

Notes:

TIMP - Total Impervious Area
XIMP - Directly Connected Impervious Area
TIMP, XIMP & C values averaged/estimated & should be adjusted to reflect site-specific parameters

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (NasHYD)

Project Details

Summit View Phase 3	118039

Prepared By

EL	Jan/23

Data Sources

Detailed Soil Survey Reports for Ontario, NVCA Stormwater Technical Guide (2013), MTO Drainage Management Manual (1997)

Post Development Condition

Watershed:	NVCA
Catchment ID:	301
Catchment Area (ha):	1.72
Impervious %:	13%

Average Curve Number (CN), Runoff Coefficient (C) and Initial Abstraction (IA)

Soil Symbol		**Tis**											
Soil Series		Tioga											
Hydrologic Soils Group		A											
Soil Texture		Sand Loam											
Runoff Coefficient Type		1											
Area (ha)		1.72											
Percentage of Catchment		100%											
Land Cover Category	**IA**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**
Impervious	2	0.22	100	0.95									
Gravel	3		89	0.09									
Woodland	10		32	0.08									
Pasture/Lawns	5	1.50	49	0.10									
Meadows	8		38	0.09									
Cultivated	7		62	0.22									
Waterbody	12		50	0.05									
Average CN		55.64											
Average C		0.21											
Average IA		4.61											

Time to Peak Calculations

Max. Catchment Elev. (m):	209.25
Min. Catchment Elev. (m):	207.56
Catchment Length (m):	60
Catchment Slope (%):	2.82%
Method: Airport Method	
Time of Concentration (mins):	15.96

Summary

Catchment CN:	55.6
Catchment C:	0.21
Catchment IA (mm):	4.61
Time of Concentration (hrs):	0.27
Catchment Time to Peak (hrs):	0.18
Catchment Time Step (mins):	2.13

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (NasHYD)

Project Details

Summit View Phase 3	118039

Prepared By

EL	Jan/23

Data Sources

Detailed Soil Survey Reports for Ontario, NVCA Stormwater Technical Guide (2013), MTO Drainage Management Manual (1997)

Post Development Condition

Watershed:	NVCA
Catchment ID:	302
Catchment Area (ha):	1.49
Impervious %:	11%

Average Curve Number (CN), Runoff Coefficient (C) and Initial Abstraction (IA)

Soil Symbol		**Tis**											
Soil Series		Tioga											
Hydrologic Soils Group		A											
Soil Texture		Sand Loam											
Runoff Coefficient Type		1											
Area (ha)		1.49											
Percentage of Catchment		100%											
Land Cover Category	**IA**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**	**A (ha)**	**CN**	**C**
Impervious	2	0.11	100	0.95									
Gravel	3	0.11	89	0.09									
Woodland	10		32	0.08									
Pasture/Lawns	5		49	0.10									
Meadows	8		38	0.09									
Cultivated	7	1.27	62	0.22									
Waterbody	12		50	0.05									
Average CN		66.80											
Average C		0.26											
Average IA		6.34											

Time to Peak Calculations

Max. Catchment Elev. (m):	208.00
Min. Catchment Elev. (m):	202.00
Catchment Length (m):	318
Catchment Slope (%):	1.89%
Method: Airport Method	
Time of Concentration (mins):	39.40

Summary

Catchment CN:	66.8
Catchment C:	0.26
Catchment IA (mm):	6.34
Time of Concentration (hrs):	0.66
Catchment Time to Peak (hrs):	0.44
Catchment Time Step (mins):	5.25

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (StandHYD)

Project Details

Summit View Phase 3	118039

Prepared By

EL	Jan/23

Data Sources

Detailed Soil Survey Reports for Ontario, NVCA Stormwater Technical Guide (2013), MTO Drainage Management Manual (1997)

Post Development Condition

Watershed:	NVCA
Catchment ID:	201
Catchment Area (ha):	18.69
Impervious %:	51%
Pervious Area (ha):	9.16

Average Curve Number (CN) and Initial Abstraction (IA) for Pervious Area

Soil Symbol		**Tis**							
Soil Series		Tioga							
Hydrologic Soils Group		A							
Soil Texture		Sand Loam							
Runoff Coefficient Type		1							
Area (ha)		9.16							
Percentage of Catchment		100%							
Land Cover Category	**IA**	**A (ha)**	**CN**	**A (ha)**	**CN**	**A (ha)**	**CN**	**A (ha)**	**CN**
Impervious	2		100						
Gravel	3		89						
Woodland	10		32						
Pasture/Lawns	5	9.16	49						
Meadows	8		38						
Cultivated	7		62						
Waterbody	12		50						
Average CN		49.00							
Average IA		5.00							

Notes

CN and IA values have been calculated for the pervious area of the catchment only.

Summary

Catchment CN:	49.0
Catchment IA (mm):	5.00

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (StandHYD)

Project Details

Summit View Phase 3	118039

Prepared By

EL	Jan/23

Data Sources

Detailed Soil Survey Reports for Ontario, NVCA Stormwater Technical Guide (2013), MTO Drainage Management Manual (1997)

Post Development Condition

Watershed:	NVCA
Catchment ID:	203
Catchment Area (ha):	1.35
Impervious %:	37%
Pervious Area (ha):	0.85

Average Curve Number (CN) and Initial Abstraction (IA) for Pervious Area

Soil Symbol		**Tis**							
Soil Series		Tioga							
Hydrologic Soils Group		A							
Soil Texture		Sand Loam							
Runoff Coefficient Type		1							
Area (ha)		0.85							
Percentage of Catchment		100%							
Land Cover Category	**IA**	**A (ha)**	**CN**	**A (ha)**	**CN**	**A (ha)**	**CN**	**A (ha)**	**CN**
Impervious	2		100						
Gravel	3	0.06	89						
Woodland	10		32						
Pasture/Lawns	5	0.79	49						
Meadows	8		38						
Cultivated	7		62						
Waterbody	12		50						
Average CN		52.12							
Average IA		4.89							

Notes

CN and IA values have been calculated for the pervious area of the catchment only.

Summary

Catchment CN:	52.1
Catchment IA (mm):	4.89

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (StandHYD)

Project Details

Summit View Phase 3	118039

Prepared By

EL	Jan/23

Data Sources

Detailed Soil Survey Reports for Ontario, NVCA Stormwater Technical Guide (2013), MTO Drainage Management Manual (1997)

Post Development Condition

Watershed:	NVCA
Catchment ID:	207
Catchment Area (ha):	2.21
Impervious %:	41%
Pervious Area (ha):	1.31

Average Curve Number (CN) and Initial Abstraction (IA) for Pervious Area

Soil Symbol		**Tis**							
Soil Series		Tioga							
Hydrologic Soils Group		A							
Soil Texture		Sand Loam							
Runoff Coefficient Type		1							
Area (ha)		1.31							
Percentage of Catchment		100%							
Land Cover Category	**IA**	**A (ha)**	**CN**	**A (ha)**	**CN**	**A (ha)**	**CN**	**A (ha)**	**CN**
Impervious	2		100						
Gravel	3		89						
Woodland	10		32						
Pasture/Lawns	5	1.31	49						
Meadows	8		38						
Cultivated	7		62						
Waterbody	12		50						
Average CN		49.00							
Average IA		5.00							

Notes

CN and IA values have been calculated for the pervious area of the catchment only.

Summary

Catchment CN:	49.0
Catchment IA (mm):	5.00

TATHAM ENGINEERING

Visual OTTHYMO Model Parameter Calculations (StandHYD)

Project Details

Summit View Phase 3	118039

Prepared By

EL	Jan/23

Data Sources

Detailed Soil Survey Reports for Ontario, NVCA Stormwater Technical Guide (2013), MTO Drainage Management Manual (1997)

Post Development Condition

Watershed:	NVCA
Catchment ID:	208
Catchment Area (ha):	6.40
Impervious %:	52%
Pervious Area (ha):	3.09

Average Curve Number (CN) and Initial Abstraction (IA) for Pervious Area

Soil Symbol		**Tis**							
Soil Series		Tioga							
Hydrologic Soils Group		A							
Soil Texture		Sand Loam							
Runoff Coefficient Type		1							
Area (ha)		3.09							
Percentage of Catchment		100%							
Land Cover Category	**IA**	**A (ha)**	**CN**	**A (ha)**	**CN**	**A (ha)**	**CN**	**A (ha)**	**CN**
Impervious	2		100						
Gravel	3		89						
Woodland	10		32						
Pasture/Lawns	5	3.09	49						
Meadows	8		38						
Cultivated	7		62						
Waterbody	12		50						
Average CN		49.00							
Average IA		5.00							

Notes

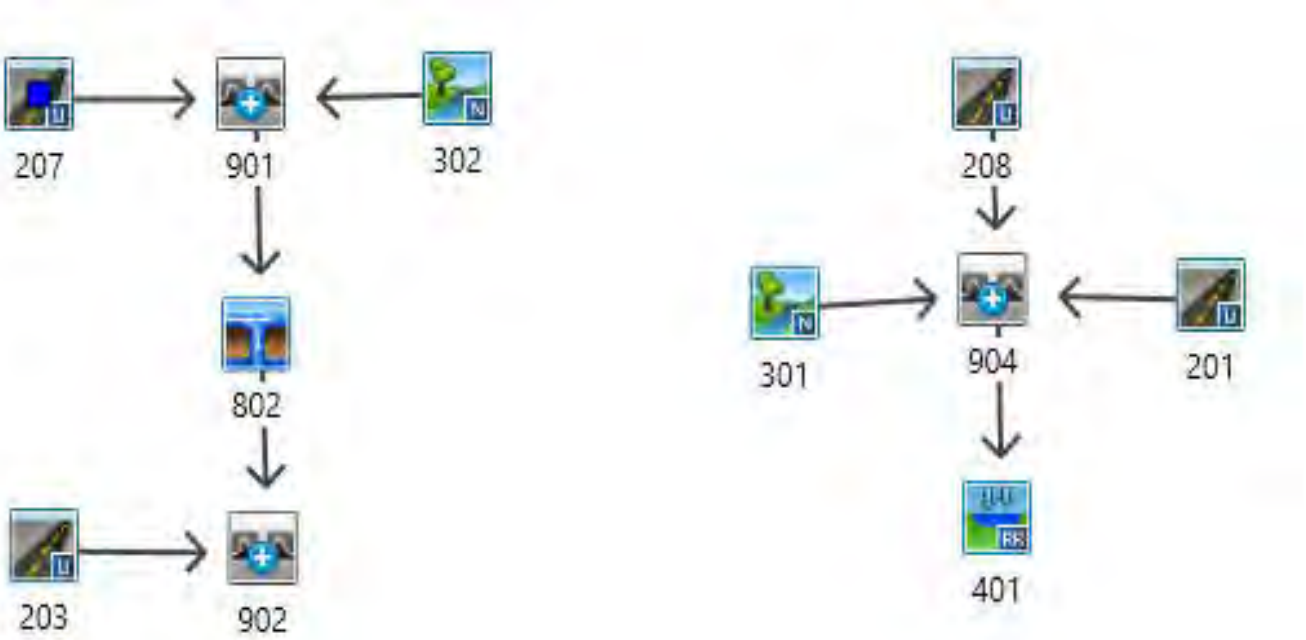
CN and IA values have been calculated for the pervious area of the catchment only.

Summary

Catchment CN:	49.0
Catchment IA (mm):	5.00

TATHAM ENGINEERING

PROJECT	Summit View - Phase 3	FILE	118039
	Town of Collingwood	DATE	Jan./23
SUBJECT	Visual OTTHYMO Schematic	NAME	E.Lundquist
	Post Development	PAGE	1



 NASHYD

 ROUTE PIPE

 DUHYD

 STANDHYD

 ROUTE CHANNEL

 DIVERT HYD

 ADDHYD

 ROUTE RESERVOIR

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================================================================================
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       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       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: 02/21/2023                          TIME: 10:28:59

USER:



COMMENTS: _____________________________________________________________


--------------------------------------------------------------------------------
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  ** SIMULATION : CHIC25MM                      **
  ************************************************


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|                  |              9c617fcc-3b04-4dcb-ab29-d80464b8a199\257efb36
| Ptotal= 24.97 mm |    Comments: CHIC25MM
--------------------
                  TIME     RAIN |  TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                   hrs    mm/hr |   hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
                  0.10     1.29 |  1.10     2.81 |  2.10    13.05 |  3.10     2.04
                  0.20     1.36 |  1.20     3.22 |  2.20     8.44 |  3.20     1.89
                  0.30     1.44 |  1.30     3.77 |  2.30     6.21 |  3.30     1.76
                  0.40     1.53 |  1.40     4.55 |  2.40     4.91 |  3.40     1.65
                  0.50     1.63 |  1.50     5.77 |  2.50     4.06 |  3.50     1.55
                  0.60     1.75 |  1.60     7.86 |  2.60     3.47 |  3.60     1.46
                  0.70     1.89 |  1.70    12.27 |  2.70     3.03 |  3.70     1.39
                  0.80     2.06 |  1.80    26.17 |  2.80     2.70 |  3.80     1.32
                  0.90     2.26 |  1.90    72.58 |  2.90     2.43 |  3.90     1.26
                  1.00     2.50 |  2.00    26.96 |  3.00     2.22 |  4.00     1.20

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


--------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=  18.69
|ID= 1 DT= 5.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  27.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       9.53          9.16
     Dep. Storage     (mm)=       1.00          5.00
     Average Slope     (%)=       1.00          2.00
     Length            (m)=     352.99         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     1.29 | 1.083     2.81 | 2.083    13.05 |  3.08     2.04
                 0.167     1.35 | 1.167     3.14 | 2.167     9.36 |  3.17     1.92
                 0.250     1.41 | 1.250     3.55 | 2.250     7.10 |  3.25     1.81
                 0.333     1.48 | 1.333     4.08 | 2.333     5.69 |  3.33     1.72
                 0.417     1.55 | 1.417     4.79 | 2.417     4.74 |  3.42     1.63
                 0.500     1.63 | 1.500     5.77 | 2.500     4.06 |  3.50     1.55
                 0.583     1.75 | 1.583     7.86 | 2.583     3.47 |  3.58     1.46
                 0.667     1.86 | 1.667    11.39 | 2.667     3.12 |  3.67     1.40
                 0.750     1.99 | 1.750    20.61 | 2.750     2.83 |  3.75     1.35
                 0.833     2.14 | 1.833    44.73 | 2.833     2.59 |  3.83     1.30
                 0.917     2.31 | 1.917    63.46 | 2.917     2.39 |  3.92     1.25
                 1.000     2.50 | 2.000    26.96 | 3.000     2.22 |  4.00     1.20

     Max.Eff.Inten.(mm/hr)=      63.46         4.96
```

over (min)	5.00	30.00	
Storage Coeff. (min)=	6.53 (ii)	29.99 (ii)	
Unit Hyd. Tpeak (min)=	5.00	30.00	
Unit Hyd. peak (cms)=	0.18	0.04	
			TOTALS
PEAK FLOW (cms)=	0.68	0.07	0.689 (iii)
TIME TO PEAK (hrs)=	1.92	2.42	1.92
RUNOFF VOLUME (mm)=	23.97	2.35	8.18
TOTAL RAINFALL (mm)=	24.97	24.97	24.97
RUNOFF COEFFICIENT =	0.96	0.09	0.33

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0301)	Area (ha)=	1.72	Curve Number (CN)=	55.6	
ID= 1 DT= 5.0 min	Ia (mm)=	4.61	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.18			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	1.29	1.083	2.81	2.083	13.05	3.08	2.04
0.167	1.35	1.167	3.14	2.167	9.36	3.17	1.92
0.250	1.41	1.250	3.55	2.250	7.10	3.25	1.81
0.333	1.48	1.333	4.08	2.333	5.69	3.33	1.72
0.417	1.55	1.417	4.79	2.417	4.74	3.42	1.63
0.500	1.63	1.500	5.77	2.500	4.06	3.50	1.55
0.583	1.75	1.583	7.86	2.583	3.47	3.58	1.46
0.667	1.86	1.667	11.39	2.667	3.12	3.67	1.40
0.750	1.99	1.750	20.61	2.750	2.83	3.75	1.35
0.833	2.14	1.833	44.73	2.833	2.59	3.83	1.30
0.917	2.31	1.917	63.46	2.917	2.39	3.92	1.25
1.000	2.50	2.000	26.96	3.000	2.22	4.00	1.20

Unit Hyd Qpeak (cms)=	0.365		
PEAK FLOW (cms)=	0.012 (i)		
TIME TO PEAK (hrs)=	2.083		
RUNOFF VOLUME (mm)=	1.852		
TOTAL RAINFALL (mm)=	24.971		
RUNOFF COEFFICIENT =	0.074		

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

CALIB					
STANDHYD (0208)	Area (ha)=	6.40			
ID= 1 DT= 5.0 min	Total Imp(%)=	51.70	Dir. Conn.(%)=	26.30	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.31	3.09
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	206.56	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	1.29	1.083	2.81	2.083	13.05	3.08	2.04
0.167	1.35	1.167	3.14	2.167	9.36	3.17	1.92
0.250	1.41	1.250	3.55	2.250	7.10	3.25	1.81
0.333	1.48	1.333	4.08	2.333	5.69	3.33	1.72
0.417	1.55	1.417	4.79	2.417	4.74	3.42	1.63
0.500	1.63	1.500	5.77	2.500	4.06	3.50	1.55
0.583	1.75	1.583	7.86	2.583	3.47	3.58	1.46
0.667	1.86	1.667	11.39	2.667	3.12	3.67	1.40
0.750	1.99	1.750	20.61	2.750	2.83	3.75	1.35
0.833	2.14	1.833	44.73	2.833	2.59	3.83	1.30
0.917	2.31	1.917	63.46	2.917	2.39	3.92	1.25
1.000	2.50	2.000	26.96	3.000	2.22	4.00	1.20

Max.Eff.Inten.(mm/hr)=	63.46	5.23		
over (min)	5.00	30.00		
Storage Coeff. (min)=	4.74 (ii)	27.71 (ii)		
Unit Hyd. Tpeak (min)=	5.00	30.00		
Unit Hyd. peak (cms)=	0.22	0.04		
			TOTALS	
PEAK FLOW (cms)=	0.25	0.02	0.255 (iii)	
TIME TO PEAK (hrs)=	1.92	2.42	1.92	
RUNOFF VOLUME (mm)=	23.97	2.41	8.08	
TOTAL RAINFALL (mm)=	24.97	24.97	24.97	
RUNOFF COEFFICIENT =	0.96	0.10	0.32	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  49.0    Ia = Dep. 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  (  0904)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0201):    18.69   0.689     1.92     8.18
     + ID2= 2 (  0208):     6.40   0.255     1.92     8.08
       ================================================
       ID = 3 (  0904):    25.09   0.943     1.92     8.16

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

--------------------
| ADD HYD  (  0904)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0904):    25.09   0.943     1.92     8.16
     + ID2= 2 (  0301):     1.72   0.012     2.08     1.85
       ================================================
       ID = 1 (  0904):    26.81   0.950     1.92     7.75

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0401)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                         0.0000     0.0000   |   0.8060     0.3760
                         0.0080     0.0310   |   1.3400     0.4210
                         0.0170     0.0630   |   2.0150     0.4680
                         0.0230     0.0970   |   2.1780     0.6190
                         0.0280     0.1330   |   2.4650     0.7250
                         0.0320     0.1700   |   3.1360     0.7810
                         0.0360     0.2080   |   4.2010     0.8390
                         0.0390     0.2480   |   4.8940     0.8680
                         0.1590     0.2890   |   6.6200     0.9280
                         0.4120     0.3320   |   8.8340     0.9890

                              AREA     QPEAK     TPEAK       R.V.
                              (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0904)     26.810      0.950      1.92       7.75

  OUTFLOW: ID= 1 (  0401)     26.810      0.033      4.08       7.72

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.46
                TIME SHIFT OF PEAK FLOW         (min)=130.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.1780

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0207)|   Area    (ha)=   2.21
|ID= 1 DT= 5.0 min |   Total Imp(%)=  40.70   Dir. Conn.(%)=  13.80
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=         0.90          1.31
     Dep. Storage     (mm)=         1.00          5.00
     Average Slope     (%)=         1.00          2.00
     Length            (m)=       121.38         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    1.29 | 1.083    2.81 | 2.083   13.05 |  3.08    2.04
              0.167    1.35 | 1.167    3.14 | 2.167    9.36 |  3.17    1.92
              0.250    1.41 | 1.250    3.55 | 2.250    7.10 |  3.25    1.81
              0.333    1.48 | 1.333    4.08 | 2.333    5.69 |  3.33    1.72
              0.417    1.55 | 1.417    4.79 | 2.417    4.74 |  3.42    1.63
              0.500    1.63 | 1.500    5.77 | 2.500    4.06 |  3.50    1.55
              0.583    1.75 | 1.583    7.86 | 2.583    3.47 |  3.58    1.46
              0.667    1.86 | 1.667   11.39 | 2.667    3.12 |  3.67    1.40
              0.750    1.99 | 1.750   20.61 | 2.750    2.83 |  3.75    1.35
              0.833    2.14 | 1.833   44.73 | 2.833    2.59 |  3.83    1.30
              0.917    2.31 | 1.917   63.46 | 2.917    2.39 |  3.92    1.25
              1.000    2.50 | 2.000   26.96 | 3.000    2.22 |  4.00    1.20

     Max.Eff.Inten.(mm/hr)=      63.46         4.70
               over (min)        5.00        30.00
     Storage Coeff.  (min)=      3.44 (ii)   27.42 (ii)
     Unit Hyd. Tpeak (min)=      5.00        30.00
     Unit Hyd. peak  (cms)=      0.26         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.05         0.01          0.050 (iii)
     TIME TO PEAK    (hrs)=      1.92         2.42           1.92
     RUNOFF VOLUME    (mm)=     23.97         2.28           5.26
     TOTAL RAINFALL   (mm)=     24.97        24.97          24.97
     RUNOFF COEFFICIENT   =      0.96         0.09           0.21
```

```
***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  49.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0302)|   Area    (ha)=   1.49   Curve Number   (CN)= 66.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.34   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44

         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    1.29 | 1.083    2.81 | 2.083   13.05 |  3.08    2.04
               0.167    1.35 | 1.167    3.14 | 2.167    9.36 |  3.17    1.92
               0.250    1.41 | 1.250    3.55 | 2.250    7.10 |  3.25    1.81
               0.333    1.48 | 1.333    4.08 | 2.333    5.69 |  3.33    1.72
               0.417    1.55 | 1.417    4.79 | 2.417    4.74 |  3.42    1.63
               0.500    1.63 | 1.500    5.77 | 2.500    4.06 |  3.50    1.55
               0.583    1.75 | 1.583    7.86 | 2.583    3.47 |  3.58    1.46
               0.667    1.86 | 1.667   11.39 | 2.667    3.12 |  3.67    1.40
               0.750    1.99 | 1.750   20.61 | 2.750    2.83 |  3.75    1.35
               0.833    2.14 | 1.833   44.73 | 2.833    2.59 |  3.83    1.30
               0.917    2.31 | 1.917   63.46 | 2.917    2.39 |  3.92    1.25
               1.000    2.50 | 2.000   26.96 | 3.000    2.22 |  4.00    1.20

     Unit Hyd Qpeak  (cms)=   0.129

     PEAK FLOW       (cms)=   0.007 (i)
     TIME TO PEAK    (hrs)=   2.417
     RUNOFF VOLUME    (mm)=   2.395
     TOTAL RAINFALL   (mm)=  24.971
     RUNOFF COEFFICIENT   =   0.096

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

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

--------------------
| ADD HYD  (  0901)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0207):     2.21   0.050     1.92     5.26
     + ID2= 2 (  0302):     1.49   0.007     2.42     2.40
       ==================================================
       ID = 3 (  0901):     3.70   0.051     1.92     4.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.060|
| #of Inlets=    10|
| Total(cms)=   0.6|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.70      0.05      1.92    4.11
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.70      0.05      1.92    4.11

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   1.35
|ID= 1 DT= 5.0 min |   Total Imp(%)=  37.40   Dir. Conn.(%)=  10.30
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50         0.85
     Dep. Storage     (mm)=       1.00         4.89
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      94.87        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    1.29 | 1.083    2.81 | 2.083   13.05 |  3.08    2.04
               0.167    1.35 | 1.167    3.14 | 2.167    9.36 |  3.17    1.92
               0.250    1.41 | 1.250    3.55 | 2.250    7.10 |  3.25    1.81
               0.333    1.48 | 1.333    4.08 | 2.333    5.69 |  3.33    1.72
               0.417    1.55 | 1.417    4.79 | 2.417    4.74 |  3.42    1.63
               0.500    1.63 | 1.500    5.77 | 2.500    4.06 |  3.50    1.55
               0.583    1.75 | 1.583    7.86 | 2.583    3.47 |  3.58    1.46
               0.667    1.86 | 1.667   11.39 | 2.667    3.12 |  3.67    1.40
               0.750    1.99 | 1.750   20.61 | 2.750    2.83 |  3.75    1.35
```

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              0.833    2.14 | 1.833   44.73 | 2.833    2.59 |  3.83    1.30
              0.917    2.31 | 1.917   63.46 | 2.917    2.39 |  3.92    1.25
              1.000    2.50 | 2.000   26.96 | 3.000    2.22 |  4.00    1.20

     Max.Eff.Inten.(mm/hr)=      63.46         5.13
               over (min)         5.00        30.00
     Storage Coeff.  (min)=       2.97 (ii)   26.12 (ii)
     Unit Hyd. Tpeak (min)=       5.00        30.00
     Unit Hyd. peak  (cms)=       0.28         0.04
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.01          0.024 (iii)
     TIME TO PEAK    (hrs)=       1.92         2.42           1.92
     RUNOFF VOLUME    (mm)=      23.97         2.52           4.72
     TOTAL RAINFALL   (mm)=      24.97        24.97          24.97
     RUNOFF COEFFICIENT   =       0.96         0.10           0.19

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.1    Ia = Dep. 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  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
        ID1= 1 (  0203):     1.35   0.024     1.92     4.72
      + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (  0902):     1.35   0.024     1.92     4.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
================================================================================
=======================

       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       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 6.1\VO2\voin.dat

  Output  filename:
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41114d-9168-41d6-8102-43dd5400e28d\s
  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\e0
41114d-9168-41d6-8102-43dd5400e28d\s


DATE: 02/21/2023                          TIME: 10:28:59

USER:


COMMENTS: _____________________________________________________________


--------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : 2yr 4hr 10min Chicago         **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 356.909
| Ptotal= 30.95 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    2.60 |  1.17   12.32 |  2.17    5.15 |  3.17    3.00
```

0.33	2.91	1.33	71.38	2.33	4.54	3.33	2.82
0.50	3.32	1.50	15.11	2.50	4.09	3.50	2.67
0.67	3.91	1.67	9.53	2.67	3.73	3.67	2.54
0.83	4.84	1.83	7.27	2.83	3.44	3.83	2.42
1.00	6.62	2.00	5.99	3.00	3.20	4.00	2.31

CALIB	
STANDHYD (0201)	Area (ha)= 18.69
ID= 1 DT= 5.0 min	Total Imp(%)= 51.00 Dir. Conn.(%)= 27.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.53	9.16
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	352.99	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	2.60	1.083	12.32	2.083	5.15	3.08	3.00
0.167	2.60	1.167	12.32	2.167	5.15	3.17	3.00
0.250	2.91	1.250	71.38	2.250	4.54	3.25	2.82
0.333	2.91	1.333	71.38	2.333	4.54	3.33	2.82
0.417	3.32	1.417	15.11	2.417	4.09	3.42	2.67
0.500	3.32	1.500	15.11	2.500	4.09	3.50	2.67
0.583	3.91	1.583	9.53	2.583	3.73	3.58	2.54
0.667	3.91	1.667	9.53	2.667	3.73	3.67	2.54
0.750	4.84	1.750	7.27	2.750	3.44	3.75	2.42
0.833	4.84	1.833	7.27	2.833	3.44	3.83	2.42
0.917	6.62	1.917	5.99	2.917	3.20	3.92	2.31
1.000	6.62	2.000	5.99	3.000	3.20	4.00	2.31

				TOTALS
Max.Eff.Inten.(mm/hr)=		71.38	5.74	
over (min)		5.00	30.00	
Storage Coeff. (min)=		6.23 (ii)	28.37 (ii)	
Unit Hyd. Tpeak (min)=		5.00	30.00	
Unit Hyd. peak (cms)=		0.19	0.04	
PEAK FLOW	(cms)=	0.83	0.08	0.845 (iii)
TIME TO PEAK	(hrs)=	1.33	1.75	1.33
RUNOFF VOLUME	(mm)=	29.95	3.71	10.80
TOTAL RAINFALL	(mm)=	30.95	30.95	30.95
RUNOFF COEFFICIENT	=	0.97	0.12	0.35

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0301)	Area (ha)= 1.72 Curve Number (CN)= 55.6
ID= 1 DT= 5.0 min	Ia (mm)= 4.61 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.18

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.60	1.083	12.32	2.083	5.15	3.08	3.00
0.167	2.60	1.167	12.32	2.167	5.15	3.17	3.00
0.250	2.91	1.250	71.38	2.250	4.54	3.25	2.82
0.333	2.91	1.333	71.38	2.333	4.54	3.33	2.82
0.417	3.32	1.417	15.11	2.417	4.09	3.42	2.67
0.500	3.32	1.500	15.11	2.500	4.09	3.50	2.67
0.583	3.91	1.583	9.53	2.583	3.73	3.58	2.54
0.667	3.91	1.667	9.53	2.667	3.73	3.67	2.54
0.750	4.84	1.750	7.27	2.750	3.44	3.75	2.42
0.833	4.84	1.833	7.27	2.833	3.44	3.83	2.42
0.917	6.62	1.917	5.99	2.917	3.20	3.92	2.31
1.000	6.62	2.000	5.99	3.000	3.20	4.00	2.31

Unit Hyd Qpeak (cms)=		0.365
PEAK FLOW	(cms)=	0.013 (i)
TIME TO PEAK	(hrs)=	1.500
RUNOFF VOLUME	(mm)=	3.019
TOTAL RAINFALL	(mm)=	30.952
RUNOFF COEFFICIENT	=	0.098

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

CALIB	
STANDHYD (0208)	Area (ha)= 6.40
ID= 1 DT= 5.0 min	Total Imp(%)= 51.70 Dir. Conn.(%)= 26.30

```
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.31         3.09
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     206.56        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    2.60 | 1.083   12.32 | 2.083    5.15 |  3.08    3.00
              0.167    2.60 | 1.167   12.32 | 2.167    5.15 |  3.17    3.00
              0.250    2.91 | 1.250   71.38 | 2.250    4.54 |  3.25    2.82
              0.333    2.91 | 1.333   71.38 | 2.333    4.54 |  3.33    2.82
              0.417    3.32 | 1.417   15.11 | 2.417    4.09 |  3.42    2.67
              0.500    3.32 | 1.500   15.11 | 2.500    4.09 |  3.50    2.67
              0.583    3.91 | 1.583    9.53 | 2.583    3.73 |  3.58    2.54
              0.667    3.91 | 1.667    9.53 | 2.667    3.73 |  3.67    2.54
              0.750    4.84 | 1.750    7.27 | 2.750    3.44 |  3.75    2.42
              0.833    4.84 | 1.833    7.27 | 2.833    3.44 |  3.83    2.42
              0.917    6.62 | 1.917    5.99 | 2.917    3.20 |  3.92    2.31
              1.000    6.62 | 2.000    5.99 | 3.000    3.20 |  4.00    2.31

     Max.Eff.Inten.(mm/hr)=      71.38         6.05
               over (min)        5.00        30.00
     Storage Coeff.  (min)=      4.52 (ii)   26.19 (ii)
     Unit Hyd. Tpeak (min)=      5.00        30.00
     Unit Hyd. peak  (cms)=      0.23         0.04
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.30         0.03          0.308 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.75           1.33
     RUNOFF VOLUME    (mm)=     29.95         3.81          10.68
     TOTAL RAINFALL   (mm)=     30.95        30.95          30.95
     RUNOFF COEFFICIENT   =      0.97         0.12           0.35

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  49.0    Ia = Dep. 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  (  0904)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0201):    18.69   0.845     1.33    10.80
     + ID2= 2 (  0208):     6.40   0.308     1.33    10.68
       ================================================
       ID = 3 (  0904):    25.09   1.153     1.33    10.77

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0904)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0904):    25.09   1.153     1.33    10.77
     + ID2= 2 (  0301):     1.72   0.013     1.50     3.02
       ================================================
       ID = 1 (  0904):    26.81   1.162     1.33    10.27

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| RESERVOIR(  0401)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.8060      0.3760
                          0.0080     0.0310   |   1.3400      0.4210
                          0.0170     0.0630   |   2.0150      0.4680
                          0.0230     0.0970   |   2.1780      0.6190
                          0.0280     0.1330   |   2.4650      0.7250
                          0.0320     0.1700   |   3.1360      0.7810
                          0.0360     0.2080   |   4.2010      0.8390
                          0.0390     0.2480   |   4.8940      0.8680
                          0.1590     0.2890   |   6.6200      0.9280
                          0.4120     0.3320   |   8.8340      0.9890

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0904)     26.810     1.162      1.33      10.27
   OUTFLOW: ID= 1 (  0401)     26.810     0.038      4.17      10.23

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.26
                  TIME SHIFT OF PEAK FLOW         (min)=170.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2327

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| CALIB            |
| STANDHYD (  0207)|   Area    (ha)=   2.21
```

|ID= 1 DT= 5.0 min | Total Imp(%)= 40.70 Dir. Conn.(%)= 13.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.90	1.31
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	121.38	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	2.60	1.083	12.32	2.083	5.15	3.08	3.00
0.167	2.60	1.167	12.32	2.167	5.15	3.17	3.00
0.250	2.91	1.250	71.38	2.250	4.54	3.25	2.82
0.333	2.91	1.333	71.38	2.333	4.54	3.33	2.82
0.417	3.32	1.417	15.11	2.417	4.09	3.42	2.67
0.500	3.32	1.500	15.11	2.500	4.09	3.50	2.67
0.583	3.91	1.583	9.53	2.583	3.73	3.58	2.54
0.667	3.91	1.667	9.53	2.667	3.73	3.67	2.54
0.750	4.84	1.750	7.27	2.750	3.44	3.75	2.42
0.833	4.84	1.833	7.27	2.833	3.44	3.83	2.42
0.917	6.62	1.917	5.99	2.917	3.20	3.92	2.31
1.000	6.62	2.000	5.99	3.000	3.20	4.00	2.31

				TOTALS
Max.Eff.Inten.(mm/hr)=		71.38	5.44	
over (min)		5.00	30.00	
Storage Coeff. (min)=		3.28 (ii)	25.91 (ii)	
Unit Hyd. Tpeak (min)=		5.00	30.00	
Unit Hyd. peak (cms)=		0.27	0.04	
PEAK FLOW	(cms)=	0.06	0.01	0.060 (iii)
TIME TO PEAK	(hrs)=	1.33	1.75	1.33
RUNOFF VOLUME	(mm)=	29.95	3.62	7.24
TOTAL RAINFALL	(mm)=	30.95	30.95	30.95
RUNOFF COEFFICIENT	=	0.97	0.12	0.23

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0302)	Area (ha)= 1.49 Curve Number (CN)= 66.8
ID= 1 DT= 5.0 min	Ia (mm)= 6.34 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.44

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	2.60	1.083	12.32	2.083	5.15	3.08	3.00
0.167	2.60	1.167	12.32	2.167	5.15	3.17	3.00
0.250	2.91	1.250	71.38	2.250	4.54	3.25	2.82
0.333	2.91	1.333	71.38	2.333	4.54	3.33	2.82
0.417	3.32	1.417	15.11	2.417	4.09	3.42	2.67
0.500	3.32	1.500	15.11	2.500	4.09	3.50	2.67
0.583	3.91	1.583	9.53	2.583	3.73	3.58	2.54
0.667	3.91	1.667	9.53	2.667	3.73	3.67	2.54
0.750	4.84	1.750	7.27	2.750	3.44	3.75	2.42
0.833	4.84	1.833	7.27	2.833	3.44	3.83	2.42
0.917	6.62	1.917	5.99	2.917	3.20	3.92	2.31
1.000	6.62	2.000	5.99	3.000	3.20	4.00	2.31

Unit Hyd Qpeak (cms)=		0.129
PEAK FLOW	(cms)=	0.009 (i)
TIME TO PEAK	(hrs)=	1.917
RUNOFF VOLUME	(mm)=	4.015
TOTAL RAINFALL	(mm)=	30.952
RUNOFF COEFFICIENT	=	0.130

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

ADD HYD (0901)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0207):	2.21	0.060	1.33	7.24
+ ID2= 2 (0302):	1.49	0.009	1.92	4.01
ID = 3 (0901):	3.70	0.061	1.33	5.94

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

```
| DUHYD    (  0802)|
| Inlet Cap.= 0.060|
| #of Inlets=    10|
| Total(cms)=   0.6|      AREA     QPEAK     TPEAK    R.V.
-------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.70      0.06      1.33    5.94
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.70      0.06      1.33    5.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   1.35
|ID= 1 DT= 5.0 min |   Total Imp(%)=  37.40   Dir. Conn.(%)=  10.30
-------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50         0.85
     Dep. Storage     (mm)=       1.00         4.89
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      94.87        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    2.60 | 1.083   12.32 | 2.083    5.15 |  3.08    3.00
              0.167    2.60 | 1.167   12.32 | 2.167    5.15 |  3.17    3.00
              0.250    2.91 | 1.250   71.38 | 2.250    4.54 |  3.25    2.82
              0.333    2.91 | 1.333   71.38 | 2.333    4.54 |  3.33    2.82
              0.417    3.32 | 1.417   15.11 | 2.417    4.09 |  3.42    2.67
              0.500    3.32 | 1.500   15.11 | 2.500    4.09 |  3.50    2.67
              0.583    3.91 | 1.583    9.53 | 2.583    3.73 |  3.58    2.54
              0.667    3.91 | 1.667    9.53 | 2.667    3.73 |  3.67    2.54
              0.750    4.84 | 1.750    7.27 | 2.750    3.44 |  3.75    2.42
              0.833    4.84 | 1.833    7.27 | 2.833    3.44 |  3.83    2.42
              0.917    6.62 | 1.917    5.99 | 2.917    3.20 |  3.92    2.31
              1.000    6.62 | 2.000    5.99 | 3.000    3.20 |  4.00    2.31

     Max.Eff.Inten.(mm/hr)=      71.38         5.93
               over (min)        5.00        25.00
     Storage Coeff.  (min)=       2.83 (ii)   24.68 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.28         0.05
                                                    *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.01          0.029 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.67           1.33
     RUNOFF VOLUME    (mm)=      29.95         3.98           6.64
     TOTAL RAINFALL   (mm)=      30.95        30.95          30.95
     RUNOFF COEFFICIENT   =       0.97         0.13           0.21

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.1    Ia = Dep. 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  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
-------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
        ID1= 1 (  0203):     1.35   0.029     1.33     6.64
      + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
        ==================================================
        ID = 3 (  0902):     1.35   0.029     1.33     6.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       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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38a2fe-a15e-4f29-b5b7-c8c49af88203\s

DATE: 02/21/2023                          TIME: 10:28:59

USER:



COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 5yr 4hr 10min Chicago         **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 474.130
| Ptotal= 41.12 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    3.46 |  1.17   16.36 |  2.17    6.84 |  3.17    3.98
               0.33    3.86 |  1.33   94.82 |  2.33    6.04 |  3.33    3.75
               0.50    4.41 |  1.50   20.08 |  2.50    5.43 |  3.50    3.55
               0.67    5.19 |  1.67   12.66 |  2.67    4.96 |  3.67    3.37
               0.83    6.43 |  1.83    9.65 |  2.83    4.57 |  3.83    3.21
               1.00    8.80 |  2.00    7.95 |  3.00    4.25 |  4.00    3.07


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=  18.69
|ID= 1 DT= 5.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  27.00
--------------------
                                   IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=           9.53          9.16
     Dep. Storage     (mm)=           1.00          5.00
     Average Slope     (%)=           1.00          2.00
     Length            (m)=         352.99         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    3.46 | 1.083   16.36 | 2.083    6.84 |  3.08    3.98
               0.167    3.46 | 1.167   16.36 | 2.167    6.84 |  3.17    3.98
               0.250    3.86 | 1.250   94.82 | 2.250    6.04 |  3.25    3.75
               0.333    3.86 | 1.333   94.82 | 2.333    6.04 |  3.33    3.75
               0.417    4.41 | 1.417   20.08 | 2.417    5.43 |  3.42    3.55
               0.500    4.41 | 1.500   20.08 | 2.500    5.43 |  3.50    3.55
               0.583    5.19 | 1.583   12.66 | 2.583    4.96 |  3.58    3.37
               0.667    5.19 | 1.667   12.66 | 2.667    4.96 |  3.67    3.37
               0.750    6.43 | 1.750    9.65 | 2.750    4.57 |  3.75    3.21
               0.833    6.43 | 1.833    9.65 | 2.833    4.57 |  3.83    3.21
               0.917    8.80 | 1.917    7.95 | 2.917    4.25 |  3.92    3.07
               1.000    8.80 | 2.000    7.95 | 3.000    4.25 |  4.00    3.07

     Max.Eff.Inten.(mm/hr)=      94.82        12.11
               over (min)        5.00        25.00
     Storage Coeff.  (min)=      5.56 (ii)   21.98 (ii)
     Unit Hyd. Tpeak (min)=      5.00        25.00
     Unit Hyd. peak  (cms)=      0.20         0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      1.14         0.17         1.186 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.67          1.33
     RUNOFF VOLUME    (mm)=     40.12         6.63         15.67
     TOTAL RAINFALL   (mm)=     41.12        41.12         41.12
     RUNOFF COEFFICIENT   =      0.98         0.16          0.38


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  49.0    Ia = Dep. 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					
NASHYD (0301)	Area (ha)=	1.72	Curve Number (CN)=	55.6	
ID= 1 DT= 5.0 min	Ia (mm)=	4.61	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.18			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.46	1.083	16.36	2.083	6.84	3.08	3.98
0.167	3.46	1.167	16.36	2.167	6.84	3.17	3.98
0.250	3.86	1.250	94.82	2.250	6.04	3.25	3.75
0.333	3.86	1.333	94.82	2.333	6.04	3.33	3.75
0.417	4.41	1.417	20.08	2.417	5.43	3.42	3.55
0.500	4.41	1.500	20.08	2.500	5.43	3.50	3.55
0.583	5.19	1.583	12.66	2.583	4.96	3.58	3.37
0.667	5.19	1.667	12.66	2.667	4.96	3.67	3.37
0.750	6.43	1.750	9.65	2.750	4.57	3.75	3.21
0.833	6.43	1.833	9.65	2.833	4.57	3.83	3.21
0.917	8.80	1.917	7.95	2.917	4.25	3.92	3.07
1.000	8.80	2.000	7.95	3.000	4.25	4.00	3.07

Unit Hyd Qpeak (cms)=	0.365	
PEAK FLOW (cms)=	0.026	(i)
TIME TO PEAK (hrs)=	1.500	
RUNOFF VOLUME (mm)=	5.553	
TOTAL RAINFALL (mm)=	41.118	
RUNOFF COEFFICIENT =	0.135	

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

CALIB					
STANDHYD (0208)	Area (ha)=	6.40			
ID= 1 DT= 5.0 min	Total Imp(%)=	51.70	Dir. Conn.(%)=	26.30	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.31	3.09
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	206.56	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	3.46	1.083	16.36	2.083	6.84	3.08	3.98
0.167	3.46	1.167	16.36	2.167	6.84	3.17	3.98
0.250	3.86	1.250	94.82	2.250	6.04	3.25	3.75
0.333	3.86	1.333	94.82	2.333	6.04	3.33	3.75
0.417	4.41	1.417	20.08	2.417	5.43	3.42	3.55
0.500	4.41	1.500	20.08	2.500	5.43	3.50	3.55
0.583	5.19	1.583	12.66	2.583	4.96	3.58	3.37
0.667	5.19	1.667	12.66	2.667	4.96	3.67	3.37
0.750	6.43	1.750	9.65	2.750	4.57	3.75	3.21
0.833	6.43	1.833	9.65	2.833	4.57	3.83	3.21
0.917	8.80	1.917	7.95	2.917	4.25	3.92	3.07
1.000	8.80	2.000	7.95	3.000	4.25	4.00	3.07

Max.Eff.Inten.(mm/hr)=	94.82	12.73		
over (min)	5.00	25.00		
Storage Coeff. (min)=	4.03	(ii) 20.13	(ii)	
Unit Hyd. Tpeak (min)=	5.00	25.00		
Unit Hyd. peak (cms)=	0.24	0.05		
			TOTALS	
PEAK FLOW (cms)=	0.41	0.06	0.428	(iii)
TIME TO PEAK (hrs)=	1.33	1.67	1.33	
RUNOFF VOLUME (mm)=	40.12	6.78	15.55	
TOTAL RAINFALL (mm)=	41.12	41.12	41.12	
RUNOFF COEFFICIENT =	0.98	0.16	0.38	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. 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 (0904)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0201):	18.69	1.186	1.33	15.67
+ ID2= 2 (0208):	6.40	0.428	1.33	15.55
ID = 3 (0904):	25.09	1.614	1.33	15.64

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD  (  0904)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0904):     25.09   1.614     1.33    15.64
      + ID2= 2 (  0301):      1.72   0.026     1.50     5.55
        ================================================
        ID = 1 (  0904):     26.81   1.632     1.33    14.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| RESERVOIR(  0401)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.8060      0.3760
                          0.0080     0.0310   |   1.3400      0.4210
                          0.0170     0.0630   |   2.0150      0.4680
                          0.0230     0.0970   |   2.1780      0.6190
                          0.0280     0.1330   |   2.4650      0.7250
                          0.0320     0.1700   |   3.1360      0.7810
                          0.0360     0.2080   |   4.2010      0.8390
                          0.0390     0.2480   |   4.8940      0.8680
                          0.1590     0.2890   |   6.6200      0.9280
                          0.4120     0.3320   |   8.8340      0.9890

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0904)     26.810      1.632      1.33      14.99
   OUTFLOW: ID= 1 (  0401)     26.810      0.154      3.17      14.95

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.45
                  TIME SHIFT OF PEAK FLOW         (min)=110.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.2874

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--------------------
| CALIB            |
| STANDHYD (  0207)|   Area    (ha)=   2.21
|ID= 1 DT= 5.0 min |   Total Imp(%)=  40.70   Dir. Conn.(%)=  13.80
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.90         1.31
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     121.38        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    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
 0.083    3.46 | 1.083   16.36 | 2.083    6.84 |  3.08    3.98
 0.167    3.46 | 1.167   16.36 | 2.167    6.84 |  3.17    3.98
 0.250    3.86 | 1.250   94.82 | 2.250    6.04 |  3.25    3.75
 0.333    3.86 | 1.333   94.82 | 2.333    6.04 |  3.33    3.75
 0.417    4.41 | 1.417   20.08 | 2.417    5.43 |  3.42    3.55
 0.500    4.41 | 1.500   20.08 | 2.500    5.43 |  3.50    3.55
 0.583    5.19 | 1.583   12.66 | 2.583    4.96 |  3.58    3.37
 0.667    5.19 | 1.667   12.66 | 2.667    4.96 |  3.67    3.37
 0.750    6.43 | 1.750    9.65 | 2.750    4.57 |  3.75    3.21
 0.833    6.43 | 1.833    9.65 | 2.833    4.57 |  3.83    3.21
 0.917    8.80 | 1.917    7.95 | 2.917    4.25 |  3.92    3.07
 1.000    8.80 | 2.000    7.95 | 3.000    4.25 |  4.00    3.07

     Max.Eff.Inten.(mm/hr)=      94.82        11.50
               over (min)         5.00        20.00
     Storage Coeff.  (min)=       2.93 (ii)   19.70 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.28         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.08         0.02          0.086 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      40.12         6.47          11.10
     TOTAL RAINFALL   (mm)=      41.12        41.12          41.12
     RUNOFF COEFFICIENT   =       0.98         0.16           0.27

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  49.0    Ia = Dep. 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            |
| NASHYD   (  0302)|   Area    (ha)=   1.49   Curve Number   (CN)= 66.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.34   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44

         NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	3.46	1.083	16.36	2.083	6.84	3.08	3.98
0.167	3.46	1.167	16.36	2.167	6.84	3.17	3.98
0.250	3.86	1.250	94.82	2.250	6.04	3.25	3.75
0.333	3.86	1.333	94.82	2.333	6.04	3.33	3.75
0.417	4.41	1.417	20.08	2.417	5.43	3.42	3.55
0.500	4.41	1.500	20.08	2.500	5.43	3.50	3.55
0.583	5.19	1.583	12.66	2.583	4.96	3.58	3.37
0.667	5.19	1.667	12.66	2.667	4.96	3.67	3.37
0.750	6.43	1.750	9.65	2.750	4.57	3.75	3.21
0.833	6.43	1.833	9.65	2.833	4.57	3.83	3.21
0.917	8.80	1.917	7.95	2.917	4.25	3.92	3.07
1.000	8.80	2.000	7.95	3.000	4.25	4.00	3.07

Unit Hyd Qpeak (cms)= 0.129

PEAK FLOW (cms)= 0.017 (i)
TIME TO PEAK (hrs)= 1.833
RUNOFF VOLUME (mm)= 7.510
TOTAL RAINFALL (mm)= 41.118
RUNOFF COEFFICIENT = 0.183

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

ADD HYD (0901)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0207):	2.21	0.086	1.33	11.10
	+ ID2= 2 (0302):	1.49	0.017	1.83	7.51
	ID = 3 (0901):	3.70	0.089	1.33	9.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0802)	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.= 0.060				
#of Inlets= 10				
Total(cms)= 0.6				
TOTAL HYD.(ID= 1):	3.70	0.09	1.33	9.66
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	3.70	0.09	1.33	9.66

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB / STANDHYD (0203)		
ID= 1 DT= 5.0 min	Area (ha)= 1.35	
	Total Imp(%)= 37.40	Dir. Conn.(%)= 10.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	0.85
Dep. Storage	(mm)=	1.00	4.89
Average Slope	(%)=	1.00	2.00
Length	(m)=	94.87	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	3.46	1.083	16.36	2.083	6.84	3.08	3.98
0.167	3.46	1.167	16.36	2.167	6.84	3.17	3.98
0.250	3.86	1.250	94.82	2.250	6.04	3.25	3.75
0.333	3.86	1.333	94.82	2.333	6.04	3.33	3.75
0.417	4.41	1.417	20.08	2.417	5.43	3.42	3.55
0.500	4.41	1.500	20.08	2.500	5.43	3.50	3.55
0.583	5.19	1.583	12.66	2.583	4.96	3.58	3.37
0.667	5.19	1.667	12.66	2.667	4.96	3.67	3.37
0.750	6.43	1.750	9.65	2.750	4.57	3.75	3.21
0.833	6.43	1.833	9.65	2.833	4.57	3.83	3.21
0.917	8.80	1.917	7.95	2.917	4.25	3.92	3.07
1.000	8.80	2.000	7.95	3.000	4.25	4.00	3.07

Max.Eff.Inten.(mm/hr)=	94.82	12.50		
over (min)	5.00	20.00		
Storage Coeff. (min)=	2.53 (ii)	18.74 (ii)		
Unit Hyd. Tpeak (min)=	5.00	20.00		
Unit Hyd. peak (cms)=	0.29	0.06		
				TOTALS
PEAK FLOW (cms)=	0.04	0.02		0.042 (iii)
TIME TO PEAK (hrs)=	1.33	1.58		1.33
RUNOFF VOLUME (mm)=	40.12	7.08		10.48
TOTAL RAINFALL (mm)=	41.12	41.12		41.12
RUNOFF COEFFICIENT =	0.98	0.17		0.25

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.1    Ia = Dep. 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  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
       ID1= 1 (  0203):     1.35   0.042     1.33    10.48
     + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
       ================================================
       ID = 3 (  0902):     1.35   0.042     1.33    10.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       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 6.1\VO2\voin.dat

  Output  filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\55
f439db-2b26-4829-832d-74cce4dc3def\s
  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\55
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DATE: 02/21/2023                          TIME: 10:28:59

USER:


COMMENTS: _____________________________________________________

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  ***********************************************
  ** SIMULATION : 10yr 4hr 10min Chicago        **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 551.110
| Ptotal= 47.79 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    4.02 |  1.17   19.02 |  2.17    7.95 |  3.17    4.63
                0.33    4.49 |  1.33  110.21 |  2.33    7.02 |  3.33    4.36
                0.50    5.12 |  1.50   23.34 |  2.50    6.32 |  3.50    4.13
                0.67    6.03 |  1.67   14.72 |  2.67    5.76 |  3.67    3.92
                0.83    7.47 |  1.83   11.22 |  2.83    5.32 |  3.83    3.74
                1.00   10.22 |  2.00    9.24 |  3.00    4.94 |  4.00    3.57


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--------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=  18.69
|ID= 1 DT= 5.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  27.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       9.53         9.16
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     352.99        40.00
     Mannings n           =      0.013        0.250
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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	4.02	1.083	19.02	2.083	7.95	3.08	4.63
0.167	4.02	1.167	19.02	2.167	7.95	3.17	4.63
0.250	4.49	1.250	110.21	2.250	7.02	3.25	4.36
0.333	4.49	1.333	110.21	2.333	7.02	3.33	4.36
0.417	5.12	1.417	23.34	2.417	6.32	3.42	4.13
0.500	5.12	1.500	23.34	2.500	6.32	3.50	4.13
0.583	6.03	1.583	14.72	2.583	5.76	3.58	3.92
0.667	6.03	1.667	14.72	2.667	5.76	3.67	3.92
0.750	7.47	1.750	11.22	2.750	5.32	3.75	3.74
0.833	7.47	1.833	11.22	2.833	5.32	3.83	3.74
0.917	10.22	1.917	9.24	2.917	4.94	3.92	3.57
1.000	10.22	2.000	9.24	3.000	4.94	4.00	3.57

Max.Eff.Inten.(mm/hr)=	110.21	19.12		
over (min)	5.00	20.00		
Storage Coeff. (min)=	5.24 (ii)	18.92 (ii)		
Unit Hyd. Tpeak (min)=	5.00	20.00		
Unit Hyd. peak (cms)=	0.21	0.06		
			TOTALS	
PEAK FLOW (cms)=	1.35	0.26	1.439 (iii)	
TIME TO PEAK (hrs)=	1.33	1.58	1.33	
RUNOFF VOLUME (mm)=	46.79	8.90	19.13	
TOTAL RAINFALL (mm)=	47.79	47.79	47.79	
RUNOFF COEFFICIENT =	0.98	0.19	0.40	

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0301)	Area (ha)=	1.72	Curve Number (CN)=	55.6	
ID= 1 DT= 5.0 min	Ia (mm)=	4.61	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.18			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.02	1.083	19.02	2.083	7.95	3.08	4.63
0.167	4.02	1.167	19.02	2.167	7.95	3.17	4.63
0.250	4.49	1.250	110.21	2.250	7.02	3.25	4.36
0.333	4.49	1.333	110.21	2.333	7.02	3.33	4.36
0.417	5.12	1.417	23.34	2.417	6.32	3.42	4.13
0.500	5.12	1.500	23.34	2.500	6.32	3.50	4.13
0.583	6.03	1.583	14.72	2.583	5.76	3.58	3.92
0.667	6.03	1.667	14.72	2.667	5.76	3.67	3.92
0.750	7.47	1.750	11.22	2.750	5.32	3.75	3.74
0.833	7.47	1.833	11.22	2.833	5.32	3.83	3.74
0.917	10.22	1.917	9.24	2.917	4.94	3.92	3.57
1.000	10.22	2.000	9.24	3.000	4.94	4.00	3.57

Unit Hyd Qpeak (cms)= 0.365

PEAK FLOW (cms)= 0.036 (i)
TIME TO PEAK (hrs)= 1.500
RUNOFF VOLUME (mm)= 7.558
TOTAL RAINFALL (mm)= 47.794
RUNOFF COEFFICIENT = 0.158

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

CALIB					
STANDHYD (0208)	Area (ha)=	6.40			
ID= 1 DT= 5.0 min	Total Imp(%)=	51.70	Dir. Conn.(%)=	26.30	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.31	3.09
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	206.56	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	4.02	1.083	19.02	2.083	7.95	3.08	4.63
0.167	4.02	1.167	19.02	2.167	7.95	3.17	4.63
0.250	4.49	1.250	110.21	2.250	7.02	3.25	4.36
0.333	4.49	1.333	110.21	2.333	7.02	3.33	4.36
0.417	5.12	1.417	23.34	2.417	6.32	3.42	4.13
0.500	5.12	1.500	23.34	2.500	6.32	3.50	4.13
0.583	6.03	1.583	14.72	2.583	5.76	3.58	3.92

0.667	6.03	1.667	14.72	2.667	5.76	3.67	3.92
0.750	7.47	1.750	11.22	2.750	5.32	3.75	3.74
0.833	7.47	1.833	11.22	2.833	5.32	3.83	3.74
0.917	10.22	1.917	9.24	2.917	4.94	3.92	3.57
1.000	10.22	2.000	9.24	3.000	4.94	4.00	3.57

Max.Eff.Inten.(mm/hr)=	110.21	20.08	
over (min)	5.00	20.00	
Storage Coeff. (min)=	3.80 (ii)	17.21 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.25	0.06	
			TOTALS
PEAK FLOW (cms)=	0.48	0.10	0.517 (iii)
TIME TO PEAK (hrs)=	1.33	1.58	1.33
RUNOFF VOLUME (mm)=	46.79	9.10	19.01
TOTAL RAINFALL (mm)=	47.79	47.79	47.79
RUNOFF COEFFICIENT =	0.98	0.19	0.40

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. 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 (0904)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0201):		18.69	1.439	1.33	19.13
+ ID2= 2 (0208):		6.40	0.517	1.33	19.01
ID = 3 (0904):		25.09	1.956	1.33	19.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0904)					
3 + 2 = 1		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0904):		25.09	1.956	1.33	19.10
+ ID2= 2 (0301):		1.72	0.036	1.50	7.56
ID = 1 (0904):		26.81	1.982	1.33	18.36

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0401)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW	STORAGE	OUTFLOW	STORAGE
	(cms)	(ha.m.)	(cms)	(ha.m.)
	0.0000	0.0000	0.8060	0.3760
	0.0080	0.0310	1.3400	0.4210
	0.0170	0.0630	2.0150	0.4680
	0.0230	0.0970	2.1780	0.6190
	0.0280	0.1330	2.4650	0.7250
	0.0320	0.1700	3.1360	0.7810
	0.0360	0.2080	4.2010	0.8390
	0.0390	0.2480	4.8940	0.8680
	0.1590	0.2890	6.6200	0.9280
	0.4120	0.3320	8.8340	0.9890

	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
INFLOW : ID= 2 (0904)	26.810	1.982	1.33	18.36
OUTFLOW: ID= 1 (0401)	26.810	0.276	2.42	18.32

PEAK FLOW REDUCTION [Qout/Qin](%)= 13.94
TIME SHIFT OF PEAK FLOW (min)= 65.00
MAXIMUM STORAGE USED (ha.m.)= 0.3090

CALIB			
STANDHYD (0207)	Area (ha)=	2.21	
ID= 1 DT= 5.0 min	Total Imp(%)=	40.70	Dir. Conn.(%)= 13.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.90	1.31
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	121.38	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	4.02	1.083	19.02	2.083	7.95	3.08	4.63
0.167	4.02	1.167	19.02	2.167	7.95	3.17	4.63
0.250	4.49	1.250	110.21	2.250	7.02	3.25	4.36
0.333	4.49	1.333	110.21	2.333	7.02	3.33	4.36
0.417	5.12	1.417	23.34	2.417	6.32	3.42	4.13

```
               0.500    5.12 | 1.500   23.34 | 2.500    6.32 |  3.50    4.13
               0.583    6.03 | 1.583   14.72 | 2.583    5.76 |  3.58    3.92
               0.667    6.03 | 1.667   14.72 | 2.667    5.76 |  3.67    3.92
               0.750    7.47 | 1.750   11.22 | 2.750    5.32 |  3.75    3.74
               0.833    7.47 | 1.833   11.22 | 2.833    5.32 |  3.83    3.74
               0.917   10.22 | 1.917    9.24 | 2.917    4.94 |  3.92    3.57
               1.000   10.22 | 2.000    9.24 | 3.000    4.94 |  4.00    3.57

     Max.Eff.Inten.(mm/hr)=     110.21        18.18
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       2.76 (ii)   16.72 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.28         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.09         0.04          0.104 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      46.79         8.70          13.95
     TOTAL RAINFALL   (mm)=      47.79        47.79          47.79
     RUNOFF COEFFICIENT   =       0.98         0.18           0.29

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  49.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0302)|   Area    (ha)=   1.49   Curve Number   (CN)= 66.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.34   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44

         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    4.02 | 1.083   19.02 | 2.083    7.95 |  3.08    4.63
               0.167    4.02 | 1.167   19.02 | 2.167    7.95 |  3.17    4.63
               0.250    4.49 | 1.250  110.21 | 2.250    7.02 |  3.25    4.36
               0.333    4.49 | 1.333  110.21 | 2.333    7.02 |  3.33    4.36
               0.417    5.12 | 1.417   23.34 | 2.417    6.32 |  3.42    4.13
               0.500    5.12 | 1.500   23.34 | 2.500    6.32 |  3.50    4.13
               0.583    6.03 | 1.583   14.72 | 2.583    5.76 |  3.58    3.92
               0.667    6.03 | 1.667   14.72 | 2.667    5.76 |  3.67    3.92
               0.750    7.47 | 1.750   11.22 | 2.750    5.32 |  3.75    3.74
               0.833    7.47 | 1.833   11.22 | 2.833    5.32 |  3.83    3.74
               0.917   10.22 | 1.917    9.24 | 2.917    4.94 |  3.92    3.57
               1.000   10.22 | 2.000    9.24 | 3.000    4.94 |  4.00    3.57

     Unit Hyd Qpeak  (cms)=   0.129

     PEAK FLOW       (cms)=   0.024 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  10.246
     TOTAL RAINFALL   (mm)=  47.794
     RUNOFF COEFFICIENT   =   0.214

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

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--------------------
| ADD HYD  (  0901)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0207):     2.21   0.104     1.33    13.95
     + ID2= 2 (  0302):     1.49   0.024     1.83    10.25
       ================================================
       ID = 3 (  0901):     3.70   0.109     1.33    12.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.060|
| #of Inlets=    10|
| Total(cms)=   0.6|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.70      0.11      1.33   12.46
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.70      0.11      1.33   12.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   1.35
|ID= 1 DT= 5.0 min |   Total Imp(%)=  37.40   Dir. Conn.(%)=  10.30
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50         0.85
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     Dep. Storage     (mm)=       1.00         4.89
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      94.87        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    4.02 | 1.083   19.02 | 2.083    7.95 |  3.08    4.63
              0.167    4.02 | 1.167   19.02 | 2.167    7.95 |  3.17    4.63
              0.250    4.49 | 1.250  110.21 | 2.250    7.02 |  3.25    4.36
              0.333    4.49 | 1.333  110.21 | 2.333    7.02 |  3.33    4.36
              0.417    5.12 | 1.417   23.34 | 2.417    6.32 |  3.42    4.13
              0.500    5.12 | 1.500   23.34 | 2.500    6.32 |  3.50    4.13
              0.583    6.03 | 1.583   14.72 | 2.583    5.76 |  3.58    3.92
              0.667    6.03 | 1.667   14.72 | 2.667    5.76 |  3.67    3.92
              0.750    7.47 | 1.750   11.22 | 2.750    5.32 |  3.75    3.74
              0.833    7.47 | 1.833   11.22 | 2.833    5.32 |  3.83    3.74
              0.917   10.22 | 1.917    9.24 | 2.917    4.94 |  3.92    3.57
              1.000   10.22 | 2.000    9.24 | 3.000    4.94 |  4.00    3.57

     Max.Eff.Inten.(mm/hr)=     110.21        19.73
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       2.38 (ii)   15.89 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.30         0.07
                                                      *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.03          0.051 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      46.79         9.50          13.33
     TOTAL RAINFALL   (mm)=      47.79        47.79          47.79
     RUNOFF COEFFICIENT   =       0.98         0.20           0.28

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.1    Ia = Dep. 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  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
       ID1= 1 (  0203):     1.35   0.051     1.33    13.33
     + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
       ================================================
       ID = 3 (  0902):     1.35   0.051     1.33    13.33

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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      V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
      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 6.1\VO2\voin.dat

  Output  filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\4865f90f-8bd3-4238-9c98-9be9e6c7da0a\s
  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\4865f90f-8bd3-4238-9c98-9be9e6c7da0a\s


DATE: 02/21/2023                          TIME: 10:28:59

USER:


COMMENTS: _____________________________________________________________
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  ***********************************************
  ** SIMULATION : 25yr 4hr 10min Chicago        **
  ***********************************************

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| CHICAGO STORM    |    IDF curve parameters: A= 649.085
| Ptotal= 56.29 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    4.73 |  1.17   22.40 |  2.17    9.36 |  3.17    5.45
                0.33    5.29 |  1.33  129.81 |  2.33    8.26 |  3.33    5.13
                0.50    6.04 |  1.50   27.49 |  2.50    7.44 |  3.50    4.86
                0.67    7.11 |  1.67   17.33 |  2.67    6.79 |  3.67    4.62
                0.83    8.80 |  1.83   13.22 |  2.83    6.26 |  3.83    4.40
                1.00   12.04 |  2.00   10.89 |  3.00    5.82 |  4.00    4.21


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--------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=  18.69
|ID= 1 DT= 5.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  27.00
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       9.53         9.16
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     352.99        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    4.73 | 1.083   22.40 | 2.083    9.36 |  3.08    5.45
               0.167    4.73 | 1.167   22.40 | 2.167    9.36 |  3.17    5.45
               0.250    5.29 | 1.250  129.81 | 2.250    8.26 |  3.25    5.13
               0.333    5.29 | 1.333  129.81 | 2.333    8.26 |  3.33    5.13
               0.417    6.04 | 1.417   27.49 | 2.417    7.44 |  3.42    4.86
               0.500    6.04 | 1.500   27.49 | 2.500    7.44 |  3.50    4.86
               0.583    7.11 | 1.583   17.33 | 2.583    6.79 |  3.58    4.62
               0.667    7.11 | 1.667   17.33 | 2.667    6.79 |  3.67    4.62
               0.750    8.80 | 1.750   13.22 | 2.750    6.26 |  3.75    4.40
               0.833    8.80 | 1.833   13.22 | 2.833    6.26 |  3.83    4.40
               0.917   12.04 | 1.917   10.89 | 2.917    5.82 |  3.92    4.21
               1.000   12.04 | 2.000   10.89 | 3.000    5.82 |  4.00    4.21

    Max.Eff.Inten.(mm/hr)=     129.81        26.61
              over (min)        5.00        20.00
    Storage Coeff.  (min)=      4.91 (ii)   16.89 (ii)
    Unit Hyd. Tpeak (min)=      5.00        20.00
    Unit Hyd. peak  (cms)=      0.22         0.06
                                                        *TOTALS*
    PEAK FLOW       (cms)=      1.62         0.38          1.753 (iii)
    TIME TO PEAK    (hrs)=      1.33         1.58           1.33
    RUNOFF VOLUME    (mm)=     55.29        12.16          23.81
    TOTAL RAINFALL   (mm)=     56.29        56.29          56.29
    RUNOFF COEFFICIENT   =      0.98         0.22           0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  49.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0301)|   Area    (ha)=   1.72   Curve Number   (CN)= 55.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.61   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

        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    4.73 | 1.083   22.40 | 2.083    9.36 |  3.08    5.45
               0.167    4.73 | 1.167   22.40 | 2.167    9.36 |  3.17    5.45
               0.250    5.29 | 1.250  129.81 | 2.250    8.26 |  3.25    5.13
               0.333    5.29 | 1.333  129.81 | 2.333    8.26 |  3.33    5.13
               0.417    6.04 | 1.417   27.49 | 2.417    7.44 |  3.42    4.86
               0.500    6.04 | 1.500   27.49 | 2.500    7.44 |  3.50    4.86
               0.583    7.11 | 1.583   17.33 | 2.583    6.79 |  3.58    4.62
               0.667    7.11 | 1.667   17.33 | 2.667    6.79 |  3.67    4.62
```

```
             0.750    8.80 | 1.750   13.22 | 2.750    6.26 |  3.75    4.40
             0.833    8.80 | 1.833   13.22 | 2.833    6.26 |  3.83    4.40
             0.917   12.04 | 1.917   10.89 | 2.917    5.82 |  3.92    4.21
             1.000   12.04 | 2.000   10.89 | 3.000    5.82 |  4.00    4.21

     Unit Hyd Qpeak  (cms)=   0.365

     PEAK FLOW       (cms)=   0.050 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  10.464
     TOTAL RAINFALL   (mm)=  56.290
     RUNOFF COEFFICIENT   =   0.186

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0208)|   Area    (ha)=   6.40
|ID= 1 DT= 5.0 min |   Total Imp(%)=  51.70   Dir. Conn.(%)=  26.30
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.31         3.09
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     206.56        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    4.73 | 1.083   22.40 | 2.083    9.36 |  3.08    5.45
             0.167    4.73 | 1.167   22.40 | 2.167    9.36 |  3.17    5.45
             0.250    5.29 | 1.250  129.81 | 2.250    8.26 |  3.25    5.13
             0.333    5.29 | 1.333  129.81 | 2.333    8.26 |  3.33    5.13
             0.417    6.04 | 1.417   27.49 | 2.417    7.44 |  3.42    4.86
             0.500    6.04 | 1.500   27.49 | 2.500    7.44 |  3.50    4.86
             0.583    7.11 | 1.583   17.33 | 2.583    6.79 |  3.58    4.62
             0.667    7.11 | 1.667   17.33 | 2.667    6.79 |  3.67    4.62
             0.750    8.80 | 1.750   13.22 | 2.750    6.26 |  3.75    4.40
             0.833    8.80 | 1.833   13.22 | 2.833    6.26 |  3.83    4.40
             0.917   12.04 | 1.917   10.89 | 2.917    5.82 |  3.92    4.21
             1.000   12.04 | 2.000   10.89 | 3.000    5.82 |  4.00    4.21

     Max.Eff.Inten.(mm/hr)=     129.81        27.91
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       3.56 (ii)   15.32 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.26         0.07
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.58         0.14          0.626 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.58           1.33
     RUNOFF VOLUME    (mm)=      55.29        12.42          23.69
     TOTAL RAINFALL   (mm)=      56.29        56.29          56.29
     RUNOFF COEFFICIENT   =       0.98         0.22           0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  49.0    Ia = Dep. 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  (  0904)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0201):    18.69   1.753     1.33    23.81
     + ID2= 2 (  0208):     6.40   0.626     1.33    23.69
       ================================================
       ID = 3 (  0904):    25.09   2.379     1.33    23.78

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

--------------------
| ADD HYD  (  0904)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0904):    25.09   2.379     1.33    23.78
     + ID2= 2 (  0301):     1.72   0.050     1.42    10.46
       ================================================
       ID = 1 (  0904):    26.81   2.417     1.33    22.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0401)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.8060     0.3760
                          0.0080     0.0310   |   1.3400     0.4210
                          0.0170     0.0630   |   2.0150     0.4680
```

0.0230	0.0970	2.1780	0.6190	
0.0280	0.1330	2.4650	0.7250	
0.0320	0.1700	3.1360	0.7810	
0.0360	0.2080	4.2010	0.8390	
0.0390	0.2480	4.8940	0.8680	
0.1590	0.2890	6.6200	0.9280	
0.4120	0.3320	8.8340	0.9890	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0904)	26.810	2.417	1.33	22.92
OUTFLOW: ID= 1 (0401)	26.810	0.471	2.08	22.89

PEAK FLOW REDUCTION [Qout/Qin](%)= 19.50
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.3388

CALIB	
STANDHYD (0207)	Area (ha)= 2.21
ID= 1 DT= 5.0 min	Total Imp(%)= 40.70 Dir. Conn.(%)= 13.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.90	1.31
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	121.38	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	4.73	1.083	22.40	2.083	9.36	3.08	5.45
0.167	4.73	1.167	22.40	2.167	9.36	3.17	5.45
0.250	5.29	1.250	129.81	2.250	8.26	3.25	5.13
0.333	5.29	1.333	129.81	2.333	8.26	3.33	5.13
0.417	6.04	1.417	27.49	2.417	7.44	3.42	4.86
0.500	6.04	1.500	27.49	2.500	7.44	3.50	4.86
0.583	7.11	1.583	17.33	2.583	6.79	3.58	4.62
0.667	7.11	1.667	17.33	2.667	6.79	3.67	4.62
0.750	8.80	1.750	13.22	2.750	6.26	3.75	4.40
0.833	8.80	1.833	13.22	2.833	6.26	3.83	4.40
0.917	12.04	1.917	10.89	2.917	5.82	3.92	4.21
1.000	12.04	2.000	10.89	3.000	5.82	4.00	4.21

Max.Eff.Inten.(mm/hr)=	129.81	25.34	
over (min)	5.00	15.00	
Storage Coeff. (min)=	2.59 (ii)	14.81 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.29	0.08	

				TOTALS
PEAK FLOW	(cms)=	0.11	0.06	0.136 (iii)
TIME TO PEAK	(hrs)=	1.33	1.50	1.33
RUNOFF VOLUME	(mm)=	55.29	11.90	17.88
TOTAL RAINFALL	(mm)=	56.29	56.29	56.29
RUNOFF COEFFICIENT	=	0.98	0.21	0.32

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
NASHYD (0302)	Area (ha)= 1.49 Curve Number (CN)= 66.8
ID= 1 DT= 5.0 min	Ia (mm)= 6.34 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.44

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	4.73	1.083	22.40	2.083	9.36	3.08	5.45
0.167	4.73	1.167	22.40	2.167	9.36	3.17	5.45
0.250	5.29	1.250	129.81	2.250	8.26	3.25	5.13
0.333	5.29	1.333	129.81	2.333	8.26	3.33	5.13
0.417	6.04	1.417	27.49	2.417	7.44	3.42	4.86
0.500	6.04	1.500	27.49	2.500	7.44	3.50	4.86
0.583	7.11	1.583	17.33	2.583	6.79	3.58	4.62
0.667	7.11	1.667	17.33	2.667	6.79	3.67	4.62
0.750	8.80	1.750	13.22	2.750	6.26	3.75	4.40
0.833	8.80	1.833	13.22	2.833	6.26	3.83	4.40
0.917	12.04	1.917	10.89	2.917	5.82	3.92	4.21
1.000	12.04	2.000	10.89	3.000	5.82	4.00	4.21

Unit Hyd Qpeak (cms)= 0.129

PEAK FLOW (cms)= 0.034 (i)

```
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  14.159
     TOTAL RAINFALL   (mm)=  56.290
     RUNOFF COEFFICIENT   =   0.252

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

```
--------------------
| ADD HYD  (  0901)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0207):     2.21   0.136     1.33    17.88
      + ID2= 2 (  0302):     1.49   0.034     1.83    14.16
        ==================================================
        ID = 3 (  0901):     3.70   0.143     1.33    16.38

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

```
--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.060|
| #of Inlets=    10|
| Total(cms)=   0.6|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.70      0.14      1.33   16.38
     ==================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.70      0.14      1.33   16.38

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

```
--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   1.35
|ID= 1 DT= 5.0 min |   Total Imp(%)=  37.40   Dir. Conn.(%)=  10.30
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50         0.85
     Dep. Storage     (mm)=       1.00         4.89
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      94.87        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	4.73	1.083	22.40	2.083	9.36	3.08	5.45
0.167	4.73	1.167	22.40	2.167	9.36	3.17	5.45
0.250	5.29	1.250	129.81	2.250	8.26	3.25	5.13
0.333	5.29	1.333	129.81	2.333	8.26	3.33	5.13
0.417	6.04	1.417	27.49	2.417	7.44	3.42	4.86
0.500	6.04	1.500	27.49	2.500	7.44	3.50	4.86
0.583	7.11	1.583	17.33	2.583	6.79	3.58	4.62
0.667	7.11	1.667	17.33	2.667	6.79	3.67	4.62
0.750	8.80	1.750	13.22	2.750	6.26	3.75	4.40
0.833	8.80	1.833	13.22	2.833	6.26	3.83	4.40
0.917	12.04	1.917	10.89	2.917	5.82	3.92	4.21
1.000	12.04	2.000	10.89	3.000	5.82	4.00	4.21

```
     Max.Eff.Inten.(mm/hr)=     129.81        27.41
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       2.23 (ii)   14.07 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.30         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.04          0.070 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50           1.33
     RUNOFF VOLUME    (mm)=      55.29        12.95          17.31
     TOTAL RAINFALL   (mm)=      56.29        56.29          56.29
     RUNOFF COEFFICIENT   =       0.98         0.23           0.31

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.1    Ia = Dep. 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  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
        ID1= 1 (  0203):     1.35   0.070     1.33    17.31
      + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
        ==================================================
        ID = 3 (  0902):     1.35   0.070     1.33    17.31
```

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

       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       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 6.1\VO2\voin.dat

  Output  filename:
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  Summary filename:
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91c54a-da00-44cc-96fe-e1cb769ffc28\s


DATE: 02/21/2023                          TIME: 10:28:59

USER:



COMMENTS: _____________________________________________________


--------------------------------------------------------------------------------
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  ***********************************************
  ** SIMULATION : 50yr 4hr 10min Chicago        **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 720.817
| Ptotal= 62.51 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    5.26 |  1.17   24.87 |  2.17   10.39 |  3.17    6.06
                0.33    5.87 |  1.33  144.15 |  2.33    9.18 |  3.33    5.70
                0.50    6.70 |  1.50   30.52 |  2.50    8.26 |  3.50    5.40
                0.67    7.89 |  1.67   19.25 |  2.67    7.54 |  3.67    5.13
                0.83    9.78 |  1.83   14.68 |  2.83    6.95 |  3.83    4.89
                1.00   13.37 |  2.00   12.09 |  3.00    6.47 |  4.00    4.67


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0201)|   Area    (ha)=  18.69
|ID= 1 DT= 5.0 min |   Total Imp(%)=  51.00   Dir. Conn.(%)=  27.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       9.53         9.16
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     352.99        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    5.26 | 1.083   24.87 | 2.083   10.39 |  3.08    6.06
               0.167    5.26 | 1.167   24.87 | 2.167   10.39 |  3.17    6.06
               0.250    5.87 | 1.250  144.15 | 2.250    9.18 |  3.25    5.70
               0.333    5.87 | 1.333  144.15 | 2.333    9.18 |  3.33    5.70
               0.417    6.70 | 1.417   30.52 | 2.417    8.26 |  3.42    5.40
               0.500    6.70 | 1.500   30.52 | 2.500    8.26 |  3.50    5.40
               0.583    7.89 | 1.583   19.25 | 2.583    7.54 |  3.58    5.13
               0.667    7.89 | 1.667   19.25 | 2.667    7.54 |  3.67    5.13
               0.750    9.78 | 1.750   14.68 | 2.750    6.95 |  3.75    4.89
               0.833    9.78 | 1.833   14.68 | 2.833    6.95 |  3.83    4.89
               0.917   13.37 | 1.917   12.09 | 2.917    6.47 |  3.92    4.67
               1.000   13.37 | 2.000   12.09 | 3.000    6.47 |  4.00    4.67
```

Max.Eff.Inten.(mm/hr)=	144.15	42.32	
over (min)	5.00	15.00	
Storage Coeff. (min)=	4.70 (ii)	14.66 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.22	0.08	
			TOTALS
PEAK FLOW (cms)=	1.82	0.52	2.072 (iii)
TIME TO PEAK (hrs)=	1.33	1.50	1.33
RUNOFF VOLUME (mm)=	61.51	14.79	27.40
TOTAL RAINFALL (mm)=	62.51	62.51	62.51
RUNOFF COEFFICIENT =	0.98	0.24	0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB					
NASHYD (0301)	Area (ha)=	1.72	Curve Number (CN)=	55.6	
ID= 1 DT= 5.0 min	Ia (mm)=	4.61	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.18			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.26	1.083	24.87	2.083	10.39	3.08	6.06
0.167	5.26	1.167	24.87	2.167	10.39	3.17	6.06
0.250	5.87	1.250	144.15	2.250	9.18	3.25	5.70
0.333	5.87	1.333	144.15	2.333	9.18	3.33	5.70
0.417	6.70	1.417	30.52	2.417	8.26	3.42	5.40
0.500	6.70	1.500	30.52	2.500	8.26	3.50	5.40
0.583	7.89	1.583	19.25	2.583	7.54	3.58	5.13
0.667	7.89	1.667	19.25	2.667	7.54	3.67	5.13
0.750	9.78	1.750	14.68	2.750	6.95	3.75	4.89
0.833	9.78	1.833	14.68	2.833	6.95	3.83	4.89
0.917	13.37	1.917	12.09	2.917	6.47	3.92	4.67
1.000	13.37	2.000	12.09	3.000	6.47	4.00	4.67

Unit Hyd Qpeak (cms)= 0.365

PEAK FLOW (cms)= 0.063 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 12.821
TOTAL RAINFALL (mm)= 62.511
RUNOFF COEFFICIENT = 0.205

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

CALIB					
STANDHYD (0208)	Area (ha)=	6.40			
ID= 1 DT= 5.0 min	Total Imp(%)=	51.70	Dir. Conn.(%)=	26.30	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.31	3.09
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	206.56	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	5.26	1.083	24.87	2.083	10.39	3.08	6.06
0.167	5.26	1.167	24.87	2.167	10.39	3.17	6.06
0.250	5.87	1.250	144.15	2.250	9.18	3.25	5.70
0.333	5.87	1.333	144.15	2.333	9.18	3.33	5.70
0.417	6.70	1.417	30.52	2.417	8.26	3.42	5.40
0.500	6.70	1.500	30.52	2.500	8.26	3.50	5.40
0.583	7.89	1.583	19.25	2.583	7.54	3.58	5.13
0.667	7.89	1.667	19.25	2.667	7.54	3.67	5.13
0.750	9.78	1.750	14.68	2.750	6.95	3.75	4.89
0.833	9.78	1.833	14.68	2.833	6.95	3.83	4.89
0.917	13.37	1.917	12.09	2.917	6.47	3.92	4.67
1.000	13.37	2.000	12.09	3.000	6.47	4.00	4.67

Max.Eff.Inten.(mm/hr)=	144.15	44.36		
over (min)	5.00	15.00		
Storage Coeff. (min)=	3.41 (ii)	13.18 (ii)		
Unit Hyd. Tpeak (min)=	5.00	15.00		
Unit Hyd. peak (cms)=	0.26	0.08		
			TOTALS	
PEAK FLOW (cms)=	0.64	0.20	0.740 (iii)	
TIME TO PEAK (hrs)=	1.33	1.50	1.33	
RUNOFF VOLUME (mm)=	61.51	15.09	27.30	
TOTAL RAINFALL (mm)=	62.51	62.51	62.51	
RUNOFF COEFFICIENT =	0.98	0.24	0.44	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. 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 (0904)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0201):		18.69	2.072	1.33	27.40
+ ID2= 2 (0208):		6.40	0.740	1.33	27.30
ID = 3 (0904):		25.09	2.812	1.33	27.38

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0904)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0904):		25.09	2.812	1.33	27.38
+ ID2= 2 (0301):		1.72	0.063	1.42	12.82
ID = 1 (0904):		26.81	2.859	1.33	26.44

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0401)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.8060	0.3760
	0.0080	0.0310	1.3400	0.4210
	0.0170	0.0630	2.0150	0.4680
	0.0230	0.0970	2.1780	0.6190
	0.0280	0.1330	2.4650	0.7250
	0.0320	0.1700	3.1360	0.7810
	0.0360	0.2080	4.2010	0.8390
	0.0390	0.2480	4.8940	0.8680
	0.1590	0.2890	6.6200	0.9280
	0.4120	0.3320	8.8340	0.9890

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0904)	26.810	2.859	1.33	26.44
OUTFLOW: ID= 1 (0401)	26.810	0.669	1.92	26.41

PEAK FLOW REDUCTION [Qout/Qin](%)= 23.39
TIME SHIFT OF PEAK FLOW (min)= 35.00
MAXIMUM STORAGE USED (ha.m.)= 0.3610

CALIB	
STANDHYD (0207)	Area (ha)= 2.21
ID= 1 DT= 5.0 min	Total Imp(%)= 40.70 Dir. Conn.(%)= 13.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.90	1.31
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	121.38	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	5.26	1.083	24.87	2.083	10.39	3.08	6.06
0.167	5.26	1.167	24.87	2.167	10.39	3.17	6.06
0.250	5.87	1.250	144.15	2.250	9.18	3.25	5.70
0.333	5.87	1.333	144.15	2.333	9.18	3.33	5.70
0.417	6.70	1.417	30.52	2.417	8.26	3.42	5.40
0.500	6.70	1.500	30.52	2.500	8.26	3.50	5.40
0.583	7.89	1.583	19.25	2.583	7.54	3.58	5.13
0.667	7.89	1.667	19.25	2.667	7.54	3.67	5.13
0.750	9.78	1.750	14.68	2.750	6.95	3.75	4.89
0.833	9.78	1.833	14.68	2.833	6.95	3.83	4.89
0.917	13.37	1.917	12.09	2.917	6.47	3.92	4.67
1.000	13.37	2.000	12.09	3.000	6.47	4.00	4.67

Max.Eff.Inten.(mm/hr)=	144.15	31.18		
over (min)	5.00	15.00		
Storage Coeff. (min)=	2.48 (ii)	13.73 (ii)		
Unit Hyd. Tpeak (min)=	5.00	15.00		
Unit Hyd. peak (cms)=	0.29	0.08		
				TOTALS
PEAK FLOW (cms)=	0.12	0.07		0.156 (iii)
TIME TO PEAK (hrs)=	1.33	1.50		1.33
RUNOFF VOLUME (mm)=	61.51	14.48		20.97
TOTAL RAINFALL (mm)=	62.51	62.51		62.51

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     RUNOFF COEFFICIENT   =       0.98         0.23          0.34

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  49.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0302)|   Area    (ha)=   1.49   Curve Number   (CN)= 66.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.34   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44

         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    5.26 | 1.083   24.87 | 2.083   10.39 |  3.08    6.06
               0.167    5.26 | 1.167   24.87 | 2.167   10.39 |  3.17    6.06
               0.250    5.87 | 1.250  144.15 | 2.250    9.18 |  3.25    5.70
               0.333    5.87 | 1.333  144.15 | 2.333    9.18 |  3.33    5.70
               0.417    6.70 | 1.417   30.52 | 2.417    8.26 |  3.42    5.40
               0.500    6.70 | 1.500   30.52 | 2.500    8.26 |  3.50    5.40
               0.583    7.89 | 1.583   19.25 | 2.583    7.54 |  3.58    5.13
               0.667    7.89 | 1.667   19.25 | 2.667    7.54 |  3.67    5.13
               0.750    9.78 | 1.750   14.68 | 2.750    6.95 |  3.75    4.89
               0.833    9.78 | 1.833   14.68 | 2.833    6.95 |  3.83    4.89
               0.917   13.37 | 1.917   12.09 | 2.917    6.47 |  3.92    4.67
               1.000   13.37 | 2.000   12.09 | 3.000    6.47 |  4.00    4.67

     Unit Hyd Qpeak  (cms)=   0.129

     PEAK FLOW       (cms)=   0.042 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  17.295
     TOTAL RAINFALL   (mm)=  62.511
     RUNOFF COEFFICIENT   =   0.277

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

--------------------------------------------------------------------------------
--------------------
| ADD HYD  (  0901)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0207):     2.21   0.156     1.33    20.97
     + ID2= 2 (  0302):     1.49   0.042     1.83    17.30
       ================================================
       ID = 3 (  0901):     3.70   0.166     1.33    19.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.060|
| #of Inlets=    10|
| Total(cms)=   0.6|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.70      0.17      1.33   19.49
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.70      0.17      1.33   19.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   1.35
|ID= 1 DT= 5.0 min |   Total Imp(%)=  37.40   Dir. Conn.(%)=  10.30
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50         0.85
     Dep. Storage     (mm)=       1.00         4.89
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      94.87        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    5.26 | 1.083   24.87 | 2.083   10.39 |  3.08    6.06
               0.167    5.26 | 1.167   24.87 | 2.167   10.39 |  3.17    6.06
               0.250    5.87 | 1.250  144.15 | 2.250    9.18 |  3.25    5.70
               0.333    5.87 | 1.333  144.15 | 2.333    9.18 |  3.33    5.70
               0.417    6.70 | 1.417   30.52 | 2.417    8.26 |  3.42    5.40
               0.500    6.70 | 1.500   30.52 | 2.500    8.26 |  3.50    5.40
               0.583    7.89 | 1.583   19.25 | 2.583    7.54 |  3.58    5.13
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              0.667    7.89 | 1.667   19.25 | 2.667    7.54 |  3.67    5.13
              0.750    9.78 | 1.750   14.68 | 2.750    6.95 |  3.75    4.89
              0.833    9.78 | 1.833   14.68 | 2.833    6.95 |  3.83    4.89
              0.917   13.37 | 1.917   12.09 | 2.917    6.47 |  3.92    4.67
              1.000   13.37 | 2.000   12.09 | 3.000    6.47 |  4.00    4.67

     Max.Eff.Inten.(mm/hr)=     144.15        43.58
               over (min)        5.00        15.00
     Storage Coeff.  (min)=      2.14 (ii)   11.98 (ii)
     Unit Hyd. Tpeak (min)=      5.00        15.00
     Unit Hyd. peak  (cms)=      0.31         0.09
                                                      *TOTALS*
     PEAK FLOW       (cms)=      0.06         0.06          0.082 (iii)
     TIME TO PEAK    (hrs)=      1.33         1.50           1.33
     RUNOFF VOLUME    (mm)=     61.51        15.73          20.44
     TOTAL RAINFALL   (mm)=     62.51        62.51          62.51
     RUNOFF COEFFICIENT   =      0.98         0.25           0.33

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.1    Ia = Dep. 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  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
        ID1= 1 (  0203):     1.35   0.082     1.33    20.44
      + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (  0902):     1.35   0.082     1.33    20.44

     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 6.1.2001)
       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 6.1\VO2\voin.dat

  Output  filename:
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  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\1d
8d049f-35ae-44d6-9acd-ea2f139e2c30\s


DATE: 02/21/2023                          TIME: 10:28:59

USER:


COMMENTS: _____________________________________________________________


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  ***********************************************
  ** SIMULATION : 100yr 4hr 10min Chicago       **
  ***********************************************

--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 792.549
| Ptotal= 68.73 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	5.78	1.17	27.35	2.17	11.43	3.17	6.66
0.33	6.46	1.33	158.50	2.33	10.09	3.33	6.27
0.50	7.37	1.50	33.56	2.50	9.08	3.50	5.93
0.67	8.68	1.67	21.16	2.67	8.29	3.67	5.64
0.83	10.75	1.83	16.14	2.83	7.64	3.83	5.37
1.00	14.70	2.00	13.29	3.00	7.11	4.00	5.14

CALIB			
STANDHYD (0201)	Area (ha)=	18.69	
ID= 1 DT= 5.0 min	Total Imp(%)=	51.00	Dir. Conn.(%)= 27.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.53	9.16
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	352.99	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	5.78	1.083	27.35	2.083	11.43	3.08	6.66
0.167	5.78	1.167	27.35	2.167	11.43	3.17	6.66
0.250	6.46	1.250	158.50	2.250	10.09	3.25	6.27
0.333	6.46	1.333	158.50	2.333	10.09	3.33	6.27
0.417	7.37	1.417	33.56	2.417	9.08	3.42	5.93
0.500	7.37	1.500	33.56	2.500	9.08	3.50	5.93
0.583	8.68	1.583	21.16	2.583	8.29	3.58	5.64
0.667	8.68	1.667	21.16	2.667	8.29	3.67	5.64
0.750	10.75	1.750	16.14	2.750	7.64	3.75	5.37
0.833	10.75	1.833	16.14	2.833	7.64	3.83	5.37
0.917	14.70	1.917	13.29	2.917	7.11	3.92	5.14
1.000	14.70	2.000	13.29	3.000	7.11	4.00	5.14

Max.Eff.Inten.(mm/hr)=		158.50	50.95	
over (min)		5.00	15.00	
Storage Coeff. (min)=		4.53 (ii)	13.77 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.23	0.08	
				TOTALS
PEAK FLOW	(cms)=	2.02	0.65	2.337 (iii)
TIME TO PEAK	(hrs)=	1.33	1.50	1.33
RUNOFF VOLUME	(mm)=	67.73	17.60	31.14
TOTAL RAINFALL	(mm)=	68.73	68.73	68.73
RUNOFF COEFFICIENT	=	0.99	0.26	0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
NASHYD (0301)	Area (ha)=	1.72	Curve Number (CN)= 55.6
ID= 1 DT= 5.0 min	Ia (mm)=	4.61	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.18	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	5.78	1.083	27.35	2.083	11.43	3.08	6.66
0.167	5.78	1.167	27.35	2.167	11.43	3.17	6.66
0.250	6.46	1.250	158.50	2.250	10.09	3.25	6.27
0.333	6.46	1.333	158.50	2.333	10.09	3.33	6.27
0.417	7.37	1.417	33.56	2.417	9.08	3.42	5.93
0.500	7.37	1.500	33.56	2.500	9.08	3.50	5.93
0.583	8.68	1.583	21.16	2.583	8.29	3.58	5.64
0.667	8.68	1.667	21.16	2.667	8.29	3.67	5.64
0.750	10.75	1.750	16.14	2.750	7.64	3.75	5.37
0.833	10.75	1.833	16.14	2.833	7.64	3.83	5.37
0.917	14.70	1.917	13.29	2.917	7.11	3.92	5.14
1.000	14.70	2.000	13.29	3.000	7.11	4.00	5.14

Unit Hyd Qpeak (cms)= 0.365

PEAK FLOW (cms)= 0.076 (i)
TIME TO PEAK (hrs)= 1.417
RUNOFF VOLUME (mm)= 15.358
TOTAL RAINFALL (mm)= 68.732
RUNOFF COEFFICIENT = 0.223

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

CALIB

| STANDHYD (0208)| Area (ha)= 6.40
|ID= 1 DT= 5.0 min | Total Imp(%)= 51.70 Dir. Conn.(%)= 26.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.31	3.09
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	206.56	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	5.78	1.083	27.35	2.083	11.43	3.08	6.66
0.167	5.78	1.167	27.35	2.167	11.43	3.17	6.66
0.250	6.46	1.250	158.50	2.250	10.09	3.25	6.27
0.333	6.46	1.333	158.50	2.333	10.09	3.33	6.27
0.417	7.37	1.417	33.56	2.417	9.08	3.42	5.93
0.500	7.37	1.500	33.56	2.500	9.08	3.50	5.93
0.583	8.68	1.583	21.16	2.583	8.29	3.58	5.64
0.667	8.68	1.667	21.16	2.667	8.29	3.67	5.64
0.750	10.75	1.750	16.14	2.750	7.64	3.75	5.37
0.833	10.75	1.833	16.14	2.833	7.64	3.83	5.37
0.917	14.70	1.917	13.29	2.917	7.11	3.92	5.14
1.000	14.70	2.000	13.29	3.000	7.11	4.00	5.14

Max.Eff.Inten.(mm/hr)=		158.50	53.37	
over (min)		5.00	15.00	
Storage Coeff. (min)=		3.28 (ii)	12.36 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.27	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.71	0.24	0.832 (iii)
TIME TO PEAK	(hrs)=	1.33	1.50	1.33
RUNOFF VOLUME	(mm)=	67.73	17.95	31.04
TOTAL RAINFALL	(mm)=	68.73	68.73	68.73
RUNOFF COEFFICIENT	=	0.99	0.26	0.45

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. 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 (0904)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0201):	18.69	2.337	1.33	31.14
+ ID2= 2 (0208):	6.40	0.832	1.33	31.04
ID = 3 (0904):	25.09	3.170	1.33	31.11

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0904)					
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0904):	25.09	3.170	1.33	31.11
+ ID2= 2 (0301):	1.72	0.076	1.42	15.36
ID = 1 (0904):	26.81	3.226	1.33	30.10

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0401)	OVERFLOW IS OFF
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.8060	0.3760
0.0080	0.0310	1.3400	0.4210
0.0170	0.0630	2.0150	0.4680
0.0230	0.0970	2.1780	0.6190
0.0280	0.1330	2.4650	0.7250
0.0320	0.1700	3.1360	0.7810
0.0360	0.2080	4.2010	0.8390
0.0390	0.2480	4.8940	0.8680
0.1590	0.2890	6.6200	0.9280
0.4120	0.3320	8.8340	0.9890

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0904)	26.810	3.226	1.33	30.10
OUTFLOW: ID= 1 (0401)	26.810	0.885	1.83	30.06

PEAK FLOW REDUCTION [Qout/Qin](%)= 27.45
TIME SHIFT OF PEAK FLOW (min)= 30.00
MAXIMUM STORAGE USED (ha.m.)= 0.3831

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--------------------
| CALIB            |
| STANDHYD (  0207)|   Area    (ha)=   2.21
|ID= 1 DT= 5.0 min |   Total Imp(%)=  40.70   Dir. Conn.(%)=  13.80
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.90         1.31
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     121.38        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    5.78 | 1.083   27.35 | 2.083   11.43 |  3.08    6.66
              0.167    5.78 | 1.167   27.35 | 2.167   11.43 |  3.17    6.66
              0.250    6.46 | 1.250  158.50 | 2.250   10.09 |  3.25    6.27
              0.333    6.46 | 1.333  158.50 | 2.333   10.09 |  3.33    6.27
              0.417    7.37 | 1.417   33.56 | 2.417    9.08 |  3.42    5.93
              0.500    7.37 | 1.500   33.56 | 2.500    9.08 |  3.50    5.93
              0.583    8.68 | 1.583   21.16 | 2.583    8.29 |  3.58    5.64
              0.667    8.68 | 1.667   21.16 | 2.667    8.29 |  3.67    5.64
              0.750   10.75 | 1.750   16.14 | 2.750    7.64 |  3.75    5.37
              0.833   10.75 | 1.833   16.14 | 2.833    7.64 |  3.83    5.37
              0.917   14.70 | 1.917   13.29 | 2.917    7.11 |  3.92    5.14
              1.000   14.70 | 2.000   13.29 | 3.000    7.11 |  4.00    5.14

     Max.Eff.Inten.(mm/hr)=     158.50        48.57
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       2.39 (ii)   11.81 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.30         0.09
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.13         0.10          0.180 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50           1.33
     RUNOFF VOLUME    (mm)=      67.73        17.25          24.21
     TOTAL RAINFALL   (mm)=      68.73        68.73          68.73
     RUNOFF COEFFICIENT   =       0.99         0.25           0.35

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  49.0    Ia = Dep. 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            |
| NASHYD   (  0302)|   Area    (ha)=   1.49   Curve Number   (CN)= 66.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.34   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44

         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    5.78 | 1.083   27.35 | 2.083   11.43 |  3.08    6.66
              0.167    5.78 | 1.167   27.35 | 2.167   11.43 |  3.17    6.66
              0.250    6.46 | 1.250  158.50 | 2.250   10.09 |  3.25    6.27
              0.333    6.46 | 1.333  158.50 | 2.333   10.09 |  3.33    6.27
              0.417    7.37 | 1.417   33.56 | 2.417    9.08 |  3.42    5.93
              0.500    7.37 | 1.500   33.56 | 2.500    9.08 |  3.50    5.93
              0.583    8.68 | 1.583   21.16 | 2.583    8.29 |  3.58    5.64
              0.667    8.68 | 1.667   21.16 | 2.667    8.29 |  3.67    5.64
              0.750   10.75 | 1.750   16.14 | 2.750    7.64 |  3.75    5.37
              0.833   10.75 | 1.833   16.14 | 2.833    7.64 |  3.83    5.37
              0.917   14.70 | 1.917   13.29 | 2.917    7.11 |  3.92    5.14
              1.000   14.70 | 2.000   13.29 | 3.000    7.11 |  4.00    5.14

     Unit Hyd Qpeak  (cms)=   0.129

     PEAK FLOW       (cms)=   0.051 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  20.634
     TOTAL RAINFALL   (mm)=  68.732
     RUNOFF COEFFICIENT   =   0.300

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

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--------------------
| ADD HYD  (  0901)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0207):     2.21   0.180     1.33    24.21
      + ID2= 2 (  0302):     1.49   0.051     1.83    20.63
        ================================================
        ID = 3 (  0901):     3.70   0.192     1.33    22.77
```

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0802)				
Inlet Cap.= 0.060				
#of Inlets= 10				
Total(cms)= 0.6	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
TOTAL HYD.(ID= 1):	3.70	0.19	1.33	22.77
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	3.70	0.19	1.33	22.77

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB STANDHYD (0203) ID= 1 DT= 5.0 min	Area (ha)= 1.35	Total Imp(%)= 37.40	Dir. Conn.(%)= 10.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	0.85
Dep. Storage	(mm)=	1.00	4.89
Average Slope	(%)=	1.00	2.00
Length	(m)=	94.87	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	5.78	1.083	27.35	2.083	11.43	3.08	6.66
0.167	5.78	1.167	27.35	2.167	11.43	3.17	6.66
0.250	6.46	1.250	158.50	2.250	10.09	3.25	6.27
0.333	6.46	1.333	158.50	2.333	10.09	3.33	6.27
0.417	7.37	1.417	33.56	2.417	9.08	3.42	5.93
0.500	7.37	1.500	33.56	2.500	9.08	3.50	5.93
0.583	8.68	1.583	21.16	2.583	8.29	3.58	5.64
0.667	8.68	1.667	21.16	2.667	8.29	3.67	5.64
0.750	10.75	1.750	16.14	2.750	7.64	3.75	5.37
0.833	10.75	1.833	16.14	2.833	7.64	3.83	5.37
0.917	14.70	1.917	13.29	2.917	7.11	3.92	5.14
1.000	14.70	2.000	13.29	3.000	7.11	4.00	5.14

Max.Eff.Inten.(mm/hr)=		158.50	52.40
over (min)		5.00	15.00
Storage Coeff. (min)=		2.06 (ii)	11.20 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.31	0.09

				TOTALS
PEAK FLOW	(cms)=	0.06	0.07	0.095 (iii)
TIME TO PEAK	(hrs)=	1.33	1.50	1.33
RUNOFF VOLUME	(mm)=	67.73	18.69	23.74
TOTAL RAINFALL	(mm)=	68.73	68.73	68.73
RUNOFF COEFFICIENT	=	0.99	0.27	0.35

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 52.1 Ia = Dep. 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 (0902)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
*** W A R N I N G : HYDROGRAPH	0802 <ID= 2> IS DRY.			
*** W A R N I N G : HYDROGRAPH	0003 = HYDROGRAPH 0001			
ID1= 1 (0203):	1.35	0.095	1.33	23.74
+ ID2= 2 (0802):	0.00	0.000	0.00	0.00
ID = 3 (0902):	1.35	0.095	1.33	23.74

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       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 6.1\VO2\voin.dat

  Output  filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\1c
e6c3af-cef3-4767-8da7-7d39018d2e97\s
  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\1c
e6c3af-cef3-4767-8da7-7d39018d2e97\s


DATE: 02/21/2023                          TIME: 10:27:05

USER:



COMMENTS: _____________________________________________________________


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  ************************************************
  ** SIMULATION : 2yr 24hr 15min SCS            **
  ************************************************


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|    READ STORM    |    Filename: C:\Users\elundquist\AppD
|                  |              ata\Local\Temp\
|                  |              bbcbcfd5-9651-44f5-bd72-3bbeb48ecd1a\f5ed6089
| Ptotal= 53.10 mm |    Comments: 2yr 24hr 15min SCS
--------------------
```

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	0.96	12.75	7.65	19.00	0.96
0.50	0.58	6.75	0.96	13.00	3.93	19.25	0.96
0.75	0.58	7.00	0.96	13.25	3.93	19.50	0.96
1.00	0.58	7.25	0.96	13.50	2.87	19.75	0.96
1.25	0.58	7.50	1.17	13.75	2.87	20.00	0.96
1.50	0.58	7.75	1.17	14.00	2.23	20.25	0.96
1.75	0.58	8.00	1.17	14.25	2.23	20.50	0.64
2.00	0.58	8.25	1.17	14.50	1.59	20.75	0.64
2.25	0.58	8.50	1.38	14.75	1.59	21.00	0.64
2.50	0.69	8.75	1.38	15.00	1.59	21.25	0.64
2.75	0.69	9.00	1.49	15.25	1.59	21.50	0.64
3.00	0.69	9.25	1.49	15.50	1.59	21.75	0.64
3.25	0.69	9.50	1.70	15.75	1.59	22.00	0.64
3.50	0.69	9.75	1.70	16.00	1.59	22.25	0.64
3.75	0.69	10.00	1.91	16.25	1.59	22.50	0.64
4.00	0.69	10.25	1.91	16.50	0.96	22.75	0.64
4.25	0.69	10.50	2.44	16.75	0.96	23.00	0.64
4.50	0.85	10.75	2.44	17.00	0.96	23.25	0.64
4.75	0.85	11.00	3.29	17.25	0.96	23.50	0.64
5.00	0.85	11.25	3.29	17.50	0.96	23.75	0.64
5.25	0.85	11.50	5.10	17.75	0.96	24.00	0.64
5.50	0.85	11.75	5.10	18.00	0.96	24.25	0.64
5.75	0.85	12.00	15.72	18.25	0.96		
6.00	0.85	12.25	64.99	18.50	0.96		
6.25	0.85	12.50	7.65	18.75	0.96		

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--------------------
| CALIB            |
| NASHYD   (  0301)|   Area    (ha)=   1.72   Curve Number   (CN)= 55.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.61   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- 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	0.85	12.250	64.99	18.33	0.96
0.167	0.00	6.250	0.85	12.333	7.65	18.42	0.96
0.250	0.00	6.333	0.96	12.417	7.65	18.50	0.96
0.333	0.58	6.417	0.96	12.500	7.65	18.58	0.96
0.417	0.58	6.500	0.96	12.583	7.65	18.67	0.96

0.500	0.58	6.583	0.96	12.667	7.65	18.75	0.96
0.583	0.58	6.667	0.96	12.750	7.65	18.83	0.96
0.667	0.58	6.750	0.96	12.833	3.93	18.92	0.96
0.750	0.58	6.833	0.96	12.917	3.93	19.00	0.96
0.833	0.58	6.917	0.96	13.000	3.93	19.08	0.96
0.917	0.58	7.000	0.96	13.083	3.93	19.17	0.96
1.000	0.58	7.083	0.96	13.167	3.93	19.25	0.96
1.083	0.58	7.167	0.96	13.250	3.93	19.33	0.96
1.167	0.58	7.250	0.96	13.333	2.87	19.42	0.96
1.250	0.58	7.333	1.17	13.417	2.87	19.50	0.96
1.333	0.58	7.417	1.17	13.500	2.87	19.58	0.96
1.417	0.58	7.500	1.17	13.583	2.87	19.67	0.96
1.500	0.58	7.583	1.17	13.667	2.87	19.75	0.96
1.583	0.58	7.667	1.17	13.750	2.87	19.83	0.96
1.667	0.58	7.750	1.17	13.833	2.23	19.92	0.96
1.750	0.58	7.833	1.17	13.917	2.23	20.00	0.96
1.833	0.58	7.917	1.17	14.000	2.23	20.08	0.96
1.917	0.58	8.000	1.17	14.083	2.23	20.17	0.96
2.000	0.58	8.083	1.17	14.167	2.23	20.25	0.96
2.083	0.58	8.167	1.17	14.250	2.23	20.33	0.64
2.167	0.58	8.250	1.17	14.333	1.59	20.42	0.64
2.250	0.58	8.333	1.38	14.417	1.59	20.50	0.64
2.333	0.69	8.417	1.38	14.500	1.59	20.58	0.64
2.417	0.69	8.500	1.38	14.583	1.59	20.67	0.64
2.500	0.69	8.583	1.38	14.667	1.59	20.75	0.64
2.583	0.69	8.667	1.38	14.750	1.59	20.83	0.64
2.667	0.69	8.750	1.38	14.833	1.59	20.92	0.64
2.750	0.69	8.833	1.49	14.917	1.59	21.00	0.64
2.833	0.69	8.917	1.49	15.000	1.59	21.08	0.64
2.917	0.69	9.000	1.49	15.083	1.59	21.17	0.64
3.000	0.69	9.083	1.49	15.167	1.59	21.25	0.64
3.083	0.69	9.167	1.49	15.250	1.59	21.33	0.64
3.167	0.69	9.250	1.49	15.333	1.59	21.42	0.64
3.250	0.69	9.333	1.70	15.417	1.59	21.50	0.64
3.333	0.69	9.417	1.70	15.500	1.59	21.58	0.64
3.417	0.69	9.500	1.70	15.583	1.59	21.67	0.64
3.500	0.69	9.583	1.70	15.667	1.59	21.75	0.64
3.583	0.69	9.667	1.70	15.750	1.59	21.83	0.64
3.667	0.69	9.750	1.70	15.833	1.59	21.92	0.64
3.750	0.69	9.833	1.91	15.917	1.59	22.00	0.64
3.833	0.69	9.917	1.91	16.000	1.59	22.08	0.64
3.917	0.69	10.000	1.91	16.083	1.59	22.17	0.64
4.000	0.69	10.083	1.91	16.167	1.59	22.25	0.64
4.083	0.69	10.167	1.91	16.250	1.59	22.33	0.64
4.167	0.69	10.250	1.91	16.333	0.96	22.42	0.64
4.250	0.69	10.333	2.44	16.417	0.96	22.50	0.64
4.333	0.85	10.417	2.44	16.500	0.96	22.58	0.64
4.417	0.85	10.500	2.44	16.583	0.96	22.67	0.64
4.500	0.85	10.583	2.44	16.667	0.96	22.75	0.64
4.583	0.85	10.667	2.44	16.750	0.96	22.83	0.64
4.667	0.85	10.750	2.44	16.833	0.96	22.92	0.64
4.750	0.85	10.833	3.29	16.917	0.96	23.00	0.64
4.833	0.85	10.917	3.29	17.000	0.96	23.08	0.64
4.917	0.85	11.000	3.29	17.083	0.96	23.17	0.64
5.000	0.85	11.083	3.29	17.167	0.96	23.25	0.64
5.083	0.85	11.167	3.29	17.250	0.96	23.33	0.64
5.167	0.85	11.250	3.29	17.333	0.96	23.42	0.64
5.250	0.85	11.333	5.10	17.417	0.96	23.50	0.64
5.333	0.85	11.417	5.10	17.500	0.96	23.58	0.64
5.417	0.85	11.500	5.10	17.583	0.96	23.67	0.64
5.500	0.85	11.583	5.10	17.667	0.96	23.75	0.64
5.583	0.85	11.667	5.10	17.750	0.96	23.83	0.64
5.667	0.85	11.750	5.10	17.833	0.96	23.92	0.64
5.750	0.85	11.833	15.72	17.917	0.96	24.00	0.64
5.833	0.85	11.917	15.72	18.000	0.96	24.08	0.64
5.917	0.85	12.000	15.72	18.083	0.96	24.17	0.64
6.000	0.85	12.083	64.99	18.167	0.96	24.25	0.64
6.083	0.85	12.167	64.99	18.250	0.96		

Unit Hyd Qpeak (cms)= 0.365

PEAK FLOW (cms)= 0.041 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 9.328
TOTAL RAINFALL (mm)= 53.100
RUNOFF COEFFICIENT = 0.176

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

CALIB	
STANDHYD (0208)	Area (ha)= 6.40
ID= 1 DT= 5.0 min	Total Imp(%)= 51.70 Dir. Conn.(%)= 26.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.31	3.09
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	206.56	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	0.85	12.250	64.99	18.33	0.96
0.167	0.00	6.250	0.85	12.333	7.65	18.42	0.96

0.250	0.00	6.333	0.96	12.417	7.65	18.50	0.96
0.333	0.58	6.417	0.96	12.500	7.65	18.58	0.96
0.417	0.58	6.500	0.96	12.583	7.65	18.67	0.96
0.500	0.58	6.583	0.96	12.667	7.65	18.75	0.96
0.583	0.58	6.667	0.96	12.750	7.65	18.83	0.96
0.667	0.58	6.750	0.96	12.833	3.93	18.92	0.96
0.750	0.58	6.833	0.96	12.917	3.93	19.00	0.96
0.833	0.58	6.917	0.96	13.000	3.93	19.08	0.96
0.917	0.58	7.000	0.96	13.083	3.93	19.17	0.96
1.000	0.58	7.083	0.96	13.167	3.93	19.25	0.96
1.083	0.58	7.167	0.96	13.250	3.93	19.33	0.96
1.167	0.58	7.250	0.96	13.333	2.87	19.42	0.96
1.250	0.58	7.333	1.17	13.417	2.87	19.50	0.96
1.333	0.58	7.417	1.17	13.500	2.87	19.58	0.96
1.417	0.58	7.500	1.17	13.583	2.87	19.67	0.96
1.500	0.58	7.583	1.17	13.667	2.87	19.75	0.96
1.583	0.58	7.667	1.17	13.750	2.87	19.83	0.96
1.667	0.58	7.750	1.17	13.833	2.23	19.92	0.96
1.750	0.58	7.833	1.17	13.917	2.23	20.00	0.96
1.833	0.58	7.917	1.17	14.000	2.23	20.08	0.96
1.917	0.58	8.000	1.17	14.083	2.23	20.17	0.96
2.000	0.58	8.083	1.17	14.167	2.23	20.25	0.96
2.083	0.58	8.167	1.17	14.250	2.23	20.33	0.64
2.167	0.58	8.250	1.17	14.333	1.59	20.42	0.64
2.250	0.58	8.333	1.38	14.417	1.59	20.50	0.64
2.333	0.69	8.417	1.38	14.500	1.59	20.58	0.64
2.417	0.69	8.500	1.38	14.583	1.59	20.67	0.64
2.500	0.69	8.583	1.38	14.667	1.59	20.75	0.64
2.583	0.69	8.667	1.38	14.750	1.59	20.83	0.64
2.667	0.69	8.750	1.38	14.833	1.59	20.92	0.64
2.750	0.69	8.833	1.49	14.917	1.59	21.00	0.64
2.833	0.69	8.917	1.49	15.000	1.59	21.08	0.64
2.917	0.69	9.000	1.49	15.083	1.59	21.17	0.64
3.000	0.69	9.083	1.49	15.167	1.59	21.25	0.64
3.083	0.69	9.167	1.49	15.250	1.59	21.33	0.64
3.167	0.69	9.250	1.49	15.333	1.59	21.42	0.64
3.250	0.69	9.333	1.70	15.417	1.59	21.50	0.64
3.333	0.69	9.417	1.70	15.500	1.59	21.58	0.64
3.417	0.69	9.500	1.70	15.583	1.59	21.67	0.64
3.500	0.69	9.583	1.70	15.667	1.59	21.75	0.64
3.583	0.69	9.667	1.70	15.750	1.59	21.83	0.64
3.667	0.69	9.750	1.70	15.833	1.59	21.92	0.64
3.750	0.69	9.833	1.91	15.917	1.59	22.00	0.64
3.833	0.69	9.917	1.91	16.000	1.59	22.08	0.64
3.917	0.69	10.000	1.91	16.083	1.59	22.17	0.64
4.000	0.69	10.083	1.91	16.167	1.59	22.25	0.64
4.083	0.69	10.167	1.91	16.250	1.59	22.33	0.64
4.167	0.69	10.250	1.91	16.333	0.96	22.42	0.64
4.250	0.69	10.333	2.44	16.417	0.96	22.50	0.64
4.333	0.85	10.417	2.44	16.500	0.96	22.58	0.64
4.417	0.85	10.500	2.44	16.583	0.96	22.67	0.64
4.500	0.85	10.583	2.44	16.667	0.96	22.75	0.64
4.583	0.85	10.667	2.44	16.750	0.96	22.83	0.64
4.667	0.85	10.750	2.44	16.833	0.96	22.92	0.64
4.750	0.85	10.833	3.29	16.917	0.96	23.00	0.64
4.833	0.85	10.917	3.29	17.000	0.96	23.08	0.64
4.917	0.85	11.000	3.29	17.083	0.96	23.17	0.64
5.000	0.85	11.083	3.29	17.167	0.96	23.25	0.64
5.083	0.85	11.167	3.29	17.250	0.96	23.33	0.64
5.167	0.85	11.250	3.29	17.333	0.96	23.42	0.64
5.250	0.85	11.333	5.10	17.417	0.96	23.50	0.64
5.333	0.85	11.417	5.10	17.500	0.96	23.58	0.64
5.417	0.85	11.500	5.10	17.583	0.96	23.67	0.64
5.500	0.85	11.583	5.10	17.667	0.96	23.75	0.64
5.583	0.85	11.667	5.10	17.750	0.96	23.83	0.64
5.667	0.85	11.750	5.10	17.833	0.96	23.92	0.64
5.750	0.85	11.833	15.72	17.917	0.96	24.00	0.64
5.833	0.85	11.917	15.72	18.000	0.96	24.08	0.64
5.917	0.85	12.000	15.72	18.083	0.96	24.17	0.64
6.000	0.85	12.083	64.99	18.167	0.96	24.25	0.64
6.083	0.85	12.167	64.99	18.250	0.96		

Max.Eff.Inten.(mm/hr)=	64.99	22.38		
over (min)	5.00	20.00		
Storage Coeff. (min)=	4.69 (ii)	17.53 (ii)		
Unit Hyd. Tpeak (min)=	5.00	20.00		
Unit Hyd. peak (cms)=	0.22	0.06		
			TOTALS	
PEAK FLOW (cms)=	0.29	0.10	0.358 (iii)	
TIME TO PEAK (hrs)=	12.25	12.42	12.25	
RUNOFF VOLUME (mm)=	52.10	11.13	21.90	
TOTAL RAINFALL (mm)=	53.10	53.10	53.10	
RUNOFF COEFFICIENT =	0.98	0.21	0.41	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0201)	Area (ha)=	18.69	
ID= 1 DT= 5.0 min	Total Imp(%)=	51.00	Dir. Conn.(%)= 27.00

	IMPERVIOUS	PERVIOUS (i)
Surface Area (ha)=	9.53	9.16

Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	352.99	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	0.85	12.250	64.99	18.33	0.96
0.167	0.00	6.250	0.85	12.333	7.65	18.42	0.96
0.250	0.00	6.333	0.96	12.417	7.65	18.50	0.96
0.333	0.58	6.417	0.96	12.500	7.65	18.58	0.96
0.417	0.58	6.500	0.96	12.583	7.65	18.67	0.96
0.500	0.58	6.583	0.96	12.667	7.65	18.75	0.96
0.583	0.58	6.667	0.96	12.750	7.65	18.83	0.96
0.667	0.58	6.750	0.96	12.833	3.93	18.92	0.96
0.750	0.58	6.833	0.96	12.917	3.93	19.00	0.96
0.833	0.58	6.917	0.96	13.000	3.93	19.08	0.96
0.917	0.58	7.000	0.96	13.083	3.93	19.17	0.96
1.000	0.58	7.083	0.96	13.167	3.93	19.25	0.96
1.083	0.58	7.167	0.96	13.250	3.93	19.33	0.96
1.167	0.58	7.250	0.96	13.333	2.87	19.42	0.96
1.250	0.58	7.333	1.17	13.417	2.87	19.50	0.96
1.333	0.58	7.417	1.17	13.500	2.87	19.58	0.96
1.417	0.58	7.500	1.17	13.583	2.87	19.67	0.96
1.500	0.58	7.583	1.17	13.667	2.87	19.75	0.96
1.583	0.58	7.667	1.17	13.750	2.87	19.83	0.96
1.667	0.58	7.750	1.17	13.833	2.23	19.92	0.96
1.750	0.58	7.833	1.17	13.917	2.23	20.00	0.96
1.833	0.58	7.917	1.17	14.000	2.23	20.08	0.96
1.917	0.58	8.000	1.17	14.083	2.23	20.17	0.96
2.000	0.58	8.083	1.17	14.167	2.23	20.25	0.96
2.083	0.58	8.167	1.17	14.250	2.23	20.33	0.64
2.167	0.58	8.250	1.17	14.333	1.59	20.42	0.64
2.250	0.58	8.333	1.38	14.417	1.59	20.50	0.64
2.333	0.69	8.417	1.38	14.500	1.59	20.58	0.64
2.417	0.69	8.500	1.38	14.583	1.59	20.67	0.64
2.500	0.69	8.583	1.38	14.667	1.59	20.75	0.64
2.583	0.69	8.667	1.38	14.750	1.59	20.83	0.64
2.667	0.69	8.750	1.38	14.833	1.59	20.92	0.64
2.750	0.69	8.833	1.49	14.917	1.59	21.00	0.64
2.833	0.69	8.917	1.49	15.000	1.59	21.08	0.64
2.917	0.69	9.000	1.49	15.083	1.59	21.17	0.64
3.000	0.69	9.083	1.49	15.167	1.59	21.25	0.64
3.083	0.69	9.167	1.49	15.250	1.59	21.33	0.64
3.167	0.69	9.250	1.49	15.333	1.59	21.42	0.64
3.250	0.69	9.333	1.70	15.417	1.59	21.50	0.64
3.333	0.69	9.417	1.70	15.500	1.59	21.58	0.64
3.417	0.69	9.500	1.70	15.583	1.59	21.67	0.64
3.500	0.69	9.583	1.70	15.667	1.59	21.75	0.64
3.583	0.69	9.667	1.70	15.750	1.59	21.83	0.64
3.667	0.69	9.750	1.70	15.833	1.59	21.92	0.64
3.750	0.69	9.833	1.91	15.917	1.59	22.00	0.64
3.833	0.69	9.917	1.91	16.000	1.59	22.08	0.64
3.917	0.69	10.000	1.91	16.083	1.59	22.17	0.64
4.000	0.69	10.083	1.91	16.167	1.59	22.25	0.64
4.083	0.69	10.167	1.91	16.250	1.59	22.33	0.64
4.167	0.69	10.250	1.91	16.333	0.96	22.42	0.64
4.250	0.69	10.333	2.44	16.417	0.96	22.50	0.64
4.333	0.85	10.417	2.44	16.500	0.96	22.58	0.64
4.417	0.85	10.500	2.44	16.583	0.96	22.67	0.64
4.500	0.85	10.583	2.44	16.667	0.96	22.75	0.64
4.583	0.85	10.667	2.44	16.750	0.96	22.83	0.64
4.667	0.85	10.750	2.44	16.833	0.96	22.92	0.64
4.750	0.85	10.833	3.29	16.917	0.96	23.00	0.64
4.833	0.85	10.917	3.29	17.000	0.96	23.08	0.64
4.917	0.85	11.000	3.29	17.083	0.96	23.17	0.64
5.000	0.85	11.083	3.29	17.167	0.96	23.25	0.64
5.083	0.85	11.167	3.29	17.250	0.96	23.33	0.64
5.167	0.85	11.250	3.29	17.333	0.96	23.42	0.64
5.250	0.85	11.333	5.10	17.417	0.96	23.50	0.64
5.333	0.85	11.417	5.10	17.500	0.96	23.58	0.64
5.417	0.85	11.500	5.10	17.583	0.96	23.67	0.64
5.500	0.85	11.583	5.10	17.667	0.96	23.75	0.64
5.583	0.85	11.667	5.10	17.750	0.96	23.83	0.64
5.667	0.85	11.750	5.10	17.833	0.96	23.92	0.64
5.750	0.85	11.833	15.72	17.917	0.96	24.00	0.64
5.833	0.85	11.917	15.72	18.000	0.96	24.08	0.64
5.917	0.85	12.000	15.72	18.083	0.96	24.17	0.64
6.000	0.85	12.083	64.99	18.167	0.96	24.25	0.64
6.083	0.85	12.167	64.99	18.250	0.96		

Max.Eff.Inten.(mm/hr)=		64.99	21.37	
over (min)		5.00	20.00	
Storage Coeff. (min)=		6.47 (ii)	19.55 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.18	0.06	
				TOTALS
PEAK FLOW	(cms)=	0.84	0.27	1.010 (iii)
TIME TO PEAK	(hrs)=	12.25	12.42	12.25
RUNOFF VOLUME	(mm)=	52.10	10.89	22.02
TOTAL RAINFALL	(mm)=	53.10	53.10	53.10
RUNOFF COEFFICIENT	=	0.98	0.21	0.41

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. 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 (0904)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0201):	18.69	1.010	12.25	22.02
	+ ID2= 2 (0208):	6.40	0.358	12.25	21.90
	ID = 3 (0904):	25.09	1.368	12.25	21.99

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0904)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
	ID1= 3 (0904):	25.09	1.368	12.25	21.99
	+ ID2= 2 (0301):	1.72	0.041	12.33	9.33
	ID = 1 (0904):	26.81	1.407	12.25	21.18

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0401) | IN= 2---> OUT= 1 | DT= 5.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.8060	0.3760
	0.0080	0.0310	1.3400	0.4210
	0.0170	0.0630	2.0150	0.4680
	0.0230	0.0970	2.1780	0.6190
	0.0280	0.1330	2.4650	0.7250
	0.0320	0.1700	3.1360	0.7810
	0.0360	0.2080	4.2010	0.8390
	0.0390	0.2480	4.8940	0.8680
	0.1590	0.2890	6.6200	0.9280
	0.4120	0.3320	8.8340	0.9890

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0904)	26.810	1.407	12.25	21.18
OUTFLOW: ID= 1 (0401)	26.810	0.229	13.00	21.14

PEAK FLOW REDUCTION [Qout/Qin](%)= 16.25
TIME SHIFT OF PEAK FLOW (min)= 45.00
MAXIMUM STORAGE USED (ha.m.)= 0.3010

CALIB NASHYD (0302) | ID= 1 DT= 5.0 min				
	Area	(ha)=	1.49	Curve Number (CN)= 66.8
	Ia	(mm)=	6.34	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=		0.44	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	0.85	12.250	64.99	18.33	0.96
0.167	0.00	6.250	0.85	12.333	7.65	18.42	0.96
0.250	0.00	6.333	0.96	12.417	7.65	18.50	0.96
0.333	0.58	6.417	0.96	12.500	7.65	18.58	0.96
0.417	0.58	6.500	0.96	12.583	7.65	18.67	0.96
0.500	0.58	6.583	0.96	12.667	7.65	18.75	0.96
0.583	0.58	6.667	0.96	12.750	7.65	18.83	0.96
0.667	0.58	6.750	0.96	12.833	3.93	18.92	0.96
0.750	0.58	6.833	0.96	12.917	3.93	19.00	0.96
0.833	0.58	6.917	0.96	13.000	3.93	19.08	0.96
0.917	0.58	7.000	0.96	13.083	3.93	19.17	0.96
1.000	0.58	7.083	0.96	13.167	3.93	19.25	0.96
1.083	0.58	7.167	0.96	13.250	3.93	19.33	0.96
1.167	0.58	7.250	0.96	13.333	2.87	19.42	0.96
1.250	0.58	7.333	1.17	13.417	2.87	19.50	0.96
1.333	0.58	7.417	1.17	13.500	2.87	19.58	0.96
1.417	0.58	7.500	1.17	13.583	2.87	19.67	0.96
1.500	0.58	7.583	1.17	13.667	2.87	19.75	0.96
1.583	0.58	7.667	1.17	13.750	2.87	19.83	0.96
1.667	0.58	7.750	1.17	13.833	2.23	19.92	0.96
1.750	0.58	7.833	1.17	13.917	2.23	20.00	0.96
1.833	0.58	7.917	1.17	14.000	2.23	20.08	0.96
1.917	0.58	8.000	1.17	14.083	2.23	20.17	0.96
2.000	0.58	8.083	1.17	14.167	2.23	20.25	0.96
2.083	0.58	8.167	1.17	14.250	2.23	20.33	0.64
2.167	0.58	8.250	1.17	14.333	1.59	20.42	0.64
2.250	0.58	8.333	1.38	14.417	1.59	20.50	0.64
2.333	0.69	8.417	1.38	14.500	1.59	20.58	0.64
2.417	0.69	8.500	1.38	14.583	1.59	20.67	0.64
2.500	0.69	8.583	1.38	14.667	1.59	20.75	0.64
2.583	0.69	8.667	1.38	14.750	1.59	20.83	0.64
2.667	0.69	8.750	1.38	14.833	1.59	20.92	0.64
2.750	0.69	8.833	1.49	14.917	1.59	21.00	0.64

2.833	0.69	8.917	1.49	15.000	1.59	21.08	0.64
2.917	0.69	9.000	1.49	15.083	1.59	21.17	0.64
3.000	0.69	9.083	1.49	15.167	1.59	21.25	0.64
3.083	0.69	9.167	1.49	15.250	1.59	21.33	0.64
3.167	0.69	9.250	1.49	15.333	1.59	21.42	0.64
3.250	0.69	9.333	1.70	15.417	1.59	21.50	0.64
3.333	0.69	9.417	1.70	15.500	1.59	21.58	0.64
3.417	0.69	9.500	1.70	15.583	1.59	21.67	0.64
3.500	0.69	9.583	1.70	15.667	1.59	21.75	0.64
3.583	0.69	9.667	1.70	15.750	1.59	21.83	0.64
3.667	0.69	9.750	1.70	15.833	1.59	21.92	0.64
3.750	0.69	9.833	1.91	15.917	1.59	22.00	0.64
3.833	0.69	9.917	1.91	16.000	1.59	22.08	0.64
3.917	0.69	10.000	1.91	16.083	1.59	22.17	0.64
4.000	0.69	10.083	1.91	16.167	1.59	22.25	0.64
4.083	0.69	10.167	1.91	16.250	1.59	22.33	0.64
4.167	0.69	10.250	1.91	16.333	0.96	22.42	0.64
4.250	0.69	10.333	2.44	16.417	0.96	22.50	0.64
4.333	0.85	10.417	2.44	16.500	0.96	22.58	0.64
4.417	0.85	10.500	2.44	16.583	0.96	22.67	0.64
4.500	0.85	10.583	2.44	16.667	0.96	22.75	0.64
4.583	0.85	10.667	2.44	16.750	0.96	22.83	0.64
4.667	0.85	10.750	2.44	16.833	0.96	22.92	0.64
4.750	0.85	10.833	3.29	16.917	0.96	23.00	0.64
4.833	0.85	10.917	3.29	17.000	0.96	23.08	0.64
4.917	0.85	11.000	3.29	17.083	0.96	23.17	0.64
5.000	0.85	11.083	3.29	17.167	0.96	23.25	0.64
5.083	0.85	11.167	3.29	17.250	0.96	23.33	0.64
5.167	0.85	11.250	3.29	17.333	0.96	23.42	0.64
5.250	0.85	11.333	5.10	17.417	0.96	23.50	0.64
5.333	0.85	11.417	5.10	17.500	0.96	23.58	0.64
5.417	0.85	11.500	5.10	17.583	0.96	23.67	0.64
5.500	0.85	11.583	5.10	17.667	0.96	23.75	0.64
5.583	0.85	11.667	5.10	17.750	0.96	23.83	0.64
5.667	0.85	11.750	5.10	17.833	0.96	23.92	0.64
5.750	0.85	11.833	15.72	17.917	0.96	24.00	0.64
5.833	0.85	11.917	15.72	18.000	0.96	24.08	0.64
5.917	0.85	12.000	15.72	18.083	0.96	24.17	0.64
6.000	0.85	12.083	64.99	18.167	0.96	24.25	0.64
6.083	0.85	12.167	64.99	18.250	0.96		

Unit Hyd Qpeak (cms)= 0.129

PEAK FLOW (cms)= 0.026 (i)
TIME TO PEAK (hrs)= 12.583
RUNOFF VOLUME (mm)= 12.637
TOTAL RAINFALL (mm)= 53.100
RUNOFF COEFFICIENT = 0.238

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

CALIB	
STANDHYD (0207)	Area (ha)= 2.21
ID= 1 DT= 5.0 min	Total Imp(%)= 40.70 Dir. Conn.(%)= 13.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.90	1.31
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	121.38	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	0.85	12.250	64.99	18.33	0.96
0.167	0.00	6.250	0.85	12.333	7.65	18.42	0.96
0.250	0.00	6.333	0.96	12.417	7.65	18.50	0.96
0.333	0.58	6.417	0.96	12.500	7.65	18.58	0.96
0.417	0.58	6.500	0.96	12.583	7.65	18.67	0.96
0.500	0.58	6.583	0.96	12.667	7.65	18.75	0.96
0.583	0.58	6.667	0.96	12.750	7.65	18.83	0.96
0.667	0.58	6.750	0.96	12.833	3.93	18.92	0.96
0.750	0.58	6.833	0.96	12.917	3.93	19.00	0.96
0.833	0.58	6.917	0.96	13.000	3.93	19.08	0.96
0.917	0.58	7.000	0.96	13.083	3.93	19.17	0.96
1.000	0.58	7.083	0.96	13.167	3.93	19.25	0.96
1.083	0.58	7.167	0.96	13.250	3.93	19.33	0.96
1.167	0.58	7.250	0.96	13.333	2.87	19.42	0.96
1.250	0.58	7.333	1.17	13.417	2.87	19.50	0.96
1.333	0.58	7.417	1.17	13.500	2.87	19.58	0.96
1.417	0.58	7.500	1.17	13.583	2.87	19.67	0.96
1.500	0.58	7.583	1.17	13.667	2.87	19.75	0.96
1.583	0.58	7.667	1.17	13.750	2.87	19.83	0.96
1.667	0.58	7.750	1.17	13.833	2.23	19.92	0.96
1.750	0.58	7.833	1.17	13.917	2.23	20.00	0.96
1.833	0.58	7.917	1.17	14.000	2.23	20.08	0.96
1.917	0.58	8.000	1.17	14.083	2.23	20.17	0.96
2.000	0.58	8.083	1.17	14.167	2.23	20.25	0.96
2.083	0.58	8.167	1.17	14.250	2.23	20.33	0.64
2.167	0.58	8.250	1.17	14.333	1.59	20.42	0.64
2.250	0.58	8.333	1.38	14.417	1.59	20.50	0.64
2.333	0.69	8.417	1.38	14.500	1.59	20.58	0.64
2.417	0.69	8.500	1.38	14.583	1.59	20.67	0.64
2.500	0.69	8.583	1.38	14.667	1.59	20.75	0.64

2.583	0.69	8.667	1.38	14.750	1.59	20.83	0.64
2.667	0.69	8.750	1.38	14.833	1.59	20.92	0.64
2.750	0.69	8.833	1.49	14.917	1.59	21.00	0.64
2.833	0.69	8.917	1.49	15.000	1.59	21.08	0.64
2.917	0.69	9.000	1.49	15.083	1.59	21.17	0.64
3.000	0.69	9.083	1.49	15.167	1.59	21.25	0.64
3.083	0.69	9.167	1.49	15.250	1.59	21.33	0.64
3.167	0.69	9.250	1.49	15.333	1.59	21.42	0.64
3.250	0.69	9.333	1.70	15.417	1.59	21.50	0.64
3.333	0.69	9.417	1.70	15.500	1.59	21.58	0.64
3.417	0.69	9.500	1.70	15.583	1.59	21.67	0.64
3.500	0.69	9.583	1.70	15.667	1.59	21.75	0.64
3.583	0.69	9.667	1.70	15.750	1.59	21.83	0.64
3.667	0.69	9.750	1.70	15.833	1.59	21.92	0.64
3.750	0.69	9.833	1.91	15.917	1.59	22.00	0.64
3.833	0.69	9.917	1.91	16.000	1.59	22.08	0.64
3.917	0.69	10.000	1.91	16.083	1.59	22.17	0.64
4.000	0.69	10.083	1.91	16.167	1.59	22.25	0.64
4.083	0.69	10.167	1.91	16.250	1.59	22.33	0.64
4.167	0.69	10.250	1.91	16.333	0.96	22.42	0.64
4.250	0.69	10.333	2.44	16.417	0.96	22.50	0.64
4.333	0.85	10.417	2.44	16.500	0.96	22.58	0.64
4.417	0.85	10.500	2.44	16.583	0.96	22.67	0.64
4.500	0.85	10.583	2.44	16.667	0.96	22.75	0.64
4.583	0.85	10.667	2.44	16.750	0.96	22.83	0.64
4.667	0.85	10.750	2.44	16.833	0.96	22.92	0.64
4.750	0.85	10.833	3.29	16.917	0.96	23.00	0.64
4.833	0.85	10.917	3.29	17.000	0.96	23.08	0.64
4.917	0.85	11.000	3.29	17.083	0.96	23.17	0.64
5.000	0.85	11.083	3.29	17.167	0.96	23.25	0.64
5.083	0.85	11.167	3.29	17.250	0.96	23.33	0.64
5.167	0.85	11.250	3.29	17.333	0.96	23.42	0.64
5.250	0.85	11.333	5.10	17.417	0.96	23.50	0.64
5.333	0.85	11.417	5.10	17.500	0.96	23.58	0.64
5.417	0.85	11.500	5.10	17.583	0.96	23.67	0.64
5.500	0.85	11.583	5.10	17.667	0.96	23.75	0.64
5.583	0.85	11.667	5.10	17.750	0.96	23.83	0.64
5.667	0.85	11.750	5.10	17.833	0.96	23.92	0.64
5.750	0.85	11.833	15.72	17.917	0.96	24.00	0.64
5.833	0.85	11.917	15.72	18.000	0.96	24.08	0.64
5.917	0.85	12.000	15.72	18.083	0.96	24.17	0.64
6.000	0.85	12.083	64.99	18.167	0.96	24.25	0.64
6.083	0.85	12.167	64.99	18.250	0.96		

Max.Eff.Inten.(mm/hr)=	64.99	20.37	
over (min)	5.00	20.00	
Storage Coeff. (min)=	3.41 (ii)	16.75 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.26	0.06	
			TOTALS

PEAK FLOW (cms)=	0.05	0.04	0.080 (iii)
TIME TO PEAK (hrs)=	12.25	12.42	12.25
RUNOFF VOLUME (mm)=	52.10	10.65	16.37
TOTAL RAINFALL (mm)=	53.10	53.10	53.10
RUNOFF COEFFICIENT =	0.98	0.20	0.31

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. 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 (0901)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0207):		2.21	0.080	12.25	16.37
+ ID2= 2 (0302):		1.49	0.026	12.58	12.64
ID = 3 (0901):		3.70	0.093	12.25	14.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0802)					
Inlet Cap.= 0.060					
#of Inlets= 10					
Total(cms)= 0.6		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):		3.70	0.09	12.25	14.86
MAJOR SYS.(ID= 2):		0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):		3.70	0.09	12.25	14.86

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0203)	Area (ha)= 1.35			
ID= 1 DT= 5.0 min	Total Imp(%)= 37.00	Dir. Conn.(%)= 10.30		
		IMPERVIOUS	PERVIOUS (i)	
Surface Area (ha)=		0.50	0.85	

Dep. Storage	(mm)=	1.00	4.89
Average Slope	(%)=	1.00	2.00
Length	(m)=	94.87	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	0.85	12.250	64.99	18.33	0.96
0.167	0.00	6.250	0.85	12.333	7.65	18.42	0.96
0.250	0.00	6.333	0.96	12.417	7.65	18.50	0.96
0.333	0.58	6.417	0.96	12.500	7.65	18.58	0.96
0.417	0.58	6.500	0.96	12.583	7.65	18.67	0.96
0.500	0.58	6.583	0.96	12.667	7.65	18.75	0.96
0.583	0.58	6.667	0.96	12.750	7.65	18.83	0.96
0.667	0.58	6.750	0.96	12.833	3.93	18.92	0.96
0.750	0.58	6.833	0.96	12.917	3.93	19.00	0.96
0.833	0.58	6.917	0.96	13.000	3.93	19.08	0.96
0.917	0.58	7.000	0.96	13.083	3.93	19.17	0.96
1.000	0.58	7.083	0.96	13.167	3.93	19.25	0.96
1.083	0.58	7.167	0.96	13.250	3.93	19.33	0.96
1.167	0.58	7.250	0.96	13.333	2.87	19.42	0.96
1.250	0.58	7.333	1.17	13.417	2.87	19.50	0.96
1.333	0.58	7.417	1.17	13.500	2.87	19.58	0.96
1.417	0.58	7.500	1.17	13.583	2.87	19.67	0.96
1.500	0.58	7.583	1.17	13.667	2.87	19.75	0.96
1.583	0.58	7.667	1.17	13.750	2.87	19.83	0.96
1.667	0.58	7.750	1.17	13.833	2.23	19.92	0.96
1.750	0.58	7.833	1.17	13.917	2.23	20.00	0.96
1.833	0.58	7.917	1.17	14.000	2.23	20.08	0.96
1.917	0.58	8.000	1.17	14.083	2.23	20.17	0.96
2.000	0.58	8.083	1.17	14.167	2.23	20.25	0.96
2.083	0.58	8.167	1.17	14.250	2.23	20.33	0.64
2.167	0.58	8.250	1.17	14.333	1.59	20.42	0.64
2.250	0.58	8.333	1.38	14.417	1.59	20.50	0.64
2.333	0.69	8.417	1.38	14.500	1.59	20.58	0.64
2.417	0.69	8.500	1.38	14.583	1.59	20.67	0.64
2.500	0.69	8.583	1.38	14.667	1.59	20.75	0.64
2.583	0.69	8.667	1.38	14.750	1.59	20.83	0.64
2.667	0.69	8.750	1.38	14.833	1.59	20.92	0.64
2.750	0.69	8.833	1.49	14.917	1.59	21.00	0.64
2.833	0.69	8.917	1.49	15.000	1.59	21.08	0.64
2.917	0.69	9.000	1.49	15.083	1.59	21.17	0.64
3.000	0.69	9.083	1.49	15.167	1.59	21.25	0.64
3.083	0.69	9.167	1.49	15.250	1.59	21.33	0.64
3.167	0.69	9.250	1.49	15.333	1.59	21.42	0.64
3.250	0.69	9.333	1.70	15.417	1.59	21.50	0.64
3.333	0.69	9.417	1.70	15.500	1.59	21.58	0.64
3.417	0.69	9.500	1.70	15.583	1.59	21.67	0.64
3.500	0.69	9.583	1.70	15.667	1.59	21.75	0.64
3.583	0.69	9.667	1.70	15.750	1.59	21.83	0.64
3.667	0.69	9.750	1.70	15.833	1.59	21.92	0.64
3.750	0.69	9.833	1.91	15.917	1.59	22.00	0.64
3.833	0.69	9.917	1.91	16.000	1.59	22.08	0.64
3.917	0.69	10.000	1.91	16.083	1.59	22.17	0.64
4.000	0.69	10.083	1.91	16.167	1.59	22.25	0.64
4.083	0.69	10.167	1.91	16.250	1.59	22.33	0.64
4.167	0.69	10.250	1.91	16.333	0.96	22.42	0.64
4.250	0.69	10.333	2.44	16.417	0.96	22.50	0.64
4.333	0.85	10.417	2.44	16.500	0.96	22.58	0.64
4.417	0.85	10.500	2.44	16.583	0.96	22.67	0.64
4.500	0.85	10.583	2.44	16.667	0.96	22.75	0.64
4.583	0.85	10.667	2.44	16.750	0.96	22.83	0.64
4.667	0.85	10.750	2.44	16.833	0.96	22.92	0.64
4.750	0.85	10.833	3.29	16.917	0.96	23.00	0.64
4.833	0.85	10.917	3.29	17.000	0.96	23.08	0.64
4.917	0.85	11.000	3.29	17.083	0.96	23.17	0.64
5.000	0.85	11.083	3.29	17.167	0.96	23.25	0.64
5.083	0.85	11.167	3.29	17.250	0.96	23.33	0.64
5.167	0.85	11.250	3.29	17.333	0.96	23.42	0.64
5.250	0.85	11.333	5.10	17.417	0.96	23.50	0.64
5.333	0.85	11.417	5.10	17.500	0.96	23.58	0.64
5.417	0.85	11.500	5.10	17.583	0.96	23.67	0.64
5.500	0.85	11.583	5.10	17.667	0.96	23.75	0.64
5.583	0.85	11.667	5.10	17.750	0.96	23.83	0.64
5.667	0.85	11.750	5.10	17.833	0.96	23.92	0.64
5.750	0.85	11.833	15.72	17.917	0.96	24.00	0.64
5.833	0.85	11.917	15.72	18.000	0.96	24.08	0.64
5.917	0.85	12.000	15.72	18.083	0.96	24.17	0.64
6.000	0.85	12.083	64.99	18.167	0.96	24.25	0.64
6.083	0.85	12.167	64.99	18.250	0.96		

Max.Eff.Inten.(mm/hr)=		64.99	21.72	
over (min)		5.00	20.00	
Storage Coeff. (min)=		2.94 (ii)	15.94 (ii)	
Unit Hyd. Tpeak (min)=		5.00	20.00	
Unit Hyd. peak (cms)=		0.28	0.07	
				TOTALS
PEAK FLOW	(cms)=	0.02	0.03	0.043 (iii)
TIME TO PEAK	(hrs)=	12.25	12.42	12.25
RUNOFF VOLUME	(mm)=	52.10	11.54	15.71
TOTAL RAINFALL	(mm)=	53.10	53.10	53.10
RUNOFF COEFFICIENT	=	0.98	0.22	0.30

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

```
      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  52.1    Ia = Dep. 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  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
       ID1= 1 (  0203):     1.35   0.043    12.25    15.71
     + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
       ====================================================
       ID = 3 (  0902):     1.35   0.043    12.25    15.71

    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 6.1.2001)
       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 6.1\VO2\voin.dat

  Output  filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\f4
fdf4f3-6aa9-4958-9762-4685d2f2ec9f\s
  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\f4
fdf4f3-6aa9-4958-9762-4685d2f2ec9f\s


DATE: 02/21/2023                          TIME: 10:27:05

USER:


COMMENTS: _____________________________________________________________

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  ***********************************************
  ** SIMULATION : 5yr 24hr 15min SCS           **
  ***********************************************


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|    READ STORM    |    Filename: C:\Users\elundquist\AppD
|                  |              ata\Local\Temp\
|                  |              bbcbcfd5-9651-44f5-bd72-3bbeb48ecd1a\ca6da465
| Ptotal= 70.54 mm |    Comments: 5yr 24hr 15min SCS
--------------------
```

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	1.27	12.75	10.16	19.00	1.27
0.50	0.78	6.75	1.27	13.00	5.22	19.25	1.27
0.75	0.78	7.00	1.27	13.25	5.22	19.50	1.27
1.00	0.78	7.25	1.27	13.50	3.81	19.75	1.27
1.25	0.78	7.50	1.55	13.75	3.81	20.00	1.27
1.50	0.78	7.75	1.55	14.00	2.96	20.25	1.27
1.75	0.78	8.00	1.55	14.25	2.96	20.50	0.85
2.00	0.78	8.25	1.55	14.50	2.12	20.75	0.85
2.25	0.78	8.50	1.83	14.75	2.12	21.00	0.85
2.50	0.92	8.75	1.83	15.00	2.12	21.25	0.85
2.75	0.92	9.00	1.98	15.25	2.12	21.50	0.85
3.00	0.92	9.25	1.98	15.50	2.12	21.75	0.85
3.25	0.92	9.50	2.26	15.75	2.12	22.00	0.85
3.50	0.92	9.75	2.26	16.00	2.12	22.25	0.85
3.75	0.92	10.00	2.54	16.25	2.12	22.50	0.85
4.00	0.92	10.25	2.54	16.50	1.27	22.75	0.85
4.25	0.92	10.50	3.24	16.75	1.27	23.00	0.85
4.50	1.13	10.75	3.24	17.00	1.27	23.25	0.85
4.75	1.13	11.00	4.37	17.25	1.27	23.50	0.85
5.00	1.13	11.25	4.37	17.50	1.27	23.75	0.85
5.25	1.13	11.50	6.77	17.75	1.27	24.00	0.85
5.50	1.13	11.75	6.77	18.00	1.27	24.25	0.85
5.75	1.13	12.00	20.88	18.25	1.27		

6.00	1.13	12.25	86.34	18.50	1.27	
6.25	1.13	12.50	10.16	18.75	1.27	

CALIB					
NASHYD (0301)	Area (ha)=	1.72	Curve Number (CN)=	55.6	
ID= 1 DT= 5.0 min	Ia (mm)=	4.61	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	0.18			

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.13	12.250	86.34	18.33	1.27
0.167	0.00	6.250	1.13	12.333	10.17	18.42	1.27
0.250	0.00	6.333	1.27	12.417	10.16	18.50	1.27
0.333	0.78	6.417	1.27	12.500	10.16	18.58	1.27
0.417	0.78	6.500	1.27	12.583	10.16	18.67	1.27
0.500	0.78	6.583	1.27	12.667	10.16	18.75	1.27
0.583	0.78	6.667	1.27	12.750	10.16	18.83	1.27
0.667	0.78	6.750	1.27	12.833	5.22	18.92	1.27
0.750	0.78	6.833	1.27	12.917	5.22	19.00	1.27
0.833	0.78	6.917	1.27	13.000	5.22	19.08	1.27
0.917	0.78	7.000	1.27	13.083	5.22	19.17	1.27
1.000	0.78	7.083	1.27	13.167	5.22	19.25	1.27
1.083	0.78	7.167	1.27	13.250	5.22	19.33	1.27
1.167	0.78	7.250	1.27	13.333	3.81	19.42	1.27
1.250	0.78	7.333	1.55	13.417	3.81	19.50	1.27
1.333	0.78	7.417	1.55	13.500	3.81	19.58	1.27
1.417	0.78	7.500	1.55	13.583	3.81	19.67	1.27
1.500	0.78	7.583	1.55	13.667	3.81	19.75	1.27
1.583	0.78	7.667	1.55	13.750	3.81	19.83	1.27
1.667	0.78	7.750	1.55	13.833	2.96	19.92	1.27
1.750	0.78	7.833	1.55	13.917	2.96	20.00	1.27
1.833	0.78	7.917	1.55	14.000	2.96	20.08	1.27
1.917	0.78	8.000	1.55	14.083	2.96	20.17	1.27
2.000	0.78	8.083	1.55	14.167	2.96	20.25	1.27
2.083	0.78	8.167	1.55	14.250	2.96	20.33	0.85
2.167	0.78	8.250	1.55	14.333	2.12	20.42	0.85
2.250	0.78	8.333	1.83	14.417	2.12	20.50	0.85
2.333	0.92	8.417	1.83	14.500	2.12	20.58	0.85
2.417	0.92	8.500	1.83	14.583	2.12	20.67	0.85
2.500	0.92	8.583	1.83	14.667	2.12	20.75	0.85
2.583	0.92	8.667	1.83	14.750	2.12	20.83	0.85
2.667	0.92	8.750	1.83	14.833	2.12	20.92	0.85
2.750	0.92	8.833	1.98	14.917	2.12	21.00	0.85
2.833	0.92	8.917	1.98	15.000	2.12	21.08	0.85
2.917	0.92	9.000	1.98	15.083	2.12	21.17	0.85
3.000	0.92	9.083	1.98	15.167	2.12	21.25	0.85
3.083	0.92	9.167	1.98	15.250	2.12	21.33	0.85
3.167	0.92	9.250	1.98	15.333	2.12	21.42	0.85
3.250	0.92	9.333	2.26	15.417	2.12	21.50	0.85
3.333	0.92	9.417	2.26	15.500	2.12	21.58	0.85
3.417	0.92	9.500	2.26	15.583	2.12	21.67	0.85
3.500	0.92	9.583	2.26	15.667	2.12	21.75	0.85
3.583	0.92	9.667	2.26	15.750	2.12	21.83	0.85
3.667	0.92	9.750	2.26	15.833	2.12	21.92	0.85
3.750	0.92	9.833	2.54	15.917	2.12	22.00	0.85
3.833	0.92	9.917	2.54	16.000	2.12	22.08	0.85
3.917	0.92	10.000	2.54	16.083	2.12	22.17	0.85
4.000	0.92	10.083	2.54	16.167	2.12	22.25	0.85
4.083	0.92	10.167	2.54	16.250	2.12	22.33	0.85
4.167	0.92	10.250	2.54	16.333	1.27	22.42	0.85
4.250	0.92	10.333	3.24	16.417	1.27	22.50	0.85
4.333	1.13	10.417	3.24	16.500	1.27	22.58	0.85
4.417	1.13	10.500	3.24	16.583	1.27	22.67	0.85
4.500	1.13	10.583	3.24	16.667	1.27	22.75	0.85
4.583	1.13	10.667	3.24	16.750	1.27	22.83	0.85
4.667	1.13	10.750	3.24	16.833	1.27	22.92	0.85
4.750	1.13	10.833	4.37	16.917	1.27	23.00	0.85
4.833	1.13	10.917	4.37	17.000	1.27	23.08	0.85
4.917	1.13	11.000	4.37	17.083	1.27	23.17	0.85
5.000	1.13	11.083	4.37	17.167	1.27	23.25	0.85
5.083	1.13	11.167	4.37	17.250	1.27	23.33	0.85
5.167	1.13	11.250	4.37	17.333	1.27	23.42	0.85
5.250	1.13	11.333	6.77	17.417	1.27	23.50	0.85
5.333	1.13	11.417	6.77	17.500	1.27	23.58	0.85
5.417	1.13	11.500	6.77	17.583	1.27	23.67	0.85
5.500	1.13	11.583	6.77	17.667	1.27	23.75	0.85
5.583	1.13	11.667	6.77	17.750	1.27	23.83	0.85
5.667	1.13	11.750	6.77	17.833	1.27	23.92	0.85
5.750	1.13	11.833	20.88	17.917	1.27	24.00	0.85
5.833	1.13	11.917	20.88	18.000	1.27	24.08	0.85
5.917	1.13	12.000	20.88	18.083	1.27	24.17	0.85
6.000	1.13	12.083	86.33	18.167	1.27	24.25	0.85
6.083	1.13	12.167	86.34	18.250	1.27		

Unit Hyd Qpeak (cms)= 0.365

PEAK FLOW (cms)= 0.072 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 16.127
TOTAL RAINFALL (mm)= 70.540
RUNOFF COEFFICIENT = 0.229

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

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| CALIB            |
| STANDHYD (  0208)|   Area    (ha)=   6.40
|ID= 1 DT= 5.0 min |   Total Imp(%)=  51.70   Dir. Conn.(%)=  26.30
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       3.31         3.09
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       1.00         2.00
     Length            (m)=     206.56        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	1.13	12.250	86.34	18.33	1.27
0.167	0.00	6.250	1.13	12.333	10.17	18.42	1.27
0.250	0.00	6.333	1.27	12.417	10.16	18.50	1.27
0.333	0.78	6.417	1.27	12.500	10.16	18.58	1.27
0.417	0.78	6.500	1.27	12.583	10.16	18.67	1.27
0.500	0.78	6.583	1.27	12.667	10.16	18.75	1.27
0.583	0.78	6.667	1.27	12.750	10.16	18.83	1.27
0.667	0.78	6.750	1.27	12.833	5.22	18.92	1.27
0.750	0.78	6.833	1.27	12.917	5.22	19.00	1.27
0.833	0.78	6.917	1.27	13.000	5.22	19.08	1.27
0.917	0.78	7.000	1.27	13.083	5.22	19.17	1.27
1.000	0.78	7.083	1.27	13.167	5.22	19.25	1.27
1.083	0.78	7.167	1.27	13.250	5.22	19.33	1.27
1.167	0.78	7.250	1.27	13.333	3.81	19.42	1.27
1.250	0.78	7.333	1.55	13.417	3.81	19.50	1.27
1.333	0.78	7.417	1.55	13.500	3.81	19.58	1.27
1.417	0.78	7.500	1.55	13.583	3.81	19.67	1.27
1.500	0.78	7.583	1.55	13.667	3.81	19.75	1.27
1.583	0.78	7.667	1.55	13.750	3.81	19.83	1.27
1.667	0.78	7.750	1.55	13.833	2.96	19.92	1.27
1.750	0.78	7.833	1.55	13.917	2.96	20.00	1.27
1.833	0.78	7.917	1.55	14.000	2.96	20.08	1.27
1.917	0.78	8.000	1.55	14.083	2.96	20.17	1.27
2.000	0.78	8.083	1.55	14.167	2.96	20.25	1.27
2.083	0.78	8.167	1.55	14.250	2.96	20.33	0.85
2.167	0.78	8.250	1.55	14.333	2.12	20.42	0.85
2.250	0.78	8.333	1.83	14.417	2.12	20.50	0.85
2.333	0.92	8.417	1.83	14.500	2.12	20.58	0.85
2.417	0.92	8.500	1.83	14.583	2.12	20.67	0.85
2.500	0.92	8.583	1.83	14.667	2.12	20.75	0.85
2.583	0.92	8.667	1.83	14.750	2.12	20.83	0.85
2.667	0.92	8.750	1.83	14.833	2.12	20.92	0.85
2.750	0.92	8.833	1.98	14.917	2.12	21.00	0.85
2.833	0.92	8.917	1.98	15.000	2.12	21.08	0.85
2.917	0.92	9.000	1.98	15.083	2.12	21.17	0.85
3.000	0.92	9.083	1.98	15.167	2.12	21.25	0.85
3.083	0.92	9.167	1.98	15.250	2.12	21.33	0.85
3.167	0.92	9.250	1.98	15.333	2.12	21.42	0.85
3.250	0.92	9.333	2.26	15.417	2.12	21.50	0.85
3.333	0.92	9.417	2.26	15.500	2.12	21.58	0.85
3.417	0.92	9.500	2.26	15.583	2.12	21.67	0.85
3.500	0.92	9.583	2.26	15.667	2.12	21.75	0.85
3.583	0.92	9.667	2.26	15.750	2.12	21.83	0.85
3.667	0.92	9.750	2.26	15.833	2.12	21.92	0.85
3.750	0.92	9.833	2.54	15.917	2.12	22.00	0.85
3.833	0.92	9.917	2.54	16.000	2.12	22.08	0.85
3.917	0.92	10.000	2.54	16.083	2.12	22.17	0.85
4.000	0.92	10.083	2.54	16.167	2.12	22.25	0.85
4.083	0.92	10.167	2.54	16.250	2.12	22.33	0.85
4.167	0.92	10.250	2.54	16.333	1.27	22.42	0.85
4.250	0.92	10.333	3.24	16.417	1.27	22.50	0.85
4.333	1.13	10.417	3.24	16.500	1.27	22.58	0.85
4.417	1.13	10.500	3.24	16.583	1.27	22.67	0.85
4.500	1.13	10.583	3.24	16.667	1.27	22.75	0.85
4.583	1.13	10.667	3.24	16.750	1.27	22.83	0.85
4.667	1.13	10.750	3.24	16.833	1.27	22.92	0.85
4.750	1.13	10.833	4.37	16.917	1.27	23.00	0.85
4.833	1.13	10.917	4.37	17.000	1.27	23.08	0.85
4.917	1.13	11.000	4.37	17.083	1.27	23.17	0.85
5.000	1.13	11.083	4.37	17.167	1.27	23.25	0.85
5.083	1.13	11.167	4.37	17.250	1.27	23.33	0.85
5.167	1.13	11.250	4.37	17.333	1.27	23.42	0.85
5.250	1.13	11.333	6.77	17.417	1.27	23.50	0.85
5.333	1.13	11.417	6.77	17.500	1.27	23.58	0.85
5.417	1.13	11.500	6.77	17.583	1.27	23.67	0.85
5.500	1.13	11.583	6.77	17.667	1.27	23.75	0.85
5.583	1.13	11.667	6.77	17.750	1.27	23.83	0.85
5.667	1.13	11.750	6.77	17.833	1.27	23.92	0.85
5.750	1.13	11.833	20.88	17.917	1.27	24.00	0.85
5.833	1.13	11.917	20.88	18.000	1.27	24.08	0.85
5.917	1.13	12.000	20.88	18.083	1.27	24.17	0.85
6.000	1.13	12.083	86.33	18.167	1.27	24.25	0.85
6.083	1.13	12.167	86.34	18.250	1.27		

Max.Eff.Inten.(mm/hr)=	86.34	38.25	
over (min)	5.00	15.00	
Storage Coeff. (min)=	4.19 (ii)	14.55 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.24	0.08	
			TOTALS

PEAK FLOW (cms)=	0.40	0.19	0.556 (iii)
TIME TO PEAK (hrs)=	12.25	12.33	12.25
RUNOFF VOLUME (mm)=	69.54	18.81	32.15
TOTAL RAINFALL (mm)=	70.54	70.54	70.54
RUNOFF COEFFICIENT =	0.99	0.27	0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0201)	Area (ha)= 18.69
ID= 1 DT= 5.0 min	Total Imp(%)= 51.00 Dir. Conn.(%)= 27.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.53	9.16
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	352.99	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	1.13	12.250	86.34	18.33	1.27
0.167	0.00	6.250	1.13	12.333	10.17	18.42	1.27
0.250	0.00	6.333	1.27	12.417	10.16	18.50	1.27
0.333	0.78	6.417	1.27	12.500	10.16	18.58	1.27
0.417	0.78	6.500	1.27	12.583	10.16	18.67	1.27
0.500	0.78	6.583	1.27	12.667	10.16	18.75	1.27
0.583	0.78	6.667	1.27	12.750	10.16	18.83	1.27
0.667	0.78	6.750	1.27	12.833	5.22	18.92	1.27
0.750	0.78	6.833	1.27	12.917	5.22	19.00	1.27
0.833	0.78	6.917	1.27	13.000	5.22	19.08	1.27
0.917	0.78	7.000	1.27	13.083	5.22	19.17	1.27
1.000	0.78	7.083	1.27	13.167	5.22	19.25	1.27
1.083	0.78	7.167	1.27	13.250	5.22	19.33	1.27
1.167	0.78	7.250	1.27	13.333	3.81	19.42	1.27
1.250	0.78	7.333	1.55	13.417	3.81	19.50	1.27
1.333	0.78	7.417	1.55	13.500	3.81	19.58	1.27
1.417	0.78	7.500	1.55	13.583	3.81	19.67	1.27
1.500	0.78	7.583	1.55	13.667	3.81	19.75	1.27
1.583	0.78	7.667	1.55	13.750	3.81	19.83	1.27
1.667	0.78	7.750	1.55	13.833	2.96	19.92	1.27
1.750	0.78	7.833	1.55	13.917	2.96	20.00	1.27
1.833	0.78	7.917	1.55	14.000	2.96	20.08	1.27
1.917	0.78	8.000	1.55	14.083	2.96	20.17	1.27
2.000	0.78	8.083	1.55	14.167	2.96	20.25	1.27
2.083	0.78	8.167	1.55	14.250	2.96	20.33	0.85
2.167	0.78	8.250	1.55	14.333	2.12	20.42	0.85
2.250	0.78	8.333	1.83	14.417	2.12	20.50	0.85
2.333	0.92	8.417	1.83	14.500	2.12	20.58	0.85
2.417	0.92	8.500	1.83	14.583	2.12	20.67	0.85
2.500	0.92	8.583	1.83	14.667	2.12	20.75	0.85
2.583	0.92	8.667	1.83	14.750	2.12	20.83	0.85
2.667	0.92	8.750	1.83	14.833	2.12	20.92	0.85
2.750	0.92	8.833	1.98	14.917	2.12	21.00	0.85
2.833	0.92	8.917	1.98	15.000	2.12	21.08	0.85
2.917	0.92	9.000	1.98	15.083	2.12	21.17	0.85
3.000	0.92	9.083	1.98	15.167	2.12	21.25	0.85
3.083	0.92	9.167	1.98	15.250	2.12	21.33	0.85
3.167	0.92	9.250	1.98	15.333	2.12	21.42	0.85
3.250	0.92	9.333	2.26	15.417	2.12	21.50	0.85
3.333	0.92	9.417	2.26	15.500	2.12	21.58	0.85
3.417	0.92	9.500	2.26	15.583	2.12	21.67	0.85
3.500	0.92	9.583	2.26	15.667	2.12	21.75	0.85
3.583	0.92	9.667	2.26	15.750	2.12	21.83	0.85
3.667	0.92	9.750	2.26	15.833	2.12	21.92	0.85
3.750	0.92	9.833	2.54	15.917	2.12	22.00	0.85
3.833	0.92	9.917	2.54	16.000	2.12	22.08	0.85
3.917	0.92	10.000	2.54	16.083	2.12	22.17	0.85
4.000	0.92	10.083	2.54	16.167	2.12	22.25	0.85
4.083	0.92	10.167	2.54	16.250	2.12	22.33	0.85
4.167	0.92	10.250	2.54	16.333	1.27	22.42	0.85
4.250	0.92	10.333	3.24	16.417	1.27	22.50	0.85
4.333	1.13	10.417	3.24	16.500	1.27	22.58	0.85
4.417	1.13	10.500	3.24	16.583	1.27	22.67	0.85
4.500	1.13	10.583	3.24	16.667	1.27	22.75	0.85
4.583	1.13	10.667	3.24	16.750	1.27	22.83	0.85
4.667	1.13	10.750	3.24	16.833	1.27	22.92	0.85
4.750	1.13	10.833	4.37	16.917	1.27	23.00	0.85
4.833	1.13	10.917	4.37	17.000	1.27	23.08	0.85
4.917	1.13	11.000	4.37	17.083	1.27	23.17	0.85
5.000	1.13	11.083	4.37	17.167	1.27	23.25	0.85
5.083	1.13	11.167	4.37	17.250	1.27	23.33	0.85
5.167	1.13	11.250	4.37	17.333	1.27	23.42	0.85
5.250	1.13	11.333	6.77	17.417	1.27	23.50	0.85
5.333	1.13	11.417	6.77	17.500	1.27	23.58	0.85
5.417	1.13	11.500	6.77	17.583	1.27	23.67	0.85
5.500	1.13	11.583	6.77	17.667	1.27	23.75	0.85
5.583	1.13	11.667	6.77	17.750	1.27	23.83	0.85

5.667	1.13	11.750	6.77	17.833	1.27	23.92	0.85
5.750	1.13	11.833	20.88	17.917	1.27	24.00	0.85
5.833	1.13	11.917	20.88	18.000	1.27	24.08	0.85
5.917	1.13	12.000	20.88	18.083	1.27	24.17	0.85
6.000	1.13	12.083	86.33	18.167	1.27	24.25	0.85
6.083	1.13	12.167	86.34	18.250	1.27		

Max.Eff.Inten.(mm/hr)=	86.34	36.60	
over (min)	5.00	20.00	
Storage Coeff. (min)=	5.77 (ii)	16.32 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.20	0.06	
			TOTALS
PEAK FLOW (cms)=	1.14	0.50	1.464 (iii)
TIME TO PEAK (hrs)=	12.25	12.42	12.25
RUNOFF VOLUME (mm)=	69.54	18.45	32.24
TOTAL RAINFALL (mm)=	70.54	70.54	70.54
RUNOFF COEFFICIENT =	0.99	0.26	0.46

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. 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 (0904)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0201):		18.69	1.464	12.25	32.24
+ ID2= 2 (0208):		6.40	0.556	12.25	32.15
ID = 3 (0904):		25.09	2.020	12.25	32.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0904)		AREA	QPEAK	TPEAK	R.V.
3 + 2 = 1		(ha)	(cms)	(hrs)	(mm)
ID1= 3 (0904):		25.09	2.020	12.25	32.22
+ ID2= 2 (0301):		1.72	0.072	12.33	16.13
ID = 1 (0904):		26.81	2.089	12.25	31.19

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0401)	OVERFLOW IS OFF			
IN= 2---> OUT= 1				
DT= 5.0 min	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.8060	0.3760
	0.0080	0.0310	1.3400	0.4210
	0.0170	0.0630	2.0150	0.4680
	0.0230	0.0970	2.1780	0.6190
	0.0280	0.1330	2.4650	0.7250
	0.0320	0.1700	3.1360	0.7810
	0.0360	0.2080	4.2010	0.8390
	0.0390	0.2480	4.8940	0.8680
	0.1590	0.2890	6.6200	0.9280
	0.4120	0.3320	8.8340	0.9890

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0904)	26.810	2.089	12.25	31.19
OUTFLOW: ID= 1 (0401)	26.810	0.694	12.67	31.15

PEAK FLOW REDUCTION [Qout/Qin](%)= 33.20
TIME SHIFT OF PEAK FLOW (min)= 25.00
MAXIMUM STORAGE USED (ha.m.)= 0.3640

CALIB			
NASHYD (0302)	Area (ha)=	1.49	Curve Number (CN)= 66.8
ID= 1 DT= 5.0 min	Ia (mm)=	6.34	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.44	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.13	12.250	86.34	18.33	1.27
0.167	0.00	6.250	1.13	12.333	10.17	18.42	1.27
0.250	0.00	6.333	1.27	12.417	10.16	18.50	1.27
0.333	0.78	6.417	1.27	12.500	10.16	18.58	1.27
0.417	0.78	6.500	1.27	12.583	10.16	18.67	1.27
0.500	0.78	6.583	1.27	12.667	10.16	18.75	1.27
0.583	0.78	6.667	1.27	12.750	10.16	18.83	1.27
0.667	0.78	6.750	1.27	12.833	5.22	18.92	1.27
0.750	0.78	6.833	1.27	12.917	5.22	19.00	1.27
0.833	0.78	6.917	1.27	13.000	5.22	19.08	1.27
0.917	0.78	7.000	1.27	13.083	5.22	19.17	1.27

1.000	0.78	7.083	1.27	13.167	5.22	19.25	1.27
1.083	0.78	7.167	1.27	13.250	5.22	19.33	1.27
1.167	0.78	7.250	1.27	13.333	3.81	19.42	1.27
1.250	0.78	7.333	1.55	13.417	3.81	19.50	1.27
1.333	0.78	7.417	1.55	13.500	3.81	19.58	1.27
1.417	0.78	7.500	1.55	13.583	3.81	19.67	1.27
1.500	0.78	7.583	1.55	13.667	3.81	19.75	1.27
1.583	0.78	7.667	1.55	13.750	3.81	19.83	1.27
1.667	0.78	7.750	1.55	13.833	2.96	19.92	1.27
1.750	0.78	7.833	1.55	13.917	2.96	20.00	1.27
1.833	0.78	7.917	1.55	14.000	2.96	20.08	1.27
1.917	0.78	8.000	1.55	14.083	2.96	20.17	1.27
2.000	0.78	8.083	1.55	14.167	2.96	20.25	1.27
2.083	0.78	8.167	1.55	14.250	2.96	20.33	0.85
2.167	0.78	8.250	1.55	14.333	2.12	20.42	0.85
2.250	0.78	8.333	1.83	14.417	2.12	20.50	0.85
2.333	0.92	8.417	1.83	14.500	2.12	20.58	0.85
2.417	0.92	8.500	1.83	14.583	2.12	20.67	0.85
2.500	0.92	8.583	1.83	14.667	2.12	20.75	0.85
2.583	0.92	8.667	1.83	14.750	2.12	20.83	0.85
2.667	0.92	8.750	1.83	14.833	2.12	20.92	0.85
2.750	0.92	8.833	1.98	14.917	2.12	21.00	0.85
2.833	0.92	8.917	1.98	15.000	2.12	21.08	0.85
2.917	0.92	9.000	1.98	15.083	2.12	21.17	0.85
3.000	0.92	9.083	1.98	15.167	2.12	21.25	0.85
3.083	0.92	9.167	1.98	15.250	2.12	21.33	0.85
3.167	0.92	9.250	1.98	15.333	2.12	21.42	0.85
3.250	0.92	9.333	2.26	15.417	2.12	21.50	0.85
3.333	0.92	9.417	2.26	15.500	2.12	21.58	0.85
3.417	0.92	9.500	2.26	15.583	2.12	21.67	0.85
3.500	0.92	9.583	2.26	15.667	2.12	21.75	0.85
3.583	0.92	9.667	2.26	15.750	2.12	21.83	0.85
3.667	0.92	9.750	2.26	15.833	2.12	21.92	0.85
3.750	0.92	9.833	2.54	15.917	2.12	22.00	0.85
3.833	0.92	9.917	2.54	16.000	2.12	22.08	0.85
3.917	0.92	10.000	2.54	16.083	2.12	22.17	0.85
4.000	0.92	10.083	2.54	16.167	2.12	22.25	0.85
4.083	0.92	10.167	2.54	16.250	2.12	22.33	0.85
4.167	0.92	10.250	2.54	16.333	1.27	22.42	0.85
4.250	0.92	10.333	3.24	16.417	1.27	22.50	0.85
4.333	1.13	10.417	3.24	16.500	1.27	22.58	0.85
4.417	1.13	10.500	3.24	16.583	1.27	22.67	0.85
4.500	1.13	10.583	3.24	16.667	1.27	22.75	0.85
4.583	1.13	10.667	3.24	16.750	1.27	22.83	0.85
4.667	1.13	10.750	3.24	16.833	1.27	22.92	0.85
4.750	1.13	10.833	4.37	16.917	1.27	23.00	0.85
4.833	1.13	10.917	4.37	17.000	1.27	23.08	0.85
4.917	1.13	11.000	4.37	17.083	1.27	23.17	0.85
5.000	1.13	11.083	4.37	17.167	1.27	23.25	0.85
5.083	1.13	11.167	4.37	17.250	1.27	23.33	0.85
5.167	1.13	11.250	4.37	17.333	1.27	23.42	0.85
5.250	1.13	11.333	6.77	17.417	1.27	23.50	0.85
5.333	1.13	11.417	6.77	17.500	1.27	23.58	0.85
5.417	1.13	11.500	6.77	17.583	1.27	23.67	0.85
5.500	1.13	11.583	6.77	17.667	1.27	23.75	0.85
5.583	1.13	11.667	6.77	17.750	1.27	23.83	0.85
5.667	1.13	11.750	6.77	17.833	1.27	23.92	0.85
5.750	1.13	11.833	20.88	17.917	1.27	24.00	0.85
5.833	1.13	11.917	20.88	18.000	1.27	24.08	0.85
5.917	1.13	12.000	20.88	18.083	1.27	24.17	0.85
6.000	1.13	12.083	86.33	18.167	1.27	24.25	0.85
6.083	1.13	12.167	86.34	18.250	1.27		

Unit Hyd Qpeak (cms)= 0.129

PEAK FLOW (cms)= 0.046 (i)
TIME TO PEAK (hrs)= 12.583
RUNOFF VOLUME (mm)= 21.640
TOTAL RAINFALL (mm)= 70.540
RUNOFF COEFFICIENT = 0.307

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

CALIB	
STANDHYD (0207)	Area (ha)= 2.21
ID= 1 DT= 5.0 min	Total Imp(%)= 40.70 Dir. Conn.(%)= 13.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.90	1.31
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	121.38	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	1.13	12.250	86.34	18.33	1.27
0.167	0.00	6.250	1.13	12.333	10.17	18.42	1.27
0.250	0.00	6.333	1.27	12.417	10.16	18.50	1.27
0.333	0.78	6.417	1.27	12.500	10.16	18.58	1.27
0.417	0.78	6.500	1.27	12.583	10.16	18.67	1.27
0.500	0.78	6.583	1.27	12.667	10.16	18.75	1.27
0.583	0.78	6.667	1.27	12.750	10.16	18.83	1.27
0.667	0.78	6.750	1.27	12.833	5.22	18.92	1.27

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0.750    0.78 | 6.833    1.27 |12.917    5.22 | 19.00    1.27
0.833    0.78 | 6.917    1.27 |13.000    5.22 | 19.08    1.27
0.917    0.78 | 7.000    1.27 |13.083    5.22 | 19.17    1.27
1.000    0.78 | 7.083    1.27 |13.167    5.22 | 19.25    1.27
1.083    0.78 | 7.167    1.27 |13.250    5.22 | 19.33    1.27
1.167    0.78 | 7.250    1.27 |13.333    3.81 | 19.42    1.27
1.250    0.78 | 7.333    1.55 |13.417    3.81 | 19.50    1.27
1.333    0.78 | 7.417    1.55 |13.500    3.81 | 19.58    1.27
1.417    0.78 | 7.500    1.55 |13.583    3.81 | 19.67    1.27
1.500    0.78 | 7.583    1.55 |13.667    3.81 | 19.75    1.27
1.583    0.78 | 7.667    1.55 |13.750    3.81 | 19.83    1.27
1.667    0.78 | 7.750    1.55 |13.833    2.96 | 19.92    1.27
1.750    0.78 | 7.833    1.55 |13.917    2.96 | 20.00    1.27
1.833    0.78 | 7.917    1.55 |14.000    2.96 | 20.08    1.27
1.917    0.78 | 8.000    1.55 |14.083    2.96 | 20.17    1.27
2.000    0.78 | 8.083    1.55 |14.167    2.96 | 20.25    1.27
2.083    0.78 | 8.167    1.55 |14.250    2.96 | 20.33    0.85
2.167    0.78 | 8.250    1.55 |14.333    2.12 | 20.42    0.85
2.250    0.78 | 8.333    1.83 |14.417    2.12 | 20.50    0.85
2.333    0.92 | 8.417    1.83 |14.500    2.12 | 20.58    0.85
2.417    0.92 | 8.500    1.83 |14.583    2.12 | 20.67    0.85
2.500    0.92 | 8.583    1.83 |14.667    2.12 | 20.75    0.85
2.583    0.92 | 8.667    1.83 |14.750    2.12 | 20.83    0.85
2.667    0.92 | 8.750    1.83 |14.833    2.12 | 20.92    0.85
2.750    0.92 | 8.833    1.98 |14.917    2.12 | 21.00    0.85
2.833    0.92 | 8.917    1.98 |15.000    2.12 | 21.08    0.85
2.917    0.92 | 9.000    1.98 |15.083    2.12 | 21.17    0.85
3.000    0.92 | 9.083    1.98 |15.167    2.12 | 21.25    0.85
3.083    0.92 | 9.167    1.98 |15.250    2.12 | 21.33    0.85
3.167    0.92 | 9.250    1.98 |15.333    2.12 | 21.42    0.85
3.250    0.92 | 9.333    2.26 |15.417    2.12 | 21.50    0.85
3.333    0.92 | 9.417    2.26 |15.500    2.12 | 21.58    0.85
3.417    0.92 | 9.500    2.26 |15.583    2.12 | 21.67    0.85
3.500    0.92 | 9.583    2.26 |15.667    2.12 | 21.75    0.85
3.583    0.92 | 9.667    2.26 |15.750    2.12 | 21.83    0.85
3.667    0.92 | 9.750    2.26 |15.833    2.12 | 21.92    0.85
3.750    0.92 | 9.833    2.54 |15.917    2.12 | 22.00    0.85
3.833    0.92 | 9.917    2.54 |16.000    2.12 | 22.08    0.85
3.917    0.92 |10.000    2.54 |16.083    2.12 | 22.17    0.85
4.000    0.92 |10.083    2.54 |16.167    2.12 | 22.25    0.85
4.083    0.92 |10.167    2.54 |16.250    2.12 | 22.33    0.85
4.167    0.92 |10.250    2.54 |16.333    1.27 | 22.42    0.85
4.250    0.92 |10.333    3.24 |16.417    1.27 | 22.50    0.85
4.333    1.13 |10.417    3.24 |16.500    1.27 | 22.58    0.85
4.417    1.13 |10.500    3.24 |16.583    1.27 | 22.67    0.85
4.500    1.13 |10.583    3.24 |16.667    1.27 | 22.75    0.85
4.583    1.13 |10.667    3.24 |16.750    1.27 | 22.83    0.85
4.667    1.13 |10.750    3.24 |16.833    1.27 | 22.92    0.85
4.750    1.13 |10.833    4.37 |16.917    1.27 | 23.00    0.85
4.833    1.13 |10.917    4.37 |17.000    1.27 | 23.08    0.85
4.917    1.13 |11.000    4.37 |17.083    1.27 | 23.17    0.85
5.000    1.13 |11.083    4.37 |17.167    1.27 | 23.25    0.85
5.083    1.13 |11.167    4.37 |17.250    1.27 | 23.33    0.85
5.167    1.13 |11.250    4.37 |17.333    1.27 | 23.42    0.85
5.250    1.13 |11.333    6.77 |17.417    1.27 | 23.50    0.85
5.333    1.13 |11.417    6.77 |17.500    1.27 | 23.58    0.85
5.417    1.13 |11.500    6.77 |17.583    1.27 | 23.67    0.85
5.500    1.13 |11.583    6.77 |17.667    1.27 | 23.75    0.85
5.583    1.13 |11.667    6.77 |17.750    1.27 | 23.83    0.85
5.667    1.13 |11.750    6.77 |17.833    1.27 | 23.92    0.85
5.750    1.13 |11.833   20.88 |17.917    1.27 | 24.00    0.85
5.833    1.13 |11.917   20.88 |18.000    1.27 | 24.08    0.85
5.917    1.13 |12.000   20.88 |18.083    1.27 | 24.17    0.85
6.000    1.13 |12.083   86.33 |18.167    1.27 | 24.25    0.85
6.083    1.13 |12.167   86.34 |18.250    1.27 |
```

```
     Max.Eff.Inten.(mm/hr)=      86.34        34.97
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       3.04 (ii)   13.79 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.27         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.07         0.08          0.137 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.33          12.25
     RUNOFF VOLUME    (mm)=      69.54        18.08          25.18
     TOTAL RAINFALL   (mm)=      70.54        70.54          70.54
     RUNOFF COEFFICIENT   =       0.99         0.26           0.36

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  49.0    Ia = Dep. 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  (  0901)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0207):     2.21   0.137    12.25    25.18
      + ID2= 2 (  0302):     1.49   0.046    12.58    21.64
        ================================================
        ID = 3 (  0901):     3.70   0.161    12.25    23.76

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

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--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.060|
| #of Inlets=    10|
| Total(cms)=   0.6|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.70      0.16     12.25   23.76
     ====================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.70      0.16     12.25   23.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   1.35
|ID= 1 DT= 5.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  10.30
--------------------
                           IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50         0.85
     Dep. Storage     (mm)=       1.00         4.89
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      94.87        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 | 6.167    1.13 |12.250   86.34 | 18.33    1.27
              0.167    0.00 | 6.250    1.13 |12.333   10.17 | 18.42    1.27
              0.250    0.00 | 6.333    1.27 |12.417   10.16 | 18.50    1.27
              0.333    0.78 | 6.417    1.27 |12.500   10.16 | 18.58    1.27
              0.417    0.78 | 6.500    1.27 |12.583   10.16 | 18.67    1.27
              0.500    0.78 | 6.583    1.27 |12.667   10.16 | 18.75    1.27
              0.583    0.78 | 6.667    1.27 |12.750   10.16 | 18.83    1.27
              0.667    0.78 | 6.750    1.27 |12.833    5.22 | 18.92    1.27
              0.750    0.78 | 6.833    1.27 |12.917    5.22 | 19.00    1.27
              0.833    0.78 | 6.917    1.27 |13.000    5.22 | 19.08    1.27
              0.917    0.78 | 7.000    1.27 |13.083    5.22 | 19.17    1.27
              1.000    0.78 | 7.083    1.27 |13.167    5.22 | 19.25    1.27
              1.083    0.78 | 7.167    1.27 |13.250    5.22 | 19.33    1.27
              1.167    0.78 | 7.250    1.27 |13.333    3.81 | 19.42    1.27
              1.250    0.78 | 7.333    1.55 |13.417    3.81 | 19.50    1.27
              1.333    0.78 | 7.417    1.55 |13.500    3.81 | 19.58    1.27
              1.417    0.78 | 7.500    1.55 |13.583    3.81 | 19.67    1.27
              1.500    0.78 | 7.583    1.55 |13.667    3.81 | 19.75    1.27
              1.583    0.78 | 7.667    1.55 |13.750    3.81 | 19.83    1.27
              1.667    0.78 | 7.750    1.55 |13.833    2.96 | 19.92    1.27
              1.750    0.78 | 7.833    1.55 |13.917    2.96 | 20.00    1.27
              1.833    0.78 | 7.917    1.55 |14.000    2.96 | 20.08    1.27
              1.917    0.78 | 8.000    1.55 |14.083    2.96 | 20.17    1.27
              2.000    0.78 | 8.083    1.55 |14.167    2.96 | 20.25    1.27
              2.083    0.78 | 8.167    1.55 |14.250    2.96 | 20.33    0.85
              2.167    0.78 | 8.250    1.55 |14.333    2.12 | 20.42    0.85
              2.250    0.78 | 8.333    1.83 |14.417    2.12 | 20.50    0.85
              2.333    0.92 | 8.417    1.83 |14.500    2.12 | 20.58    0.85
              2.417    0.92 | 8.500    1.83 |14.583    2.12 | 20.67    0.85
              2.500    0.92 | 8.583    1.83 |14.667    2.12 | 20.75    0.85
              2.583    0.92 | 8.667    1.83 |14.750    2.12 | 20.83    0.85
              2.667    0.92 | 8.750    1.83 |14.833    2.12 | 20.92    0.85
              2.750    0.92 | 8.833    1.98 |14.917    2.12 | 21.00    0.85
              2.833    0.92 | 8.917    1.98 |15.000    2.12 | 21.08    0.85
              2.917    0.92 | 9.000    1.98 |15.083    2.12 | 21.17    0.85
              3.000    0.92 | 9.083    1.98 |15.167    2.12 | 21.25    0.85
              3.083    0.92 | 9.167    1.98 |15.250    2.12 | 21.33    0.85
              3.167    0.92 | 9.250    1.98 |15.333    2.12 | 21.42    0.85
              3.250    0.92 | 9.333    2.26 |15.417    2.12 | 21.50    0.85
              3.333    0.92 | 9.417    2.26 |15.500    2.12 | 21.58    0.85
              3.417    0.92 | 9.500    2.26 |15.583    2.12 | 21.67    0.85
              3.500    0.92 | 9.583    2.26 |15.667    2.12 | 21.75    0.85
              3.583    0.92 | 9.667    2.26 |15.750    2.12 | 21.83    0.85
              3.667    0.92 | 9.750    2.26 |15.833    2.12 | 21.92    0.85
              3.750    0.92 | 9.833    2.54 |15.917    2.12 | 22.00    0.85
              3.833    0.92 | 9.917    2.54 |16.000    2.12 | 22.08    0.85
              3.917    0.92 |10.000    2.54 |16.083    2.12 | 22.17    0.85
              4.000    0.92 |10.083    2.54 |16.167    2.12 | 22.25    0.85
              4.083    0.92 |10.167    2.54 |16.250    2.12 | 22.33    0.85
              4.167    0.92 |10.250    2.54 |16.333    1.27 | 22.42    0.85
              4.250    0.92 |10.333    3.24 |16.417    1.27 | 22.50    0.85
              4.333    1.13 |10.417    3.24 |16.500    1.27 | 22.58    0.85
              4.417    1.13 |10.500    3.24 |16.583    1.27 | 22.67    0.85
              4.500    1.13 |10.583    3.24 |16.667    1.27 | 22.75    0.85
              4.583    1.13 |10.667    3.24 |16.750    1.27 | 22.83    0.85
              4.667    1.13 |10.750    3.24 |16.833    1.27 | 22.92    0.85
              4.750    1.13 |10.833    4.37 |16.917    1.27 | 23.00    0.85
              4.833    1.13 |10.917    4.37 |17.000    1.27 | 23.08    0.85
              4.917    1.13 |11.000    4.37 |17.083    1.27 | 23.17    0.85
              5.000    1.13 |11.083    4.37 |17.167    1.27 | 23.25    0.85
              5.083    1.13 |11.167    4.37 |17.250    1.27 | 23.33    0.85
              5.167    1.13 |11.250    4.37 |17.333    1.27 | 23.42    0.85
              5.250    1.13 |11.333    6.77 |17.417    1.27 | 23.50    0.85
              5.333    1.13 |11.417    6.77 |17.500    1.27 | 23.58    0.85
              5.417    1.13 |11.500    6.77 |17.583    1.27 | 23.67    0.85
              5.500    1.13 |11.583    6.77 |17.667    1.27 | 23.75    0.85
              5.583    1.13 |11.667    6.77 |17.750    1.27 | 23.83    0.85
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               5.667    1.13 |11.750    6.77 |17.833    1.27 | 23.92    0.85
               5.750    1.13 |11.833   20.88 |17.917    1.27 | 24.00    0.85
               5.833    1.13 |11.917   20.88 |18.000    1.27 | 24.08    0.85
               5.917    1.13 |12.000   20.88 |18.083    1.27 | 24.17    0.85
               6.000    1.13 |12.083   86.33 |18.167    1.27 | 24.25    0.85
               6.083    1.13 |12.167   86.34 |18.250    1.27 |

     Max.Eff.Inten.(mm/hr)=      86.34        37.07
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       2.63 (ii)   13.12 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.29         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.05          0.079 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.33          12.25
     RUNOFF VOLUME    (mm)=      69.54        19.48          24.63
     TOTAL RAINFALL   (mm)=      70.54        70.54          70.54
     RUNOFF COEFFICIENT   =       0.99         0.28           0.35

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.1    Ia = Dep. 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  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
        ID1= 1 (  0203):     1.35   0.079    12.25    24.63
      + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
        ================================================
        ID = 3 (  0902):     1.35   0.079    12.25    24.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
================================================================================
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       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       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 6.1\VO2\voin.dat

  Output  filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\a1
cb4835-1040-4027-a53d-b66310c028de\s
  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\a1
cb4835-1040-4027-a53d-b66310c028de\s


DATE: 02/21/2023                          TIME: 10:27:05

USER:


COMMENTS: _____________________________________________________


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  ***********************************************
  ** SIMULATION : 10yr 24hr 15min SCS           **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\elundquist\AppD
|                  |              ata\Local\Temp\
|                  |              bbcbcfd5-9651-44f5-bd72-3bbeb48ecd1a\eae9f686
| Ptotal= 81.99 mm |    Comments: 10yr 24hr 15min SCS
--------------------
                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    1.48 | 12.75   11.81 | 19.00    1.48
```

0.50	0.90	6.75	1.48	13.00	6.07	19.25	1.48
0.75	0.90	7.00	1.48	13.25	6.07	19.50	1.48
1.00	0.90	7.25	1.48	13.50	4.43	19.75	1.48
1.25	0.90	7.50	1.80	13.75	4.43	20.00	1.48
1.50	0.90	7.75	1.80	14.00	3.44	20.25	1.48
1.75	0.90	8.00	1.80	14.25	3.44	20.50	0.98
2.00	0.90	8.25	1.80	14.50	2.46	20.75	0.98
2.25	0.90	8.50	2.13	14.75	2.46	21.00	0.98
2.50	1.07	8.75	2.13	15.00	2.46	21.25	0.98
2.75	1.07	9.00	2.30	15.25	2.46	21.50	0.98
3.00	1.07	9.25	2.30	15.50	2.46	21.75	0.98
3.25	1.07	9.50	2.62	15.75	2.46	22.00	0.98
3.50	1.07	9.75	2.62	16.00	2.46	22.25	0.98
3.75	1.07	10.00	2.95	16.25	2.46	22.50	0.98
4.00	1.07	10.25	2.95	16.50	1.48	22.75	0.98
4.25	1.07	10.50	3.77	16.75	1.48	23.00	0.98
4.50	1.31	10.75	3.77	17.00	1.48	23.25	0.98
4.75	1.31	11.00	5.08	17.25	1.48	23.50	0.98
5.00	1.31	11.25	5.08	17.50	1.48	23.75	0.98
5.25	1.31	11.50	7.87	17.75	1.48	24.00	0.98
5.50	1.31	11.75	7.87	18.00	1.48	24.25	0.98
5.75	1.31	12.00	24.27	18.25	1.48		
6.00	1.31	12.25	100.36	18.50	1.48		
6.25	1.31	12.50	11.81	18.75	1.48		

CALIB			
NASHYD (0301)	Area (ha)=	1.72	Curve Number (CN)= 55.6
ID= 1 DT= 5.0 min	Ia (mm)=	4.61	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.18	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.31	12.250	100.36	18.33	1.48
0.167	0.00	6.250	1.31	12.333	11.82	18.42	1.48
0.250	0.00	6.333	1.48	12.417	11.81	18.50	1.48
0.333	0.90	6.417	1.48	12.500	11.81	18.58	1.48
0.417	0.90	6.500	1.48	12.583	11.81	18.67	1.48
0.500	0.90	6.583	1.48	12.667	11.81	18.75	1.48
0.583	0.90	6.667	1.48	12.750	11.81	18.83	1.48
0.667	0.90	6.750	1.48	12.833	6.07	18.92	1.48
0.750	0.90	6.833	1.48	12.917	6.07	19.00	1.48
0.833	0.90	6.917	1.48	13.000	6.07	19.08	1.48
0.917	0.90	7.000	1.48	13.083	6.07	19.17	1.48
1.000	0.90	7.083	1.48	13.167	6.07	19.25	1.48
1.083	0.90	7.167	1.48	13.250	6.07	19.33	1.48
1.167	0.90	7.250	1.48	13.333	4.43	19.42	1.48
1.250	0.90	7.333	1.80	13.417	4.43	19.50	1.48
1.333	0.90	7.417	1.80	13.500	4.43	19.58	1.48
1.417	0.90	7.500	1.80	13.583	4.43	19.67	1.48
1.500	0.90	7.583	1.80	13.667	4.43	19.75	1.48
1.583	0.90	7.667	1.80	13.750	4.43	19.83	1.48
1.667	0.90	7.750	1.80	13.833	3.44	19.92	1.48
1.750	0.90	7.833	1.80	13.917	3.44	20.00	1.48
1.833	0.90	7.917	1.80	14.000	3.44	20.08	1.48
1.917	0.90	8.000	1.80	14.083	3.44	20.17	1.48
2.000	0.90	8.083	1.80	14.167	3.44	20.25	1.48
2.083	0.90	8.167	1.80	14.250	3.44	20.33	0.98
2.167	0.90	8.250	1.80	14.333	2.46	20.42	0.98
2.250	0.90	8.333	2.13	14.417	2.46	20.50	0.98
2.333	1.07	8.417	2.13	14.500	2.46	20.58	0.98
2.417	1.07	8.500	2.13	14.583	2.46	20.67	0.98
2.500	1.07	8.583	2.13	14.667	2.46	20.75	0.98
2.583	1.07	8.667	2.13	14.750	2.46	20.83	0.98
2.667	1.07	8.750	2.13	14.833	2.46	20.92	0.98
2.750	1.07	8.833	2.30	14.917	2.46	21.00	0.98
2.833	1.07	8.917	2.30	15.000	2.46	21.08	0.98
2.917	1.07	9.000	2.30	15.083	2.46	21.17	0.98
3.000	1.07	9.083	2.30	15.167	2.46	21.25	0.98
3.083	1.07	9.167	2.30	15.250	2.46	21.33	0.98
3.167	1.07	9.250	2.30	15.333	2.46	21.42	0.98
3.250	1.07	9.333	2.62	15.417	2.46	21.50	0.98
3.333	1.07	9.417	2.62	15.500	2.46	21.58	0.98
3.417	1.07	9.500	2.62	15.583	2.46	21.67	0.98
3.500	1.07	9.583	2.62	15.667	2.46	21.75	0.98
3.583	1.07	9.667	2.62	15.750	2.46	21.83	0.98
3.667	1.07	9.750	2.62	15.833	2.46	21.92	0.98
3.750	1.07	9.833	2.95	15.917	2.46	22.00	0.98
3.833	1.07	9.917	2.95	16.000	2.46	22.08	0.98
3.917	1.07	10.000	2.95	16.083	2.46	22.17	0.98
4.000	1.07	10.083	2.95	16.167	2.46	22.25	0.98
4.083	1.07	10.167	2.95	16.250	2.46	22.33	0.98
4.167	1.07	10.250	2.95	16.333	1.48	22.42	0.98
4.250	1.07	10.333	3.77	16.417	1.48	22.50	0.98
4.333	1.31	10.417	3.77	16.500	1.48	22.58	0.98
4.417	1.31	10.500	3.77	16.583	1.48	22.67	0.98
4.500	1.31	10.583	3.77	16.667	1.48	22.75	0.98
4.583	1.31	10.667	3.77	16.750	1.48	22.83	0.98
4.667	1.31	10.750	3.77	16.833	1.48	22.92	0.98
4.750	1.31	10.833	5.08	16.917	1.48	23.00	0.98
4.833	1.31	10.917	5.08	17.000	1.48	23.08	0.98
4.917	1.31	11.000	5.08	17.083	1.48	23.17	0.98
5.000	1.31	11.083	5.08	17.167	1.48	23.25	0.98
5.083	1.31	11.167	5.08	17.250	1.48	23.33	0.98

5.167	1.31	11.250	5.08	17.333	1.48	23.42	0.98
5.250	1.31	11.333	7.87	17.417	1.48	23.50	0.98
5.333	1.31	11.417	7.87	17.500	1.48	23.58	0.98
5.417	1.31	11.500	7.87	17.583	1.48	23.67	0.98
5.500	1.31	11.583	7.87	17.667	1.48	23.75	0.98
5.583	1.31	11.667	7.87	17.750	1.48	23.83	0.98
5.667	1.31	11.750	7.87	17.833	1.48	23.92	0.98
5.750	1.31	11.833	24.27	17.917	1.48	24.00	0.98
5.833	1.31	11.917	24.27	18.000	1.48	24.08	0.98
5.917	1.31	12.000	24.27	18.083	1.48	24.17	0.98
6.000	1.31	12.083	100.35	18.167	1.48	24.25	0.98
6.083	1.31	12.167	100.36	18.250	1.48		

Unit Hyd Qpeak (cms)= 0.365

PEAK FLOW (cms)= 0.095 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 21.307
TOTAL RAINFALL (mm)= 81.990
RUNOFF COEFFICIENT = 0.260

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

CALIB	
STANDHYD (0208)	Area (ha)= 6.40
ID= 1 DT= 5.0 min	Total Imp(%)= 51.70 Dir. Conn.(%)= 26.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.31	3.09
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	206.56	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	1.31	12.250	100.36	18.33	1.48
0.167	0.00	6.250	1.31	12.333	11.82	18.42	1.48
0.250	0.00	6.333	1.48	12.417	11.81	18.50	1.48
0.333	0.90	6.417	1.48	12.500	11.81	18.58	1.48
0.417	0.90	6.500	1.48	12.583	11.81	18.67	1.48
0.500	0.90	6.583	1.48	12.667	11.81	18.75	1.48
0.583	0.90	6.667	1.48	12.750	11.81	18.83	1.48
0.667	0.90	6.750	1.48	12.833	6.07	18.92	1.48
0.750	0.90	6.833	1.48	12.917	6.07	19.00	1.48
0.833	0.90	6.917	1.48	13.000	6.07	19.08	1.48
0.917	0.90	7.000	1.48	13.083	6.07	19.17	1.48
1.000	0.90	7.083	1.48	13.167	6.07	19.25	1.48
1.083	0.90	7.167	1.48	13.250	6.07	19.33	1.48
1.167	0.90	7.250	1.48	13.333	4.43	19.42	1.48
1.250	0.90	7.333	1.80	13.417	4.43	19.50	1.48
1.333	0.90	7.417	1.80	13.500	4.43	19.58	1.48
1.417	0.90	7.500	1.80	13.583	4.43	19.67	1.48
1.500	0.90	7.583	1.80	13.667	4.43	19.75	1.48
1.583	0.90	7.667	1.80	13.750	4.43	19.83	1.48
1.667	0.90	7.750	1.80	13.833	3.44	19.92	1.48
1.750	0.90	7.833	1.80	13.917	3.44	20.00	1.48
1.833	0.90	7.917	1.80	14.000	3.44	20.08	1.48
1.917	0.90	8.000	1.80	14.083	3.44	20.17	1.48
2.000	0.90	8.083	1.80	14.167	3.44	20.25	1.48
2.083	0.90	8.167	1.80	14.250	3.44	20.33	0.98
2.167	0.90	8.250	1.80	14.333	2.46	20.42	0.98
2.250	0.90	8.333	2.13	14.417	2.46	20.50	0.98
2.333	1.07	8.417	2.13	14.500	2.46	20.58	0.98
2.417	1.07	8.500	2.13	14.583	2.46	20.67	0.98
2.500	1.07	8.583	2.13	14.667	2.46	20.75	0.98
2.583	1.07	8.667	2.13	14.750	2.46	20.83	0.98
2.667	1.07	8.750	2.13	14.833	2.46	20.92	0.98
2.750	1.07	8.833	2.30	14.917	2.46	21.00	0.98
2.833	1.07	8.917	2.30	15.000	2.46	21.08	0.98
2.917	1.07	9.000	2.30	15.083	2.46	21.17	0.98
3.000	1.07	9.083	2.30	15.167	2.46	21.25	0.98
3.083	1.07	9.167	2.30	15.250	2.46	21.33	0.98
3.167	1.07	9.250	2.30	15.333	2.46	21.42	0.98
3.250	1.07	9.333	2.62	15.417	2.46	21.50	0.98
3.333	1.07	9.417	2.62	15.500	2.46	21.58	0.98
3.417	1.07	9.500	2.62	15.583	2.46	21.67	0.98
3.500	1.07	9.583	2.62	15.667	2.46	21.75	0.98
3.583	1.07	9.667	2.62	15.750	2.46	21.83	0.98
3.667	1.07	9.750	2.62	15.833	2.46	21.92	0.98
3.750	1.07	9.833	2.95	15.917	2.46	22.00	0.98
3.833	1.07	9.917	2.95	16.000	2.46	22.08	0.98
3.917	1.07	10.000	2.95	16.083	2.46	22.17	0.98
4.000	1.07	10.083	2.95	16.167	2.46	22.25	0.98
4.083	1.07	10.167	2.95	16.250	2.46	22.33	0.98
4.167	1.07	10.250	2.95	16.333	1.48	22.42	0.98
4.250	1.07	10.333	3.77	16.417	1.48	22.50	0.98
4.333	1.31	10.417	3.77	16.500	1.48	22.58	0.98
4.417	1.31	10.500	3.77	16.583	1.48	22.67	0.98
4.500	1.31	10.583	3.77	16.667	1.48	22.75	0.98
4.583	1.31	10.667	3.77	16.750	1.48	22.83	0.98
4.667	1.31	10.750	3.77	16.833	1.48	22.92	0.98
4.750	1.31	10.833	5.08	16.917	1.48	23.00	0.98
4.833	1.31	10.917	5.08	17.000	1.48	23.08	0.98

4.917	1.31	11.000	5.08	17.083	1.48	23.17	0.98
5.000	1.31	11.083	5.08	17.167	1.48	23.25	0.98
5.083	1.31	11.167	5.08	17.250	1.48	23.33	0.98
5.167	1.31	11.250	5.08	17.333	1.48	23.42	0.98
5.250	1.31	11.333	7.87	17.417	1.48	23.50	0.98
5.333	1.31	11.417	7.87	17.500	1.48	23.58	0.98
5.417	1.31	11.500	7.87	17.583	1.48	23.67	0.98
5.500	1.31	11.583	7.87	17.667	1.48	23.75	0.98
5.583	1.31	11.667	7.87	17.750	1.48	23.83	0.98
5.667	1.31	11.750	7.87	17.833	1.48	23.92	0.98
5.750	1.31	11.833	24.27	17.917	1.48	24.00	0.98
5.833	1.31	11.917	24.27	18.000	1.48	24.08	0.98
5.917	1.31	12.000	24.27	18.083	1.48	24.17	0.98
6.000	1.31	12.083	100.35	18.167	1.48	24.25	0.98
6.083	1.31	12.167	100.36	18.250	1.48		

Max.Eff.Inten.(mm/hr)=		100.36	54.44	
over (min)		5.00	15.00	
Storage Coeff. (min)=		3.94 (ii)	12.94 (ii)	
Unit Hyd. Tpeak (min)=		5.00	15.00	
Unit Hyd. peak (cms)=		0.24	0.08	
				TOTALS
PEAK FLOW	(cms)=	0.46	0.27	0.688 (iii)
TIME TO PEAK	(hrs)=	12.25	12.33	12.25
RUNOFF VOLUME	(mm)=	80.99	24.59	39.42
TOTAL RAINFALL	(mm)=	81.99	81.99	81.99
RUNOFF COEFFICIENT	=	0.99	0.30	0.48

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB			
STANDHYD (0201)	Area (ha)= 18.69		
ID= 1 DT= 5.0 min	Total Imp(%)= 51.00	Dir. Conn.(%)= 27.00	

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.53	9.16
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	352.99	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	1.31	12.250	100.36	18.33	1.48
0.167	0.00	6.250	1.31	12.333	11.82	18.42	1.48
0.250	0.00	6.333	1.48	12.417	11.81	18.50	1.48
0.333	0.90	6.417	1.48	12.500	11.81	18.58	1.48
0.417	0.90	6.500	1.48	12.583	11.81	18.67	1.48
0.500	0.90	6.583	1.48	12.667	11.81	18.75	1.48
0.583	0.90	6.667	1.48	12.750	11.81	18.83	1.48
0.667	0.90	6.750	1.48	12.833	6.07	18.92	1.48
0.750	0.90	6.833	1.48	12.917	6.07	19.00	1.48
0.833	0.90	6.917	1.48	13.000	6.07	19.08	1.48
0.917	0.90	7.000	1.48	13.083	6.07	19.17	1.48
1.000	0.90	7.083	1.48	13.167	6.07	19.25	1.48
1.083	0.90	7.167	1.48	13.250	6.07	19.33	1.48
1.167	0.90	7.250	1.48	13.333	4.43	19.42	1.48
1.250	0.90	7.333	1.80	13.417	4.43	19.50	1.48
1.333	0.90	7.417	1.80	13.500	4.43	19.58	1.48
1.417	0.90	7.500	1.80	13.583	4.43	19.67	1.48
1.500	0.90	7.583	1.80	13.667	4.43	19.75	1.48
1.583	0.90	7.667	1.80	13.750	4.43	19.83	1.48
1.667	0.90	7.750	1.80	13.833	3.44	19.92	1.48
1.750	0.90	7.833	1.80	13.917	3.44	20.00	1.48
1.833	0.90	7.917	1.80	14.000	3.44	20.08	1.48
1.917	0.90	8.000	1.80	14.083	3.44	20.17	1.48
2.000	0.90	8.083	1.80	14.167	3.44	20.25	1.48
2.083	0.90	8.167	1.80	14.250	3.44	20.33	0.98
2.167	0.90	8.250	1.80	14.333	2.46	20.42	0.98
2.250	0.90	8.333	2.13	14.417	2.46	20.50	0.98
2.333	1.07	8.417	2.13	14.500	2.46	20.58	0.98
2.417	1.07	8.500	2.13	14.583	2.46	20.67	0.98
2.500	1.07	8.583	2.13	14.667	2.46	20.75	0.98
2.583	1.07	8.667	2.13	14.750	2.46	20.83	0.98
2.667	1.07	8.750	2.13	14.833	2.46	20.92	0.98
2.750	1.07	8.833	2.30	14.917	2.46	21.00	0.98
2.833	1.07	8.917	2.30	15.000	2.46	21.08	0.98
2.917	1.07	9.000	2.30	15.083	2.46	21.17	0.98
3.000	1.07	9.083	2.30	15.167	2.46	21.25	0.98
3.083	1.07	9.167	2.30	15.250	2.46	21.33	0.98
3.167	1.07	9.250	2.30	15.333	2.46	21.42	0.98
3.250	1.07	9.333	2.62	15.417	2.46	21.50	0.98
3.333	1.07	9.417	2.62	15.500	2.46	21.58	0.98
3.417	1.07	9.500	2.62	15.583	2.46	21.67	0.98
3.500	1.07	9.583	2.62	15.667	2.46	21.75	0.98
3.583	1.07	9.667	2.62	15.750	2.46	21.83	0.98
3.667	1.07	9.750	2.62	15.833	2.46	21.92	0.98
3.750	1.07	9.833	2.95	15.917	2.46	22.00	0.98

3.833	1.07	9.917	2.95	16.000	2.46	22.08	0.98
3.917	1.07	10.000	2.95	16.083	2.46	22.17	0.98
4.000	1.07	10.083	2.95	16.167	2.46	22.25	0.98
4.083	1.07	10.167	2.95	16.250	2.46	22.33	0.98
4.167	1.07	10.250	2.95	16.333	1.48	22.42	0.98
4.250	1.07	10.333	3.77	16.417	1.48	22.50	0.98
4.333	1.31	10.417	3.77	16.500	1.48	22.58	0.98
4.417	1.31	10.500	3.77	16.583	1.48	22.67	0.98
4.500	1.31	10.583	3.77	16.667	1.48	22.75	0.98
4.583	1.31	10.667	3.77	16.750	1.48	22.83	0.98
4.667	1.31	10.750	3.77	16.833	1.48	22.92	0.98
4.750	1.31	10.833	5.08	16.917	1.48	23.00	0.98
4.833	1.31	10.917	5.08	17.000	1.48	23.08	0.98
4.917	1.31	11.000	5.08	17.083	1.48	23.17	0.98
5.000	1.31	11.083	5.08	17.167	1.48	23.25	0.98
5.083	1.31	11.167	5.08	17.250	1.48	23.33	0.98
5.167	1.31	11.250	5.08	17.333	1.48	23.42	0.98
5.250	1.31	11.333	7.87	17.417	1.48	23.50	0.98
5.333	1.31	11.417	7.87	17.500	1.48	23.58	0.98
5.417	1.31	11.500	7.87	17.583	1.48	23.67	0.98
5.500	1.31	11.583	7.87	17.667	1.48	23.75	0.98
5.583	1.31	11.667	7.87	17.750	1.48	23.83	0.98
5.667	1.31	11.750	7.87	17.833	1.48	23.92	0.98
5.750	1.31	11.833	24.27	17.917	1.48	24.00	0.98
5.833	1.31	11.917	24.27	18.000	1.48	24.08	0.98
5.917	1.31	12.000	24.27	18.083	1.48	24.17	0.98
6.000	1.31	12.083	100.35	18.167	1.48	24.25	0.98
6.083	1.31	12.167	100.36	18.250	1.48		

Max.Eff.Inten.(mm/hr)=	100.36	52.18	
over (min)	5.00	15.00	
Storage Coeff. (min)=	5.44 (ii)	14.59 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.20	0.08	
			TOTALS
PEAK FLOW (cms)=	1.34	0.72	1.940 (iii)
TIME TO PEAK (hrs)=	12.25	12.33	12.25
RUNOFF VOLUME (mm)=	80.99	24.15	39.49
TOTAL RAINFALL (mm)=	81.99	81.99	81.99
RUNOFF COEFFICIENT =	0.99	0.29	0.48

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. 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 (0904)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0201):	18.69	1.940	12.25	39.49
+ ID2= 2 (0208):	6.40	0.688	12.25	39.42
ID = 3 (0904):	25.09	2.628	12.25	39.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0904)				
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0904):	25.09	2.628	12.25	39.47
+ ID2= 2 (0301):	1.72	0.095	12.33	21.31
ID = 1 (0904):	26.81	2.719	12.25	38.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0401) | OVERFLOW IS OFF
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
0.0000	0.0000	0.8060	0.3760
0.0080	0.0310	1.3400	0.4210
0.0170	0.0630	2.0150	0.4680
0.0230	0.0970	2.1780	0.6190
0.0280	0.1330	2.4650	0.7250
0.0320	0.1700	3.1360	0.7810
0.0360	0.2080	4.2010	0.8390
0.0390	0.2480	4.8940	0.8680
0.1590	0.2890	6.6200	0.9280
0.4120	0.3320	8.8340	0.9890

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0904)	26.810	2.719	12.25	38.31
OUTFLOW: ID= 1 (0401)	26.810	1.178	12.50	38.27

PEAK FLOW REDUCTION [Qout/Qin](%)= 43.31
TIME SHIFT OF PEAK FLOW (min)= 15.00
MAXIMUM STORAGE USED (ha.m.)= 0.4082

```
| CALIB            |
| NASHYD   (  0302)|   Area    (ha)=   1.49   Curve Number   (CN)= 66.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.34   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44

        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	1.31	12.250	100.36	18.33	1.48
0.167	0.00	6.250	1.31	12.333	11.82	18.42	1.48
0.250	0.00	6.333	1.48	12.417	11.81	18.50	1.48
0.333	0.90	6.417	1.48	12.500	11.81	18.58	1.48
0.417	0.90	6.500	1.48	12.583	11.81	18.67	1.48
0.500	0.90	6.583	1.48	12.667	11.81	18.75	1.48
0.583	0.90	6.667	1.48	12.750	11.81	18.83	1.48
0.667	0.90	6.750	1.48	12.833	6.07	18.92	1.48
0.750	0.90	6.833	1.48	12.917	6.07	19.00	1.48
0.833	0.90	6.917	1.48	13.000	6.07	19.08	1.48
0.917	0.90	7.000	1.48	13.083	6.07	19.17	1.48
1.000	0.90	7.083	1.48	13.167	6.07	19.25	1.48
1.083	0.90	7.167	1.48	13.250	6.07	19.33	1.48
1.167	0.90	7.250	1.48	13.333	4.43	19.42	1.48
1.250	0.90	7.333	1.80	13.417	4.43	19.50	1.48
1.333	0.90	7.417	1.80	13.500	4.43	19.58	1.48
1.417	0.90	7.500	1.80	13.583	4.43	19.67	1.48
1.500	0.90	7.583	1.80	13.667	4.43	19.75	1.48
1.583	0.90	7.667	1.80	13.750	4.43	19.83	1.48
1.667	0.90	7.750	1.80	13.833	3.44	19.92	1.48
1.750	0.90	7.833	1.80	13.917	3.44	20.00	1.48
1.833	0.90	7.917	1.80	14.000	3.44	20.08	1.48
1.917	0.90	8.000	1.80	14.083	3.44	20.17	1.48
2.000	0.90	8.083	1.80	14.167	3.44	20.25	1.48
2.083	0.90	8.167	1.80	14.250	3.44	20.33	0.98
2.167	0.90	8.250	1.80	14.333	2.46	20.42	0.98
2.250	0.90	8.333	2.13	14.417	2.46	20.50	0.98
2.333	1.07	8.417	2.13	14.500	2.46	20.58	0.98
2.417	1.07	8.500	2.13	14.583	2.46	20.67	0.98
2.500	1.07	8.583	2.13	14.667	2.46	20.75	0.98
2.583	1.07	8.667	2.13	14.750	2.46	20.83	0.98
2.667	1.07	8.750	2.13	14.833	2.46	20.92	0.98
2.750	1.07	8.833	2.30	14.917	2.46	21.00	0.98
2.833	1.07	8.917	2.30	15.000	2.46	21.08	0.98
2.917	1.07	9.000	2.30	15.083	2.46	21.17	0.98
3.000	1.07	9.083	2.30	15.167	2.46	21.25	0.98
3.083	1.07	9.167	2.30	15.250	2.46	21.33	0.98
3.167	1.07	9.250	2.30	15.333	2.46	21.42	0.98
3.250	1.07	9.333	2.62	15.417	2.46	21.50	0.98
3.333	1.07	9.417	2.62	15.500	2.46	21.58	0.98
3.417	1.07	9.500	2.62	15.583	2.46	21.67	0.98
3.500	1.07	9.583	2.62	15.667	2.46	21.75	0.98
3.583	1.07	9.667	2.62	15.750	2.46	21.83	0.98
3.667	1.07	9.750	2.62	15.833	2.46	21.92	0.98
3.750	1.07	9.833	2.95	15.917	2.46	22.00	0.98
3.833	1.07	9.917	2.95	16.000	2.46	22.08	0.98
3.917	1.07	10.000	2.95	16.083	2.46	22.17	0.98
4.000	1.07	10.083	2.95	16.167	2.46	22.25	0.98
4.083	1.07	10.167	2.95	16.250	2.46	22.33	0.98
4.167	1.07	10.250	2.95	16.333	1.48	22.42	0.98
4.250	1.07	10.333	3.77	16.417	1.48	22.50	0.98
4.333	1.31	10.417	3.77	16.500	1.48	22.58	0.98
4.417	1.31	10.500	3.77	16.583	1.48	22.67	0.98
4.500	1.31	10.583	3.77	16.667	1.48	22.75	0.98
4.583	1.31	10.667	3.77	16.750	1.48	22.83	0.98
4.667	1.31	10.750	3.77	16.833	1.48	22.92	0.98
4.750	1.31	10.833	5.08	16.917	1.48	23.00	0.98
4.833	1.31	10.917	5.08	17.000	1.48	23.08	0.98
4.917	1.31	11.000	5.08	17.083	1.48	23.17	0.98
5.000	1.31	11.083	5.08	17.167	1.48	23.25	0.98
5.083	1.31	11.167	5.08	17.250	1.48	23.33	0.98
5.167	1.31	11.250	5.08	17.333	1.48	23.42	0.98
5.250	1.31	11.333	7.87	17.417	1.48	23.50	0.98
5.333	1.31	11.417	7.87	17.500	1.48	23.58	0.98
5.417	1.31	11.500	7.87	17.583	1.48	23.67	0.98
5.500	1.31	11.583	7.87	17.667	1.48	23.75	0.98
5.583	1.31	11.667	7.87	17.750	1.48	23.83	0.98
5.667	1.31	11.750	7.87	17.833	1.48	23.92	0.98
5.750	1.31	11.833	24.27	17.917	1.48	24.00	0.98
5.833	1.31	11.917	24.27	18.000	1.48	24.08	0.98
5.917	1.31	12.000	24.27	18.083	1.48	24.17	0.98
6.000	1.31	12.083	100.35	18.167	1.48	24.25	0.98
6.083	1.31	12.167	100.36	18.250	1.48		

```
    Unit Hyd Qpeak  (cms)=   0.129

    PEAK FLOW       (cms)=   0.061 (i)
    TIME TO PEAK    (hrs)=  12.583
    RUNOFF VOLUME    (mm)=  28.344
    TOTAL RAINFALL   (mm)=  81.990
    RUNOFF COEFFICIENT   =   0.346

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

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--------------------
| CALIB            |
| STANDHYD (  0207)|   Area    (ha)=   2.21
|ID= 1 DT= 5.0 min |   Total Imp(%)=  40.70   Dir. Conn.(%)=  13.80
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		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.90	1.31
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	121.38	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	1.31	12.250	100.36	18.33	1.48
0.167	0.00	6.250	1.31	12.333	11.82	18.42	1.48
0.250	0.00	6.333	1.48	12.417	11.81	18.50	1.48
0.333	0.90	6.417	1.48	12.500	11.81	18.58	1.48
0.417	0.90	6.500	1.48	12.583	11.81	18.67	1.48
0.500	0.90	6.583	1.48	12.667	11.81	18.75	1.48
0.583	0.90	6.667	1.48	12.750	11.81	18.83	1.48
0.667	0.90	6.750	1.48	12.833	6.07	18.92	1.48
0.750	0.90	6.833	1.48	12.917	6.07	19.00	1.48
0.833	0.90	6.917	1.48	13.000	6.07	19.08	1.48
0.917	0.90	7.000	1.48	13.083	6.07	19.17	1.48
1.000	0.90	7.083	1.48	13.167	6.07	19.25	1.48
1.083	0.90	7.167	1.48	13.250	6.07	19.33	1.48
1.167	0.90	7.250	1.48	13.333	4.43	19.42	1.48
1.250	0.90	7.333	1.80	13.417	4.43	19.50	1.48
1.333	0.90	7.417	1.80	13.500	4.43	19.58	1.48
1.417	0.90	7.500	1.80	13.583	4.43	19.67	1.48
1.500	0.90	7.583	1.80	13.667	4.43	19.75	1.48
1.583	0.90	7.667	1.80	13.750	4.43	19.83	1.48
1.667	0.90	7.750	1.80	13.833	3.44	19.92	1.48
1.750	0.90	7.833	1.80	13.917	3.44	20.00	1.48
1.833	0.90	7.917	1.80	14.000	3.44	20.08	1.48
1.917	0.90	8.000	1.80	14.083	3.44	20.17	1.48
2.000	0.90	8.083	1.80	14.167	3.44	20.25	1.48
2.083	0.90	8.167	1.80	14.250	3.44	20.33	0.98
2.167	0.90	8.250	1.80	14.333	2.46	20.42	0.98
2.250	0.90	8.333	2.13	14.417	2.46	20.50	0.98
2.333	1.07	8.417	2.13	14.500	2.46	20.58	0.98
2.417	1.07	8.500	2.13	14.583	2.46	20.67	0.98
2.500	1.07	8.583	2.13	14.667	2.46	20.75	0.98
2.583	1.07	8.667	2.13	14.750	2.46	20.83	0.98
2.667	1.07	8.750	2.13	14.833	2.46	20.92	0.98
2.750	1.07	8.833	2.30	14.917	2.46	21.00	0.98
2.833	1.07	8.917	2.30	15.000	2.46	21.08	0.98
2.917	1.07	9.000	2.30	15.083	2.46	21.17	0.98
3.000	1.07	9.083	2.30	15.167	2.46	21.25	0.98
3.083	1.07	9.167	2.30	15.250	2.46	21.33	0.98
3.167	1.07	9.250	2.30	15.333	2.46	21.42	0.98
3.250	1.07	9.333	2.62	15.417	2.46	21.50	0.98
3.333	1.07	9.417	2.62	15.500	2.46	21.58	0.98
3.417	1.07	9.500	2.62	15.583	2.46	21.67	0.98
3.500	1.07	9.583	2.62	15.667	2.46	21.75	0.98
3.583	1.07	9.667	2.62	15.750	2.46	21.83	0.98
3.667	1.07	9.750	2.62	15.833	2.46	21.92	0.98
3.750	1.07	9.833	2.95	15.917	2.46	22.00	0.98
3.833	1.07	9.917	2.95	16.000	2.46	22.08	0.98
3.917	1.07	10.000	2.95	16.083	2.46	22.17	0.98
4.000	1.07	10.083	2.95	16.167	2.46	22.25	0.98
4.083	1.07	10.167	2.95	16.250	2.46	22.33	0.98
4.167	1.07	10.250	2.95	16.333	1.48	22.42	0.98
4.250	1.07	10.333	3.77	16.417	1.48	22.50	0.98
4.333	1.31	10.417	3.77	16.500	1.48	22.58	0.98
4.417	1.31	10.500	3.77	16.583	1.48	22.67	0.98
4.500	1.31	10.583	3.77	16.667	1.48	22.75	0.98
4.583	1.31	10.667	3.77	16.750	1.48	22.83	0.98
4.667	1.31	10.750	3.77	16.833	1.48	22.92	0.98
4.750	1.31	10.833	5.08	16.917	1.48	23.00	0.98
4.833	1.31	10.917	5.08	17.000	1.48	23.08	0.98
4.917	1.31	11.000	5.08	17.083	1.48	23.17	0.98
5.000	1.31	11.083	5.08	17.167	1.48	23.25	0.98
5.083	1.31	11.167	5.08	17.250	1.48	23.33	0.98
5.167	1.31	11.250	5.08	17.333	1.48	23.42	0.98
5.250	1.31	11.333	7.87	17.417	1.48	23.50	0.98
5.333	1.31	11.417	7.87	17.500	1.48	23.58	0.98
5.417	1.31	11.500	7.87	17.583	1.48	23.67	0.98
5.500	1.31	11.583	7.87	17.667	1.48	23.75	0.98
5.583	1.31	11.667	7.87	17.750	1.48	23.83	0.98
5.667	1.31	11.750	7.87	17.833	1.48	23.92	0.98
5.750	1.31	11.833	24.27	17.917	1.48	24.00	0.98
5.833	1.31	11.917	24.27	18.000	1.48	24.08	0.98
5.917	1.31	12.000	24.27	18.083	1.48	24.17	0.98
6.000	1.31	12.083	100.35	18.167	1.48	24.25	0.98
6.083	1.31	12.167	100.36	18.250	1.48		

Max.Eff.Inten.	(mm/hr)=	100.36	49.95	
over	(min)	5.00	15.00	
Storage Coeff.	(min)=	2.87 (ii)	12.18 (ii)	
Unit Hyd. Tpeak	(min)=	5.00	15.00	
Unit Hyd. peak	(cms)=	0.28	0.09	
				TOTALS
PEAK FLOW	(cms)=	0.08	0.11	0.175 (iii)
TIME TO PEAK	(hrs)=	12.25	12.33	12.25
RUNOFF VOLUME	(mm)=	80.99	23.69	31.60
TOTAL RAINFALL	(mm)=	81.99	81.99	81.99
RUNOFF COEFFICIENT	=	0.99	0.29	0.39

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. 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 (0901)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0207):	2.21	0.175	12.25	31.60	
+ ID2= 2 (0302):	1.49	0.061	12.58	28.34	
ID = 3 (0901):	3.70	0.208	12.25	30.29	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0802)					
Inlet Cap.= 0.060					
#of Inlets= 10					
Total(cms)= 0.6	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
TOTAL HYD.(ID= 1):	3.70	0.21	12.25	30.29	
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00	
MINOR SYS.(ID= 3):	3.70	0.21	12.25	30.29	

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0203)		Area (ha)= 1.35		
ID= 1 DT= 5.0 min		Total Imp(%)= 37.00	Dir. Conn.(%)= 10.30	
		IMPERVIOUS	PERVIOUS (i)	
Surface Area	(ha)=	0.50	0.85	
Dep. Storage	(mm)=	1.00	4.89	
Average Slope	(%)=	1.00	2.00	
Length	(m)=	94.87	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	1.31	12.250	100.36	18.33	1.48
0.167	0.00	6.250	1.31	12.333	11.82	18.42	1.48
0.250	0.00	6.333	1.48	12.417	11.81	18.50	1.48
0.333	0.90	6.417	1.48	12.500	11.81	18.58	1.48
0.417	0.90	6.500	1.48	12.583	11.81	18.67	1.48
0.500	0.90	6.583	1.48	12.667	11.81	18.75	1.48
0.583	0.90	6.667	1.48	12.750	11.81	18.83	1.48
0.667	0.90	6.750	1.48	12.833	6.07	18.92	1.48
0.750	0.90	6.833	1.48	12.917	6.07	19.00	1.48
0.833	0.90	6.917	1.48	13.000	6.07	19.08	1.48
0.917	0.90	7.000	1.48	13.083	6.07	19.17	1.48
1.000	0.90	7.083	1.48	13.167	6.07	19.25	1.48
1.083	0.90	7.167	1.48	13.250	6.07	19.33	1.48
1.167	0.90	7.250	1.48	13.333	4.43	19.42	1.48
1.250	0.90	7.333	1.80	13.417	4.43	19.50	1.48
1.333	0.90	7.417	1.80	13.500	4.43	19.58	1.48
1.417	0.90	7.500	1.80	13.583	4.43	19.67	1.48
1.500	0.90	7.583	1.80	13.667	4.43	19.75	1.48
1.583	0.90	7.667	1.80	13.750	4.43	19.83	1.48
1.667	0.90	7.750	1.80	13.833	3.44	19.92	1.48
1.750	0.90	7.833	1.80	13.917	3.44	20.00	1.48
1.833	0.90	7.917	1.80	14.000	3.44	20.08	1.48
1.917	0.90	8.000	1.80	14.083	3.44	20.17	1.48
2.000	0.90	8.083	1.80	14.167	3.44	20.25	1.48
2.083	0.90	8.167	1.80	14.250	3.44	20.33	0.98
2.167	0.90	8.250	1.80	14.333	2.46	20.42	0.98
2.250	0.90	8.333	2.13	14.417	2.46	20.50	0.98
2.333	1.07	8.417	2.13	14.500	2.46	20.58	0.98
2.417	1.07	8.500	2.13	14.583	2.46	20.67	0.98
2.500	1.07	8.583	2.13	14.667	2.46	20.75	0.98
2.583	1.07	8.667	2.13	14.750	2.46	20.83	0.98
2.667	1.07	8.750	2.13	14.833	2.46	20.92	0.98
2.750	1.07	8.833	2.30	14.917	2.46	21.00	0.98
2.833	1.07	8.917	2.30	15.000	2.46	21.08	0.98
2.917	1.07	9.000	2.30	15.083	2.46	21.17	0.98
3.000	1.07	9.083	2.30	15.167	2.46	21.25	0.98
3.083	1.07	9.167	2.30	15.250	2.46	21.33	0.98
3.167	1.07	9.250	2.30	15.333	2.46	21.42	0.98
3.250	1.07	9.333	2.62	15.417	2.46	21.50	0.98
3.333	1.07	9.417	2.62	15.500	2.46	21.58	0.98
3.417	1.07	9.500	2.62	15.583	2.46	21.67	0.98
3.500	1.07	9.583	2.62	15.667	2.46	21.75	0.98
3.583	1.07	9.667	2.62	15.750	2.46	21.83	0.98
3.667	1.07	9.750	2.62	15.833	2.46	21.92	0.98
3.750	1.07	9.833	2.95	15.917	2.46	22.00	0.98

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   3.833    1.07 |  9.917    2.95 |16.000    2.46 |  22.08    0.98
   3.917    1.07 |10.000    2.95 |16.083    2.46 |  22.17    0.98
   4.000    1.07 |10.083    2.95 |16.167    2.46 |  22.25    0.98
   4.083    1.07 |10.167    2.95 |16.250    2.46 |  22.33    0.98
   4.167    1.07 |10.250    2.95 |16.333    1.48 |  22.42    0.98
   4.250    1.07 |10.333    3.77 |16.417    1.48 |  22.50    0.98
   4.333    1.31 |10.417    3.77 |16.500    1.48 |  22.58    0.98
   4.417    1.31 |10.500    3.77 |16.583    1.48 |  22.67    0.98
   4.500    1.31 |10.583    3.77 |16.667    1.48 |  22.75    0.98
   4.583    1.31 |10.667    3.77 |16.750    1.48 |  22.83    0.98
   4.667    1.31 |10.750    3.77 |16.833    1.48 |  22.92    0.98
   4.750    1.31 |10.833    5.08 |16.917    1.48 |  23.00    0.98
   4.833    1.31 |10.917    5.08 |17.000    1.48 |  23.08    0.98
   4.917    1.31 |11.000    5.08 |17.083    1.48 |  23.17    0.98
   5.000    1.31 |11.083    5.08 |17.167    1.48 |  23.25    0.98
   5.083    1.31 |11.167    5.08 |17.250    1.48 |  23.33    0.98
   5.167    1.31 |11.250    5.08 |17.333    1.48 |  23.42    0.98
   5.250    1.31 |11.333    7.87 |17.417    1.48 |  23.50    0.98
   5.333    1.31 |11.417    7.87 |17.500    1.48 |  23.58    0.98
   5.417    1.31 |11.500    7.87 |17.583    1.48 |  23.67    0.98
   5.500    1.31 |11.583    7.87 |17.667    1.48 |  23.75    0.98
   5.583    1.31 |11.667    7.87 |17.750    1.48 |  23.83    0.98
   5.667    1.31 |11.750    7.87 |17.833    1.48 |  23.92    0.98
   5.750    1.31 |11.833   24.27 |17.917    1.48 |  24.00    0.98
   5.833    1.31 |11.917   24.27 |18.000    1.48 |  24.08    0.98
   5.917    1.31 |12.000   24.27 |18.083    1.48 |  24.17    0.98
   6.000    1.31 |12.083  100.35 |18.167    1.48 |  24.25    0.98
   6.083    1.31 |12.167  100.36 |18.250    1.48 |

 Max.Eff.Inten.(mm/hr)=     100.36        52.67
           over (min)          5.00        15.00
 Storage Coeff.  (min)=       2.47 (ii)   11.59 (ii)
 Unit Hyd. Tpeak (min)=       5.00        15.00
 Unit Hyd. peak  (cms)=       0.29         0.09
                                                  *TOTALS*
 PEAK FLOW       (cms)=       0.04         0.08      0.103 (iii)
 TIME TO PEAK    (hrs)=      12.25        12.33        12.25
 RUNOFF VOLUME    (mm)=      80.99        25.44        31.16
 TOTAL RAINFALL   (mm)=      81.99        81.99        81.99
 RUNOFF COEFFICIENT   =       0.99         0.31         0.38

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

   (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
        CN*  =  52.1    Ia = Dep. 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  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
       ID1= 1 (  0203):     1.35   0.103    12.25    31.16
     + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
       ================================================
       ID = 3 (  0902):     1.35   0.103    12.25    31.16

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
================================================================================
=======================

      V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
      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 6.1\VO2\voin.dat

  Output  filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\78
190614-cc97-447e-95ae-f41728f84172\s
  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\78
190614-cc97-447e-95ae-f41728f84172\s


DATE: 02/21/2023                          TIME: 10:27:05

USER:
```

COMMENTS: _____

**** SIMULATION : 25yr 24hr 15min SCS **

READ STORM	Filename: C:\Users\elundquist\AppData\Local\Temp\bbcbcfd5-9651-44f5-bd72-3bbeb48ecd1a\bc66ece4
Ptotal= 96.56 mm	Comments: 25yr 24hr 15min SCS

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	1.74	12.75	13.90	19.00	1.74
0.50	1.06	6.75	1.74	13.00	7.15	19.25	1.74
0.75	1.06	7.00	1.74	13.25	7.15	19.50	1.74
1.00	1.06	7.25	1.74	13.50	5.21	19.75	1.74
1.25	1.06	7.50	2.12	13.75	5.21	20.00	1.74
1.50	1.06	7.75	2.12	14.00	4.06	20.25	1.74
1.75	1.06	8.00	2.12	14.25	4.06	20.50	1.16
2.00	1.06	8.25	2.12	14.50	2.90	20.75	1.16
2.25	1.06	8.50	2.51	14.75	2.90	21.00	1.16
2.50	1.26	8.75	2.51	15.00	2.90	21.25	1.16
2.75	1.26	9.00	2.70	15.25	2.90	21.50	1.16
3.00	1.26	9.25	2.70	15.50	2.90	21.75	1.16
3.25	1.26	9.50	3.09	15.75	2.90	22.00	1.16
3.50	1.26	9.75	3.09	16.00	2.90	22.25	1.16
3.75	1.26	10.00	3.48	16.25	2.90	22.50	1.16
4.00	1.26	10.25	3.48	16.50	1.74	22.75	1.16
4.25	1.26	10.50	4.44	16.75	1.74	23.00	1.16
4.50	1.54	10.75	4.44	17.00	1.74	23.25	1.16
4.75	1.54	11.00	5.99	17.25	1.74	23.50	1.16
5.00	1.54	11.25	5.99	17.50	1.74	23.75	1.16
5.25	1.54	11.50	9.27	17.75	1.74	24.00	1.16
5.50	1.54	11.75	9.27	18.00	1.74	24.25	1.16
5.75	1.54	12.00	28.58	18.25	1.74		
6.00	1.54	12.25	118.19	18.50	1.74		
6.25	1.54	12.50	13.90	18.75	1.74		

CALIB			
NASHYD (0301)	Area (ha)=	1.72	Curve Number (CN)= 55.6
ID= 1 DT= 5.0 min	Ia (mm)=	4.61	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)=	0.18	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.54	12.250	118.19	18.33	1.74
0.167	0.00	6.250	1.54	12.333	13.92	18.42	1.74
0.250	0.00	6.333	1.74	12.417	13.90	18.50	1.74
0.333	1.06	6.417	1.74	12.500	13.90	18.58	1.74
0.417	1.06	6.500	1.74	12.583	13.90	18.67	1.74
0.500	1.06	6.583	1.74	12.667	13.90	18.75	1.74
0.583	1.06	6.667	1.74	12.750	13.90	18.83	1.74
0.667	1.06	6.750	1.74	12.833	7.15	18.92	1.74
0.750	1.06	6.833	1.74	12.917	7.15	19.00	1.74
0.833	1.06	6.917	1.74	13.000	7.15	19.08	1.74
0.917	1.06	7.000	1.74	13.083	7.15	19.17	1.74
1.000	1.06	7.083	1.74	13.167	7.15	19.25	1.74
1.083	1.06	7.167	1.74	13.250	7.15	19.33	1.74
1.167	1.06	7.250	1.74	13.333	5.21	19.42	1.74
1.250	1.06	7.333	2.12	13.417	5.21	19.50	1.74
1.333	1.06	7.417	2.12	13.500	5.21	19.58	1.74
1.417	1.06	7.500	2.12	13.583	5.21	19.67	1.74
1.500	1.06	7.583	2.12	13.667	5.21	19.75	1.74
1.583	1.06	7.667	2.12	13.750	5.21	19.83	1.74
1.667	1.06	7.750	2.12	13.833	4.06	19.92	1.74
1.750	1.06	7.833	2.12	13.917	4.06	20.00	1.74
1.833	1.06	7.917	2.12	14.000	4.06	20.08	1.74
1.917	1.06	8.000	2.12	14.083	4.06	20.17	1.74
2.000	1.06	8.083	2.12	14.167	4.06	20.25	1.74
2.083	1.06	8.167	2.12	14.250	4.06	20.33	1.16
2.167	1.06	8.250	2.12	14.333	2.90	20.42	1.16
2.250	1.06	8.333	2.51	14.417	2.90	20.50	1.16
2.333	1.26	8.417	2.51	14.500	2.90	20.58	1.16
2.417	1.26	8.500	2.51	14.583	2.90	20.67	1.16
2.500	1.26	8.583	2.51	14.667	2.90	20.75	1.16
2.583	1.26	8.667	2.51	14.750	2.90	20.83	1.16
2.667	1.26	8.750	2.51	14.833	2.90	20.92	1.16
2.750	1.26	8.833	2.70	14.917	2.90	21.00	1.16
2.833	1.26	8.917	2.70	15.000	2.90	21.08	1.16
2.917	1.26	9.000	2.70	15.083	2.90	21.17	1.16
3.000	1.26	9.083	2.70	15.167	2.90	21.25	1.16
3.083	1.26	9.167	2.70	15.250	2.90	21.33	1.16
3.167	1.26	9.250	2.70	15.333	2.90	21.42	1.16
3.250	1.26	9.333	3.09	15.417	2.90	21.50	1.16

3.333	1.26	9.417	3.09	15.500	2.90	21.58	1.16
3.417	1.26	9.500	3.09	15.583	2.90	21.67	1.16
3.500	1.26	9.583	3.09	15.667	2.90	21.75	1.16
3.583	1.26	9.667	3.09	15.750	2.90	21.83	1.16
3.667	1.26	9.750	3.09	15.833	2.90	21.92	1.16
3.750	1.26	9.833	3.48	15.917	2.90	22.00	1.16
3.833	1.26	9.917	3.48	16.000	2.90	22.08	1.16
3.917	1.26	10.000	3.48	16.083	2.90	22.17	1.16
4.000	1.26	10.083	3.48	16.167	2.90	22.25	1.16
4.083	1.26	10.167	3.48	16.250	2.90	22.33	1.16
4.167	1.26	10.250	3.48	16.333	1.74	22.42	1.16
4.250	1.26	10.333	4.44	16.417	1.74	22.50	1.16
4.333	1.54	10.417	4.44	16.500	1.74	22.58	1.16
4.417	1.54	10.500	4.44	16.583	1.74	22.67	1.16
4.500	1.54	10.583	4.44	16.667	1.74	22.75	1.16
4.583	1.54	10.667	4.44	16.750	1.74	22.83	1.16
4.667	1.54	10.750	4.44	16.833	1.74	22.92	1.16
4.750	1.54	10.833	5.99	16.917	1.74	23.00	1.16
4.833	1.54	10.917	5.99	17.000	1.74	23.08	1.16
4.917	1.54	11.000	5.99	17.083	1.74	23.17	1.16
5.000	1.54	11.083	5.99	17.167	1.74	23.25	1.16
5.083	1.54	11.167	5.99	17.250	1.74	23.33	1.16
5.167	1.54	11.250	5.99	17.333	1.74	23.42	1.16
5.250	1.54	11.333	9.27	17.417	1.74	23.50	1.16
5.333	1.54	11.417	9.27	17.500	1.74	23.58	1.16
5.417	1.54	11.500	9.27	17.583	1.74	23.67	1.16
5.500	1.54	11.583	9.27	17.667	1.74	23.75	1.16
5.583	1.54	11.667	9.27	17.750	1.74	23.83	1.16
5.667	1.54	11.750	9.27	17.833	1.74	23.92	1.16
5.750	1.54	11.833	28.58	17.917	1.74	24.00	1.16
5.833	1.54	11.917	28.58	18.000	1.74	24.08	1.16
5.917	1.54	12.000	28.58	18.083	1.74	24.17	1.16
6.000	1.54	12.083	118.18	18.167	1.74	24.25	1.16
6.083	1.54	12.167	118.19	18.250	1.74		

Unit Hyd Qpeak (cms)= 0.365

PEAK FLOW (cms)= 0.128 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 28.599
TOTAL RAINFALL (mm)= 96.560
RUNOFF COEFFICIENT = 0.296

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

CALIB	
STANDHYD (0208)	Area (ha)= 6.40
ID= 1 DT= 5.0 min	Total Imp(%)= 51.70 Dir. Conn.(%)= 26.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.31	3.09
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	206.56	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	1.54	12.250	118.19	18.33	1.74
0.167	0.00	6.250	1.54	12.333	13.92	18.42	1.74
0.250	0.00	6.333	1.74	12.417	13.90	18.50	1.74
0.333	1.06	6.417	1.74	12.500	13.90	18.58	1.74
0.417	1.06	6.500	1.74	12.583	13.90	18.67	1.74
0.500	1.06	6.583	1.74	12.667	13.90	18.75	1.74
0.583	1.06	6.667	1.74	12.750	13.90	18.83	1.74
0.667	1.06	6.750	1.74	12.833	7.15	18.92	1.74
0.750	1.06	6.833	1.74	12.917	7.15	19.00	1.74
0.833	1.06	6.917	1.74	13.000	7.15	19.08	1.74
0.917	1.06	7.000	1.74	13.083	7.15	19.17	1.74
1.000	1.06	7.083	1.74	13.167	7.15	19.25	1.74
1.083	1.06	7.167	1.74	13.250	7.15	19.33	1.74
1.167	1.06	7.250	1.74	13.333	5.21	19.42	1.74
1.250	1.06	7.333	2.12	13.417	5.21	19.50	1.74
1.333	1.06	7.417	2.12	13.500	5.21	19.58	1.74
1.417	1.06	7.500	2.12	13.583	5.21	19.67	1.74
1.500	1.06	7.583	2.12	13.667	5.21	19.75	1.74
1.583	1.06	7.667	2.12	13.750	5.21	19.83	1.74
1.667	1.06	7.750	2.12	13.833	4.06	19.92	1.74
1.750	1.06	7.833	2.12	13.917	4.06	20.00	1.74
1.833	1.06	7.917	2.12	14.000	4.06	20.08	1.74
1.917	1.06	8.000	2.12	14.083	4.06	20.17	1.74
2.000	1.06	8.083	2.12	14.167	4.06	20.25	1.74
2.083	1.06	8.167	2.12	14.250	4.06	20.33	1.16
2.167	1.06	8.250	2.12	14.333	2.90	20.42	1.16
2.250	1.06	8.333	2.51	14.417	2.90	20.50	1.16
2.333	1.26	8.417	2.51	14.500	2.90	20.58	1.16
2.417	1.26	8.500	2.51	14.583	2.90	20.67	1.16
2.500	1.26	8.583	2.51	14.667	2.90	20.75	1.16
2.583	1.26	8.667	2.51	14.750	2.90	20.83	1.16
2.667	1.26	8.750	2.51	14.833	2.90	20.92	1.16
2.750	1.26	8.833	2.70	14.917	2.90	21.00	1.16
2.833	1.26	8.917	2.70	15.000	2.90	21.08	1.16
2.917	1.26	9.000	2.70	15.083	2.90	21.17	1.16
3.000	1.26	9.083	2.70	15.167	2.90	21.25	1.16

3.083	1.26	9.167	2.70	15.250	2.90	21.33	1.16
3.167	1.26	9.250	2.70	15.333	2.90	21.42	1.16
3.250	1.26	9.333	3.09	15.417	2.90	21.50	1.16
3.333	1.26	9.417	3.09	15.500	2.90	21.58	1.16
3.417	1.26	9.500	3.09	15.583	2.90	21.67	1.16
3.500	1.26	9.583	3.09	15.667	2.90	21.75	1.16
3.583	1.26	9.667	3.09	15.750	2.90	21.83	1.16
3.667	1.26	9.750	3.09	15.833	2.90	21.92	1.16
3.750	1.26	9.833	3.48	15.917	2.90	22.00	1.16
3.833	1.26	9.917	3.48	16.000	2.90	22.08	1.16
3.917	1.26	10.000	3.48	16.083	2.90	22.17	1.16
4.000	1.26	10.083	3.48	16.167	2.90	22.25	1.16
4.083	1.26	10.167	3.48	16.250	2.90	22.33	1.16
4.167	1.26	10.250	3.48	16.333	1.74	22.42	1.16
4.250	1.26	10.333	4.44	16.417	1.74	22.50	1.16
4.333	1.54	10.417	4.44	16.500	1.74	22.58	1.16
4.417	1.54	10.500	4.44	16.583	1.74	22.67	1.16
4.500	1.54	10.583	4.44	16.667	1.74	22.75	1.16
4.583	1.54	10.667	4.44	16.750	1.74	22.83	1.16
4.667	1.54	10.750	4.44	16.833	1.74	22.92	1.16
4.750	1.54	10.833	5.99	16.917	1.74	23.00	1.16
4.833	1.54	10.917	5.99	17.000	1.74	23.08	1.16
4.917	1.54	11.000	5.99	17.083	1.74	23.17	1.16
5.000	1.54	11.083	5.99	17.167	1.74	23.25	1.16
5.083	1.54	11.167	5.99	17.250	1.74	23.33	1.16
5.167	1.54	11.250	5.99	17.333	1.74	23.42	1.16
5.250	1.54	11.333	9.27	17.417	1.74	23.50	1.16
5.333	1.54	11.417	9.27	17.500	1.74	23.58	1.16
5.417	1.54	11.500	9.27	17.583	1.74	23.67	1.16
5.500	1.54	11.583	9.27	17.667	1.74	23.75	1.16
5.583	1.54	11.667	9.27	17.750	1.74	23.83	1.16
5.667	1.54	11.750	9.27	17.833	1.74	23.92	1.16
5.750	1.54	11.833	28.58	17.917	1.74	24.00	1.16
5.833	1.54	11.917	28.58	18.000	1.74	24.08	1.16
5.917	1.54	12.000	28.58	18.083	1.74	24.17	1.16
6.000	1.54	12.083	118.18	18.167	1.74	24.25	1.16
6.083	1.54	12.167	118.19	18.250	1.74		

Max.Eff.Inten.(mm/hr)=	118.19	72.39	
over (min)	5.00	15.00	
Storage Coeff. (min)=	3.69 (ii)	11.72 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.25	0.09	
			TOTALS
PEAK FLOW (cms)=	0.55	0.38	0.865 (iii)
TIME TO PEAK (hrs)=	12.25	12.33	12.25
RUNOFF VOLUME (mm)=	95.56	32.65	49.19
TOTAL RAINFALL (mm)=	96.56	96.56	96.56
RUNOFF COEFFICIENT =	0.99	0.34	0.51

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0201)	Area (ha)= 18.69
ID= 1 DT= 5.0 min	Total Imp(%)= 51.00 Dir. Conn.(%)= 27.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.53	9.16
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	352.99	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	1.54	12.250	118.19	18.33	1.74
0.167	0.00	6.250	1.54	12.333	13.92	18.42	1.74
0.250	0.00	6.333	1.74	12.417	13.90	18.50	1.74
0.333	1.06	6.417	1.74	12.500	13.90	18.58	1.74
0.417	1.06	6.500	1.74	12.583	13.90	18.67	1.74
0.500	1.06	6.583	1.74	12.667	13.90	18.75	1.74
0.583	1.06	6.667	1.74	12.750	13.90	18.83	1.74
0.667	1.06	6.750	1.74	12.833	7.15	18.92	1.74
0.750	1.06	6.833	1.74	12.917	7.15	19.00	1.74
0.833	1.06	6.917	1.74	13.000	7.15	19.08	1.74
0.917	1.06	7.000	1.74	13.083	7.15	19.17	1.74
1.000	1.06	7.083	1.74	13.167	7.15	19.25	1.74
1.083	1.06	7.167	1.74	13.250	7.15	19.33	1.74
1.167	1.06	7.250	1.74	13.333	5.21	19.42	1.74
1.250	1.06	7.333	2.12	13.417	5.21	19.50	1.74
1.333	1.06	7.417	2.12	13.500	5.21	19.58	1.74
1.417	1.06	7.500	2.12	13.583	5.21	19.67	1.74
1.500	1.06	7.583	2.12	13.667	5.21	19.75	1.74
1.583	1.06	7.667	2.12	13.750	5.21	19.83	1.74
1.667	1.06	7.750	2.12	13.833	4.06	19.92	1.74
1.750	1.06	7.833	2.12	13.917	4.06	20.00	1.74
1.833	1.06	7.917	2.12	14.000	4.06	20.08	1.74
1.917	1.06	8.000	2.12	14.083	4.06	20.17	1.74

2.000	1.06	8.083	2.12	14.167	4.06	20.25	1.74
2.083	1.06	8.167	2.12	14.250	4.06	20.33	1.16
2.167	1.06	8.250	2.12	14.333	2.90	20.42	1.16
2.250	1.06	8.333	2.51	14.417	2.90	20.50	1.16
2.333	1.26	8.417	2.51	14.500	2.90	20.58	1.16
2.417	1.26	8.500	2.51	14.583	2.90	20.67	1.16
2.500	1.26	8.583	2.51	14.667	2.90	20.75	1.16
2.583	1.26	8.667	2.51	14.750	2.90	20.83	1.16
2.667	1.26	8.750	2.51	14.833	2.90	20.92	1.16
2.750	1.26	8.833	2.70	14.917	2.90	21.00	1.16
2.833	1.26	8.917	2.70	15.000	2.90	21.08	1.16
2.917	1.26	9.000	2.70	15.083	2.90	21.17	1.16
3.000	1.26	9.083	2.70	15.167	2.90	21.25	1.16
3.083	1.26	9.167	2.70	15.250	2.90	21.33	1.16
3.167	1.26	9.250	2.70	15.333	2.90	21.42	1.16
3.250	1.26	9.333	3.09	15.417	2.90	21.50	1.16
3.333	1.26	9.417	3.09	15.500	2.90	21.58	1.16
3.417	1.26	9.500	3.09	15.583	2.90	21.67	1.16
3.500	1.26	9.583	3.09	15.667	2.90	21.75	1.16
3.583	1.26	9.667	3.09	15.750	2.90	21.83	1.16
3.667	1.26	9.750	3.09	15.833	2.90	21.92	1.16
3.750	1.26	9.833	3.48	15.917	2.90	22.00	1.16
3.833	1.26	9.917	3.48	16.000	2.90	22.08	1.16
3.917	1.26	10.000	3.48	16.083	2.90	22.17	1.16
4.000	1.26	10.083	3.48	16.167	2.90	22.25	1.16
4.083	1.26	10.167	3.48	16.250	2.90	22.33	1.16
4.167	1.26	10.250	3.48	16.333	1.74	22.42	1.16
4.250	1.26	10.333	4.44	16.417	1.74	22.50	1.16
4.333	1.54	10.417	4.44	16.500	1.74	22.58	1.16
4.417	1.54	10.500	4.44	16.583	1.74	22.67	1.16
4.500	1.54	10.583	4.44	16.667	1.74	22.75	1.16
4.583	1.54	10.667	4.44	16.750	1.74	22.83	1.16
4.667	1.54	10.750	4.44	16.833	1.74	22.92	1.16
4.750	1.54	10.833	5.99	16.917	1.74	23.00	1.16
4.833	1.54	10.917	5.99	17.000	1.74	23.08	1.16
4.917	1.54	11.000	5.99	17.083	1.74	23.17	1.16
5.000	1.54	11.083	5.99	17.167	1.74	23.25	1.16
5.083	1.54	11.167	5.99	17.250	1.74	23.33	1.16
5.167	1.54	11.250	5.99	17.333	1.74	23.42	1.16
5.250	1.54	11.333	9.27	17.417	1.74	23.50	1.16
5.333	1.54	11.417	9.27	17.500	1.74	23.58	1.16
5.417	1.54	11.500	9.27	17.583	1.74	23.67	1.16
5.500	1.54	11.583	9.27	17.667	1.74	23.75	1.16
5.583	1.54	11.667	9.27	17.750	1.74	23.83	1.16
5.667	1.54	11.750	9.27	17.833	1.74	23.92	1.16
5.750	1.54	11.833	28.58	17.917	1.74	24.00	1.16
5.833	1.54	11.917	28.58	18.000	1.74	24.08	1.16
5.917	1.54	12.000	28.58	18.083	1.74	24.17	1.16
6.000	1.54	12.083	118.18	18.167	1.74	24.25	1.16
6.083	1.54	12.167	118.19	18.250	1.74		

Max.Eff.Inten.(mm/hr)=	118.19	69.47	
over (min)	5.00	15.00	
Storage Coeff. (min)=	5.09 (ii)	13.26 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.21	0.08	
			TOTALS
PEAK FLOW (cms)=	1.59	1.02	2.443 (iii)
TIME TO PEAK (hrs)=	12.25	12.33	12.25
RUNOFF VOLUME (mm)=	95.56	32.10	49.23
TOTAL RAINFALL (mm)=	96.56	96.56	96.56
RUNOFF COEFFICIENT =	0.99	0.33	0.51

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. 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 (0904)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0201):	18.69	2.443	12.25	49.23
+ ID2= 2 (0208):	6.40	0.865	12.25	49.19
ID = 3 (0904):	25.09	3.308	12.25	49.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0904)
3 + 2 = 1

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0904):	25.09	3.308	12.25	49.22
+ ID2= 2 (0301):	1.72	0.128	12.33	28.60
ID = 1 (0904):	26.81	3.432	12.25	47.90

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0401) OVERFLOW IS OFF
IN= 2---> OUT= 1
DT= 5.0 min

OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)

0.0000	0.0000	0.8060	0.3760	
0.0080	0.0310	1.3400	0.4210	
0.0170	0.0630	2.0150	0.4680	
0.0230	0.0970	2.1780	0.6190	
0.0280	0.1330	2.4650	0.7250	
0.0320	0.1700	3.1360	0.7810	
0.0360	0.2080	4.2010	0.8390	
0.0390	0.2480	4.8940	0.8680	
0.1590	0.2890	6.6200	0.9280	
0.4120	0.3320	8.8340	0.9890	

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0904)	26.810	3.432	12.25	47.90
OUTFLOW: ID= 1 (0401)	26.810	1.859	12.42	47.86

PEAK FLOW REDUCTION [Qout/Qin](%)= 54.17
TIME SHIFT OF PEAK FLOW (min)= 10.00
MAXIMUM STORAGE USED (ha.m.)= 0.4583

CALIB	
NASHYD (0302)	Area (ha)= 1.49 Curve Number (CN)= 66.8
ID= 1 DT= 5.0 min	Ia (mm)= 6.34 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.44

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.54	12.250	118.19	18.33	1.74
0.167	0.00	6.250	1.54	12.333	13.92	18.42	1.74
0.250	0.00	6.333	1.74	12.417	13.90	18.50	1.74
0.333	1.06	6.417	1.74	12.500	13.90	18.58	1.74
0.417	1.06	6.500	1.74	12.583	13.90	18.67	1.74
0.500	1.06	6.583	1.74	12.667	13.90	18.75	1.74
0.583	1.06	6.667	1.74	12.750	13.90	18.83	1.74
0.667	1.06	6.750	1.74	12.833	7.15	18.92	1.74
0.750	1.06	6.833	1.74	12.917	7.15	19.00	1.74
0.833	1.06	6.917	1.74	13.000	7.15	19.08	1.74
0.917	1.06	7.000	1.74	13.083	7.15	19.17	1.74
1.000	1.06	7.083	1.74	13.167	7.15	19.25	1.74
1.083	1.06	7.167	1.74	13.250	7.15	19.33	1.74
1.167	1.06	7.250	1.74	13.333	5.21	19.42	1.74
1.250	1.06	7.333	2.12	13.417	5.21	19.50	1.74
1.333	1.06	7.417	2.12	13.500	5.21	19.58	1.74
1.417	1.06	7.500	2.12	13.583	5.21	19.67	1.74
1.500	1.06	7.583	2.12	13.667	5.21	19.75	1.74
1.583	1.06	7.667	2.12	13.750	5.21	19.83	1.74
1.667	1.06	7.750	2.12	13.833	4.06	19.92	1.74
1.750	1.06	7.833	2.12	13.917	4.06	20.00	1.74
1.833	1.06	7.917	2.12	14.000	4.06	20.08	1.74
1.917	1.06	8.000	2.12	14.083	4.06	20.17	1.74
2.000	1.06	8.083	2.12	14.167	4.06	20.25	1.74
2.083	1.06	8.167	2.12	14.250	4.06	20.33	1.16
2.167	1.06	8.250	2.12	14.333	2.90	20.42	1.16
2.250	1.06	8.333	2.51	14.417	2.90	20.50	1.16
2.333	1.26	8.417	2.51	14.500	2.90	20.58	1.16
2.417	1.26	8.500	2.51	14.583	2.90	20.67	1.16
2.500	1.26	8.583	2.51	14.667	2.90	20.75	1.16
2.583	1.26	8.667	2.51	14.750	2.90	20.83	1.16
2.667	1.26	8.750	2.51	14.833	2.90	20.92	1.16
2.750	1.26	8.833	2.70	14.917	2.90	21.00	1.16
2.833	1.26	8.917	2.70	15.000	2.90	21.08	1.16
2.917	1.26	9.000	2.70	15.083	2.90	21.17	1.16
3.000	1.26	9.083	2.70	15.167	2.90	21.25	1.16
3.083	1.26	9.167	2.70	15.250	2.90	21.33	1.16
3.167	1.26	9.250	2.70	15.333	2.90	21.42	1.16
3.250	1.26	9.333	3.09	15.417	2.90	21.50	1.16
3.333	1.26	9.417	3.09	15.500	2.90	21.58	1.16
3.417	1.26	9.500	3.09	15.583	2.90	21.67	1.16
3.500	1.26	9.583	3.09	15.667	2.90	21.75	1.16
3.583	1.26	9.667	3.09	15.750	2.90	21.83	1.16
3.667	1.26	9.750	3.09	15.833	2.90	21.92	1.16
3.750	1.26	9.833	3.48	15.917	2.90	22.00	1.16
3.833	1.26	9.917	3.48	16.000	2.90	22.08	1.16
3.917	1.26	10.000	3.48	16.083	2.90	22.17	1.16
4.000	1.26	10.083	3.48	16.167	2.90	22.25	1.16
4.083	1.26	10.167	3.48	16.250	2.90	22.33	1.16
4.167	1.26	10.250	3.48	16.333	1.74	22.42	1.16
4.250	1.26	10.333	4.44	16.417	1.74	22.50	1.16
4.333	1.54	10.417	4.44	16.500	1.74	22.58	1.16
4.417	1.54	10.500	4.44	16.583	1.74	22.67	1.16
4.500	1.54	10.583	4.44	16.667	1.74	22.75	1.16
4.583	1.54	10.667	4.44	16.750	1.74	22.83	1.16
4.667	1.54	10.750	4.44	16.833	1.74	22.92	1.16
4.750	1.54	10.833	5.99	16.917	1.74	23.00	1.16
4.833	1.54	10.917	5.99	17.000	1.74	23.08	1.16
4.917	1.54	11.000	5.99	17.083	1.74	23.17	1.16
5.000	1.54	11.083	5.99	17.167	1.74	23.25	1.16
5.083	1.54	11.167	5.99	17.250	1.74	23.33	1.16
5.167	1.54	11.250	5.99	17.333	1.74	23.42	1.16
5.250	1.54	11.333	9.27	17.417	1.74	23.50	1.16
5.333	1.54	11.417	9.27	17.500	1.74	23.58	1.16
5.417	1.54	11.500	9.27	17.583	1.74	23.67	1.16
5.500	1.54	11.583	9.27	17.667	1.74	23.75	1.16
5.583	1.54	11.667	9.27	17.750	1.74	23.83	1.16

5.667	1.54	11.750	9.27	17.833	1.74	23.92	1.16
5.750	1.54	11.833	28.58	17.917	1.74	24.00	1.16
5.833	1.54	11.917	28.58	18.000	1.74	24.08	1.16
5.917	1.54	12.000	28.58	18.083	1.74	24.17	1.16
6.000	1.54	12.083	118.18	18.167	1.74	24.25	1.16
6.083	1.54	12.167	118.19	18.250	1.74		

Unit Hyd Qpeak (cms)= 0.129

PEAK FLOW (cms)= 0.081 (i)
TIME TO PEAK (hrs)= 12.583
RUNOFF VOLUME (mm)= 37.600
TOTAL RAINFALL (mm)= 96.560
RUNOFF COEFFICIENT = 0.389

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

CALIB	
STANDHYD (0207)	Area (ha)= 2.21
ID= 1 DT= 5.0 min	Total Imp(%)= 40.70 Dir. Conn.(%)= 13.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.90	1.31
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	121.38	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	1.54	12.250	118.19	18.33	1.74
0.167	0.00	6.250	1.54	12.333	13.92	18.42	1.74
0.250	0.00	6.333	1.74	12.417	13.90	18.50	1.74
0.333	1.06	6.417	1.74	12.500	13.90	18.58	1.74
0.417	1.06	6.500	1.74	12.583	13.90	18.67	1.74
0.500	1.06	6.583	1.74	12.667	13.90	18.75	1.74
0.583	1.06	6.667	1.74	12.750	13.90	18.83	1.74
0.667	1.06	6.750	1.74	12.833	7.15	18.92	1.74
0.750	1.06	6.833	1.74	12.917	7.15	19.00	1.74
0.833	1.06	6.917	1.74	13.000	7.15	19.08	1.74
0.917	1.06	7.000	1.74	13.083	7.15	19.17	1.74
1.000	1.06	7.083	1.74	13.167	7.15	19.25	1.74
1.083	1.06	7.167	1.74	13.250	7.15	19.33	1.74
1.167	1.06	7.250	1.74	13.333	5.21	19.42	1.74
1.250	1.06	7.333	2.12	13.417	5.21	19.50	1.74
1.333	1.06	7.417	2.12	13.500	5.21	19.58	1.74
1.417	1.06	7.500	2.12	13.583	5.21	19.67	1.74
1.500	1.06	7.583	2.12	13.667	5.21	19.75	1.74
1.583	1.06	7.667	2.12	13.750	5.21	19.83	1.74
1.667	1.06	7.750	2.12	13.833	4.06	19.92	1.74
1.750	1.06	7.833	2.12	13.917	4.06	20.00	1.74
1.833	1.06	7.917	2.12	14.000	4.06	20.08	1.74
1.917	1.06	8.000	2.12	14.083	4.06	20.17	1.74
2.000	1.06	8.083	2.12	14.167	4.06	20.25	1.74
2.083	1.06	8.167	2.12	14.250	4.06	20.33	1.16
2.167	1.06	8.250	2.12	14.333	2.90	20.42	1.16
2.250	1.06	8.333	2.51	14.417	2.90	20.50	1.16
2.333	1.26	8.417	2.51	14.500	2.90	20.58	1.16
2.417	1.26	8.500	2.51	14.583	2.90	20.67	1.16
2.500	1.26	8.583	2.51	14.667	2.90	20.75	1.16
2.583	1.26	8.667	2.51	14.750	2.90	20.83	1.16
2.667	1.26	8.750	2.51	14.833	2.90	20.92	1.16
2.750	1.26	8.833	2.70	14.917	2.90	21.00	1.16
2.833	1.26	8.917	2.70	15.000	2.90	21.08	1.16
2.917	1.26	9.000	2.70	15.083	2.90	21.17	1.16
3.000	1.26	9.083	2.70	15.167	2.90	21.25	1.16
3.083	1.26	9.167	2.70	15.250	2.90	21.33	1.16
3.167	1.26	9.250	2.70	15.333	2.90	21.42	1.16
3.250	1.26	9.333	3.09	15.417	2.90	21.50	1.16
3.333	1.26	9.417	3.09	15.500	2.90	21.58	1.16
3.417	1.26	9.500	3.09	15.583	2.90	21.67	1.16
3.500	1.26	9.583	3.09	15.667	2.90	21.75	1.16
3.583	1.26	9.667	3.09	15.750	2.90	21.83	1.16
3.667	1.26	9.750	3.09	15.833	2.90	21.92	1.16
3.750	1.26	9.833	3.48	15.917	2.90	22.00	1.16
3.833	1.26	9.917	3.48	16.000	2.90	22.08	1.16
3.917	1.26	10.000	3.48	16.083	2.90	22.17	1.16
4.000	1.26	10.083	3.48	16.167	2.90	22.25	1.16
4.083	1.26	10.167	3.48	16.250	2.90	22.33	1.16
4.167	1.26	10.250	3.48	16.333	1.74	22.42	1.16
4.250	1.26	10.333	4.44	16.417	1.74	22.50	1.16
4.333	1.54	10.417	4.44	16.500	1.74	22.58	1.16
4.417	1.54	10.500	4.44	16.583	1.74	22.67	1.16
4.500	1.54	10.583	4.44	16.667	1.74	22.75	1.16
4.583	1.54	10.667	4.44	16.750	1.74	22.83	1.16
4.667	1.54	10.750	4.44	16.833	1.74	22.92	1.16
4.750	1.54	10.833	5.99	16.917	1.74	23.00	1.16
4.833	1.54	10.917	5.99	17.000	1.74	23.08	1.16
4.917	1.54	11.000	5.99	17.083	1.74	23.17	1.16
5.000	1.54	11.083	5.99	17.167	1.74	23.25	1.16
5.083	1.54	11.167	5.99	17.250	1.74	23.33	1.16
5.167	1.54	11.250	5.99	17.333	1.74	23.42	1.16
5.250	1.54	11.333	9.27	17.417	1.74	23.50	1.16
5.333	1.54	11.417	9.27	17.500	1.74	23.58	1.16

5.417	1.54	11.500	9.27	17.583	1.74	23.67	1.16
5.500	1.54	11.583	9.27	17.667	1.74	23.75	1.16
5.583	1.54	11.667	9.27	17.750	1.74	23.83	1.16
5.667	1.54	11.750	9.27	17.833	1.74	23.92	1.16
5.750	1.54	11.833	28.58	17.917	1.74	24.00	1.16
5.833	1.54	11.917	28.58	18.000	1.74	24.08	1.16
5.917	1.54	12.000	28.58	18.083	1.74	24.17	1.16
6.000	1.54	12.083	118.18	18.167	1.74	24.25	1.16
6.083	1.54	12.167	118.19	18.250	1.74		

Max.Eff.Inten.(mm/hr)=	118.19	66.58		
over (min)	5.00	15.00		
Storage Coeff. (min)=	2.68 (ii)	10.99 (ii)		
Unit Hyd. Tpeak (min)=	5.00	15.00		
Unit Hyd. peak (cms)=	0.29	0.09		
			TOTALS	
PEAK FLOW (cms)=	0.10	0.15	0.228 (iii)	
TIME TO PEAK (hrs)=	12.25	12.33	12.25	
RUNOFF VOLUME (mm)=	95.56	31.53	40.37	
TOTAL RAINFALL (mm)=	96.56	96.56	96.56	
RUNOFF COEFFICIENT =	0.99	0.33	0.42	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. 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 (0901)				
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
ID1= 1 (0207):	2.21	0.228	12.25	40.37
+ ID2= 2 (0302):	1.49	0.081	12.58	37.60
ID = 3 (0901):	3.70	0.273	12.25	39.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0802)				
Inlet Cap.= 0.060				
#of Inlets= 10				
Total(cms)= 0.6	AREA	QPEAK	TPEAK	R.V.
	(ha)	(cms)	(hrs)	(mm)
TOTAL HYD.(ID= 1):	3.70	0.27	12.25	39.25
MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
MINOR SYS.(ID= 3):	3.70	0.27	12.25	39.25

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0203)	Area (ha)= 1.35			
ID= 1 DT= 5.0 min	Total Imp(%)= 37.00	Dir. Conn.(%)= 10.30		
	IMPERVIOUS	PERVIOUS (i)		
Surface Area (ha)=	0.50	0.85		
Dep. Storage (mm)=	1.00	4.89		
Average Slope (%)=	1.00	2.00		
Length (m)=	94.87	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	1.54	12.250	118.19	18.33	1.74
0.167	0.00	6.250	1.54	12.333	13.92	18.42	1.74
0.250	0.00	6.333	1.74	12.417	13.90	18.50	1.74
0.333	1.06	6.417	1.74	12.500	13.90	18.58	1.74
0.417	1.06	6.500	1.74	12.583	13.90	18.67	1.74
0.500	1.06	6.583	1.74	12.667	13.90	18.75	1.74
0.583	1.06	6.667	1.74	12.750	13.90	18.83	1.74
0.667	1.06	6.750	1.74	12.833	7.15	18.92	1.74
0.750	1.06	6.833	1.74	12.917	7.15	19.00	1.74
0.833	1.06	6.917	1.74	13.000	7.15	19.08	1.74
0.917	1.06	7.000	1.74	13.083	7.15	19.17	1.74
1.000	1.06	7.083	1.74	13.167	7.15	19.25	1.74
1.083	1.06	7.167	1.74	13.250	7.15	19.33	1.74
1.167	1.06	7.250	1.74	13.333	5.21	19.42	1.74
1.250	1.06	7.333	2.12	13.417	5.21	19.50	1.74
1.333	1.06	7.417	2.12	13.500	5.21	19.58	1.74
1.417	1.06	7.500	2.12	13.583	5.21	19.67	1.74
1.500	1.06	7.583	2.12	13.667	5.21	19.75	1.74
1.583	1.06	7.667	2.12	13.750	5.21	19.83	1.74
1.667	1.06	7.750	2.12	13.833	4.06	19.92	1.74
1.750	1.06	7.833	2.12	13.917	4.06	20.00	1.74
1.833	1.06	7.917	2.12	14.000	4.06	20.08	1.74
1.917	1.06	8.000	2.12	14.083	4.06	20.17	1.74

2.000	1.06	8.083	2.12	14.167	4.06	20.25	1.74
2.083	1.06	8.167	2.12	14.250	4.06	20.33	1.16
2.167	1.06	8.250	2.12	14.333	2.90	20.42	1.16
2.250	1.06	8.333	2.51	14.417	2.90	20.50	1.16
2.333	1.26	8.417	2.51	14.500	2.90	20.58	1.16
2.417	1.26	8.500	2.51	14.583	2.90	20.67	1.16
2.500	1.26	8.583	2.51	14.667	2.90	20.75	1.16
2.583	1.26	8.667	2.51	14.750	2.90	20.83	1.16
2.667	1.26	8.750	2.51	14.833	2.90	20.92	1.16
2.750	1.26	8.833	2.70	14.917	2.90	21.00	1.16
2.833	1.26	8.917	2.70	15.000	2.90	21.08	1.16
2.917	1.26	9.000	2.70	15.083	2.90	21.17	1.16
3.000	1.26	9.083	2.70	15.167	2.90	21.25	1.16
3.083	1.26	9.167	2.70	15.250	2.90	21.33	1.16
3.167	1.26	9.250	2.70	15.333	2.90	21.42	1.16
3.250	1.26	9.333	3.09	15.417	2.90	21.50	1.16
3.333	1.26	9.417	3.09	15.500	2.90	21.58	1.16
3.417	1.26	9.500	3.09	15.583	2.90	21.67	1.16
3.500	1.26	9.583	3.09	15.667	2.90	21.75	1.16
3.583	1.26	9.667	3.09	15.750	2.90	21.83	1.16
3.667	1.26	9.750	3.09	15.833	2.90	21.92	1.16
3.750	1.26	9.833	3.48	15.917	2.90	22.00	1.16
3.833	1.26	9.917	3.48	16.000	2.90	22.08	1.16
3.917	1.26	10.000	3.48	16.083	2.90	22.17	1.16
4.000	1.26	10.083	3.48	16.167	2.90	22.25	1.16
4.083	1.26	10.167	3.48	16.250	2.90	22.33	1.16
4.167	1.26	10.250	3.48	16.333	1.74	22.42	1.16
4.250	1.26	10.333	4.44	16.417	1.74	22.50	1.16
4.333	1.54	10.417	4.44	16.500	1.74	22.58	1.16
4.417	1.54	10.500	4.44	16.583	1.74	22.67	1.16
4.500	1.54	10.583	4.44	16.667	1.74	22.75	1.16
4.583	1.54	10.667	4.44	16.750	1.74	22.83	1.16
4.667	1.54	10.750	4.44	16.833	1.74	22.92	1.16
4.750	1.54	10.833	5.99	16.917	1.74	23.00	1.16
4.833	1.54	10.917	5.99	17.000	1.74	23.08	1.16
4.917	1.54	11.000	5.99	17.083	1.74	23.17	1.16
5.000	1.54	11.083	5.99	17.167	1.74	23.25	1.16
5.083	1.54	11.167	5.99	17.250	1.74	23.33	1.16
5.167	1.54	11.250	5.99	17.333	1.74	23.42	1.16
5.250	1.54	11.333	9.27	17.417	1.74	23.50	1.16
5.333	1.54	11.417	9.27	17.500	1.74	23.58	1.16
5.417	1.54	11.500	9.27	17.583	1.74	23.67	1.16
5.500	1.54	11.583	9.27	17.667	1.74	23.75	1.16
5.583	1.54	11.667	9.27	17.750	1.74	23.83	1.16
5.667	1.54	11.750	9.27	17.833	1.74	23.92	1.16
5.750	1.54	11.833	28.58	17.917	1.74	24.00	1.16
5.833	1.54	11.917	28.58	18.000	1.74	24.08	1.16
5.917	1.54	12.000	28.58	18.083	1.74	24.17	1.16
6.000	1.54	12.083	118.18	18.167	1.74	24.25	1.16
6.083	1.54	12.167	118.19	18.250	1.74		

```
     Max.Eff.Inten.(mm/hr)=     118.19        69.91
                   over (min)        5.00        15.00
     Storage Coeff.  (min)=        2.32 (ii)   10.46 (ii)
     Unit Hyd. Tpeak (min)=        5.00        15.00
     Unit Hyd. peak  (cms)=        0.30         0.09
                                                            *TOTALS*
     PEAK FLOW       (cms)=        0.05         0.11          0.136 (iii)
     TIME TO PEAK    (hrs)=       12.25        12.33         12.25
     RUNOFF VOLUME    (mm)=       95.56        33.73         40.09
     TOTAL RAINFALL   (mm)=       96.56        96.56         96.56
     RUNOFF COEFFICIENT   =        0.99         0.35          0.42

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.1    Ia = Dep. 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  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
       ID1= 1 (  0203):     1.35   0.136    12.25    40.09
     + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
       ================================================
       ID = 3 (  0902):     1.35   0.136    12.25    40.09

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
================================================================================
======================

       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       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 6.1\VO2\voin.dat

  Output  filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\5d
e0d442-9850-4f0d-8499-358da3964eb2\s
  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\5d
e0d442-9850-4f0d-8499-358da3964eb2\s


DATE: 02/21/2023                          TIME: 10:27:05

USER:



COMMENTS: _____________________________________________________________
```

```
  ***********************************************
  ** SIMULATION : 50yr 24hr 15min SCS           **
  ***********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\elundquist\AppD
|                  |              ata\Local\Temp\
|                  |              bbcbcfd5-9651-44f5-bd72-3bbeb48ecd1a\cc188a32
| Ptotal=107.24 mm |    Comments: 50yr 24hr 15min SCS
--------------------
```

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	1.93	12.75	15.44	19.00	1.93
0.50	1.18	6.75	1.93	13.00	7.94	19.25	1.93
0.75	1.18	7.00	1.93	13.25	7.94	19.50	1.93
1.00	1.18	7.25	1.93	13.50	5.79	19.75	1.93
1.25	1.18	7.50	2.36	13.75	5.79	20.00	1.93
1.50	1.18	7.75	2.36	14.00	4.50	20.25	1.93
1.75	1.18	8.00	2.36	14.25	4.50	20.50	1.29
2.00	1.18	8.25	2.36	14.50	3.22	20.75	1.29
2.25	1.18	8.50	2.79	14.75	3.22	21.00	1.29
2.50	1.39	8.75	2.79	15.00	3.22	21.25	1.29
2.75	1.39	9.00	3.00	15.25	3.22	21.50	1.29
3.00	1.39	9.25	3.00	15.50	3.22	21.75	1.29
3.25	1.39	9.50	3.43	15.75	3.22	22.00	1.29
3.50	1.39	9.75	3.43	16.00	3.22	22.25	1.29
3.75	1.39	10.00	3.86	16.25	3.22	22.50	1.29
4.00	1.39	10.25	3.86	16.50	1.93	22.75	1.29
4.25	1.39	10.50	4.93	16.75	1.93	23.00	1.29
4.50	1.72	10.75	4.93	17.00	1.93	23.25	1.29
4.75	1.72	11.00	6.65	17.25	1.93	23.50	1.29
5.00	1.72	11.25	6.65	17.50	1.93	23.75	1.29
5.25	1.72	11.50	10.30	17.75	1.93	24.00	1.29
5.50	1.72	11.75	10.30	18.00	1.93	24.25	1.29
5.75	1.72	12.00	31.74	18.25	1.93		
6.00	1.72	12.25	131.26	18.50	1.93		
6.25	1.72	12.50	15.44	18.75	1.93		

```
--------------------
| CALIB            |
| NASHYD   (  0301)|   Area    (ha)=   1.72   Curve Number   (CN)= 55.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.61   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

        NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.
```

---- 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	131.26	18.33	1.93
0.167	0.00	6.250	1.72	12.333	15.46	18.42	1.93
0.250	0.00	6.333	1.93	12.417	15.44	18.50	1.93
0.333	1.18	6.417	1.93	12.500	15.44	18.58	1.93
0.417	1.18	6.500	1.93	12.583	15.44	18.67	1.93
0.500	1.18	6.583	1.93	12.667	15.44	18.75	1.93
0.583	1.18	6.667	1.93	12.750	15.44	18.83	1.93
0.667	1.18	6.750	1.93	12.833	7.94	18.92	1.93
0.750	1.18	6.833	1.93	12.917	7.94	19.00	1.93
0.833	1.18	6.917	1.93	13.000	7.94	19.08	1.93
0.917	1.18	7.000	1.93	13.083	7.94	19.17	1.93
1.000	1.18	7.083	1.93	13.167	7.94	19.25	1.93
1.083	1.18	7.167	1.93	13.250	7.94	19.33	1.93
1.167	1.18	7.250	1.93	13.333	5.79	19.42	1.93
1.250	1.18	7.333	2.36	13.417	5.79	19.50	1.93
1.333	1.18	7.417	2.36	13.500	5.79	19.58	1.93
1.417	1.18	7.500	2.36	13.583	5.79	19.67	1.93

1.500	1.18	7.583	2.36	13.667	5.79	19.75	1.93
1.583	1.18	7.667	2.36	13.750	5.79	19.83	1.93
1.667	1.18	7.750	2.36	13.833	4.50	19.92	1.93
1.750	1.18	7.833	2.36	13.917	4.50	20.00	1.93
1.833	1.18	7.917	2.36	14.000	4.50	20.08	1.93
1.917	1.18	8.000	2.36	14.083	4.50	20.17	1.93
2.000	1.18	8.083	2.36	14.167	4.50	20.25	1.93
2.083	1.18	8.167	2.36	14.250	4.50	20.33	1.29
2.167	1.18	8.250	2.36	14.333	3.22	20.42	1.29
2.250	1.18	8.333	2.79	14.417	3.22	20.50	1.29
2.333	1.39	8.417	2.79	14.500	3.22	20.58	1.29
2.417	1.39	8.500	2.79	14.583	3.22	20.67	1.29
2.500	1.39	8.583	2.79	14.667	3.22	20.75	1.29
2.583	1.39	8.667	2.79	14.750	3.22	20.83	1.29
2.667	1.39	8.750	2.79	14.833	3.22	20.92	1.29
2.750	1.39	8.833	3.00	14.917	3.22	21.00	1.29
2.833	1.39	8.917	3.00	15.000	3.22	21.08	1.29
2.917	1.39	9.000	3.00	15.083	3.22	21.17	1.29
3.000	1.39	9.083	3.00	15.167	3.22	21.25	1.29
3.083	1.39	9.167	3.00	15.250	3.22	21.33	1.29
3.167	1.39	9.250	3.00	15.333	3.22	21.42	1.29
3.250	1.39	9.333	3.43	15.417	3.22	21.50	1.29
3.333	1.39	9.417	3.43	15.500	3.22	21.58	1.29
3.417	1.39	9.500	3.43	15.583	3.22	21.67	1.29
3.500	1.39	9.583	3.43	15.667	3.22	21.75	1.29
3.583	1.39	9.667	3.43	15.750	3.22	21.83	1.29
3.667	1.39	9.750	3.43	15.833	3.22	21.92	1.29
3.750	1.39	9.833	3.86	15.917	3.22	22.00	1.29
3.833	1.39	9.917	3.86	16.000	3.22	22.08	1.29
3.917	1.39	10.000	3.86	16.083	3.22	22.17	1.29
4.000	1.39	10.083	3.86	16.167	3.22	22.25	1.29
4.083	1.39	10.167	3.86	16.250	3.22	22.33	1.29
4.167	1.39	10.250	3.86	16.333	1.93	22.42	1.29
4.250	1.39	10.333	4.93	16.417	1.93	22.50	1.29
4.333	1.72	10.417	4.93	16.500	1.93	22.58	1.29
4.417	1.72	10.500	4.93	16.583	1.93	22.67	1.29
4.500	1.72	10.583	4.93	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.93	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.93	16.833	1.93	22.92	1.29
4.750	1.72	10.833	6.65	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.65	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.65	17.083	1.93	23.17	1.29
5.000	1.72	11.083	6.65	17.167	1.93	23.25	1.29
5.083	1.72	11.167	6.65	17.250	1.93	23.33	1.29
5.167	1.72	11.250	6.65	17.333	1.93	23.42	1.29
5.250	1.72	11.333	10.29	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.30	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.30	17.583	1.93	23.67	1.29
5.500	1.72	11.583	10.30	17.667	1.93	23.75	1.29
5.583	1.72	11.667	10.30	17.750	1.93	23.83	1.29
5.667	1.72	11.750	10.30	17.833	1.93	23.92	1.29
5.750	1.72	11.833	31.74	17.917	1.93	24.00	1.29
5.833	1.72	11.917	31.74	18.000	1.93	24.08	1.29
5.917	1.72	12.000	31.74	18.083	1.93	24.17	1.29
6.000	1.72	12.083	131.25	18.167	1.93	24.25	1.29
6.083	1.72	12.167	131.26	18.250	1.93		

Unit Hyd Qpeak (cms)= 0.365

PEAK FLOW (cms)= 0.155 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 34.383
TOTAL RAINFALL (mm)= 107.240
RUNOFF COEFFICIENT = 0.321

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

CALIB
STANDHYD (0208)
ID= 1 DT= 5.0 min

Area (ha)= 6.40
Total Imp(%)= 51.70 Dir. Conn.(%)= 26.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.31	3.09
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	206.56	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	131.26	18.33	1.93
0.167	0.00	6.250	1.72	12.333	15.46	18.42	1.93
0.250	0.00	6.333	1.93	12.417	15.44	18.50	1.93
0.333	1.18	6.417	1.93	12.500	15.44	18.58	1.93
0.417	1.18	6.500	1.93	12.583	15.44	18.67	1.93
0.500	1.18	6.583	1.93	12.667	15.44	18.75	1.93
0.583	1.18	6.667	1.93	12.750	15.44	18.83	1.93
0.667	1.18	6.750	1.93	12.833	7.94	18.92	1.93
0.750	1.18	6.833	1.93	12.917	7.94	19.00	1.93
0.833	1.18	6.917	1.93	13.000	7.94	19.08	1.93
0.917	1.18	7.000	1.93	13.083	7.94	19.17	1.93
1.000	1.18	7.083	1.93	13.167	7.94	19.25	1.93
1.083	1.18	7.167	1.93	13.250	7.94	19.33	1.93
1.167	1.18	7.250	1.93	13.333	5.79	19.42	1.93

1.250	1.18	7.333	2.36	13.417	5.79	19.50	1.93
1.333	1.18	7.417	2.36	13.500	5.79	19.58	1.93
1.417	1.18	7.500	2.36	13.583	5.79	19.67	1.93
1.500	1.18	7.583	2.36	13.667	5.79	19.75	1.93
1.583	1.18	7.667	2.36	13.750	5.79	19.83	1.93
1.667	1.18	7.750	2.36	13.833	4.50	19.92	1.93
1.750	1.18	7.833	2.36	13.917	4.50	20.00	1.93
1.833	1.18	7.917	2.36	14.000	4.50	20.08	1.93
1.917	1.18	8.000	2.36	14.083	4.50	20.17	1.93
2.000	1.18	8.083	2.36	14.167	4.50	20.25	1.93
2.083	1.18	8.167	2.36	14.250	4.50	20.33	1.29
2.167	1.18	8.250	2.36	14.333	3.22	20.42	1.29
2.250	1.18	8.333	2.79	14.417	3.22	20.50	1.29
2.333	1.39	8.417	2.79	14.500	3.22	20.58	1.29
2.417	1.39	8.500	2.79	14.583	3.22	20.67	1.29
2.500	1.39	8.583	2.79	14.667	3.22	20.75	1.29
2.583	1.39	8.667	2.79	14.750	3.22	20.83	1.29
2.667	1.39	8.750	2.79	14.833	3.22	20.92	1.29
2.750	1.39	8.833	3.00	14.917	3.22	21.00	1.29
2.833	1.39	8.917	3.00	15.000	3.22	21.08	1.29
2.917	1.39	9.000	3.00	15.083	3.22	21.17	1.29
3.000	1.39	9.083	3.00	15.167	3.22	21.25	1.29
3.083	1.39	9.167	3.00	15.250	3.22	21.33	1.29
3.167	1.39	9.250	3.00	15.333	3.22	21.42	1.29
3.250	1.39	9.333	3.43	15.417	3.22	21.50	1.29
3.333	1.39	9.417	3.43	15.500	3.22	21.58	1.29
3.417	1.39	9.500	3.43	15.583	3.22	21.67	1.29
3.500	1.39	9.583	3.43	15.667	3.22	21.75	1.29
3.583	1.39	9.667	3.43	15.750	3.22	21.83	1.29
3.667	1.39	9.750	3.43	15.833	3.22	21.92	1.29
3.750	1.39	9.833	3.86	15.917	3.22	22.00	1.29
3.833	1.39	9.917	3.86	16.000	3.22	22.08	1.29
3.917	1.39	10.000	3.86	16.083	3.22	22.17	1.29
4.000	1.39	10.083	3.86	16.167	3.22	22.25	1.29
4.083	1.39	10.167	3.86	16.250	3.22	22.33	1.29
4.167	1.39	10.250	3.86	16.333	1.93	22.42	1.29
4.250	1.39	10.333	4.93	16.417	1.93	22.50	1.29
4.333	1.72	10.417	4.93	16.500	1.93	22.58	1.29
4.417	1.72	10.500	4.93	16.583	1.93	22.67	1.29
4.500	1.72	10.583	4.93	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.93	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.93	16.833	1.93	22.92	1.29
4.750	1.72	10.833	6.65	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.65	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.65	17.083	1.93	23.17	1.29
5.000	1.72	11.083	6.65	17.167	1.93	23.25	1.29
5.083	1.72	11.167	6.65	17.250	1.93	23.33	1.29
5.167	1.72	11.250	6.65	17.333	1.93	23.42	1.29
5.250	1.72	11.333	10.29	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.30	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.30	17.583	1.93	23.67	1.29
5.500	1.72	11.583	10.30	17.667	1.93	23.75	1.29
5.583	1.72	11.667	10.30	17.750	1.93	23.83	1.29
5.667	1.72	11.750	10.30	17.833	1.93	23.92	1.29
5.750	1.72	11.833	31.74	17.917	1.93	24.00	1.29
5.833	1.72	11.917	31.74	18.000	1.93	24.08	1.29
5.917	1.72	12.000	31.74	18.083	1.93	24.17	1.29
6.000	1.72	12.083	131.25	18.167	1.93	24.25	1.29
6.083	1.72	12.167	131.26	18.250	1.93		

Max.Eff.Inten.(mm/hr)=	131.26	86.52	
over (min)	5.00	15.00	
Storage Coeff. (min)=	3.54 (ii)	11.02 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.26	0.09	
			TOTALS
PEAK FLOW (cms)=	0.61	0.46	1.004 (iii)
TIME TO PEAK (hrs)=	12.25	12.33	12.25
RUNOFF VOLUME (mm)=	106.24	38.99	56.67
TOTAL RAINFALL (mm)=	107.24	107.24	107.24
RUNOFF COEFFICIENT =	0.99	0.36	0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB
STANDHYD (0201) | Area (ha)= 18.69
ID= 1 DT= 5.0 min | Total Imp(%)= 51.00 Dir. Conn.(%)= 27.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.53	9.16
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	352.99	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	131.26	18.33	1.93

0.167	0.00	6.250	1.72	12.333	15.46	18.42	1.93
0.250	0.00	6.333	1.93	12.417	15.44	18.50	1.93
0.333	1.18	6.417	1.93	12.500	15.44	18.58	1.93
0.417	1.18	6.500	1.93	12.583	15.44	18.67	1.93
0.500	1.18	6.583	1.93	12.667	15.44	18.75	1.93
0.583	1.18	6.667	1.93	12.750	15.44	18.83	1.93
0.667	1.18	6.750	1.93	12.833	7.94	18.92	1.93
0.750	1.18	6.833	1.93	12.917	7.94	19.00	1.93
0.833	1.18	6.917	1.93	13.000	7.94	19.08	1.93
0.917	1.18	7.000	1.93	13.083	7.94	19.17	1.93
1.000	1.18	7.083	1.93	13.167	7.94	19.25	1.93
1.083	1.18	7.167	1.93	13.250	7.94	19.33	1.93
1.167	1.18	7.250	1.93	13.333	5.79	19.42	1.93
1.250	1.18	7.333	2.36	13.417	5.79	19.50	1.93
1.333	1.18	7.417	2.36	13.500	5.79	19.58	1.93
1.417	1.18	7.500	2.36	13.583	5.79	19.67	1.93
1.500	1.18	7.583	2.36	13.667	5.79	19.75	1.93
1.583	1.18	7.667	2.36	13.750	5.79	19.83	1.93
1.667	1.18	7.750	2.36	13.833	4.50	19.92	1.93
1.750	1.18	7.833	2.36	13.917	4.50	20.00	1.93
1.833	1.18	7.917	2.36	14.000	4.50	20.08	1.93
1.917	1.18	8.000	2.36	14.083	4.50	20.17	1.93
2.000	1.18	8.083	2.36	14.167	4.50	20.25	1.93
2.083	1.18	8.167	2.36	14.250	4.50	20.33	1.29
2.167	1.18	8.250	2.36	14.333	3.22	20.42	1.29
2.250	1.18	8.333	2.79	14.417	3.22	20.50	1.29
2.333	1.39	8.417	2.79	14.500	3.22	20.58	1.29
2.417	1.39	8.500	2.79	14.583	3.22	20.67	1.29
2.500	1.39	8.583	2.79	14.667	3.22	20.75	1.29
2.583	1.39	8.667	2.79	14.750	3.22	20.83	1.29
2.667	1.39	8.750	2.79	14.833	3.22	20.92	1.29
2.750	1.39	8.833	3.00	14.917	3.22	21.00	1.29
2.833	1.39	8.917	3.00	15.000	3.22	21.08	1.29
2.917	1.39	9.000	3.00	15.083	3.22	21.17	1.29
3.000	1.39	9.083	3.00	15.167	3.22	21.25	1.29
3.083	1.39	9.167	3.00	15.250	3.22	21.33	1.29
3.167	1.39	9.250	3.00	15.333	3.22	21.42	1.29
3.250	1.39	9.333	3.43	15.417	3.22	21.50	1.29
3.333	1.39	9.417	3.43	15.500	3.22	21.58	1.29
3.417	1.39	9.500	3.43	15.583	3.22	21.67	1.29
3.500	1.39	9.583	3.43	15.667	3.22	21.75	1.29
3.583	1.39	9.667	3.43	15.750	3.22	21.83	1.29
3.667	1.39	9.750	3.43	15.833	3.22	21.92	1.29
3.750	1.39	9.833	3.86	15.917	3.22	22.00	1.29
3.833	1.39	9.917	3.86	16.000	3.22	22.08	1.29
3.917	1.39	10.000	3.86	16.083	3.22	22.17	1.29
4.000	1.39	10.083	3.86	16.167	3.22	22.25	1.29
4.083	1.39	10.167	3.86	16.250	3.22	22.33	1.29
4.167	1.39	10.250	3.86	16.333	1.93	22.42	1.29
4.250	1.39	10.333	4.93	16.417	1.93	22.50	1.29
4.333	1.72	10.417	4.93	16.500	1.93	22.58	1.29
4.417	1.72	10.500	4.93	16.583	1.93	22.67	1.29
4.500	1.72	10.583	4.93	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.93	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.93	16.833	1.93	22.92	1.29
4.750	1.72	10.833	6.65	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.65	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.65	17.083	1.93	23.17	1.29
5.000	1.72	11.083	6.65	17.167	1.93	23.25	1.29
5.083	1.72	11.167	6.65	17.250	1.93	23.33	1.29
5.167	1.72	11.250	6.65	17.333	1.93	23.42	1.29
5.250	1.72	11.333	10.29	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.30	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.30	17.583	1.93	23.67	1.29
5.500	1.72	11.583	10.30	17.667	1.93	23.75	1.29
5.583	1.72	11.667	10.30	17.750	1.93	23.83	1.29
5.667	1.72	11.750	10.30	17.833	1.93	23.92	1.29
5.750	1.72	11.833	31.74	17.917	1.93	24.00	1.29
5.833	1.72	11.917	31.74	18.000	1.93	24.08	1.29
5.917	1.72	12.000	31.74	18.083	1.93	24.17	1.29
6.000	1.72	12.083	131.25	18.167	1.93	24.25	1.29
6.083	1.72	12.167	131.26	18.250	1.93		

Max.Eff.Inten.(mm/hr)=	131.26	83.09	
over (min)	5.00	15.00	
Storage Coeff. (min)=	4.88 (ii)	12.48 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.22	0.08	
			TOTALS
PEAK FLOW (cms)=	1.77	1.25	2.835 (iii)
TIME TO PEAK (hrs)=	12.25	12.33	12.25
RUNOFF VOLUME (mm)=	106.24	38.36	56.69
TOTAL RAINFALL (mm)=	107.24	107.24	107.24
RUNOFF COEFFICIENT =	0.99	0.36	0.53

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. 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 (0904)					
1 + 2 = 3	AREA	QPEAK	TPEAK	R.V.	
	(ha)	(cms)	(hrs)	(mm)	
ID1= 1 (0201):	18.69	2.835	12.25	56.69	

```
      + ID2= 2 (  0208):     6.40   1.004    12.25    56.67
        ================================================
        ID = 3 (  0904):    25.09   3.838    12.25    56.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0904)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0904):    25.09   3.838    12.25    56.68
      + ID2= 2 (  0301):     1.72   0.155    12.33    34.38
        ================================================
        ID = 1 (  0904):    26.81   3.988    12.25    55.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| RESERVOIR(  0401)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.8060      0.3760
                          0.0080     0.0310   |   1.3400      0.4210
                          0.0170     0.0630   |   2.0150      0.4680
                          0.0230     0.0970   |   2.1780      0.6190
                          0.0280     0.1330   |   2.4650      0.7250
                          0.0320     0.1700   |   3.1360      0.7810
                          0.0360     0.2080   |   4.2010      0.8390
                          0.0390     0.2480   |   4.8940      0.8680
                          0.1590     0.2890   |   6.6200      0.9280
                          0.4120     0.3320   |   8.8340      0.9890

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0904)     26.810      3.988     12.25      55.25
   OUTFLOW: ID= 1 (  0401)     26.810      2.054     12.42      55.22

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)= 51.51
                  TIME SHIFT OF PEAK FLOW         (min)= 10.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5079

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--------------------
| CALIB            |
| NASHYD   (  0302)|   Area    (ha)=   1.49   Curve Number   (CN)= 66.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.34   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44
```

NOTE: RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

---- 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	131.26	18.33	1.93
0.167	0.00	6.250	1.72	12.333	15.46	18.42	1.93
0.250	0.00	6.333	1.93	12.417	15.44	18.50	1.93
0.333	1.18	6.417	1.93	12.500	15.44	18.58	1.93
0.417	1.18	6.500	1.93	12.583	15.44	18.67	1.93
0.500	1.18	6.583	1.93	12.667	15.44	18.75	1.93
0.583	1.18	6.667	1.93	12.750	15.44	18.83	1.93
0.667	1.18	6.750	1.93	12.833	7.94	18.92	1.93
0.750	1.18	6.833	1.93	12.917	7.94	19.00	1.93
0.833	1.18	6.917	1.93	13.000	7.94	19.08	1.93
0.917	1.18	7.000	1.93	13.083	7.94	19.17	1.93
1.000	1.18	7.083	1.93	13.167	7.94	19.25	1.93
1.083	1.18	7.167	1.93	13.250	7.94	19.33	1.93
1.167	1.18	7.250	1.93	13.333	5.79	19.42	1.93
1.250	1.18	7.333	2.36	13.417	5.79	19.50	1.93
1.333	1.18	7.417	2.36	13.500	5.79	19.58	1.93
1.417	1.18	7.500	2.36	13.583	5.79	19.67	1.93
1.500	1.18	7.583	2.36	13.667	5.79	19.75	1.93
1.583	1.18	7.667	2.36	13.750	5.79	19.83	1.93
1.667	1.18	7.750	2.36	13.833	4.50	19.92	1.93
1.750	1.18	7.833	2.36	13.917	4.50	20.00	1.93
1.833	1.18	7.917	2.36	14.000	4.50	20.08	1.93
1.917	1.18	8.000	2.36	14.083	4.50	20.17	1.93
2.000	1.18	8.083	2.36	14.167	4.50	20.25	1.93
2.083	1.18	8.167	2.36	14.250	4.50	20.33	1.29
2.167	1.18	8.250	2.36	14.333	3.22	20.42	1.29
2.250	1.18	8.333	2.79	14.417	3.22	20.50	1.29
2.333	1.39	8.417	2.79	14.500	3.22	20.58	1.29
2.417	1.39	8.500	2.79	14.583	3.22	20.67	1.29
2.500	1.39	8.583	2.79	14.667	3.22	20.75	1.29
2.583	1.39	8.667	2.79	14.750	3.22	20.83	1.29
2.667	1.39	8.750	2.79	14.833	3.22	20.92	1.29
2.750	1.39	8.833	3.00	14.917	3.22	21.00	1.29
2.833	1.39	8.917	3.00	15.000	3.22	21.08	1.29
2.917	1.39	9.000	3.00	15.083	3.22	21.17	1.29
3.000	1.39	9.083	3.00	15.167	3.22	21.25	1.29
3.083	1.39	9.167	3.00	15.250	3.22	21.33	1.29
3.167	1.39	9.250	3.00	15.333	3.22	21.42	1.29
3.250	1.39	9.333	3.43	15.417	3.22	21.50	1.29
3.333	1.39	9.417	3.43	15.500	3.22	21.58	1.29
3.417	1.39	9.500	3.43	15.583	3.22	21.67	1.29
3.500	1.39	9.583	3.43	15.667	3.22	21.75	1.29
3.583	1.39	9.667	3.43	15.750	3.22	21.83	1.29
3.667	1.39	9.750	3.43	15.833	3.22	21.92	1.29

3.750	1.39	9.833	3.86	15.917	3.22	22.00	1.29
3.833	1.39	9.917	3.86	16.000	3.22	22.08	1.29
3.917	1.39	10.000	3.86	16.083	3.22	22.17	1.29
4.000	1.39	10.083	3.86	16.167	3.22	22.25	1.29
4.083	1.39	10.167	3.86	16.250	3.22	22.33	1.29
4.167	1.39	10.250	3.86	16.333	1.93	22.42	1.29
4.250	1.39	10.333	4.93	16.417	1.93	22.50	1.29
4.333	1.72	10.417	4.93	16.500	1.93	22.58	1.29
4.417	1.72	10.500	4.93	16.583	1.93	22.67	1.29
4.500	1.72	10.583	4.93	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.93	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.93	16.833	1.93	22.92	1.29
4.750	1.72	10.833	6.65	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.65	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.65	17.083	1.93	23.17	1.29
5.000	1.72	11.083	6.65	17.167	1.93	23.25	1.29
5.083	1.72	11.167	6.65	17.250	1.93	23.33	1.29
5.167	1.72	11.250	6.65	17.333	1.93	23.42	1.29
5.250	1.72	11.333	10.29	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.30	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.30	17.583	1.93	23.67	1.29
5.500	1.72	11.583	10.30	17.667	1.93	23.75	1.29
5.583	1.72	11.667	10.30	17.750	1.93	23.83	1.29
5.667	1.72	11.750	10.30	17.833	1.93	23.92	1.29
5.750	1.72	11.833	31.74	17.917	1.93	24.00	1.29
5.833	1.72	11.917	31.74	18.000	1.93	24.08	1.29
5.917	1.72	12.000	31.74	18.083	1.93	24.17	1.29
6.000	1.72	12.083	131.25	18.167	1.93	24.25	1.29
6.083	1.72	12.167	131.26	18.250	1.93		

Unit Hyd Qpeak (cms)= 0.129

PEAK FLOW (cms)= 0.097 (i)
TIME TO PEAK (hrs)= 12.583
RUNOFF VOLUME (mm)= 44.817
TOTAL RAINFALL (mm)= 107.240
RUNOFF COEFFICIENT = 0.418

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

CALIB	
STANDHYD (0207)	Area (ha)= 2.21
ID= 1 DT= 5.0 min	Total Imp(%)= 40.70 Dir. Conn.(%)= 13.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.90	1.31
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	121.38	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	131.26	18.33	1.93
0.167	0.00	6.250	1.72	12.333	15.46	18.42	1.93
0.250	0.00	6.333	1.93	12.417	15.44	18.50	1.93
0.333	1.18	6.417	1.93	12.500	15.44	18.58	1.93
0.417	1.18	6.500	1.93	12.583	15.44	18.67	1.93
0.500	1.18	6.583	1.93	12.667	15.44	18.75	1.93
0.583	1.18	6.667	1.93	12.750	15.44	18.83	1.93
0.667	1.18	6.750	1.93	12.833	7.94	18.92	1.93
0.750	1.18	6.833	1.93	12.917	7.94	19.00	1.93
0.833	1.18	6.917	1.93	13.000	7.94	19.08	1.93
0.917	1.18	7.000	1.93	13.083	7.94	19.17	1.93
1.000	1.18	7.083	1.93	13.167	7.94	19.25	1.93
1.083	1.18	7.167	1.93	13.250	7.94	19.33	1.93
1.167	1.18	7.250	1.93	13.333	5.79	19.42	1.93
1.250	1.18	7.333	2.36	13.417	5.79	19.50	1.93
1.333	1.18	7.417	2.36	13.500	5.79	19.58	1.93
1.417	1.18	7.500	2.36	13.583	5.79	19.67	1.93
1.500	1.18	7.583	2.36	13.667	5.79	19.75	1.93
1.583	1.18	7.667	2.36	13.750	5.79	19.83	1.93
1.667	1.18	7.750	2.36	13.833	4.50	19.92	1.93
1.750	1.18	7.833	2.36	13.917	4.50	20.00	1.93
1.833	1.18	7.917	2.36	14.000	4.50	20.08	1.93
1.917	1.18	8.000	2.36	14.083	4.50	20.17	1.93
2.000	1.18	8.083	2.36	14.167	4.50	20.25	1.93
2.083	1.18	8.167	2.36	14.250	4.50	20.33	1.29
2.167	1.18	8.250	2.36	14.333	3.22	20.42	1.29
2.250	1.18	8.333	2.79	14.417	3.22	20.50	1.29
2.333	1.39	8.417	2.79	14.500	3.22	20.58	1.29
2.417	1.39	8.500	2.79	14.583	3.22	20.67	1.29
2.500	1.39	8.583	2.79	14.667	3.22	20.75	1.29
2.583	1.39	8.667	2.79	14.750	3.22	20.83	1.29
2.667	1.39	8.750	2.79	14.833	3.22	20.92	1.29
2.750	1.39	8.833	3.00	14.917	3.22	21.00	1.29
2.833	1.39	8.917	3.00	15.000	3.22	21.08	1.29
2.917	1.39	9.000	3.00	15.083	3.22	21.17	1.29
3.000	1.39	9.083	3.00	15.167	3.22	21.25	1.29
3.083	1.39	9.167	3.00	15.250	3.22	21.33	1.29
3.167	1.39	9.250	3.00	15.333	3.22	21.42	1.29
3.250	1.39	9.333	3.43	15.417	3.22	21.50	1.29
3.333	1.39	9.417	3.43	15.500	3.22	21.58	1.29
3.417	1.39	9.500	3.43	15.583	3.22	21.67	1.29

```
   3.500    1.39 |  9.583    3.43 |15.667    3.22 |  21.75    1.29
   3.583    1.39 |  9.667    3.43 |15.750    3.22 |  21.83    1.29
   3.667    1.39 |  9.750    3.43 |15.833    3.22 |  21.92    1.29
   3.750    1.39 |  9.833    3.86 |15.917    3.22 |  22.00    1.29
   3.833    1.39 |  9.917    3.86 |16.000    3.22 |  22.08    1.29
   3.917    1.39 | 10.000    3.86 |16.083    3.22 |  22.17    1.29
   4.000    1.39 | 10.083    3.86 |16.167    3.22 |  22.25    1.29
   4.083    1.39 | 10.167    3.86 |16.250    3.22 |  22.33    1.29
   4.167    1.39 | 10.250    3.86 |16.333    1.93 |  22.42    1.29
   4.250    1.39 | 10.333    4.93 |16.417    1.93 |  22.50    1.29
   4.333    1.72 | 10.417    4.93 |16.500    1.93 |  22.58    1.29
   4.417    1.72 | 10.500    4.93 |16.583    1.93 |  22.67    1.29
   4.500    1.72 | 10.583    4.93 |16.667    1.93 |  22.75    1.29
   4.583    1.72 | 10.667    4.93 |16.750    1.93 |  22.83    1.29
   4.667    1.72 | 10.750    4.93 |16.833    1.93 |  22.92    1.29
   4.750    1.72 | 10.833    6.65 |16.917    1.93 |  23.00    1.29
   4.833    1.72 | 10.917    6.65 |17.000    1.93 |  23.08    1.29
   4.917    1.72 | 11.000    6.65 |17.083    1.93 |  23.17    1.29
   5.000    1.72 | 11.083    6.65 |17.167    1.93 |  23.25    1.29
   5.083    1.72 | 11.167    6.65 |17.250    1.93 |  23.33    1.29
   5.167    1.72 | 11.250    6.65 |17.333    1.93 |  23.42    1.29
   5.250    1.72 | 11.333   10.29 |17.417    1.93 |  23.50    1.29
   5.333    1.72 | 11.417   10.30 |17.500    1.93 |  23.58    1.29
   5.417    1.72 | 11.500   10.30 |17.583    1.93 |  23.67    1.29
   5.500    1.72 | 11.583   10.30 |17.667    1.93 |  23.75    1.29
   5.583    1.72 | 11.667   10.30 |17.750    1.93 |  23.83    1.29
   5.667    1.72 | 11.750   10.30 |17.833    1.93 |  23.92    1.29
   5.750    1.72 | 11.833   31.74 |17.917    1.93 |  24.00    1.29
   5.833    1.72 | 11.917   31.74 |18.000    1.93 |  24.08    1.29
   5.917    1.72 | 12.000   31.74 |18.083    1.93 |  24.17    1.29
   6.000    1.72 | 12.083  131.25 |18.167    1.93 |  24.25    1.29
   6.083    1.72 |12.167  131.26 |18.250    1.93 |

 Max.Eff.Inten.(mm/hr)=     131.26        79.70
           over (min)          5.00        15.00
 Storage Coeff.  (min)=       2.57 (ii)   10.30 (ii)
 Unit Hyd. Tpeak (min)=       5.00        15.00
 Unit Hyd. peak  (cms)=       0.29         0.09
                                                    *TOTALS*
 PEAK FLOW       (cms)=       0.11         0.19         0.270 (iii)
 TIME TO PEAK    (hrs)=      12.25        12.33         12.25
 RUNOFF VOLUME    (mm)=     106.24        37.72         47.17
 TOTAL RAINFALL   (mm)=     107.24       107.24        107.24
 RUNOFF COEFFICIENT   =       0.99         0.35          0.44

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
             YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  49.0    Ia = Dep. 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  (  0901)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0207):     2.21   0.270    12.25    47.17
     + ID2= 2 (  0302):     1.49   0.097    12.58    44.82
       ================================================
       ID = 3 (  0901):     3.70   0.325    12.25    46.22

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.060|
| #of Inlets=    10|
| Total(cms)=   0.6|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.70      0.32     12.25   46.22
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
     MINOR SYS.(ID= 3):   3.70      0.32     12.25   46.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0203)|   Area    (ha)=   1.35
|ID= 1 DT= 5.0 min |   Total Imp(%)=  37.00   Dir. Conn.(%)=  10.30
--------------------

                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.50         0.85
     Dep. Storage     (mm)=       1.00         4.89
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      94.87        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	6.167	1.72	12.250	131.26	18.33	1.93
0.167	0.00	6.250	1.72	12.333	15.46	18.42	1.93
0.250	0.00	6.333	1.93	12.417	15.44	18.50	1.93
0.333	1.18	6.417	1.93	12.500	15.44	18.58	1.93
0.417	1.18	6.500	1.93	12.583	15.44	18.67	1.93
0.500	1.18	6.583	1.93	12.667	15.44	18.75	1.93
0.583	1.18	6.667	1.93	12.750	15.44	18.83	1.93
0.667	1.18	6.750	1.93	12.833	7.94	18.92	1.93
0.750	1.18	6.833	1.93	12.917	7.94	19.00	1.93
0.833	1.18	6.917	1.93	13.000	7.94	19.08	1.93
0.917	1.18	7.000	1.93	13.083	7.94	19.17	1.93
1.000	1.18	7.083	1.93	13.167	7.94	19.25	1.93
1.083	1.18	7.167	1.93	13.250	7.94	19.33	1.93
1.167	1.18	7.250	1.93	13.333	5.79	19.42	1.93
1.250	1.18	7.333	2.36	13.417	5.79	19.50	1.93
1.333	1.18	7.417	2.36	13.500	5.79	19.58	1.93
1.417	1.18	7.500	2.36	13.583	5.79	19.67	1.93
1.500	1.18	7.583	2.36	13.667	5.79	19.75	1.93
1.583	1.18	7.667	2.36	13.750	5.79	19.83	1.93
1.667	1.18	7.750	2.36	13.833	4.50	19.92	1.93
1.750	1.18	7.833	2.36	13.917	4.50	20.00	1.93
1.833	1.18	7.917	2.36	14.000	4.50	20.08	1.93
1.917	1.18	8.000	2.36	14.083	4.50	20.17	1.93
2.000	1.18	8.083	2.36	14.167	4.50	20.25	1.93
2.083	1.18	8.167	2.36	14.250	4.50	20.33	1.29
2.167	1.18	8.250	2.36	14.333	3.22	20.42	1.29
2.250	1.18	8.333	2.79	14.417	3.22	20.50	1.29
2.333	1.39	8.417	2.79	14.500	3.22	20.58	1.29
2.417	1.39	8.500	2.79	14.583	3.22	20.67	1.29
2.500	1.39	8.583	2.79	14.667	3.22	20.75	1.29
2.583	1.39	8.667	2.79	14.750	3.22	20.83	1.29
2.667	1.39	8.750	2.79	14.833	3.22	20.92	1.29
2.750	1.39	8.833	3.00	14.917	3.22	21.00	1.29
2.833	1.39	8.917	3.00	15.000	3.22	21.08	1.29
2.917	1.39	9.000	3.00	15.083	3.22	21.17	1.29
3.000	1.39	9.083	3.00	15.167	3.22	21.25	1.29
3.083	1.39	9.167	3.00	15.250	3.22	21.33	1.29
3.167	1.39	9.250	3.00	15.333	3.22	21.42	1.29
3.250	1.39	9.333	3.43	15.417	3.22	21.50	1.29
3.333	1.39	9.417	3.43	15.500	3.22	21.58	1.29
3.417	1.39	9.500	3.43	15.583	3.22	21.67	1.29
3.500	1.39	9.583	3.43	15.667	3.22	21.75	1.29
3.583	1.39	9.667	3.43	15.750	3.22	21.83	1.29
3.667	1.39	9.750	3.43	15.833	3.22	21.92	1.29
3.750	1.39	9.833	3.86	15.917	3.22	22.00	1.29
3.833	1.39	9.917	3.86	16.000	3.22	22.08	1.29
3.917	1.39	10.000	3.86	16.083	3.22	22.17	1.29
4.000	1.39	10.083	3.86	16.167	3.22	22.25	1.29
4.083	1.39	10.167	3.86	16.250	3.22	22.33	1.29
4.167	1.39	10.250	3.86	16.333	1.93	22.42	1.29
4.250	1.39	10.333	4.93	16.417	1.93	22.50	1.29
4.333	1.72	10.417	4.93	16.500	1.93	22.58	1.29
4.417	1.72	10.500	4.93	16.583	1.93	22.67	1.29
4.500	1.72	10.583	4.93	16.667	1.93	22.75	1.29
4.583	1.72	10.667	4.93	16.750	1.93	22.83	1.29
4.667	1.72	10.750	4.93	16.833	1.93	22.92	1.29
4.750	1.72	10.833	6.65	16.917	1.93	23.00	1.29
4.833	1.72	10.917	6.65	17.000	1.93	23.08	1.29
4.917	1.72	11.000	6.65	17.083	1.93	23.17	1.29
5.000	1.72	11.083	6.65	17.167	1.93	23.25	1.29
5.083	1.72	11.167	6.65	17.250	1.93	23.33	1.29
5.167	1.72	11.250	6.65	17.333	1.93	23.42	1.29
5.250	1.72	11.333	10.29	17.417	1.93	23.50	1.29
5.333	1.72	11.417	10.30	17.500	1.93	23.58	1.29
5.417	1.72	11.500	10.30	17.583	1.93	23.67	1.29
5.500	1.72	11.583	10.30	17.667	1.93	23.75	1.29
5.583	1.72	11.667	10.30	17.750	1.93	23.83	1.29
5.667	1.72	11.750	10.30	17.833	1.93	23.92	1.29
5.750	1.72	11.833	31.74	17.917	1.93	24.00	1.29
5.833	1.72	11.917	31.74	18.000	1.93	24.08	1.29
5.917	1.72	12.000	31.74	18.083	1.93	24.17	1.29
6.000	1.72	12.083	131.25	18.167	1.93	24.25	1.29
6.083	1.72	12.167	131.26	18.250	1.93		

Max.Eff.Inten.(mm/hr)=	131.26	83.46		
over (min)	5.00	10.00		
Storage Coeff. (min)=	2.22 (ii)	9.81 (ii)		
Unit Hyd. Tpeak (min)=	5.00	10.00		
Unit Hyd. peak (cms)=	0.30	0.11		
			TOTALS	
PEAK FLOW (cms)=	0.05	0.14	0.187 (iii)	
TIME TO PEAK (hrs)=	12.25	12.25	12.25	
RUNOFF VOLUME (mm)=	106.24	40.23	47.03	
TOTAL RAINFALL (mm)=	107.24	107.24	107.24	
RUNOFF COEFFICIENT =	0.99	0.38	0.44	

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 52.1 Ia = Dep. 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 (0902)

```
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
       ID1= 1 (  0203):     1.35   0.187    12.25    47.03
     + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
       ====================================================
       ID = 3 (  0902):     1.35   0.187    12.25    47.03

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
==============================================================================
======================

       V    V   I    SSSSS  U   U    A    L              (v 6.1.2001)
       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 6.1\VO2\voin.dat

  Output  filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\0e
aa70ae-ec00-4e81-a3b2-934f12089bde\s
  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\0e
aa70ae-ec00-4e81-a3b2-934f12089bde\s


DATE: 02/21/2023                          TIME: 10:27:05

USER:



COMMENTS: _____________________________________________________________
```

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------------------------------------------------------------------------------
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  ********************************************
  ** SIMULATION : 100yr 24hr 15min SCS          **
  ********************************************


--------------------
|    READ STORM    |    Filename: C:\Users\elundquist\AppD
|                  |              ata\Local\Temp\
|                  |              bbcbcfd5-9651-44f5-bd72-3bbeb48ecd1a\39c5d7df
| Ptotal=117.91 mm |    Comments: 100yr 24hr 15min SCS
--------------------
```

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	2.12	12.75	16.98	19.00	2.12
0.50	1.30	6.75	2.12	13.00	8.73	19.25	2.12
0.75	1.30	7.00	2.12	13.25	8.73	19.50	2.12
1.00	1.30	7.25	2.12	13.50	6.37	19.75	2.12
1.25	1.30	7.50	2.59	13.75	6.37	20.00	2.12
1.50	1.30	7.75	2.59	14.00	4.95	20.25	2.12
1.75	1.30	8.00	2.59	14.25	4.95	20.50	1.41
2.00	1.30	8.25	2.59	14.50	3.54	20.75	1.41
2.25	1.30	8.50	3.07	14.75	3.54	21.00	1.41
2.50	1.53	8.75	3.07	15.00	3.54	21.25	1.41
2.75	1.53	9.00	3.30	15.25	3.54	21.50	1.41
3.00	1.53	9.25	3.30	15.50	3.54	21.75	1.41
3.25	1.53	9.50	3.77	15.75	3.54	22.00	1.41
3.50	1.53	9.75	3.77	16.00	3.54	22.25	1.41
3.75	1.53	10.00	4.24	16.25	3.54	22.50	1.41
4.00	1.53	10.25	4.24	16.50	2.12	22.75	1.41
4.25	1.53	10.50	5.42	16.75	2.12	23.00	1.41
4.50	1.89	10.75	5.42	17.00	2.12	23.25	1.41
4.75	1.89	11.00	7.31	17.25	2.12	23.50	1.41
5.00	1.89	11.25	7.31	17.50	2.12	23.75	1.41
5.25	1.89	11.50	11.32	17.75	2.12	24.00	1.41
5.50	1.89	11.75	11.32	18.00	2.12	24.25	1.41
5.75	1.89	12.00	34.90	18.25	2.12		
6.00	1.89	12.25	144.32	18.50	2.12		
6.25	1.89	12.50	16.98	18.75	2.12		

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--------------------
| CALIB            |
| NASHYD   (  0301)|   Area    (ha)=   1.72   Curve Number   (CN)= 55.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.61   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18
```

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- 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	1.89	12.250	144.32	18.33	2.12
0.167	0.00	6.250	1.89	12.333	17.00	18.42	2.12
0.250	0.00	6.333	2.12	12.417	16.98	18.50	2.12
0.333	1.30	6.417	2.12	12.500	16.98	18.58	2.12
0.417	1.30	6.500	2.12	12.583	16.98	18.67	2.12
0.500	1.30	6.583	2.12	12.667	16.98	18.75	2.12
0.583	1.30	6.667	2.12	12.750	16.98	18.83	2.12
0.667	1.30	6.750	2.12	12.833	8.73	18.92	2.12
0.750	1.30	6.833	2.12	12.917	8.73	19.00	2.12
0.833	1.30	6.917	2.12	13.000	8.73	19.08	2.12
0.917	1.30	7.000	2.12	13.083	8.73	19.17	2.12
1.000	1.30	7.083	2.12	13.167	8.73	19.25	2.12
1.083	1.30	7.167	2.12	13.250	8.73	19.33	2.12
1.167	1.30	7.250	2.12	13.333	6.37	19.42	2.12
1.250	1.30	7.333	2.59	13.417	6.37	19.50	2.12
1.333	1.30	7.417	2.59	13.500	6.37	19.58	2.12
1.417	1.30	7.500	2.59	13.583	6.37	19.67	2.12
1.500	1.30	7.583	2.59	13.667	6.37	19.75	2.12
1.583	1.30	7.667	2.59	13.750	6.37	19.83	2.12
1.667	1.30	7.750	2.59	13.833	4.95	19.92	2.12
1.750	1.30	7.833	2.59	13.917	4.95	20.00	2.12
1.833	1.30	7.917	2.59	14.000	4.95	20.08	2.12
1.917	1.30	8.000	2.59	14.083	4.95	20.17	2.12
2.000	1.30	8.083	2.59	14.167	4.95	20.25	2.12
2.083	1.30	8.167	2.59	14.250	4.95	20.33	1.41
2.167	1.30	8.250	2.59	14.333	3.54	20.42	1.41
2.250	1.30	8.333	3.07	14.417	3.54	20.50	1.41
2.333	1.53	8.417	3.07	14.500	3.54	20.58	1.41
2.417	1.53	8.500	3.07	14.583	3.54	20.67	1.41
2.500	1.53	8.583	3.07	14.667	3.54	20.75	1.41
2.583	1.53	8.667	3.07	14.750	3.54	20.83	1.41
2.667	1.53	8.750	3.07	14.833	3.54	20.92	1.41
2.750	1.53	8.833	3.30	14.917	3.54	21.00	1.41
2.833	1.53	8.917	3.30	15.000	3.54	21.08	1.41
2.917	1.53	9.000	3.30	15.083	3.54	21.17	1.41
3.000	1.53	9.083	3.30	15.167	3.54	21.25	1.41
3.083	1.53	9.167	3.30	15.250	3.54	21.33	1.41
3.167	1.53	9.250	3.30	15.333	3.54	21.42	1.41
3.250	1.53	9.333	3.77	15.417	3.54	21.50	1.41
3.333	1.53	9.417	3.77	15.500	3.54	21.58	1.41
3.417	1.53	9.500	3.77	15.583	3.54	21.67	1.41
3.500	1.53	9.583	3.77	15.667	3.54	21.75	1.41
3.583	1.53	9.667	3.77	15.750	3.54	21.83	1.41
3.667	1.53	9.750	3.77	15.833	3.54	21.92	1.41
3.750	1.53	9.833	4.24	15.917	3.54	22.00	1.41
3.833	1.53	9.917	4.24	16.000	3.54	22.08	1.41
3.917	1.53	10.000	4.24	16.083	3.54	22.17	1.41
4.000	1.53	10.083	4.24	16.167	3.54	22.25	1.41
4.083	1.53	10.167	4.24	16.250	3.54	22.33	1.41
4.167	1.53	10.250	4.24	16.333	2.12	22.42	1.41
4.250	1.53	10.333	5.42	16.417	2.12	22.50	1.41
4.333	1.89	10.417	5.42	16.500	2.12	22.58	1.41
4.417	1.89	10.500	5.42	16.583	2.12	22.67	1.41
4.500	1.89	10.583	5.42	16.667	2.12	22.75	1.41
4.583	1.89	10.667	5.42	16.750	2.12	22.83	1.41
4.667	1.89	10.750	5.42	16.833	2.12	22.92	1.41
4.750	1.89	10.833	7.31	16.917	2.12	23.00	1.41
4.833	1.89	10.917	7.31	17.000	2.12	23.08	1.41
4.917	1.89	11.000	7.31	17.083	2.12	23.17	1.41
5.000	1.89	11.083	7.31	17.167	2.12	23.25	1.41
5.083	1.89	11.167	7.31	17.250	2.12	23.33	1.41
5.167	1.89	11.250	7.31	17.333	2.12	23.42	1.41
5.250	1.89	11.333	11.32	17.417	2.12	23.50	1.41
5.333	1.89	11.417	11.32	17.500	2.12	23.58	1.41
5.417	1.89	11.500	11.32	17.583	2.12	23.67	1.41
5.500	1.89	11.583	11.32	17.667	2.12	23.75	1.41
5.583	1.89	11.667	11.32	17.750	2.12	23.83	1.41
5.667	1.89	11.750	11.32	17.833	2.12	23.92	1.41
5.750	1.89	11.833	34.90	17.917	2.12	24.00	1.41
5.833	1.89	11.917	34.90	18.000	2.12	24.08	1.41
5.917	1.89	12.000	34.90	18.083	2.12	24.17	1.41
6.000	1.89	12.083	144.31	18.167	2.12	24.25	1.41
6.083	1.89	12.167	144.32	18.250	2.12		

Unit Hyd Qpeak (cms)= 0.365

PEAK FLOW (cms)= 0.183 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 40.489
TOTAL RAINFALL (mm)= 117.910
RUNOFF COEFFICIENT = 0.343

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

CALIB
STANDHYD (0208)
ID= 1 DT= 5.0 min

Area (ha)= 6.40
Total Imp(%)= 51.70 Dir. Conn.(%)= 26.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.31	3.09
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00

Length (m)=	206.56	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	1.89	12.250	144.32	18.33	2.12
0.167	0.00	6.250	1.89	12.333	17.00	18.42	2.12
0.250	0.00	6.333	2.12	12.417	16.98	18.50	2.12
0.333	1.30	6.417	2.12	12.500	16.98	18.58	2.12
0.417	1.30	6.500	2.12	12.583	16.98	18.67	2.12
0.500	1.30	6.583	2.12	12.667	16.98	18.75	2.12
0.583	1.30	6.667	2.12	12.750	16.98	18.83	2.12
0.667	1.30	6.750	2.12	12.833	8.73	18.92	2.12
0.750	1.30	6.833	2.12	12.917	8.73	19.00	2.12
0.833	1.30	6.917	2.12	13.000	8.73	19.08	2.12
0.917	1.30	7.000	2.12	13.083	8.73	19.17	2.12
1.000	1.30	7.083	2.12	13.167	8.73	19.25	2.12
1.083	1.30	7.167	2.12	13.250	8.73	19.33	2.12
1.167	1.30	7.250	2.12	13.333	6.37	19.42	2.12
1.250	1.30	7.333	2.59	13.417	6.37	19.50	2.12
1.333	1.30	7.417	2.59	13.500	6.37	19.58	2.12
1.417	1.30	7.500	2.59	13.583	6.37	19.67	2.12
1.500	1.30	7.583	2.59	13.667	6.37	19.75	2.12
1.583	1.30	7.667	2.59	13.750	6.37	19.83	2.12
1.667	1.30	7.750	2.59	13.833	4.95	19.92	2.12
1.750	1.30	7.833	2.59	13.917	4.95	20.00	2.12
1.833	1.30	7.917	2.59	14.000	4.95	20.08	2.12
1.917	1.30	8.000	2.59	14.083	4.95	20.17	2.12
2.000	1.30	8.083	2.59	14.167	4.95	20.25	2.12
2.083	1.30	8.167	2.59	14.250	4.95	20.33	1.41
2.167	1.30	8.250	2.59	14.333	3.54	20.42	1.41
2.250	1.30	8.333	3.07	14.417	3.54	20.50	1.41
2.333	1.53	8.417	3.07	14.500	3.54	20.58	1.41
2.417	1.53	8.500	3.07	14.583	3.54	20.67	1.41
2.500	1.53	8.583	3.07	14.667	3.54	20.75	1.41
2.583	1.53	8.667	3.07	14.750	3.54	20.83	1.41
2.667	1.53	8.750	3.07	14.833	3.54	20.92	1.41
2.750	1.53	8.833	3.30	14.917	3.54	21.00	1.41
2.833	1.53	8.917	3.30	15.000	3.54	21.08	1.41
2.917	1.53	9.000	3.30	15.083	3.54	21.17	1.41
3.000	1.53	9.083	3.30	15.167	3.54	21.25	1.41
3.083	1.53	9.167	3.30	15.250	3.54	21.33	1.41
3.167	1.53	9.250	3.30	15.333	3.54	21.42	1.41
3.250	1.53	9.333	3.77	15.417	3.54	21.50	1.41
3.333	1.53	9.417	3.77	15.500	3.54	21.58	1.41
3.417	1.53	9.500	3.77	15.583	3.54	21.67	1.41
3.500	1.53	9.583	3.77	15.667	3.54	21.75	1.41
3.583	1.53	9.667	3.77	15.750	3.54	21.83	1.41
3.667	1.53	9.750	3.77	15.833	3.54	21.92	1.41
3.750	1.53	9.833	4.24	15.917	3.54	22.00	1.41
3.833	1.53	9.917	4.24	16.000	3.54	22.08	1.41
3.917	1.53	10.000	4.24	16.083	3.54	22.17	1.41
4.000	1.53	10.083	4.24	16.167	3.54	22.25	1.41
4.083	1.53	10.167	4.24	16.250	3.54	22.33	1.41
4.167	1.53	10.250	4.24	16.333	2.12	22.42	1.41
4.250	1.53	10.333	5.42	16.417	2.12	22.50	1.41
4.333	1.89	10.417	5.42	16.500	2.12	22.58	1.41
4.417	1.89	10.500	5.42	16.583	2.12	22.67	1.41
4.500	1.89	10.583	5.42	16.667	2.12	22.75	1.41
4.583	1.89	10.667	5.42	16.750	2.12	22.83	1.41
4.667	1.89	10.750	5.42	16.833	2.12	22.92	1.41
4.750	1.89	10.833	7.31	16.917	2.12	23.00	1.41
4.833	1.89	10.917	7.31	17.000	2.12	23.08	1.41
4.917	1.89	11.000	7.31	17.083	2.12	23.17	1.41
5.000	1.89	11.083	7.31	17.167	2.12	23.25	1.41
5.083	1.89	11.167	7.31	17.250	2.12	23.33	1.41
5.167	1.89	11.250	7.31	17.333	2.12	23.42	1.41
5.250	1.89	11.333	11.32	17.417	2.12	23.50	1.41
5.333	1.89	11.417	11.32	17.500	2.12	23.58	1.41
5.417	1.89	11.500	11.32	17.583	2.12	23.67	1.41
5.500	1.89	11.583	11.32	17.667	2.12	23.75	1.41
5.583	1.89	11.667	11.32	17.750	2.12	23.83	1.41
5.667	1.89	11.750	11.32	17.833	2.12	23.92	1.41
5.750	1.89	11.833	34.90	17.917	2.12	24.00	1.41
5.833	1.89	11.917	34.90	18.000	2.12	24.08	1.41
5.917	1.89	12.000	34.90	18.083	2.12	24.17	1.41
6.000	1.89	12.083	144.31	18.167	2.12	24.25	1.41
6.083	1.89	12.167	144.32	18.250	2.12		

Max.Eff.Inten.(mm/hr)=	144.32	101.35	
over (min)	5.00	15.00	
Storage Coeff. (min)=	3.41 (ii)	10.43 (ii)	
Unit Hyd. Tpeak (min)=	5.00	15.00	
Unit Hyd. peak (cms)=	0.26	0.09	
			TOTALS
PEAK FLOW (cms)=	0.67	0.56	1.148 (iii)
TIME TO PEAK (hrs)=	12.25	12.33	12.25
RUNOFF VOLUME (mm)=	116.91	45.65	64.39
TOTAL RAINFALL (mm)=	117.91	117.91	117.91
RUNOFF COEFFICIENT =	0.99	0.39	0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)
(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL

THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0201)	Area (ha)= 18.69
ID= 1 DT= 5.0 min	Total Imp(%)= 51.00 Dir. Conn.(%)= 27.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.53	9.16
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	352.99	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	1.89	12.250	144.32	18.33	2.12
0.167	0.00	6.250	1.89	12.333	17.00	18.42	2.12
0.250	0.00	6.333	2.12	12.417	16.98	18.50	2.12
0.333	1.30	6.417	2.12	12.500	16.98	18.58	2.12
0.417	1.30	6.500	2.12	12.583	16.98	18.67	2.12
0.500	1.30	6.583	2.12	12.667	16.98	18.75	2.12
0.583	1.30	6.667	2.12	12.750	16.98	18.83	2.12
0.667	1.30	6.750	2.12	12.833	8.73	18.92	2.12
0.750	1.30	6.833	2.12	12.917	8.73	19.00	2.12
0.833	1.30	6.917	2.12	13.000	8.73	19.08	2.12
0.917	1.30	7.000	2.12	13.083	8.73	19.17	2.12
1.000	1.30	7.083	2.12	13.167	8.73	19.25	2.12
1.083	1.30	7.167	2.12	13.250	8.73	19.33	2.12
1.167	1.30	7.250	2.12	13.333	6.37	19.42	2.12
1.250	1.30	7.333	2.59	13.417	6.37	19.50	2.12
1.333	1.30	7.417	2.59	13.500	6.37	19.58	2.12
1.417	1.30	7.500	2.59	13.583	6.37	19.67	2.12
1.500	1.30	7.583	2.59	13.667	6.37	19.75	2.12
1.583	1.30	7.667	2.59	13.750	6.37	19.83	2.12
1.667	1.30	7.750	2.59	13.833	4.95	19.92	2.12
1.750	1.30	7.833	2.59	13.917	4.95	20.00	2.12
1.833	1.30	7.917	2.59	14.000	4.95	20.08	2.12
1.917	1.30	8.000	2.59	14.083	4.95	20.17	2.12
2.000	1.30	8.083	2.59	14.167	4.95	20.25	2.12
2.083	1.30	8.167	2.59	14.250	4.95	20.33	1.41
2.167	1.30	8.250	2.59	14.333	3.54	20.42	1.41
2.250	1.30	8.333	3.07	14.417	3.54	20.50	1.41
2.333	1.53	8.417	3.07	14.500	3.54	20.58	1.41
2.417	1.53	8.500	3.07	14.583	3.54	20.67	1.41
2.500	1.53	8.583	3.07	14.667	3.54	20.75	1.41
2.583	1.53	8.667	3.07	14.750	3.54	20.83	1.41
2.667	1.53	8.750	3.07	14.833	3.54	20.92	1.41
2.750	1.53	8.833	3.30	14.917	3.54	21.00	1.41
2.833	1.53	8.917	3.30	15.000	3.54	21.08	1.41
2.917	1.53	9.000	3.30	15.083	3.54	21.17	1.41
3.000	1.53	9.083	3.30	15.167	3.54	21.25	1.41
3.083	1.53	9.167	3.30	15.250	3.54	21.33	1.41
3.167	1.53	9.250	3.30	15.333	3.54	21.42	1.41
3.250	1.53	9.333	3.77	15.417	3.54	21.50	1.41
3.333	1.53	9.417	3.77	15.500	3.54	21.58	1.41
3.417	1.53	9.500	3.77	15.583	3.54	21.67	1.41
3.500	1.53	9.583	3.77	15.667	3.54	21.75	1.41
3.583	1.53	9.667	3.77	15.750	3.54	21.83	1.41
3.667	1.53	9.750	3.77	15.833	3.54	21.92	1.41
3.750	1.53	9.833	4.24	15.917	3.54	22.00	1.41
3.833	1.53	9.917	4.24	16.000	3.54	22.08	1.41
3.917	1.53	10.000	4.24	16.083	3.54	22.17	1.41
4.000	1.53	10.083	4.24	16.167	3.54	22.25	1.41
4.083	1.53	10.167	4.24	16.250	3.54	22.33	1.41
4.167	1.53	10.250	4.24	16.333	2.12	22.42	1.41
4.250	1.53	10.333	5.42	16.417	2.12	22.50	1.41
4.333	1.89	10.417	5.42	16.500	2.12	22.58	1.41
4.417	1.89	10.500	5.42	16.583	2.12	22.67	1.41
4.500	1.89	10.583	5.42	16.667	2.12	22.75	1.41
4.583	1.89	10.667	5.42	16.750	2.12	22.83	1.41
4.667	1.89	10.750	5.42	16.833	2.12	22.92	1.41
4.750	1.89	10.833	7.31	16.917	2.12	23.00	1.41
4.833	1.89	10.917	7.31	17.000	2.12	23.08	1.41
4.917	1.89	11.000	7.31	17.083	2.12	23.17	1.41
5.000	1.89	11.083	7.31	17.167	2.12	23.25	1.41
5.083	1.89	11.167	7.31	17.250	2.12	23.33	1.41
5.167	1.89	11.250	7.31	17.333	2.12	23.42	1.41
5.250	1.89	11.333	11.32	17.417	2.12	23.50	1.41
5.333	1.89	11.417	11.32	17.500	2.12	23.58	1.41
5.417	1.89	11.500	11.32	17.583	2.12	23.67	1.41
5.500	1.89	11.583	11.32	17.667	2.12	23.75	1.41
5.583	1.89	11.667	11.32	17.750	2.12	23.83	1.41
5.667	1.89	11.750	11.32	17.833	2.12	23.92	1.41
5.750	1.89	11.833	34.90	17.917	2.12	24.00	1.41
5.833	1.89	11.917	34.90	18.000	2.12	24.08	1.41
5.917	1.89	12.000	34.90	18.083	2.12	24.17	1.41
6.000	1.89	12.083	144.31	18.167	2.12	24.25	1.41
6.083	1.89	12.167	144.32	18.250	2.12		

Max.Eff.Inten.(mm/hr)=	144.32	97.41
over (min)	5.00	15.00
Storage Coeff. (min)=	4.70 (ii)	11.83 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00

```
     Unit Hyd. peak  (cms)=       0.22         0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.96         1.51          3.244 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.33         12.25
     RUNOFF VOLUME    (mm)=     116.91        44.94         64.37
     TOTAL RAINFALL   (mm)=     117.91       117.91        117.91
     RUNOFF COEFFICIENT   =       0.99         0.38          0.55

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  49.0    Ia = Dep. 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  (  0904)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0201):    18.69   3.244    12.25    64.37
     + ID2= 2 (  0208):     6.40   1.148    12.25    64.39
       ================================================
       ID = 3 (  0904):    25.09   4.392    12.25    64.38

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

--------------------
| ADD HYD  (  0904)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 3 (  0904):    25.09   4.392    12.25    64.38
     + ID2= 2 (  0301):     1.72   0.183    12.33    40.49
       ================================================
       ID = 1 (  0904):    26.81   4.569    12.25    62.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0401)|     OVERFLOW IS OFF
| IN= 2---> OUT= 1 |
| DT=  5.0 min     |     OUTFLOW    STORAGE   |  OUTFLOW    STORAGE
--------------------      (cms)     (ha.m.)   |   (cms)     (ha.m.)
                          0.0000     0.0000   |   0.8060      0.3760
                          0.0080     0.0310   |   1.3400      0.4210
                          0.0170     0.0630   |   2.0150      0.4680
                          0.0230     0.0970   |   2.1780      0.6190
                          0.0280     0.1330   |   2.4650      0.7250
                          0.0320     0.1700   |   3.1360      0.7810
                          0.0360     0.2080   |   4.2010      0.8390
                          0.0390     0.2480   |   4.8940      0.8680
                          0.1590     0.2890   |   6.6200      0.9280
                          0.4120     0.3320   |   8.8340      0.9890

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0904)     26.810      4.569     12.25      62.84
   OUTFLOW: ID= 1 (  0401)     26.810      2.124     12.50      62.81

                PEAK   FLOW   REDUCTION [Qout/Qin](%)= 46.49
                TIME SHIFT OF PEAK FLOW         (min)= 15.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.5721

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--------------------
| CALIB            |
| NASHYD   (  0302)|   Area    (ha)=   1.49   Curve Number   (CN)= 66.8
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.34   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.44

        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    1.89 |12.250  144.32 | 18.33    2.12
 0.167    0.00 | 6.250    1.89 |12.333   17.00 | 18.42    2.12
 0.250    0.00 | 6.333    2.12 |12.417   16.98 | 18.50    2.12
 0.333    1.30 | 6.417    2.12 |12.500   16.98 | 18.58    2.12
 0.417    1.30 | 6.500    2.12 |12.583   16.98 | 18.67    2.12
 0.500    1.30 | 6.583    2.12 |12.667   16.98 | 18.75    2.12
 0.583    1.30 | 6.667    2.12 |12.750   16.98 | 18.83    2.12
 0.667    1.30 | 6.750    2.12 |12.833    8.73 | 18.92    2.12
 0.750    1.30 | 6.833    2.12 |12.917    8.73 | 19.00    2.12
 0.833    1.30 | 6.917    2.12 |13.000    8.73 | 19.08    2.12
 0.917    1.30 | 7.000    2.12 |13.083    8.73 | 19.17    2.12
 1.000    1.30 | 7.083    2.12 |13.167    8.73 | 19.25    2.12
 1.083    1.30 | 7.167    2.12 |13.250    8.73 | 19.33    2.12
 1.167    1.30 | 7.250    2.12 |13.333    6.37 | 19.42    2.12
 1.250    1.30 | 7.333    2.59 |13.417    6.37 | 19.50    2.12
 1.333    1.30 | 7.417    2.59 |13.500    6.37 | 19.58    2.12
 1.417    1.30 | 7.500    2.59 |13.583    6.37 | 19.67    2.12
 1.500    1.30 | 7.583    2.59 |13.667    6.37 | 19.75    2.12
 1.583    1.30 | 7.667    2.59 |13.750    6.37 | 19.83    2.12
 1.667    1.30 | 7.750    2.59 |13.833    4.95 | 19.92    2.12
 1.750    1.30 | 7.833    2.59 |13.917    4.95 | 20.00    2.12
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1.833	1.30	7.917	2.59	14.000	4.95	20.08	2.12
1.917	1.30	8.000	2.59	14.083	4.95	20.17	2.12
2.000	1.30	8.083	2.59	14.167	4.95	20.25	2.12
2.083	1.30	8.167	2.59	14.250	4.95	20.33	1.41
2.167	1.30	8.250	2.59	14.333	3.54	20.42	1.41
2.250	1.30	8.333	3.07	14.417	3.54	20.50	1.41
2.333	1.53	8.417	3.07	14.500	3.54	20.58	1.41
2.417	1.53	8.500	3.07	14.583	3.54	20.67	1.41
2.500	1.53	8.583	3.07	14.667	3.54	20.75	1.41
2.583	1.53	8.667	3.07	14.750	3.54	20.83	1.41
2.667	1.53	8.750	3.07	14.833	3.54	20.92	1.41
2.750	1.53	8.833	3.30	14.917	3.54	21.00	1.41
2.833	1.53	8.917	3.30	15.000	3.54	21.08	1.41
2.917	1.53	9.000	3.30	15.083	3.54	21.17	1.41
3.000	1.53	9.083	3.30	15.167	3.54	21.25	1.41
3.083	1.53	9.167	3.30	15.250	3.54	21.33	1.41
3.167	1.53	9.250	3.30	15.333	3.54	21.42	1.41
3.250	1.53	9.333	3.77	15.417	3.54	21.50	1.41
3.333	1.53	9.417	3.77	15.500	3.54	21.58	1.41
3.417	1.53	9.500	3.77	15.583	3.54	21.67	1.41
3.500	1.53	9.583	3.77	15.667	3.54	21.75	1.41
3.583	1.53	9.667	3.77	15.750	3.54	21.83	1.41
3.667	1.53	9.750	3.77	15.833	3.54	21.92	1.41
3.750	1.53	9.833	4.24	15.917	3.54	22.00	1.41
3.833	1.53	9.917	4.24	16.000	3.54	22.08	1.41
3.917	1.53	10.000	4.24	16.083	3.54	22.17	1.41
4.000	1.53	10.083	4.24	16.167	3.54	22.25	1.41
4.083	1.53	10.167	4.24	16.250	3.54	22.33	1.41
4.167	1.53	10.250	4.24	16.333	2.12	22.42	1.41
4.250	1.53	10.333	5.42	16.417	2.12	22.50	1.41
4.333	1.89	10.417	5.42	16.500	2.12	22.58	1.41
4.417	1.89	10.500	5.42	16.583	2.12	22.67	1.41
4.500	1.89	10.583	5.42	16.667	2.12	22.75	1.41
4.583	1.89	10.667	5.42	16.750	2.12	22.83	1.41
4.667	1.89	10.750	5.42	16.833	2.12	22.92	1.41
4.750	1.89	10.833	7.31	16.917	2.12	23.00	1.41
4.833	1.89	10.917	7.31	17.000	2.12	23.08	1.41
4.917	1.89	11.000	7.31	17.083	2.12	23.17	1.41
5.000	1.89	11.083	7.31	17.167	2.12	23.25	1.41
5.083	1.89	11.167	7.31	17.250	2.12	23.33	1.41
5.167	1.89	11.250	7.31	17.333	2.12	23.42	1.41
5.250	1.89	11.333	11.32	17.417	2.12	23.50	1.41
5.333	1.89	11.417	11.32	17.500	2.12	23.58	1.41
5.417	1.89	11.500	11.32	17.583	2.12	23.67	1.41
5.500	1.89	11.583	11.32	17.667	2.12	23.75	1.41
5.583	1.89	11.667	11.32	17.750	2.12	23.83	1.41
5.667	1.89	11.750	11.32	17.833	2.12	23.92	1.41
5.750	1.89	11.833	34.90	17.917	2.12	24.00	1.41
5.833	1.89	11.917	34.90	18.000	2.12	24.08	1.41
5.917	1.89	12.000	34.90	18.083	2.12	24.17	1.41
6.000	1.89	12.083	144.31	18.167	2.12	24.25	1.41
6.083	1.89	12.167	144.32	18.250	2.12		

Unit Hyd Qpeak (cms)= 0.129

PEAK FLOW (cms)= 0.114 (i)
TIME TO PEAK (hrs)= 12.583
RUNOFF VOLUME (mm)= 52.339
TOTAL RAINFALL (mm)= 117.910
RUNOFF COEFFICIENT = 0.444

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

CALIB	
STANDHYD (0207)	Area (ha)= 2.21
ID= 1 DT= 5.0 min	Total Imp(%)= 40.70 Dir. Conn.(%)= 13.80

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.90	1.31
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	121.38	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	1.89	12.250	144.32	18.33	2.12
0.167	0.00	6.250	1.89	12.333	17.00	18.42	2.12
0.250	0.00	6.333	2.12	12.417	16.98	18.50	2.12
0.333	1.30	6.417	2.12	12.500	16.98	18.58	2.12
0.417	1.30	6.500	2.12	12.583	16.98	18.67	2.12
0.500	1.30	6.583	2.12	12.667	16.98	18.75	2.12
0.583	1.30	6.667	2.12	12.750	16.98	18.83	2.12
0.667	1.30	6.750	2.12	12.833	8.73	18.92	2.12
0.750	1.30	6.833	2.12	12.917	8.73	19.00	2.12
0.833	1.30	6.917	2.12	13.000	8.73	19.08	2.12
0.917	1.30	7.000	2.12	13.083	8.73	19.17	2.12
1.000	1.30	7.083	2.12	13.167	8.73	19.25	2.12
1.083	1.30	7.167	2.12	13.250	8.73	19.33	2.12
1.167	1.30	7.250	2.12	13.333	6.37	19.42	2.12
1.250	1.30	7.333	2.59	13.417	6.37	19.50	2.12
1.333	1.30	7.417	2.59	13.500	6.37	19.58	2.12
1.417	1.30	7.500	2.59	13.583	6.37	19.67	2.12
1.500	1.30	7.583	2.59	13.667	6.37	19.75	2.12

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1.583    1.30 | 7.667    2.59 |13.750    6.37 | 19.83    2.12
1.667    1.30 | 7.750    2.59 |13.833    4.95 | 19.92    2.12
1.750    1.30 | 7.833    2.59 |13.917    4.95 | 20.00    2.12
1.833    1.30 | 7.917    2.59 |14.000    4.95 | 20.08    2.12
1.917    1.30 | 8.000    2.59 |14.083    4.95 | 20.17    2.12
2.000    1.30 | 8.083    2.59 |14.167    4.95 | 20.25    2.12
2.083    1.30 | 8.167    2.59 |14.250    4.95 | 20.33    1.41
2.167    1.30 | 8.250    2.59 |14.333    3.54 | 20.42    1.41
2.250    1.30 | 8.333    3.07 |14.417    3.54 | 20.50    1.41
2.333    1.53 | 8.417    3.07 |14.500    3.54 | 20.58    1.41
2.417    1.53 | 8.500    3.07 |14.583    3.54 | 20.67    1.41
2.500    1.53 | 8.583    3.07 |14.667    3.54 | 20.75    1.41
2.583    1.53 | 8.667    3.07 |14.750    3.54 | 20.83    1.41
2.667    1.53 | 8.750    3.07 |14.833    3.54 | 20.92    1.41
2.750    1.53 | 8.833    3.30 |14.917    3.54 | 21.00    1.41
2.833    1.53 | 8.917    3.30 |15.000    3.54 | 21.08    1.41
2.917    1.53 | 9.000    3.30 |15.083    3.54 | 21.17    1.41
3.000    1.53 | 9.083    3.30 |15.167    3.54 | 21.25    1.41
3.083    1.53 | 9.167    3.30 |15.250    3.54 | 21.33    1.41
3.167    1.53 | 9.250    3.30 |15.333    3.54 | 21.42    1.41
3.250    1.53 | 9.333    3.77 |15.417    3.54 | 21.50    1.41
3.333    1.53 | 9.417    3.77 |15.500    3.54 | 21.58    1.41
3.417    1.53 | 9.500    3.77 |15.583    3.54 | 21.67    1.41
3.500    1.53 | 9.583    3.77 |15.667    3.54 | 21.75    1.41
3.583    1.53 | 9.667    3.77 |15.750    3.54 | 21.83    1.41
3.667    1.53 | 9.750    3.77 |15.833    3.54 | 21.92    1.41
3.750    1.53 | 9.833    4.24 |15.917    3.54 | 22.00    1.41
3.833    1.53 | 9.917    4.24 |16.000    3.54 | 22.08    1.41
3.917    1.53 |10.000    4.24 |16.083    3.54 | 22.17    1.41
4.000    1.53 |10.083    4.24 |16.167    3.54 | 22.25    1.41
4.083    1.53 |10.167    4.24 |16.250    3.54 | 22.33    1.41
4.167    1.53 |10.250    4.24 |16.333    2.12 | 22.42    1.41
4.250    1.53 |10.333    5.42 |16.417    2.12 | 22.50    1.41
4.333    1.89 |10.417    5.42 |16.500    2.12 | 22.58    1.41
4.417    1.89 |10.500    5.42 |16.583    2.12 | 22.67    1.41
4.500    1.89 |10.583    5.42 |16.667    2.12 | 22.75    1.41
4.583    1.89 |10.667    5.42 |16.750    2.12 | 22.83    1.41
4.667    1.89 |10.750    5.42 |16.833    2.12 | 22.92    1.41
4.750    1.89 |10.833    7.31 |16.917    2.12 | 23.00    1.41
4.833    1.89 |10.917    7.31 |17.000    2.12 | 23.08    1.41
4.917    1.89 |11.000    7.31 |17.083    2.12 | 23.17    1.41
5.000    1.89 |11.083    7.31 |17.167    2.12 | 23.25    1.41
5.083    1.89 |11.167    7.31 |17.250    2.12 | 23.33    1.41
5.167    1.89 |11.250    7.31 |17.333    2.12 | 23.42    1.41
5.250    1.89 |11.333   11.32 |17.417    2.12 | 23.50    1.41
5.333    1.89 |11.417   11.32 |17.500    2.12 | 23.58    1.41
5.417    1.89 |11.500   11.32 |17.583    2.12 | 23.67    1.41
5.500    1.89 |11.583   11.32 |17.667    2.12 | 23.75    1.41
5.583    1.89 |11.667   11.32 |17.750    2.12 | 23.83    1.41
5.667    1.89 |11.750   11.32 |17.833    2.12 | 23.92    1.41
5.750    1.89 |11.833   34.90 |17.917    2.12 | 24.00    1.41
5.833    1.89 |11.917   34.90 |18.000    2.12 | 24.08    1.41
5.917    1.89 |12.000   34.90 |18.083    2.12 | 24.17    1.41
6.000    1.89 |12.083  144.31 |18.167    2.12 | 24.25    1.41
6.083    1.89 |12.167  144.32 |18.250    2.12 |
```

```
     Max.Eff.Inten.(mm/hr)=     144.32        93.50
               over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.48 (ii)    9.73 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.11
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.12         0.24          0.358 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=     116.91        44.22          54.25
     TOTAL RAINFALL   (mm)=     117.91       117.91         117.91
     RUNOFF COEFFICIENT   =       0.99         0.38           0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  49.0    Ia = Dep. 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  (  0901)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0207):     2.21   0.358    12.25    54.25
     + ID2= 2 (  0302):     1.49   0.114    12.58    52.34
       ================================================
       ID = 3 (  0901):     3.70   0.422    12.25    53.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| DUHYD    (  0802)|
| Inlet Cap.= 0.060|
| #of Inlets=    10|
| Total(cms)=   0.6|      AREA     QPEAK     TPEAK    R.V.
--------------------      (ha)     (cms)     (hrs)    (mm)
     TOTAL HYD.(ID= 1):   3.70      0.42     12.25   53.48
     ================================================
     MAJOR SYS.(ID= 2):   0.00      0.00      0.00    0.00
```

MINOR SYS.(ID= 3): 3.70 0.42 12.25 53.48

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB	
STANDHYD (0203)	Area (ha)= 1.35
ID= 1 DT= 5.0 min	Total Imp(%)= 37.00 Dir. Conn.(%)= 10.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	0.50	0.85
Dep. Storage	(mm)=	1.00	4.89
Average Slope	(%)=	1.00	2.00
Length	(m)=	94.87	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	1.89	12.250	144.32	18.33	2.12
0.167	0.00	6.250	1.89	12.333	17.00	18.42	2.12
0.250	0.00	6.333	2.12	12.417	16.98	18.50	2.12
0.333	1.30	6.417	2.12	12.500	16.98	18.58	2.12
0.417	1.30	6.500	2.12	12.583	16.98	18.67	2.12
0.500	1.30	6.583	2.12	12.667	16.98	18.75	2.12
0.583	1.30	6.667	2.12	12.750	16.98	18.83	2.12
0.667	1.30	6.750	2.12	12.833	8.73	18.92	2.12
0.750	1.30	6.833	2.12	12.917	8.73	19.00	2.12
0.833	1.30	6.917	2.12	13.000	8.73	19.08	2.12
0.917	1.30	7.000	2.12	13.083	8.73	19.17	2.12
1.000	1.30	7.083	2.12	13.167	8.73	19.25	2.12
1.083	1.30	7.167	2.12	13.250	8.73	19.33	2.12
1.167	1.30	7.250	2.12	13.333	6.37	19.42	2.12
1.250	1.30	7.333	2.59	13.417	6.37	19.50	2.12
1.333	1.30	7.417	2.59	13.500	6.37	19.58	2.12
1.417	1.30	7.500	2.59	13.583	6.37	19.67	2.12
1.500	1.30	7.583	2.59	13.667	6.37	19.75	2.12
1.583	1.30	7.667	2.59	13.750	6.37	19.83	2.12
1.667	1.30	7.750	2.59	13.833	4.95	19.92	2.12
1.750	1.30	7.833	2.59	13.917	4.95	20.00	2.12
1.833	1.30	7.917	2.59	14.000	4.95	20.08	2.12
1.917	1.30	8.000	2.59	14.083	4.95	20.17	2.12
2.000	1.30	8.083	2.59	14.167	4.95	20.25	2.12
2.083	1.30	8.167	2.59	14.250	4.95	20.33	1.41
2.167	1.30	8.250	2.59	14.333	3.54	20.42	1.41
2.250	1.30	8.333	3.07	14.417	3.54	20.50	1.41
2.333	1.53	8.417	3.07	14.500	3.54	20.58	1.41
2.417	1.53	8.500	3.07	14.583	3.54	20.67	1.41
2.500	1.53	8.583	3.07	14.667	3.54	20.75	1.41
2.583	1.53	8.667	3.07	14.750	3.54	20.83	1.41
2.667	1.53	8.750	3.07	14.833	3.54	20.92	1.41
2.750	1.53	8.833	3.30	14.917	3.54	21.00	1.41
2.833	1.53	8.917	3.30	15.000	3.54	21.08	1.41
2.917	1.53	9.000	3.30	15.083	3.54	21.17	1.41
3.000	1.53	9.083	3.30	15.167	3.54	21.25	1.41
3.083	1.53	9.167	3.30	15.250	3.54	21.33	1.41
3.167	1.53	9.250	3.30	15.333	3.54	21.42	1.41
3.250	1.53	9.333	3.77	15.417	3.54	21.50	1.41
3.333	1.53	9.417	3.77	15.500	3.54	21.58	1.41
3.417	1.53	9.500	3.77	15.583	3.54	21.67	1.41
3.500	1.53	9.583	3.77	15.667	3.54	21.75	1.41
3.583	1.53	9.667	3.77	15.750	3.54	21.83	1.41
3.667	1.53	9.750	3.77	15.833	3.54	21.92	1.41
3.750	1.53	9.833	4.24	15.917	3.54	22.00	1.41
3.833	1.53	9.917	4.24	16.000	3.54	22.08	1.41
3.917	1.53	10.000	4.24	16.083	3.54	22.17	1.41
4.000	1.53	10.083	4.24	16.167	3.54	22.25	1.41
4.083	1.53	10.167	4.24	16.250	3.54	22.33	1.41
4.167	1.53	10.250	4.24	16.333	2.12	22.42	1.41
4.250	1.53	10.333	5.42	16.417	2.12	22.50	1.41
4.333	1.89	10.417	5.42	16.500	2.12	22.58	1.41
4.417	1.89	10.500	5.42	16.583	2.12	22.67	1.41
4.500	1.89	10.583	5.42	16.667	2.12	22.75	1.41
4.583	1.89	10.667	5.42	16.750	2.12	22.83	1.41
4.667	1.89	10.750	5.42	16.833	2.12	22.92	1.41
4.750	1.89	10.833	7.31	16.917	2.12	23.00	1.41
4.833	1.89	10.917	7.31	17.000	2.12	23.08	1.41
4.917	1.89	11.000	7.31	17.083	2.12	23.17	1.41
5.000	1.89	11.083	7.31	17.167	2.12	23.25	1.41
5.083	1.89	11.167	7.31	17.250	2.12	23.33	1.41
5.167	1.89	11.250	7.31	17.333	2.12	23.42	1.41
5.250	1.89	11.333	11.32	17.417	2.12	23.50	1.41
5.333	1.89	11.417	11.32	17.500	2.12	23.58	1.41
5.417	1.89	11.500	11.32	17.583	2.12	23.67	1.41
5.500	1.89	11.583	11.32	17.667	2.12	23.75	1.41
5.583	1.89	11.667	11.32	17.750	2.12	23.83	1.41
5.667	1.89	11.750	11.32	17.833	2.12	23.92	1.41
5.750	1.89	11.833	34.90	17.917	2.12	24.00	1.41
5.833	1.89	11.917	34.90	18.000	2.12	24.08	1.41
5.917	1.89	12.000	34.90	18.083	2.12	24.17	1.41
6.000	1.89	12.083	144.31	18.167	2.12	24.25	1.41
6.083	1.89	12.167	144.32	18.250	2.12		

Max.Eff.Inten.(mm/hr)=		144.32	97.65
	over (min)	5.00	10.00
Storage Coeff. (min)=		2.14 (ii)	9.26 (ii)

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     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.16          0.219 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=     116.91        47.06          54.25
     TOTAL RAINFALL   (mm)=     117.91       117.91         117.91
     RUNOFF COEFFICIENT   =       0.99         0.40           0.46

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  52.1    Ia = Dep. 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  (  0902)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
*** W A R N I N G :  HYDROGRAPH   0802 <ID= 2> IS DRY.
*** W A R N I N G :  HYDROGRAPH   0003 = HYDROGRAPH 0001
       ID1= 1 (  0203):     1.35   0.219    12.25    54.25
     + ID2= 2 (  0802):     0.00   0.000     0.00     0.00
       ================================================
       ID = 3 (  0902):     1.35   0.219    12.25    54.25

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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       V    V   I    SSSSS  U   U    A    L             (v 6.1.2001)
       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 6.1\VO2\voin.dat

  Output  filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\15
af7cd4-fe21-4389-95ce-c2734ae67f22\s
  Summary filename:
C:\Users\elundquist\AppData\Local\Civica\VH5\613203f8-f0b4-41ed-8556-1409f031b6b0\15
af7cd4-fe21-4389-95ce-c2734ae67f22\s


DATE: 02/21/2023                          TIME: 10:30:22

USER:



COMMENTS: _____________________________________________________


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  ************************************************
  ** SIMULATION : TIMMINS                       **
  ************************************************


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|    READ STORM    |    Filename: C:\Users\elundquist\AppD
|                  |              ata\Local\Temp\
|                  |              92778110-be2e-449f-b442-713bf880a61d\8100085f
| Ptotal=193.00 mm |    Comments: TIMMINS
--------------------
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.25   15.00 |  3.25    3.00 |  6.25   43.00 |  9.25   13.00
                0.50   15.00 |  3.50    3.00 |  6.50   43.00 |  9.50   13.00
                0.75   15.00 |  3.75    3.00 |  6.75   43.00 |  9.75   13.00
                1.00   15.00 |  4.00    3.00 |  7.00   43.00 | 10.00   13.00
                1.25   20.00 |  4.25    5.00 |  7.25   20.00 | 10.25   13.00
                1.50   20.00 |  4.50    5.00 |  7.50   20.00 | 10.50   13.00
                1.75   20.00 |  4.75    5.00 |  7.75   20.00 | 10.75   13.00
                2.00   20.00 |  5.00    5.00 |  8.00   20.00 | 11.00   13.00
                2.25   10.00 |  5.25   20.00 |  8.25   23.00 | 11.25    8.00
                2.50   10.00 |  5.50   20.00 |  8.50   23.00 | 11.50    8.00
                2.75   10.00 |  5.75   20.00 |  8.75   23.00 | 11.75    8.00
                3.00   10.00 |  6.00   20.00 |  9.00   23.00 | 12.00    8.00

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| CALIB            |
| NASHYD   (  0301)|   Area    (ha)=   1.72   Curve Number   (CN)= 55.6
|ID= 1 DT= 5.0 min |   Ia      (mm)=   4.61   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.18

        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   15.00 | 3.083    3.00 | 6.083   43.00 |  9.08   13.00
               0.167   15.00 | 3.167    3.00 | 6.167   43.00 |  9.17   13.00
               0.250   15.00 | 3.250    3.00 | 6.250   43.00 |  9.25   13.00
               0.333   15.00 | 3.333    3.00 | 6.333   43.00 |  9.33   13.00
               0.417   15.00 | 3.417    3.00 | 6.417   43.00 |  9.42   13.00
               0.500   15.00 | 3.500    3.00 | 6.500   43.00 |  9.50   13.00
               0.583   15.00 | 3.583    3.00 | 6.583   43.00 |  9.58   13.00
               0.667   15.00 | 3.667    3.00 | 6.667   43.00 |  9.67   13.00
               0.750   15.00 | 3.750    3.00 | 6.750   43.00 |  9.75   13.00
               0.833   15.00 | 3.833    3.00 | 6.833   43.00 |  9.83   13.00
               0.917   15.00 | 3.917    3.00 | 6.917   43.00 |  9.92   13.00
               1.000   15.00 | 4.000    3.00 | 7.000   43.00 | 10.00   13.00
               1.083   20.00 | 4.083    5.00 | 7.083   20.00 | 10.08   13.00
               1.167   20.00 | 4.167    5.00 | 7.167   20.00 | 10.17   13.00
               1.250   20.00 | 4.250    5.00 | 7.250   20.00 | 10.25   13.00
               1.333   20.00 | 4.333    5.00 | 7.333   20.00 | 10.33   13.00
               1.417   20.00 | 4.417    5.00 | 7.417   20.00 | 10.42   13.00
               1.500   20.00 | 4.500    5.00 | 7.500   20.00 | 10.50   13.00
```

1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Unit Hyd Qpeak (cms)= 0.365

PEAK FLOW (cms)= 0.114 (i)
TIME TO PEAK (hrs)= 7.000
RUNOFF VOLUME (mm)= 90.457
TOTAL RAINFALL (mm)= 193.000
RUNOFF COEFFICIENT = 0.469

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

CALIB
STANDHYD (0208) | Area (ha)= 6.40
ID= 1 DT= 5.0 min | Total Imp(%)= 51.70 Dir. Conn.(%)= 26.30

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	3.31	3.09
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	206.56	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	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Max.Eff.Inten.(mm/hr)=	43.00	40.59	
over (min)	5.00	20.00	
Storage Coeff. (min)=	5.53 (ii)	15.66 (ii)	
Unit Hyd. Tpeak (min)=	5.00	20.00	
Unit Hyd. peak (cms)=	0.20	0.07	
			TOTALS
PEAK FLOW (cms)=	0.20	0.32	0.523 (iii)
TIME TO PEAK (hrs)=	7.00	7.00	7.00
RUNOFF VOLUME (mm)=	192.00	99.16	123.58
TOTAL RAINFALL (mm)=	193.00	193.00	193.00
RUNOFF COEFFICIENT =	0.99	0.51	0.64

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. Storage (Above)

(ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
THAN THE STORAGE COEFFICIENT.
(iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

CALIB	
STANDHYD (0201)	Area (ha)= 18.69
ID= 1 DT= 5.0 min	Total Imp(%)= 51.00 Dir. Conn.(%)= 27.00

		IMPERVIOUS	PERVIOUS (i)
Surface Area	(ha)=	9.53	9.16
Dep. Storage	(mm)=	1.00	5.00
Average Slope	(%)=	1.00	2.00
Length	(m)=	352.99	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	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

				TOTALS
Max.Eff.Inten.(mm/hr)=	43.00	39.17		
over (min)	10.00	20.00		
Storage Coeff. (min)=	7.63 (ii)	17.90 (ii)		
Unit Hyd. Tpeak (min)=	10.00	20.00		
Unit Hyd. peak (cms)=	0.13	0.06		
PEAK FLOW (cms)=	0.60	0.90		1.507 (iii)
TIME TO PEAK (hrs)=	7.00	7.00		7.00
RUNOFF VOLUME (mm)=	192.00	97.97		123.36
TOTAL RAINFALL (mm)=	193.00	193.00		193.00
RUNOFF COEFFICIENT =	0.99	0.51		0.64

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. 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 (0904)					
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0201):	18.69	1.507	7.00	123.36
+ ID2= 2 (0208):	6.40	0.523	7.00	123.58
ID = 3 (0904):	25.09	2.030	7.00	123.41

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0904)					
3 + 2 = 1	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 3 (0904):	25.09	2.030	7.00	123.41
+ ID2= 2 (0301):	1.72	0.114	7.00	90.46

ID = 1 (0904): 26.81 2.144 7.00 121.30

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

RESERVOIR(0401) IN= 2---> OUT= 1 DT= 5.0 min	OVERFLOW IS OFF			
	OUTFLOW (cms)	STORAGE (ha.m.)	OUTFLOW (cms)	STORAGE (ha.m.)
	0.0000	0.0000	0.8060	0.3760
	0.0080	0.0310	1.3400	0.4210
	0.0170	0.0630	2.0150	0.4680
	0.0230	0.0970	2.1780	0.6190
	0.0280	0.1330	2.4650	0.7250
	0.0320	0.1700	3.1360	0.7810
	0.0360	0.2080	4.2010	0.8390
	0.0390	0.2480	4.8940	0.8680
	0.1590	0.2890	6.6200	0.9280
	0.4120	0.3320	8.8340	0.9890

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
INFLOW : ID= 2 (0904)	26.810	2.144	7.00	121.30
OUTFLOW: ID= 1 (0401)	26.810	2.018	7.08	121.26

PEAK FLOW REDUCTION [Qout/Qin](%)= 94.11
TIME SHIFT OF PEAK FLOW (min)= 5.00
MAXIMUM STORAGE USED (ha.m.)= 0.4707

CALIB NASHYD (0302) ID= 1 DT= 5.0 min	Area (ha)= 1.49	Curve Number (CN)= 66.8
	Ia (mm)= 6.34	# of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= 0.44	

NOTE: RAINFALL WAS TRANSFORMED TO 5.0 MIN. TIME STEP.

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
0.083	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Unit Hyd Qpeak (cms)= 0.129

PEAK FLOW (cms)= 0.108 (i)
TIME TO PEAK (hrs)= 7.083
RUNOFF VOLUME (mm)= 111.342
TOTAL RAINFALL (mm)= 193.000
RUNOFF COEFFICIENT = 0.577

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

CALIB STANDHYD (0207) ID= 1 DT= 5.0 min	Area (ha)= 2.21		
	Total Imp(%)= 40.70	Dir. Conn.(%)= 13.80	
		IMPERVIOUS	PERVIOUS (i)
	Surface Area (ha)=	0.90	1.31
	Dep. Storage (mm)=	1.00	5.00
	Average Slope (%)=	1.00	2.00
	Length (m)=	121.38	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	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Max.Eff.Inten.(mm/hr)=	43.00	37.75
over (min)	5.00	15.00
Storage Coeff. (min)=	4.02 (ii)	14.44 (ii)
Unit Hyd. Tpeak (min)=	5.00	15.00
Unit Hyd. peak (cms)=	0.24	0.08

			TOTALS
PEAK FLOW (cms)=	0.04	0.13	0.166 (iii)
TIME TO PEAK (hrs)=	6.92	7.00	7.00
RUNOFF VOLUME (mm)=	192.00	96.74	109.88
TOTAL RAINFALL (mm)=	193.00	193.00	193.00
RUNOFF COEFFICIENT =	0.99	0.50	0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 49.0 Ia = Dep. 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 (0901)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
1 + 2 = 3	ID1= 1 (0207):	2.21	0.166	7.00	109.88
	+ ID2= 2 (0302):	1.49	0.108	7.08	111.34
	ID = 3 (0901):	3.70	0.271	7.00	110.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

DUHYD (0802)		AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
Inlet Cap.= 0.060					
#of Inlets= 10					
Total(cms)= 0.6	TOTAL HYD.(ID= 1):	3.70	0.27	7.00	110.47
	MAJOR SYS.(ID= 2):	0.00	0.00	0.00	0.00
	MINOR SYS.(ID= 3):	3.70	0.27	7.00	110.47

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

CALIB				
STANDHYD (0203)	Area (ha)= 1.35			
ID= 1 DT= 5.0 min	Total Imp(%)= 37.40	Dir. Conn.(%)= 10.30		
		IMPERVIOUS	PERVIOUS (i)	

Surface Area	(ha)=	0.50	0.85
Dep. Storage	(mm)=	1.00	4.89
Average Slope	(%)=	1.00	2.00
Length	(m)=	94.87	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	15.00	3.083	3.00	6.083	43.00	9.08	13.00
0.167	15.00	3.167	3.00	6.167	43.00	9.17	13.00
0.250	15.00	3.250	3.00	6.250	43.00	9.25	13.00
0.333	15.00	3.333	3.00	6.333	43.00	9.33	13.00
0.417	15.00	3.417	3.00	6.417	43.00	9.42	13.00
0.500	15.00	3.500	3.00	6.500	43.00	9.50	13.00
0.583	15.00	3.583	3.00	6.583	43.00	9.58	13.00
0.667	15.00	3.667	3.00	6.667	43.00	9.67	13.00
0.750	15.00	3.750	3.00	6.750	43.00	9.75	13.00
0.833	15.00	3.833	3.00	6.833	43.00	9.83	13.00
0.917	15.00	3.917	3.00	6.917	43.00	9.92	13.00
1.000	15.00	4.000	3.00	7.000	43.00	10.00	13.00
1.083	20.00	4.083	5.00	7.083	20.00	10.08	13.00
1.167	20.00	4.167	5.00	7.167	20.00	10.17	13.00
1.250	20.00	4.250	5.00	7.250	20.00	10.25	13.00
1.333	20.00	4.333	5.00	7.333	20.00	10.33	13.00
1.417	20.00	4.417	5.00	7.417	20.00	10.42	13.00
1.500	20.00	4.500	5.00	7.500	20.00	10.50	13.00
1.583	20.00	4.583	5.00	7.583	20.00	10.58	13.00
1.667	20.00	4.667	5.00	7.667	20.00	10.67	13.00
1.750	20.00	4.750	5.00	7.750	20.00	10.75	13.00
1.833	20.00	4.833	5.00	7.833	20.00	10.83	13.00
1.917	20.00	4.917	5.00	7.917	20.00	10.92	13.00
2.000	20.00	5.000	5.00	8.000	20.00	11.00	13.00
2.083	10.00	5.083	20.00	8.083	23.00	11.08	8.00
2.167	10.00	5.167	20.00	8.167	23.00	11.17	8.00
2.250	10.00	5.250	20.00	8.250	23.00	11.25	8.00
2.333	10.00	5.333	20.00	8.333	23.00	11.33	8.00
2.417	10.00	5.417	20.00	8.417	23.00	11.42	8.00
2.500	10.00	5.500	20.00	8.500	23.00	11.50	8.00
2.583	10.00	5.583	20.00	8.583	23.00	11.58	8.00
2.667	10.00	5.667	20.00	8.667	23.00	11.67	8.00
2.750	10.00	5.750	20.00	8.750	23.00	11.75	8.00
2.833	10.00	5.833	20.00	8.833	23.00	11.83	8.00
2.917	10.00	5.917	20.00	8.917	23.00	11.92	8.00
3.000	10.00	6.000	20.00	9.000	23.00	12.00	8.00

Max.Eff.Inten.(mm/hr)=		43.00	39.19
over (min)		5.00	15.00
Storage Coeff. (min)=		3.47 (ii)	13.74 (ii)
Unit Hyd. Tpeak (min)=		5.00	15.00
Unit Hyd. peak (cms)=		0.26	0.08
			TOTALS
PEAK FLOW	(cms)=	0.02	0.09	0.104 (iii)
TIME TO PEAK	(hrs)=	6.75	7.00	7.00
RUNOFF VOLUME	(mm)=	192.00	101.95	111.22
TOTAL RAINFALL	(mm)=	193.00	193.00	193.00
RUNOFF COEFFICIENT	=	0.99	0.53	0.58

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
YOU SHOULD CONSIDER SPLITTING THE AREA.

(i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
CN* = 52.1 Ia = Dep. 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 (0902)					
1 + 2 = 3		AREA	QPEAK	TPEAK	R.V.
		(ha)	(cms)	(hrs)	(mm)
*** W A R N I N G : HYDROGRAPH 0802 <ID= 2> IS DRY.					
*** W A R N I N G : HYDROGRAPH 0003 = HYDROGRAPH 0001					
ID1= 1 (0203):		1.35	0.104	7.00	111.22
+ ID2= 2 (0802):		0.00	0.000	0.00	0.00
==========					
ID = 3 (0902):		1.35	0.104	7.00	111.22

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

Appendix C:
Supporting Calculations

SUMMIT VIEW SUBDIVISION
Volume Table - Pond

Bottom Elev. 196.70
Top Elev. 200.75

Elev.	Depth	Areas		Volumes				
(m)	(m)	Area (m^2)	Avg. Area (m^2)	Dead (m^3)	Accum. Dead (m^3)	Live (m^3)	Accum. Live (m^3)	Total Volume (m^3)
196.70	0.00	**1476.70**	0.00	0.0	0.0	0.0	0.0	0.0
196.80	0.10	1542.67	1509.68	151.0	151.0	0.0	0.0	151.0
196.90	0.20	1608.33	1575.50	157.5	308.5	0.0	0.0	308.5
197.00	0.30	1674.00	1641.17	164.1	472.6	0.0	0.0	472.6
197.10	0.40	1739.67	1706.83	170.7	643.3	0.0	0.0	643.3
197.20	0.50	1805.33	1772.50	177.2	820.6	0.0	0.0	820.6
197.30	0.60	1871.00	1838.17	183.8	1004.4	0.0	0.0	1004.4
197.40	0.70	1936.67	1903.83	190.4	1194.8	0.0	0.0	1194.8
197.50	0.80	2002.33	1969.50	196.9	1391.7	0.0	0.0	1391.7
197.60	0.90	2068.00	2035.17	203.5	1595.2	0.0	0.0	1595.2
197.70	1.00	2133.67	2100.83	210.1	1805.3	0.0	0.0	1805.3
197.80	1.10	2199.33	2166.50	216.6	2022.0	0.0	0.0	2022.0
197.90	1.20	**2264.81**	2232.07	223.2	2245.2	0.0	0.0	2245.2
198.00	1.30	2390.00	2327.41	232.7	2477.9	0.0	0.0	2477.9
198.10	1.40	2515.00	2452.50	245.2	2723.2	0.0	0.0	2723.2
198.20	1.50	2640.00	2577.50	257.7	2980.9	0.0	0.0	2980.9
198.30	1.60	2765.00	2702.50	270.2	3251.2	0.0	0.0	3251.2
198.40	1.70	2890.00	2827.50	282.7	3533.9	0.0	0.0	3533.9
198.50	1.80	**3015.77**	2952.89	295.3	3829.2	0.0	0.0	3829.2
198.60	1.90	3167.41	3091.59		3829.2	309.2	309.2	4138.4
198.70	2.00	3319.06	3243.24		3829.2	324.3	633.5	4462.7
198.80	2.10	3470.70	3394.88		3829.2	339.5	973.0	4802.2
198.90	2.20	3622.34	3546.52		3829.2	354.7	1327.6	5156.8
199.00	2.30	3773.99	3698.17		3829.2	369.8	1697.4	5526.6
199.10	2.40	**3925.63**	3849.81		3829.2	385.0	2082.4	5911.6
199.20	2.50	4059.87	3992.75		3829.2	399.3	2481.7	6310.9
199.30	2.60	4194.11	4126.99		3829.2	412.7	2894.4	6723.6
199.40	2.70	4328.35	4261.23		3829.2	426.1	3320.5	7149.7
199.50	2.80	**4462.59**	4395.47		3829.2	439.5	3760.1	7589.3
199.60	2.90	4613.05	4537.82		3829.2	453.8	4213.8	8043.1
199.70	3.00	4763.52	4688.29		3829.2	468.8	4682.7	8511.9
199.80	3.10	4913.98	4838.75		3829.2	483.9	5166.5	8995.8
199.90	3.20	5064.45	4989.21		3829.2	498.9	5665.5	9494.7
200.00	3.30	5214.91	5139.68		3829.2	514.0	6179.4	10008.6
200.10	3.40	5365.37	5290.14		3829.2	529.0	6708.5	10537.7
200.20	3.50	5515.84	5440.61		3829.2	544.1	7252.5	11081.7
200.30	3.60	5666.30	5591.07		3829.2	559.1	7811.6	11640.8
200.40	3.70	5816.77	5741.53		3829.2	574.2	8385.8	12215.0
200.45	3.75	5892.00	5854.38		3829.2	292.7	8678.5	12507.7
200.55	3.85	6042.46	5967.23		3829.2	596.7	9275.2	13104.4
200.65	3.95	6192.93	6117.69		3829.2	611.8	9887.0	13716.2
200.75	4.05	**6343.39**	6268.16		3829.20	626.82	10513.80	14343.0

SUMMIT VIEW SUBDIVISION
Pond Discharge Table

OUTLET CONTROL

diameter =	150	mm
area =	0.0177	m^2
Orifice C =	0.63	
Invert =	198.50	m

OUTLET PIPE

diameter =	825	mm
area =	0.5346	m^2
slope	2.30%	
Manning n	0.013	
Max Pipe Flow Discharge	2.18	m^3/s
Invert	198.13	m

WEIR CONTROL

	Overflow	DDICB	
Length of Weir	4.7	1.2	m
Weir Sill Elevation	200.10	199.20	m
Weir constant K	1.6	1.7	
Side Slope (H:V)	10	4	

Q = flow rate (cms)
C = constant
A = area of opening(sq. m)
H = net head on the orifice
g = Acceleration due to gravity

Q = K x L x H^1.5

where Q = flow rate (cms)
K = constant
L = length (m)
H = head on the weir (m)

	150 mm Orifice		825 mm Outlet Pipe		DDICB		Emergency Spillway		Hydraulic Control	Total Discharge
Water Level	Head	Discharge	% Full	Discharge	Head	Discharge	Head	Discharge		
(m)	(m)	(m^3/s)	(m)	(m^3/s)	(m)	(m^3/s)	(m)	(m^3/s)		(cms)
196.70	0.00	0.0000	0%	0.0000	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
196.80	0.00	0.0000	0%	0.0000	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
196.90	0.00	0.0000	0%	0.0000	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
197.00	0.00	0.0000	0%	0.0000	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
197.10	0.00	0.0000	0%	0.0000	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
197.20	0.00	0.0000	0%	0.0000	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
197.30	0.00	0.0000	0%	0.0000	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
197.40	0.00	0.0000	0%	0.0000	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
197.50	0.00	0.0000	0%	0.0000	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
197.60	0.00	0.0000	0%	0.0000	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
197.70	0.00	0.0000	0%	0.0000	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
197.80	0.00	0.0000	0%	0.0000	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
197.90	0.00	0.0000	0%	0.0000	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
198.00	0.00	0.0000	0%	0.0000	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
198.10	0.00	0.0000	0%	0.0000	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
198.20	0.00	0.0000	8%	0.1847	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
198.30	0.00	0.0000	21%	0.4486	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
198.40	0.00	0.0000	33%	0.7125	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
198.50	0.00	0.0000	45%	0.9763	0.00	0.0000	0.00	0.0000	**Perm Pool**	0.0000
198.60	0.02	0.0078	57%	1.2402	0.00	0.0000	0.00	0.0000	**150 mm Orifice**	0.0078
198.70	0.12	0.0174	69%	1.5041	0.00	0.0000	0.00	0.0000	**150 mm Orifice**	0.0174
198.80	0.22	0.0234	81%	1.7679	0.00	0.0000	0.00	0.0000	**150 mm Orifice**	0.0234
198.90	0.32	0.0281	93%	2.0318	0.00	0.0000	0.00	0.0000	**150 mm Orifice**	0.0281
199.00	0.42	0.0321	100%	2.1769	0.00	0.0000	0.00	0.0000	**150 mm Orifice**	0.0321
199.10	0.52	0.0357	100%	2.1769	0.00	0.0000	0.00	0.0000	**150 mm Orifice**	0.0357
199.20	0.62	0.0390	100%	2.1769	0.00	0.0000	0.00	0.0000	**150 mm Orifice**	0.0390
199.30	0.72	0.0420	100%	2.1769	0.10	0.1171	0.00	0.0000	**DICB**	0.1591
199.40	0.82	0.0448	100%	2.1769	0.20	0.3672	0.00	0.0000	**DICB**	0.4120
199.50	0.92	0.0474	100%	2.1769	0.30	0.7581	0.00	0.0000	**DICB**	0.8056
199.60	1.02	0.0499	100%	2.1769	0.40	1.2898	0.00	0.0000	**DICB**	1.3398
199.70	1.12	0.0523	100%	2.1769	0.50	1.9623	0.00	0.0000	**Outlet Pipe**	2.0146
199.80	1.22	0.0546	100%	2.1769	0.60	2.7755	0.00	0.0000	**Outlet Pipe**	2.1769
199.90	1.32	0.0568	100%	2.1769	0.70	3.7296	0.00	0.0000	**Outlet Pipe**	2.1769
200.00	1.42	0.0589	100%	2.1769	0.80	4.8244	0.00	0.0000	**Outlet Pipe**	2.1769
200.10	1.52	0.0609	100%	2.1769	0.90	6.0600	0.00	0.0000	**Outlet Pipe**	2.1769
200.20	1.62	0.0629	100%	2.1769	1.00	7.4363	0.10	0.2884	**Emergency Spillway**	2.4653
200.30	1.72	0.0648	100%	2.1769	1.10	8.9535	0.20	0.9588	**Emergency Spillway**	3.1358
200.40	1.82	0.0666	100%	2.1769	1.20	10.6114	0.30	2.0244	**Emergency Spillway**	4.2013
200.45	1.87	0.0675	100%	2.1769	1.25	12.4101	0.35	2.7167	**Emergency Spillway**	4.8936
200.55	1.97	0.0693	100%	2.1769	1.35	14.3496	0.45	4.4435	**Emergency Spillway**	6.6205
200.65	2.07	0.0710	100%	2.1769	1.45	16.4299	0.55	6.6568	**Emergency Spillway**	8.8337
200.75	2.17	0.0727	100%	2.1769	1.55	18.6509	0.65	9.3909	**Emergency Spillway**	11.5679

SUMMIT VIEW SUBDIVISION
POND STAGE-STORAGE-DISCHARGE DATA

	150 mm Orifice	825 mm Outlet Pipe	WEIR FLOW			
			DDICB	Overflow	Total	
Water Level	Discharge	Discharge	Discharge	Discharge	Discharge	Live Storage
(m)	(m^3/s)	(m^3/s)	(m^3/s)	(m^3/s)	(m^3/s)	(ha-m)
196.70	0.0000	0.0000	0.0000	0.0000	**0.000**	0.0000
196.80	0.0000	0.0000	0.0000	0.0000	**0.000**	0.0000
196.90	0.0000	0.0000	0.0000	0.0000	**0.000**	0.0000
197.00	0.0000	0.0000	0.0000	0.0000	**0.000**	0.0000
197.10	0.0000	0.0000	0.0000	0.0000	**0.000**	0.0000
197.20	0.0000	0.0000	0.0000	0.0000	**0.000**	0.0000
197.30	0.0000	0.0000	0.0000	0.0000	**0.000**	0.0000
197.40	0.0000	0.0000	0.0000	0.0000	**0.000**	0.0000
197.50	0.0000	0.0000	0.0000	0.0000	**0.000**	0.0000
197.60	0.0000	0.0000	0.0000	0.0000	**0.000**	0.0000
197.70	0.0000	0.0000	0.0000	0.0000	**0.000**	0.0000
197.80	0.0000	0.0000	0.0000	0.0000	**0.000**	0.0000
197.90	0.0000	0.0000	0.0000	0.0000	**0.000**	0.0000
198.00	0.0000	0.0000	0.0000	0.0000	**0.000**	0.0000
198.10	0.0000	0.0000	0.0000	0.0000	**0.000**	0.0000
198.20	0.0000	0.1847	0.0000	0.0000	**0.000**	0.0000
198.30	0.0000	0.4486	0.0000	0.0000	**0.000**	0.0000
198.40	0.0000	0.7125	0.0000	0.0000	**0.000**	0.0000
198.50	0.0000	0.9763	0.0000	0.0000	**0.000**	0.0000
198.60	0.0078	1.2402	0.0000	0.0000	**0.008**	0.0309
198.70	0.0174	1.5041	0.0000	0.0000	**0.017**	0.0633
198.80	0.0234	1.7679	0.0000	0.0000	**0.023**	0.0973
198.90	0.0281	2.0318	0.0000	0.0000	**0.028**	0.1328
199.00	0.0321	2.1769	0.0000	0.0000	**0.032**	0.1697
199.10	0.0357	2.1769	0.0000	0.0000	**0.036**	0.2082
199.20	0.0390	2.1769	0.0000	0.0000	**0.039**	0.2482
199.30	0.0420	2.1769	0.1171	0.0000	**0.159**	0.2894
199.40	0.0448	2.1769	0.3672	0.0000	**0.412**	0.3321
199.50	0.0474	2.1769	0.7581	0.0000	**0.806**	0.3760
199.60	0.0499	2.1769	1.2898	0.0000	**1.340**	0.4214
199.70	0.0523	2.1769	1.9623	0.0000	**2.015**	0.4683
199.80	0.0546	2.1769	2.7755	0.0000	**2.177**	0.5167
199.90	0.0568	2.1769	3.7296	0.0000	**2.177**	0.5665
200.00	0.0589	2.1769	4.8244	0.0000	**2.177**	0.6179
200.10	0.0609	2.1769	6.0600	0.0000	**2.177**	0.6708
200.20	0.0629	2.1769	7.4363	0.2884	**2.465**	0.7253
200.30	0.0648	2.1769	8.9535	0.9588	**3.136**	0.7812
200.40	0.0666	2.1769	10.6114	2.0244	**4.201**	0.8386
200.45	0.0675	2.1769	12.4101	2.7167	**4.894**	0.8678
200.55	0.0693	2.1769	14.3496	4.4435	**6.620**	0.9275
200.65	0.0710	2.1769	16.4299	6.6568	**8.834**	0.9887
200.75	0.0727	2.1769	18.6509	9.3909	**11.568**	1.0514

TATHAM ENGINEERING

Water Quality Requirements

Project Details

Summit View Phase 3 (Mountiaincroft P	118039

Prepared By

EL	Jan./23

Water Quality Sizing Criteria

Methodology & Data Source	Volumetric water quality criteria as presented in Table 3.2 in Ministry of Environment, Conservation and Parks (MECP) Stormwater Management Planning & Design Manual (SWMPDM) March 2003.

Contributing Catchments

Catchment ID	Area (ha)	Impervious (%)
EXT	63.64	13%
207	1.90	42%
302	1.49	11%
Total	**67.03**	**13.3%**

Treatment Method Details

SWM Facility Type	Wet Pond
Target Treatment Leve	Enhanced Level
Treatment Percentage	80%

Treatment

Water Quality Storage Requirement	5,698	m^3
Extended Detention Volume (40 m^3)	2,681	m^3
Permanent Pool Volume Required	3,016	m^3
Required Extended Detention Volume	2,681	m^3
Erosion Control Storage Required	-	m^3

Permanent Pool Volume Provided	4,786	**Provided** >	**Required**
Extended Detention Storage Provided	4,142	**Provided** >	**Required**
Active Storage Provided	17,035	**Provided** >	**Required**

Water Quality Requirements

Project Details

Summitview Phase 3	118039

Prepared By

EL	Jan/23

Water Quality Sizing Criteria

Methodology & Data Source	Volumetric water quality criteria as presented in Table 3.2 in Ministry of Environment, Conservation and Parks (MECP) Stormwater Management Planning & Design Manual (SWMPDM) March 2003.

Contributing Catchments

Catchment ID	Area (ha)	Impervious (%)
201	18.69	51.00%
208	6.40	51.70%
301	1.72	13.00%
Total	**26.81**	**48.7%**

Treatment Method Details

SWM Facility Type	Wet Pond
Target Treatment Leve	Enhanced Level
Treatment Percentage	80%

Treatment

Water Quality Storage Requirement	4,672	m^3
Extended Detention Volume (40 m^3)	1,072	m^3
Permanent Pool Volume Required	3,599	m^3
25 mm Storm Runoff Depth	7.8	mm
25 mm Storm Runoff Volume	2,091	m^3
Required Extended Detention Volume	2,091	m^3
Erosion Control Storage Required	-	m^3

Permanent Pool Volume Provided	3,829	**Provided > Required**	
Extended Detention Storage Provided	2,482	**Provided > Required**	
Active Storage Provided	10,514	**Provided > Required**	

TATHAM ENGINEERING

PROJECT	Summit View	FILE	114056
		DATE	6/8/2020
SUBJECT	Orifice Drawdown Time	DESIGNED	DAM
	25 mm Storm	CHECKED	DRT

Drawdown Time, $t = \frac{2 A_p}{C A_o (2g)^{0.5}} (h_1^{0.5} - h_2^{0.5})$

where:

- t = drawdown time (seconds)
- A_p = surface area of pond (m^2)
- c = discharge coefficient
- A_o = cross-sectional area of orifices (m^2)
- g = gravitational acceleration constant (9.81 m/s^2)
- h_1 = starting water elevation above the orifice (m)
- h_2 = ending water elevation above the orifice (m)

where:

			Notes			
A_p =	3398	m^2				
c =	0.63					
A_o =	0.018	m^2	Orifice Diameter	=	150	mm
g =	9.81	m/s^2				
h_1 =	0.45		25 mm Storm	=	199.02	mm
h_2 =	0.00		Orifice Centroid	=	198.58	mm

t = 91933 seconds Q = 0.033 m^3/s

t = 25.54 hours

TATHAM ENGINEERING

PROJECT	Summit View	FILE	114056
		DATE	6/8/2020
SUBJECT	Orifice Drawdown Time	DESIGNED	DAM
	Extended Detention	CHECKED	DRT

Drawdown Time, $t = \frac{2 A_p}{C A_o (2g)^{0.5}} (h_1^{0.5} - h_2^{0.5})$

where:

- t = drawdown time (seconds)
- A_p = surface area of pond (m^2)
- c = discharge coefficient
- A_o = cross-sectional area of orifices (m^2)
- g = gravitational acceleration constant (9.81 m/s^2)
- h_1 = starting water elevation above the orifice (m)
- h_2 = ending water elevation above the orifice (m)

where:			
A_p =	3538	m^2	
c =	0.63		
A_o =	0.018	m^2	
g =	9.81	m/s^2	
h_1 =	0.63		
h_2 =	0.00		
t =	113440	seconds	
t =	31.51	hours	

Notes

Orifice Diameter	=	150	mm
Extended Detention	=	199.20	mm
Orifice Centroid	=	198.58	mm

Q = 0.039 m^3/s

SUMMIT VIEW SUBDIVISION
Volume Table - Forebay

Bottom Elev. 196.70
Water Level 198.50

Elev.	Depth	Areas		Volumes	
(m)	(m)	Area (m^2)	Avg. Area (m^2)	Dead (m^3)	Accum. Dead (m^3)
196.70	0.00	**249.00**	0.00	0.0	0.0
196.80	0.10	270.08	259.54	26.0	26.0
196.90	0.20	291.17	280.63	28.1	54.0
197.00	0.30	312.25	301.71	30.2	84.2
197.10	0.40	333.33	322.79	32.3	116.5
197.20	0.50	354.42	343.88	34.4	150.9
197.30	0.60	375.50	364.96	36.5	187.3
197.40	0.70	396.58	386.04	38.6	226.0
197.50	0.80	417.67	407.13	40.7	266.7
197.60	0.90	438.75	428.21	42.8	309.5
197.70	1.00	459.83	449.29	44.9	354.4
197.80	1.10	480.92	470.38	47.0	401.5
197.90	1.20	**502.00**	491.46	49.1	450.6
198.00	1.30	548.33	525.17	52.5	503.1
198.10	1.40	594.67	571.50	57.1	560.3
198.20	1.50	641.00	617.83	61.8	622.0
198.30	1.60	687.33	664.17	66.4	688.5
198.40	1.70	733.67	710.50	71.0	759.5
198.50	1.80	**780.00**	756.83	75.7	835.2

TATHAM ENGINEERING

PROJECT	Summit View Residential Subdivisior	FILE	118039
		DATE	Jan./23
SUBJECT	Forebay Design	NAME	EL
		PAGE	1 OF 1

Forebay design based on MECP Stormwater Management Planning and Design Manual (March 2003)

1) Settling

Dist = √(r*Qp/Vs)

Dist = Forebay length (m)
r = Length to width ratio = 3
Qp = 25mm SWM outflow - water quality (m^3/s = 0.038
Vs = settling velocity for 0.15 mm particles (m/ = 0.0003

Dist = 19.5 m

Actual forebay length = 58.0 m

2) Dispersion Length

Dist = 8*Q/(d*Vf)

Dist =Length of dispersion (m)
Q = 10 Yr max inlet flow (m^3/s) = 2.7
d = depth of permanent pool in forebay (m) = 1.80
Vf= desired velocity in forebay (m/s) = 0.50

Dist = 24.2 m

Actual forebay length = 58.0 m

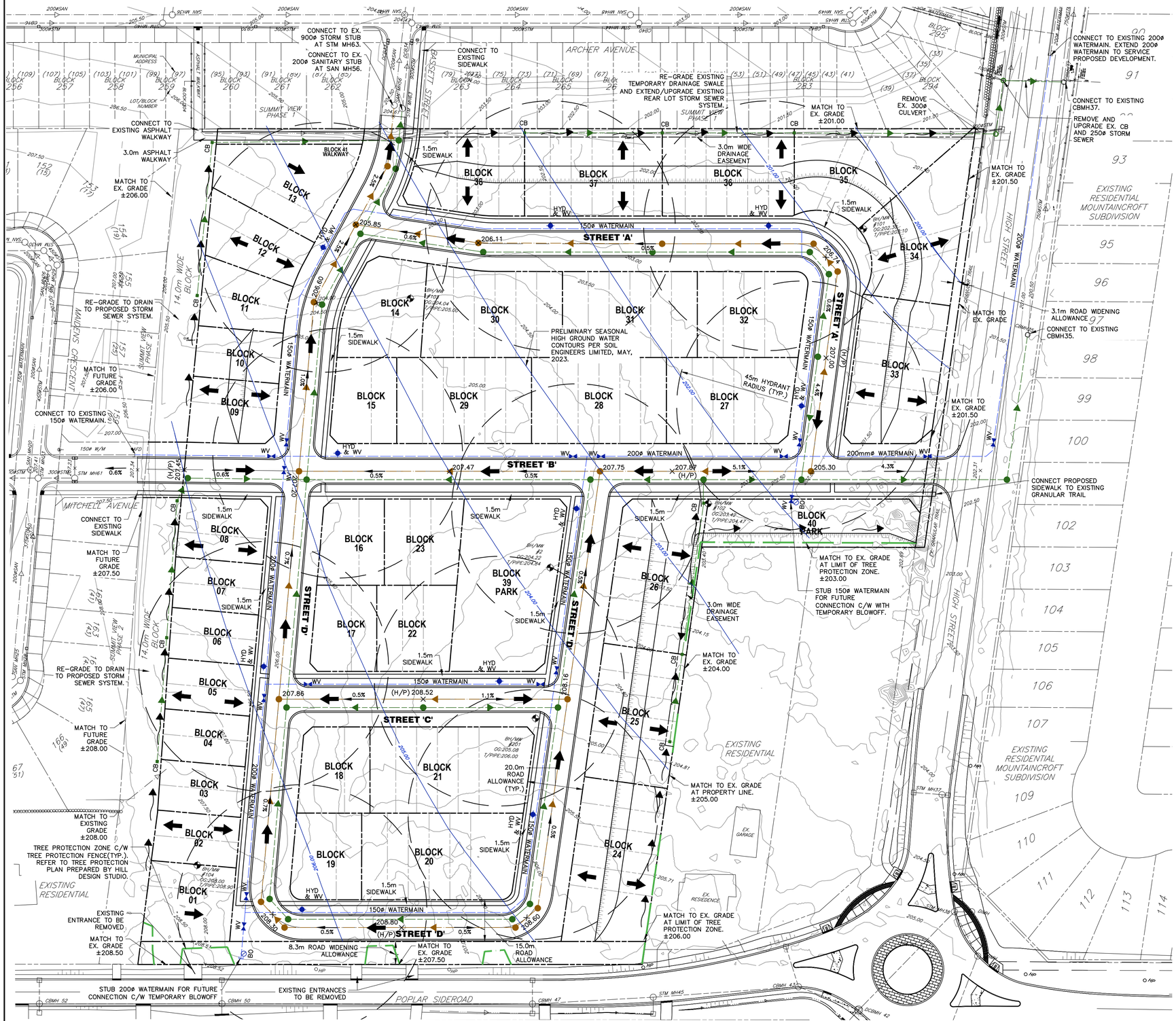
3) Cleanout Frequency

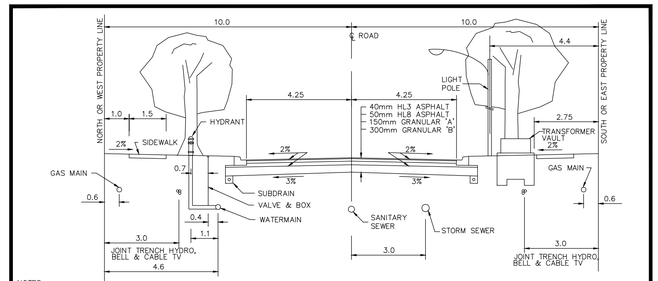
Cleanout = Vol/(load*Asew*eff.)

A_{sew} = contributing sewer area (ha) = 26.81
Actual Forebay Length (m) = 58.00
Imp = avg. percent Impervious (%) = 49%
load = sediment loading (m^3/ha) = 1.51
eff. = removal effciency (%) = 80%
Cleanout Freqency Target (Years) = 10
Vol = bottom 1.0 m volume (m^3) = 354

Cleanout = 10.9 years - therefore cleanout target is satisfied

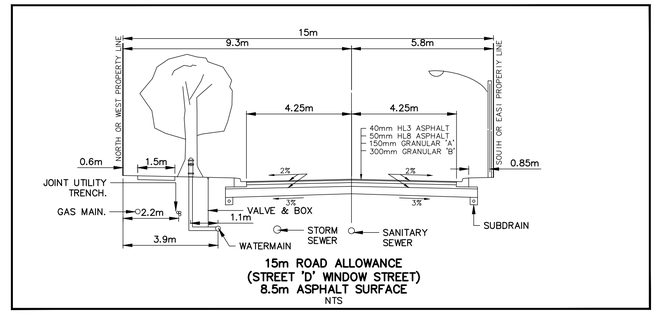
Appendix D:
Engineering Drawings





NOTES:
1. COVER ON STORM, SANITARY AND WATERMAIN AS PER DESIGN CRITERIA. UTILITY CORRIDOR SHALL HAVE A MINIMUM COVER OF 0.9m.
2. MINIMUM PAVEMENT AND ROAD STRUCTURE DESIGN AS PER TOWN DESIGN CRITERIA OR AS PER GEOTECHNICAL INVESTIGATION RECOMMENDATION.
3. TREES TO BE PLACED IN LOCATIONS AS PER APPROVED LANDSCAPE PLAN.
4. ACTIVELY GROWING NURSERY SOD TO BE LAID ON 100mm OF TOPSOIL PROPERLY GRADED AND ROLLED.
5. HYDRANTS AND WATERMAINS TO BE ON OPPOSITE SIDE OF ROAD FROM ELECTRICAL TRANSFORMER.
6. SUBDRAINS TO BE INSTALLED AS PER OPSD 216.021.
7. ALL SERVICE LOCATIONS SHOWN ARE FOR GUIDELINE PURPOSES ONLY AND MAY DEVIATE AS PER THE DIRECTION OF THE TOWN WHEN STANDARD LOCATION CANNOT BE ACHIEVED.
8. WHERE ONE SIDEWALK IS CONSTRUCTED IT SHALL BE ON THE SOUTH AND EAST SIDE OF THE ROAD.
9. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SHOWN.

NO.	REVISION	APR'D	DATE	TOWN OF COLLINGWOOD	APR'D: EDH	DATE: JAN/03
				URBAN – LOCAL RESIDENTIAL	DRAWN:	SCALE: NTS
				20.0m ROAD ALLOWANCE 8.5m ASPHALT SURFACE	STD. No.	201



15m ROAD ALLOWANCE (STREET 'D' WINDOW STREET) 8.5m ASPHALT SURFACE
NTS

LEGEND

OVERLAND FLOW DIRECTION	
SWALE	
EXISTING CONTOUR LINE	100.00
EXISTING ELEVTION	× 100.00
PROPOSED ELEVATION	×100.00
SANITARY SEWER	
SANITARY MAINTENANCE HOLE	SAN MH
STORM MAINTENANCE HOLE	STM MH
STORM CATCHBASIN MAINTENANCE HOLE	CBMH
STORM CATCHBASIN	CB
STORM SEWER	
WATERMAIN	
HYDRANT & VALVE SET	HYD & WV
WATER VALVE	WV
BLOWOFF	BO
PROPOSED BANK AND SLOPE	
EXISTING BOREHOLE/MONITORING WELL	BH/MW #101
TREE PROTECTION FENCE	

DISCLAIMER AND COPYRIGHT

CONTRACTOR MUST VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR SAME. ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER BEFORE COMMENCING WORK. DRAWINGS ARE NOT TO BE SCALED.

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DRAWING REFERENCES

LEGAL SURVEY INFORMATION SHOWN ON THIS PLAN PREPARED BY VAN HARTEN SURVEY INC., PLAN OF SUBDIVISION, DATED SEPTEMBER 26, 2019.

TOPOGRAPHIC INFORMATION SHOWN ON THIS PLAN BASED ON LAND INFORMATION ONTARIO BASE MAPPING.

RIGHT-OF-WAY AND LOT FABRIC SHOWN ON THIS PLAN HAVE BEEN TAKEN FROM SUMMIT VIEW PHASE 3 DRAFT PLAN OF SUBDIVISION, PREPARED BY MHBC PLANNING, DATED DEC 21, 2022.

BENCHMARKS

No.	REVISION DESCRIPTION	DATE

ENGINEER STAMP

DRAFT PLAN SUBMISSION
MAY/23

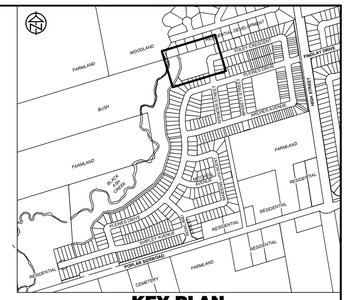
SUMMIT VIEW - PHASE 3 RESIDENTIAL DEVELOPMENT TOWN OF COLLINGWOOD

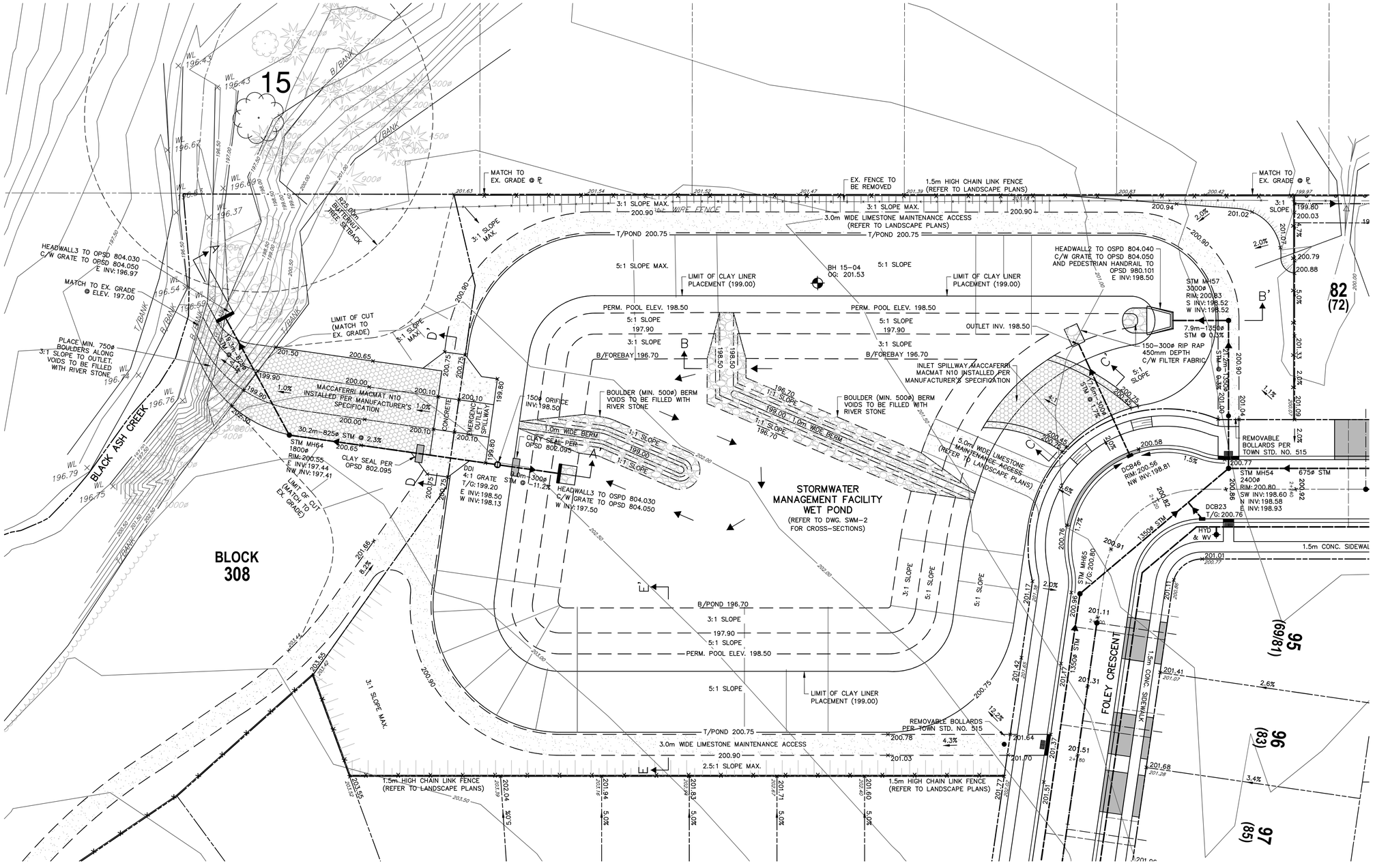
CONCEPT SERVICING AND GRADING PLAN

TATHAM ENGINEERING

DESIGN: EL	FILE: 118039	DWG:	
DRAWN: KRL	DATE: DEC 2022	**CSG-1**	
CHECK: JRA	SCALE: 1:750		

Drawing Name: 118039 – CSG01.dwg, Plotted: May 04, 2023





ACCEPTED FOR CONSTRUCTION
Town of Collingwood
Per
Date October 30, 2019

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SERVICING AND GRADING INFORMATION SHOWN FOR GRANDVIEW/MOUNTAINCROFT SUBDIVISION BASED ON ACCEPTED FOR CONSTRUCTION DRAWINGS PREPARED BY C.C. TATHAM & ASSOCIATES LTD., DATED APRIL 4, 2016.

BENCHMARKS

TBM#1 ELEV. 200.704 m
NAIL & WASHER IN HYDRO POLE ON EAST SIDE OF HIGH STREET, 6TH HYDRO POLE NORTH OF POPLAR SIDEROAD ROUNDABOUT.

TBM#2 ELEV. 199.103 m
NAIL & WASHER IN HYDRO POLE ON EAST SIDE OF HIGH STREET, 11TH HYDRO POLE NORTH OF POPLAR SIDEROAD ROUNDABOUT.

No.	REVISION DESCRIPTION	DATE
3.	THIRD ENGINEERING SUBMISSION	AUG. 3/18
4.	ISSUED FOR PHASE 1 CONSTRUCTION	AUG. 29/18
5.	FOURTH ENGINEERING SUBMISSION	JAN. 31/19
6.	FIFTH ENGINEERING SUBMISSION	MAY 28/19
7.	SIXTH ENGINEERING SUBMISSION	AUG. 1/19

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
J. R. AKITT
100103953
Aug.1/19
PROVINCE OF ONTARIO

SUMMIT VIEW RESIDENTIAL DEVELOPMENT TOWN OF COLLINGWOOD

STORMWATER MANAGEMENT WET POND PLAN

TATHAM ENGINEERING

DESIGN: LC	FILE: 114056	DWG: SWM-1
DRAWN: LC	DATE: SEPT. 2017	
CHECK: JRA	SCALE: 1:300	