FUNCTIONAL SERVICING AND STORMWATER MANAGEMENT REPORT

FLATO IDA
FLATO IDA DUNDALK INC.

TOWNSHIP OF SOUTHGATE

PREPARED BY:

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1. INTRODUCTION

CF Crozier & Associates Inc. ("Crozier") has been retained by Flato Ida Dundalk Inc. (the Developer) to prepare a Functional Servicing and Stormwater Management Report in support of a Draft Plan Application for a proposed development located in the southwest end the Community of Dundalk, Township of Southgate. Please refer to **Figure 1** for the Site Location.

The overall property is approximately 36 ha, with 5 ha being conveyed to the Township as part of a land swap with the Developer and the Township. The Developer's portion of the property known as the Ida Street Development herein referred to as the "Subject Development" is approximately 20 ha, and is bounded by Ida Street to the east, residential properties and County Road 9 to the south, agricultural lands to the north, and environmental protection to west.

The Subject Development will consist of 269 single detached units, 52 townhouse units, park blocks, an environmental protected area, two stormwater management blocks, and approximately 4.6 ha of urban right of way. The Draft Plan prepared by MHBC Planning Urban Design & Landscape Architecture (MHBC) on April 30, 2024, has been included as **Figure 2**.

The Developer has assembled a multi-disciplinary consulting team to assist with the technical studies in support of this development. The consulting team includes:

- SLR Consulting (environmental and hydrogeological)
- Soil Engineers Limited (geotechnical)
- MHBC Planning Urban Design & Landscape Architecture (planning)
- CF Crozier & Associates Inc. (civil and transportation engineering)

This report should be read in conjunction with the studies, plans and reports prepared by other members of the development team.

This report has been prepared to provide information concerning the servicing (water, sewer, utilities, and roads) and stormwater management strategy for the Subject Development.

2. DEVELOPMENT BACKGROUND

Zoning of the Subject Development was recently approved by way of a Minister's Zoning Order through Ontario Regulation 165/22 under the Planning Act. The zoning was approved on March 4, 2022. The approved zoning specifies the allowed uses for the development. The approved uses allow for:

- Residential Zone (R7-515)
- Environmental Protection Zone (EP)

The Subject Development is currently designated as Neighborhood Area, within Schedule 'A' Map 2 of the Township of Southgate Official Plan (2022) and associated amendments. The hazard lands are taken into consideration in the Draft Plan as that area will be designated as Environmental Protection.

The Subject Development includes more parkland area than required since there was an agreement during the draft plan approval of Glenelg Phase 3 to transfer park lands to the Subject Development. The Township requires 5% of the developable area to be parkland which is around 0.9 ha. An additional 1.1 ha of parkland will be transferred from Glenelg Phase 3 to the Subject Development for a total of 2 ha of parkland area.

In February of 2024 the Township and the Developer agreed to a land swap that would give up just about 5.5 acres of vacant land at the rear (north) of Maple Grove Cemetery in exchange for land west of the Subject Development for the Township to develop. Preliminary plans for the Township Lands could include a new administration center, public works depot (or fire hall), cultural space, park, outdoor event venue, community hall, and/or a gymnasium/fieldhouse. A Master Plan will be developed by the Township.

Per the request of the Township and County a potential roundabout at the intersection of Ida Street and County Road 9 will be proposed. As such, preliminary design of a roundabout was completed and is shown on the draft plan. Since additional lands are required for a roundabout versus and standard intersection there will be 0.07 ha of land transferred to the County in the event a roundabout is constructed in the future.

3. SITE DESCRIPTION

The 36-ha property is legally described as Part of Lots 229 & 230 Concession 3, Southwest of the Toronto and Sydenham Road and consists largely of agricultural fields, with several farming and residential structures. The Subject Development is bounded by agricultural lands to the north, existing residential properties, Ida Street to the east, an existing cemetery, County Road 9 to the south and a forested area to the west.

Per Conservation Authority mapping, it appears that a portion of the development is located in the Grand River Conservation Authority (GRCA) regulation area and a portion in the Saugeen Valley Conservation Authority (SVCA) regulation area. As such, the appropriate permits and approvals will need to be obtained from both the GRCA and the SVCA.

The existing topography of the site exhibits a split drainage runoff pattern due to the site lying on the drainage divide between the Saugeen River Watershed and the Grand River Watershed. The southwestern portion of the site drains towards the Environmental Protection area that consists of wetland/woodland. The remaining northeastern portion of the site drains towards County Road 9. There is an approximate elevation difference of 10 m across the site.

A Geotechnical Investigation for the Subject Development was completed in January 2023 by Soil Engineers Ltd. (SEL) Within this investigation a total of nine (9) boreholes were advanced across the site in April 2022. These boreholes revealed that the site is underlain by sandy silt till/silty sand till deposits, with localized sand. (Soil Engineers Limited, January 2023) These findings are supplemented by the Soil Survey Map of Grey County (1962) which indicates that the site is underlain by Parkhill Loam and Listowel Silty Loam soils. The Geotechnical Investigation also indicated that the stabilized groundwater table post drilling on July 13, 2022, was found within the boreholes at depths ranging from 0.93 m to 3.38 m below existing grade. Refer to **Appendix A** for the Geotechnical Investigation.

A hydrogeological assessment for the proposed development was completed in October 2022 by SLR Consulting (Canada) Ltd. (SLR) The nine boreholes that were advanced in April 2022 were completed as monitoring wells. In-situ hydraulic conductivity tests were completed in select monitoring wells to establish the permeability of the formation. Groundwater levels were collected manually beginning in May 2022. Mini piezometers were also installed at select monitoring wells to obtain continuous groundwater readings (SLR Consulting, October 11, 2023).

4. ROAD STANDARD

Access to the development is proposed to be provided through two entrances located along County Road 9 and one entrance along Ida Street. The eastern County Road 9 entrance is approximately 150 m west of Ida Street. The western County Road 9 entrance is approximately 600 m west of the eastern access. The Grey County Entrance Permit indicates that the distance between municipal intersecting roads shall be at least 400 m. The Roadways and entrances will be constructed in conformance with the Township of Southgate and County of Grey Standards.

The Transportation Association of Canada Geometric Design Guidelines for Canadian Roads identifies typical spacing of 60 m on collector roadways and 200 m on arterial roadways. As the proposed development would expand the urban core of Dundalk, the proposed entrance spacing is considered appropriate, and is greater than the typical intersection spacing provided on Main Street, east of Ida Street. The proposed entrance location and geometry will continue to be refined through future design efforts and development applications.

While detailed analysis will be completed as part of future applications, sight distance issues are not expected given the relatively straight and flat profile of County Road 9 and Ida Street.

A Traffic Impact Study has been prepared by our office under separate cover, which details transportation engineering considerations and mitigative measures related to the development. Roadway slopes will range between 0.5% and 8% in conformance with Township of Southgate Engineering Standards. The general grading strategy for the development is presented in **Figure 3.**

Design criteria for the entrances will meet Township guidelines as well as the applicable sections from the Ontario Building Code (i.e., fire routes). Internal roadways of the development will be assumed by the Township upon registration of the subdivision.

5. SANITARY SEWAGE SYSTEM

5.1. Existing Sanitary Infrastructure

5.1.1. Wastewater Treatment Facility Capacity

The existing wastewater treatment facility (WWTF) is located on Eco Parkway at the south end of Dundalk. The facility treats sewage and discharges the treated effluent to the Foley Drain/ Grand River. Per the Township of Southgate 2024 Reserve Capacity Study (Triton Engineering, 2024), the facility currently operates on average at 1,149 m^3/day. The uncommitted reserve capacity for the sewage treatment facility is 464 new development ERU's (Equivalent Residential Units). Since this reserve capacity will not be sufficient to service various potential developments that have been granted Draft Plan Approval the municipality is currently in the process of upgrading the wastewater treatment facility to increase capacity in Dundalk from 1,832 m^3/day to 3,025 m^3/day to support growth.

The wastewater treatment facility is expected to be tendered in 2024, which is well ahead of building permit submission for the Subject Development. **Table 1** details the Township of Southgate '2024 Reserve Sewage Capacity' and project the wastewater treatment capacities after the upgrades have been completed.

Table 1: Township of Southgate Dundalk Sewage Treatment Facility Capacity Projections

Dundalk Sewage Treatment Facility Summary		
Description	**2024**	**Post Upgrades**
Wastewater Treatment Facility Design Capacity (m^3/day)	1,832	3,025
Current Daily Average Flow (m^3/day)	1,149	
Available Capacity (m^3/day)	683	1,876
Average New Development Per Capita Flow (1)	0.300	0.300
Additional Population that can be Served	2,277	6,253
Person Per ERU (1)	2.61	2.61
Additional ERU Capacity	872	2,396
Committed ERUs	408	408
Available Uncommitted ERUs	464	1,988

There is currently no existing sanitary infrastructure along the portion of County Road 9 and Ida Street which bounds the Subject Development. The nearest sanitary infrastructure includes:

- 200 mm Gravity sanitary sewer on County Road 9 (Main Street) approximately 200 m east of the intersection of County Road 9 and Ida Street.
- 200 mm Gravity sanitary sewer on Victoria Street West approximately 350 m east of Ida Street.
- 300 mm sanitary sewer along Ida Street terminating 27 m north of Victora Street.

5.2. Proposed Sanitary Servicing Strategy

The following section provides an analysis of the servicing strategy for the proposed sanitary sewage system at the development. Sanitary servicing for the development will be supplied by way of connection to the existing Dundalk sanitary sewer collection network with flows from the site ultimately receiving treatment at the Dundalk Wastewater Treatment Facility.

Based on review of all possible connection and assessment of capacity and gravity servicing feasibility, it is recommended that the east half of the Subject Development be serviced via connection to the gravity sanitary sewer system on Ida Street. To facilitate this connection, approximately 260 m of sanitary sewer will be required along Ida Street from the 300 mm diameter stub 27 m north of Victoria Street to the proposed intersection north of County Road 9.

The western half of the subject development will be serviced by a gravity sanitary sewer network that will discharge to a sanitary pumping station located within the Township Development Lands. Wastewater will then be conveyed via a forcemain following the internal road network to the west gravity sewer system, which will then ultimately be conveyed by the proposed and existing gravity sewers along Ida Street to the WWTF.

It is estimated that peak sanitary flow from the Subject Development is 14.20 L/s based on a developable area of 20.07 ha and 321 residential units. Sanitary flow calculations have been provided in **Appendix B**. Local sanitary sewers required will be in the range of 200 mm to 250 mm in diameter. In accordance with Town Standards, the sanitary sewer obverts were set at minimum 2.40 m below the centerline road grades. The preliminary sanitary sewer layout has been illustrated in **Figure 4** and **Figure 4A**. Detailed analysis and profiles are to be provided at the detailed design stage.

Peak sanitary flows from the Township Lands have not been calculated as the potential uses for those Lands is pending. It is anticipated that the capacity of the sewers should be able to accommodate flows. The proposed sanitary pumping station within the Township Lands will be sized in a future submission once more information regarding uses of the Lands is known.

6. POTABLE WATER SUPPLY

6.1. Existing Water Servicing

The existing water treatment system in Dundalk includes three production wells. Per the 2024 Reserve Capacity Study, the well system operates at a maximum daily flow of 1,180 m^3/day. This value represents approximately 42 % of the system's allowable withdrawal capacity of 2,817 m^3/day, as specified in the Township's Permit to Take Water. Based on this, the existing system has the capacity to service the Subject Development.

The Township of Southgate within their 2024 Reserve Capacity Calculations determined the Township's water supply system has an available uncommitted reserve capacity of 1,714 units. Therefore, the Township has sufficient water supply to service the proposed development. An existing 150mm watermain runs along Ida Street, fronting the proposed development. There is currently no existing watermain along County Road 9.

6.2. Proposed Water Servicing Strategy

Potable water for the development will be supplied by the Dundalk municipal water distribution system.

Internal watermain layout will follow the alignment of the development's rights-of-way (ROW) and will service the development. External watermain along County Road 9 will be required to connect to the existing watermain on Ida Street to complete a looped system. This will facilitate a looped distribution network satisfying the watermain looping requirement of the Ministry of the Environment, Conservation and Parks. Preliminary water demands for the Subject Development have been estimated in conjunction with Township Standards that concur with Table 3-1 of the MECP Design Guidelines for Drinking Water Systems.

Fire hydrants will be spaced as required to provide the necessary fire protection per municipal standards. Required domestic water flows have been calculated in conformance with the Township of Southgate's Engineering Design Standards and the "New Development Unit Flow Rates" specified within the 2024 Reserve Capacity Study. The maximum day and peak hour water demands for the Subject Development have been estimated to be 7.89 L/s and 11.85 L/s, respectively. Internal watermain sizing will be subject to detailed design and confirmation by the Township's Engineering Consultant. Water demand calculations have not been calculated for the Township Lands as the proposed uses of the Lands have not been confirmed. Refer to **Appendix C** for relevant water demand calculations. The proposed watermain layout is illustrated in **Figure 4.**

Fire Flow Estimates

Water Supply for Fire Protection, A Guide to Recommend Practice (Fire Underwriters Survey (FUS), 2020) will be used to estimate fire flows for the Subject Development. Estimated flows are based on the largest townhouse block which has 5 units. Building floor area, construction type and structure exposure distance was calculated based on the townhouse block with no fire walls. The floor area and separation distances between buildings for the fire flow calculations were calculated using the maximum lot coverage and minimum front, side, and rear yard setback distances. Fire flow calculations have been provided in **Appendix C**. The required fire flow is 183.3 L/s.

7. PROPOSED STORMWATER MANAGEMENT, SITE GRADING AND DRAINAGE

7.1. Stormwater Management (SWM) Criteria

The management of stormwater and site drainage for the proposed development must comply with the policies and standards of the various agencies including the Township of Southgate, Saugeen Valley Conservation Authority (SVCA), Grand River Conservation Authority (GRCA), and the Ministry of Environment, Conservation and Parks (MECP).

The stormwater management criteria that will be met for the Subject Development are as follows:

- Water Quantity Control
  - Control of post development peak flows to pre-development levels for all storms up to and including the 100-year event.

- Water Quality Control
  - 80% removal efficiency of total suspended solids per MECP "enhanced protection" requirements.

- Erosion Control
  - 24-hour detention of the 25mm event.

- Development Standards
  - Urban cross section for public roadway with 5-year storm sewer system.
  - Lot grading at 2% optimum.
  - Minor and major drainage system to convey frequent and infrequent rainfall/runoff events, respectively.

In meeting the applicable policies and standards of the aforementioned agencies, the development will also be required to meet the following criteria.

- Manage the internal stormwater by safely conveying peak flows to suitable outlets and provide the necessary water quality controls.
- Manage any external drainage entering the site by providing safe conveyance across the subject development.
- Ensuring the development lands are not susceptible to flood inundation during all modeled storm events.

7.2. Site Grading Criteria

The grading criteria that will be applied to the proposed residential subdivision includes the following:

- All proposed residential dwellings must meet the minimum groundwater separation.
- Site grading must enable all proposed residential dwellings to be serviced by 'gravity' sanitary services.
- Site grading must provide suitable cover over the storm sewer to prevent frost heave (i.e., 1.2 m minimum cover) and provide overland flow routes for major storm runoff.

Proposed site grades including building elevations will be determined during the detailed design stage.

7.3. Existing Drainage Conditions

The existing drainage patterns of the site have been reflected in the Pre-Development Drainage Plan **(Figure 5)**. Topographic survey indicates a split drainage runoff pattern. Since the site lies at the headwater of two watersheds, existing drainage either goes towards the GRCA or the SVCA. There is an approximate elevation difference of 10m across the site. To facilitate the pre-development stormwater analysis, the site will have catchments that are within SVCA and GRCA jurisdictions. The following catchment has been delineated based on the existing drainage conditions that are within the SVCA jurisdiction:

- **Catchment PRE-S1**: This catchment area is approximately 10.54 ha and is located on the southwestern portion of the site. It consists of agricultural fields. Stormwater from this catchment drains to the southwest towards the Environmental Protection Area that consists of wetland/woodlands. A small portion also drains towards the smaller SVCA screening area that lies northeast of the Environmental Protection Area. From the Environmental Protection Area stormwater will continue south along the County Road 9 ditch to a box culvert under County Road 9 which continues to the South Saugeen River.

The following three (3) catchments have been delineated based on the existing drainage conditions that are within the GRCA jurisdiction:

- **Catchment PRE-G2:** This catchment area is approximately 1.57 ha. It consists of overgrown meadows. Stormwater from this catchment drains to the southeast towards the County Road 9 ditch. Drainage then follows the grading of the ditch towards a 700 mm diameter CSP culvert under County Road 9 which discharges to a wetland.

- **Catchment PRE-G3**: This catchment area is approximately 7.36 ha and is located on the northern portion of the site. It consists of agricultural fields. Stormwater from this catchment drains to the south along a swale on a property adjacent to the site towards a 1000 mm diameter CSP culvert under County Road 9 which outlets to the same wetland as PRE-G2 and discharges to the Grand River.

- **Catchment PRE-G4:** This catchment area is approximately 5.75 ha. It consists of wooded area a small pond, and grass areas. Stormwater from this catchment drains to the southeast towards the County Road 9 ditch, then to a 1000 mm diameter CSP culvert which outlets to a wetland/tributary that differs from PRE-G2 and PRE-G3. The outlet tributary of PRE-G4 joins with the tributary of PRE-G2 and PRE-G3 downstream at the Grand River.

- **Catchment EXT-1**: This catchment area is approximately 14.5 ha. It consists of mainly agricultural land and a few farm buildings. Runoff from this catchment area flows south through Catchment PRE-G3 towards the same outlet as PRE-G3.

These catchments generally drain towards three culverts under County Road 9 which become tributaries that flow though the GRCA wetland and eventually drain to the Grand River.

No watercourses traverse the property nor do any significant external drainage areas. Natural hazards associated with a floodplain are defined by a minimum drainage area of 125 ha according to the Ministry of Natural Resources and Forestry. As such no flood hazard constraints exist on the property.

7.4. Proposed Drainage Conditions

The Subject Development will be constructed to a fully urbanized ROW complete with curb and gutter and storm sewers. A dual drainage approach will consist of minor and major stormwater flow routes to ensure adequate conveyance for runoff. The minor drainage system will consist of storm sewers and catch basins sized to convey the 5-year design storm event. The major drainage system will provide overland stormwater flow routes within the road allowance for the 100-year storm event. Refer to **Figure 4** and **Figure 4B** for proposed storm sewer layout. Internal flows from the development will be directed via both the minor and major systems to outlet into one of the two stormwater management facilities (SWMF).

To facilitate the post-development stormwater analysis, the site will have catchments that are within SVCA and GRCA jurisdictions.

The following four (4) catchments have been delineated based on the proposed drainage conditions that are within the SVCA jurisdiction:

- **Catchment POST-S1**: This catchment area is approximately 9.81 ha and is located on the southern portion of the site. Runoff from this catchment drains towards the stormwater management facility (SWMF-SV) that outlets to the SVCA jurisdiction area.

- **Catchment SWMF-SV:** This catchment represents the proposed 1.28 ha SWM Facility block. Runoff from this catchment will drain to the SWM Facility. The SWM Facility will then discharge flows towards the County Road 9 ditch. Drainage will continue south along the ditch to a box culvert under County Road 9 which continues to the South Saugeen River.

- **Catchment UCTL-SV:** This catchment area is approximately 0.61 ha and includes clean runoff from roofs and rear yards.

- **Catchment UCTL-SV2:** This catchment area is approximately 0.41 ha and includes clean runoff from roofs and rear yards. Runoff flows west towards the wetland feature.

The following five (5) catchments have been delineated based on the proposed drainage conditions that are within the GRCA jurisdiction:

- **Catchment POST-G2**: This catchment area is approximately 9.66 ha. Stormwater from this catchment drains to the south towards the stormwater management facility (SWMF-GR) that outlets to the GRCA jurisdiction area.

- **Catchment SWMF-GR:** This catchment area is approximately 1.28 ha. Runoff from this catchment will drain to the SWM Facility. The SWM Facility will then discharge flows towards the County Road 9 ditch to the existing culvert under County Road 9. Flows continue from the culvert to a stream that flows south through open space and joins with the Grand River downstream.

- **Catchment PARK-GR**: This catchment area is approximately 0.43 ha and is located on the southeastern portion of the site. It consists of the clean runoff off the roofs and lawn from the lots. Stormwater from this catchment drains towards the Ida Street ditch south towards a culvert under County Road 9. Flows then head southeast to a stream that connects to the Grand River.

- **Catchment UCTL-GR:** This catchment area is approximately 0.83 ha and includes clean runoff from roofs and rear yards.

- **Catchment UCTL-GR2:** This catchment area is approximately 0.76 ha and includes clean runoff from roofs and rear yards. Runoff flows towards the headwall that captures external drainage at the future ROW and is conveyed to the SWMF-GR.

- **Catchment EXT-1**: This catchment area is approximately 14.5 ha. It consists of mainly agricultural land and a few farm buildings. Runoff from this catchment area flows south through Catchment PRE-G3 towards the same outlet as PRE-G3. In the post development scenario runoff from this catchment will be captured and directed through storm sewers and into SWMF-GR.

The post-development drainage conditions and catchment areas have been presented in **Figure 6.**

7.4.1. Quantity Control

Quantity control for the Subject Development will be provided by the two SWM Facilities. A hydrologic model was prepared for the pre-development and post-development scenarios using the stormwater management hydrologic computer program Visual OTTHYMO 6.2 (VO6). The purpose of the modeling was to ensure that quantity control requirements are met (i.e., post-development peak flow rates do not exceed the pre-development flows to the respective drainage area). Pre-development and post-development drainage areas have been reflected in **Figure 5** and **Figure 6,** respectively.

Rainfall was simulated using a 24-hour SCS Type II distribution and a 3-hour Chicago distribution consistent with Township Standards. Rainfall depths and intensities were obtained from the MTO IDF Look Up Tool based on the location of the Subject Development. The MTO IDF data and hydrologic modelling parameter sheets have been provided in **Appendix D**. VO6 modelling files, including input and output have been provided in **Appendix E**.

A summary of the pre-development and post-development stormwater flows towards SWM Facility (SWMF-SV) has been provided in **Table 2** below.

Table 2: Summary of "Post to Pre" Peak Flows - SWM Facility (SWMF-SV)

Return Period (Years)	Flow Rates (m^3/s)	
	Pre-Development (10.54 ha)	**Post-Development (11.09 ha)**
	3 Hour Chicago	
2	0.084	0.045
5	0.158	0.055
10	0.217	0.084
25	0.297	0.152
50	0.361	0.198
100	0.429	0.247
	24 Hour SCS Type II	
2	0.241	0.059
5	0.399	0.182
10	0.514	0.278
25	0.664	0.429
50	0.779	0.568
100	0.897	0.709
	Hurricane Hazel	
Regional	1.094	1.122

As shown in **Table 2**, the proposed SWM Facility (SWMF-SV) provides 'Post-to-Pre' peak flow control for all storm events up to and including the 100-year storm event. The Regional event will outlet via an overland flow route from the pond to the ditch along County Road 9.

A preliminary outlet structure has been designed to address both erosion and quantity control requirements. The outlet structure will consist of a 195 mm diameter extended detention orifice set at the permanent pool elevation. A secondary outlet structure has been included above the extended detention storage elevation to control effluent from the pond for storms exceeding the 25 mm event.

Using the ROUTE RESERVOIR command in VO6, the volume of detention storage required in the SWMF to attenuate the post-development peak flows to pre-development was determined based on a storage – discharge relationship. The ROUTE RESERVOIR command was used to model the SWM facility storage.

A summary of the release rates and storage volumes for the SWM Facility (SWMF-SV) has been provided in **Table 3** below.

Table 3: Summary of SWM Facility (SWMF-SV) Release Rate & Storage Volumes

Return Period (Years)	SWM Facility (SWMF-SV)	
	Release Rate (m^3/s)	Storage Volume (m^3)
3 Hour Chicago		
2	0.045	1772
5	0.055	2566
10	0.084	3096
25	0.152	3507
50	0.198	3784
100	0.247	4081
24 Hour SCS Type II		
2	0.059	2866
5	0.182	3691
10	0.278	4268
25	0.429	4993
50	0.568	5501
100	0.709	6026

The proposed SWM Facility (SWMF-GR) provides 'Post-to-Pre' peak flow control for all storm events up to and including the 100-year storm event. The Regional event will outlet to by an overland flow route from the pond to the ditch along County Road 9.

A summary of the pre-development and post-development stormwater flows towards SWM Facility (SWMF-GR) has been provided in **Table 4** below.

Table 4: Summary of "Post to Pre" Peak Flows - SWM Facility (SWMF-GR)

Return Period (Years)	Flow Rates (m^3/s)	
	Pre-Development (5.75 ha)	Post-Development (26.20 ha)
3 Hour Chicago		
2	0.053	0.031
5	0.101	0.066
10	0.140	0.103
25	0.194	0.152
50	0.238	0.200
100	0.285	0.249
24 Hour SCS Type II		
2	0.163	0.100
5	0.273	0.198
10	0.354	0.278
25	0.461	0.388
50	0.544	0.476
100	0.629	0.568
Hurricane Hazel		
Regional	0.644	1.332

A preliminary outlet structure has been designed to address both erosion and quantity control requirements. The outlet structure will consist of a 140 mm diameter extended detention orifice set at the permanent pool elevation. A secondary outlet structure has been included above the extended detention storage elevation to control effluent from the pond for storms exceeding the 25 mm event.

Similarly, to SWMF-SV, the ROUTE RESERVOIR command in VO6 was used to determine the volume of detention storage required in the SWMF to attenuate the post-development peak flows to pre-development based on a storage – discharge relationship. The ROUTE RESERVOIR command was used to model the wet pond storage.

A summary of the release rates and storage volumes for the SWM Facility (SWMF-GR) has been provided in **Table 5**.

Table 5: Summary of SWM Facility (SWMF-GR) Release Rate & Storage Volumes

Return Period (Years)	SWM Facility (SWMF-GR)	
	Release Rate (m^3/s)	Storage Volume (m^3)
3 Hour Chicago		
2	0.031	2881
5	0.066	4367
10	0.103	5353
25	0.152	6625
50	0.200	7570
100	0.249	8526
24 Hour SCS Type II		
2	0.163	5270
5	0.273	7529
10	0.354	9075
25	0.461	11039
50	0.544	12520
100	0.629	14014

7.4.2. Stormwater Quality & Erosion Control

Stormwater management quality and erosion control will be provided by the SWMF-SV and SWMF-GR. The conceptual design of the proposed SWM Facilities has incorporated permanent pools and sediment forebays to provide appropriate water quality treatment. As the Grand River and Saugeen River are the ultimate receivers from the Subject Lands, the development must incorporate measures to provide “enhanced protection” (*Stormwater Management Planning and Design Manual*, Ministry of the Environment, 2003).

Erosion control will be principally achieved by incorporating extended detention into the operation of the ponds. Sizing was based on providing minimum 24-hour drawdown of the runoff volume produced during the 25mm event.

The Subject Development drainage area for the SWM Facility (SWMF-SV) is 57.1% impervious and 11.09 ha. As such, the minimum water quality volume for a stormwater wet pond is 195 m^3/ha (*Stormwater Management Planning and Design Manual, Ministry of the Environment, 2003)*. The total water quality volume consists of 155 m^3/ha for permanent pool and 40 m^3/ha for extended detention. The required and provided extended detention and permanent pool values on SWMF-SV have been summarized in **Table 6**. Refer to **Appendix F** for the water quality and extended detention calculations.

Table 6: Stormwater Management Facility (SWMF-SV) Quality Control Characteristics

	SWM Facility (SWMF-SV)	
	Required Volume (m³)	Provided Volume (m³)
Permanent Pool	1717	4338
MOE Extended Detention	444	2946
Erosion Control	1552	

The Subject Development drainage area for the SWM Facility (SWMF-GR) is 28.4% impervious and 25.44 ha. As such, the minimum water quality volume for a stormwater wet pond is 123 m³/ha (*Stormwater Management Planning and Design Manual, Ministry of the Environment, 2003)*. The total water quality volume consists of 83 m³/ha for permanent pool and 40 m³/ha for extended detention. The required and provided extended detention and permanent pool values on SWMF-GR have been summarized in **Table 7**.

Table 7: Stormwater Management Facility (SWMF-GR) Quality Control Characteristics

	SWM Facility (SWMF-GR)	
	Required Volume (m³)	Provided Volume (m³)
Permanent Pool	2121	7589
MOE Extended Detention	2077	2743
Erosion Control	1018	

7.4.3. Stormwater Management Facility Operating Characteristics

Considering the water quantity and quality storage requirements for the POST-S1, and SWMF-SV drainage areas, a preliminary design for the SWM Facility (SMF-SV) has been completed to demonstrate that the SWM block is adequately sized. A preliminary operating profile of the SWM facility is presented in **Table 8.**

Table 8: SWM Facility (SWMF-SV) Operating Characteristics

Component	Elevation (m)	Storage Required (m³)	Storage Provided (m³)
Bottom	511.70	--	--
Permanent Pool	513.20	1,717	4,338
Extended Detention	513.80	1,552	2,946
High-Water Level	514.70	6,026	8,587
Top of Berm	515.00	--	

As evidenced by **Table 8**, the pond presented herein is sufficiently sized to provide the required stormwater quantity and quality controls. Permits and other regulatory instruments such as an Environmental Compliance Approval (MECP) and Conservation Authority approval will be secured at the detailed design stage.

Considering the water quantity and quality storage requirements for the POST-G2, and SWMF-GR drainage areas, a preliminary design for the SWM Facility (SMF-GR) has been completed to demonstrate that the SWM block is adequately sized. A preliminary operating profile of the SWM facility is presented in **Table 9.**

Table 9: SWM Facility (SWMF-GR) Operating Characteristics

Component	Elevation (m)	Storage Required (m^3)	Storage Provided (m^3)
Bottom	509.80	--	--
Permanent Pool	511.80	2,387	7,589
Extended Detention	512.30	2,284	3,035
Regional High-Water Level	513.80	13,974	14,584
Top of Berm	514.10	--	

As evidenced by **Table 9**, the pond presented herein is sufficiently sized to provide the required stormwater quantity and quality controls. Permits and other regulatory instruments such as an Environmental Compliance Approval (MECP) and Conservation Authority approval will be secured at the detailed design stage.

7.5. Water Balance

A water balance was completed to assess the impacts of development within the catchments of the wetland feature located in the southwestern portion of the Subject Lands. The Thornthwaite-Mather method was selected to calculate the pre- and post-development runoff, infiltration, and evapotranspiration contributions to the feature. As noted in the EIS completed by SLR (May 2024), the infiltration contributions for the PRE-G2 wetland impact the larger wetland at the southwest limit of the site. The smaller wetland within catchment PRE-G2 is slated for removal, and it is important that the contributions of that wetland are maintained. The pre-development water balance was established to set the post-development annual water balance targets.

Under post-development conditions, the runoff from the area draining to SWMF-SV was removed from the water balance calculation since it is proposed to outlet SWMF-SV to the Road 9 ditch. Combined with the typical reduction in evapotranspiration and infiltration associated with the increased impervious area coverage, the runoff directed to the wetland was also reduced. As noted in the EIS (SLR 2024), the differentiation between runoff and infiltration contributions to the wetland feature was not deemed to be critical, therefore the deficit to the wetland was calculated as a combination of these two parameters. This combined deficit was mitigated by adding an additional outlet from SWMF-SV. This additional outlet will be designed such that the runoff volume from the 3 mm storm event (roughly 2.2 mm) from the drainage area contributing to SWMF-SV will be directed to the wetland, and any additional flows will be directed to the County Rd 9 ditch, by-passing the wetland. The results of the assessment are summarized in **Table 10** and detailed calculations are included in **Appendix F**.

Table 10: Wetland Water Balance

Parameter	Pre-Development	Post Development	Post-Development with Mitigation	% Change (Pre to Post) with Mitigation
Precipitation (m^3/yr)	96081	91241	91241	-5%
Evapotranspiration (m^3/yr)	71500	35084	35084	-51%
Total Infiltration (m^3/yr)	17206	6047	6047	-65%
Total Runoff (m^3/yr)	7374	1612	18166	146%
Total Runoff + Infiltration (m^3/yr)	24581	7659	24213	-1%

8. UTILITIES

The development will be serviced with natural gas, telephone, cable TV, and hydro. All such utilities are available in the area of development. Coordination for extension of and connection to existing services will be undertaken as development approvals advance. Utilities are proposed to follow the alignment of the internal road network, with individual service connections to each lot. A joint utility trench is proposed for the development.

9. CONCLUSIONS & RECOMMENDATIONS

Based on the foregoing, we conclude that the proposed Ida Street Development can be adequately serviced.

- Access to the Subject Development will be provided by two entrances along County Road 9 and one entrance along Ida Street. The internal roadways will meet Township Standards and provide access for emergency vehicles.
- The northeast half of the site will be serviced by gravity sanitary sewers along internal roadways and a proposed Ida Street sewer connected to the existing 300mm diameter gravity sewer network on Ida Street. Wastewater will then follow the existing sewer network, ultimately discharging to the Dundalk WWTF.
- The southwest half for the site will be serviced by a gravity sanitary sewer network discharging to a proposed pumping station along County Road 9 at the site's southwest boundary. Wastewater will then be conveyed from the SPS to the internal gravity sewer network via an internal forcemain.
- An internal watermain system will be provided through the Subject Development with two connections to the existing watermain on Ida Street.
- The development will be fully serviced by hydro, natural gas, cable, and telecommunications.
- Two SWM Facilities will provide both quality and quantity control. The proposed SWM Facilities are adequately sized to provide "enhanced protection" level treatment while controlling post-development flows to pre-development levels for all storms up to the 100-year storm event. The facility will incorporate 24-hour retention of the 25mm event to provide erosion control.
- Flood hazard constraints do not exist for the Subject Development.
- A secondary outlet from SWMF-SV is proposed to mitigate the post-development water balance deficit in the wetland located at the southwest limit of the Subject Development.

Based on the above, we recommend approval of the Planning Applications for the subject lands from the perspective of engineering servicing requirements.

Respectfully Submitted,

C.F. Crozier & Associates Inc.

Justin L'Abbe, P.Eng.
Project Manager

C.F. Crozier & Associates Inc.

Nicole O'Connor, P.Eng.
Project Engineer

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APPENDIX A

Geotechnical Investigation

Soil Engineers Ltd.
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A REPORT TO
FLATO DEVELOPMENTS INC.

A GEOTECHNICAL INVESTIGATION FOR PROPOSED RESIDENTIAL DEVELOPMENT

2 IDA STREET
TOWNSHIP OF SOUTHGATE (DUNDALK)

REFERENCE NO. 2210-S028A

JANUARY 2023

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ENCLOSURES

1.0 INTRODUCTION

In accordance with a written authorization from Ms. Nazy Majidi of Flato Developments Inc. dated September 20, 2022, Soil Engineers Ltd. was retained to carry out a geotechnical review based on the monitoring well logs and groundwater monitoring data prepared by SLR Consulting (Canada) Ltd. (SLR) on a land parcel located at the northwest of Ida Street and County Road 9 in the Township of Southgate.

The purpose of this review was to evaluate the subsurface conditions and determine the engineering properties of the disclosed soils from SLR boreholes for the design and construction of the proposed residential development. The geotechnical findings and resulting recommendations are presented in this report.

2.0 SITE AND PROJECT DESCRIPTION

The Township of Southgate (Dundalk) is situated in the physiographic region known as Dundalk Till Plain, where moraines and eskers occur in areas that have been partly eroded by glacial Lake Algonquin and filled with lacustrine sands, silts, and reworked till.

The subject site, approximately 35 hectares in area, is located at the northwest of Ida Street and County Road 9 in the Township of Southgate. Based on the aerial photographs, the subject site is mainly used for agricultural purposed with multiple residential dwellings. The existing site gradient is undulating, and generally dropping towards the southwest.

Based on the concept plan provided by Croizier Consulting Engineers, the subject site will be developed into a residential subdivision with park blocks and two stormwater management (SWM) ponds. The subdivision will be serviced with municipal sewers and roadways meeting urban standards.

3.0 FIELD WORK AND LABORATORY TESTS

The field work, consisting of nine (9) boreholes extending to depths of 5.79 to 10.67 m, was supervised by SLR between April 11 and 18, 2022. Upon the completion of drilling and sampling, ten (10) monitoring wells were also installed to facilitate groundwater monitoring and hydrogeological study, where a pair of nested wells were installed in one of the borehole locations. All borehole and monitoring well locations are shown on the Borehole and Monitoring Well Location Plan, Drawing No.1.

Standard Penetration Tests (SPT) were performed at regular sample interval to determine the Standard Penetration Resistance (or ‘N’ values) of the subsoil. The relative density of the non-cohesive strata is inferred from the ‘N’ values. The results of the SPT were documented in the Monitoring Well Logs in Appendix A of this report.

Aside from the SPT during the field work, grain size analyses were also performed on selected soil samples to determine the gradation of the subsoils. The gradation graphs were presented in Appendix B of this report.

4.0 **SUBSURFACE CONDITIONS**

The investigation revealed that beneath a topsoil veneer, the site is underlain by sandy silt till/silty sand till deposits, with localized sand layers.

Detailed descriptions of the encountered subsurface conditions are presented on SLR Monitoring Well Logs attached in the Appendix A. The engineering properties of the disclosed soils are discussed herein.

4.1 **Topsoil**

The topsoil veneer, 10 to 43 cm in thickness, was contacted at the ground surface in all boreholes. Thicker topsoil may be encountered in areas beyond the borehole locations, especially in low lying areas and treed areas.

4.2 **Sand/Silty Sand**

Layers of sand was encountered beneath the topsoil and within the till stratum in MW22-403 to MW22-407, inclusive, at various depths. The sand is generally fine to medium grained with a trace of silt to being silty. In some locations, the sand becomes coarse grained and gravelly.

The obtained ‘N’ values of the sand range between 4 and over 50 blows per 30 cm of penetration, indicating the sand is loose to dense in relative density.

The loose sand was generally encountered near the ground surface, which may have been disturbed by farming activities and/or weathering process. This sand deposit is generally in moist condition. Where the sand layer was contacted within the till deposit at a deeper depth, the sand layer appeared to be in wet condition.

The engineering properties of the sand deposit are given below:

- Low to high frost-susceptibility, depending on its fine content.
- High water erodibility; the fine particles are susceptible to migration under seepage condition.
- In excavation, the sand will slough to its angle of repose, run with water seepage and boil with a piezometric head of about 0.3 m.

4.3 Silty Sand Till/Sandy Silt Till

The native silty sand till/sandy silt till predominates the soil stratigraphy within the depth of the investigation. It consists of a random mixture of soil particle sizes ranging from clay to gravel, with silt and sand being the dominant influence on its soil properties. Four grain size analyses were carried out in selected till samples and the gradations are presented in Appendix B of this report.

Generally, the till stratum is in moist to very moist conditions, with occasional wet sand layers as noted by SLR during drilling and sample examinations.

The obtained ‘N’ values of the till samples range from 4 to over 50, with a median of over 50 blows per 30 cm of penetration, indicating the till deposit is loose to very dense, being generally very dense in relative density. Large cobbles and possible rock fragments were identified within the till samples by SLR.

The engineering properties of the till deposit are listed below:

- High frost susceptibility and low water erodibility.
- The till will be stable in relatively steep excavation; however, localized sheet collapse may occur under prolonged exposure.

5.0 GROUNDWATER CONDITION

Groundwater levels were recorded in the monitoring wells on July 13, 2022, and the records are presented on the logs and summarized in Table 1.

Table 1 - Groundwater Level in Monitoring Wells

Monitoring Well No.	Well Depth (m)	Ground Elevation (m)	July 13, 2022	
			Depth (m)	Elevation (m)
MW22-401	6.10	518.60	3.38	515.22
MW22-402	6.10	516.82	2.09	514.73
MW22-403	6.10	514.27	1.85	512.42
MW22-404	6.10	514.16	0.93	513.23
MW22-405D	10.67	512.10	1.86	510.24
MW22-405S	6.10	512.06	1.80	510.26
MW22-406	5.79	511.50	1.11	510.39
MW22-407	6.10	509.61	1.61	508.00
MW22-408	6.10	509.31	1.21	508.10
ESA-1	4.57	514.16	1.44	512.72

Groundwater was recorded at a depth of 0.93 to 3.38 m from the prevailing ground surface, or between El. 508.00 m and El. 515.22 m. On-going groundwater monitoring will be completed by SLR and presented in the hydrogeological report under separate cover.

6.0 DISCUSSION AND RECOMMENDATIONS

The investigation revealed that beneath a topsoil veneer, the site is underlain by sandy silt till/silty sand till deposits, with localized sand layers.

Groundwater was recorded at a depth of 0.93 to 3.38 m from the prevailing ground surface, or between El. 508.00 m and El. 515.22 m.

It is understood that subject site will be developed into a residential subdivision with park blocks and two SWM ponds. The geotechnical findings warranting special consideration for the proposed development are presented below:

- The topsoil must be removed for site development. The topsoil can be re-used for landscaping only. Any surplus should be removed off-site
- Where the surface soil is weathered or disturbed, it should be subexcavated and inspected before reusing for structural backfill.

- In areas where the site will be regraded with additional fill, the earth fill can be placed in an engineered manner for foundation, site services and pavement construction.
- The proposed residential houses can be supported on conventional spread and strip footings founded on engineered fill or undisturbed native subsoil. The foundation subgrade must be inspected by a geotechnical engineer, or a senior geotechnical technician, to ensure that the revealed conditions are compatible with the design of foundations.
- For conventional basement design, the foundation wall should be damp-proofed and provided with perimeter subdivisions at wall base. Where wet subgrade is evident below the basement slab, underfloor weepers must be considered.
- A Class 'B' bedding, consisting of compacted 19-mm Crusher-Run Limestone (CRL), or equivalent, is recommended for the construction of the underground utilities. Where wet subgrade or dewatering is required, A Class 'A' concrete bedding should be used instead.

The recommendations appropriate for the project are presented herein. One must be aware that the subsurface conditions may vary. Should this become apparent during construction, a geotechnical engineer must be consulted to determine whether the following recommendations require revision.

6.1 **Site Preparation**

In areas where the site will be regraded with additional fill, the earth fill should be place in an engineered manner for foundation, site services and pavement construction. The engineering requirements for a certifiable fill are presented below:

1. All the existing topsoil must be removed. Any weathered/disturbed soil encountered on the ground surface should be subexcavated, sorted free of organics or deleterious material, if any, aerated before reusing for structural backfill. The exposed subgrade must be inspected and proof-rolled prior to any fill placement.
2. Inorganic soils must be used, and they must be uniformly compacted in 20 cm thick lifts to at least 98% Standard Proctor dry density (SPDD) up to the proposed finished grade. The soil moisture must be properly controlled near the optimum. If the foundations are to be built soon after the fill placement, the densification process for the engineered fill must be increased to 100% SPDD.
3. If the engineered fill is compacted with the moisture content on the wet side of the optimum, the underground services and pavement construction should not begin until

the pore pressure within the fill mantle has completely dissipated. This must be further assessed at the time of the engineered fill construction.

4. If imported fill is to be used, it should be inorganic soils, free of deleterious or any material with environmental issue (contamination). Any potential imported earth fill from off site must be reviewed for geotechnical and environmental quality by the appropriate personnel as authorized by the developer or agency, before it is hauled to the site.
5. The engineered fill must not be placed during the period where freezing ambient temperatures occur either persistently or intermittently. This is to ensure that the fill is free of frozen soils, ice and snow. If the engineered fill is to be left over the winter months, adequate earth cover, or equivalent, must be provided for protection against frost action.
6. The fill operation must be supervised and monitored on a full-time basis by a technician under the direction of a geotechnical engineer.
7. The engineered fill envelope and finished elevations must be clearly and accurately defined in the field, and they must be precisely documented.
8. The foundations and underground services subgrade must be inspected by the geotechnical consulting firm that inspected the engineered fill placement. This is to ensure that the foundations are placed within the engineered fill envelope, and the integrity of the fill has not been compromised by interim construction, environmental degradation and/or disturbance by the footing excavation.
9. Any excavation carried out in certified engineered fill must be reported to the geotechnical consultant who supervised the fill placement in order to document the locations of the excavation and/or to supervise reinstatement of the excavated areas to engineered fill status. If construction on the engineered fill does not commence within a period of 2 years from the date of certification, the condition of the engineered fill must be assessed for re-certification.
10. Despite stringent control in the placement of the engineered fill, variations in soil type and density may occur in the engineered fill. Therefore, the foundations must be reinforced and designed by a structural engineer.
11. In sewer construction, the engineered fill is considered to have the same structural proficiency as a natural inorganic soil.

6.2 Foundations

The proposed residential dwellings can be constructed on conventional footings founded on the undisturbed native soil or engineered fill. The recommended bearing pressures for conventional footing design are presented below:

- Maximum Soil Bearing Pressure at Serviceability Limit State (SLS) = 150 kPa
- Factored Ultimate Bearing Pressure at Ultimate Limit State (ULS) = 250 kPa

The total and differential settlements of the conventional spread and strip footings, designed for the bearing pressure at SLS, are estimated to be 25 mm and 20 mm, respectively.

The footing subgrade must be inspected by a geotechnical engineer, or a geotechnical technician under the supervision of a geotechnical engineer; this is to ensure that the subgrade conditions are compatible with the foundation design requirements.

Where water seepage is encountered during footing excavations, or where the subgrade of the foundations is found to be wet, the subgrade should be protected by a concrete mud-slab immediately after exposure and inspection. This will prevent construction disturbance and costly rectification.

Footings exposed to weathering or in unheated areas, should have at least 1.6 m of earth cover for protection against frost action or must be adequately insulated.

The foundations shall meet the requirements specified in the latest Ontario Building Code. The proposed development should be designed to resist an earthquake force using Site Classification 'D' (stiff soil).

6.3 **Basement Construction**

The basement walls should be designed to sustain a lateral earth pressure calculated using the soil parameters stated in Section 6.8. Any applicable surcharge loads beside the basement must also be included in the design of underground structure.

In conventional design, perimeter subdrains and damp-proofing of the foundation walls will be required. The subdrains should be encased in a fabric filter to protect them against blockage by silting and connected to a positive outlet. Typical details of the perimeter subdrain are illustrated on Drawing No. 2.

Where wet subgrade is evident below the basement, underfloor weepers should be implemented. In addition, a vapour barrier should also be placed between the concrete slab and the granular bedding to prevent upfiltration of water vapour. Details of the underfloor weepers are illustrated on Drawing No. 3. The necessity of the underfloor weepers should be further verified once the basement elevation is available for review.

The subgrade must consist of sound native soils or properly compacted inorganic fill. Any weak or wet soil should be subexcavated and replaced with suitable inorganic soil compacted to at least 98% SPDD. The final subgrade must be inspected and assessed by proof-rolling prior to placement of granular bedding.

The basement floor slab should be constructed on a granular bedding, at least 20 cm in thickness, consisting of 19-mm CRL, or equivalent, compacted to 100% SPDD. Where underfloor weepers are required, the thickness of the granular bedding should be increased to 30 cm in thickness.

The exterior grading around the buildings must be such that it directs runoff away from the structures.

6.4 **Underground Services**

The subgrade for underground services should consist of properly compacted inorganic earth fill or sound native soils. Where weak or wet subgrade is encountered, it can be further subexcavated to competent soil and replaced with bedding material compacted to 98% SPDD in lifts no more than 20 cm in thickness.

A Class ‘B’ bedding, consisting of compacted 19-mm CRL or equivalent, is recommended for the design of the underground services construction. Where saturated soils and/or dewatering is required for the construction of the underground services, Class ‘A’ concrete bedding should be used instead.

In order to prevent pipe floatation when the sewer trench is deluged with water, a soil cover with a thickness equal to two times the pipe diameter should be in place at all times after completion of the pipe installation.

The pipe joints connecting into manholes and catch basins should be leak-proof or wrapped with a waterproof membrane. Openings to subdrains should be shielded by a fabric filter to prevent blockage by silting.

All metal fittings for the underground services should be protected against soil corrosion. The in-situ soils have moderately high corrosivity to buried metal. In determining the mode of protection, an estimated electrical resistivity of the disclosed soil should be used and must meet the minimum requirement as specified by the Municipality.

6.5 **Backfilling in Trenches and Excavation**

The on-site inorganic soils are suitable in general to be reused for structural backfill. However, the wet soils, if any, should be spread thinly on the ground to allow aeration in warm and dry weather prior to be reused for structural backfill. They should be free of deleterious materials or oversized (over 15 cm) boulders and cobbles.

The backfill in service trenches or beside foundation walls should be compacted to at least 95% SPDD. In zone within 1.0 m below the pavement subgrade or floor slab, the subgrade must be compacted to at least 98% SPDD. The lift thickness should be limited to 20 cm, or the lift thickness should be determined by test strips.

In normal construction practice, the problem areas of pavement settlement largely occur adjacent to foundation walls, manholes, catch basins and services crossings. In areas which are inaccessible to a heavy compactor, granular backfill should be used in order to achieve the compaction with a light equipment.

One must be aware of the possible consequences during trench backfilling and exercise caution as described below:

- When construction is carried out in freezing winter weather, allowance should be made for these following conditions. Despite stringent backfill monitoring, frozen soil layers may inadvertently be mixed with the structural trench backfill. Should the in-situ soils have a water content on the dry side of the optimum, it would be impossible to wet the soils due to the freezing condition, rendering difficulties in obtaining uniform and proper compaction. Furthermore, the freezing condition will prevent wetting of the backfill when it is required, such as in a narrow vertical trench section, or when the trench box is removed. The above will invariably cause backfill settlement that may become evident within 1 to several years, depending on the depth of the trench which has been backfilled.
- In areas where the construction is carried out during the winter months, prolonged exposure of the trench walls will result in frost heave within the soil mantle of the walls. This may result in some settlement as the frost recedes, and repair costs will be incurred prior to final surfacing of the new pavement and the slab-on-grade construction.
- In deep trench backfill, one must be aware that future settlement may occur, unless the side of the cut is flattened to at least 2H:1V, and the lifts of the fill and its moisture content are stringently controlled; i.e., lifts should be no more than 20 cm (or less if the

backfilling conditions dictate) and uniformly compacted to achieve at least 98% SPDD, with the moisture content controlled near the optimum.

- It is often difficult to achieve uniform compaction of the backfill in the lower vertical section of a trench which is stabilized by a trench box. These sectors must be backfilled with sand or non shrinkable fill, and the compaction must be carried out diligently prior to the placement of the backfill above this sector; i.e., in the upper sloped trench section. This measure is necessary in order to prevent consolidation of inadvertent voids and loose backfill which will compromise the compaction of the backfill in the upper section.
- In areas where groundwater movement is expected in the trench backfill, anti-seepage collars (OPSS 802.095) should be provided.

6.6 **Garages and Driveways**

Due to the frost susceptible characteristics of the subgrade soils, heaving of the pavement is anticipated during cold weather and the surface structures should be designed to tolerate the movement.

The driveway leading to the garage should be backfilled with non-frost susceptible granular material with a frost taper at a slope of 1H:1V or gentler. The subgrade of the garage floor and the interior garage foundation walls should be insulated with 75-mm Styrofoam, or its thermal equivalent.

The ground surface must be graded to direct water away from the structures to minimize the frost heave phenomenon generally associated with the disclosed soil.

6.7 **Pavement Design**

The recommended pavement design for both Local Road and Collectors is presented in Table 2.

Table 2 - Pavement Design

Course	Thickness (mm)	OPS Specifications
Asphalt Surface	40	HL3
Asphalt Binder - Local Road - Collectors	 50 70	HL4
Granular Base	150	Granular 'A' or equivalent
Granular Sub-base	450	Granular 'B' or equivalent

In preparation of the pavement subgrade, the subgrade must be proof-rolled. Any soft spot identified must be subexcavated, and replaced with inorganic material and properly compacted to at least 98% SPDD, with the water content 2% to 3% drier than the optimum in 20 cm layers, or the lift thickness should be determined by test strips. All the granular bases should be compacted to 100% SPDD.

The pavement subgrade will suffer a strength regression if water is allowed to infiltrate prior to paving. The following measures should be incorporated in the construction procedures and pavement design:

- The lot areas adjacent to the pavement should be properly graded to prevent ponding of water.
- The pavement subgrade should be properly crowned and smooth-rolled to allow interim precipitation to be properly drained.
- Fabric filter-encased curb subdrains on both sides of the roadway are required to meet the Town's requirements.
- If the pavement is to be constructed during the wet seasons and extremely soft subgrade occurs, the granular sub-base may require thickening. This can be further assessed during construction.

6.8 Stormwater Management Areas

Based on the concept plan, two SWM areas were proposed within the subject site: one is located to the southeast corner of the site and the other one is located at the southwest corner of the site. Details of both SWM areas are not available for review at the time of preparation of this report.

MW22-408 and ESA-1 were completed at the SWM areas, which consists of silty sand till, extending to the maximum investigated depths of the boreholes. Groundwater was recorded at 1.21 m and 1.44 m below the ground surface, or at El. 508.10 m and El. 512.72 m, in MW22-408 and ESA-1, respectively. Where the SWM facility is to be constructed by subexcavation, a clay liner will likely be required. Where necessary, perimeter and under pond subdrains may be required. This should be confirmed once the SWM design is available for review.

Where the bottom of the SWM facility is deeper than the depths of the boreholes, additional boreholes, extending to at least 1.0 m below the bottom of the SWM facility, will be required.

6.9 Soil Parameters

The recommended soil parameters for the project design are given in Table 3.

Table 3 - Soil Parameters

Unit Weight and Bulk Factor	**Unit Weight (kN/m^3)**		**Estimated Bulk Factor**	
	Bulk	**Submerged**	**Loose**	**Compacted**
Silty Sand/Sand	20.5	10.5	1.20	1.00
Silty Sand Till/Sandy Silt Till	22.5	12.5	1.25	1.03
Lateral Earth Pressure Coefficients		**Active K_a**	**At Rest K_0**	**Passive K_p**
Sand		0.29	0.46	3.36
Silty Sand Till/Sandy Silt Till/Silty Sand		0.30	0.40	3.33
Estimated Coefficient of Permeability (K) and Percolation Time (T)			**K (cm/sec)**	**T (min/cm)**
Sand			10^{-2} to 10^{-3}	4 to 8
Silty Sand			10^{-4}	15
Silty Sand Till/Sandy Silt Till			10^{-4} to 10^{-6}	15 to 50
Estimated California Bearing Ratio				
Sand			15%	
Silty Sand/Silty Sand Till/Sandy Sit Till			5% to 8%	

Table 4 - Soil Parameters (cont'd)

Estimated Electrical Resistivity	
Sand	5500 ohm.cm
Silty Sand/Silty Sand Till/Sandy Silt Till	4500 ohm.cm
Maximum Allowable Soil Pressure (SLS) For Thrust Block Design	
Engineered Fill and Sound Native Soils	75 kPa
Coefficients of Friction	
Between Concrete and Granular Base	0.50
Between Concrete and Sound Native Soil	0.35

6.10 Excavation

Excavation should be carried out in accordance with Ontario Regulation 213/91. The types of excavated soils are classified in Table 5.

Table 5 - Classification of Soils for Excavation

Material	Type
Silty Sand Till/Sandy Silt Till	2
Disturbed/weathered Soils, drained Soils	3
Saturated Soils	4

Water seepage within the till deposits, if any, will likely be slow in rate and limited in quantity, and can be removed by pumping from sumps. Where the excavation extends into the saturated soils, the water seepage will be appreciable and likely persistent. Dewatering from closely spaced sumps and sump wells may be required. Details related to the rate and volume of dewatering will be discussed in the hydrogeological assessment. The method of dewatering should be confirmed with the hydrogeological consultant and the dewatering contractor.

Prospective contractors should assess the in situ subsurface conditions for excavation by digging test pits to at least 0.5 m below the intended bottom of excavation prior to excavating. These test pits may be allowed to remain open for a few hours to assess its seepage and stability conditions.

7.0 LIMITATIONS OF REPORT

This report was prepared by Soil Engineers Ltd. for the account of Flato Developments Inc. and for review by the designated consultants, financial institutions, and government agencies. Use of the report is subject to the conditions and limitations of the contractual agreement.

The material in the report reflects the judgment of Poh Fung Kwok and Kin Fung Li, P.Eng., in light of the information available to it at the time of preparation. Any use which a Third Party makes of this report, and/or any reliance on decisions to be made based on it are the responsibility of such Third Parties. Soil Engineers Ltd. accepts no responsibility for damages, if any, suffered by any Third Party as a result of decisions made or actions based on this report.

SOIL ENGINEERS LTD.

Poh Fung (Derek) Kwok, M.Sc.

LICENSED PROFESSIONAL ENGINEER
Jan 9, 2023
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100169280
PROVINCE OF ONTARIO

Kin Fung Li, P.Eng.
PFK/KFL

Soil Engineers Ltd.
CONSULTING ENGINEERS
GEOTECHNICAL • ENVIRONMENTAL • HYDROGEOLOGICAL • BUILDING SCIENCE
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BARRIE	MISSISSAUGA	OSHAWA	NEWMARKET	GRAVENHURST	HAMILTON
TEL: (705) 721-7863	TEL: (905) 542-7605	TEL: (905) 440-2040	TEL: (905) 853-0647	TEL: (705) 684-4242	TEL: (905) 777-7956
FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 542-2769

APPENDIX A

MONITORING WELL LOGS

REFERENCE NO. 2210-S028A

SLR

SLR CONSULTING (CANADA) LTD.

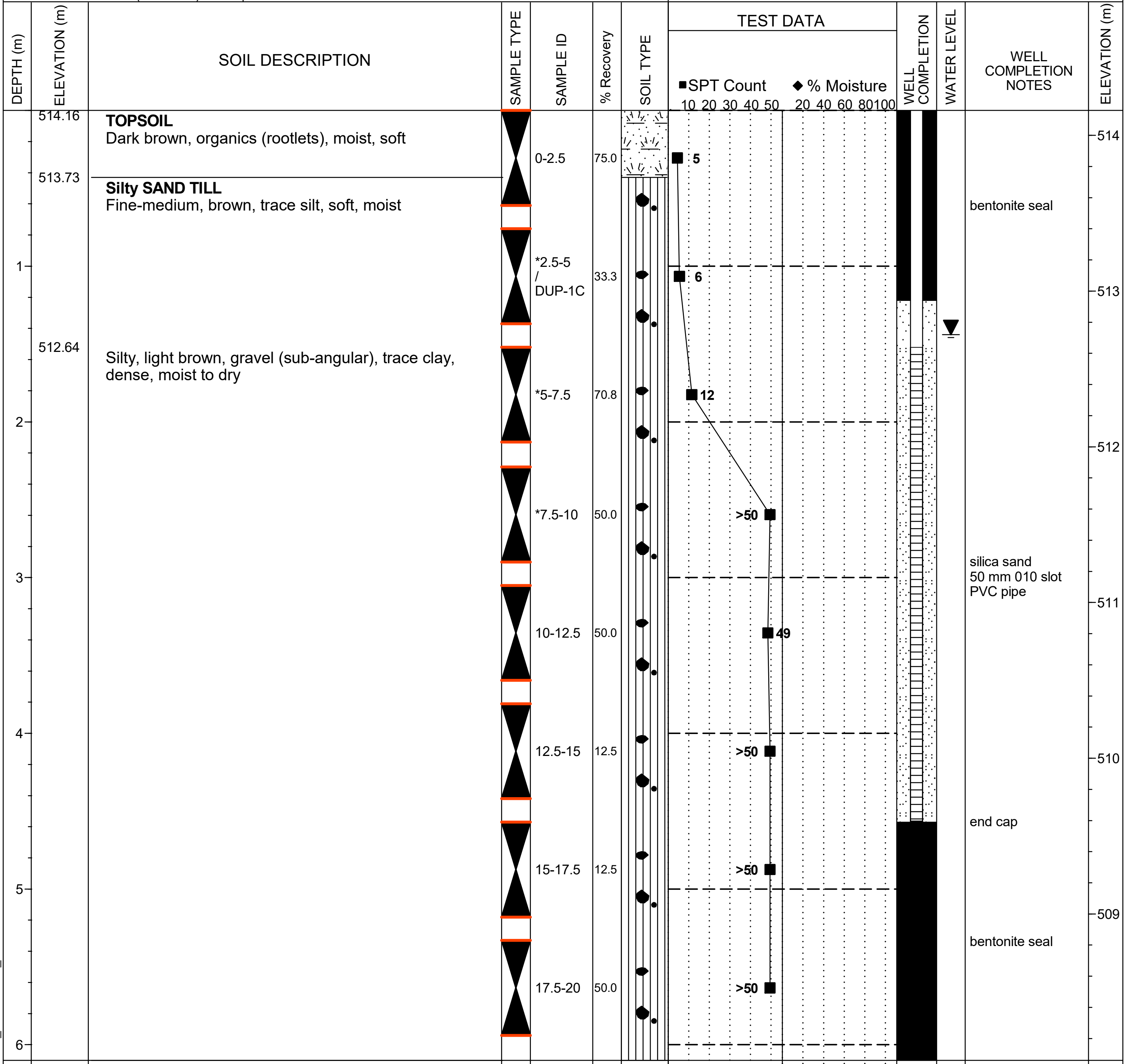
CLIENT: **Flato Developments Inc.**
PROJECT:
ADDRESS: **2 Ida Street Southgate, ON**
SLR JOB NO: **209.30125.00001**

Monitoring Well LOG

BOREHOLE NO: ESA-1
SURFACE ELEVATION: 514.16 m

ELEVATION (m)	SOIL DESCRIPTION
514.16	**TOPSOIL** Dark brown, organics (rootlets), moist, soft
513.73	**Silty SAND TILL** Fine-medium, brown, trace silt, soft, moist
512.64	Silty, light brown, gravel (sub-angular), trace clay, dense, moist to dry

SAMPLE TYPE	SAMPLE ID	% Recovery	SPT Count
SPLIT SPOON	0-2.5	75.0	5
SPLIT SPOON	*2.5-5 / DUP-1C	33.3	6
SPLIT SPOON	*5-7.5	70.8	12
SPLIT SPOON	*7.5-10	50.0	>50
SPLIT SPOON	10-12.5	50.0	49
SPLIT SPOON	12.5-15	12.5	>50
SPLIT SPOON	15-17.5	12.5	>50
SPLIT SPOON	17.5-20	50.0	>50



End of monitoring well at 508.06 m

Well Completion Details:
Screened interval from 512.64 m to 509.59 m
Elevation at top of pipe (TOP) = 515.16 m

Groundwater Information:
Depth to groundwater from TOP = 2.44 m (July 13, 2022)

* denotes soil sample taken for lab analysis

DRILLING METHOD: Hollow Stem Auger Drilling
BOREHOLE DIAMETER: 0.2 m (OD)
DRILL DATE: April 13, 2022
LOGGED BY: RH
DRILLED BY: Geo-Environmental

Notes: ⧖ SPLIT SPOON

Sheet 1 of 1

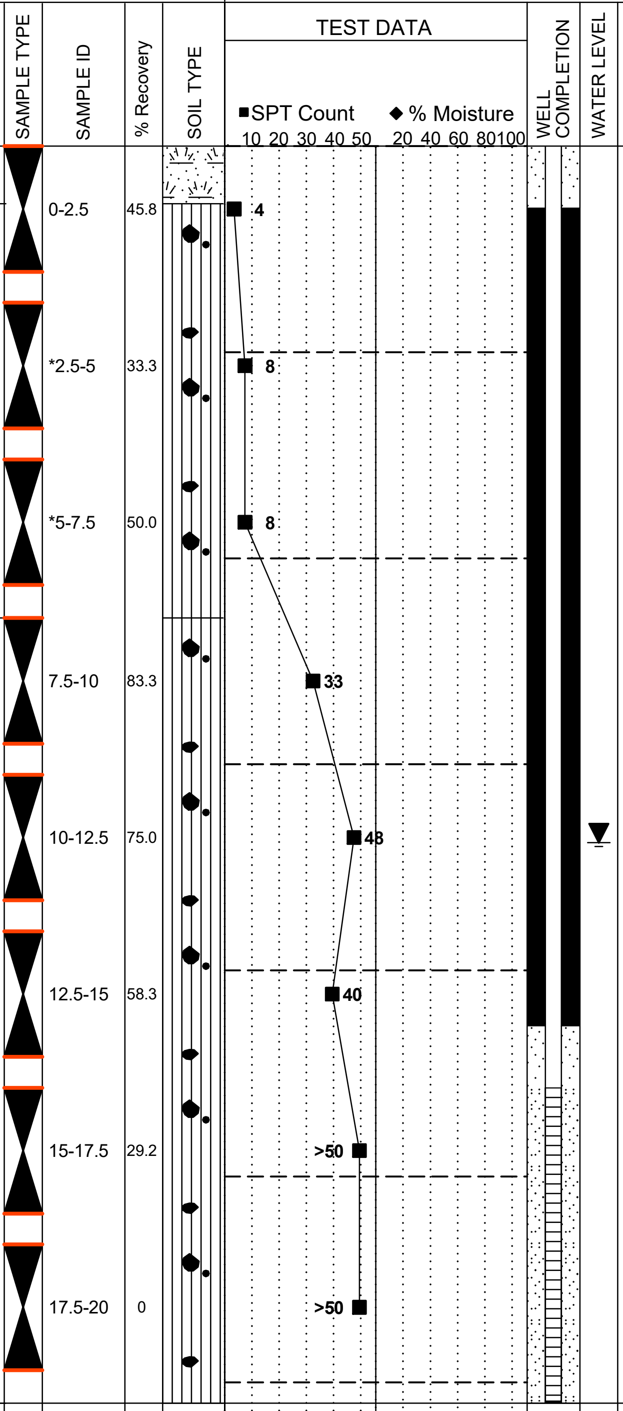
SLR

SLR CONSULTING (CANADA) LTD.

CLIENT: **Flato Developments Inc.**
PROJECT:
ADDRESS: **2 Ida Street Southgate, ON**
SLR JOB NO: **209.30125.00001**

Monitoring Well LOG

BOREHOLE NO: MW22-401
SURFACE ELEVATION: 518.60 m



DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION
	518.60	**TOPSOIL** Dark brown, organict (rootlets), soft, moist
	518.32	**Silty SAND TILL** Fine-medium, some gravel, some silt, brown, soft, moist
1		
	517.08	Increasing gravel and fines with depth
2		
	516.31	**Sandy SILT TILL** Silty fine sand, gravel (sub-angular/sub-rounded), orange mottling, light brown, dense, dry
3		
	514.79	No orange mottling, wet, loose
4		
5		
6		

SAMPLE ID	% Recovery	SPT Count
0-2.5	45.8	4
*2.5-5	33.3	8
*5-7.5	50.0	8
7.5-10	83.3	33
10-12.5	75.0	48
12.5-15	58.3	40
15-17.5	29.2	>50
17.5-20	0	>50

WELL COMPLETION NOTES:
silica sand
bentonite seal
silica sand
50 mm 010 slot
PVC pipe
end cap

ELEVATION (m): 518, 517, 516, 515, 514, 513

End of monitoring well at 512.50 m

Well Completion Details:
Screened interval from 514.03 m to 512.50 m
Elevation at top of pipe (TOP) = 519.50 m

Groundwater Information:
Depth to groundwater from TOP = 4.28 m (July 13, 2022)

* denotes soil sample taken for lab analysis

DRILLING METHOD: Hollow Stem Auger Drilling
BOREHOLE DIAMETER: 0.2 m (OD)
DRILL DATE: April 13, 2022
LOGGED BY: RH
DRILLED BY: Geo-Environmental

Notes: ☒ SPLIT SPOON

Sheet 1 of 1

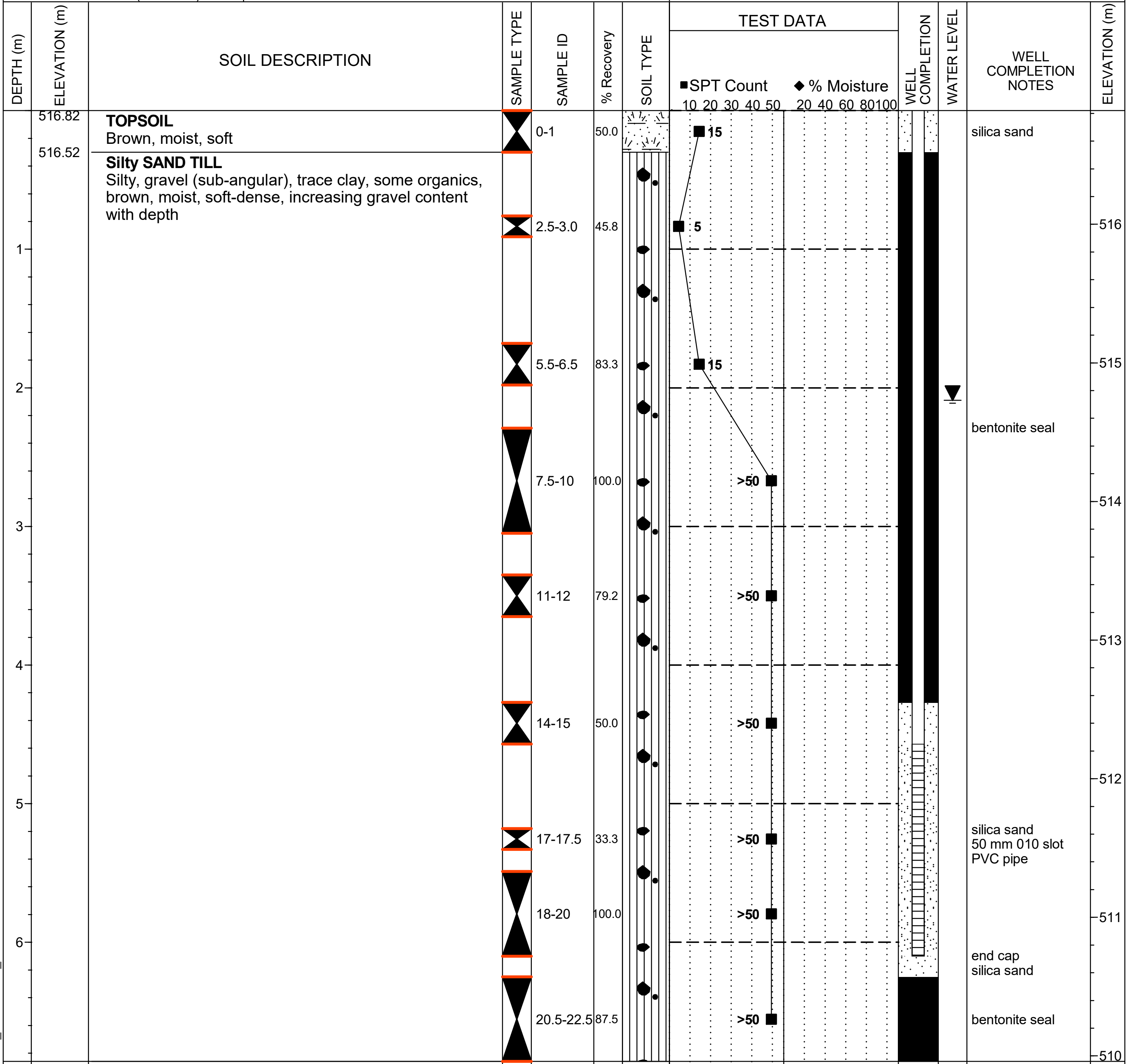
SLR

SLR CONSULTING (CANADA) LTD.

CLIENT: **Flato Developments Inc.**
PROJECT:
ADDRESS: **2 Ida Street Southgate, ON**
SLR JOB NO: **209.30125.00001**

Monitoring Well LOG

BOREHOLE NO: MW22-402
SURFACE ELEVATION: 516.82 m



DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION
	516.82	**TOPSOIL** Brown, moist, soft
	516.52	**Silty SAND TILL** Silty, gravel (sub-angular), trace clay, some organics, brown, moist, soft-dense, increasing gravel content with depth

SAMPLE ID	% Recovery	SPT Count
0-1	50.0	15
2.5-3.0	45.8	5
5.5-6.5	83.3	15
7.5-10	100.0	>50
11-12	79.2	>50
14-15	50.0	>50
17-17.5	33.3	>50
18-20	100.0	>50
20.5-22.5	87.5	>50

WELL COMPLETION NOTES

silica sand

bentonite seal

silica sand
50 mm 010 slot
PVC pipe

end cap
silica sand

bentonite seal

End of monitoring well at 509.96 m

Well Completion Details:
Screened interval from 512.25 m to 510.72 m
Elevation at top of pipe (TOP) = 517.68 m

Groundwater Information:
Depth to groundwater from TOP = 2.95 m (July 13, 2022)

* denotes soil sample taken for lab analysis

DRILLING METHOD: Hollow Stem Auger Drilling
BOREHOLE DIAMETER: 0.2 m (OD)

DRILL DATE: April 11, 2022
LOGGED BY: RH
DRILLED BY: Geo-Environmental

Notes: ⧗ SPLIT SPOON

Sheet 1 of 1

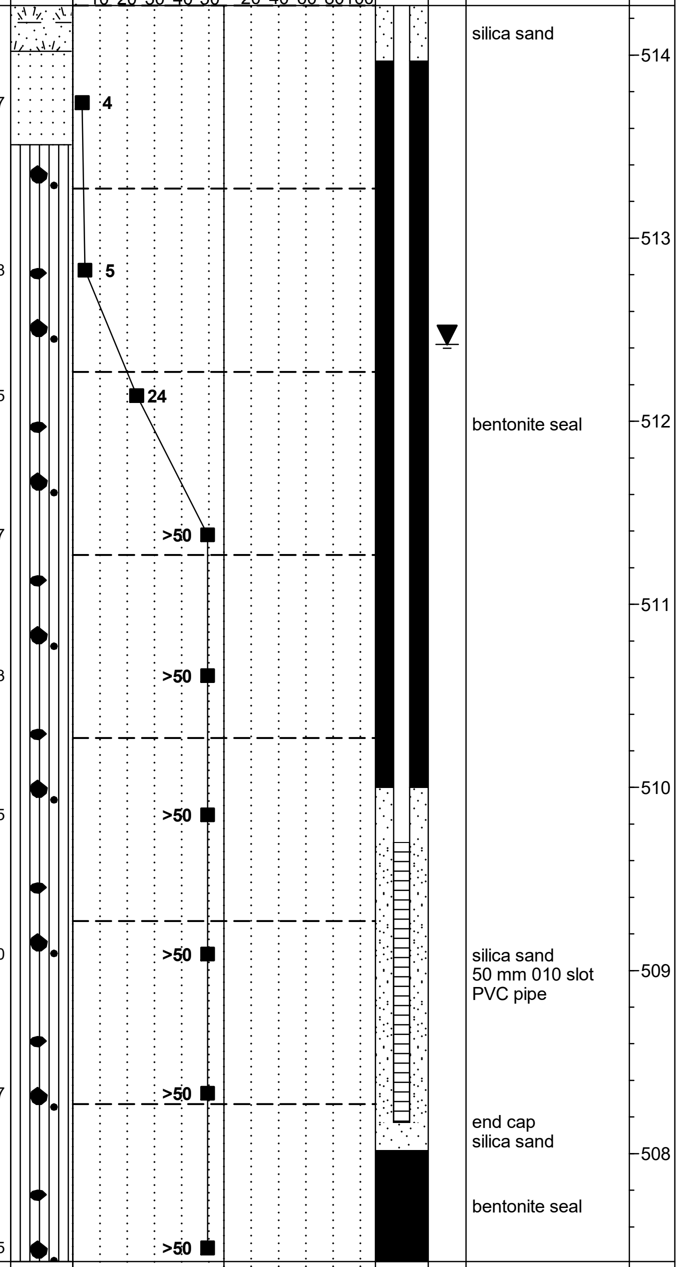
SLR CONSULTING (CANADA) LTD.

CLIENT: **Flato Developments Inc.**
PROJECT:
ADDRESS: **2 Ida Street Southgate, ON**
SLR JOB NO: **209.30125.00001**

Monitoring Well LOG

BOREHOLE NO: MW22-403
SURFACE ELEVATION: 514.27 m

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE ID	% Recovery	SPT Count	WELL COMPLETION NOTES
	514.27	**TOPSOIL** Dark brown, some organics (rootlets), soft, moist					silica sand
	514.02	**SAND** Fine-medium, brown, trace clay, soft, moist	⧗	1-2.5	66.7	4	
	513.51	**Sandy SILT TILL** Silty, light brown, gravel (sub-angular), trace clay, soft, moist, increasing gravel content with depth	⧗	4.5-5	20.8	5	
			⧗	6.5-7.5	37.5	24	
	511.98	Cobbles, dry, dense					bentonite seal
			⧗	9-10	66.7	>50	
			⧗	11.5-12.5	58.3	>50	
			⧗	14-15	62.5	>50	
			⧗	16.5-17.5	50.0	>50	silica sand 50 mm 010 slot PVC pipe
	508.94	Moist from 5.33 m to EOH					
			⧗	19-20	66.7	>50	end cap silica sand
							bentonite seal
	507.49	Largest cobble at 6.78 m	⧗	22-22.5	37.5	>50	



End of monitoring well at 507.41 m

Well Completion Details:
Screened interval from 509.70 m to 508.17 m
Elevation at top of pipe (TOP) = 515.21 m

Groundwater Information:
Depth to groundwater from TOP = 2.79 m (July 13, 2022)

* denotes soil sample taken for lab analysis

DRILLING METHOD: Hollow Stem Auger Drilling
BOREHOLE DIAMETER: 0.2 m (OD)
DRILL DATE: April 11, 2022
LOGGED BY: RH
DRILLED BY: Geo-Environmental

Notes: ⧗ SPLIT SPOON

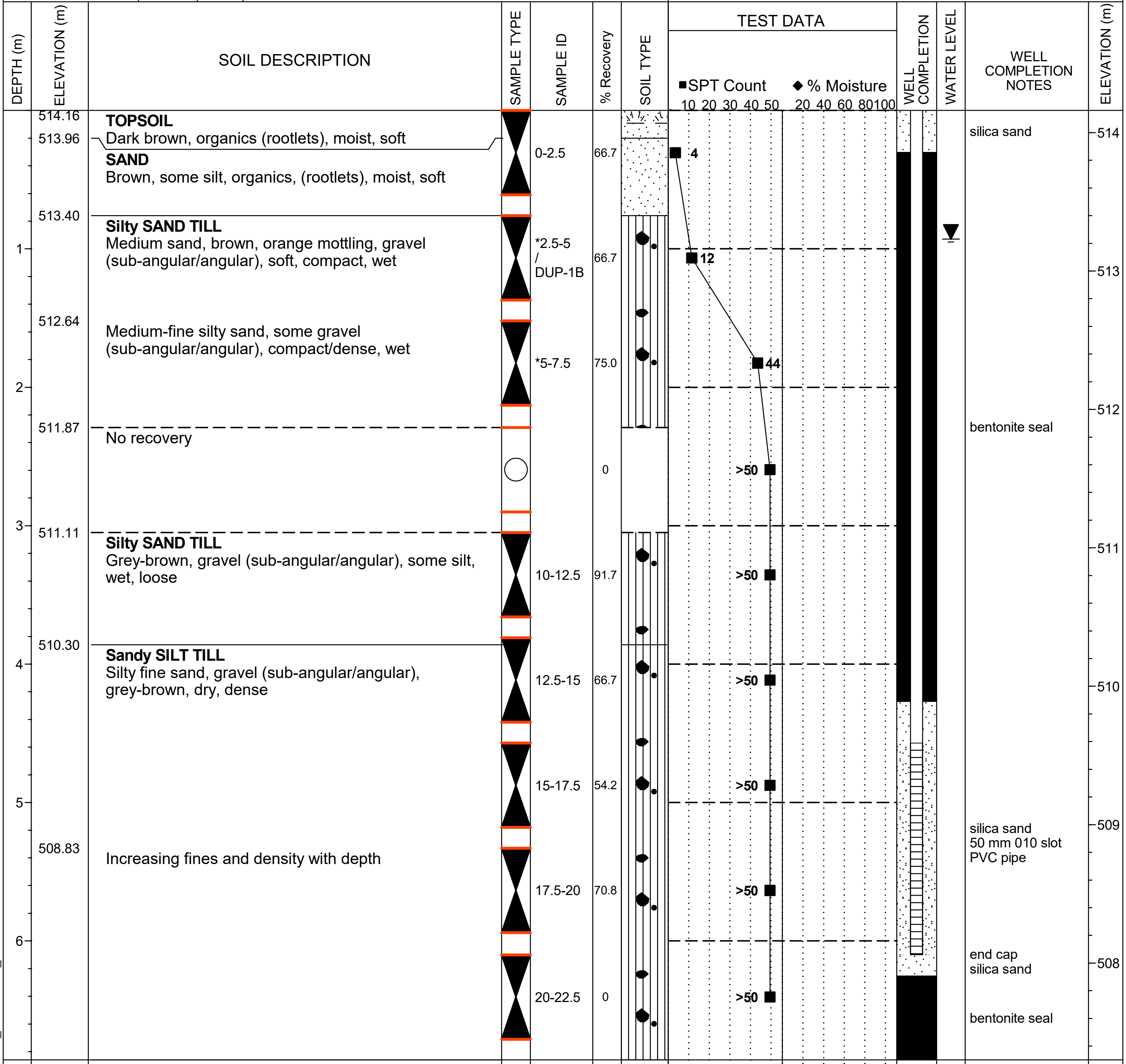
Sheet 1 of 1

SLR CONSULTING (CANADA) LTD.

CLIENT: **Flato Developments Inc.**
PROJECT:
ADDRESS: **2 Ida Street Southgate, ON**
SLR JOB NO: **209.30125.00001**

Monitoring Well LOG

BOREHOLE NO: MW22-404
SURFACE ELEVATION: 514.16 m



ELEVATION (m)	SOIL DESCRIPTION	SAMPLE ID	% Recovery	SPT Count
514.16	**TOPSOIL** Dark brown, organics (rootlets), moist, soft			
513.96	**SAND** Brown, some silt, organics, (rootlets), moist, soft	0-2.5	66.7	4
513.40	**Silty SAND TILL** Medium sand, brown, orange mottling, gravel (sub-angular/angular), soft, compact, wet	*2.5-5 / DUP-1B	66.7	12
512.64	Medium-fine silty sand, some gravel (sub-angular/angular), compact/dense, wet	*5-7.5	75.0	44
511.87	No recovery		0	>50
511.11	**Silty SAND TILL** Grey-brown, gravel (sub-angular/angular), some silt, wet, loose	10-12.5	91.7	>50
510.30	**Sandy SILT TILL** Silty fine sand, gravel (sub-angular/angular), grey-brown, dry, dense	12.5-15	66.7	>50
		15-17.5	54.2	>50
508.83	Increasing fines and density with depth	17.5-20	70.8	>50
		20-22.5	0	>50

WELL COMPLETION NOTES:
silica sand
bentonite seal
silica sand
50 mm 010 slot
PVC pipe
end cap
silica sand
bentonite seal

End of monitoring well at 507.30 m

Well Completion Details:
Screened interval from 509.59 m to 508.06 m
Elevation at top of pipe (TOP) = 515.00 m

Groundwater Information:
Depth to groundwater from TOP = 1.77 m (July 13, 2022)

* denotes soil sample taken for lab analysis

DRILLING METHOD: Hollow Stem Auger Drilling
BOREHOLE DIAMETER: 0.2 m (OD)
DRILL DATE: April 13, 2022
LOGGED BY: RH
DRILLED BY: Geo-Environmental

Notes: ⧗ SPLIT SPOON
○ NO RECOVERY

Sheet 1 of 1

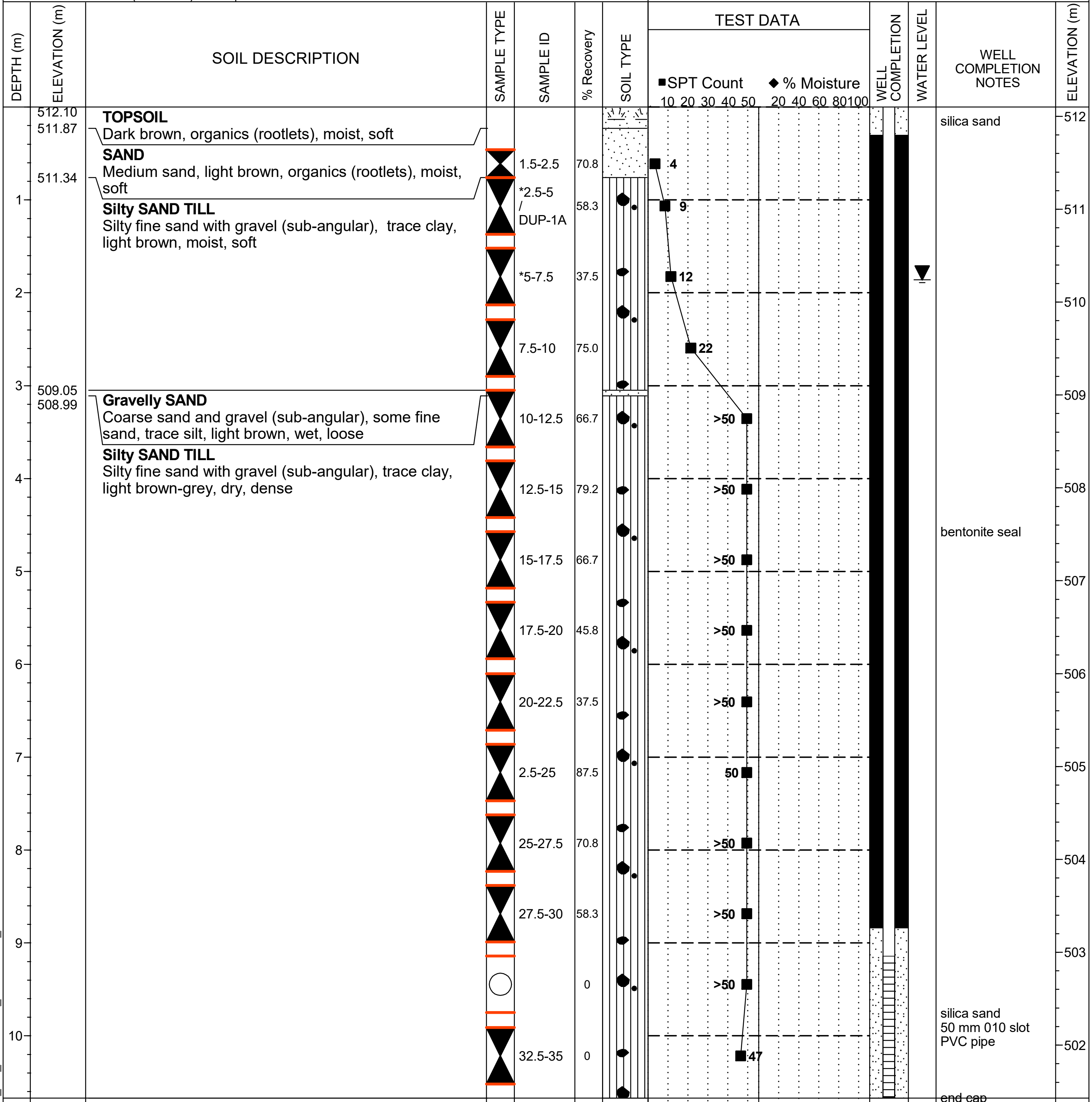
SLR BOREHOLE LOG (MOISTURE) 209.30125.00001_AM_2022.11.18_2.GPJ SLR_CAN V5.2 MOISTURE.GDT 11/30/22

SLR CONSULTING (CANADA) LTD.

CLIENT: **Flato Developments Inc.**
PROJECT:
ADDRESS: **2 Ida Street Southgate, ON**
SLR JOB NO: **209.30125.00001**

Monitoring Well LOG

BOREHOLE NO: MW22-405D
SURFACE ELEVATION: 512.10 m



ELEVATION (m)	SOIL DESCRIPTION
512.10	**TOPSOIL** Dark brown, organics (rootlets), moist, soft
511.87	**SAND** Medium sand, light brown, organics (rootlets), moist, soft
511.34	**Silty SAND TILL** Silty fine sand with gravel (sub-angular), trace clay, light brown, moist, soft
509.05	**Gravelly SAND** Coarse sand and gravel (sub-angular), some fine sand, trace silt, light brown, wet, loose
508.99	**Silty SAND TILL** Silty fine sand with gravel (sub-angular), trace clay, light brown-grey, dry, dense

SAMPLE ID	% Recovery	SPT Count
1.5-2.5	70.8	4
*2.5-5 / DUP-1A	58.3	9
*5-7.5	37.5	12
7.5-10	75.0	22
10-12.5	66.7	>50
12.5-15	79.2	>50
15-17.5	66.7	>50
17.5-20	45.8	>50
20-22.5	37.5	>50
2.5-25	87.5	50
25-27.5	70.8	>50
27.5-30	58.3	>50
	0	>50
32.5-35	0	47

WELL COMPLETION NOTES:
silica sand
bentonite seal
silica sand
50 mm 010 slot
PVC pipe
end cap

End of monitoring well at 501.43 m

Well Completion Details:
Screened interval from 502.96 m to 501.43 m
Elevation at top of pipe (TOP) = 513.05 m

Groundwater Information:
Depth to groundwater from TOP = 2.81 m (July 13, 2022)

* denotes soil sample taken for lab analysis

DRILLING METHOD: Hollow Stem Auger Drilling
BOREHOLE DIAMETER: 0.2 m (OD)

DRILL DATE: April 12, 2022
LOGGED BY: RH
DRILLED BY: Geo-Environmental

Notes: ⧗ SPLIT SPOON
○ NO RECOVERY

Sheet 1 of 1

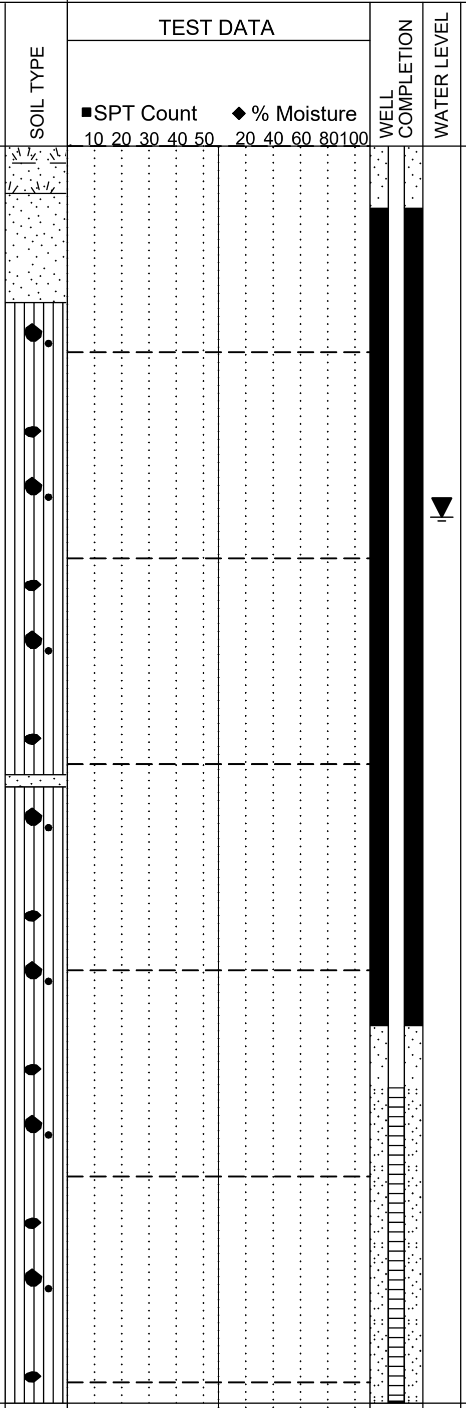
SLR CONSULTING (CANADA) LTD.

CLIENT: **Flato Developments Inc.**
PROJECT:
ADDRESS: **2 Ida Street Southgate, ON**
SLR JOB NO: **209.30125.00001**

Monitoring Well LOG

BOREHOLE NO: MW22-405S
SURFACE ELEVATION: 512.06 m

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE ID	% Recovery	WELL COMPLETION NOTES
	512.06	**TOPSOIL** Dark brown, organics (rootlets), moist, soft				silica sand
	511.83	**SAND** Medium sand, light brown, organics (rootlets), moist, soft				
	511.30	**Silty SAND TILL** Silty fine sand with gravel (sub-angular), trace clay, light brown, moist, soft				bentonite seal
	509.01	**Gravelly SAND** Coarse sand and gravel (sub-angular), some fine sand, trace silt, light brown, wet, loose				
	508.95	**Silty SAND TILL** Silty fine sand with gravel (sub-angular), trace clay, light brown-grey, dry, dense				silica sand 50 mm 010 slot PVC pipe end cap



End of monitoring well at 505.96 m

Well Completion Details:
Screened interval from 507.49 m to 505.96 m
Elevation at top of pipe (TOP) = 513.05 m

Groundwater Information:
Depth to groundwater from TOP = 2.79 m (July 13, 2022)

* denotes soil sample taken for lab analysis

MW22-405S was straight drilled adjacent to MW22-405D

DRILLING METHOD: Hollow Stem Auger Drilling
BOREHOLE DIAMETER: 0.2 m (OD)
DRILL DATE: April 12, 2022
LOGGED BY: RH
DRILLED BY: Geo-Environmental

Notes:

Sheet 1 of 1

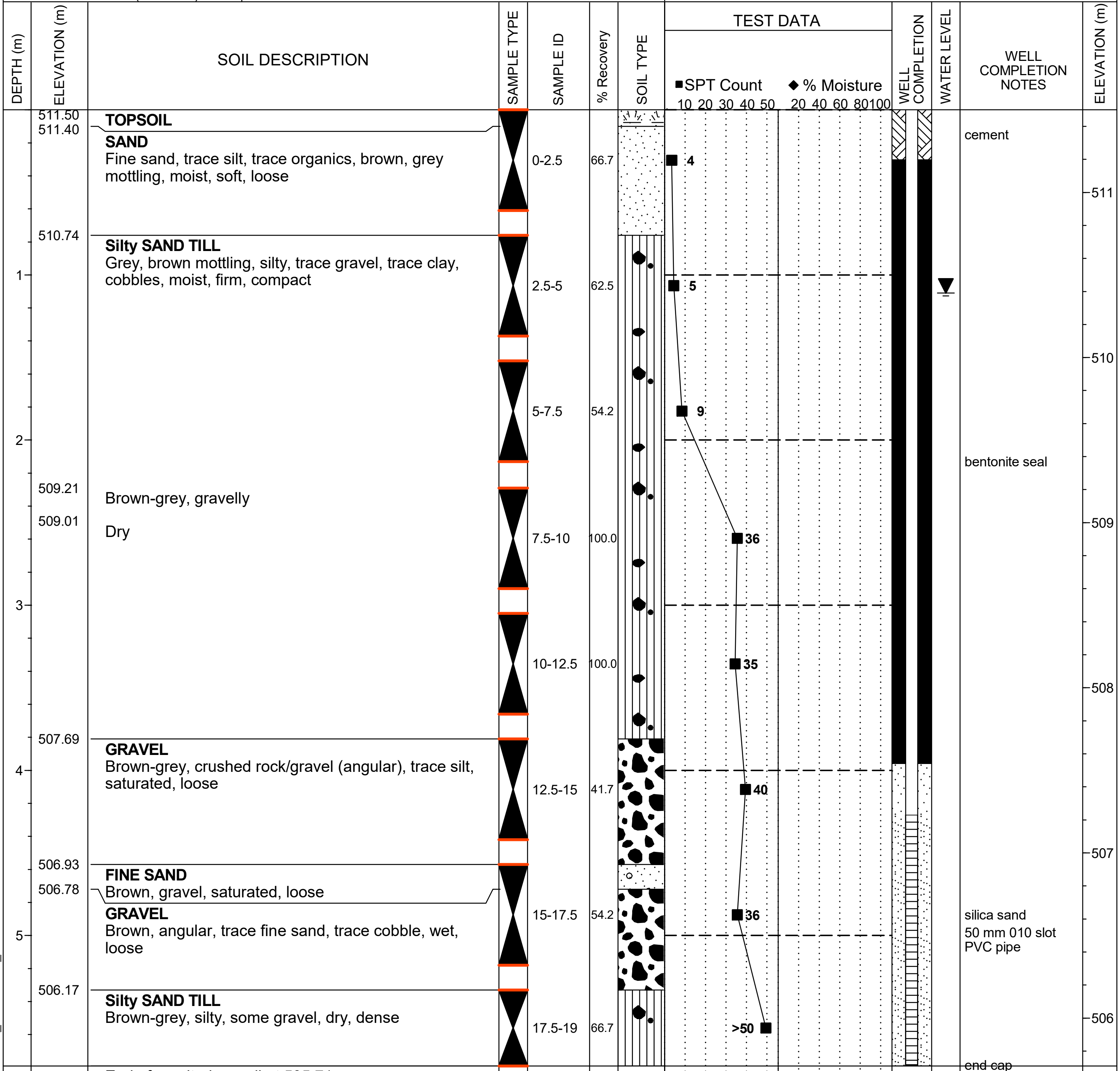
SLR CONSULTING (CANADA) LTD.

CLIENT: **Flato Developments Inc.**
PROJECT:
ADDRESS: **2 Ida Street Southgate, ON**
SLR JOB NO: **209.30125.00001**

Monitoring Well LOG

BOREHOLE NO: MW22-406
SURFACE ELEVATION: 511.50 m

DEPTH (m)	ELEVATION (m)	SOIL DESCRIPTION	SAMPLE ID	% Recovery	SPT Count	WELL COMPLETION NOTES
	511.50	**TOPSOIL**				
	511.40	**SAND** Fine sand, trace silt, trace organics, brown, grey mottling, moist, soft, loose	0-2.5	66.7	4	cement
	510.74	**Silty SAND TILL** Grey, brown mottling, silty, trace gravel, trace clay, cobbles, moist, firm, compact	2.5-5	62.5	5	
			5-7.5	54.2	9	bentonite seal
	509.21	Brown-grey, gravelly				
	509.01	Dry	7.5-10	100.0	36	
			10-12.5	100.0	35	
	507.69	**GRAVEL** Brown-grey, crushed rock/gravel (angular), trace silt, saturated, loose	12.5-15	41.7	40	
	506.93	**FINE SAND** Brown, gravel, saturated, loose				
	506.78	**GRAVEL** Brown, angular, trace fine sand, trace cobble, wet, loose	15-17.5	54.2	36	silica sand 50 mm 010 slot PVC pipe
	506.17	**Silty SAND TILL** Brown-grey, silty, some gravel, dry, dense	17.5-19	66.7	>50	end cap



End of monitoring well at 505.71 m

Well Completion Details:
Screened interval from 507.23 m to 505.71 m
Elevation at top of pipe (TOP) = 512.31 m

Groundwater Information:
Depth to groundwater from TOP = 1.92 m (July 13, 2022)

* denotes soil sample taken for lab analysis

DRILLING METHOD: Hollow Stem Auger Drilling
BOREHOLE DIAMETER: 0.2 m (OD)
DRILL DATE: April 18, 2022
LOGGED BY: MJ
DRILLED BY: Geo-Environmental

Notes: ⧓ SPLIT SPOON

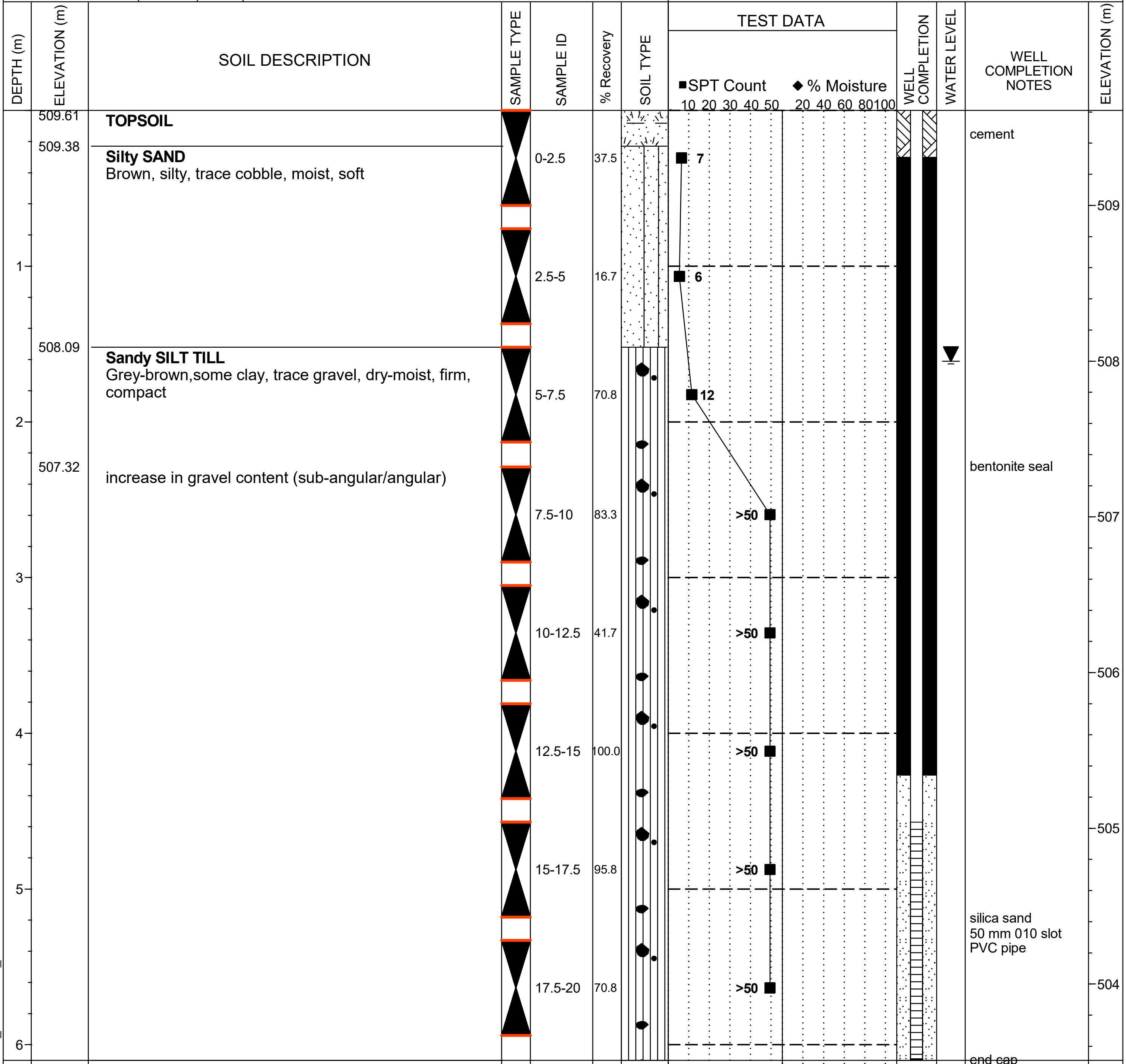
Sheet 1 of 1

SLR CONSULTING (CANADA) LTD.

CLIENT: **Flato Developments Inc.**
PROJECT:
ADDRESS: **2 Ida Street Southgate, ON**
SLR JOB NO: **209.30125.00001**

Monitoring Well LOG

BOREHOLE NO: MW22-407
SURFACE ELEVATION: 509.61 m



ELEVATION (m)	SOIL DESCRIPTION
509.61	**TOPSOIL**
509.38	**Silty SAND** Brown, silty, trace cobble, moist, soft
508.09	**Sandy SILT TILL** Grey-brown,some clay, trace gravel, dry-moist, firm, compact
507.32	increase in gravel content (sub-angular/angular)

SAMPLE ID	% Recovery	SPT Count
0-2.5	37.5	7
2.5-5	16.7	6
5-7.5	70.8	12
7.5-10	83.3	>50
10-12.5	41.7	>50
12.5-15	100.0	>50
15-17.5	95.8	>50
17.5-20	70.8	>50

WELL COMPLETION NOTES:
- cement
- bentonite seal
- silica sand
  50 mm 010 slot
  PVC pipe
- end cap

End of monitoring well at 503.51 m

Well Completion Details:
Screened interval from 505.04 m to 503.51 m
Elevation at top of pipe (TOP) = 510.46 m

Groundwater Information:
Depth to groundwater from TOP = 2.46 m (July 13, 2022)

* denotes soil sample taken for lab analysis

DRILLING METHOD: Hollow Stem Auger Drilling
BOREHOLE DIAMETER: 0.2 m (OD)
DRILL DATE: April 18, 2022
LOGGED BY: MJ
DRILLED BY: Geo-Environmental

Notes: ⧗ SPLIT SPOON

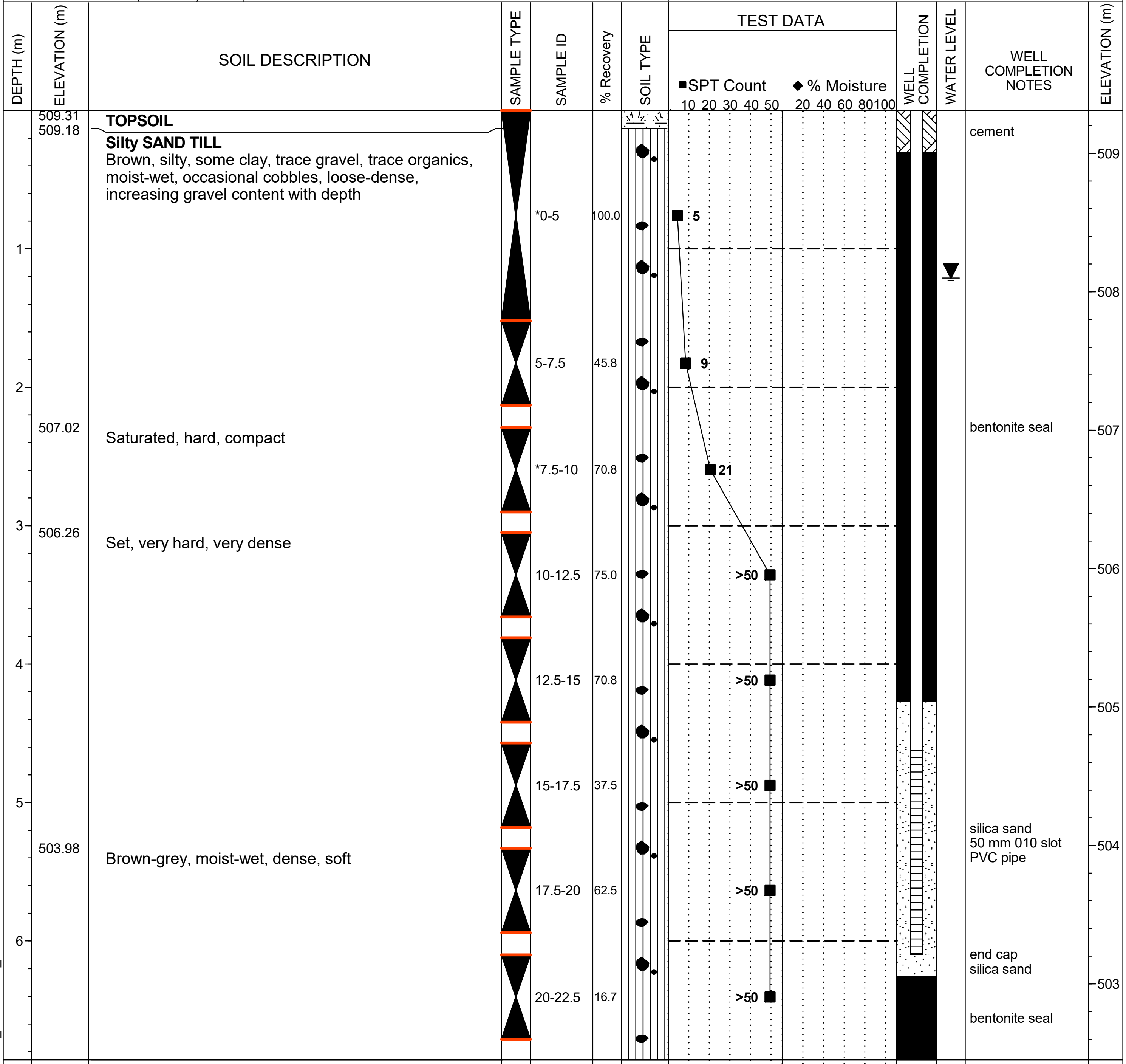
Sheet 1 of 1

SLR CONSULTING (CANADA) LTD.

CLIENT: **Flato Developments Inc.**
PROJECT:
ADDRESS: **2 Ida Street Southgate, ON**
SLR JOB NO: **209.30125.00001**

Monitoring Well LOG

BOREHOLE NO: MW22-408
SURFACE ELEVATION: 509.31 m



ELEVATION (m)	SOIL DESCRIPTION
509.31	**TOPSOIL**
509.18	**Silty SAND TILL** Brown, silty, some clay, trace gravel, trace organics, moist-wet, occasional cobbles, loose-dense, increasing gravel content with depth
507.02	Saturated, hard, compact
506.26	Set, very hard, very dense
503.98	Brown-grey, moist-wet, dense, soft

SAMPLE ID	% Recovery	SPT Count
*0-5	100.0	5
5-7.5	45.8	9
*7.5-10	70.8	21
10-12.5	75.0	>50
12.5-15	70.8	>50
15-17.5	37.5	>50
17.5-20	62.5	>50
20-22.5	16.7	>50

WELL COMPLETION NOTES:
cement
bentonite seal
silica sand
50 mm 010 slot PVC pipe
end cap
silica sand
bentonite seal

End of monitoring well at 502.45 m

Well Completion Details:
Screened interval from 504.74 m to 503.21 m
Elevation at top of pipe (TOP) = 510.28 m

Groundwater Information:
Depth to groundwater from TOP = 2.18 m (July 13, 2022)

* denotes soil sample taken for lab analysis

DRILLING METHOD:	Hollow Stem Auger Drilling
BOREHOLE DIAMETER:	0.2 m (OD)
DRILL DATE:	April 18, 2022
LOGGED BY:	MJ
DRILLED BY:	Geo-Environmental

Notes: ⧗ SPLIT SPOON

Sheet 1 of 1

Soil Engineers Ltd.
CONSULTING ENGINEERS
GEOTECHNICAL • ENVIRONMENTAL • HYDROGEOLOGICAL • BUILDING SCIENCE
90 WEST BEAVER CREEK ROAD, SUITE 100, RICHMOND HILL, ONTARIO L4B 1E7 · TEL: (416) 754-8515 · FAX: (905) 881-8335

BARRIE	MISSISSAUGA	OSHAWA	NEWMARKET	GRAVENHURST	HAMILTON
TEL: (705) 721-7863	TEL: (905) 542-7605	TEL: (905) 440-2040	TEL: (905) 853-0647	TEL: (705) 684-4242	TEL: (905) 777-7956
FAX: (705) 721-7864	FAX: (905) 542-2769	FAX: (905) 725-1315	FAX: (905) 881-8335	FAX: (705) 684-8522	FAX: (905) 542-2769

APPENDIX B

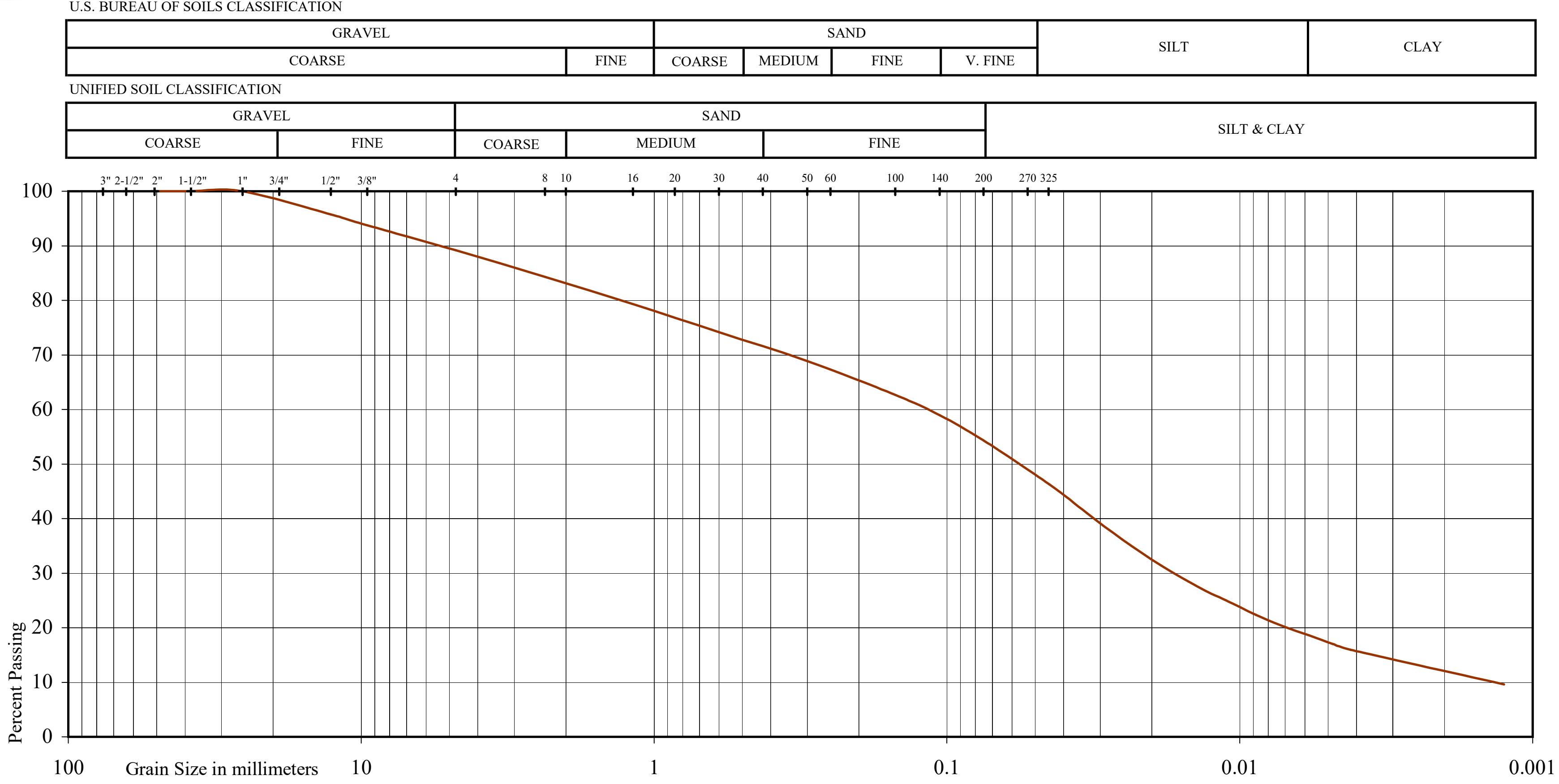
GRAIN SIZE DISTRIBUTION GRAPHS

REFERENCE NO. 2210-S028A

Soil Engineers Ltd.

GRAIN SIZE DISTRIBUTION

Reference No: 2210-S028A



Project: Proposed Residential Development

Location: 2 Ida Street, Township of Southgate (Dundalk)

Liquid Limit (%) = -

Plastic Limit (%) = -

Plasticity Index (%) = -

Moisture Content (%) = -

Estimated Permeability (cm./sec.) = 10^{-6}

Borehole No: MW22 -401

Sample No: 10 - 12.5

Depth (m): 3.4

Elevation (m): 515.2

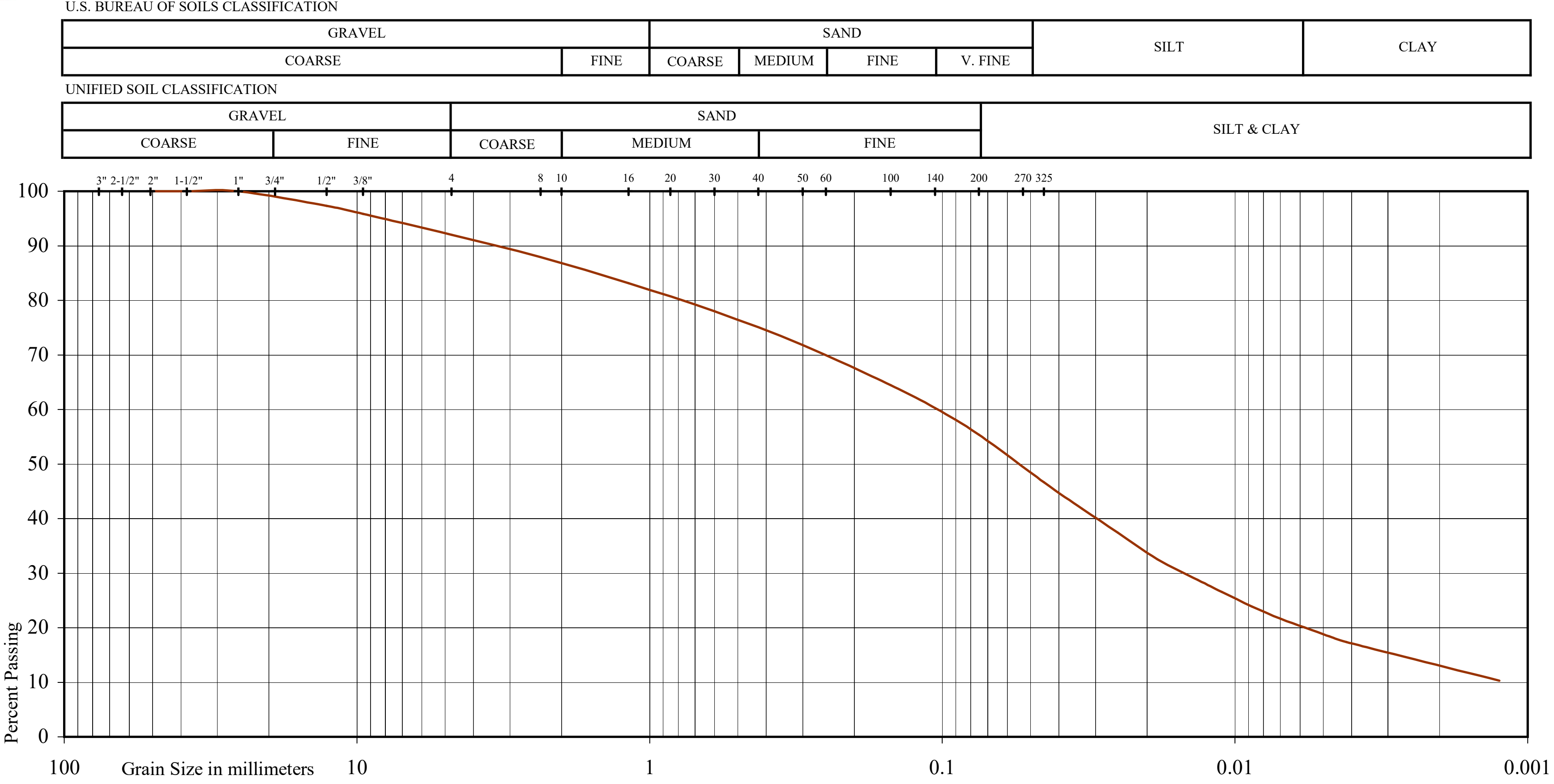
Classification of Sample [& Group Symbol]: SANDY SILT, TILL
some clay and gravel

Figure: 1

Soil Engineers Ltd.

GRAIN SIZE DISTRIBUTION

Reference No: 2210-S028A



Project: Proposed Residential Development

Location: 2 Ida Street, Township of Southgate (Dundalk)

Borehole No: MW22 -404

Sample No: 15 - 17.5

Depth (m): 5.0

Elevation (m): 509.2

Liquid Limit (%) = -

Plastic Limit (%) = -

Plasticity Index (%) = -

Moisture Content (%) = -

Estimated Permeability (cm./sec.) = 10^{-6}

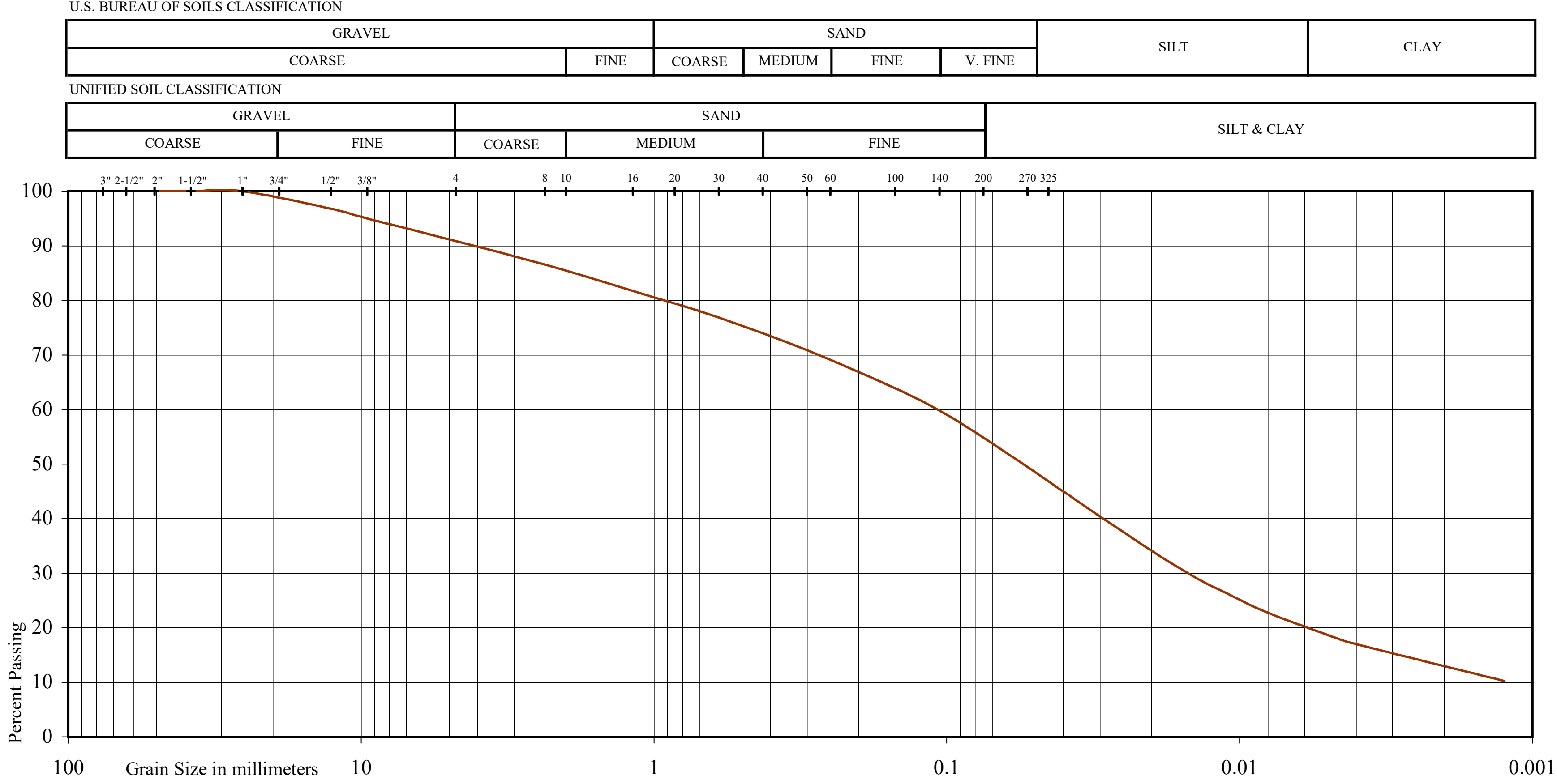
Classification of Sample [& Group Symbol]: SANDY SILT, TILL
some clay, a trace of gravel

Figure: 2

Soil Engineers Ltd.

GRAIN SIZE DISTRIBUTION

Reference No: 2210-S028A



Project: Proposed Residential Development

Location: 2 Ida Street, Township of Southgate (Dundalk)

Borehole No: MW22 -407

Sample No: 5 - 7.5

Depth (m): 1.9

Elevation (m): 507.7

Liquid Limit (%) = -

Plastic Limit (%) = -

Plasticity Index (%) = -

Moisture Content (%) = -

Estimated Permeability (cm./sec.) = 10^{-6}

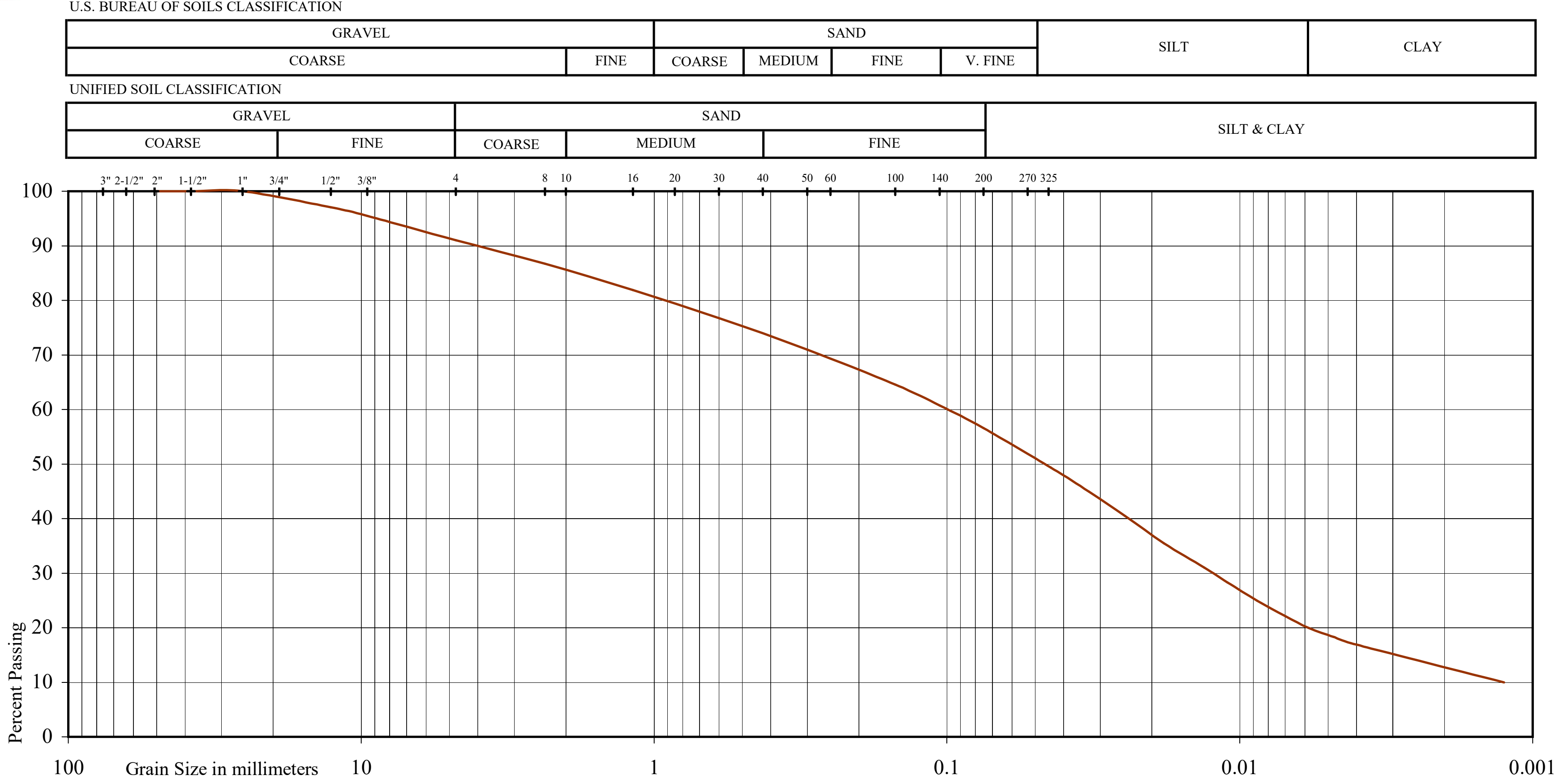
Classification of Sample [& Group Symbol]: SANDY SILT, TILL
some clay, a trace of gravel

Figure: 3

Soil Engineers Ltd.

GRAIN SIZE DISTRIBUTION

Reference No: 2210-S028A



Project: Proposed Residential Development

Location: 2 Ida Street, Township of Southgate (Dundalk)

Borehole No: MW22 -408

Sample No: 12.5 - 15

Depth (m): 4.2

Elevation (m): 505.1

Liquid Limit (%) = -

Plastic Limit (%) = -

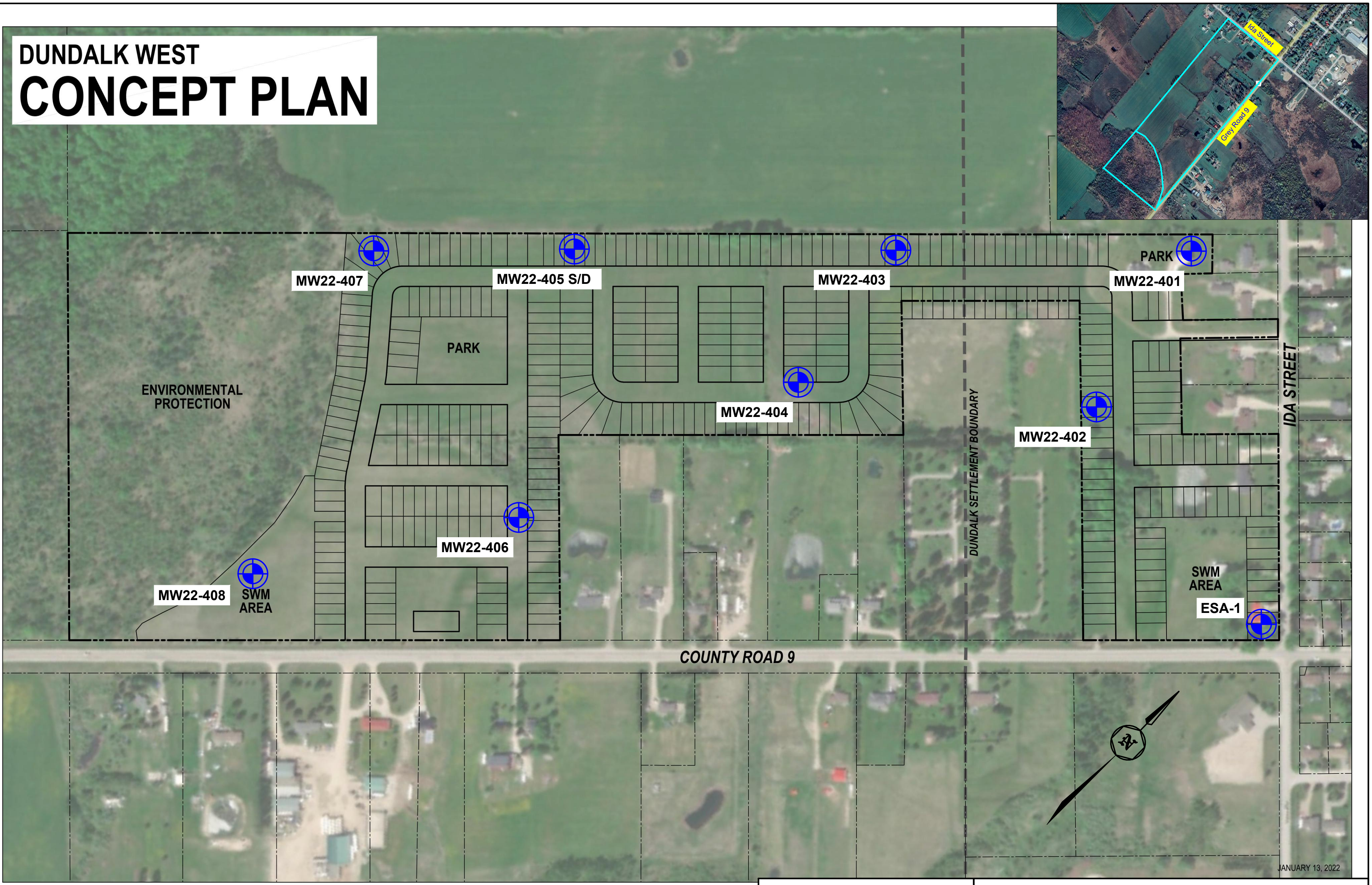
Plasticity Index (%) = -

Moisture Content (%) = -

Estimated Permeability
(cm./sec.) = 10^{-6}

Classification of Sample [& Group Symbol]: SANDY SILT, TILL
some clay, a trace of gravel

Figure: 4



LEGEND

⊕ SLR Borehole/Monitoring Well

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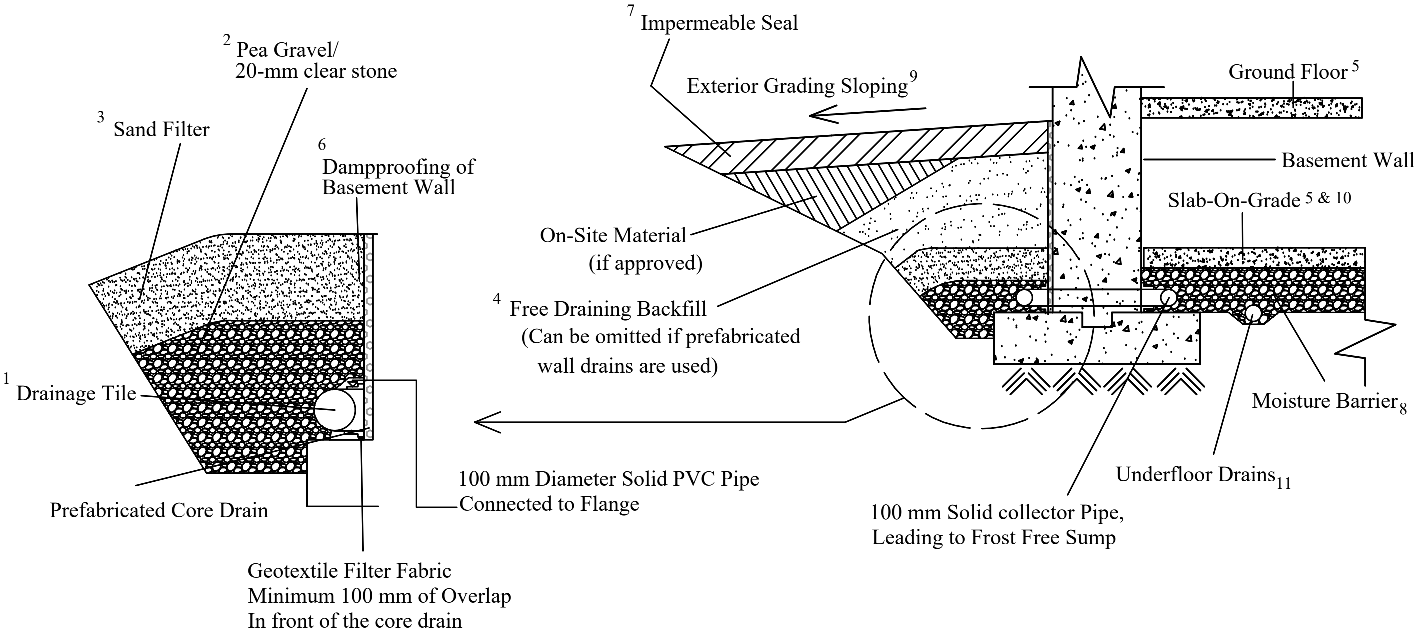
Borehole and Monitoring Well Location Plan

SITE: 2 Ida Street Southgate, ON

DESIGNED BY: D.K.
CHECKED BY: K.L.
DWG NO.: 1

SCALE: 1:5000
REF. NO.: 2210-S028A
DATE: January 2023
REV -



7 Impermeable Seal
2 Pea Gravel/
20-mm clear stone
Exterior Grading Sloping 9
Ground Floor 5
3 Sand Filter
6 Dampproofing of Basement Wall
Basement Wall
Slab-On-Grade 5 & 10
On-Site Material (if approved)
4 Free Draining Backfill (Can be omitted if prefabricated wall drains are used)
1 Drainage Tile
Moisture Barrier 8
100 mm Diameter Solid PVC Pipe Connected to Flange
Underfloor Drains 11
Prefabricated Core Drain
100 mm Solid collector Pipe, Leading to Frost Free Sump
Geotextile Filter Fabric Minimum 100 mm of Overlap In front of the core drain

NOTES:

1. **Drainage tile**: consists of 100 mm (4") diameter weeping tile or equivalent perforated pipe leading to a positive sump or outlet. Invert to be at minimum of 150 mm (6") below underside of basement floor slab.

2. **Pea gravel**: at 150 mm (6") on the top and sides of drain. If drain is not placed on concrete footing, provide 100 mm (4") of pea gravel below drain. The pea gravel may be replaced by 20 mm clear stone provided that the drain is covered by a porous geotextile membrane of Terrafix 270R or equivalent.

3. **Filter material**: consists of C.S.A. fine concrete aggregate. A minimum of 300 mm (12") on the top and sides of gravel. This may be replaced by an approved porous geotextile membrane of Terrafix 270R or equivalent.

4. **Free-draining backfill**: OPSS Granular 'B' or equivalent, compacted to 95% to 98% (maximum) Standard Proctor dry density. Do not compact closer than 1.8 m (6') from wall with heavy equipment. This may be replaced by on-site material if prefabricated wall drains (Miradrain) extending from the finished grade to the bottom of the basement wall are used.

5. **Do not backfill** until the wall is supported by the basement floor slab and ground floor framing, or adquate bracing.

6. **Dampproofing** of the basement wall is required before backfilling

7. **Impermeable backfill seal** of compacted clay, clayey silt or equivalent. If the original soil in the vicinity is a free-draining sand, the seal may be omitted.

8. **Moisture barrier**: 20-mm clear stone or compacted OPSS Granular 'A', or equivalent. The thickness of this layer should be 150 mm (6") minimum.

9. **Exterior Grade**: slope away from basement wall on all the sides of the building.

10. **Slab-On-Grade** should not be structurally connected to walls or foundations.

11. **Underfloor drains*** should be placed in parallel rows at 6 to 8 m (20'-25') centre, on 100 mm (4") of pea gravel with 150 mm (6") of pea gravel on top and sides. The invert should be at least 300 mm (12") below the underside of the floor slab. The drains should be connected to positive sumps or outlets. Do not connect the underfloor drains to the perimeter drains.

* Underfloor drains can be deleted where not required.

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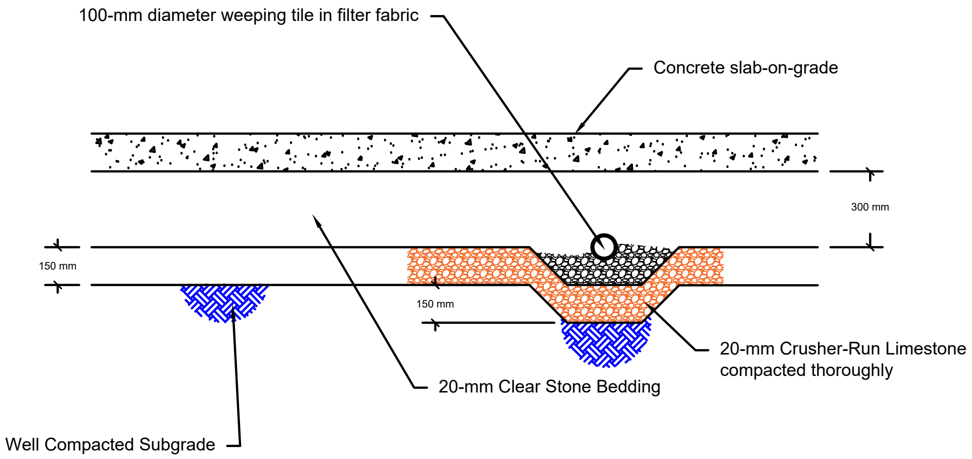
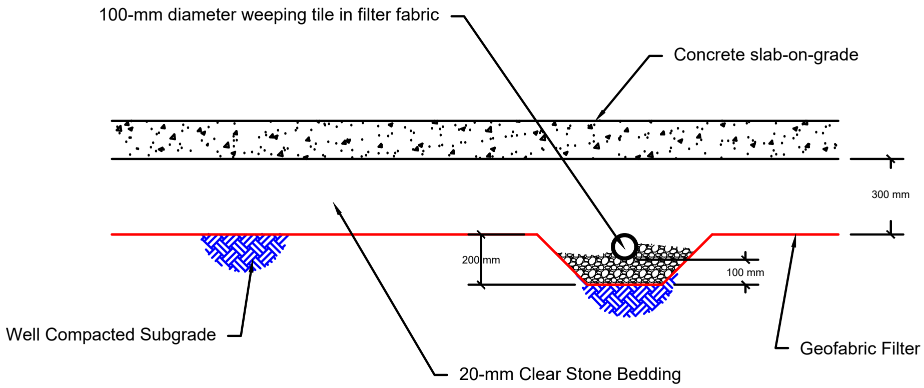
Details of Permanent Perimeter Drainage System

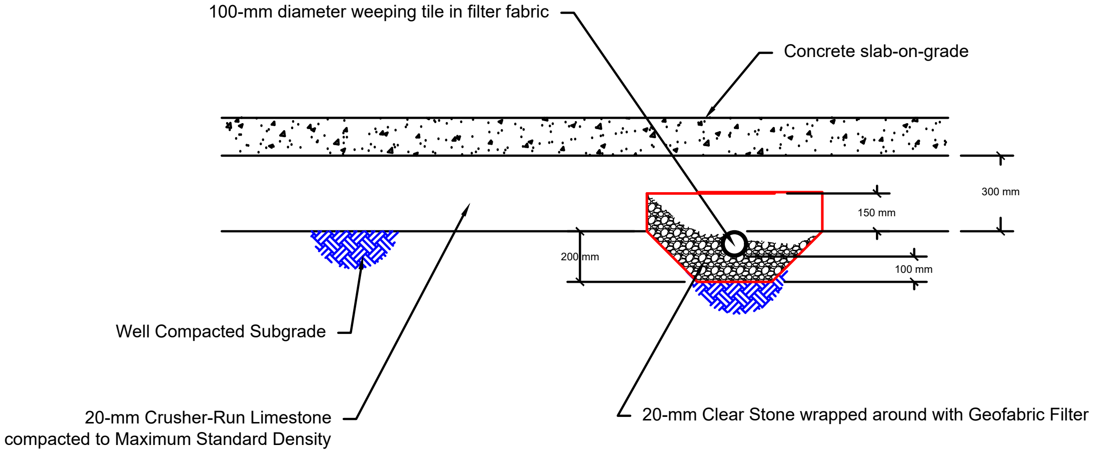
SITE 2 Ida Street, Township of Southgate (Dundalk)
DESIGNED BY K.L. **CHECKED BY** B.S. **DWG NO.** 2
SCALE N.T.S. **REF. NO.** 2210-S028A **DATE** January 2023 **REV** -


100-mm diameter weeping tile in filter fabric
Concrete slab-on-grade
300 mm
150 mm
150 mm
20-mm Crusher-Run Limestone compacted thoroughly
20-mm Clear Stone Bedding
Well Compacted Subgrade

Option 'A'



Option 'B'


100-mm diameter weeping tile in filter fabric
Concrete slab-on-grade
150 mm
300 mm
200 mm
100 mm
Well Compacted Subgrade
20-mm Crusher-Run Limestone compacted to Maximum Standard Density
20-mm Clear Stone wrapped around with Geofabric Filter

Option 'C'

Note:

1. Weepers should be placed in 6 m grids, draining in a positive gradient towards an outlet or a sump pit for removal by pumping.
2. A 10-mil polyethylene sheet should be specified between the gravel bedding and concrete slab.

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100 NUGGET AVENUE, TORONTO, ONTARIO M1S 3A7 · TEL: (416) 754-8515 · FAX: (416) 754-8516

Underfloor Subdrain Details

SITE: 2 Ida Street, Township of Southgate (Dundalk)

DESIGNED BY: K.L.
CHECKED BY: B.L.
DWG NO.: 3
SCALE: N.T.S.
REF. NO.: 2210-S028A
DATE: January 2023
REV -

APPENDIX B

Sanitary Demand Calculations

CROZIER
CONSULTING ENGINEERS

File:	1060-5590
Date:	15-May-24
By:	AM
Check By:	JLA

Ida Street Development - Sanitary Design Criteria (FLATO Lands)

Developed Site Area		20.07	ha
Number of Residential Units			
Single Detatched		269	units
Townhouses		52	units
	TOTAL:	**321**	**units**
Persons Per New Equivalnet Residential Unit (ERU) (2022 DC Background Study)		2.61	persons/unit
Residential Population		838	persons

Unit Sewage flows

Residential (Per New Development Per Capita Flow) (Triton 2023 Reserve Capacity)	300	L/C-day
Infiltration (typical)	0.15	L/s/ha

Total Design Sewage Flows

Infiltration/Inflow Residential		3.01	L/sec
Average Daily Residential Flow		2.91	L/sec
Residential Peak Factor	(Harmon Formula)	3.8	
Total Peak Daily Flow		**14.20**	**L/sec**

APPENDIX C

Water Demand & Fire Flow Calculations

CROZIER
CONSULTING ENGINEERS

File: 1060-5590
Date: 15-May-24
By: AM
Check By: JLA

Ida Street Development - Domestic Water Design Criteria (FLATO Lands)

Developed Site Area	20.07	ha
Number of Residential Units- Single Detached	269	units
Number of Residential Units- Apartment	52	units
Total Number of Units	321	units
Persons Per New Equivalnet Residential Unit (ERU) (2022 DC Background Study)	2.61	persons/unit
Residential Population	838	persons

Domestic Water Design Flows

Residential [Max Day per Capita Demand, Triton Engineering (2024)]	296	L/C-day

Total Domestic Water Design Flows

Average Residential Daily Flow	2.87	L/sec
Max Day Peak Factor	2.75	
Max Day Demand Flow	**7.89**	L/sec
Peak Hour Factor	4.13	
Peak Hour Flow	**11.85**	L/sec

CROZIER
CONSULTING ENGINEERS

Project Name: Ida Street
Project No: 1060-5590
Prepared By: AM
Checked By: JL'A
Date: 5/15/2024

Water Supply for Public Fire Protection - 2020
Fire Underwriters Survey
Part II - Guide for Determination of Required Fire Flows for Public Fire Protection in Canada

An estimate of fire flow required for a given area may be determined by the formula:

RFF = 220 * C * sqrt A

where:

RFF = the required fire flow in litres per minute (L/min)
C = the construction coefficient is related to the type of construction of the building
= 1.5 for Type V Wood Frame Construction
= 0.8 for Type IV-A Mass Timber Construction
= 0.9 for Type IV-B Mass Timber Construction
= 1.0 for Type IV-C Mass Timber Construction
= 1.5 for Type IV-D Mass Timber Construction
= 1.0 for Type III Ordinary Construction
= 0.8 for Type II Non-combustible Construction
= 0.6 for Type I Fire Resistive Construction
A = the total effective floor area (effective building area) in square metres (excluding basements at least 50 percent below grade) in the building considered

Step A. **Construction Coefficient (C)** 1.0 = 1.0 for Type III Ordinary Construction

	Yes/No/Unknown	
Is basement at least 50% below grade?	Yes	If yes, basement floor area excluded
Vertical openings protected?	Yes	*For consideration for effective area calculations

Step B. **Proposed Building** Townhouse Row

Calculate Effective Floor Area based on the highlighted cell

-C value from 1.0 to 1.5: 100% of all floor areas are used

-C value below 1 and vertical openings are not protected: Consider two largest floors plus 50% of all floor above to a max of eight

-C value below 1 and vertical openings are protected: Consider single largest floor plus 25% of the two immediately adjoining floors

Floors Above Grade	**Total Floor Area (m^2)**	**% of Area Considered**	**Effective Floor Area (m^2)**
Basement		NA	NA
Ground Floor	500.0	100%	500.0
Level 2	500.0	100%	500.0
Level 3			0.0
Level 4			0.0
Level 5			0.0
Level 6			0.0
Level 7			0.0
Level 8			0.0
Total	**1000.0**		**1000.0**

*A building may be subdivided if there is a vertical firewall with a fire-resistance rating greater than 2 hours, and meets the requirements of the National Building Code.

Total Effective Floor Area **1000.0** m^2

Step C. **Therefore RFF =** **7,000** **L/min (rounded to nearest 1000 L/min)**

Step D. The required fire flow may be reduced by as much as -25% for occupancies having contents with very low fire hazard or may be increased by up to 25% surcharge for occupancies having a high fire hazard.

Type of Occupancy	**Adjustment Factor**	
Townhouse Row	Combustible	0%

0 L/min surcharge

RFF = **7,000** **L/min (not rounded)**

Occupancy and Contents Adjustment Factor	
Non-Combustible	-25%
Limited Combustible	-15%
Combustible	0%
Free Burning	15%
Rapid Burning	25%

Step E. Sprinklers - The required fire flow may be reduced by up to 50% for complete automatic sprinkler protection depending upon adequacy of system.

	Yes/No/Unknown	Possible Reduction Available	Actual Reduction Provided
Automatic sprinkler protection designed and installed in accordance with NFPA 13?	No	-30%	**0%**
Water supply is standard for both the system and Fire Department hose lines?	No	-10%	**0%**
Fully supervised system?	No	-10%	**0%**

*Reduction available assumes complete building coverage
*30% reduction typical for building requiring sprinkler system

Total Reduction % **0%** (reduction)

Total Reduced Flow **0** **L/min (reduction, not rounded)**

Step F. Exposure - A percentage of water for the exposures should be added to the required fire flow for the subject building to provide adequate flow rates for hose streams used to reduce the spreading of fire from the subject building to exposed risks. The required fire flow of a subject building may be increased depending on the severity of exposed risks to the subject building and the distance between the exposed risks and the subject building. This charge considers the usage of water supplies to prevent exposed risks from igniting or being damaged during a major fire incident in the subject building.

Separation Distance	Maximum Exposure Adjustment Charge
0 to 3m	25%
3.1 to 10m	20%
10.1 to 20m	15%
20.1 to 30m	10%
Greater than 30m	0%

*If a vertical fire wall is properly constructed and has a rating of no less than 2 hours, then the boundary can be treated as protected with no exposure charge

*The maximum exposure adjustment charge to be applied to a subject building is 75%

Exposed buildings

Name		**Distance**	**Surcharge**	
North	Adjacent Dwelling	4	20%	1400
East	Adjacent Dwelling	16	15%	1050
South	Adjacent Dwelling	4	20%	1400
West	Adjacent Dwelling	35	0%	0
				3,850 **L/min Surcharge (not rounded)**

Step G. Final Required Fire Flow

Step D - Occupancy Adjusted Fire Flow Demand	7,000	L/min
Step E - Sprinkler (Reduction)	0	L/min
Step F - Exposure Charge	3,850	L/min

Final Required Fire Flow: **10,850** **L/min**

11,000 **1000L/min)** or **183.3** **L/s**

2,906 USGPM

Determine Required Fire Storage Volume

Flow from above	11,000	L/min
Required duration	2.25	hours

Refer to ***Table 1*** *for Duration*

Therefore: 1,485,000 Litres or

1,485 m^3 is the required fire storage volume.

Table 1 - FUS 2020
Required Duration of Fire Flow

Flow Required L/min		**Duration (hours)**
2,000 or l	2000	1.0
	3,000	1.25
	4,000	1.5
	5,000	1.75
	6,000	2.0
	8,000	2.0
	10,000	2.0
	12,000	2.5
	14,000	3.0
	16,000	3.5
	18,000	4.0
	20,000	4.5
	22,000	5.0
	24,000	5.5
	26,000	6.0
	28,000	6.5
	30,000	7.0
	32,000	7.5
	34,000	8.0
	36,000	8.5
	38,000	9.0
40,000 ar	40,000	9.5

***Interpolate for intermediate figures**

APPENDIX D

Hydrologic Parameter Sheets

CROZIER
CONSULTING ENGINEERS

Project Name: Ida Street
Project Number: 1060-5590
Date: 5/15/2024
By: AM

D.A. NAME **PRE-S1**
D.A. AREA (ha) **10.54**

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment PRE-S1

Curve Number Calculation

Soil Types Present:

Type	ID	Hydrologic	% Area	Area
Listowell Silt Loam	Ls	BC	100.0%	10.54
Parkhill Loam	Pal	BC	0.0%	0.00
				0
				0
Total Area				10.54

Impervious Landuses Present:

	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ls	0	98	0	98	0	98	0	98	0	98	0.00	0.00
Pal		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0		0		0		0		0			

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ls	0.53	65	0.00	71	0.00	50	0.00	75	10.01	78	10.54	815.27
Pal	0.00	65	0.00	71	0.00	50	0.00	75	0.00	78	0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal Area	0.53		0.00		0.00		0.00		10.01			

Composite Area Calculations	Total Pervious Area	10.54
	Total Impervious Area	0.0
	% Impervious	0.0%
	Composite Curve Number	77.4
	Total Area Check	10.54

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Curve Number								
				Listowell Silt		Parkhill Loam		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.53	5.27	0.25	0.53	0.25	0		0		0	0.13175
Meadow	8	0	0	0.28	0.00	0.28	0		0		0	0
Wetland	16	0	0	0.05	0.00	0.05	0		0		0	0
Lawn	5	0	0	0.18	0.00	0.18	0		0		0	0.000
Cultivated	7	10	70.091	0.35	10.01	0.35	0		0		0	3.505
Impervious	2	0	0	0.70	0.00	0.70	0		0		0	0.000
Composite IA		10.54	7.15	Composite Runoff Coefficient								0.345

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Cultivated	688	7.5	1.09%	2.7	0.28	0.68	0.45	0.45	0.51	0.34	1.05	0.70

Appropriate calculated time to	0.70	Appropriate Method:	Airport

Project Name: Ida Street
Project Number: 1060-5590
Date: 5/15/2024
By: AM

D.A. NAME **PRE-G2**
D.A. AREA (ha) **1.57**

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment PRE-G2

Curve Number Calculation

Soil Types Present:

Type	ID	Hydrologic	% Area	Area
Listowell Silt Loam	Ls	BC	100.0%	1.57
				0
				0
				0
Total Area				1.57

Impervious Landuses Present:

	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ls	0	98	0	98	0	98	0.000	98	0	98	0.00	0.00
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0		0		0		0		0			

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ls	0.00	65	1.57	71	0.00	50	0.00	75	0.00	78	1.57	111.47
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal Area	0.00		1.57		0.00		0.00		0.00			

Composite Area Calculations		
	Total Pervious Area	1.57
	Total Impervious Area	0.0
	% Impervious	0.0%
	Composite Curve Number	71.0
	Total Area Check	1.57

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Curve Number								
				Listowell Silt		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.00	0	0.25	0.00		0		0		0	0
Meadow	8	1.57	12.56	0.28	1.57		0		0		0	0.4396
Wetland	16	0	0	0.05	0.00		0		0		0	0
Lawn	5	0	0	0.18	0.00		0		0		0	0.000
Cultivated	7	0	0	0.35	0.00		0		0		0	0.000
Impervious	2	0	0	0.70	0.00		0		0		0	0.000
Composite IA		1.57	8.00	Composite Runoff Coefficient								0.280

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Cultivated	100	0.6	0.60%	2.7	0.21	0.13	0.09	0.09	0.10	0.07	0.53	0.35

Appropriate calculated time to	0.35	Appropriate Method:	Airport

Project Name:	Ida Street
Project Number:	1060-5590
Date:	5/15/2024
By:	AM

D.A. NAME	**PRE-G3**
D.A. AREA (ha)	**7.36**

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment PRE-G3

Curve Number Calculation

Soil Types Present:

Type	ID	Hydrologic	% Area	Area
Listowell Silt Loam	Ls	BC	100.0%	7.36
				0
				0
				0
Total Area				7.36

Impervious Landuses Present:

	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ls	0	98	0	98	0	98		98	0	98	0.00	0.00
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0		0		0		0		0			

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ls	0.00	65	2.21	71	0.00	50	0.00	75	5.15	78	7.36	558.62
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal Area	0.00		2.21		0.00		0.00		5.15			

Composite Area Calculations	Total Pervious Area	7.36
	Total Impervious Area	0.0
	% Impervious	0.0%
	Composite Curve Number	75.9
	Total Area Check	7.36

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Curve Number								
				Listowell Silt		0		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.00	0	0.25	0.00		0		0		0	0
Meadow	8	2.208	17.664	0.28	2.21		0		0		0	0.61824
Wetland	16	0	0	0.05	0.00		0		0		0	0
Lawn	5	0	0	0.18	0.00		0		0		0	0.000
Cultivated	7	5	36.064	0.35	5.15		0		0		0	1.803
Impervious	2	0	0	0.70	0.00		0		0		0	0.000
Composite IA		7.36	7.3	Composite Runoff Coefficient								0.329

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Cultivated	405	5.8	1.43%	2.7	0.32	0.35	0.23	0.23	0.29	0.20	0.75	0.50

Appropriate calculated time to	0.50	Appropriate Method:	Airport

CROZIER
CONSULTING ENGINEERS

Project Name: Ida Street
Project Number: 1060-5590
Date: 5/15/2024
By: AM

D.A. NAME **PRE-G4**
D.A. AREA (ha) **5.75**

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment PRE-G4

Curve Number Calculation

Soil Types Present:

Type	ID	Hydrologic	% Area	Area
Listowell Silt Loam	Ls	BC	80.0%	4.60
Parkhill Loam	Pal	BC	20.0%	1
				0
				0
Total Area				5.75

Impervious Landuses Present:

Soils	Roadway Area	Roadway CN	Sidewalk Area	Sidewalk CN	Driveway Area	Driveway CN	Building Area (ha)	Building CN	SWMF Area	SWMF CN	Subtotals Area	Subtotals A*CN
Ls		98		98	0.13	98	0.120	98	0.17	98	0.42	41.16
Pal		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0		0		0.13		0.12		0.17			

Pervious Landuses Present:

Soils	Woodland Area	Woodland CN	Meadow Area	Meadow CN	Wetland Area	Wetland CN	Lawn Area (ha)	Lawn CN	Cultivated Area	Cultivated CN	Subtotals Area	Subtotals A*CN
Ls	0.42	65	0.42	71	0.21	50	2.09	75	1.05	78	4.18	305.56
Pal	0.29	65	0.86	71	0.00	50	0.00	75	0.00	78	1.15	79.93
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal Area	0.71		1.28		0.21		2.09		1.05			

Composite Area Calculations		
	Total Pervious Area	5.33
	Total Impervious Area	0.4
	% Impervious	7.3%
	Composite Curve Number	74.2
	Total Area Check	5.75

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Curve Number								
Landuse	IA (mm)	Area (ha)	A * IA	Listowell Silt RC	Listowell Silt Area	Parkhill Loam RC	Parkhill Loam Area	0 RC	0 Area	0 RC	0 Area	A*RC
Woodland	10	0.71	7.055	0.25	0.42	0.25	0.29		0		0	0.176375
Meadow	8	1.2805	10.244	0.28	0.42	0.28	0.86		0		0	0.35854
Wetland	16	0.209	3.344	0.05	0.21	0.05	0.00		0		0	0.01045
Lawn	5	2.09	10.45	0.18	2.09	0.18	0.00		0		0	0.376
Cultivated	7	1	7.315	0.35	1.05	0.35	0.00		0		0	0.366
Impervious	2	0.42	0.84	0.70	0.42	0.70	0.00		0		0	0.294
Composite IA		5.75	6.83	Composite Runoff Coefficient								0.275

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Lawn	350	6.9	1.97%	2.7	0.38	0.26	0.17	0.17	0.24	0.16	0.67	0.45

Appropriate calculated time to	0.45	Appropriate Method:	Airport

CROZIER
CONSULTING ENGINEERS

Project Name: Ida Street
Project Number: 1060-5590
Date: 5/15/2024
By: AM

D.A. NAME **EXT-1**
D.A. AREA (ha) **14.50**

Hydrologic Parameters: CALIB NASHYD Command
Pre Development Drainage Area: Catchment EXT-1

Curve Number Calculation

Soil Types Present:

Type	ID	Hydrologic	% Area	Area
Listowell Silt Loam	Ls	BC	85.0%	12.33
Parkhill Loam	Pal	BC	15.0%	2
				0
				0
Total Area			100.0%	14.50

Impervious Landuses Present:

	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ls	0	98	0	98		98	0.100	98	0	98	0.10	9.80
Pal		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0		0		0		0.1		0			

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ls	0.61	65	0.61	71	0.00	50	0.00	75	11.00	78	12.23	941.33
Pal	0.00	65	0.00	71	0.00	50	0.00	75	2.18	78	2.18	169.65
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal Area	0.61		0.61		0.00		0.00		13.18			

Composite Area Calculations	Total Pervious Area	14.40
	Total Impervious Area	0.1
	% Impervious	0.7%
	Composite Curve Number	77
	Total Area Check	14.50

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Curve Number								
				Listowell Silt		Parkhill Loam		0		0		
Landuse	IA (mm)	Area (ha)	A * IA	RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.61	6.1125	0.25	0.61	0.25	0		0		0	0.1528125
Meadow	8	0.6113	4.89	0.28	0.61	0.28	0		0		0	0.17115
Wetland	16	0	0	0.05	0.00	0.05	0		0		0	0
Lawn	5	0	0	0.18	0.00	0.18	0		0		0	0.000
Cultivated	7	13	92.2425	0.35	11.00	0.35	2		0		0	4.612
Impervious	2	0.1	0.2	0.70	0.10	0.70	0		0		0	0.070
Composite IA		14.5	7.13	Composite Runoff Coefficient								0.345

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Cultivated	400	3.5	0.88%	2.7	0.25	0.44	0.29	0.29	0.30	0.20	0.86	0.57

Appropriate calculated time to	0.57	Appropriate Method:	Airport

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CONSULTING ENGINEERS

Project Name:	Ida Street	**D.A. NAME**	**POST-S1**
Project Number:	1060-5590	**D.A. AREA (ha)**	**9.81**
Date:	5/15/2024		
By:	AM		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Catchment POST-S1
Controlled Area to SWMF-SV

Curve Number Calculation

Soil Types Present:				
Type	ID	Hydrologic Group	% Area	Area
Listowell Silt Loam	Ls	BC	100	9.81
				0
				0
				0
Total Area Check				9.81

Impervious Landuses Present:

	Roadway/Township Lands		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ls	4.71	98		98		98	0.96	98		50	5.673	555.905
		98		98		98		98		50	0	0
		98		98		98		98		98	0	0
		98		98		98		98		98	0	0
Subtotal Area	4.71		0.00		0.00		0.96		0			

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ls	0	65	0	71	0	50	4.14	75		78	4.138	310.3125
	0		0		0		0		0		0	0
	0		0		0		0		0		0	0
	0		0		0		0		0		0	0
Subtotal Area	0		0		0		4.14		0			

Pervious Area Calculations	Total Pervious Area	4.14
	Composite Pervious Curve Number	75
Impervious Area Calculations	Total Directly Connected Area	4.71
	Total Indirectly Connected Area	0.96
	Total Impervious Area	5.67
	% X imp	48.0
	% T imp	58
	Total Area Check	9.81

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	4.14	20.69
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	30	0.25
Impervious	2.0	0.5	256	0.013

CROZIER
CONSULTING ENGINEERS

Project Name:	Ida Street	**D.A. NAME**	**UCTL-SV2**
Project Number:	1060-5590	**D.A. AREA (ha)**	**0.41**
Date:	5/15/2024		
By:	AM		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Catchment UCTL-SV2

Curve Number Calculation

Soil Types Present:

Type	ID	Hydrologic Group	% Area	Area
Listowel Silt Loam	Ls	BC	100	0.41
Parkhill Loam	Pal	BC	0	0.00
Total Area Check			100	0.41

Impervious Landuses Present:

	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ls		98	0	98	0	98	0.205	98		50	0.2050	20.09
Pal		98		98		98		98		50	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0		0		0		0.205		0			

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ls	0	65	0	71	0	50	0.205	75	0	78	0.205	15.38
Pal	0		0		0			75	0		0	0
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
Subtotal Area	0		0		0		0.205		0			

Pervious Area Calculations	Total Pervious Area	0.205	
	Composite Pervious Curve Number	75	
Impervious Area Calculations	Total Directly Connected Area	0	
	Total Indirectly Connected Area	0.205	
	Total Impervious Area	0.205	
	% X imp	0.0	*Min 15% used
	% T imp	50.0	
	Total Area Check	0.41	

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	0.205	1.025
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	30	0.25
Impervious	2.0	0.5	52.28	0.013

CROZIER
CONSULTING ENGINEERS

Project Name:	Ida Street	**D.A. NAME**	**SWMF-SV**
Project Number:	1060-5590	**D.A. AREA (ha)**	**1.28**
Date:	5/15/2024		
By:	AM		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Catchment SWMF-SV

Curve Number Calculation

Soil Types Present:

Type	ID	Hydrologic Group	% Area	Area
Listowel Silt Loam	Ls	BC	100	1.28
Parkhill Loam	Pal	BC	0	0
				0
				0
Total Area Check				1.28

Impervious Landuses Present:

	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ls		98	0	98	0	98	0.000	98	0.64	50	0.6400	32.00
Pal		98		98		98		98		50	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0		0		0		0.000		0.64			

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ls	0	65	0	71	0	50	0.640	75	0	78	0.640	48.00
Pal	0	65	0	71	0	50	0.000	75	0	78	0	0
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
Subtotal Area	0		0		0		0.640		0			

Pervious Area Calculations	Total Pervious Area	0.640
	Composite Pervious Curve Number	75
Impervious Area Calculations	Total Directly Connected Area	0.64
	Total Indirectly Connected Area	0.000
	Total Impervious Area	0.640
	% X imp	50.0
	% T imp	50.0
	Total Area Check	1.28

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	0.640	3.200
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	30	0.25
Impervious	2.0	0.5	92	0.013

CROZIER
CONSULTING ENGINEERS

Project Name:	Ida Street	**D.A. NAME**	**UCTL-SV**
Project Number:	1060-5590	**D.A. AREA (ha)**	**0.61**
Date:	5/15/2024		
By:	AM		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Catchment UCTL-SV

Curve Number Calculation

Soil Types Present:

Type	ID	Hydrologic Group	% Area	Area
Listowel Silt Loam	Ls	BC	100	0.61
Parkhill Loam	Pal	BC	0	0.00
Total Area Check			100	0.61

Impervious Landuses Present:

	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ls		98	0	98	0	98	0.305	98		50	0.3050	29.89
Pal		98		98		98		98	0	50	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0		0		0		0.305		0			

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ls	0	65	0	71	0	50	0.305	75	0	78	0.305	22.88
Pal	0		0		0		0.000	75	0		0	0
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
Subtotal Area	0		0		0		0.305		0			

Pervious Area Calculations	Total Pervious Area	0.305	
	Composite Pervious Curve Number	75	
Impervious Area Calculations	Total Directly Connected Area	0	
	Total Indirectly Connected Area	0.305	
	Total Impervious Area	0.305	
	% X imp	0.0	*Min 15% used
	% T imp	50.0	
	Total Area Check	0.61	

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	0.305	1.525
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	30	0.25
Impervious	2.0	0.5	63.77	0.013

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CONSULTING ENGINEERS

Project Name:	Ida Street	**D.A. NAME**	**POST-G2**
Project Number:	1060-5590	**D.A. AREA (ha)**	**9.66**
Date:	5/15/2024		
By:	AM		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Catchment POST-G2

Curve Number Calculation

Soil Types Present:

Type	ID	Hydrologic Group	% Area	Area
Listowel Silt Loam	Ls	BC	100	9.66
				0.00
				0.00
				0.00
Total Area Check				9.66

Impervious Landuses Present:

	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ls	4.87	98		98		98	1.67	98		50	6.539	640.773
0		98		98		98		98		50	0	0
		98		98		98		98		98	0	0
		98		98		98		98		98	0	0
Subtotal Area	4.87		0.00		0.00		1.67		0			

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ls	0	65	0	71	0	50	3.12	75		78	3.12	234.1125
	0		0		0		0		0			0
	0		0		0		0		0			0
	0		0		0		0		0			0
Subtotal Area	0		0		0		3.12		0			

Pervious Area Calculations	Total Pervious Area	3.12
	Composite Pervious Curve Number	75
Impervious Area Calculations	Total Directly Connected Area	4.87
	Total Indirectly Connected Area	1.67
	Total Impervious Area	6.54
	% X imp	50
	% T imp	68
	Total Area Check	9.66

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	3.12	15.61
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	30	0.25
Impervious	2.0	0.5	254	0.013

CROZIER
CONSULTING ENGINEERS

Project Name:	Ida Street	**D.A. NAME**	**SWMF-GR**
Project Number:	1060-5590	**D.A. AREA (ha)**	**1.28**
Date:	5/15/2024		
By:	AM		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Catchment SWMF-GR

Curve Number Calculation

Soil Types Present:

Type	ID	Hydrologic Group	% Area	Area
Listowel Silt Loam	Ls	BC	95	1.22
Parkhill Loam	Pal	BC	5	0.06
Total Area Check			100	1.28

Impervious Landuses Present:

	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ls		98	0	98	0	98	0.000	98	0.608	50	0.6080	30.40
Pal		98		98		98		98	0.032	50	0.032	1.6
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0		0		0		0.000		0.64			

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ls	0	65	0	71	0	50	0.608	75	0	78	0.608	45.60
Pal	0		0		0		0.032	75	0		0.032	2.4
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
Subtotal Area	0		0		0		0.640		0			

Pervious Area Calculations	Total Pervious Area	0.640
	Composite Pervious Curve Number	75
Impervious Area Calculations	Total Directly Connected Area	0.64
	Total Indirectly Connected Area	0.000
	Total Impervious Area	0.640
	% X imp	50.0
	% T imp	50.0
	Total Area Check	1.28

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	0.640	3.200
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	30	0.25
Impervious	2.0	0.5	92.38	0.013

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CONSULTING ENGINEERS

Project Name:	Ida Street	**D.A. NAME**	**UCTL-GR**
Project Number:	1060-5590	**D.A. AREA (ha)**	**0.83**
Date:	5/15/2024		
By:	AM		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Catchment UCTL-GR

Curve Number Calculation

Soil Types Present:

Type	ID	Hydrologic Group	% Area	Area
Listowel Silt Loam	Ls	BC	100	0.83
Parkhill Loam	Pal	BC	0	0.00
Total Area Check			100	0.83

Impervious Landuses Present:

	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ls		98	0	98	0	98	0.415	98	0	50	0.4150	40.67
Pal		98		98		98		98	0	50	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0		0		0		0.415		0			

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ls	0	65	0	71	0	50	0.415	75	0	78	0.415	31.13
Pal	0		0		0		0.000	75	0		0	0
0	0		0		0		0		0		0	0
0	0		0		0		0		0		0	0
Subtotal Area	0		0		0		0.415		0			

Pervious Area Calculations	Total Pervious Area	0.415	
	Composite Pervious Curve Number	75	
Impervious Area Calculations	Total Directly Connected Area	0	
	Total Indirectly Connected Area	0.415	
	Total Impervious Area	0.415	
	% X imp	0.0	*Min 15% used
	% T imp	50.0	
	Total Area Check	0.83	

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	0.415	2.075
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	30	0.25
Impervious	2.0	0.5	74.39	0.013

CROZIER
CONSULTING ENGINEERS

Project Name:	Ida Street	**D.A. NAME**	**UCTL-GR2**
Project Number:	1060-5590	**D.A. AREA (ha)**	**0.76**
Date:	5/15/2024		
By:	AM		

Hydrologic Parameters: CALIB STANDHYD Command
Post Development Drainage Area: Catchment UCTL-GR2

Curve Number Calculation

Soil Types Present:

Type	ID	Hydrologic Group	% Area	Area
Listowel Silt Loam	Ls	BC	100	0.76
Parkhill Loam	Pal	BC	0	0.00
Total Area Check			100	0.76

Impervious Landuses Present:

	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ls	0.07	98	0	98	0	98	0.310	98	0	50	0.3800	37.24
Pal		98		98		98		98	0	50	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0.07		0		0		0.310		0			

Pervious Landuses Present:

		Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils		Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area (ha)	CN	Area	A*CN
Ls		0	65	0	71	0	50	0.380	75	0	78	0.380	28.50
Pal		0		0		0		0.000	75	0		0	0
	0	0		0		0		0		0		0	0
	0	0		0		0		0		0		0	0
Subtotal Area		0		0		0		0.380		0			

Pervious Area Calculations	Total Pervious Area	0.380	
	Composite Pervious Curve Number	75	
Impervious Area Calculations	Total Directly Connected Area	0.07	
	Total Indirectly Connected Area	0.310	
	Total Impervious Area	0.380	
	% X imp	9.2	*Min 15% used
	% T imp	50.0	
	Total Area Check	0.76	

Initial Abstraction and Tp Calculations

Landuse	IA (mm)	Area (ha)	A * IA
Woodland	10	0	0
Meadow	8	0	0
Wetland	16	0	0
Lawn	5	0.380	1.900
Cultivated	7	0	0

Land Use	IA (mm)	Slope (%)	Travel Length (m)	Manning's n
Pervious	5.0	2	30	0.25
Impervious	2.0	0.5	71.18	0.013

CROZIER
CONSULTING ENGINEERS

Project Name: Ida Street
Project Number: 1060-5590
Date: 5/15/2024
By: AM

D.A. NAME	**UCTL-GR**
D.A. AREA (ha)	**0.43**

Hydrologic Parameters: CALIB NASHYD Command
Post Development Drainage Area: Catchment UCTL-GR

Curve Number Calculation

Soil Types Present:

Type	ID	Hydrologic	% Area	Area
Listowell Silt Loam	Ls	BC	100.0%	0.43
Parkhill Loam	Pal	BC	0.0%	0
				0
				0
Total Area				0.43

Impervious Landuses Present:

	Roadway		Sidewalk		Driveway		Building		SWMF		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ls		98	0.00	98		98		98		98	0.00	0.00
Pal		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
0		98		98		98		98		98	0	0
Subtotal Area	0		0		0		0		0			

Pervious Landuses Present:

	Woodland		Meadow		Wetland		Lawn		Cultivated		Subtotals	
Soils	Area	CN	Area	CN	Area	CN	Area (ha)	CN	Area	CN	Area	A*CN
Ls	0.00	65	0.00	71	0.00	50	0.43	75	0.00	78	0.43	32.25
Pal	0.00	65	0.00	71	0.00	50	0.00	75	0.00	78	0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
0	0.00		0.00		0.00		0.00		0.00		0.00	0.00
Subtotal Area	0.00		0.00		0.00		0.43		0.00			

Composite Area Calculations		
	Total Pervious Area	0.43
	Total Impervious Area	0.0
	% Impervious	0.0%
	Composite Curve Number	75.0
	Total Area Check	0.43

Initial Abstraction and Tp Calculations

Initial Abstraction				Composite Curve Number								
Landuse	IA (mm)	Area (ha)	A * IA	Listowell Silt		Parkhill Loam		0		0		
				RC	Area	RC	Area	RC	Area	RC	Area	A*RC
Woodland	10	0.00	0	0.25	0.00	0.25	0.00		0		0	0
Meadow	8	0	0	0.28	0.00	0.28	0.00		0		0	0
Wetland	16	0	0	0.05	0.00	0.05	0.00		0		0	0
Lawn	5	0.43	2.15	0.18	0.43	0.18	0.00		0		0	0.077
Cultivated	7	0	0	0.35	0.00	0.35	0.00		0		0	0.000
Impervious	2	0	0	0.70	0.00	0.70	0.00		0		0	0.000
Composite IA		0.43	5.00	Composite Runoff Coefficient								0.180

Time to Peak Inputs						Uplands			Bransby Williams		Airport	
Flow Path Description	Length (m)	Drop (m)	Slope (%)	$V/S^{0.5}$	Velocity (m/s)	Tc (hr)	Tp(hr)	TOTAL Tp (hr)	Tc (hr)	Tp(hr)	Tc (hr)	Tp(hr)
Lawn	50	3	6.00%	2.7	0.66	0.02	0.01	0.01	0.04	0.02	0.20	0.13

Appropriate calculated time to	0.13	Appropriate Method:	Airport

APPENDIX E

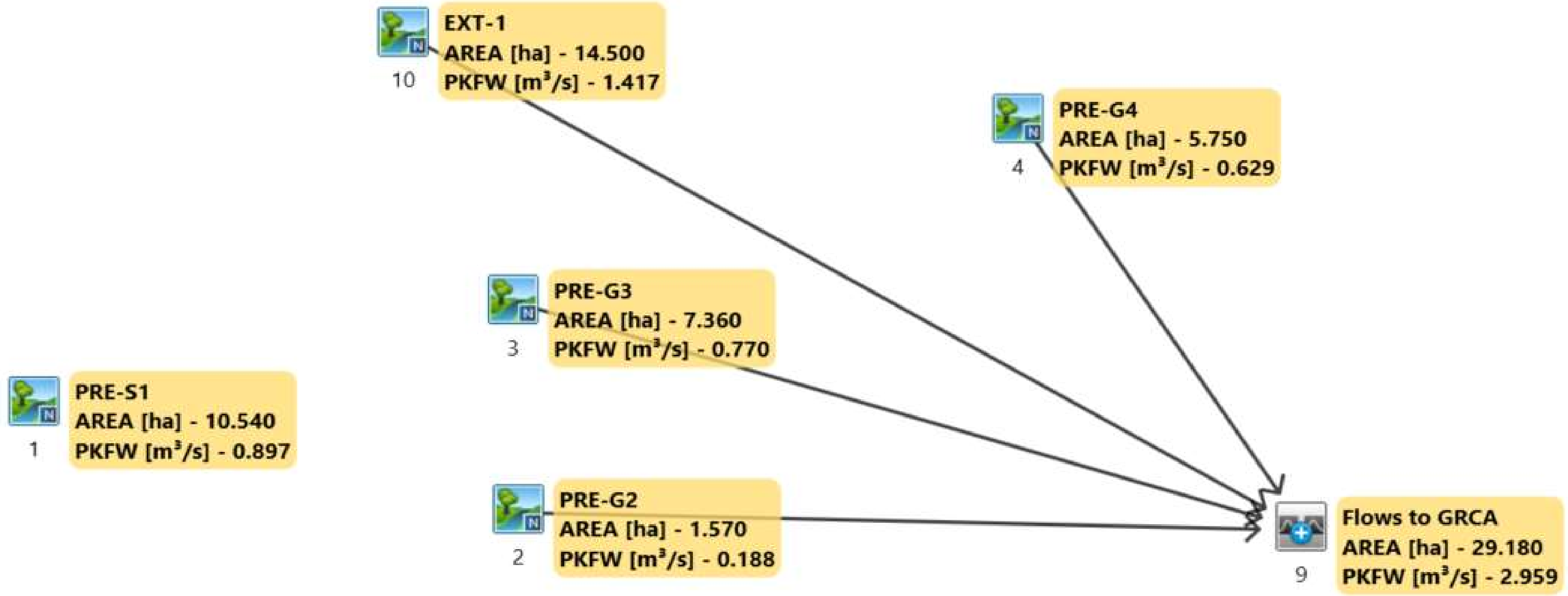
VO6 Modelling Files

CROZIER
CONSULTING ENGINEERS

Project: Ida Street
Project No.: 1060-5590
File: Model Schematic (Pre-Development)
Design by: AM
Date: 5/15/2024

Visual OTTHYMO 6 Model Schematic

Pre-Development



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********************************
** SIMULATION:5mm             **
********************************

--------------------
|    READ STORM    |    Filename: C:\Users\noconnor\AppD
|                  |              ata\Local\Temp\
|                  |              49753dce-993e-48a5-8960-fc674d25ac10\b2a6e831
| Ptotal=  8.41 mm |    Comments: 5mm
--------------------
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.00    0.98 |  0.83   21.16 |  1.67    1.53 |  2.50    0.95
                 0.17    1.16 |  1.00    4.48 |  1.83    1.35 |  2.67    0.89
                 0.33    1.43 |  1.17    2.83 |  2.00    1.21 |  2.83    0.84
                 0.50    1.96 |  1.33    2.15 |  2.17    1.11 |
                 0.67    3.65 |  1.50    1.77 |  2.33    1.02 |

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

--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=  10.54   Curve Number   (CN)= 77.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.15   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.98 | 0.833    3.65 | 1.583    1.77 |  2.33    1.11
                0.167    0.98 | 0.917   21.16 | 1.667    1.77 |  2.42    1.02
                0.250    1.16 | 1.000   21.16 | 1.750    1.53 |  2.50    1.02
                0.333    1.16 | 1.083    4.48 | 1.833    1.53 |  2.58    0.95
                0.417    1.43 | 1.167    4.48 | 1.917    1.35 |  2.67    0.95
                0.500    1.43 | 1.250    2.83 | 2.000    1.35 |  2.75    0.89
                0.583    1.96 | 1.333    2.83 | 2.083    1.21 |  2.83    0.89
                0.667    1.96 | 1.417    2.15 | 2.167    1.21 |  2.92    0.84
                0.750    3.65 | 1.500    2.15 | 2.250    1.11 |  3.00    0.84

     Unit Hyd Qpeak  (cms)=   0.575

     PEAK FLOW       (cms)=   0.000 (i)
     TIME TO PEAK    (hrs)=   3.333
     RUNOFF VOLUME    (mm)=   0.021
     TOTAL RAINFALL   (mm)=   8.412
     RUNOFF COEFFICIENT   =   0.002

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   1.57   Curve Number   (CN)= 71.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.35

         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    0.98 | 0.833    3.65 | 1.583    1.77 |  2.33    1.11
                0.167    0.98 | 0.917   21.16 | 1.667    1.77 |  2.42    1.02
                0.250    1.16 | 1.000   21.16 | 1.750    1.53 |  2.50    1.02
                0.333    1.16 | 1.083    4.48 | 1.833    1.53 |  2.58    0.95
                0.417    1.43 | 1.167    4.48 | 1.917    1.35 |  2.67    0.95
                0.500    1.43 | 1.250    2.83 | 2.000    1.35 |  2.75    0.89
                0.583    1.96 | 1.333    2.83 | 2.083    1.21 |  2.83    0.89
                0.667    1.96 | 1.417    2.15 | 2.167    1.21 |  2.92    0.84
                0.750    3.65 | 1.500    2.15 | 2.250    1.11 |  3.00    0.84

     Unit Hyd Qpeak  (cms)=   0.171

     PEAK FLOW       (cms)=   0.000 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=   0.001
     TOTAL RAINFALL   (mm)=   8.412
     RUNOFF COEFFICIENT   =   0.000

     (i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   7.36   Curve Number   (CN)= 75.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.50

         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    0.98 | 0.833    3.65 | 1.583    1.77 |  2.33    1.11
                0.167    0.98 | 0.917   21.16 | 1.667    1.77 |  2.42    1.02
                0.250    1.16 | 1.000   21.16 | 1.750    1.53 |  2.50    1.02
                0.333    1.16 | 1.083    4.48 | 1.833    1.53 |  2.58    0.95
                0.417    1.43 | 1.167    4.48 | 1.917    1.35 |  2.67    0.95
                0.500    1.43 | 1.250    2.83 | 2.000    1.35 |  2.75    0.89
                0.583    1.96 | 1.333    2.83 | 2.083    1.21 |  2.83    0.89
                0.667    1.96 | 1.417    2.15 | 2.167    1.21 |  2.92    0.84
                0.750    3.65 | 1.500    2.15 | 2.250    1.11 |  3.00    0.84

     Unit Hyd Qpeak  (cms)=   0.562

     PEAK FLOW       (cms)=   0.000 (i)
     TIME TO PEAK    (hrs)=   3.167
     RUNOFF VOLUME    (mm)=   0.015
     TOTAL RAINFALL   (mm)=   8.412
     RUNOFF COEFFICIENT   =   0.002

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   5.75   Curve Number   (CN)= 74.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.83   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.45

         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    0.98 | 0.833    3.65 | 1.583    1.77 |  2.33    1.11
                0.167    0.98 | 0.917   21.16 | 1.667    1.77 |  2.42    1.02
                0.250    1.16 | 1.000   21.16 | 1.750    1.53 |  2.50    1.02
                0.333    1.16 | 1.083    4.48 | 1.833    1.53 |  2.58    0.95
                0.417    1.43 | 1.167    4.48 | 1.917    1.35 |  2.67    0.95
                0.500    1.43 | 1.250    2.83 | 2.000    1.35 |  2.75    0.89
                0.583    1.96 | 1.333    2.83 | 2.083    1.21 |  2.83    0.89
                0.667    1.96 | 1.417    2.15 | 2.167    1.21 |  2.92    0.84
                0.750    3.65 | 1.500    2.15 | 2.250    1.11 |  3.00    0.84

     Unit Hyd Qpeak  (cms)=   0.488

     PEAK FLOW       (cms)=   0.000 (i)
     TIME TO PEAK    (hrs)=   3.083
     RUNOFF VOLUME    (mm)=   0.028
     TOTAL RAINFALL   (mm)=   8.412
     RUNOFF COEFFICIENT   =   0.003

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.57

         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    0.98 | 0.833    3.65 | 1.583    1.77 |  2.33    1.11
                0.167    0.98 | 0.917   21.16 | 1.667    1.77 |  2.42    1.02
                0.250    1.16 | 1.000   21.16 | 1.750    1.53 |  2.50    1.02
                0.333    1.16 | 1.083    4.48 | 1.833    1.53 |  2.58    0.95
```

```
                   0.417    1.43 | 1.167    4.48 | 1.917    1.35 |  2.67    0.95
                   0.500    1.43 | 1.250    2.83 | 2.000    1.35 |  2.75    0.89
                   0.583    1.96 | 1.333    2.83 | 2.083    1.21 |  2.83    0.89
                   0.667    1.96 | 1.417    2.15 | 2.167    1.21 |  2.92    0.84
                   0.750    3.65 | 1.500    2.15 | 2.250    1.11 |  3.00    0.84

        Unit Hyd Qpeak  (cms)=   0.972

        PEAK FLOW       (cms)=   0.001 (i)
        TIME TO PEAK    (hrs)=   3.250
        RUNOFF VOLUME    (mm)=   0.021
        TOTAL RAINFALL   (mm)=   8.412
        RUNOFF COEFFICIENT   =   0.003

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

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

 --------------------
 | ADD HYD  (  0009)|
 |  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
 --------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (  0010):    14.50   0.001     3.25     0.02
       + ID2= 2 (  0002):     1.57   0.000     3.17     0.00
         ===============================================
         ID = 3 (  0009):    16.07   0.001     3.17     0.02

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

 --------------------
 | ADD HYD  (  0009)|
 |  3 +  2 =  1     |         AREA    QPEAK    TPEAK     R.V.
 --------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (  0009):    16.07   0.001     3.17     0.02
       + ID2= 2 (  0003):     7.36   0.000     3.17     0.01
         ===============================================
         ID = 1 (  0009):    23.43   0.001     3.17     0.02

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

 --------------------
 | ADD HYD  (  0009)|
 |  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
 --------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (  0009):    23.43   0.001     3.17     0.02
       + ID2= 2 (  0004):     5.75   0.000     3.08     0.03
         ===============================================
         ID = 3 (  0009):    29.18   0.001     3.17     0.02

        NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
 ------------------------------------------------------------------------------
 ****************************************
 ** SIMULATION:A. 2yr 3hr 10min Chicago **
 ****************************************
 --------------------
 | CHICAGO STORM    |     IDF curve parameters: A= 404.147
 | Ptotal= 32.13 mm |                           B=   0.000
 --------------------                           C=   0.699
                          used in:   INTENSITY =  A / (t + B)^C

                          Duration of storm  =  3.00 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
                    0.00    3.76 |  0.83   80.82 |  1.67    5.83 |  2.50    3.63
                    0.17    4.42 |  1.00   17.11 |  1.83    5.15 |  2.67    3.39
                    0.33    5.48 |  1.17   10.79 |  2.00    4.63 |  2.83    3.20
                    0.50    7.50 |  1.33    8.23 |  2.17    4.23 |
                    0.67   13.95 |  1.50    6.78 |  2.33    3.90 |


 ------------------------------------------------------------------------------
 --------------------
 | CALIB            |
 | NASHYD   (  0001)|   Area    (ha)=  10.54   Curve Number   (CN)= 77.4
 |ID= 1 DT= 5.0 min |   Ia      (mm)=   7.15   # of Linear Res.(N)= 3.00
 --------------------   U.H. Tp(hrs)=   0.70

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

```
                                 ---- TRANSFORMED HYETOGRAPH ----
                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.083    3.76 | 0.833   13.95 | 1.583    6.78 |  2.33    4.23
                 0.167    3.76 | 0.917   80.82 | 1.667    6.78 |  2.42    3.90
                 0.250    4.42 | 1.000   80.82 | 1.750    5.83 |  2.50    3.90
                 0.333    4.42 | 1.083   17.11 | 1.833    5.83 |  2.58    3.63
                 0.417    5.48 | 1.167   17.11 | 1.917    5.15 |  2.67    3.63
                 0.500    5.48 | 1.250   10.79 | 2.000    5.15 |  2.75    3.39
                 0.583    7.50 | 1.333   10.79 | 2.083    4.63 |  2.83    3.39
                 0.667    7.50 | 1.417    8.23 | 2.167    4.63 |  2.92    3.20
                 0.750   13.95 | 1.500    8.23 | 2.250    4.23 |  3.00    3.20

        Unit Hyd Qpeak  (cms)=   0.575

        PEAK FLOW       (cms)=   0.084 (i)
        TIME TO PEAK    (hrs)=   2.000
        RUNOFF VOLUME    (mm)=   6.294
        TOTAL RAINFALL   (mm)=  32.132
        RUNOFF COEFFICIENT   =   0.196

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

 ------------------------------------------------------------------------------
 --------------------
 | CALIB            |
 | NASHYD   (  0002)|   Area    (ha)=   1.57   Curve Number   (CN)= 71.0
 |ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
 --------------------   U.H. Tp(hrs)=   0.35

            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    3.76 | 0.833   13.95 | 1.583    6.78 |  2.33    4.23
                 0.167    3.76 | 0.917   80.82 | 1.667    6.78 |  2.42    3.90
                 0.250    4.42 | 1.000   80.82 | 1.750    5.83 |  2.50    3.90
                 0.333    4.42 | 1.083   17.11 | 1.833    5.83 |  2.58    3.63
                 0.417    5.48 | 1.167   17.11 | 1.917    5.15 |  2.67    3.63
                 0.500    5.48 | 1.250   10.79 | 2.000    5.15 |  2.75    3.39
                 0.583    7.50 | 1.333   10.79 | 2.083    4.63 |  2.83    3.39
                 0.667    7.50 | 1.417    8.23 | 2.167    4.63 |  2.92    3.20
                 0.750   13.95 | 1.500    8.23 | 2.250    4.23 |  3.00    3.20

        Unit Hyd Qpeak  (cms)=   0.171

        PEAK FLOW       (cms)=   0.013 (i)
        TIME TO PEAK    (hrs)=   1.500
        RUNOFF VOLUME    (mm)=   4.553
        TOTAL RAINFALL   (mm)=  32.132
        RUNOFF COEFFICIENT   =   0.142

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

 ------------------------------------------------------------------------------
 --------------------
 | CALIB            |
 | NASHYD   (  0003)|   Area    (ha)=   7.36   Curve Number   (CN)= 75.9
 |ID= 1 DT= 5.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
 --------------------   U.H. Tp(hrs)=   0.50

            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    3.76 | 0.833   13.95 | 1.583    6.78 |  2.33    4.23
                 0.167    3.76 | 0.917   80.82 | 1.667    6.78 |  2.42    3.90
                 0.250    4.42 | 1.000   80.82 | 1.750    5.83 |  2.50    3.90
                 0.333    4.42 | 1.083   17.11 | 1.833    5.83 |  2.58    3.63
                 0.417    5.48 | 1.167   17.11 | 1.917    5.15 |  2.67    3.63
                 0.500    5.48 | 1.250   10.79 | 2.000    5.15 |  2.75    3.39
                 0.583    7.50 | 1.333   10.79 | 2.083    4.63 |  2.83    3.39
                 0.667    7.50 | 1.417    8.23 | 2.167    4.63 |  2.92    3.20
                 0.750   13.95 | 1.500    8.23 | 2.250    4.23 |  3.00    3.20

        Unit Hyd Qpeak  (cms)=   0.562

        PEAK FLOW       (cms)=   0.065 (i)
        TIME TO PEAK    (hrs)=   1.667
```

```
     RUNOFF VOLUME    (mm)=   5.845
     TOTAL RAINFALL   (mm)=  32.132
     RUNOFF COEFFICIENT   =   0.182

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   5.75   Curve Number   (CN)= 74.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.83   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.45

         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    3.76 | 0.833   13.95 | 1.583    6.78 |  2.33    4.23
               0.167    3.76 | 0.917   80.82 | 1.667    6.78 |  2.42    3.90
               0.250    4.42 | 1.000   80.82 | 1.750    5.83 |  2.50    3.90
               0.333    4.42 | 1.083   17.11 | 1.833    5.83 |  2.58    3.63
               0.417    5.48 | 1.167   17.11 | 1.917    5.15 |  2.67    3.63
               0.500    5.48 | 1.250   10.79 | 2.000    5.15 |  2.75    3.39
               0.583    7.50 | 1.333   10.79 | 2.083    4.63 |  2.83    3.39
               0.667    7.50 | 1.417    8.23 | 2.167    4.63 |  2.92    3.20
               0.750   13.95 | 1.500    8.23 | 2.250    4.23 |  3.00    3.20

     Unit Hyd Qpeak  (cms)=   0.488

     PEAK FLOW       (cms)=   0.053 (i)
     TIME TO PEAK    (hrs)=   1.583
     RUNOFF VOLUME    (mm)=   5.634
     TOTAL RAINFALL   (mm)=  32.132
     RUNOFF COEFFICIENT   =   0.175

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.57

         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    3.76 | 0.833   13.95 | 1.583    6.78 |  2.33    4.23
               0.167    3.76 | 0.917   80.82 | 1.667    6.78 |  2.42    3.90
               0.250    4.42 | 1.000   80.82 | 1.750    5.83 |  2.50    3.90
               0.333    4.42 | 1.083   17.11 | 1.833    5.83 |  2.58    3.63
               0.417    5.48 | 1.167   17.11 | 1.917    5.15 |  2.67    3.63
               0.500    5.48 | 1.250   10.79 | 2.000    5.15 |  2.75    3.39
               0.583    7.50 | 1.333   10.79 | 2.083    4.63 |  2.83    3.39
               0.667    7.50 | 1.417    8.23 | 2.167    4.63 |  2.92    3.20
               0.750   13.95 | 1.500    8.23 | 2.250    4.23 |  3.00    3.20

     Unit Hyd Qpeak  (cms)=   0.972

     PEAK FLOW       (cms)=   0.128 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=   6.197
     TOTAL RAINFALL   (mm)=  32.132
     RUNOFF COEFFICIENT   =   0.193

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

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

--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (  0010):   14.50   0.128     1.83     6.20
       + ID2= 2 (  0002):    1.57   0.013     1.50     4.55
         ===============================================
         ID = 3 (  0009):   16.07   0.139     1.75     6.04

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

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

--------------------
| ADD HYD  (  0009)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (  0009):   16.07   0.139     1.75     6.04
       + ID2= 2 (  0003):    7.36   0.065     1.67     5.85
         ===============================================
         ID = 1 (  0009):   23.43   0.204     1.75     5.98

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

--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (  0009):   23.43   0.204     1.75     5.98
       + ID2= 2 (  0004):    5.75   0.053     1.58     5.63
         ===============================================
         ID = 3 (  0009):   29.18   0.255     1.75     5.91

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
*****************************************
** SIMULATION:B. 5yr 3hr 10min Chicago **
*****************************************
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 535.364
| Ptotal= 42.56 mm |                          B=   0.000
--------------------                          C=   0.699
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  3.00 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
                 0.00    4.98 |  0.83  107.07 |  1.67    7.72 |  2.50    4.80
                 0.17    5.86 |  1.00   22.67 |  1.83    6.82 |  2.67    4.50
                 0.33    7.26 |  1.17   14.30 |  2.00    6.14 |  2.83    4.24
                 0.50    9.93 |  1.33   10.90 |  2.17    5.60 |
                 0.67   18.47 |  1.50    8.98 |  2.33    5.16 |


--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=  10.54   Curve Number   (CN)= 77.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.15   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

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


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    4.98 | 0.833   18.47 | 1.583    8.98 |  2.33    5.60
               0.167    4.98 | 0.917  107.07 | 1.667    8.98 |  2.42    5.16
               0.250    5.86 | 1.000  107.07 | 1.750    7.72 |  2.50    5.16
               0.333    5.86 | 1.083   22.67 | 1.833    7.72 |  2.58    4.80
               0.417    7.26 | 1.167   22.67 | 1.917    6.82 |  2.67    4.80
               0.500    7.26 | 1.250   14.30 | 2.000    6.82 |  2.75    4.50
               0.583    9.93 | 1.333   14.30 | 2.083    6.14 |  2.83    4.50
               0.667    9.93 | 1.417   10.90 | 2.167    6.14 |  2.92    4.24
               0.750   18.47 | 1.500   10.90 | 2.250    5.60 |  3.00    4.24

     Unit Hyd Qpeak  (cms)=   0.575

     PEAK FLOW       (cms)=   0.158 (i)
     TIME TO PEAK    (hrs)=   1.917
     RUNOFF VOLUME    (mm)=  11.445
     TOTAL RAINFALL   (mm)=  42.565
     RUNOFF COEFFICIENT   =   0.269

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   1.57   Curve Number   (CN)= 71.0
```

```
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.35

         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    4.98 | 0.833   18.47 | 1.583    8.98 |  2.33    5.60
                  0.167    4.98 | 0.917  107.07 | 1.667    8.98 |  2.42    5.16
                  0.250    5.86 | 1.000  107.07 | 1.750    7.72 |  2.50    5.16
                  0.333    5.86 | 1.083   22.67 | 1.833    7.72 |  2.58    4.80
                  0.417    7.26 | 1.167   22.67 | 1.917    6.82 |  2.67    4.80
                  0.500    7.26 | 1.250   14.30 | 2.000    6.82 |  2.75    4.50
                  0.583    9.93 | 1.333   14.30 | 2.083    6.14 |  2.83    4.50
                  0.667    9.93 | 1.417   10.90 | 2.167    6.14 |  2.92    4.24
                  0.750   18.47 | 1.500   10.90 | 2.250    5.60 |  3.00    4.24

     Unit Hyd Qpeak  (cms)=   0.171

     PEAK FLOW       (cms)=   0.026 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=   8.636
     TOTAL RAINFALL   (mm)=  42.565
     RUNOFF COEFFICIENT   =   0.203

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

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| NASHYD   (  0003)|   Area    (ha)=   7.36   Curve Number   (CN)= 75.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.50

         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    4.98 | 0.833   18.47 | 1.583    8.98 |  2.33    5.60
                  0.167    4.98 | 0.917  107.07 | 1.667    8.98 |  2.42    5.16
                  0.250    5.86 | 1.000  107.07 | 1.750    7.72 |  2.50    5.16
                  0.333    5.86 | 1.083   22.67 | 1.833    7.72 |  2.58    4.80
                  0.417    7.26 | 1.167   22.67 | 1.917    6.82 |  2.67    4.80
                  0.500    7.26 | 1.250   14.30 | 2.000    6.82 |  2.75    4.50
                  0.583    9.93 | 1.333   14.30 | 2.083    6.14 |  2.83    4.50
                  0.667    9.93 | 1.417   10.90 | 2.167    6.14 |  2.92    4.24
                  0.750   18.47 | 1.500   10.90 | 2.250    5.60 |  3.00    4.24

     Unit Hyd Qpeak  (cms)=   0.562

     PEAK FLOW       (cms)=   0.126 (i)
     TIME TO PEAK    (hrs)=   1.667
     RUNOFF VOLUME    (mm)=  10.728
     TOTAL RAINFALL   (mm)=  42.565
     RUNOFF COEFFICIENT   =   0.252

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

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| NASHYD   (  0004)|   Area    (ha)=   5.75   Curve Number   (CN)= 74.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.83   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.45

         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    4.98 | 0.833   18.47 | 1.583    8.98 |  2.33    5.60
                  0.167    4.98 | 0.917  107.07 | 1.667    8.98 |  2.42    5.16
                  0.250    5.86 | 1.000  107.07 | 1.750    7.72 |  2.50    5.16
                  0.333    5.86 | 1.083   22.67 | 1.833    7.72 |  2.58    4.80
                  0.417    7.26 | 1.167   22.67 | 1.917    6.82 |  2.67    4.80
                  0.500    7.26 | 1.250   14.30 | 2.000    6.82 |  2.75    4.50
                  0.583    9.93 | 1.333   14.30 | 2.083    6.14 |  2.83    4.50
                  0.667    9.93 | 1.417   10.90 | 2.167    6.14 |  2.92    4.24
                  0.750   18.47 | 1.500   10.90 | 2.250    5.60 |  3.00    4.24
```

```
     Unit Hyd Qpeak  (cms)=   0.488

     PEAK FLOW       (cms)=   0.101 (i)
     TIME TO PEAK    (hrs)=   1.583
     RUNOFF VOLUME    (mm)=  10.293
     TOTAL RAINFALL   (mm)=  42.565
     RUNOFF COEFFICIENT   =   0.242

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

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| NASHYD   (  0010)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.57

         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    4.98 | 0.833   18.47 | 1.583    8.98 |  2.33    5.60
                  0.167    4.98 | 0.917  107.07 | 1.667    8.98 |  2.42    5.16
                  0.250    5.86 | 1.000  107.07 | 1.750    7.72 |  2.50    5.16
                  0.333    5.86 | 1.083   22.67 | 1.833    7.72 |  2.58    4.80
                  0.417    7.26 | 1.167   22.67 | 1.917    6.82 |  2.67    4.80
                  0.500    7.26 | 1.250   14.30 | 2.000    6.82 |  2.75    4.50
                  0.583    9.93 | 1.333   14.30 | 2.083    6.14 |  2.83    4.50
                  0.667    9.93 | 1.417   10.90 | 2.167    6.14 |  2.92    4.24
                  0.750   18.47 | 1.500   10.90 | 2.250    5.60 |  3.00    4.24

     Unit Hyd Qpeak  (cms)=   0.972

     PEAK FLOW       (cms)=   0.243 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=  11.280
     TOTAL RAINFALL   (mm)=  42.565
     RUNOFF COEFFICIENT   =   0.265

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

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

--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0010):    14.50    0.243     1.75    11.28
      + ID2= 2 (  0002):     1.57    0.026     1.42     8.64
        ==================================================
        ID = 3 (  0009):    16.07    0.264     1.67    11.02

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

--------------------
| ADD HYD  (  0009)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0009):    16.07    0.264     1.67    11.02
      + ID2= 2 (  0003):     7.36    0.126     1.67    10.73
        ==================================================
        ID = 1 (  0009):    23.43    0.391     1.67    10.93

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

--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0009):    23.43    0.391     1.67    10.93
      + ID2= 2 (  0004):     5.75    0.101     1.58    10.29
        ==================================================
        ID = 3 (  0009):    29.18    0.490     1.67    10.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
********************************************
** SIMULATION:C. 10yr 3hr 10min Chicago **
********************************************
```

```
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 622.842
| Ptotal= 49.52 mm |                          B=   0.000
--------------------                          C=   0.699
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  3.00 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
                 0.00    5.79 |  0.83  124.56 |  1.67    8.98 |  2.50    5.59
                 0.17    6.82 |  1.00   26.38 |  1.83    7.93 |  2.67    5.23
                 0.33    8.45 |  1.17   16.63 |  2.00    7.14 |  2.83    4.93
                 0.50   11.56 |  1.33   12.68 |  2.17    6.51 |
                 0.67   21.49 |  1.50   10.45 |  2.33    6.01 |

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=  10.54   Curve Number   (CN)= 77.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.15   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

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


                                ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    5.79 | 0.833   21.49 | 1.583   10.45 |  2.33    6.51
                0.167    5.79 | 0.917  124.56 | 1.667   10.45 |  2.42    6.01
                0.250    6.82 | 1.000  124.56 | 1.750    8.98 |  2.50    6.01
                0.333    6.82 | 1.083   26.38 | 1.833    8.98 |  2.58    5.59
                0.417    8.45 | 1.167   26.38 | 1.917    7.93 |  2.67    5.59
                0.500    8.45 | 1.250   16.63 | 2.000    7.93 |  2.75    5.23
                0.583   11.56 | 1.333   16.63 | 2.083    7.14 |  2.83    5.23
                0.667   11.56 | 1.417   12.68 | 2.167    7.14 |  2.92    4.93
                0.750   21.49 | 1.500   12.68 | 2.250    6.51 |  3.00    4.93

     Unit Hyd Qpeak  (cms)=   0.575

     PEAK FLOW       (cms)=   0.217 (i)
     TIME TO PEAK    (hrs)=   1.917
     RUNOFF VOLUME    (mm)=  15.404
     TOTAL RAINFALL   (mm)=  49.520
     RUNOFF COEFFICIENT   =   0.311

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   1.57   Curve Number   (CN)= 71.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.35

         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    5.79 | 0.833   21.49 | 1.583   10.45 |  2.33    6.51
                0.167    5.79 | 0.917  124.56 | 1.667   10.45 |  2.42    6.01
                0.250    6.82 | 1.000  124.56 | 1.750    8.98 |  2.50    6.01
                0.333    6.82 | 1.083   26.38 | 1.833    8.98 |  2.58    5.59
                0.417    8.45 | 1.167   26.38 | 1.917    7.93 |  2.67    5.59
                0.500    8.45 | 1.250   16.63 | 2.000    7.93 |  2.75    5.23
                0.583   11.56 | 1.333   16.63 | 2.083    7.14 |  2.83    5.23
                0.667   11.56 | 1.417   12.68 | 2.167    7.14 |  2.92    4.93
                0.750   21.49 | 1.500   12.68 | 2.250    6.51 |  3.00    4.93

     Unit Hyd Qpeak  (cms)=   0.171

     PEAK FLOW       (cms)=   0.037 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  11.864
     TOTAL RAINFALL   (mm)=  49.520
     RUNOFF COEFFICIENT   =   0.240

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

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-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   7.36   Curve Number   (CN)= 75.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.50

         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    5.79 | 0.833   21.49 | 1.583   10.45 |  2.33    6.51
                0.167    5.79 | 0.917  124.56 | 1.667   10.45 |  2.42    6.01
                0.250    6.82 | 1.000  124.56 | 1.750    8.98 |  2.50    6.01
                0.333    6.82 | 1.083   26.38 | 1.833    8.98 |  2.58    5.59
                0.417    8.45 | 1.167   26.38 | 1.917    7.93 |  2.67    5.59
                0.500    8.45 | 1.250   16.63 | 2.000    7.93 |  2.75    5.23
                0.583   11.56 | 1.333   16.63 | 2.083    7.14 |  2.83    5.23
                0.667   11.56 | 1.417   12.68 | 2.167    7.14 |  2.92    4.93
                0.750   21.49 | 1.500   12.68 | 2.250    6.51 |  3.00    4.93

     Unit Hyd Qpeak  (cms)=   0.562

     PEAK FLOW       (cms)=   0.175 (i)
     TIME TO PEAK    (hrs)=   1.583
     RUNOFF VOLUME    (mm)=  14.506
     TOTAL RAINFALL   (mm)=  49.520
     RUNOFF COEFFICIENT   =   0.293

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   5.75   Curve Number   (CN)= 74.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.83   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.45

         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    5.79 | 0.833   21.49 | 1.583   10.45 |  2.33    6.51
                0.167    5.79 | 0.917  124.56 | 1.667   10.45 |  2.42    6.01
                0.250    6.82 | 1.000  124.56 | 1.750    8.98 |  2.50    6.01
                0.333    6.82 | 1.083   26.38 | 1.833    8.98 |  2.58    5.59
                0.417    8.45 | 1.167   26.38 | 1.917    7.93 |  2.67    5.59
                0.500    8.45 | 1.250   16.63 | 2.000    7.93 |  2.75    5.23
                0.583   11.56 | 1.333   16.63 | 2.083    7.14 |  2.83    5.23
                0.667   11.56 | 1.417   12.68 | 2.167    7.14 |  2.92    4.93
                0.750   21.49 | 1.500   12.68 | 2.250    6.51 |  3.00    4.93

     Unit Hyd Qpeak  (cms)=   0.488

     PEAK FLOW       (cms)=   0.140 (i)
     TIME TO PEAK    (hrs)=   1.500
     RUNOFF VOLUME    (mm)=  13.909
     TOTAL RAINFALL   (mm)=  49.520
     RUNOFF COEFFICIENT   =   0.281

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.57

         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    5.79 | 0.833   21.49 | 1.583   10.45 |  2.33    6.51
                0.167    5.79 | 0.917  124.56 | 1.667   10.45 |  2.42    6.01
                0.250    6.82 | 1.000  124.56 | 1.750    8.98 |  2.50    6.01
                0.333    6.82 | 1.083   26.38 | 1.833    8.98 |  2.58    5.59
                0.417    8.45 | 1.167   26.38 | 1.917    7.93 |  2.67    5.59
                0.500    8.45 | 1.250   16.63 | 2.000    7.93 |  2.75    5.23
                0.583   11.56 | 1.333   16.63 | 2.083    7.14 |  2.83    5.23
                0.667   11.56 | 1.417   12.68 | 2.167    7.14 |  2.92    4.93
                0.750   21.49 | 1.500   12.68 | 2.250    6.51 |  3.00    4.93

     Unit Hyd Qpeak  (cms)=   0.972

     PEAK FLOW       (cms)=   0.334 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=  15.194
     TOTAL RAINFALL   (mm)=  49.520
     RUNOFF COEFFICIENT   =   0.307

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

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

--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0010):    14.50   0.334     1.75    15.19
      + ID2= 2 (  0002):     1.57   0.037     1.42    11.86
        ===================================================
        ID = 3 (  0009):    16.07   0.365     1.67    14.87

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

--------------------
| ADD HYD  (  0009)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0009):    16.07   0.365     1.67    14.87
      + ID2= 2 (  0003):     7.36   0.175     1.58    14.51
        ===================================================
        ID = 1 (  0009):    23.43   0.539     1.67    14.75

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

--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0009):    23.43   0.539     1.67    14.75
      + ID2= 2 (  0004):     5.75   0.140     1.50    13.91
        ===================================================
        ID = 3 (  0009):    29.18   0.675     1.67    14.59

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
*******************************************
** SIMULATION:D. 25yr 3hr 10min Chicago **
*******************************************
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 731.314
| Ptotal= 58.14 mm |                          B=   0.000
--------------------                          C=   0.699
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  3.00 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
                 0.00    6.80 |  0.83  146.25 |  1.67   10.54 |  2.50    6.56
                 0.17    8.01 |  1.00   30.97 |  1.83    9.31 |  2.67    6.14
                 0.33    9.92 |  1.17   19.53 |  2.00    8.38 |  2.83    5.79
                 0.50   13.57 |  1.33   14.89 |  2.17    7.65 |
                 0.67   25.24 |  1.50   12.27 |  2.33    7.05 |


-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=  10.54   Curve Number   (CN)= 77.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.15   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

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

```
                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    6.80 | 0.833   25.24 | 1.583   12.27 |  2.33    7.65
                0.167    6.80 | 0.917  146.25 | 1.667   12.27 |  2.42    7.05
                0.250    8.01 | 1.000  146.25 | 1.750   10.54 |  2.50    7.05
                0.333    8.01 | 1.083   30.97 | 1.833   10.54 |  2.58    6.56
                0.417    9.92 | 1.167   30.97 | 1.917    9.31 |  2.67    6.56
                0.500    9.92 | 1.250   19.53 | 2.000    9.31 |  2.75    6.14
                0.583   13.57 | 1.333   19.53 | 2.083    8.38 |  2.83    6.14
                0.667   13.57 | 1.417   14.89 | 2.167    8.38 |  2.92    5.79
                0.750   25.24 | 1.500   14.89 | 2.250    7.65 |  3.00    5.79

     Unit Hyd Qpeak  (cms)=   0.575

     PEAK FLOW       (cms)=   0.297 (i)
     TIME TO PEAK    (hrs)=   1.917
     RUNOFF VOLUME    (mm)=  20.776
     TOTAL RAINFALL   (mm)=  58.144
     RUNOFF COEFFICIENT   =   0.357

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   1.57   Curve Number   (CN)= 71.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.35

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    6.80 | 0.833   25.24 | 1.583   12.27 |  2.33    7.65
                0.167    6.80 | 0.917  146.25 | 1.667   12.27 |  2.42    7.05
                0.250    8.01 | 1.000  146.25 | 1.750   10.54 |  2.50    7.05
                0.333    8.01 | 1.083   30.97 | 1.833   10.54 |  2.58    6.56
                0.417    9.92 | 1.167   30.97 | 1.917    9.31 |  2.67    6.56
                0.500    9.92 | 1.250   19.53 | 2.000    9.31 |  2.75    6.14
                0.583   13.57 | 1.333   19.53 | 2.083    8.38 |  2.83    6.14
                0.667   13.57 | 1.417   14.89 | 2.167    8.38 |  2.92    5.79
                0.750   25.24 | 1.500   14.89 | 2.250    7.65 |  3.00    5.79

     Unit Hyd Qpeak  (cms)=   0.171

     PEAK FLOW       (cms)=   0.053 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  16.335
     TOTAL RAINFALL   (mm)=  58.144
     RUNOFF COEFFICIENT   =   0.281

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   7.36   Curve Number   (CN)= 75.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.50

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    6.80 | 0.833   25.24 | 1.583   12.27 |  2.33    7.65
                0.167    6.80 | 0.917  146.25 | 1.667   12.27 |  2.42    7.05
                0.250    8.01 | 1.000  146.25 | 1.750   10.54 |  2.50    7.05
                0.333    8.01 | 1.083   30.97 | 1.833   10.54 |  2.58    6.56
                0.417    9.92 | 1.167   30.97 | 1.917    9.31 |  2.67    6.56
                0.500    9.92 | 1.250   19.53 | 2.000    9.31 |  2.75    6.14
                0.583   13.57 | 1.333   19.53 | 2.083    8.38 |  2.83    6.14
                0.667   13.57 | 1.417   14.89 | 2.167    8.38 |  2.92    5.79
                0.750   25.24 | 1.500   14.89 | 2.250    7.65 |  3.00    5.79

     Unit Hyd Qpeak  (cms)=   0.562

     PEAK FLOW       (cms)=   0.242 (i)
     TIME TO PEAK    (hrs)=   1.583
     RUNOFF VOLUME    (mm)=  19.658
     TOTAL RAINFALL   (mm)=  58.144
     RUNOFF COEFFICIENT   =   0.338

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   5.75   Curve Number   (CN)= 74.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.83   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.45

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


                               ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    6.80 | 0.833   25.24 | 1.583   12.27 |  2.33    7.65
               0.167    6.80 | 0.917  146.25 | 1.667   12.27 |  2.42    7.05
               0.250    8.01 | 1.000  146.25 | 1.750   10.54 |  2.50    7.05
               0.333    8.01 | 1.083   30.97 | 1.833   10.54 |  2.58    6.56
               0.417    9.92 | 1.167   30.97 | 1.917    9.31 |  2.67    6.56
               0.500    9.92 | 1.250   19.53 | 2.000    9.31 |  2.75    6.14
               0.583   13.57 | 1.333   19.53 | 2.083    8.38 |  2.83    6.14
               0.667   13.57 | 1.417   14.89 | 2.167    8.38 |  2.92    5.79
               0.750   25.24 | 1.500   14.89 | 2.250    7.65 |  3.00    5.79

     Unit Hyd Qpeak  (cms)=   0.488

     PEAK FLOW       (cms)=   0.194 (i)
     TIME TO PEAK    (hrs)=   1.500
     RUNOFF VOLUME    (mm)=  18.856
     TOTAL RAINFALL   (mm)=  58.144
     RUNOFF COEFFICIENT   =   0.324

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.57

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


                               ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    6.80 | 0.833   25.24 | 1.583   12.27 |  2.33    7.65
               0.167    6.80 | 0.917  146.25 | 1.667   12.27 |  2.42    7.05
               0.250    8.01 | 1.000  146.25 | 1.750   10.54 |  2.50    7.05
               0.333    8.01 | 1.083   30.97 | 1.833   10.54 |  2.58    6.56
               0.417    9.92 | 1.167   30.97 | 1.917    9.31 |  2.67    6.56
               0.500    9.92 | 1.250   19.53 | 2.000    9.31 |  2.75    6.14
               0.583   13.57 | 1.333   19.53 | 2.083    8.38 |  2.83    6.14
               0.667   13.57 | 1.417   14.89 | 2.167    8.38 |  2.92    5.79
               0.750   25.24 | 1.500   14.89 | 2.250    7.65 |  3.00    5.79

     Unit Hyd Qpeak  (cms)=   0.972

     PEAK FLOW       (cms)=   0.460 (i)
     TIME TO PEAK    (hrs)=   1.667
     RUNOFF VOLUME    (mm)=  20.509
     TOTAL RAINFALL   (mm)=  58.144
     RUNOFF COEFFICIENT   =   0.353

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

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

--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (  0010):   14.50   0.460     1.67    20.51
        + ID2= 2 (  0002):    1.57   0.053     1.42    16.33
          ==================================================
          ID = 3 (  0009):   16.07   0.504     1.67    20.10

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

--------------------
| ADD HYD  (  0009)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0009):    16.07   0.504     1.67    20.10
      + ID2= 2 (  0003):     7.36   0.242     1.58    19.66
        ==================================================
        ID = 1 (  0009):    23.43   0.744     1.67    19.96

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

--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0009):    23.43   0.744     1.67    19.96
      + ID2= 2 (  0004):     5.75   0.194     1.50    18.86
        ==================================================
        ID = 3 (  0009):    29.18   0.934     1.58    19.74

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
******************************************
** SIMULATION:E. 50yr 3hr 10min Chicago **
******************************************
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 811.794
| Ptotal= 64.54 mm |                          B=   0.000
--------------------                          C=   0.699
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  3.00 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
                0.00    7.55 |  0.83  162.35 |  1.67   11.70 |  2.50    7.28
                0.17    8.89 |  1.00   34.38 |  1.83   10.34 |  2.67    6.82
                0.33   11.01 |  1.17   21.68 |  2.00    9.30 |  2.83    6.42
                0.50   15.06 |  1.33   16.53 |  2.17    8.49 |
                0.67   28.01 |  1.50   13.62 |  2.33    7.83 |

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=  10.54   Curve Number   (CN)= 77.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.15   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

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


                               ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    7.55 | 0.833   28.01 | 1.583   13.62 |  2.33    8.49
               0.167    7.55 | 0.917  162.35 | 1.667   13.62 |  2.42    7.83
               0.250    8.89 | 1.000  162.35 | 1.750   11.70 |  2.50    7.83
               0.333    8.89 | 1.083   34.38 | 1.833   11.70 |  2.58    7.28
               0.417   11.01 | 1.167   34.38 | 1.917   10.34 |  2.67    7.28
               0.500   11.01 | 1.250   21.68 | 2.000   10.34 |  2.75    6.82
               0.583   15.06 | 1.333   21.68 | 2.083    9.30 |  2.83    6.82
               0.667   15.06 | 1.417   16.53 | 2.167    9.30 |  2.92    6.42
               0.750   28.01 | 1.500   16.53 | 2.250    8.49 |  3.00    6.42

     Unit Hyd Qpeak  (cms)=   0.575

     PEAK FLOW       (cms)=   0.361 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  25.037
     TOTAL RAINFALL   (mm)=  64.542
     RUNOFF COEFFICIENT   =   0.388

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   1.57   Curve Number   (CN)= 71.0
```

```
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.35

         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    7.55 | 0.833   28.01 | 1.583   13.62 |  2.33    8.49
                0.167    7.55 | 0.917  162.35 | 1.667   13.62 |  2.42    7.83
                0.250    8.89 | 1.000  162.35 | 1.750   11.70 |  2.50    7.83
                0.333    8.89 | 1.083   34.38 | 1.833   11.70 |  2.58    7.28
                0.417   11.01 | 1.167   34.38 | 1.917   10.34 |  2.67    7.28
                0.500   11.01 | 1.250   21.68 | 2.000   10.34 |  2.75    6.82
                0.583   15.06 | 1.333   21.68 | 2.083    9.30 |  2.83    6.82
                0.667   15.06 | 1.417   16.53 | 2.167    9.30 |  2.92    6.42
                0.750   28.01 | 1.500   16.53 | 2.250    8.49 |  3.00    6.42

     Unit Hyd Qpeak  (cms)=   0.171

     PEAK FLOW       (cms)=   0.065 (i)
     TIME TO PEAK    (hrs)=   1.417
     RUNOFF VOLUME    (mm)=  19.941
     TOTAL RAINFALL   (mm)=  64.542
     RUNOFF COEFFICIENT   =   0.309

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

------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   7.36   Curve Number   (CN)= 75.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.50

         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    7.55 | 0.833   28.01 | 1.583   13.62 |  2.33    8.49
                0.167    7.55 | 0.917  162.35 | 1.667   13.62 |  2.42    7.83
                0.250    8.89 | 1.000  162.35 | 1.750   11.70 |  2.50    7.83
                0.333    8.89 | 1.083   34.38 | 1.833   11.70 |  2.58    7.28
                0.417   11.01 | 1.167   34.38 | 1.917   10.34 |  2.67    7.28
                0.500   11.01 | 1.250   21.68 | 2.000   10.34 |  2.75    6.82
                0.583   15.06 | 1.333   21.68 | 2.083    9.30 |  2.83    6.82
                0.667   15.06 | 1.417   16.53 | 2.167    9.30 |  2.92    6.42
                0.750   28.01 | 1.500   16.53 | 2.250    8.49 |  3.00    6.42

     Unit Hyd Qpeak  (cms)=   0.562

     PEAK FLOW       (cms)=   0.297 (i)
     TIME TO PEAK    (hrs)=   1.583
     RUNOFF VOLUME    (mm)=  23.761
     TOTAL RAINFALL   (mm)=  64.542
     RUNOFF COEFFICIENT   =   0.368

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

------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   5.75   Curve Number   (CN)= 74.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.83   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.45

         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    7.55 | 0.833   28.01 | 1.583   13.62 |  2.33    8.49
                0.167    7.55 | 0.917  162.35 | 1.667   13.62 |  2.42    7.83
                0.250    8.89 | 1.000  162.35 | 1.750   11.70 |  2.50    7.83
                0.333    8.89 | 1.083   34.38 | 1.833   11.70 |  2.58    7.28
                0.417   11.01 | 1.167   34.38 | 1.917   10.34 |  2.67    7.28
                0.500   11.01 | 1.250   21.68 | 2.000   10.34 |  2.75    6.82
                0.583   15.06 | 1.333   21.68 | 2.083    9.30 |  2.83    6.82
                0.667   15.06 | 1.417   16.53 | 2.167    9.30 |  2.92    6.42
                0.750   28.01 | 1.500   16.53 | 2.250    8.49 |  3.00    6.42
```

```
     Unit Hyd Qpeak  (cms)=   0.488

     PEAK FLOW       (cms)=   0.238 (i)
     TIME TO PEAK    (hrs)=   1.500
     RUNOFF VOLUME    (mm)=  22.806
     TOTAL RAINFALL   (mm)=  64.542
     RUNOFF COEFFICIENT   =   0.353

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

------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0010)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.57

         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    7.55 | 0.833   28.01 | 1.583   13.62 |  2.33    8.49
                0.167    7.55 | 0.917  162.35 | 1.667   13.62 |  2.42    7.83
                0.250    8.89 | 1.000  162.35 | 1.750   11.70 |  2.50    7.83
                0.333    8.89 | 1.083   34.38 | 1.833   11.70 |  2.58    7.28
                0.417   11.01 | 1.167   34.38 | 1.917   10.34 |  2.67    7.28
                0.500   11.01 | 1.250   21.68 | 2.000   10.34 |  2.75    6.82
                0.583   15.06 | 1.333   21.68 | 2.083    9.30 |  2.83    6.82
                0.667   15.06 | 1.417   16.53 | 2.167    9.30 |  2.92    6.42
                0.750   28.01 | 1.500   16.53 | 2.250    8.49 |  3.00    6.42

     Unit Hyd Qpeak  (cms)=   0.972

     PEAK FLOW       (cms)=   0.561 (i)
     TIME TO PEAK    (hrs)=   1.667
     RUNOFF VOLUME    (mm)=  24.730
     TOTAL RAINFALL   (mm)=  64.542
     RUNOFF COEFFICIENT   =   0.383

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

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

--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0010):    14.50   0.561     1.67    24.73
      + ID2= 2 (  0002):     1.57   0.065     1.42    19.94
        ===================================================
        ID = 3 (  0009):    16.07   0.615     1.67    24.26

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

--------------------
| ADD HYD  (  0009)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0009):    16.07   0.615     1.67    24.26
      + ID2= 2 (  0003):     7.36   0.297     1.58    23.76
        ===================================================
        ID = 1 (  0009):    23.43   0.909     1.67    24.10

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

--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0009):    23.43   0.909     1.67    24.10
      + ID2= 2 (  0004):     5.75   0.238     1.50    22.81
        ===================================================
        ID = 3 (  0009):    29.18   1.144     1.58    23.85

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
*******************************************
** SIMULATION:F. 100yr 3hr 10min Chicago **
*******************************************
```

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 --------------------
 | CHICAGO STORM    |    IDF curve parameters: A= 892.273
 | Ptotal= 70.94 mm |                          B=   0.000
 --------------------                          C=   0.699
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  3.00 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
                  0.00    8.30 |  0.83  178.44 |  1.67   12.86 |  2.50    8.00
                  0.17    9.77 |  1.00   37.79 |  1.83   11.36 |  2.67    7.50
                  0.33   12.10 |  1.17   23.83 |  2.00   10.23 |  2.83    7.06
                  0.50   16.55 |  1.33   18.17 |  2.17    9.33 |
                  0.67   30.79 |  1.50   14.97 |  2.33    8.61 |

 --------------------------------------------------------------------------------
 --------------------
 | CALIB            |
 | NASHYD   (  0001)|   Area    (ha)=  10.54   Curve Number   (CN)= 77.4
 |ID= 1 DT= 5.0 min |   Ia      (mm)=   7.15   # of Linear Res.(N)= 3.00
 --------------------   U.H. Tp(hrs)=   0.70

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


                                ---- TRANSFORMED HYETOGRAPH ----
                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.083    8.30 | 0.833   30.79 | 1.583   14.97 |  2.33    9.33
                 0.167    8.30 | 0.917  178.44 | 1.667   14.97 |  2.42    8.61
                 0.250    9.77 | 1.000  178.44 | 1.750   12.86 |  2.50    8.61
                 0.333    9.77 | 1.083   37.79 | 1.833   12.86 |  2.58    8.00
                 0.417   12.10 | 1.167   37.79 | 1.917   11.36 |  2.67    8.00
                 0.500   12.10 | 1.250   23.83 | 2.000   11.36 |  2.75    7.50
                 0.583   16.55 | 1.333   23.83 | 2.083   10.23 |  2.83    7.50
                 0.667   16.55 | 1.417   18.17 | 2.167   10.23 |  2.92    7.06
                 0.750   30.79 | 1.500   18.17 | 2.250    9.33 |  3.00    7.06

     Unit Hyd Qpeak  (cms)=   0.575

     PEAK FLOW       (cms)=   0.429 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  29.496
     TOTAL RAINFALL   (mm)=  70.941
     RUNOFF COEFFICIENT   =   0.416

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

 --------------------------------------------------------------------------------
 --------------------
 | CALIB            |
 | NASHYD   (  0002)|   Area    (ha)=   1.57   Curve Number   (CN)= 71.0
 |ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
 --------------------   U.H. Tp(hrs)=   0.35

         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    8.30 | 0.833   30.79 | 1.583   14.97 |  2.33    9.33
                 0.167    8.30 | 0.917  178.44 | 1.667   14.97 |  2.42    8.61
                 0.250    9.77 | 1.000  178.44 | 1.750   12.86 |  2.50    8.61
                 0.333    9.77 | 1.083   37.79 | 1.833   12.86 |  2.58    8.00
                 0.417   12.10 | 1.167   37.79 | 1.917   11.36 |  2.67    8.00
                 0.500   12.10 | 1.250   23.83 | 2.000   11.36 |  2.75    7.50
                 0.583   16.55 | 1.333   23.83 | 2.083   10.23 |  2.83    7.50
                 0.667   16.55 | 1.417   18.17 | 2.167   10.23 |  2.92    7.06
                 0.750   30.79 | 1.500   18.17 | 2.250    9.33 |  3.00    7.06

     Unit Hyd Qpeak  (cms)=   0.171

     PEAK FLOW       (cms)=   0.079 (i)
     TIME TO PEAK    (hrs)=   1.333
     RUNOFF VOLUME    (mm)=  23.761
     TOTAL RAINFALL   (mm)=  70.941
     RUNOFF COEFFICIENT   =   0.335

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

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 --------------------------------------------------------------------------------
 --------------------
 | CALIB            |
 | NASHYD   (  0003)|   Area    (ha)=   7.36   Curve Number   (CN)= 75.9
 |ID= 1 DT= 5.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
 --------------------   U.H. Tp(hrs)=   0.50

         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    8.30 | 0.833   30.79 | 1.583   14.97 |  2.33    9.33
                 0.167    8.30 | 0.917  178.44 | 1.667   14.97 |  2.42    8.61
                 0.250    9.77 | 1.000  178.44 | 1.750   12.86 |  2.50    8.61
                 0.333    9.77 | 1.083   37.79 | 1.833   12.86 |  2.58    8.00
                 0.417   12.10 | 1.167   37.79 | 1.917   11.36 |  2.67    8.00
                 0.500   12.10 | 1.250   23.83 | 2.000   11.36 |  2.75    7.50
                 0.583   16.55 | 1.333   23.83 | 2.083   10.23 |  2.83    7.50
                 0.667   16.55 | 1.417   18.17 | 2.167   10.23 |  2.92    7.06
                 0.750   30.79 | 1.500   18.17 | 2.250    9.33 |  3.00    7.06

     Unit Hyd Qpeak  (cms)=   0.562

     PEAK FLOW       (cms)=   0.355 (i)
     TIME TO PEAK    (hrs)=   1.583
     RUNOFF VOLUME    (mm)=  28.068
     TOTAL RAINFALL   (mm)=  70.941
     RUNOFF COEFFICIENT   =   0.396

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

 --------------------------------------------------------------------------------
 --------------------
 | CALIB            |
 | NASHYD   (  0004)|   Area    (ha)=   5.75   Curve Number   (CN)= 74.2
 |ID= 1 DT= 5.0 min |   Ia      (mm)=   6.83   # of Linear Res.(N)= 3.00
 --------------------   U.H. Tp(hrs)=   0.45

         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    8.30 | 0.833   30.79 | 1.583   14.97 |  2.33    9.33
                 0.167    8.30 | 0.917  178.44 | 1.667   14.97 |  2.42    8.61
                 0.250    9.77 | 1.000  178.44 | 1.750   12.86 |  2.50    8.61
                 0.333    9.77 | 1.083   37.79 | 1.833   12.86 |  2.58    8.00
                 0.417   12.10 | 1.167   37.79 | 1.917   11.36 |  2.67    8.00
                 0.500   12.10 | 1.250   23.83 | 2.000   11.36 |  2.75    7.50
                 0.583   16.55 | 1.333   23.83 | 2.083   10.23 |  2.83    7.50
                 0.667   16.55 | 1.417   18.17 | 2.167   10.23 |  2.92    7.06
                 0.750   30.79 | 1.500   18.17 | 2.250    9.33 |  3.00    7.06

     Unit Hyd Qpeak  (cms)=   0.488

     PEAK FLOW       (cms)=   0.285 (i)
     TIME TO PEAK    (hrs)=   1.500
     RUNOFF VOLUME    (mm)=  26.962
     TOTAL RAINFALL   (mm)=  70.941
     RUNOFF COEFFICIENT   =   0.380

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

 --------------------------------------------------------------------------------
 --------------------
 | CALIB            |
 | NASHYD   (  0010)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
 |ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
 --------------------   U.H. Tp(hrs)=   0.57

         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    8.30 | 0.833   30.79 | 1.583   14.97 |  2.33    9.33
                 0.167    8.30 | 0.917  178.44 | 1.667   14.97 |  2.42    8.61
                 0.250    9.77 | 1.000  178.44 | 1.750   12.86 |  2.50    8.61
                 0.333    9.77 | 1.083   37.79 | 1.833   12.86 |  2.58    8.00
```

```
                  0.417   12.10 | 1.167   37.79 | 1.917   11.36 |  2.67    8.00
                  0.500   12.10 | 1.250   23.83 | 2.000   11.36 |  2.75    7.50
                  0.583   16.55 | 1.333   23.83 | 2.083   10.23 |  2.83    7.50
                  0.667   16.55 | 1.417   18.17 | 2.167   10.23 |  2.92    7.06
                  0.750   30.79 | 1.500   18.17 | 2.250    9.33 |  3.00    7.06

     Unit Hyd Qpeak  (cms)=   0.972

     PEAK FLOW       (cms)=   0.668 (i)
     TIME TO PEAK    (hrs)=   1.667
     RUNOFF VOLUME    (mm)=  29.150
     TOTAL RAINFALL   (mm)=  70.941
     RUNOFF COEFFICIENT   =   0.411

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

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

--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0010):    14.50   0.668     1.67    29.15
      + ID2= 2 (  0002):     1.57   0.079     1.33    23.76
        ==================================================
        ID = 3 (  0009):    16.07   0.733     1.67    28.62

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

--------------------
| ADD HYD  (  0009)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0009):    16.07   0.733     1.67    28.62
      + ID2= 2 (  0003):     7.36   0.355     1.58    28.07
        ==================================================
        ID = 1 (  0009):    23.43   1.085     1.58    28.45

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

--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0009):    23.43   1.085     1.58    28.45
      + ID2= 2 (  0004):     5.75   0.285     1.50    26.96
        ==================================================
        ID = 3 (  0009):    29.18   1.366     1.58    28.16

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
**********************************************
** SIMULATION:G. 2yr 24hr 15min SCS Type II **
**********************************************

--------------------
|    READ STORM    |    Filename: C:\Users\noconnor\AppD
|                  |              ata\Local\Temp\
|                  |              49753dce-993e-48a5-8960-fc674d25ac10\04a9bd10
| Ptotal= 60.13 mm |    Comments: 2yr 24hr 15min SCS Type II
--------------------
                   TIME    RAIN |   TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                    hrs   mm/hr |    hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                   0.00    0.00 |   6.25    1.08 | 12.50    8.66 | 18.75    1.08
                   0.25    0.66 |   6.50    1.08 | 12.75    4.45 | 19.00    1.08
                   0.50    0.66 |   6.75    1.08 | 13.00    4.45 | 19.25    1.08
                   0.75    0.66 |   7.00    1.08 | 13.25    3.25 | 19.50    1.08
                   1.00    0.66 |   7.25    1.32 | 13.50    3.25 | 19.75    1.08
                   1.25    0.66 |   7.50    1.32 | 13.75    2.53 | 20.00    1.08
                   1.50    0.66 |   7.75    1.32 | 14.00    2.53 | 20.25    0.72
                   1.75    0.66 |   8.00    1.32 | 14.25    1.80 | 20.50    0.72
                   2.00    0.66 |   8.25    1.56 | 14.50    1.80 | 20.75    0.72
                   2.25    0.78 |   8.50    1.56 | 14.75    1.80 | 21.00    0.72
                   2.50    0.78 |   8.75    1.68 | 15.00    1.80 | 21.25    0.72
                   2.75    0.78 |   9.00    1.68 | 15.25    1.80 | 21.50    0.72
                   3.00    0.78 |   9.25    1.92 | 15.50    1.80 | 21.75    0.72
                   3.25    0.78 |   9.50    1.92 | 15.75    1.80 | 22.00    0.72
                   3.50    0.78 |   9.75    2.16 | 16.00    1.80 | 22.25    0.72
                   3.75    0.78 |  10.00    2.16 | 16.25    1.08 | 22.50    0.72
                   4.00    0.78 |  10.25    2.77 | 16.50    1.08 | 22.75    0.72
                   4.25    0.96 |  10.50    2.77 | 16.75    1.08 | 23.00    0.72
                   4.50    0.96 |  10.75    3.73 | 17.00    1.08 | 23.25    0.72
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                   4.75    0.96 | 11.00    3.73 | 17.25    1.08 | 23.50    0.72
                   5.00    0.96 | 11.25    5.77 | 17.50    1.08 | 23.75    0.72
                   5.25    0.96 | 11.50    5.77 | 17.75    1.08 | 24.00    0.72
                   5.50    0.96 | 11.75   17.80 | 18.00    1.08 |
                   5.75    0.96 | 12.00   73.60 | 18.25    1.08 |
                   6.00    0.96 | 12.25    8.66 | 18.50    1.08 |

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| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=  10.54   Curve Number   (CN)= 77.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.15   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

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


                               ---- TRANSFORMED HYETOGRAPH ----
                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.083    0.00 | 6.167    0.96 |12.250   73.60 | 18.33    1.08
                 0.167    0.00 | 6.250    0.96 |12.333    8.67 | 18.42    1.08
                 0.250    0.00 | 6.333    1.08 |12.417    8.66 | 18.50    1.08
                 0.333    0.66 | 6.417    1.08 |12.500    8.66 | 18.58    1.08
                 0.417    0.66 | 6.500    1.08 |12.583    8.66 | 18.67    1.08
                 0.500    0.66 | 6.583    1.08 |12.667    8.66 | 18.75    1.08
                 0.583    0.66 | 6.667    1.08 |12.750    8.66 | 18.83    1.08
                 0.667    0.66 | 6.750    1.08 |12.833    4.45 | 18.92    1.08
                 0.750    0.66 | 6.833    1.08 |12.917    4.45 | 19.00    1.08
                 0.833    0.66 | 6.917    1.08 |13.000    4.45 | 19.08    1.08
                 0.917    0.66 | 7.000    1.08 |13.083    4.45 | 19.17    1.08
                 1.000    0.66 | 7.083    1.08 |13.167    4.45 | 19.25    1.08
                 1.083    0.66 | 7.167    1.08 |13.250    4.45 | 19.33    1.08
                 1.167    0.66 | 7.250    1.08 |13.333    3.25 | 19.42    1.08
                 1.250    0.66 | 7.333    1.32 |13.417    3.25 | 19.50    1.08
                 1.333    0.66 | 7.417    1.32 |13.500    3.25 | 19.58    1.08
                 1.417    0.66 | 7.500    1.32 |13.583    3.25 | 19.67    1.08
                 1.500    0.66 | 7.583    1.32 |13.667    3.25 | 19.75    1.08
                 1.583    0.66 | 7.667    1.32 |13.750    3.25 | 19.83    1.08
                 1.667    0.66 | 7.750    1.32 |13.833    2.53 | 19.92    1.08
                 1.750    0.66 | 7.833    1.32 |13.917    2.53 | 20.00    1.08
                 1.833    0.66 | 7.917    1.32 |14.000    2.53 | 20.08    1.08
                 1.917    0.66 | 8.000    1.32 |14.083    2.53 | 20.17    1.08
                 2.000    0.66 | 8.083    1.32 |14.167    2.53 | 20.25    1.08
                 2.083    0.66 | 8.167    1.32 |14.250    2.53 | 20.33    0.72
                 2.167    0.66 | 8.250    1.32 |14.333    1.80 | 20.42    0.72
                 2.250    0.66 | 8.333    1.56 |14.417    1.80 | 20.50    0.72
                 2.333    0.78 | 8.417    1.56 |14.500    1.80 | 20.58    0.72
                 2.417    0.78 | 8.500    1.56 |14.583    1.80 | 20.67    0.72
                 2.500    0.78 | 8.583    1.56 |14.667    1.80 | 20.75    0.72
                 2.583    0.78 | 8.667    1.56 |14.750    1.80 | 20.83    0.72
                 2.667    0.78 | 8.750    1.56 |14.833    1.80 | 20.92    0.72
                 2.750    0.78 | 8.833    1.68 |14.917    1.80 | 21.00    0.72
                 2.833    0.78 | 8.917    1.68 |15.000    1.80 | 21.08    0.72
                 2.917    0.78 | 9.000    1.68 |15.083    1.80 | 21.17    0.72
                 3.000    0.78 | 9.083    1.68 |15.167    1.80 | 21.25    0.72
                 3.083    0.78 | 9.167    1.68 |15.250    1.80 | 21.33    0.72
                 3.167    0.78 | 9.250    1.68 |15.333    1.80 | 21.42    0.72
                 3.250    0.78 | 9.333    1.92 |15.417    1.80 | 21.50    0.72
                 3.333    0.78 | 9.417    1.92 |15.500    1.80 | 21.58    0.72
                 3.417    0.78 | 9.500    1.92 |15.583    1.80 | 21.67    0.72
                 3.500    0.78 | 9.583    1.92 |15.667    1.80 | 21.75    0.72
                 3.583    0.78 | 9.667    1.92 |15.750    1.80 | 21.83    0.72
                 3.667    0.78 | 9.750    1.92 |15.833    1.80 | 21.92    0.72
                 3.750    0.78 | 9.833    2.16 |15.917    1.80 | 22.00    0.72
                 3.833    0.78 | 9.917    2.16 |16.000    1.80 | 22.08    0.72
                 3.917    0.78 |10.000    2.16 |16.083    1.80 | 22.17    0.72
                 4.000    0.78 |10.083    2.16 |16.167    1.80 | 22.25    0.72
                 4.083    0.78 |10.167    2.16 |16.250    1.80 | 22.33    0.72
                 4.167    0.78 |10.250    2.16 |16.333    1.08 | 22.42    0.72
                 4.250    0.78 |10.333    2.77 |16.417    1.08 | 22.50    0.72
                 4.333    0.96 |10.417    2.77 |16.500    1.08 | 22.58    0.72
                 4.417    0.96 |10.500    2.77 |16.583    1.08 | 22.67    0.72
                 4.500    0.96 |10.583    2.77 |16.667    1.08 | 22.75    0.72
                 4.583    0.96 |10.667    2.77 |16.750    1.08 | 22.83    0.72
                 4.667    0.96 |10.750    2.77 |16.833    1.08 | 22.92    0.72
                 4.750    0.96 |10.833    3.73 |16.917    1.08 | 23.00    0.72
                 4.833    0.96 |10.917    3.73 |17.000    1.08 | 23.08    0.72
                 4.917    0.96 |11.000    3.73 |17.083    1.08 | 23.17    0.72
                 5.000    0.96 |11.083    3.73 |17.167    1.08 | 23.25    0.72
                 5.083    0.96 |11.167    3.73 |17.250    1.08 | 23.33    0.72
                 5.167    0.96 |11.250    3.73 |17.333    1.08 | 23.42    0.72
                 5.250    0.96 |11.333    5.77 |17.417    1.08 | 23.50    0.72
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                5.333    0.96 |11.417    5.77 |17.500    1.08 | 23.58    0.72
                5.417    0.96 |11.500    5.77 |17.583    1.08 | 23.67    0.72
                5.500    0.96 |11.583    5.77 |17.667    1.08 | 23.75    0.72
                5.583    0.96 |11.667    5.77 |17.750    1.08 | 23.83    0.72
                5.667    0.96 |11.750    5.77 |17.833    1.08 | 23.92    0.72
                5.750    0.96 |11.833   17.80 |17.917    1.08 | 24.00    0.72
                5.833    0.96 |11.917   17.80 |18.000    1.08 | 24.08    0.72
                5.917    0.96 |12.000   17.80 |18.083    1.08 | 24.17    0.72
                6.000    0.96 |12.083   73.59 |18.167    1.08 | 24.25    0.72
                6.083    0.96 |12.167   73.60 |18.250    1.08 |

     Unit Hyd Qpeak  (cms)=   0.575

     PEAK FLOW       (cms)=   0.241 (i)
     TIME TO PEAK    (hrs)=  12.917
     RUNOFF VOLUME    (mm)=  22.076
     TOTAL RAINFALL   (mm)=  60.130
     RUNOFF COEFFICIENT   =   0.367

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

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| CALIB             |
| NASHYD   (  0002)|   Area    (ha)=   1.57   Curve Number   (CN)= 71.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.35

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME     RAIN |  TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                  hrs    mm/hr |   hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
                0.083    0.00 | 6.167    0.96 |12.250   73.60 | 18.33    1.08
                0.167    0.00 | 6.250    0.96 |12.333    8.67 | 18.42    1.08
                0.250    0.00 | 6.333    1.08 |12.417    8.66 | 18.50    1.08
                0.333    0.66 | 6.417    1.08 |12.500    8.66 | 18.58    1.08
                0.417    0.66 | 6.500    1.08 |12.583    8.66 | 18.67    1.08
                0.500    0.66 | 6.583    1.08 |12.667    8.66 | 18.75    1.08
                0.583    0.66 | 6.667    1.08 |12.750    8.66 | 18.83    1.08
                0.667    0.66 | 6.750    1.08 |12.833    4.45 | 18.92    1.08
                0.750    0.66 | 6.833    1.08 |12.917    4.45 | 19.00    1.08
                0.833    0.66 | 6.917    1.08 |13.000    4.45 | 19.08    1.08
                0.917    0.66 | 7.000    1.08 |13.083    4.45 | 19.17    1.08
                1.000    0.66 | 7.083    1.08 |13.167    4.45 | 19.25    1.08
                1.083    0.66 | 7.167    1.08 |13.250    4.45 | 19.33    1.08
                1.167    0.66 | 7.250    1.08 |13.333    3.25 | 19.42    1.08
                1.250    0.66 | 7.333    1.32 |13.417    3.25 | 19.50    1.08
                1.333    0.66 | 7.417    1.32 |13.500    3.25 | 19.58    1.08
                1.417    0.66 | 7.500    1.32 |13.583    3.25 | 19.67    1.08
                1.500    0.66 | 7.583    1.32 |13.667    3.25 | 19.75    1.08
                1.583    0.66 | 7.667    1.32 |13.750    3.25 | 19.83    1.08
                1.667    0.66 | 7.750    1.32 |13.833    2.53 | 19.92    1.08
                1.750    0.66 | 7.833    1.32 |13.917    2.53 | 20.00    1.08
                1.833    0.66 | 7.917    1.32 |14.000    2.53 | 20.08    1.08
                1.917    0.66 | 8.000    1.32 |14.083    2.53 | 20.17    1.08
                2.000    0.66 | 8.083    1.32 |14.167    2.53 | 20.25    1.08
                2.083    0.66 | 8.167    1.32 |14.250    2.53 | 20.33    0.72
                2.167    0.66 | 8.250    1.32 |14.333    1.80 | 20.42    0.72
                2.250    0.66 | 8.333    1.56 |14.417    1.80 | 20.50    0.72
                2.333    0.78 | 8.417    1.56 |14.500    1.80 | 20.58    0.72
                2.417    0.78 | 8.500    1.56 |14.583    1.80 | 20.67    0.72
                2.500    0.78 | 8.583    1.56 |14.667    1.80 | 20.75    0.72
                2.583    0.78 | 8.667    1.56 |14.750    1.80 | 20.83    0.72
                2.667    0.78 | 8.750    1.56 |14.833    1.80 | 20.92    0.72
                2.750    0.78 | 8.833    1.68 |14.917    1.80 | 21.00    0.72
                2.833    0.78 | 8.917    1.68 |15.000    1.80 | 21.08    0.72
                2.917    0.78 | 9.000    1.68 |15.083    1.80 | 21.17    0.72
                3.000    0.78 | 9.083    1.68 |15.167    1.80 | 21.25    0.72
                3.083    0.78 | 9.167    1.68 |15.250    1.80 | 21.33    0.72
                3.167    0.78 | 9.250    1.68 |15.333    1.80 | 21.42    0.72
                3.250    0.78 | 9.333    1.92 |15.417    1.80 | 21.50    0.72
                3.333    0.78 | 9.417    1.92 |15.500    1.80 | 21.58    0.72
                3.417    0.78 | 9.500    1.92 |15.583    1.80 | 21.67    0.72
                3.500    0.78 | 9.583    1.92 |15.667    1.80 | 21.75    0.72
                3.583    0.78 | 9.667    1.92 |15.750    1.80 | 21.83    0.72
                3.667    0.78 | 9.750    1.92 |15.833    1.80 | 21.92    0.72
                3.750    0.78 | 9.833    2.16 |15.917    1.80 | 22.00    0.72
                3.833    0.78 | 9.917    2.16 |16.000    1.80 | 22.08    0.72
                3.917    0.78 |10.000    2.16 |16.083    1.80 | 22.17    0.72
                4.000    0.78 |10.083    2.16 |16.167    1.80 | 22.25    0.72
                4.083    0.78 |10.167    2.16 |16.250    1.80 | 22.33    0.72
                4.167    0.78 |10.250    2.16 |16.333    1.08 | 22.42    0.72
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                4.250    0.78 |10.333    2.77 |16.417    1.08 | 22.50    0.72
                4.333    0.96 |10.417    2.77 |16.500    1.08 | 22.58    0.72
                4.417    0.96 |10.500    2.77 |16.583    1.08 | 22.67    0.72
                4.500    0.96 |10.583    2.77 |16.667    1.08 | 22.75    0.72
                4.583    0.96 |10.667    2.77 |16.750    1.08 | 22.83    0.72
                4.667    0.96 |10.750    2.77 |16.833    1.08 | 22.92    0.72
                4.750    0.96 |10.833    3.73 |16.917    1.08 | 23.00    0.72
                4.833    0.96 |10.917    3.73 |17.000    1.08 | 23.08    0.72
                4.917    0.96 |11.000    3.73 |17.083    1.08 | 23.17    0.72
                5.000    0.96 |11.083    3.73 |17.167    1.08 | 23.25    0.72
                5.083    0.96 |11.167    3.73 |17.250    1.08 | 23.33    0.72
                5.167    0.96 |11.250    3.73 |17.333    1.08 | 23.42    0.72
                5.250    0.96 |11.333    5.77 |17.417    1.08 | 23.50    0.72
                5.333    0.96 |11.417    5.77 |17.500    1.08 | 23.58    0.72
                5.417    0.96 |11.500    5.77 |17.583    1.08 | 23.67    0.72
                5.500    0.96 |11.583    5.77 |17.667    1.08 | 23.75    0.72
                5.583    0.96 |11.667    5.77 |17.750    1.08 | 23.83    0.72
                5.667    0.96 |11.750    5.77 |17.833    1.08 | 23.92    0.72
                5.750    0.96 |11.833   17.80 |17.917    1.08 | 24.00    0.72
                5.833    0.96 |11.917   17.80 |18.000    1.08 | 24.08    0.72
                5.917    0.96 |12.000   17.80 |18.083    1.08 | 24.17    0.72
                6.000    0.96 |12.083   73.59 |18.167    1.08 | 24.25    0.72
                6.083    0.96 |12.167   73.60 |18.250    1.08 |

     Unit Hyd Qpeak  (cms)=   0.171

     PEAK FLOW       (cms)=   0.046 (i)
     TIME TO PEAK    (hrs)=  12.500
     RUNOFF VOLUME    (mm)=  17.430
     TOTAL RAINFALL   (mm)=  60.130
     RUNOFF COEFFICIENT   =   0.290

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

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| CALIB             |
| NASHYD   (  0003)|   Area    (ha)=   7.36   Curve Number   (CN)= 75.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.50

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME     RAIN |  TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                  hrs    mm/hr |   hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
                0.083    0.00 | 6.167    0.96 |12.250   73.60 | 18.33    1.08
                0.167    0.00 | 6.250    0.96 |12.333    8.67 | 18.42    1.08
                0.250    0.00 | 6.333    1.08 |12.417    8.66 | 18.50    1.08
                0.333    0.66 | 6.417    1.08 |12.500    8.66 | 18.58    1.08
                0.417    0.66 | 6.500    1.08 |12.583    8.66 | 18.67    1.08
                0.500    0.66 | 6.583    1.08 |12.667    8.66 | 18.75    1.08
                0.583    0.66 | 6.667    1.08 |12.750    8.66 | 18.83    1.08
                0.667    0.66 | 6.750    1.08 |12.833    4.45 | 18.92    1.08
                0.750    0.66 | 6.833    1.08 |12.917    4.45 | 19.00    1.08
                0.833    0.66 | 6.917    1.08 |13.000    4.45 | 19.08    1.08
                0.917    0.66 | 7.000    1.08 |13.083    4.45 | 19.17    1.08
                1.000    0.66 | 7.083    1.08 |13.167    4.45 | 19.25    1.08
                1.083    0.66 | 7.167    1.08 |13.250    4.45 | 19.33    1.08
                1.167    0.66 | 7.250    1.08 |13.333    3.25 | 19.42    1.08
                1.250    0.66 | 7.333    1.32 |13.417    3.25 | 19.50    1.08
                1.333    0.66 | 7.417    1.32 |13.500    3.25 | 19.58    1.08
                1.417    0.66 | 7.500    1.32 |13.583    3.25 | 19.67    1.08
                1.500    0.66 | 7.583    1.32 |13.667    3.25 | 19.75    1.08
                1.583    0.66 | 7.667    1.32 |13.750    3.25 | 19.83    1.08
                1.667    0.66 | 7.750    1.32 |13.833    2.53 | 19.92    1.08
                1.750    0.66 | 7.833    1.32 |13.917    2.53 | 20.00    1.08
                1.833    0.66 | 7.917    1.32 |14.000    2.53 | 20.08    1.08
                1.917    0.66 | 8.000    1.32 |14.083    2.53 | 20.17    1.08
                2.000    0.66 | 8.083    1.32 |14.167    2.53 | 20.25    1.08
                2.083    0.66 | 8.167    1.32 |14.250    2.53 | 20.33    0.72
                2.167    0.66 | 8.250    1.32 |14.333    1.80 | 20.42    0.72
                2.250    0.66 | 8.333    1.56 |14.417    1.80 | 20.50    0.72
                2.333    0.78 | 8.417    1.56 |14.500    1.80 | 20.58    0.72
                2.417    0.78 | 8.500    1.56 |14.583    1.80 | 20.67    0.72
                2.500    0.78 | 8.583    1.56 |14.667    1.80 | 20.75    0.72
                2.583    0.78 | 8.667    1.56 |14.750    1.80 | 20.83    0.72
                2.667    0.78 | 8.750    1.56 |14.833    1.80 | 20.92    0.72
                2.750    0.78 | 8.833    1.68 |14.917    1.80 | 21.00    0.72
                2.833    0.78 | 8.917    1.68 |15.000    1.80 | 21.08    0.72
                2.917    0.78 | 9.000    1.68 |15.083    1.80 | 21.17    0.72
                3.000    0.78 | 9.083    1.68 |15.167    1.80 | 21.25    0.72
                3.083    0.78 | 9.167    1.68 |15.250    1.80 | 21.33    0.72
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               3.167    0.78 | 9.250    1.68 |15.333    1.80 | 21.42    0.72
               3.250    0.78 | 9.333    1.92 |15.417    1.80 | 21.50    0.72
               3.333    0.78 | 9.417    1.92 |15.500    1.80 | 21.58    0.72
               3.417    0.78 | 9.500    1.92 |15.583    1.80 | 21.67    0.72
               3.500    0.78 | 9.583    1.92 |15.667    1.80 | 21.75    0.72
               3.583    0.78 | 9.667    1.92 |15.750    1.80 | 21.83    0.72
               3.667    0.78 | 9.750    1.92 |15.833    1.80 | 21.92    0.72
               3.750    0.78 | 9.833    2.16 |15.917    1.80 | 22.00    0.72
               3.833    0.78 | 9.917    2.16 |16.000    1.80 | 22.08    0.72
               3.917    0.78 |10.000    2.16 |16.083    1.80 | 22.17    0.72
               4.000    0.78 |10.083    2.16 |16.167    1.80 | 22.25    0.72
               4.083    0.78 |10.167    2.16 |16.250    1.80 | 22.33    0.72
               4.167    0.78 |10.250    2.16 |16.333    1.08 | 22.42    0.72
               4.250    0.78 |10.333    2.77 |16.417    1.08 | 22.50    0.72
               4.333    0.96 |10.417    2.77 |16.500    1.08 | 22.58    0.72
               4.417    0.96 |10.500    2.77 |16.583    1.08 | 22.67    0.72
               4.500    0.96 |10.583    2.77 |16.667    1.08 | 22.75    0.72
               4.583    0.96 |10.667    2.77 |16.750    1.08 | 22.83    0.72
               4.667    0.96 |10.750    2.77 |16.833    1.08 | 22.92    0.72
               4.750    0.96 |10.833    3.73 |16.917    1.08 | 23.00    0.72
               4.833    0.96 |10.917    3.73 |17.000    1.08 | 23.08    0.72
               4.917    0.96 |11.000    3.73 |17.083    1.08 | 23.17    0.72
               5.000    0.96 |11.083    3.73 |17.167    1.08 | 23.25    0.72
               5.083    0.96 |11.167    3.73 |17.250    1.08 | 23.33    0.72
               5.167    0.96 |11.250    3.73 |17.333    1.08 | 23.42    0.72
               5.250    0.96 |11.333    5.77 |17.417    1.08 | 23.50    0.72
               5.333    0.96 |11.417    5.77 |17.500    1.08 | 23.58    0.72
               5.417    0.96 |11.500    5.77 |17.583    1.08 | 23.67    0.72
               5.500    0.96 |11.583    5.77 |17.667    1.08 | 23.75    0.72
               5.583    0.96 |11.667    5.77 |17.750    1.08 | 23.83    0.72
               5.667    0.96 |11.750    5.77 |17.833    1.08 | 23.92    0.72
               5.750    0.96 |11.833   17.80 |17.917    1.08 | 24.00    0.72
               5.833    0.96 |11.917   17.80 |18.000    1.08 | 24.08    0.72
               5.917    0.96 |12.000   17.80 |18.083    1.08 | 24.17    0.72
               6.000    0.96 |12.083   73.59 |18.167    1.08 | 24.25    0.72
               6.083    0.96 |12.167   73.60 |18.250    1.08 |

     Unit Hyd Qpeak  (cms)=   0.562

     PEAK FLOW       (cms)=   0.202 (i)
     TIME TO PEAK    (hrs)=  12.667
     RUNOFF VOLUME    (mm)=  20.908
     TOTAL RAINFALL   (mm)=  60.130
     RUNOFF COEFFICIENT   =   0.348

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

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--------------------
| CALIB              |
| NASHYD   (  0004)|   Area    (ha)=    5.75   Curve Number   (CN)= 74.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=    6.83   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.45

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


                               ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 6.167    0.96 |12.250   73.60 | 18.33    1.08
               0.167    0.00 | 6.250    0.96 |12.333    8.67 | 18.42    1.08
               0.250    0.00 | 6.333    1.08 |12.417    8.66 | 18.50    1.08
               0.333    0.66 | 6.417    1.08 |12.500    8.66 | 18.58    1.08
               0.417    0.66 | 6.500    1.08 |12.583    8.66 | 18.67    1.08
               0.500    0.66 | 6.583    1.08 |12.667    8.66 | 18.75    1.08
               0.583    0.66 | 6.667    1.08 |12.750    8.66 | 18.83    1.08
               0.667    0.66 | 6.750    1.08 |12.833    4.45 | 18.92    1.08
               0.750    0.66 | 6.833    1.08 |12.917    4.45 | 19.00    1.08
               0.833    0.66 | 6.917    1.08 |13.000    4.45 | 19.08    1.08
               0.917    0.66 | 7.000    1.08 |13.083    4.45 | 19.17    1.08
               1.000    0.66 | 7.083    1.08 |13.167    4.45 | 19.25    1.08
               1.083    0.66 | 7.167    1.08 |13.250    4.45 | 19.33    1.08
               1.167    0.66 | 7.250    1.08 |13.333    3.25 | 19.42    1.08
               1.250    0.66 | 7.333    1.32 |13.417    3.25 | 19.50    1.08
               1.333    0.66 | 7.417    1.32 |13.500    3.25 | 19.58    1.08
               1.417    0.66 | 7.500    1.32 |13.583    3.25 | 19.67    1.08
               1.500    0.66 | 7.583    1.32 |13.667    3.25 | 19.75    1.08
               1.583    0.66 | 7.667    1.32 |13.750    3.25 | 19.83    1.08
               1.667    0.66 | 7.750    1.32 |13.833    2.53 | 19.92    1.08
               1.750    0.66 | 7.833    1.32 |13.917    2.53 | 20.00    1.08
               1.833    0.66 | 7.917    1.32 |14.000    2.53 | 20.08    1.08
               1.917    0.66 | 8.000    1.32 |14.083    2.53 | 20.17    1.08
               2.000    0.66 | 8.083    1.32 |14.167    2.53 | 20.25    1.08
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               2.083    0.66 | 8.167    1.32 |14.250    2.53 | 20.33    0.72
               2.167    0.66 | 8.250    1.32 |14.333    1.80 | 20.42    0.72
               2.250    0.66 | 8.333    1.56 |14.417    1.80 | 20.50    0.72
               2.333    0.78 | 8.417    1.56 |14.500    1.80 | 20.58    0.72
               2.417    0.78 | 8.500    1.56 |14.583    1.80 | 20.67    0.72
               2.500    0.78 | 8.583    1.56 |14.667    1.80 | 20.75    0.72
               2.583    0.78 | 8.667    1.56 |14.750    1.80 | 20.83    0.72
               2.667    0.78 | 8.750    1.68 |14.833    1.80 | 20.92    0.72
               2.750    0.78 | 8.833    1.68 |14.917    1.80 | 21.00    0.72
               2.833    0.78 | 8.917    1.68 |15.000    1.80 | 21.08    0.72
               2.917    0.78 | 9.000    1.68 |15.083    1.80 | 21.17    0.72
               3.000    0.78 | 9.083    1.68 |15.167    1.80 | 21.25    0.72
               3.083    0.78 | 9.167    1.68 |15.250    1.80 | 21.33    0.72
               3.167    0.78 | 9.250    1.68 |15.333    1.80 | 21.42    0.72
               3.250    0.78 | 9.333    1.92 |15.417    1.80 | 21.50    0.72
               3.333    0.78 | 9.417    1.92 |15.500    1.80 | 21.58    0.72
               3.417    0.78 | 9.500    1.92 |15.583    1.80 | 21.67    0.72
               3.500    0.78 | 9.583    1.92 |15.667    1.80 | 21.75    0.72
               3.583    0.78 | 9.667    1.92 |15.750    1.80 | 21.83    0.72
               3.667    0.78 | 9.750    1.92 |15.833    1.80 | 21.92    0.72
               3.750    0.78 | 9.833    2.16 |15.917    1.80 | 22.00    0.72
               3.833    0.78 | 9.917    2.16 |16.000    1.80 | 22.08    0.72
               3.917    0.78 |10.000    2.16 |16.083    1.80 | 22.17    0.72
               4.000    0.78 |10.083    2.16 |16.167    1.80 | 22.25    0.72
               4.083    0.78 |10.167    2.16 |16.250    1.80 | 22.33    0.72
               4.167    0.78 |10.250    2.16 |16.333    1.08 | 22.42    0.72
               4.250    0.78 |10.333    2.77 |16.417    1.08 | 22.50    0.72
               4.333    0.96 |10.417    2.77 |16.500    1.08 | 22.58    0.72
               4.417    0.96 |10.500    2.77 |16.583    1.08 | 22.67    0.72
               4.500    0.96 |10.583    2.77 |16.667    1.08 | 22.75    0.72
               4.583    0.96 |10.667    2.77 |16.750    1.08 | 22.83    0.72
               4.667    0.96 |10.750    2.77 |16.833    1.08 | 22.92    0.72
               4.750    0.96 |10.833    3.73 |16.917    1.08 | 23.00    0.72
               4.833    0.96 |10.917    3.73 |17.000    1.08 | 23.08    0.72
               4.917    0.96 |11.000    3.73 |17.083    1.08 | 23.17    0.72
               5.000    0.96 |11.083    3.73 |17.167    1.08 | 23.25    0.72
               5.083    0.96 |11.167    3.73 |17.250    1.08 | 23.33    0.72
               5.167    0.96 |11.250    3.73 |17.333    1.08 | 23.42    0.72
               5.250    0.96 |11.333    5.77 |17.417    1.08 | 23.50    0.72
               5.333    0.96 |11.417    5.77 |17.500    1.08 | 23.58    0.72
               5.417    0.96 |11.500    5.77 |17.583    1.08 | 23.67    0.72
               5.500    0.96 |11.583    5.77 |17.667    1.08 | 23.75    0.72
               5.583    0.96 |11.667    5.77 |17.750    1.08 | 23.83    0.72
               5.667    0.96 |11.750    5.77 |17.833    1.08 | 23.92    0.72
               5.750    0.96 |11.833   17.80 |17.917    1.08 | 24.00    0.72
               5.833    0.96 |11.917   17.80 |18.000    1.08 | 24.08    0.72
               5.917    0.96 |12.000   17.80 |18.083    1.08 | 24.17    0.72
               6.000    0.96 |12.083   73.59 |18.167    1.08 | 24.25    0.72
               6.083    0.96 |12.167   73.60 |18.250    1.08 |

     Unit Hyd Qpeak  (cms)=   0.488

     PEAK FLOW       (cms)=   0.163 (i)
     TIME TO PEAK    (hrs)=  12.583
     RUNOFF VOLUME    (mm)=  20.058
     TOTAL RAINFALL   (mm)=  60.130
     RUNOFF COEFFICIENT   =   0.334

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

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| CALIB              |
| NASHYD   (  0010)|   Area    (ha)=   14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=    7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.57

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


                               ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 6.167    0.96 |12.250   73.60 | 18.33    1.08
               0.167    0.00 | 6.250    0.96 |12.333    8.67 | 18.42    1.08
               0.250    0.00 | 6.333    1.08 |12.417    8.66 | 18.50    1.08
               0.333    0.66 | 6.417    1.08 |12.500    8.66 | 18.58    1.08
               0.417    0.66 | 6.500    1.08 |12.583    8.66 | 18.67    1.08
               0.500    0.66 | 6.583    1.08 |12.667    8.66 | 18.75    1.08
               0.583    0.66 | 6.667    1.08 |12.750    8.66 | 18.83    1.08
               0.667    0.66 | 6.750    1.08 |12.833    4.45 | 18.92    1.08
               0.750    0.66 | 6.833    1.08 |12.917    4.45 | 19.00    1.08
               0.833    0.66 | 6.917    1.08 |13.000    4.45 | 19.08    1.08
               0.917    0.66 | 7.000    1.08 |13.083    4.45 | 19.17    1.08
               1.000      0.66 | 7.083      1.08 |13.167      4.45 | 19.25      1.08
               1.083      0.66 | 7.167      1.08 |13.250      4.45 | 19.33      1.08
               1.167      0.66 | 7.250      1.08 |13.333      3.25 | 19.42      1.08
               1.250      0.66 | 7.333      1.32 |13.417      3.25 | 19.50      1.08
               1.333      0.66 | 7.417      1.32 |13.500      3.25 | 19.58      1.08
               1.417      0.66 | 7.500      1.32 |13.583      3.25 | 19.67      1.08
               1.500      0.66 | 7.583      1.32 |13.667      3.25 | 19.75      1.08
               1.583      0.66 | 7.667      1.32 |13.750      3.25 | 19.83      1.08
               1.667      0.66 | 7.750      1.32 |13.833      2.53 | 19.92      1.08
               1.750      0.66 | 7.833      1.32 |13.917      2.53 | 20.00      1.08
               1.833      0.66 | 7.917      1.32 |14.000      2.53 | 20.08      1.08
               1.917      0.66 | 8.000      1.32 |14.083      2.53 | 20.17      1.08
               2.000      0.66 | 8.083      1.32 |14.167      2.53 | 20.25      1.08
               2.083      0.66 | 8.167      1.32 |14.250      2.53 | 20.33      0.72
               2.167      0.66 | 8.250      1.32 |14.333      1.80 | 20.42      0.72
               2.250      0.66 | 8.333      1.56 |14.417      1.80 | 20.50      0.72
               2.333      0.78 | 8.417      1.56 |14.500      1.80 | 20.58      0.72
               2.417      0.78 | 8.500      1.56 |14.583      1.80 | 20.67      0.72
               2.500      0.78 | 8.583      1.56 |14.667      1.80 | 20.75      0.72
               2.583      0.78 | 8.667      1.56 |14.750      1.80 | 20.83      0.72
               2.667      0.78 | 8.750      1.56 |14.833      1.80 | 20.92      0.72
               2.750      0.78 | 8.833      1.68 |14.917      1.80 | 21.00      0.72
               2.833      0.78 | 8.917      1.68 |15.000      1.80 | 21.08      0.72
               2.917      0.78 | 9.000      1.68 |15.083      1.80 | 21.17      0.72
               3.000      0.78 | 9.083      1.68 |15.167      1.80 | 21.25      0.72
               3.083      0.78 | 9.167      1.68 |15.250      1.80 | 21.33      0.72
               3.167      0.78 | 9.250      1.68 |15.333      1.80 | 21.42      0.72
               3.250      0.78 | 9.333      1.92 |15.417      1.80 | 21.50      0.72
               3.333      0.78 | 9.417      1.92 |15.500      1.80 | 21.58      0.72
               3.417      0.78 | 9.500      1.92 |15.583      1.80 | 21.67      0.72
               3.500      0.78 | 9.583      1.92 |15.667      1.80 | 21.75      0.72
               3.583      0.78 | 9.667      1.92 |15.750      1.80 | 21.83      0.72
               3.667      0.78 | 9.750      1.92 |15.833      1.80 | 21.92      0.72
               3.750      0.78 | 9.833      2.16 |15.917      1.80 | 22.00      0.72
               3.833      0.78 | 9.917      2.16 |16.000      1.80 | 22.08      0.72
               3.917      0.78 |10.000      2.16 |16.083      1.80 | 22.17      0.72
               4.000      0.78 |10.083      2.16 |16.167      1.80 | 22.25      0.72
               4.083      0.78 |10.167      2.16 |16.250      1.80 | 22.33      0.72
               4.167      0.78 |10.250      2.16 |16.333      1.08 | 22.42      0.72
               4.250      0.78 |10.333      2.77 |16.417      1.08 | 22.50      0.72
               4.333      0.96 |10.417      2.77 |16.500      1.08 | 22.58      0.72
               4.417      0.96 |10.500      2.77 |16.583      1.08 | 22.67      0.72
               4.500      0.96 |10.583      2.77 |16.667      1.08 | 22.75      0.72
               4.583      0.96 |10.667      2.77 |16.750      1.08 | 22.83      0.72
               4.667      0.96 |10.750      2.77 |16.833      1.08 | 22.92      0.72
               4.750      0.96 |10.833      3.73 |16.917      1.08 | 23.00      0.72
               4.833      0.96 |10.917      3.73 |17.000      1.08 | 23.08      0.72
               4.917      0.96 |11.000      3.73 |17.083      1.08 | 23.17      0.72
               5.000      0.96 |11.083      3.73 |17.167      1.08 | 23.25      0.72
               5.083      0.96 |11.167      3.73 |17.250      1.08 | 23.33      0.72
               5.167      0.96 |11.250      3.73 |17.333      1.08 | 23.42      0.72
               5.250      0.96 |11.333      5.77 |17.417      1.08 | 23.50      0.72
               5.333      0.96 |11.417      5.77 |17.500      1.08 | 23.58      0.72
               5.417      0.96 |11.500      5.77 |17.583      1.08 | 23.67      0.72
               5.500      0.96 |11.583      5.77 |17.667      1.08 | 23.75      0.72
               5.583      0.96 |11.667      5.77 |17.750      1.08 | 23.83      0.72
               5.667      0.96 |11.750      5.77 |17.833      1.08 | 23.92      0.72
               5.750      0.96 |11.833     17.80 |17.917      1.08 | 24.00      0.72
               5.833      0.96 |11.917     17.80 |18.000      1.08 | 24.08      0.72
               5.917      0.96 |12.000     17.80 |18.083      1.08 | 24.17      0.72
               6.000      0.96 |12.083     73.59 |18.167      1.08 | 24.25      0.72
               6.083      0.96 |12.167     73.60 |18.250      1.08 |

    Unit Hyd Qpeak  (cms)=   0.972

    PEAK FLOW       (cms)=   0.380 (i)
    TIME TO PEAK    (hrs)=  12.750
    RUNOFF VOLUME    (mm)=  21.796
    TOTAL RAINFALL   (mm)=  60.130
    RUNOFF COEFFICIENT   =   0.362

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

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| ADD HYD  (  0009)|
|  1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0010):      14.50   0.380    12.75     21.80
     + ID2= 2 (  0002):       1.57   0.046    12.50     17.43
       ==================================================
       ID = 3 (  0009):      16.07   0.416    12.75     21.37
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     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0009)|
|  3 +  2 =  1     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0009):     16.07   0.416    12.75     21.37
      + ID2= 2 (  0003):      7.36   0.202    12.67     20.91
        ==================================================
        ID = 1 (  0009):     23.43   0.619    12.67     21.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0009)|
|  1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0009):     23.43   0.619    12.67     21.22
      + ID2= 2 (  0004):      5.75   0.163    12.58     20.06
        ==================================================
        ID = 3 (  0009):     29.18   0.779    12.67     20.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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**********************************************
** SIMULATION:H. 5yr 24hr 15min SCS Type II **
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--------------------
|    READ STORM    |    Filename: C:\Users\noconnor\AppD
|                  |              ata\Local\Temp\
|                  |              49753dce-993e-48a5-8960-fc674d25ac10\e01076bb
| Ptotal= 79.65 mm |    Comments: 5yr 24hr 15min SCS Type II
--------------------
                  TIME     RAIN |   TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                   hrs    mm/hr |    hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
                  0.00     0.00 |   6.25     1.43 | 12.50    11.47 | 18.75     1.43
                  0.25     0.88 |   6.50     1.43 | 12.75     5.89 | 19.00     1.43
                  0.50     0.88 |   6.75     1.43 | 13.00     5.89 | 19.25     1.43
                  0.75     0.88 |   7.00     1.43 | 13.25     4.30 | 19.50     1.43
                  1.00     0.88 |   7.25     1.75 | 13.50     4.30 | 19.75     1.43
                  1.25     0.88 |   7.50     1.75 | 13.75     3.35 | 20.00     1.43
                  1.50     0.88 |   7.75     1.75 | 14.00     3.35 | 20.25     0.96
                  1.75     0.88 |   8.00     1.75 | 14.25     2.39 | 20.50     0.96
                  2.00     0.88 |   8.25     2.07 | 14.50     2.39 | 20.75     0.96
                  2.25     1.04 |   8.50     2.07 | 14.75     2.39 | 21.00     0.96
                  2.50     1.04 |   8.75     2.23 | 15.00     2.39 | 21.25     0.96
                  2.75     1.04 |   9.00     2.23 | 15.25     2.39 | 21.50     0.96
                  3.00     1.04 |   9.25     2.55 | 15.50     2.39 | 21.75     0.96
                  3.25     1.04 |   9.50     2.55 | 15.75     2.39 | 22.00     0.96
                  3.50     1.04 |   9.75     2.87 | 16.00     2.39 | 22.25     0.96
                  3.75     1.04 |  10.00     2.87 | 16.25     1.43 | 22.50     0.96
                  4.00     1.04 |  10.25     3.66 | 16.50     1.43 | 22.75     0.96
                  4.25     1.27 |  10.50     3.66 | 16.75     1.43 | 23.00     0.96
                  4.50     1.27 |  10.75     4.94 | 17.00     1.43 | 23.25     0.96
                  4.75     1.27 |  11.00     4.94 | 17.25     1.43 | 23.50     0.96
                  5.00     1.27 |  11.25     7.65 | 17.50     1.43 | 23.75     0.96
                  5.25     1.27 |  11.50     7.65 | 17.75     1.43 | 24.00     0.96
                  5.50     1.27 |  11.75    23.58 | 18.00     1.43 |
                  5.75     1.27 |  12.00    97.49 | 18.25     1.43 |
                  6.00     1.27 |  12.25    11.47 | 18.50     1.43 |

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| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=  10.54   Curve Number   (CN)= 77.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.15   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

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


                               ---- TRANSFORMED HYETOGRAPH ----
                  TIME     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     1.27 |12.250    97.49 | 18.33     1.43
                 0.167     0.00 |  6.250     1.27 |12.333    11.48 | 18.42     1.43
                 0.250     0.00 |  6.333     1.43 |12.417    11.47 | 18.50     1.43
                 0.333     0.88 |  6.417     1.43 |12.500    11.47 | 18.58     1.43
                 0.417     0.88 |  6.500     1.43 |12.583    11.47 | 18.67     1.43
                 0.500     0.88 |  6.583     1.43 |12.667    11.47 | 18.75     1.43
                 0.583    0.88 | 6.667    1.43 |12.750   11.47 | 18.83    1.43
                 0.667    0.88 | 6.750    1.43 |12.833    5.89 | 18.92    1.43
                 0.750    0.88 | 6.833    1.43 |12.917    5.89 | 19.00    1.43
                 0.833    0.88 | 6.917    1.43 |13.000    5.89 | 19.08    1.43
                 0.917    0.88 | 7.000    1.43 |13.083    5.89 | 19.17    1.43
                 1.000    0.88 | 7.083    1.43 |13.167    5.89 | 19.25    1.43
                 1.083    0.88 | 7.167    1.43 |13.250    5.89 | 19.33    1.43
                 1.167    0.88 | 7.250    1.43 |13.333    4.30 | 19.42    1.43
                 1.250    0.88 | 7.333    1.75 |13.417    4.30 | 19.50    1.43
                 1.333    0.88 | 7.417    1.75 |13.500    4.30 | 19.58    1.43
                 1.417    0.88 | 7.500    1.75 |13.583    4.30 | 19.67    1.43
                 1.500    0.88 | 7.583    1.75 |13.667    4.30 | 19.75    1.43
                 1.583    0.88 | 7.667    1.75 |13.750    4.30 | 19.83    1.43
                 1.667    0.88 | 7.750    1.75 |13.833    3.35 | 19.92    1.43
                 1.750    0.88 | 7.833    1.75 |13.917    3.35 | 20.00    1.43
                 1.833    0.88 | 7.917    1.75 |14.000    3.35 | 20.08    1.43
                 1.917    0.88 | 8.000    1.75 |14.083    3.35 | 20.17    1.43
                 2.000    0.88 | 8.083    1.75 |14.167    3.35 | 20.25    1.43
                 2.083    0.88 | 8.167    1.75 |14.250    3.35 | 20.33    0.96
                 2.167    0.88 | 8.250    1.75 |14.333    2.39 | 20.42    0.96
                 2.250    0.88 | 8.333    2.07 |14.417    2.39 | 20.50    0.96
                 2.333    1.04 | 8.417    2.07 |14.500    2.39 | 20.58    0.96
                 2.417    1.04 | 8.500    2.07 |14.583    2.39 | 20.67    0.96
                 2.500    1.04 | 8.583    2.07 |14.667    2.39 | 20.75    0.96
                 2.583    1.04 | 8.667    2.07 |14.750    2.39 | 20.83    0.96
                 2.667    1.04 | 8.750    2.07 |14.833    2.39 | 20.92    0.96
                 2.750    1.04 | 8.833    2.23 |14.917    2.39 | 21.00    0.96
                 2.833    1.04 | 8.917    2.23 |15.000    2.39 | 21.08    0.96
                 2.917    1.04 | 9.000    2.23 |15.083    2.39 | 21.17    0.96
                 3.000    1.04 | 9.083    2.23 |15.167    2.39 | 21.25    0.96
                 3.083    1.04 | 9.167    2.23 |15.250    2.39 | 21.33    0.96
                 3.167    1.04 | 9.250    2.23 |15.333    2.39 | 21.42    0.96
                 3.250    1.04 | 9.333    2.55 |15.417    2.39 | 21.50    0.96
                 3.333    1.04 | 9.417    2.55 |15.500    2.39 | 21.58    0.96
                 3.417    1.04 | 9.500    2.55 |15.583    2.39 | 21.67    0.96
                 3.500    1.04 | 9.583    2.55 |15.667    2.39 | 21.75    0.96
                 3.583    1.04 | 9.667    2.55 |15.750    2.39 | 21.83    0.96
                 3.667    1.04 | 9.750    2.55 |15.833    2.39 | 21.92    0.96
                 3.750    1.04 | 9.833    2.87 |15.917    2.39 | 22.00    0.96
                 3.833    1.04 | 9.917    2.87 |16.000    2.39 | 22.08    0.96
                 3.917    1.04 |10.000    2.87 |16.083    2.39 | 22.17    0.96
                 4.000    1.04 |10.083    2.87 |16.167    2.39 | 22.25    0.96
                 4.083    1.04 |10.167    2.87 |16.250    2.39 | 22.33    0.96
                 4.167    1.04 |10.250    2.87 |16.333    1.43 | 22.42    0.96
                 4.250    1.04 |10.333    3.66 |16.417    1.43 | 22.50    0.96
                 4.333    1.27 |10.417    3.66 |16.500    1.43 | 22.58    0.96
                 4.417    1.27 |10.500    3.66 |16.583    1.43 | 22.67    0.96
                 4.500    1.27 |10.583    3.66 |16.667    1.43 | 22.75    0.96
                 4.583    1.27 |10.667    3.66 |16.750    1.43 | 22.83    0.96
                 4.667    1.27 |10.750    3.66 |16.833    1.43 | 22.92    0.96
                 4.750    1.27 |10.833    4.94 |16.917    1.43 | 23.00    0.96
                 4.833    1.27 |10.917    4.94 |17.000    1.43 | 23.08    0.96
                 4.917    1.27 |11.000    4.94 |17.083    1.43 | 23.17    0.96
                 5.000    1.27 |11.083    4.94 |17.167    1.43 | 23.25    0.96
                 5.083    1.27 |11.167    4.94 |17.250    1.43 | 23.33    0.96
                 5.167    1.27 |11.250    4.94 |17.333    1.43 | 23.42    0.96
                 5.250    1.27 |11.333    7.65 |17.417    1.43 | 23.50    0.96
                 5.333    1.27 |11.417    7.65 |17.500    1.43 | 23.58    0.96
                 5.417    1.27 |11.500    7.65 |17.583    1.43 | 23.67    0.96
                 5.500    1.27 |11.583    7.65 |17.667    1.43 | 23.75    0.96
                 5.583    1.27 |11.667    7.65 |17.750    1.43 | 23.83    0.96
                 5.667    1.27 |11.750    7.65 |17.833    1.43 | 23.92    0.96
                 5.750    1.27 |11.833   23.57 |17.917    1.43 | 24.00    0.96
                 5.833    1.27 |11.917   23.58 |18.000    1.43 | 24.08    0.96
                 5.917    1.27 |12.000   23.58 |18.083    1.43 | 24.17    0.96
                 6.000    1.27 |12.083   97.48 |18.167    1.43 | 24.25    0.96
                 6.083    1.27 |12.167   97.49 |18.250    1.43 |

     Unit Hyd Qpeak  (cms)=   0.575

     PEAK FLOW       (cms)=   0.399 (i)
     TIME TO PEAK    (hrs)=  12.917
     RUNOFF VOLUME    (mm)=  35.838
     TOTAL RAINFALL   (mm)=  79.650
     RUNOFF COEFFICIENT   =   0.450

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

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 | CALIB            |
 | NASHYD   (  0002)|   Area    (ha)=   1.57   Curve Number   (CN)= 71.0
 |ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
 --------------------   U.H. Tp(hrs)=   0.35
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     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    1.27 |12.250   97.49 | 18.33    1.43
          0.167    0.00 | 6.250    1.27 |12.333   11.48 | 18.42    1.43
          0.250    0.00 | 6.333    1.43 |12.417   11.47 | 18.50    1.43
          0.333    0.88 | 6.417    1.43 |12.500   11.47 | 18.58    1.43
          0.417    0.88 | 6.500    1.43 |12.583   11.47 | 18.67    1.43
          0.500    0.88 | 6.583    1.43 |12.667   11.47 | 18.75    1.43
          0.583    0.88 | 6.667    1.43 |12.750   11.47 | 18.83    1.43
          0.667    0.88 | 6.750    1.43 |12.833    5.89 | 18.92    1.43
          0.750    0.88 | 6.833    1.43 |12.917    5.89 | 19.00    1.43
          0.833    0.88 | 6.917    1.43 |13.000    5.89 | 19.08    1.43
          0.917    0.88 | 7.000    1.43 |13.083    5.89 | 19.17    1.43
          1.000    0.88 | 7.083    1.43 |13.167    5.89 | 19.25    1.43
          1.083    0.88 | 7.167    1.43 |13.250    5.89 | 19.33    1.43
          1.167    0.88 | 7.250    1.43 |13.333    4.30 | 19.42    1.43
          1.250    0.88 | 7.333    1.75 |13.417    4.30 | 19.50    1.43
          1.333    0.88 | 7.417    1.75 |13.500    4.30 | 19.58    1.43
          1.417    0.88 | 7.500    1.75 |13.583    4.30 | 19.67    1.43
          1.500    0.88 | 7.583    1.75 |13.667    4.30 | 19.75    1.43
          1.583    0.88 | 7.667    1.75 |13.750    4.30 | 19.83    1.43
          1.667    0.88 | 7.750    1.75 |13.833    3.35 | 19.92    1.43
          1.750    0.88 | 7.833    1.75 |13.917    3.35 | 20.00    1.43
          1.833    0.88 | 7.917    1.75 |14.000    3.35 | 20.08    1.43
          1.917    0.88 | 8.000    1.75 |14.083    3.35 | 20.17    1.43
          2.000    0.88 | 8.083    1.75 |14.167    3.35 | 20.25    1.43
          2.083    0.88 | 8.167    1.75 |14.250    3.35 | 20.33    0.96
          2.167    0.88 | 8.250    1.75 |14.333    2.39 | 20.42    0.96
          2.250    0.88 | 8.333    2.07 |14.417    2.39 | 20.50    0.96
          2.333    1.04 | 8.417    2.07 |14.500    2.39 | 20.58    0.96
          2.417    1.04 | 8.500    2.07 |14.583    2.39 | 20.67    0.96
          2.500    1.04 | 8.583    2.07 |14.667    2.39 | 20.75    0.96
          2.583    1.04 | 8.667    2.07 |14.750    2.39 | 20.83    0.96
          2.667    1.04 | 8.750    2.07 |14.833    2.39 | 20.92    0.96
          2.750    1.04 | 8.833    2.23 |14.917    2.39 | 21.00    0.96
          2.833    1.04 | 8.917    2.23 |15.000    2.39 | 21.08    0.96
          2.917    1.04 | 9.000    2.23 |15.083    2.39 | 21.17    0.96
          3.000    1.04 | 9.083    2.23 |15.167    2.39 | 21.25    0.96
          3.083    1.04 | 9.167    2.23 |15.250    2.39 | 21.33    0.96
          3.167    1.04 | 9.250    2.23 |15.333    2.39 | 21.42    0.96
          3.250    1.04 | 9.333    2.55 |15.417    2.39 | 21.50    0.96
          3.333    1.04 | 9.417    2.55 |15.500    2.39 | 21.58    0.96
          3.417    1.04 | 9.500    2.55 |15.583    2.39 | 21.67    0.96
          3.500    1.04 | 9.583    2.55 |15.667    2.39 | 21.75    0.96
          3.583    1.04 | 9.667    2.55 |15.750    2.39 | 21.83    0.96
          3.667    1.04 | 9.750    2.55 |15.833    2.39 | 21.92    0.96
          3.750    1.04 | 9.833    2.87 |15.917    2.39 | 22.00    0.96
          3.833    1.04 | 9.917    2.87 |16.000    2.39 | 22.08    0.96
          3.917    1.04 |10.000    2.87 |16.083    2.39 | 22.17    0.96
          4.000    1.04 |10.083    2.87 |16.167    2.39 | 22.25    0.96
          4.083    1.04 |10.167    2.87 |16.250    2.39 | 22.33    0.96
          4.167    1.04 |10.250    2.87 |16.333    1.43 | 22.42    0.96
          4.250    1.04 |10.333    3.66 |16.417    1.43 | 22.50    0.96
          4.333    1.27 |10.417    3.66 |16.500    1.43 | 22.58    0.96
          4.417    1.27 |10.500    3.66 |16.583    1.43 | 22.67    0.96
          4.500    1.27 |10.583    3.66 |16.667    1.43 | 22.75    0.96
          4.583    1.27 |10.667    3.66 |16.750    1.43 | 22.83    0.96
          4.667    1.27 |10.750    3.66 |16.833    1.43 | 22.92    0.96
          4.750    1.27 |10.833    4.94 |16.917    1.43 | 23.00    0.96
          4.833    1.27 |10.917    4.94 |17.000    1.43 | 23.08    0.96
          4.917    1.27 |11.000    4.94 |17.083    1.43 | 23.17    0.96
          5.000    1.27 |11.083    4.94 |17.167    1.43 | 23.25    0.96
          5.083    1.27 |11.167    4.94 |17.250    1.43 | 23.33    0.96
          5.167    1.27 |11.250    4.94 |17.333    1.43 | 23.42    0.96
          5.250    1.27 |11.333    7.65 |17.417    1.43 | 23.50    0.96
          5.333    1.27 |11.417    7.65 |17.500    1.43 | 23.58    0.96
          5.417    1.27 |11.500    7.65 |17.583    1.43 | 23.67    0.96
          5.500    1.27 |11.583    7.65 |17.667    1.43 | 23.75    0.96
          5.583    1.27 |11.667    7.65 |17.750    1.43 | 23.83    0.96
          5.667    1.27 |11.750    7.65 |17.833    1.43 | 23.92    0.96
          5.750    1.27 |11.833   23.57 |17.917    1.43 | 24.00    0.96
          5.833    1.27 |11.917   23.58 |18.000    1.43 | 24.08    0.96
          5.917    1.27 |12.000   23.58 |18.083    1.43 | 24.17    0.96
          6.000    1.27 |12.083   97.48 |18.167    1.43 | 24.25    0.96
          6.083    1.27 |12.167   97.49 |18.250    1.43 |

     Unit Hyd Qpeak  (cms)=   0.171

     PEAK FLOW       (cms)=   0.079 (i)
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    TIME TO PEAK    (hrs)=  12.500
    RUNOFF VOLUME    (mm)=  29.263
    TOTAL RAINFALL   (mm)=  79.650
    RUNOFF COEFFICIENT   =   0.367

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

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| CALIB             |
| NASHYD   (  0003)|   Area    (ha)=    7.36   Curve Number   (CN)= 75.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=    7.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    0.50

        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    1.27 |12.250   97.49 | 18.33    1.43
                0.167    0.00 | 6.250    1.27 |12.333   11.48 | 18.42    1.43
                0.250    0.00 | 6.333    1.43 |12.417   11.47 | 18.50    1.43
                0.333    0.88 | 6.417    1.43 |12.500   11.47 | 18.58    1.43
                0.417    0.88 | 6.500    1.43 |12.583   11.47 | 18.67    1.43
                0.500    0.88 | 6.583    1.43 |12.667   11.47 | 18.75    1.43
                0.583    0.88 | 6.667    1.43 |12.750   11.47 | 18.83    1.43
                0.667    0.88 | 6.750    1.43 |12.833    5.89 | 18.92    1.43
                0.750    0.88 | 6.833    1.43 |12.917    5.89 | 19.00    1.43
                0.833    0.88 | 6.917    1.43 |13.000    5.89 | 19.08    1.43
                0.917    0.88 | 7.000    1.43 |13.083    5.89 | 19.17    1.43
                1.000    0.88 | 7.083    1.43 |13.167    5.89 | 19.25    1.43
                1.083    0.88 | 7.167    1.43 |13.250    5.89 | 19.33    1.43
                1.167    0.88 | 7.250    1.43 |13.333    4.30 | 19.42    1.43
                1.250    0.88 | 7.333    1.75 |13.417    4.30 | 19.50    1.43
                1.333    0.88 | 7.417    1.75 |13.500    4.30 | 19.58    1.43
                1.417    0.88 | 7.500    1.75 |13.583    4.30 | 19.67    1.43
                1.500    0.88 | 7.583    1.75 |13.667    4.30 | 19.75    1.43
                1.583    0.88 | 7.667    1.75 |13.750    4.30 | 19.83    1.43
                1.667    0.88 | 7.750    1.75 |13.833    3.35 | 19.92    1.43
                1.750    0.88 | 7.833    1.75 |13.917    3.35 | 20.00    1.43
                1.833    0.88 | 7.917    1.75 |14.000    3.35 | 20.08    1.43
                1.917    0.88 | 8.000    1.75 |14.083    3.35 | 20.17    1.43
                2.000    0.88 | 8.083    1.75 |14.167    3.35 | 20.25    1.43
                2.083    0.88 | 8.167    1.75 |14.250    3.35 | 20.33    0.96
                2.167    0.88 | 8.250    1.75 |14.333    2.39 | 20.42    0.96
                2.250    0.88 | 8.333    2.07 |14.417    2.39 | 20.50    0.96
                2.333    1.04 | 8.417    2.07 |14.500    2.39 | 20.58    0.96
                2.417    1.04 | 8.500    2.07 |14.583    2.39 | 20.67    0.96
                2.500    1.04 | 8.583    2.07 |14.667    2.39 | 20.75    0.96
                2.583    1.04 | 8.667    2.07 |14.750    2.39 | 20.83    0.96
                2.667    1.04 | 8.750    2.07 |14.833    2.39 | 20.92    0.96
                2.750    1.04 | 8.833    2.23 |14.917    2.39 | 21.00    0.96
                2.833    1.04 | 8.917    2.23 |15.000    2.39 | 21.08    0.96
                2.917    1.04 | 9.000    2.23 |15.083    2.39 | 21.17    0.96
                3.000    1.04 | 9.083    2.23 |15.167    2.39 | 21.25    0.96
                3.083    1.04 | 9.167    2.23 |15.250    2.39 | 21.33    0.96
                3.167    1.04 | 9.250    2.23 |15.333    2.39 | 21.42    0.96
                3.250    1.04 | 9.333    2.55 |15.417    2.39 | 21.50    0.96
                3.333    1.04 | 9.417    2.55 |15.500    2.39 | 21.58    0.96
                3.417    1.04 | 9.500    2.55 |15.583    2.39 | 21.67    0.96
                3.500    1.04 | 9.583    2.55 |15.667    2.39 | 21.75    0.96
                3.583    1.04 | 9.667    2.55 |15.750    2.39 | 21.83    0.96
                3.667    1.04 | 9.750    2.55 |15.833    2.39 | 21.92    0.96
                3.750    1.04 | 9.833    2.87 |15.917    2.39 | 22.00    0.96
                3.833    1.04 | 9.917    2.87 |16.000    2.39 | 22.08    0.96
                3.917    1.04 |10.000    2.87 |16.083    2.39 | 22.17    0.96
                4.000    1.04 |10.083    2.87 |16.167    2.39 | 22.25    0.96
                4.083    1.04 |10.167    2.87 |16.250    2.39 | 22.33    0.96
                4.167    1.04 |10.250    2.87 |16.333    1.43 | 22.42    0.96
                4.250    1.04 |10.333    3.66 |16.417    1.43 | 22.50    0.96
                4.333    1.27 |10.417    3.66 |16.500    1.43 | 22.58    0.96
                4.417    1.27 |10.500    3.66 |16.583    1.43 | 22.67    0.96
                4.500    1.27 |10.583    3.66 |16.667    1.43 | 22.75    0.96
                4.583    1.27 |10.667    3.66 |16.750    1.43 | 22.83    0.96
                4.667    1.27 |10.750    3.66 |16.833    1.43 | 22.92    0.96
                4.750    1.27 |10.833    4.94 |16.917    1.43 | 23.00    0.96
                4.833    1.27 |10.917    4.94 |17.000    1.43 | 23.08    0.96
                4.917    1.27 |11.000    4.94 |17.083    1.43 | 23.17    0.96
                5.000    1.27 |11.083    4.94 |17.167    1.43 | 23.25    0.96
                5.083    1.27 |11.167    4.94 |17.250    1.43 | 23.33    0.96
                5.167    1.27 |11.250    4.94 |17.333    1.43 | 23.42    0.96
                5.250    1.27 |11.333    7.65 |17.417    1.43 | 23.50    0.96
                5.333    1.27 |11.417    7.65 |17.500    1.43 | 23.58    0.96
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                5.417    1.27 |11.500    7.65 |17.583    1.43 | 23.67    0.96
                5.500    1.27 |11.583    7.65 |17.667    1.43 | 23.75    0.96
                5.583    1.27 |11.667    7.65 |17.750    1.43 | 23.83    0.96
                5.667    1.27 |11.750    7.65 |17.833    1.43 | 23.92    0.96
                5.750    1.27 |11.833   23.57 |17.917    1.43 | 24.00    0.96
                5.833    1.27 |11.917   23.58 |18.000    1.43 | 24.08    0.96
                5.917    1.27 |12.000   23.58 |18.083    1.43 | 24.17    0.96
                6.000    1.27 |12.083   97.48 |18.167    1.43 | 24.25    0.96
                6.083    1.27 |12.167   97.49 |18.250    1.43 |

     Unit Hyd Qpeak  (cms)=   0.562

     PEAK FLOW       (cms)=   0.338 (i)
     TIME TO PEAK    (hrs)=  12.667
     RUNOFF VOLUME    (mm)=  34.211
     TOTAL RAINFALL   (mm)=  79.650
     RUNOFF COEFFICIENT   =   0.430

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

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| CALIB             |
| NASHYD   (  0004)|   Area    (ha)=    5.75   Curve Number   (CN)= 74.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=    6.83   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    0.45

        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    1.27 |12.250   97.49 | 18.33    1.43
                0.167    0.00 | 6.250    1.27 |12.333   11.48 | 18.42    1.43
                0.250    0.00 | 6.333    1.43 |12.417   11.47 | 18.50    1.43
                0.333    0.88 | 6.417    1.43 |12.500   11.47 | 18.58    1.43
                0.417    0.88 | 6.500    1.43 |12.583   11.47 | 18.67    1.43
                0.500    0.88 | 6.583    1.43 |12.667   11.47 | 18.75    1.43
                0.583    0.88 | 6.667    1.43 |12.750   11.47 | 18.83    1.43
                0.667    0.88 | 6.750    1.43 |12.833    5.89 | 18.92    1.43
                0.750    0.88 | 6.833    1.43 |12.917    5.89 | 19.00    1.43
                0.833    0.88 | 6.917    1.43 |13.000    5.89 | 19.08    1.43
                0.917    0.88 | 7.000    1.43 |13.083    5.89 | 19.17    1.43
                1.000    0.88 | 7.083    1.43 |13.167    5.89 | 19.25    1.43
                1.083    0.88 | 7.167    1.43 |13.250    5.89 | 19.33    1.43
                1.167    0.88 | 7.250    1.43 |13.333    4.30 | 19.42    1.43
                1.250    0.88 | 7.333    1.75 |13.417    4.30 | 19.50    1.43
                1.333    0.88 | 7.417    1.75 |13.500    4.30 | 19.58    1.43
                1.417    0.88 | 7.500    1.75 |13.583    4.30 | 19.67    1.43
                1.500    0.88 | 7.583    1.75 |13.667    4.30 | 19.75    1.43
                1.583    0.88 | 7.667    1.75 |13.750    4.30 | 19.83    1.43
                1.667    0.88 | 7.750    1.75 |13.833    3.35 | 19.92    1.43
                1.750    0.88 | 7.833    1.75 |13.917    3.35 | 20.00    1.43
                1.833    0.88 | 7.917    1.75 |14.000    3.35 | 20.08    1.43
                1.917    0.88 | 8.000    1.75 |14.083    3.35 | 20.17    1.43
                2.000    0.88 | 8.083    1.75 |14.167    3.35 | 20.25    1.43
                2.083    0.88 | 8.167    1.75 |14.250    3.35 | 20.33    0.96
                2.167    0.88 | 8.250    1.75 |14.333    2.39 | 20.42    0.96
                2.250    0.88 | 8.333    2.07 |14.417    2.39 | 20.50    0.96
                2.333    1.04 | 8.417    2.07 |14.500    2.39 | 20.58    0.96
                2.417    1.04 | 8.500    2.07 |14.583    2.39 | 20.67    0.96
                2.500    1.04 | 8.583    2.07 |14.667    2.39 | 20.75    0.96
                2.583    1.04 | 8.667    2.07 |14.750    2.39 | 20.83    0.96
                2.667    1.04 | 8.750    2.07 |14.833    2.39 | 20.92    0.96
                2.750    1.04 | 8.833    2.23 |14.917    2.39 | 21.00    0.96
                2.833    1.04 | 8.917    2.23 |15.000    2.39 | 21.08    0.96
                2.917    1.04 | 9.000    2.23 |15.083    2.39 | 21.17    0.96
                3.000    1.04 | 9.083    2.23 |15.167    2.39 | 21.25    0.96
                3.083    1.04 | 9.167    2.23 |15.250    2.39 | 21.33    0.96
                3.167    1.04 | 9.250    2.23 |15.333    2.39 | 21.42    0.96
                3.250    1.04 | 9.333    2.55 |15.417    2.39 | 21.50    0.96
                3.333    1.04 | 9.417    2.55 |15.500    2.39 | 21.58    0.96
                3.417    1.04 | 9.500    2.55 |15.583    2.39 | 21.67    0.96
                3.500    1.04 | 9.583    2.55 |15.667    2.39 | 21.75    0.96
                3.583    1.04 | 9.667    2.55 |15.750    2.39 | 21.83    0.96
                3.667    1.04 | 9.750    2.55 |15.833    2.39 | 21.92    0.96
                3.750    1.04 | 9.833    2.87 |15.917    2.39 | 22.00    0.96
                3.833    1.04 | 9.917    2.87 |16.000    2.39 | 22.08    0.96
                3.917    1.04 |10.000    2.87 |16.083    2.39 | 22.17    0.96
                4.000    1.04 |10.083    2.87 |16.167    2.39 | 22.25    0.96
                4.083    1.04 |10.167    2.87 |16.250    2.39 | 22.33    0.96
                4.167    1.04 |10.250    2.87 |16.333    1.43 | 22.42    0.96
                4.250    1.04 |10.333    3.66 |16.417    1.43 | 22.50    0.96
                4.333    1.27 |10.417    3.66 |16.500    1.43 | 22.58    0.96
                4.417    1.27 |10.500    3.66 |16.583    1.43 | 22.67    0.96
                4.500    1.27 |10.583    3.66 |16.667    1.43 | 22.75    0.96
                4.583    1.27 |10.667    3.66 |16.750    1.43 | 22.83    0.96
                4.667    1.27 |10.750    3.66 |16.833    1.43 | 22.92    0.96
                4.750    1.27 |10.833    4.94 |16.917    1.43 | 23.00    0.96
                4.833    1.27 |10.917    4.94 |17.000    1.43 | 23.08    0.96
                4.917    1.27 |11.000    4.94 |17.083    1.43 | 23.17    0.96
                5.000    1.27 |11.083    4.94 |17.167    1.43 | 23.25    0.96
                5.083    1.27 |11.167    4.94 |17.250    1.43 | 23.33    0.96
                5.167    1.27 |11.250    4.94 |17.333    1.43 | 23.42    0.96
                5.250    1.27 |11.333    7.65 |17.417    1.43 | 23.50    0.96
                5.333    1.27 |11.417    7.65 |17.500    1.43 | 23.58    0.96
                5.417    1.27 |11.500    7.65 |17.583    1.43 | 23.67    0.96
                5.500    1.27 |11.583    7.65 |17.667    1.43 | 23.75    0.96
                5.583    1.27 |11.667    7.65 |17.750    1.43 | 23.83    0.96
                5.667    1.27 |11.750    7.65 |17.833    1.43 | 23.92    0.96
                5.750    1.27 |11.833   23.57 |17.917    1.43 | 24.00    0.96
                5.833    1.27 |11.917   23.58 |18.000    1.43 | 24.08    0.96
                5.917    1.27 |12.000   23.58 |18.083    1.43 | 24.17    0.96
                6.000    1.27 |12.083   97.48 |18.167    1.43 | 24.25    0.96
                6.083    1.27 |12.167   97.49 |18.250    1.43 |

     Unit Hyd Qpeak  (cms)=   0.488

     PEAK FLOW       (cms)=   0.273 (i)
     TIME TO PEAK    (hrs)=  12.583
     RUNOFF VOLUME    (mm)=  32.906
     TOTAL RAINFALL   (mm)=  79.650
     RUNOFF COEFFICIENT   =   0.413

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

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| CALIB              |
| NASHYD   (  0010)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.57

         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    1.27 |12.250   97.49 | 18.33    1.43
                0.167    0.00 | 6.250    1.27 |12.333   11.48 | 18.42    1.43
                0.250    0.00 | 6.333    1.43 |12.417   11.47 | 18.50    1.43
                0.333    0.88 | 6.417    1.43 |12.500   11.47 | 18.58    1.43
                0.417    0.88 | 6.500    1.43 |12.583   11.47 | 18.67    1.43
                0.500    0.88 | 6.583    1.43 |12.667   11.47 | 18.75    1.43
                0.583    0.88 | 6.667    1.43 |12.750   11.47 | 18.83    1.43
                0.667    0.88 | 6.750    1.43 |12.833    5.89 | 18.92    1.43
                0.750    0.88 | 6.833    1.43 |12.917    5.89 | 19.00    1.43
                0.833    0.88 | 6.917    1.43 |13.000    5.89 | 19.08    1.43
                0.917    0.88 | 7.000    1.43 |13.083    5.89 | 19.17    1.43
                1.000    0.88 | 7.083    1.43 |13.167    5.89 | 19.25    1.43
                1.083    0.88 | 7.167    1.43 |13.250    5.89 | 19.33    1.43
                1.167    0.88 | 7.250    1.43 |13.333    4.30 | 19.42    1.43
                1.250    0.88 | 7.333    1.75 |13.417    4.30 | 19.50    1.43
                1.333    0.88 | 7.417    1.75 |13.500    4.30 | 19.58    1.43
                1.417    0.88 | 7.500    1.75 |13.583    4.30 | 19.67    1.43
                1.500    0.88 | 7.583    1.75 |13.667    4.30 | 19.75    1.43
                1.583    0.88 | 7.667    1.75 |13.750    4.30 | 19.83    1.43
                1.667    0.88 | 7.750    1.75 |13.833    3.35 | 19.92    1.43
                1.750    0.88 | 7.833    1.75 |13.917    3.35 | 20.00    1.43
                1.833    0.88 | 7.917    1.75 |14.000    3.35 | 20.08    1.43
                1.917    0.88 | 8.000    1.75 |14.083    3.35 | 20.17    1.43
                2.000    0.88 | 8.083    1.75 |14.167    3.35 | 20.25    1.43
                2.083    0.88 | 8.167    1.75 |14.250    3.35 | 20.33    0.96
                2.167    0.88 | 8.250    1.75 |14.333    2.39 | 20.42    0.96
                2.250    0.88 | 8.333    2.07 |14.417    2.39 | 20.50    0.96
                2.333    1.04 | 8.417    2.07 |14.500    2.39 | 20.58    0.96
                2.417    1.04 | 8.500    2.07 |14.583    2.39 | 20.67    0.96
                2.500    1.04 | 8.583    2.07 |14.667    2.39 | 20.75    0.96
                2.583    1.04 | 8.667    2.07 |14.750    2.39 | 20.83    0.96
                2.667    1.04 | 8.750    2.07 |14.833    2.39 | 20.92    0.96
                2.750    1.04 | 8.833    2.23 |14.917    2.39 | 21.00    0.96
                2.833    1.04 | 8.917    2.23 |15.000    2.39 | 21.08    0.96
                2.917    1.04 | 9.000    2.23 |15.083    2.39 | 21.17    0.96
                3.000    1.04 | 9.083    2.23 |15.167    2.39 | 21.25    0.96
                3.083    1.04 | 9.167    2.23 |15.250    2.39 | 21.33    0.96
                3.167    1.04 | 9.250    2.23 |15.333    2.39 | 21.42    0.96
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                3.250    1.04 | 9.333    2.55 |15.417    2.39 | 21.50    0.96
                3.333    1.04 | 9.417    2.55 |15.500    2.39 | 21.58    0.96
                3.417    1.04 | 9.500    2.55 |15.583    2.39 | 21.67    0.96
                3.500    1.04 | 9.583    2.55 |15.667    2.39 | 21.75    0.96
                3.583    1.04 | 9.667    2.55 |15.750    2.39 | 21.83    0.96
                3.667    1.04 | 9.750    2.55 |15.833    2.39 | 21.92    0.96
                3.750    1.04 | 9.833    2.87 |15.917    2.39 | 22.00    0.96
                3.833    1.04 | 9.917    2.87 |16.000    2.39 | 22.08    0.96
                3.917    1.04 |10.000    2.87 |16.083    2.39 | 22.17    0.96
                4.000    1.04 |10.083    2.87 |16.167    2.39 | 22.25    0.96
                4.083    1.04 |10.167    2.87 |16.250    2.39 | 22.33    0.96
                4.167    1.04 |10.250    2.87 |16.333    1.43 | 22.42    0.96
                4.250    1.04 |10.333    3.66 |16.417    1.43 | 22.50    0.96
                4.333    1.27 |10.417    3.66 |16.500    1.43 | 22.58    0.96
                4.417    1.27 |10.500    3.66 |16.583    1.43 | 22.67    0.96
                4.500    1.27 |10.583    3.66 |16.667    1.43 | 22.75    0.96
                4.583    1.27 |10.667    3.66 |16.750    1.43 | 22.83    0.96
                4.667    1.27 |10.750    3.66 |16.833    1.43 | 22.92    0.96
                4.750    1.27 |10.833    4.94 |16.917    1.43 | 23.00    0.96
                4.833    1.27 |10.917    4.94 |17.000    1.43 | 23.08    0.96
                4.917    1.27 |11.000    4.94 |17.083    1.43 | 23.17    0.96
                5.000    1.27 |11.083    4.94 |17.167    1.43 | 23.25    0.96
                5.083    1.27 |11.167    4.94 |17.250    1.43 | 23.33    0.96
                5.167    1.27 |11.250    4.94 |17.333    1.43 | 23.42    0.96
                5.250    1.27 |11.333    7.65 |17.417    1.43 | 23.50    0.96
                5.333    1.27 |11.417    7.65 |17.500    1.43 | 23.58    0.96
                5.417    1.27 |11.500    7.65 |17.583    1.43 | 23.67    0.96
                5.500    1.27 |11.583    7.65 |17.667    1.43 | 23.75    0.96
                5.583    1.27 |11.667    7.65 |17.750    1.43 | 23.83    0.96
                5.667    1.27 |11.750    7.65 |17.833    1.43 | 23.92    0.96
                5.750    1.27 |11.833   23.57 |17.917    1.43 | 24.00    0.96
                5.833    1.27 |11.917   23.58 |18.000    1.43 | 24.08    0.96
                5.917    1.27 |12.000   23.58 |18.083    1.43 | 24.17    0.96
                6.000    1.27 |12.083   97.48 |18.167    1.43 | 24.25    0.96
                6.083    1.27 |12.167   97.49 |18.250    1.43 |

     Unit Hyd Qpeak  (cms)=   0.972

     PEAK FLOW       (cms)=   0.630 (i)
     TIME TO PEAK    (hrs)=  12.750
     RUNOFF VOLUME    (mm)=  35.440
     TOTAL RAINFALL   (mm)=  79.650
     RUNOFF COEFFICIENT   =   0.445

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

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--------------------
| ADD HYD  (  0009)|
|  1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0010):     14.50    0.630    12.75    35.44
      + ID2= 2 (  0002):      1.57    0.079    12.50    29.26
        ==================================================
        ID = 3 (  0009):     16.07    0.695    12.67    34.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0009)|
|  3 +  2 =  1     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0009):     16.07    0.695    12.67    34.84
      + ID2= 2 (  0003):      7.36    0.338    12.67    34.21
        ==================================================
        ID = 1 (  0009):     23.43    1.033    12.67    34.64

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0009)|
|  1 +  2 =  3     |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0009):     23.43    1.033    12.67    34.64
      + ID2= 2 (  0004):      5.75    0.273    12.58    32.91
        ==================================================
        ID = 3 (  0009):     29.18    1.301    12.67    34.30

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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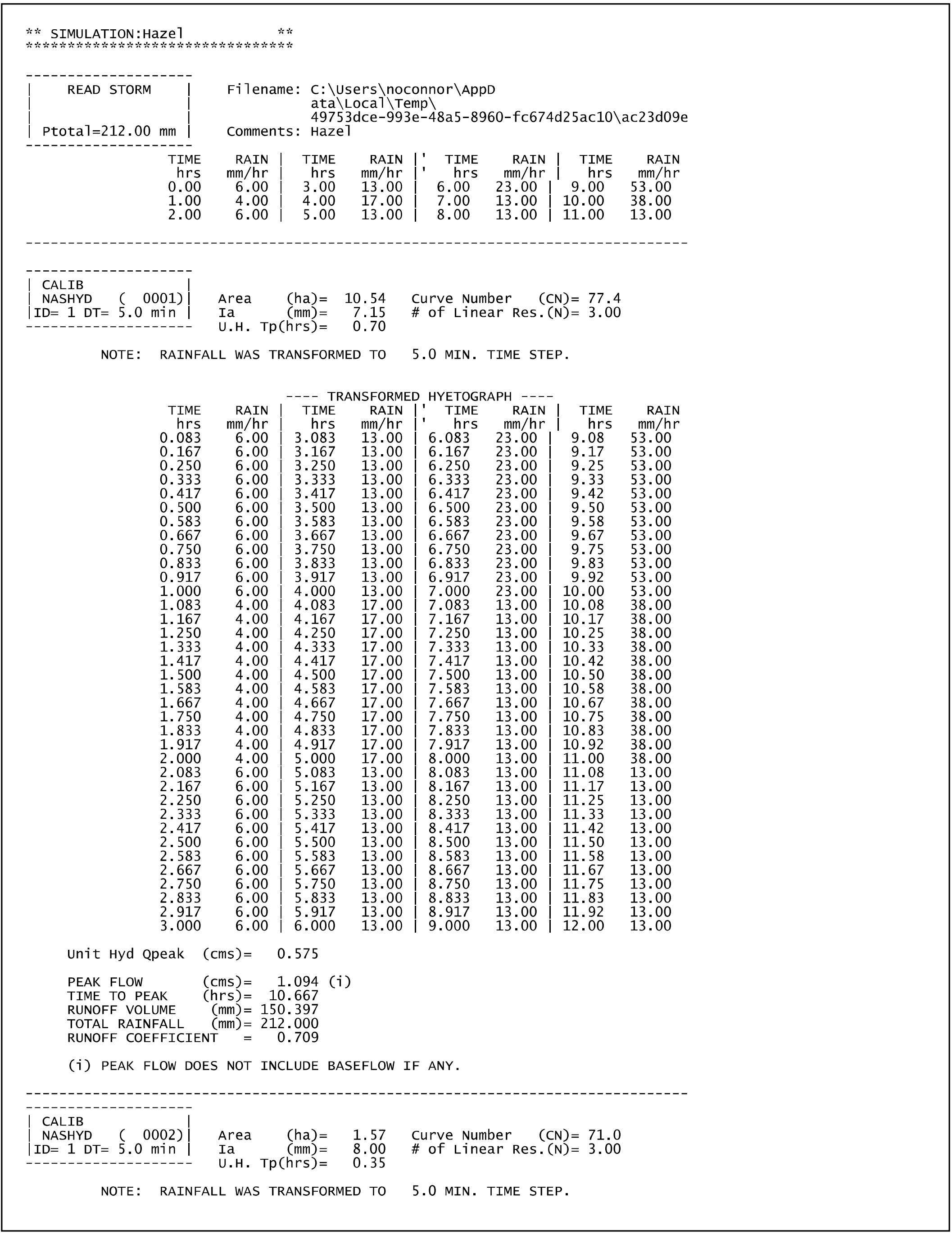

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** SIMULATION:Hazel           **
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|    READ STORM    |    Filename: C:\Users\noconnor\AppD
|                  |              ata\Local\Temp\
|                  |              49753dce-993e-48a5-8960-fc674d25ac10\ac23d09e
| Ptotal=212.00 mm |    Comments: Hazel
--------------------
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.00    6.00 |  3.00   13.00 |  6.00   23.00 |  9.00   53.00
                 1.00    4.00 |  4.00   17.00 |  7.00   13.00 | 10.00   38.00
                 2.00    6.00 |  5.00   13.00 |  8.00   13.00 | 11.00   13.00

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| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=  10.54   Curve Number   (CN)= 77.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.15   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

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


                              ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    6.00 | 3.083   13.00 | 6.083   23.00 |  9.08   53.00
                0.167    6.00 | 3.167   13.00 | 6.167   23.00 |  9.17   53.00
                0.250    6.00 | 3.250   13.00 | 6.250   23.00 |  9.25   53.00
                0.333    6.00 | 3.333   13.00 | 6.333   23.00 |  9.33   53.00
                0.417    6.00 | 3.417   13.00 | 6.417   23.00 |  9.42   53.00
                0.500    6.00 | 3.500   13.00 | 6.500   23.00 |  9.50   53.00
                0.583    6.00 | 3.583   13.00 | 6.583   23.00 |  9.58   53.00
                0.667    6.00 | 3.667   13.00 | 6.667   23.00 |  9.67   53.00
                0.750    6.00 | 3.750   13.00 | 6.750   23.00 |  9.75   53.00
                0.833    6.00 | 3.833   13.00 | 6.833   23.00 |  9.83   53.00
                0.917    6.00 | 3.917   13.00 | 6.917   23.00 |  9.92   53.00
                1.000    6.00 | 4.000   13.00 | 7.000   23.00 | 10.00   53.00
                1.083    4.00 | 4.083   17.00 | 7.083   13.00 | 10.08   38.00
                1.167    4.00 | 4.167   17.00 | 7.167   13.00 | 10.17   38.00
                1.250    4.00 | 4.250   17.00 | 7.250   13.00 | 10.25   38.00
                1.333    4.00 | 4.333   17.00 | 7.333   13.00 | 10.33   38.00
                1.417    4.00 | 4.417   17.00 | 7.417   13.00 | 10.42   38.00
                1.500    4.00 | 4.500   17.00 | 7.500   13.00 | 10.50   38.00
                1.583    4.00 | 4.583   17.00 | 7.583   13.00 | 10.58   38.00
                1.667    4.00 | 4.667   17.00 | 7.667   13.00 | 10.67   38.00
                1.750    4.00 | 4.750   17.00 | 7.750   13.00 | 10.75   38.00
                1.833    4.00 | 4.833   17.00 | 7.833   13.00 | 10.83   38.00
                1.917    4.00 | 4.917   17.00 | 7.917   13.00 | 10.92   38.00
                2.000    4.00 | 5.000   17.00 | 8.000   13.00 | 11.00   38.00
                2.083    6.00 | 5.083   13.00 | 8.083   13.00 | 11.08   13.00
                2.167    6.00 | 5.167   13.00 | 8.167   13.00 | 11.17   13.00
                2.250    6.00 | 5.250   13.00 | 8.250   13.00 | 11.25   13.00
                2.333    6.00 | 5.333   13.00 | 8.333   13.00 | 11.33   13.00
                2.417    6.00 | 5.417   13.00 | 8.417   13.00 | 11.42   13.00
                2.500    6.00 | 5.500   13.00 | 8.500   13.00 | 11.50   13.00
                2.583    6.00 | 5.583   13.00 | 8.583   13.00 | 11.58   13.00
                2.667    6.00 | 5.667   13.00 | 8.667   13.00 | 11.67   13.00
                2.750    6.00 | 5.750   13.00 | 8.750   13.00 | 11.75   13.00
                2.833    6.00 | 5.833   13.00 | 8.833   13.00 | 11.83   13.00
                2.917    6.00 | 5.917   13.00 | 8.917   13.00 | 11.92   13.00
                3.000    6.00 | 6.000   13.00 | 9.000   13.00 | 12.00   13.00

     Unit Hyd Qpeak  (cms)=   0.575

     PEAK FLOW       (cms)=   1.094 (i)
     TIME TO PEAK    (hrs)=  10.667
     RUNOFF VOLUME    (mm)= 150.397
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.709

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

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--------------------
| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   1.57   Curve Number   (CN)= 71.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.35

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

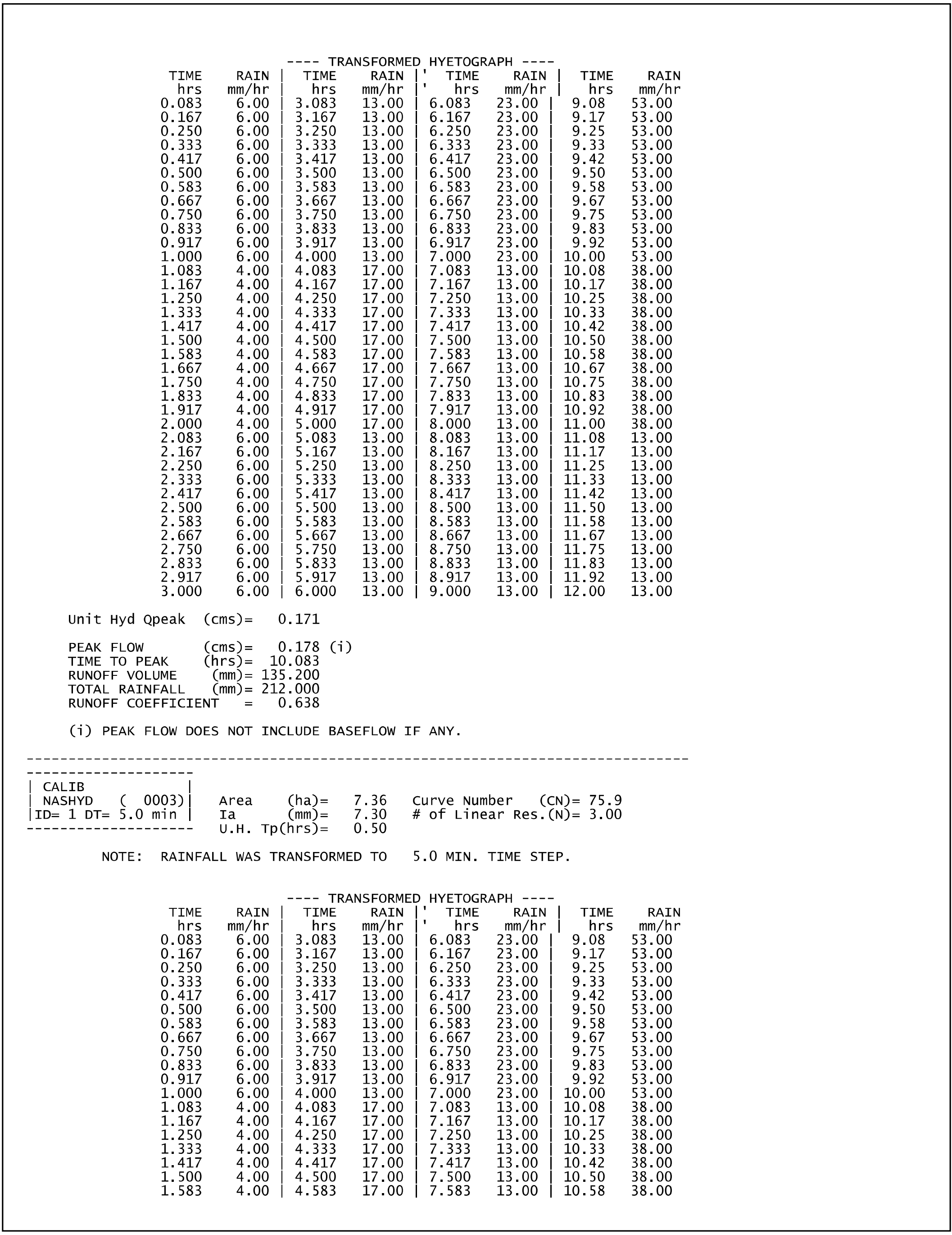

```
                              ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    6.00 | 3.083   13.00 | 6.083   23.00 |  9.08   53.00
                0.167    6.00 | 3.167   13.00 | 6.167   23.00 |  9.17   53.00
                0.250    6.00 | 3.250   13.00 | 6.250   23.00 |  9.25   53.00
                0.333    6.00 | 3.333   13.00 | 6.333   23.00 |  9.33   53.00
                0.417    6.00 | 3.417   13.00 | 6.417   23.00 |  9.42   53.00
                0.500    6.00 | 3.500   13.00 | 6.500   23.00 |  9.50   53.00
                0.583    6.00 | 3.583   13.00 | 6.583   23.00 |  9.58   53.00
                0.667    6.00 | 3.667   13.00 | 6.667   23.00 |  9.67   53.00
                0.750    6.00 | 3.750   13.00 | 6.750   23.00 |  9.75   53.00
                0.833    6.00 | 3.833   13.00 | 6.833   23.00 |  9.83   53.00
                0.917    6.00 | 3.917   13.00 | 6.917   23.00 |  9.92   53.00
                1.000    6.00 | 4.000   13.00 | 7.000   23.00 | 10.00   53.00
                1.083    4.00 | 4.083   17.00 | 7.083   13.00 | 10.08   38.00
                1.167    4.00 | 4.167   17.00 | 7.167   13.00 | 10.17   38.00
                1.250    4.00 | 4.250   17.00 | 7.250   13.00 | 10.25   38.00
                1.333    4.00 | 4.333   17.00 | 7.333   13.00 | 10.33   38.00
                1.417    4.00 | 4.417   17.00 | 7.417   13.00 | 10.42   38.00
                1.500    4.00 | 4.500   17.00 | 7.500   13.00 | 10.50   38.00
                1.583    4.00 | 4.583   17.00 | 7.583   13.00 | 10.58   38.00
                1.667    4.00 | 4.667   17.00 | 7.667   13.00 | 10.67   38.00
                1.750    4.00 | 4.750   17.00 | 7.750   13.00 | 10.75   38.00
                1.833    4.00 | 4.833   17.00 | 7.833   13.00 | 10.83   38.00
                1.917    4.00 | 4.917   17.00 | 7.917   13.00 | 10.92   38.00
                2.000    4.00 | 5.000   17.00 | 8.000   13.00 | 11.00   38.00
                2.083    6.00 | 5.083   13.00 | 8.083   13.00 | 11.08   13.00
                2.167    6.00 | 5.167   13.00 | 8.167   13.00 | 11.17   13.00
                2.250    6.00 | 5.250   13.00 | 8.250   13.00 | 11.25   13.00
                2.333    6.00 | 5.333   13.00 | 8.333   13.00 | 11.33   13.00
                2.417    6.00 | 5.417   13.00 | 8.417   13.00 | 11.42   13.00
                2.500    6.00 | 5.500   13.00 | 8.500   13.00 | 11.50   13.00
                2.583    6.00 | 5.583   13.00 | 8.583   13.00 | 11.58   13.00
                2.667    6.00 | 5.667   13.00 | 8.667   13.00 | 11.67   13.00
                2.750    6.00 | 5.750   13.00 | 8.750   13.00 | 11.75   13.00
                2.833    6.00 | 5.833   13.00 | 8.833   13.00 | 11.83   13.00
                2.917    6.00 | 5.917   13.00 | 8.917   13.00 | 11.92   13.00
                3.000    6.00 | 6.000   13.00 | 9.000   13.00 | 12.00   13.00

     Unit Hyd Qpeak  (cms)=   0.171

     PEAK FLOW       (cms)=   0.178 (i)
     TIME TO PEAK    (hrs)=  10.083
     RUNOFF VOLUME    (mm)= 135.200
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.638

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

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--------------------
| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   7.36   Curve Number   (CN)= 75.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.50

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


                              ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    6.00 | 3.083   13.00 | 6.083   23.00 |  9.08   53.00
                0.167    6.00 | 3.167   13.00 | 6.167   23.00 |  9.17   53.00
                0.250    6.00 | 3.250   13.00 | 6.250   23.00 |  9.25   53.00
                0.333    6.00 | 3.333   13.00 | 6.333   23.00 |  9.33   53.00
                0.417    6.00 | 3.417   13.00 | 6.417   23.00 |  9.42   53.00
                0.500    6.00 | 3.500   13.00 | 6.500   23.00 |  9.50   53.00
                0.583    6.00 | 3.583   13.00 | 6.583   23.00 |  9.58   53.00
                0.667    6.00 | 3.667   13.00 | 6.667   23.00 |  9.67   53.00
                0.750    6.00 | 3.750   13.00 | 6.750   23.00 |  9.75   53.00
                0.833    6.00 | 3.833   13.00 | 6.833   23.00 |  9.83   53.00
                0.917    6.00 | 3.917   13.00 | 6.917   23.00 |  9.92   53.00
                1.000    6.00 | 4.000   13.00 | 7.000   23.00 | 10.00   53.00
                1.083    4.00 | 4.083   17.00 | 7.083   13.00 | 10.08   38.00
                1.167    4.00 | 4.167   17.00 | 7.167   13.00 | 10.17   38.00
                1.250    4.00 | 4.250   17.00 | 7.250   13.00 | 10.25   38.00
                1.333    4.00 | 4.333   17.00 | 7.333   13.00 | 10.33   38.00
                1.417    4.00 | 4.417   17.00 | 7.417   13.00 | 10.42   38.00
                1.500    4.00 | 4.500   17.00 | 7.500   13.00 | 10.50   38.00
                1.583    4.00 | 4.583   17.00 | 7.583   13.00 | 10.58   38.00
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               1.667    4.00 | 4.667   17.00 | 7.667   13.00 | 10.67   38.00
               1.750    4.00 | 4.750   17.00 | 7.750   13.00 | 10.75   38.00
               1.833    4.00 | 4.833   17.00 | 7.833   13.00 | 10.83   38.00
               1.917    4.00 | 4.917   17.00 | 7.917   13.00 | 10.92   38.00
               2.000    4.00 | 5.000   17.00 | 8.000   13.00 | 11.00   38.00
               2.083    6.00 | 5.083   13.00 | 8.083   13.00 | 11.08   13.00
               2.167    6.00 | 5.167   13.00 | 8.167   13.00 | 11.17   13.00
               2.250    6.00 | 5.250   13.00 | 8.250   13.00 | 11.25   13.00
               2.333    6.00 | 5.333   13.00 | 8.333   13.00 | 11.33   13.00
               2.417    6.00 | 5.417   13.00 | 8.417   13.00 | 11.42   13.00
               2.500    6.00 | 5.500   13.00 | 8.500   13.00 | 11.50   13.00
               2.583    6.00 | 5.583   13.00 | 8.583   13.00 | 11.58   13.00
               2.667    6.00 | 5.667   13.00 | 8.667   13.00 | 11.67   13.00
               2.750    6.00 | 5.750   13.00 | 8.750   13.00 | 11.75   13.00
               2.833    6.00 | 5.833   13.00 | 8.833   13.00 | 11.83   13.00
               2.917    6.00 | 5.917   13.00 | 8.917   13.00 | 11.92   13.00
               3.000    6.00 | 6.000   13.00 | 9.000   13.00 | 12.00   13.00

     Unit Hyd Qpeak  (cms)=   0.562

     PEAK FLOW       (cms)=   0.819 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)= 146.837
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.693

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

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 --------------------
 | CALIB              |
 | NASHYD   (  0004)|   Area    (ha)=   5.75   Curve Number   (CN)= 74.2
 |ID= 1 DT= 5.0 min |   Ia      (mm)=   6.83   # of Linear Res.(N)= 3.00
 --------------------   U.H. Tp(hrs)=   0.45

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


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    6.00 | 3.083   13.00 | 6.083   23.00 |  9.08   53.00
               0.167    6.00 | 3.167   13.00 | 6.167   23.00 |  9.17   53.00
               0.250    6.00 | 3.250   13.00 | 6.250   23.00 |  9.25   53.00
               0.333    6.00 | 3.333   13.00 | 6.333   23.00 |  9.33   53.00
               0.417    6.00 | 3.417   13.00 | 6.417   23.00 |  9.42   53.00
               0.500    6.00 | 3.500   13.00 | 6.500   23.00 |  9.50   53.00
               0.583    6.00 | 3.583   13.00 | 6.583   23.00 |  9.58   53.00
               0.667    6.00 | 3.667   13.00 | 6.667   23.00 |  9.67   53.00
               0.750    6.00 | 3.750   13.00 | 6.750   23.00 |  9.75   53.00
               0.833    6.00 | 3.833   13.00 | 6.833   23.00 |  9.83   53.00
               0.917    6.00 | 3.917   13.00 | 6.917   23.00 |  9.92   53.00
               1.000    6.00 | 4.000   13.00 | 7.000   23.00 | 10.00   53.00
               1.083    4.00 | 4.083   17.00 | 7.083   13.00 | 10.08   38.00
               1.167    4.00 | 4.167   17.00 | 7.167   13.00 | 10.17   38.00
               1.250    4.00 | 4.250   17.00 | 7.250   13.00 | 10.25   38.00
               1.333    4.00 | 4.333   17.00 | 7.333   13.00 | 10.33   38.00
               1.417    4.00 | 4.417   17.00 | 7.417   13.00 | 10.42   38.00
               1.500    4.00 | 4.500   17.00 | 7.500   13.00 | 10.50   38.00
               1.583    4.00 | 4.583   17.00 | 7.583   13.00 | 10.58   38.00
               1.667    4.00 | 4.667   17.00 | 7.667   13.00 | 10.67   38.00
               1.750    4.00 | 4.750   17.00 | 7.750   13.00 | 10.75   38.00
               1.833    4.00 | 4.833   17.00 | 7.833   13.00 | 10.83   38.00
               1.917    4.00 | 4.917   17.00 | 7.917   13.00 | 10.92   38.00
               2.000    4.00 | 5.000   17.00 | 8.000   13.00 | 11.00   38.00
               2.083    6.00 | 5.083   13.00 | 8.083   13.00 | 11.08   13.00
               2.167    6.00 | 5.167   13.00 | 8.167   13.00 | 11.17   13.00
               2.250    6.00 | 5.250   13.00 | 8.250   13.00 | 11.25   13.00
               2.333    6.00 | 5.333   13.00 | 8.333   13.00 | 11.33   13.00
               2.417    6.00 | 5.417   13.00 | 8.417   13.00 | 11.42   13.00
               2.500    6.00 | 5.500   13.00 | 8.500   13.00 | 11.50   13.00
               2.583    6.00 | 5.583   13.00 | 8.583   13.00 | 11.58   13.00
               2.667    6.00 | 5.667   13.00 | 8.667   13.00 | 11.67   13.00
               2.750    6.00 | 5.750   13.00 | 8.750   13.00 | 11.75   13.00
               2.833    6.00 | 5.833   13.00 | 8.833   13.00 | 11.83   13.00
               2.917    6.00 | 5.917   13.00 | 8.917   13.00 | 11.92   13.00
               3.000    6.00 | 6.000   13.00 | 9.000   13.00 | 12.00   13.00

     Unit Hyd Qpeak  (cms)=   0.488

     PEAK FLOW       (cms)=   0.644 (i)
     TIME TO PEAK    (hrs)=  10.250
     RUNOFF VOLUME    (mm)= 143.418
     TOTAL RAINFALL   (mm)= 212.000
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     RUNOFF COEFFICIENT   =   0.676

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

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 --------------------
 | CALIB              |
 | NASHYD   (  0010)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
 |ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
 --------------------   U.H. Tp(hrs)=   0.57

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


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    6.00 | 3.083   13.00 | 6.083   23.00 |  9.08   53.00
               0.167    6.00 | 3.167   13.00 | 6.167   23.00 |  9.17   53.00
               0.250    6.00 | 3.250   13.00 | 6.250   23.00 |  9.25   53.00
               0.333    6.00 | 3.333   13.00 | 6.333   23.00 |  9.33   53.00
               0.417    6.00 | 3.417   13.00 | 6.417   23.00 |  9.42   53.00
               0.500    6.00 | 3.500   13.00 | 6.500   23.00 |  9.50   53.00
               0.583    6.00 | 3.583   13.00 | 6.583   23.00 |  9.58   53.00
               0.667    6.00 | 3.667   13.00 | 6.667   23.00 |  9.67   53.00
               0.750    6.00 | 3.750   13.00 | 6.750   23.00 |  9.75   53.00
               0.833    6.00 | 3.833   13.00 | 6.833   23.00 |  9.83   53.00
               0.917    6.00 | 3.917   13.00 | 6.917   23.00 |  9.92   53.00
               1.000    6.00 | 4.000   13.00 | 7.000   23.00 | 10.00   53.00
               1.083    4.00 | 4.083   17.00 | 7.083   13.00 | 10.08   38.00
               1.167    4.00 | 4.167   17.00 | 7.167   13.00 | 10.17   38.00
               1.250    4.00 | 4.250   17.00 | 7.250   13.00 | 10.25   38.00
               1.333    4.00 | 4.333   17.00 | 7.333   13.00 | 10.33   38.00
               1.417    4.00 | 4.417   17.00 | 7.417   13.00 | 10.42   38.00
               1.500    4.00 | 4.500   17.00 | 7.500   13.00 | 10.50   38.00
               1.583    4.00 | 4.583   17.00 | 7.583   13.00 | 10.58   38.00
               1.667    4.00 | 4.667   17.00 | 7.667   13.00 | 10.67   38.00
               1.750    4.00 | 4.750   17.00 | 7.750   13.00 | 10.75   38.00
               1.833    4.00 | 4.833   17.00 | 7.833   13.00 | 10.83   38.00
               1.917    4.00 | 4.917   17.00 | 7.917   13.00 | 10.92   38.00
               2.000    4.00 | 5.000   17.00 | 8.000   13.00 | 11.00   38.00
               2.083    6.00 | 5.083   13.00 | 8.083   13.00 | 11.08   13.00
               2.167    6.00 | 5.167   13.00 | 8.167   13.00 | 11.17   13.00
               2.250    6.00 | 5.250   13.00 | 8.250   13.00 | 11.25   13.00
               2.333    6.00 | 5.333   13.00 | 8.333   13.00 | 11.33   13.00
               2.417    6.00 | 5.417   13.00 | 8.417   13.00 | 11.42   13.00
               2.500    6.00 | 5.500   13.00 | 8.500   13.00 | 11.50   13.00
               2.583    6.00 | 5.583   13.00 | 8.583   13.00 | 11.58   13.00
               2.667    6.00 | 5.667   13.00 | 8.667   13.00 | 11.67   13.00
               2.750    6.00 | 5.750   13.00 | 8.750   13.00 | 11.75   13.00
               2.833    6.00 | 5.833   13.00 | 8.833   13.00 | 11.83   13.00
               2.917    6.00 | 5.917   13.00 | 8.917   13.00 | 11.92   13.00
               3.000    6.00 | 6.000   13.00 | 9.000   13.00 | 12.00   13.00

     Unit Hyd Qpeak  (cms)=   0.972

     PEAK FLOW       (cms)=   1.580 (i)
     TIME TO PEAK    (hrs)=  10.417
     RUNOFF VOLUME    (mm)= 149.499
     TOTAL RAINFALL   (mm)= 212.000
     RUNOFF COEFFICIENT   =   0.705

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

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 --------------------
 | ADD HYD  (  0009)|
 |   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
 --------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (  0010):    14.50   1.580    10.42   149.50
       + ID2= 2 (  0002):     1.57   0.178    10.08   135.20
         ==================================================
         ID = 3 (  0009):    16.07   1.744    10.33   148.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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 --------------------
 | ADD HYD  (  0009)|
 |   3 +  2 =  1    |        AREA    QPEAK    TPEAK     R.V.
 --------------------        (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (  0009):    16.07   1.744    10.33   148.10
       + ID2= 2 (  0003):     7.36   0.819    10.25   146.84
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        ====================================================
        ID = 1 (  0009):    23.43   2.563    10.33   147.70

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0009):    23.43   2.563    10.33   147.70
      + ID2= 2 (  0004):     5.75   0.644    10.25   143.42
        ====================================================
        ID = 3 (  0009):    29.18   3.201    10.33   146.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
***********************************************
** SIMULATION:I. 10yr 24hr 15min SCS Type II **
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--------------------
|    READ STORM    |    Filename: C:\Users\noconnor\AppD
|                  |              ata\Local\Temp\
|                  |              49753dce-993e-48a5-8960-fc674d25ac10\714a6f50
| Ptotal= 92.66 mm |    Comments: 10yr 24hr 15min SCS Type II
--------------------
                 TIME    RAIN |  TIME    RAIN |' TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'  hrs   mm/hr |   hrs   mm/hr
                 0.00    0.00 |  6.25    1.67 | 12.50   13.34 | 18.75    1.67
                 0.25    1.02 |  6.50    1.67 | 12.75    6.86 | 19.00    1.67
                 0.50    1.02 |  6.75    1.67 | 13.00    6.86 | 19.25    1.67
                 0.75    1.02 |  7.00    1.67 | 13.25    5.00 | 19.50    1.67
                 1.00    1.02 |  7.25    2.04 | 13.50    5.00 | 19.75    1.67
                 1.25    1.02 |  7.50    2.04 | 13.75    3.89 | 20.00    1.67
                 1.50    1.02 |  7.75    2.04 | 14.00    3.89 | 20.25    1.11
                 1.75    1.02 |  8.00    2.04 | 14.25    2.78 | 20.50    1.11
                 2.00    1.02 |  8.25    2.41 | 14.50    2.78 | 20.75    1.11
                 2.25    1.20 |  8.50    2.41 | 14.75    2.78 | 21.00    1.11
                 2.50    1.20 |  8.75    2.59 | 15.00    2.78 | 21.25    1.11
                 2.75    1.20 |  9.00    2.59 | 15.25    2.78 | 21.50    1.11
                 3.00    1.20 |  9.25    2.97 | 15.50    2.78 | 21.75    1.11
                 3.25    1.20 |  9.50    2.97 | 15.75    2.78 | 22.00    1.11
                 3.50    1.20 |  9.75    3.34 | 16.00    2.78 | 22.25    1.11
                 3.75    1.20 | 10.00    3.34 | 16.25    1.67 | 22.50    1.11
                 4.00    1.20 | 10.25    4.26 | 16.50    1.67 | 22.75    1.11
                 4.25    1.48 | 10.50    4.26 | 16.75    1.67 | 23.00    1.11
                 4.50    1.48 | 10.75    5.74 | 17.00    1.67 | 23.25    1.11
                 4.75    1.48 | 11.00    5.74 | 17.25    1.67 | 23.50    1.11
                 5.00    1.48 | 11.25    8.90 | 17.50    1.67 | 23.75    1.11
                 5.25    1.48 | 11.50    8.90 | 17.75    1.67 | 24.00    1.11
                 5.50    1.48 | 11.75   27.43 | 18.00    1.67 |
                 5.75    1.48 | 12.00  113.42 | 18.25    1.67 |
                 6.00    1.48 | 12.25   13.34 | 18.50    1.67 |

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| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=  10.54   Curve Number   (CN)= 77.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.15   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME    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    1.48 |12.250  113.42 | 18.33    1.67
                0.167    0.00 | 6.250    1.48 |12.333   13.36 | 18.42    1.67
                0.250    0.00 | 6.333    1.67 |12.417   13.34 | 18.50    1.67
                0.333    1.02 | 6.417    1.67 |12.500   13.34 | 18.58    1.67
                0.417    1.02 | 6.500    1.67 |12.583   13.34 | 18.67    1.67
                0.500    1.02 | 6.583    1.67 |12.667   13.34 | 18.75    1.67
                0.583    1.02 | 6.667    1.67 |12.750   13.34 | 18.83    1.67
                0.667    1.02 | 6.750    1.67 |12.833    6.86 | 18.92    1.67
                0.750    1.02 | 6.833    1.67 |12.917    6.86 | 19.00    1.67
                0.833    1.02 | 6.917    1.67 |13.000    6.86 | 19.08    1.67
                0.917    1.02 | 7.000    1.67 |13.083    6.86 | 19.17    1.67
                1.000    1.02 | 7.083    1.67 |13.167    6.86 | 19.25    1.67
                1.083    1.02 | 7.167    1.67 |13.250    6.86 | 19.33    1.67
                1.167    1.02 | 7.250    1.67 |13.333    5.00 | 19.42    1.67
                1.250    1.02 | 7.333    2.04 |13.417    5.00 | 19.50    1.67
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                1.333    1.02 | 7.417    2.04 |13.500    5.00 | 19.58    1.67
                1.417    1.02 | 7.500    2.04 |13.583    5.00 | 19.67    1.67
                1.500    1.02 | 7.583    2.04 |13.667    5.00 | 19.75    1.67
                1.583    1.02 | 7.667    2.04 |13.750    5.00 | 19.83    1.67
                1.667    1.02 | 7.750    2.04 |13.833    3.89 | 19.92    1.67
                1.750    1.02 | 7.833    2.04 |13.917    3.89 | 20.00    1.67
                1.833    1.02 | 7.917    2.04 |14.000    3.89 | 20.08    1.67
                1.917    1.02 | 8.000    2.04 |14.083    3.89 | 20.17    1.67
                2.000    1.02 | 8.083    2.04 |14.167    3.89 | 20.25    1.67
                2.083    1.02 | 8.167    2.04 |14.250    3.89 | 20.33    1.11
                2.167    1.02 | 8.250    2.04 |14.333    2.78 | 20.42    1.11
                2.250    1.02 | 8.333    2.41 |14.417    2.78 | 20.50    1.11
                2.333    1.20 | 8.417    2.41 |14.500    2.78 | 20.58    1.11
                2.417    1.20 | 8.500    2.41 |14.583    2.78 | 20.67    1.11
                2.500    1.20 | 8.583    2.41 |14.667    2.78 | 20.75    1.11
                2.583    1.20 | 8.667    2.41 |14.750    2.78 | 20.83    1.11
                2.667    1.20 | 8.750    2.41 |14.833    2.78 | 20.92    1.11
                2.750    1.20 | 8.833    2.59 |14.917    2.78 | 21.00    1.11
                2.833    1.20 | 8.917    2.59 |15.000    2.78 | 21.08    1.11
                2.917    1.20 | 9.000    2.59 |15.083    2.78 | 21.17    1.11
                3.000    1.20 | 9.083    2.59 |15.167    2.78 | 21.25    1.11
                3.083    1.20 | 9.167    2.59 |15.250    2.78 | 21.33    1.11
                3.167    1.20 | 9.250    2.59 |15.333    2.78 | 21.42    1.11
                3.250    1.20 | 9.333    2.97 |15.417    2.78 | 21.50    1.11
                3.333    1.20 | 9.417    2.97 |15.500    2.78 | 21.58    1.11
                3.417    1.20 | 9.500    2.97 |15.583    2.78 | 21.67    1.11
                3.500    1.20 | 9.583    2.97 |15.667    2.78 | 21.75    1.11
                3.583    1.20 | 9.667    2.97 |15.750    2.78 | 21.83    1.11
                3.667    1.20 | 9.750    2.97 |15.833    2.78 | 21.92    1.11
                3.750    1.20 | 9.833    3.34 |15.917    2.78 | 22.00    1.11
                3.833    1.20 | 9.917    3.34 |16.000    2.78 | 22.08    1.11
                3.917    1.20 |10.000    3.34 |16.083    2.78 | 22.17    1.11
                4.000    1.20 |10.083    3.34 |16.167    2.78 | 22.25    1.11
                4.083    1.20 |10.167    3.34 |16.250    2.78 | 22.33    1.11
                4.167    1.20 |10.250    3.34 |16.333    1.67 | 22.42    1.11
                4.250    1.20 |10.333    4.26 |16.417    1.67 | 22.50    1.11
                4.333    1.48 |10.417    4.26 |16.500    1.67 | 22.58    1.11
                4.417    1.48 |10.500    4.26 |16.583    1.67 | 22.67    1.11
                4.500    1.48 |10.583    4.26 |16.667    1.67 | 22.75    1.11
                4.583    1.48 |10.667    4.26 |16.750    1.67 | 22.83    1.11
                4.667    1.48 |10.750    4.26 |16.833    1.67 | 22.92    1.11
                4.750    1.48 |10.833    5.74 |16.917    1.67 | 23.00    1.11
                4.833    1.48 |10.917    5.74 |17.000    1.67 | 23.08    1.11
                4.917    1.48 |11.000    5.74 |17.083    1.67 | 23.17    1.11
                5.000    1.48 |11.083    5.74 |17.167    1.67 | 23.25    1.11
                5.083    1.48 |11.167    5.74 |17.250    1.67 | 23.33    1.11
                5.167    1.48 |11.250    5.74 |17.333    1.67 | 23.42    1.11
                5.250    1.48 |11.333    8.90 |17.417    1.67 | 23.50    1.11
                5.333    1.48 |11.417    8.90 |17.500    1.67 | 23.58    1.11
                5.417    1.48 |11.500    8.90 |17.583    1.67 | 23.67    1.11
                5.500    1.48 |11.583    8.90 |17.667    1.67 | 23.75    1.11
                5.583    1.48 |11.667    8.90 |17.750    1.67 | 23.83    1.11
                5.667    1.48 |11.750    8.90 |17.833    1.67 | 23.92    1.11
                5.750    1.48 |11.833   27.43 |17.917    1.67 | 24.00    1.11
                5.833    1.48 |11.917   27.43 |18.000    1.67 | 24.08    1.11
                5.917    1.48 |12.000   27.43 |18.083    1.67 | 24.17    1.11
                6.000    1.48 |12.083  113.41 |18.167    1.67 | 24.25    1.11
                6.083    1.48 |12.167  113.42 |18.250    1.67 |

     Unit Hyd Qpeak  (cms)=   0.575

     PEAK FLOW       (cms)=   0.514 (i)
     TIME TO PEAK    (hrs)=  12.833
     RUNOFF VOLUME    (mm)=  45.792
     TOTAL RAINFALL   (mm)=  92.660
     RUNOFF COEFFICIENT   =   0.494

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

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| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   1.57   Curve Number   (CN)= 71.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.35

         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    1.48 |12.250  113.42 | 18.33    1.67
                0.167    0.00 | 6.250    1.48 |12.333   13.36 | 18.42    1.67
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              0.250    0.00 | 6.333    1.67 |12.417   13.34 | 18.50    1.67
              0.333    1.02 | 6.417    1.67 |12.500   13.34 | 18.58    1.67
              0.417    1.02 | 6.500    1.67 |12.583   13.34 | 18.67    1.67
              0.500    1.02 | 6.583    1.67 |12.667   13.34 | 18.75    1.67
              0.583    1.02 | 6.667    1.67 |12.750   13.34 | 18.83    1.67
              0.667    1.02 | 6.750    1.67 |12.833    6.86 | 18.92    1.67
              0.750    1.02 | 6.833    1.67 |12.917    6.86 | 19.00    1.67
              0.833    1.02 | 6.917    1.67 |13.000    6.86 | 19.08    1.67
              0.917    1.02 | 7.000    1.67 |13.083    6.86 | 19.17    1.67
              1.000    1.02 | 7.083    1.67 |13.167    6.86 | 19.25    1.67
              1.083    1.02 | 7.167    1.67 |13.250    6.86 | 19.33    1.67
              1.167    1.02 | 7.250    1.67 |13.333    5.00 | 19.42    1.67
              1.250    1.02 | 7.333    2.04 |13.417    5.00 | 19.50    1.67
              1.333    1.02 | 7.417    2.04 |13.500    5.00 | 19.58    1.67
              1.417    1.02 | 7.500    2.04 |13.583    5.00 | 19.67    1.67
              1.500    1.02 | 7.583    2.04 |13.667    5.00 | 19.75    1.67
              1.583    1.02 | 7.667    2.04 |13.750    5.00 | 19.83    1.67
              1.667    1.02 | 7.750    2.04 |13.833    3.89 | 19.92    1.67
              1.750    1.02 | 7.833    2.04 |13.917    3.89 | 20.00    1.67
              1.833    1.02 | 7.917    2.04 |14.000    3.89 | 20.08    1.67
              1.917    1.02 | 8.000    2.04 |14.083    3.89 | 20.17    1.67
              2.000    1.02 | 8.083    2.04 |14.167    3.89 | 20.25    1.67
              2.083    1.02 | 8.167    2.04 |14.250    3.89 | 20.33    1.11
              2.167    1.02 | 8.250    2.04 |14.333    2.78 | 20.42    1.11
              2.250    1.02 | 8.333    2.41 |14.417    2.78 | 20.50    1.11
              2.333    1.20 | 8.417    2.41 |14.500    2.78 | 20.58    1.11
              2.417    1.20 | 8.500    2.41 |14.583    2.78 | 20.67    1.11
              2.500    1.20 | 8.583    2.41 |14.667    2.78 | 20.75    1.11
              2.583    1.20 | 8.667    2.41 |14.750    2.78 | 20.83    1.11
              2.667    1.20 | 8.750    2.41 |14.833    2.78 | 20.92    1.11
              2.750    1.20 | 8.833    2.59 |14.917    2.78 | 21.00    1.11
              2.833    1.20 | 8.917    2.59 |15.000    2.78 | 21.08    1.11
              2.917    1.20 | 9.000    2.59 |15.083    2.78 | 21.17    1.11
              3.000    1.20 | 9.083    2.59 |15.167    2.78 | 21.25    1.11
              3.083    1.20 | 9.167    2.59 |15.250    2.78 | 21.33    1.11
              3.167    1.20 | 9.250    2.59 |15.333    2.78 | 21.42    1.11
              3.250    1.20 | 9.333    2.97 |15.417    2.78 | 21.50    1.11
              3.333    1.20 | 9.417    2.97 |15.500    2.78 | 21.58    1.11
              3.417    1.20 | 9.500    2.97 |15.583    2.78 | 21.67    1.11
              3.500    1.20 | 9.583    2.97 |15.667    2.78 | 21.75    1.11
              3.583    1.20 | 9.667    2.97 |15.750    2.78 | 21.83    1.11
              3.667    1.20 | 9.750    2.97 |15.833    2.78 | 21.92    1.11
              3.750    1.20 | 9.833    3.34 |15.917    2.78 | 22.00    1.11
              3.833    1.20 | 9.917    3.34 |16.000    2.78 | 22.08    1.11
              3.917    1.20 |10.000    3.34 |16.083    2.78 | 22.17    1.11
              4.000    1.20 |10.083    3.34 |16.167    2.78 | 22.25    1.11
              4.083    1.20 |10.167    3.34 |16.250    2.78 | 22.33    1.11
              4.167    1.20 |10.250    3.34 |16.333    1.67 | 22.42    1.11
              4.250    1.20 |10.333    4.26 |16.417    1.67 | 22.50    1.11
              4.333    1.48 |10.417    4.26 |16.500    1.67 | 22.58    1.11
              4.417    1.48 |10.500    4.26 |16.583    1.67 | 22.67    1.11
              4.500    1.48 |10.583    4.26 |16.667    1.67 | 22.75    1.11
              4.583    1.48 |10.667    4.26 |16.750    1.67 | 22.83    1.11
              4.667    1.48 |10.750    4.26 |16.833    1.67 | 22.92    1.11
              4.750    1.48 |10.833    5.74 |16.917    1.67 | 23.00    1.11
              4.833    1.48 |10.917    5.74 |17.000    1.67 | 23.08    1.11
              4.917    1.48 |11.000    5.74 |17.083    1.67 | 23.17    1.11
              5.000    1.48 |11.083    5.74 |17.167    1.67 | 23.25    1.11
              5.083    1.48 |11.167    5.74 |17.250    1.67 | 23.33    1.11
              5.167    1.48 |11.250    5.74 |17.333    1.67 | 23.42    1.11
              5.250    1.48 |11.333    8.90 |17.417    1.67 | 23.50    1.11
              5.333    1.48 |11.417    8.90 |17.500    1.67 | 23.58    1.11
              5.417    1.48 |11.500    8.90 |17.583    1.67 | 23.67    1.11
              5.500    1.48 |11.583    8.90 |17.667    1.67 | 23.75    1.11
              5.583    1.48 |11.667    8.90 |17.750    1.67 | 23.83    1.11
              5.667    1.48 |11.750    8.90 |17.833    1.67 | 23.92    1.11
              5.750    1.48 |11.833   27.43 |17.917    1.67 | 24.00    1.11
              5.833    1.48 |11.917   27.43 |18.000    1.67 | 24.08    1.11
              5.917    1.48 |12.000   27.43 |18.083    1.67 | 24.17    1.11
              6.000    1.48 |12.083  113.41 |18.167    1.67 | 24.25    1.11
              6.083    1.48 |12.167  113.42 |18.250    1.67 |

     Unit Hyd Qpeak  (cms)=   0.171

     PEAK FLOW       (cms)=   0.103 (i)
     TIME TO PEAK    (hrs)=  12.500
     RUNOFF VOLUME    (mm)=  38.033
     TOTAL RAINFALL   (mm)=  92.660
     RUNOFF COEFFICIENT   =   0.410

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

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| CALIB              |
| NASHYD   (  0003)|   Area    (ha)=   7.36   Curve Number   (CN)= 75.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.50

         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    1.48 |12.250  113.42 | 18.33    1.67
               0.167    0.00 | 6.250    1.48 |12.333   13.36 | 18.42    1.67
               0.250    0.00 | 6.333    1.67 |12.417   13.34 | 18.50    1.67
               0.333    1.02 | 6.417    1.67 |12.500   13.34 | 18.58    1.67
               0.417    1.02 | 6.500    1.67 |12.583   13.34 | 18.67    1.67
               0.500    1.02 | 6.583    1.67 |12.667   13.34 | 18.75    1.67
               0.583    1.02 | 6.667    1.67 |12.750   13.34 | 18.83    1.67
               0.667    1.02 | 6.750    1.67 |12.833    6.86 | 18.92    1.67
               0.750    1.02 | 6.833    1.67 |12.917    6.86 | 19.00    1.67
               0.833    1.02 | 6.917    1.67 |13.000    6.86 | 19.08    1.67
               0.917    1.02 | 7.000    1.67 |13.083    6.86 | 19.17    1.67
               1.000    1.02 | 7.083    1.67 |13.167    6.86 | 19.25    1.67
               1.083    1.02 | 7.167    1.67 |13.250    6.86 | 19.33    1.67
               1.167    1.02 | 7.250    1.67 |13.333    5.00 | 19.42    1.67
               1.250    1.02 | 7.333    2.04 |13.417    5.00 | 19.50    1.67
               1.333    1.02 | 7.417    2.04 |13.500    5.00 | 19.58    1.67
               1.417    1.02 | 7.500    2.04 |13.583    5.00 | 19.67    1.67
               1.500    1.02 | 7.583    2.04 |13.667    5.00 | 19.75    1.67
               1.583    1.02 | 7.667    2.04 |13.750    5.00 | 19.83    1.67
               1.667    1.02 | 7.750    2.04 |13.833    3.89 | 19.92    1.67
               1.750    1.02 | 7.833    2.04 |13.917    3.89 | 20.00    1.67
               1.833    1.02 | 7.917    2.04 |14.000    3.89 | 20.08    1.67
               1.917    1.02 | 8.000    2.04 |14.083    3.89 | 20.17    1.67
               2.000    1.02 | 8.083    2.04 |14.167    3.89 | 20.25    1.67
               2.083    1.02 | 8.167    2.04 |14.250    3.89 | 20.33    1.11
               2.167    1.02 | 8.250    2.04 |14.333    2.78 | 20.42    1.11
               2.250    1.02 | 8.333    2.41 |14.417    2.78 | 20.50    1.11
               2.333    1.20 | 8.417    2.41 |14.500    2.78 | 20.58    1.11
               2.417    1.20 | 8.500    2.41 |14.583    2.78 | 20.67    1.11
               2.500    1.20 | 8.583    2.41 |14.667    2.78 | 20.75    1.11
               2.583    1.20 | 8.667    2.41 |14.750    2.78 | 20.83    1.11
               2.667    1.20 | 8.750    2.41 |14.833    2.78 | 20.92    1.11
               2.750    1.20 | 8.833    2.59 |14.917    2.78 | 21.00    1.11
               2.833    1.20 | 8.917    2.59 |15.000    2.78 | 21.08    1.11
               2.917    1.20 | 9.000    2.59 |15.083    2.78 | 21.17    1.11
               3.000    1.20 | 9.083    2.59 |15.167    2.78 | 21.25    1.11
               3.083    1.20 | 9.167    2.59 |15.250    2.78 | 21.33    1.11
               3.167    1.20 | 9.250    2.59 |15.333    2.78 | 21.42    1.11
               3.250    1.20 | 9.333    2.97 |15.417    2.78 | 21.50    1.11
               3.333    1.20 | 9.417    2.97 |15.500    2.78 | 21.58    1.11
               3.417    1.20 | 9.500    2.97 |15.583    2.78 | 21.67    1.11
               3.500    1.20 | 9.583    2.97 |15.667    2.78 | 21.75    1.11
               3.583    1.20 | 9.667    2.97 |15.750    2.78 | 21.83    1.11
               3.667    1.20 | 9.750    2.97 |15.833    2.78 | 21.92    1.11
               3.750    1.20 | 9.833    3.34 |15.917    2.78 | 22.00    1.11
               3.833    1.20 | 9.917    3.34 |16.000    2.78 | 22.08    1.11
               3.917    1.20 |10.000    3.34 |16.083    2.78 | 22.17    1.11
               4.000    1.20 |10.083    3.34 |16.167    2.78 | 22.25    1.11
               4.083    1.20 |10.167    3.34 |16.250    2.78 | 22.33    1.11
               4.167    1.20 |10.250    3.34 |16.333    1.67 | 22.42    1.11
               4.250    1.20 |10.333    4.26 |16.417    1.67 | 22.50    1.11
               4.333    1.48 |10.417    4.26 |16.500    1.67 | 22.58    1.11
               4.417    1.48 |10.500    4.26 |16.583    1.67 | 22.67    1.11
               4.500    1.48 |10.583    4.26 |16.667    1.67 | 22.75    1.11
               4.583    1.48 |10.667    4.26 |16.750    1.67 | 22.83    1.11
               4.667    1.48 |10.750    4.26 |16.833    1.67 | 22.92    1.11
               4.750    1.48 |10.833    5.74 |16.917    1.67 | 23.00    1.11
               4.833    1.48 |10.917    5.74 |17.000    1.67 | 23.08    1.11
               4.917    1.48 |11.000    5.74 |17.083    1.67 | 23.17    1.11
               5.000    1.48 |11.083    5.74 |17.167    1.67 | 23.25    1.11
               5.083    1.48 |11.167    5.74 |17.250    1.67 | 23.33    1.11
               5.167    1.48 |11.250    5.74 |17.333    1.67 | 23.42    1.11
               5.250    1.48 |11.333    8.90 |17.417    1.67 | 23.50    1.11
               5.333    1.48 |11.417    8.90 |17.500    1.67 | 23.58    1.11
               5.417    1.48 |11.500    8.90 |17.583    1.67 | 23.67    1.11
               5.500    1.48 |11.583    8.90 |17.667    1.67 | 23.75    1.11
               5.583    1.48 |11.667    8.90 |17.750    1.67 | 23.83    1.11
               5.667    1.48 |11.750    8.90 |17.833    1.67 | 23.92    1.11
               5.750    1.48 |11.833   27.43 |17.917    1.67 | 24.00    1.11
               5.833    1.48 |11.917   27.43 |18.000    1.67 | 24.08    1.11
               5.917    1.48 |12.000   27.43 |18.083    1.67 | 24.17    1.11
               6.000    1.48 |12.083  113.41 |18.167    1.67 | 24.25    1.11
               6.083    1.48 |12.167  113.42 |18.250    1.67 |
    Unit Hyd Qpeak  (cms)=   0.562

    PEAK FLOW       (cms)=   0.437 (i)
    TIME TO PEAK    (hrs)=  12.667
    RUNOFF VOLUME    (mm)=  43.888
    TOTAL RAINFALL   (mm)=  92.660
    RUNOFF COEFFICIENT   =   0.474

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

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--------------------
| CALIB             |
| NASHYD   (  0004)|   Area    (ha)=   5.75   Curve Number   (CN)= 74.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.83   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.45

        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    1.48 |12.250  113.42 | 18.33    1.67
              0.167    0.00 | 6.250    1.48 |12.333   13.36 | 18.42    1.67
              0.250    0.00 | 6.333    1.67 |12.417   13.34 | 18.50    1.67
              0.333    1.02 | 6.417    1.67 |12.500   13.34 | 18.58    1.67
              0.417    1.02 | 6.500    1.67 |12.583   13.34 | 18.67    1.67
              0.500    1.02 | 6.583    1.67 |12.667   13.34 | 18.75    1.67
              0.583    1.02 | 6.667    1.67 |12.750   13.34 | 18.83    1.67
              0.667    1.02 | 6.750    1.67 |12.833    6.86 | 18.92    1.67
              0.750    1.02 | 6.833    1.67 |12.917    6.86 | 19.00    1.67
              0.833    1.02 | 6.917    1.67 |13.000    6.86 | 19.08    1.67
              0.917    1.02 | 7.000    1.67 |13.083    6.86 | 19.17    1.67
              1.000    1.02 | 7.083    1.67 |13.167    6.86 | 19.25    1.67
              1.083    1.02 | 7.167    1.67 |13.250    6.86 | 19.33    1.67
              1.167    1.02 | 7.250    1.67 |13.333    5.00 | 19.42    1.67
              1.250    1.02 | 7.333    2.04 |13.417    5.00 | 19.50    1.67
              1.333    1.02 | 7.417    2.04 |13.500    5.00 | 19.58    1.67
              1.417    1.02 | 7.500    2.04 |13.583    5.00 | 19.67    1.67
              1.500    1.02 | 7.583    2.04 |13.667    5.00 | 19.75    1.67
              1.583    1.02 | 7.667    2.04 |13.750    5.00 | 19.83    1.67
              1.667    1.02 | 7.750    2.04 |13.833    3.89 | 19.92    1.67
              1.750    1.02 | 7.833    2.04 |13.917    3.89 | 20.00    1.67
              1.833    1.02 | 7.917    2.04 |14.000    3.89 | 20.08    1.67
              1.917    1.02 | 8.000    2.04 |14.083    3.89 | 20.17    1.67
              2.000    1.02 | 8.083    2.04 |14.167    3.89 | 20.25    1.67
              2.083    1.02 | 8.167    2.04 |14.250    3.89 | 20.33    1.11
              2.167    1.02 | 8.250    2.04 |14.333    2.78 | 20.42    1.11
              2.250    1.02 | 8.333    2.41 |14.417    2.78 | 20.50    1.11
              2.333    1.20 | 8.417    2.41 |14.500    2.78 | 20.58    1.11
              2.417    1.20 | 8.500    2.41 |14.583    2.78 | 20.67    1.11
              2.500    1.20 | 8.583    2.41 |14.667    2.78 | 20.75    1.11
              2.583    1.20 | 8.667    2.41 |14.750    2.78 | 20.83    1.11
              2.667    1.20 | 8.750    2.41 |14.833    2.78 | 20.92    1.11
              2.750    1.20 | 8.833    2.59 |14.917    2.78 | 21.00    1.11
              2.833    1.20 | 8.917    2.59 |15.000    2.78 | 21.08    1.11
              2.917    1.20 | 9.000    2.59 |15.083    2.78 | 21.17    1.11
              3.000    1.20 | 9.083    2.59 |15.167    2.78 | 21.25    1.11
              3.083    1.20 | 9.167    2.59 |15.250    2.78 | 21.33    1.11
              3.167    1.20 | 9.250    2.59 |15.333    2.78 | 21.42    1.11
              3.250    1.20 | 9.333    2.97 |15.417    2.78 | 21.50    1.11
              3.333    1.20 | 9.417    2.97 |15.500    2.78 | 21.58    1.11
              3.417    1.20 | 9.500    2.97 |15.583    2.78 | 21.67    1.11
              3.500    1.20 | 9.583    2.97 |15.667    2.78 | 21.75    1.11
              3.583    1.20 | 9.667    2.97 |15.750    2.78 | 21.83    1.11
              3.667    1.20 | 9.750    2.97 |15.833    2.78 | 21.92    1.11
              3.750    1.20 | 9.833    3.34 |15.917    2.78 | 22.00    1.11
              3.833    1.20 | 9.917    3.34 |16.000    2.78 | 22.08    1.11
              3.917    1.20 |10.000    3.34 |16.083    2.78 | 22.17    1.11
              4.000    1.20 |10.083    3.34 |16.167    2.78 | 22.25    1.11
              4.083    1.20 |10.167    3.34 |16.250    2.78 | 22.33    1.11
              4.167    1.20 |10.250    3.34 |16.333    1.67 | 22.42    1.11
              4.250    1.20 |10.333    4.26 |16.417    1.67 | 22.50    1.11
              4.333    1.48 |10.417    4.26 |16.500    1.67 | 22.58    1.11
              4.417    1.48 |10.500    4.26 |16.583    1.67 | 22.67    1.11
              4.500    1.48 |10.583    4.26 |16.667    1.67 | 22.75    1.11
              4.583    1.48 |10.667    4.26 |16.750    1.67 | 22.83    1.11
              4.667    1.48 |10.750    4.26 |16.833    1.67 | 22.92    1.11
              4.750    1.48 |10.833    5.74 |16.917    1.67 | 23.00    1.11
              4.833    1.48 |10.917    5.74 |17.000    1.67 | 23.08    1.11
              4.917    1.48 |11.000    5.74 |17.083    1.67 | 23.17    1.11
              5.000    1.48 |11.083    5.74 |17.167    1.67 | 23.25    1.11
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              5.083    1.48 |11.167    5.74 |17.250    1.67 | 23.33    1.11
              5.167    1.48 |11.250    5.74 |17.333    1.67 | 23.42    1.11
              5.250    1.48 |11.333    8.90 |17.417    1.67 | 23.50    1.11
              5.333    1.48 |11.417    8.90 |17.500    1.67 | 23.58    1.11
              5.417    1.48 |11.500    8.90 |17.583    1.67 | 23.67    1.11
              5.500    1.48 |11.583    8.90 |17.667    1.67 | 23.75    1.11
              5.583    1.48 |11.667    8.90 |17.750    1.67 | 23.83    1.11
              5.667    1.48 |11.750    8.90 |17.833    1.67 | 23.92    1.11
              5.750    1.48 |11.833   27.43 |17.917    1.67 | 24.00    1.11
              5.833    1.48 |11.917   27.43 |18.000    1.67 | 24.08    1.11
              5.917    1.48 |12.000   27.43 |18.083    1.67 | 24.17    1.11
              6.000    1.48 |12.083  113.41 |18.167    1.67 | 24.25    1.11
              6.083    1.48 |12.167  113.42 |18.250    1.67 |

    Unit Hyd Qpeak  (cms)=   0.488

    PEAK FLOW       (cms)=   0.354 (i)
    TIME TO PEAK    (hrs)=  12.583
    RUNOFF VOLUME    (mm)=  42.298
    TOTAL RAINFALL   (mm)=  92.660
    RUNOFF COEFFICIENT   =   0.456

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

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| CALIB             |
| NASHYD   (  0010)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.57

        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    1.48 |12.250  113.42 | 18.33    1.67
              0.167    0.00 | 6.250    1.48 |12.333   13.36 | 18.42    1.67
              0.250    0.00 | 6.333    1.67 |12.417   13.34 | 18.50    1.67
              0.333    1.02 | 6.417    1.67 |12.500   13.34 | 18.58    1.67
              0.417    1.02 | 6.500    1.67 |12.583   13.34 | 18.67    1.67
              0.500    1.02 | 6.583    1.67 |12.667   13.34 | 18.75    1.67
              0.583    1.02 | 6.667    1.67 |12.750   13.34 | 18.83    1.67
              0.667    1.02 | 6.750    1.67 |12.833    6.86 | 18.92    1.67
              0.750    1.02 | 6.833    1.67 |12.917    6.86 | 19.00    1.67
              0.833    1.02 | 6.917    1.67 |13.000    6.86 | 19.08    1.67
              0.917    1.02 | 7.000    1.67 |13.083    6.86 | 19.17    1.67
              1.000    1.02 | 7.083    1.67 |13.167    6.86 | 19.25    1.67
              1.083    1.02 | 7.167    1.67 |13.250    6.86 | 19.33    1.67
              1.167    1.02 | 7.250    1.67 |13.333    5.00 | 19.42    1.67
              1.250    1.02 | 7.333    2.04 |13.417    5.00 | 19.50    1.67
              1.333    1.02 | 7.417    2.04 |13.500    5.00 | 19.58    1.67
              1.417    1.02 | 7.500    2.04 |13.583    5.00 | 19.67    1.67
              1.500    1.02 | 7.583    2.04 |13.667    5.00 | 19.75    1.67
              1.583    1.02 | 7.667    2.04 |13.750    5.00 | 19.83    1.67
              1.667    1.02 | 7.750    2.04 |13.833    3.89 | 19.92    1.67
              1.750    1.02 | 7.833    2.04 |13.917    3.89 | 20.00    1.67
              1.833    1.02 | 7.917    2.04 |14.000    3.89 | 20.08    1.67
              1.917    1.02 | 8.000    2.04 |14.083    3.89 | 20.17    1.67
              2.000    1.02 | 8.083    2.04 |14.167    3.89 | 20.25    1.67
              2.083    1.02 | 8.167    2.04 |14.250    3.89 | 20.33    1.11
              2.167    1.02 | 8.250    2.04 |14.333    2.78 | 20.42    1.11
              2.250    1.02 | 8.333    2.41 |14.417    2.78 | 20.50    1.11
              2.333    1.20 | 8.417    2.41 |14.500    2.78 | 20.58    1.11
              2.417    1.20 | 8.500    2.41 |14.583    2.78 | 20.67    1.11
              2.500    1.20 | 8.583    2.41 |14.667    2.78 | 20.75    1.11
              2.583    1.20 | 8.667    2.41 |14.750    2.78 | 20.83    1.11
              2.667    1.20 | 8.750    2.41 |14.833    2.78 | 20.92    1.11
              2.750    1.20 | 8.833    2.59 |14.917    2.78 | 21.00    1.11
              2.833    1.20 | 8.917    2.59 |15.000    2.78 | 21.08    1.11
              2.917    1.20 | 9.000    2.59 |15.083    2.78 | 21.17    1.11
              3.000    1.20 | 9.083    2.59 |15.167    2.78 | 21.25    1.11
              3.083    1.20 | 9.167    2.59 |15.250    2.78 | 21.33    1.11
              3.167    1.20 | 9.250    2.59 |15.333    2.78 | 21.42    1.11
              3.250    1.20 | 9.333    2.97 |15.417    2.78 | 21.50    1.11
              3.333    1.20 | 9.417    2.97 |15.500    2.78 | 21.58    1.11
              3.417    1.20 | 9.500    2.97 |15.583    2.78 | 21.67    1.11
              3.500    1.20 | 9.583    2.97 |15.667    2.78 | 21.75    1.11
              3.583    1.20 | 9.667    2.97 |15.750    2.78 | 21.83    1.11
              3.667    1.20 | 9.750    2.97 |15.833    2.78 | 21.92    1.11
              3.750    1.20 | 9.833    3.34 |15.917    2.78 | 22.00    1.11
              3.833    1.20 | 9.917    3.34 |16.000    2.78 | 22.08    1.11
              3.917    1.20 |10.000    3.34 |16.083    2.78 | 22.17    1.11
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                4.000    1.20 |10.083    3.34 |16.167      2.78 | 22.25    1.11
                4.083    1.20 |10.167    3.34 |16.250      2.78 | 22.33    1.11
                4.167    1.20 |10.250    3.34 |16.333      1.67 | 22.42    1.11
                4.250    1.20 |10.333    4.26 |16.417      1.67 | 22.50    1.11
                4.333    1.48 |10.417    4.26 |16.500      1.67 | 22.58    1.11
                4.417    1.48 |10.500    4.26 |16.583      1.67 | 22.67    1.11
                4.500    1.48 |10.583    4.26 |16.667      1.67 | 22.75    1.11
                4.583    1.48 |10.667    4.26 |16.750      1.67 | 22.83    1.11
                4.667    1.48 |10.750    4.26 |16.833      1.67 | 22.92    1.11
                4.750    1.48 |10.833    5.74 |16.917      1.67 | 23.00    1.11
                4.833    1.48 |10.917    5.74 |17.000      1.67 | 23.08    1.11
                4.917    1.48 |11.000    5.74 |17.083      1.67 | 23.17    1.11
                5.000    1.48 |11.083    5.74 |17.167      1.67 | 23.25    1.11
                5.083    1.48 |11.167    5.74 |17.250      1.67 | 23.33    1.11
                5.167    1.48 |11.250    5.74 |17.333      1.67 | 23.42    1.11
                5.250    1.48 |11.333    8.90 |17.417      1.67 | 23.50    1.11
                5.333    1.48 |11.417    8.90 |17.500      1.67 | 23.58    1.11
                5.417    1.48 |11.500    8.90 |17.583      1.67 | 23.67    1.11
                5.500    1.48 |11.583    8.90 |17.667      1.67 | 23.75    1.11
                5.583    1.48 |11.667    8.90 |17.750      1.67 | 23.83    1.11
                5.667    1.48 |11.750    8.90 |17.833      1.67 | 23.92    1.11
                5.750    1.48 |11.833   27.43 |17.917      1.67 | 24.00    1.11
                5.833    1.48 |11.917   27.43 |18.000      1.67 | 24.08    1.11
                5.917    1.48 |12.000   27.43 |18.083      1.67 | 24.17    1.11
                6.000    1.48 |12.083  113.41 |18.167      1.67 | 24.25    1.11
                6.083    1.48 |12.167  113.42 |18.250      1.67 |

     Unit Hyd Qpeak  (cms)=   0.972

     PEAK FLOW       (cms)=   0.812 (i)
     TIME TO PEAK    (hrs)=  12.750
     RUNOFF VOLUME    (mm)=  45.323
     TOTAL RAINFALL   (mm)=  92.660
     RUNOFF COEFFICIENT   =   0.489

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

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--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0010):     14.50   0.812    12.75    45.32
      + ID2= 2 (  0002):      1.57   0.103    12.50    38.03
        ===================================================
        ID = 3 (  0009):     16.07   0.898    12.67    44.61

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0009)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0009):     16.07   0.898    12.67    44.61
      + ID2= 2 (  0003):      7.36   0.437    12.67    43.89
        ===================================================
        ID = 1 (  0009):     23.43   1.335    12.67    44.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0009):     23.43   1.335    12.67    44.38
      + ID2= 2 (  0004):      5.75   0.354    12.58    42.30
        ===================================================
        ID = 3 (  0009):     29.18   1.682    12.67    43.97

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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**********************************************
** SIMULATION:J. 25yr 24hr 15min SCS Type II **
**********************************************

--------------------
|    READ STORM    |    Filename: C:\Users\noconnor\AppD
|                  |              ata\Local\Temp\
|                  |              49753dce-993e-48a5-8960-fc674d25ac10\7e11bead
| Ptotal=108.80 mm |    Comments: 25yr 24hr 15min SCS Type II
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                 TIME     RAIN |   TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                  hrs    mm/hr |    hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
                 0.00     0.00 |   6.25     1.96 | 12.50    15.67 | 18.75     1.96
                 0.25     1.20 |   6.50     1.96 | 12.75     8.05 | 19.00     1.96
                 0.50     1.20 |   6.75     1.96 | 13.00     8.05 | 19.25     1.96
                 0.75     1.20 |   7.00     1.96 | 13.25     5.88 | 19.50     1.96
                 1.00     1.20 |   7.25     2.39 | 13.50     5.88 | 19.75     1.96
                 1.25     1.20 |   7.50     2.39 | 13.75     4.57 | 20.00     1.96
                 1.50     1.20 |   7.75     2.39 | 14.00     4.57 | 20.25     1.31
                 1.75     1.20 |   8.00     2.39 | 14.25     3.26 | 20.50     1.31
                 2.00     1.20 |   8.25     2.83 | 14.50     3.26 | 20.75     1.31
                 2.25     1.41 |   8.50     2.83 | 14.75     3.26 | 21.00     1.31
                 2.50     1.41 |   8.75     3.05 | 15.00     3.26 | 21.25     1.31
                 2.75     1.41 |   9.00     3.05 | 15.25     3.26 | 21.50     1.31
                 3.00     1.41 |   9.25     3.48 | 15.50     3.26 | 21.75     1.31
                 3.25     1.41 |   9.50     3.48 | 15.75     3.26 | 22.00     1.31
                 3.50     1.41 |   9.75     3.92 | 16.00     3.26 | 22.25     1.31
                 3.75     1.41 |  10.00     3.92 | 16.25     1.96 | 22.50     1.31
                 4.00     1.41 |  10.25     5.00 | 16.50     1.96 | 22.75     1.31
                 4.25     1.74 |  10.50     5.00 | 16.75     1.96 | 23.00     1.31
                 4.50     1.74 |  10.75     6.75 | 17.00     1.96 | 23.25     1.31
                 4.75     1.74 |  11.00     6.75 | 17.25     1.96 | 23.50     1.31
                 5.00     1.74 |  11.25    10.44 | 17.50     1.96 | 23.75     1.31
                 5.25     1.74 |  11.50    10.44 | 17.75     1.96 | 24.00     1.31
                 5.50     1.74 |  11.75    32.20 | 18.00     1.96 |
                 5.75     1.74 |  12.00   133.17 | 18.25     1.96 |
                 6.00     1.74 |  12.25    15.67 | 18.50     1.96 |

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| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=  10.54   Curve Number   (CN)= 77.4
|ID= 1 DT= 5.0 min |   Ia       (mm)=   7.15   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

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


                              ---- TRANSFORMED HYETOGRAPH ----
                 TIME     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     1.74 |12.250   133.17 | 18.33     1.96
                0.167     0.00 | 6.250     1.74 |12.333    15.68 | 18.42     1.96
                0.250     0.00 | 6.333     1.96 |12.417    15.67 | 18.50     1.96
                0.333     1.20 | 6.417     1.96 |12.500    15.67 | 18.58     1.96
                0.417     1.20 | 6.500     1.96 |12.583    15.67 | 18.67     1.96
                0.500     1.20 | 6.583     1.96 |12.667    15.67 | 18.75     1.96
                0.583     1.20 | 6.667     1.96 |12.750    15.67 | 18.83     1.96
                0.667     1.20 | 6.750     1.96 |12.833     8.05 | 18.92     1.96
                0.750     1.20 | 6.833     1.96 |12.917     8.05 | 19.00     1.96
                0.833     1.20 | 6.917     1.96 |13.000     8.05 | 19.08     1.96
                0.917     1.20 | 7.000     1.96 |13.083     8.05 | 19.17     1.96
                1.000     1.20 | 7.083     1.96 |13.167     8.05 | 19.25     1.96
                1.083     1.20 | 7.167     1.96 |13.250     8.05 | 19.33     1.96
                1.167     1.20 | 7.250     1.96 |13.333     5.88 | 19.42     1.96
                1.250     1.20 | 7.333     2.39 |13.417     5.88 | 19.50     1.96
                1.333     1.20 | 7.417     2.39 |13.500     5.88 | 19.58     1.96
                1.417     1.20 | 7.500     2.39 |13.583     5.88 | 19.67     1.96
                1.500     1.20 | 7.583     2.39 |13.667     5.88 | 19.75     1.96
                1.583     1.20 | 7.667     2.39 |13.750     5.88 | 19.83     1.96
                1.667     1.20 | 7.750     2.39 |13.833     4.57 | 19.92     1.96
                1.750     1.20 | 7.833     2.39 |13.917     4.57 | 20.00     1.96
                1.833     1.20 | 7.917     2.39 |14.000     4.57 | 20.08     1.96
                1.917     1.20 | 8.000     2.39 |14.083     4.57 | 20.17     1.96
                2.000     1.20 | 8.083     2.39 |14.167     4.57 | 20.25     1.96
                2.083     1.20 | 8.167     2.39 |14.250     4.57 | 20.33     1.31
                2.167     1.20 | 8.250     2.39 |14.333     3.26 | 20.42     1.31
                2.250     1.20 | 8.333     2.83 |14.417     3.26 | 20.50     1.31
                2.333     1.41 | 8.417     2.83 |14.500     3.26 | 20.58     1.31
                2.417     1.41 | 8.500     2.83 |14.583     3.26 | 20.67     1.31
                2.500     1.41 | 8.583     2.83 |14.667     3.26 | 20.75     1.31
                2.583     1.41 | 8.667     2.83 |14.750     3.26 | 20.83     1.31
                2.667     1.41 | 8.750     2.83 |14.833     3.26 | 20.92     1.31
                2.750     1.41 | 8.833     3.05 |14.917     3.26 | 21.00     1.31
                2.833     1.41 | 8.917     3.05 |15.000     3.26 | 21.08     1.31
                2.917     1.41 | 9.000     3.05 |15.083     3.26 | 21.17     1.31
                3.000     1.41 | 9.083     3.05 |15.167     3.26 | 21.25     1.31
                3.083     1.41 | 9.167     3.05 |15.250     3.26 | 21.33     1.31
                3.167     1.41 | 9.250     3.05 |15.333     3.26 | 21.42     1.31
                3.250     1.41 | 9.333     3.48 |15.417     3.26 | 21.50     1.31
                3.333     1.41 | 9.417     3.48 |15.500     3.26 | 21.58     1.31
                3.417     1.41 | 9.500     3.48 |15.583     3.26 | 21.67     1.31
                3.500     1.41 | 9.583     3.48 |15.667     3.26 | 21.75     1.31
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              3.583    1.41 | 9.667    3.48 |15.750    3.26 | 21.83    1.31
              3.667    1.41 | 9.750    3.48 |15.833    3.26 | 21.92    1.31
              3.750    1.41 | 9.833    3.92 |15.917    3.26 | 22.00    1.31
              3.833    1.41 | 9.917    3.92 |16.000    3.26 | 22.08    1.31
              3.917    1.41 |10.000    3.92 |16.083    3.26 | 22.17    1.31
              4.000    1.41 |10.083    3.92 |16.167    3.26 | 22.25    1.31
              4.083    1.41 |10.167    3.92 |16.250    3.26 | 22.33    1.31
              4.167    1.41 |10.250    3.92 |16.333    1.96 | 22.42    1.31
              4.250    1.41 |10.333    5.00 |16.417    1.96 | 22.50    1.31
              4.333    1.74 |10.417    5.00 |16.500    1.96 | 22.58    1.31
              4.417    1.74 |10.500    5.00 |16.583    1.96 | 22.67    1.31
              4.500    1.74 |10.583    5.00 |16.667    1.96 | 22.75    1.31
              4.583    1.74 |10.667    5.00 |16.750    1.96 | 22.83    1.31
              4.667    1.74 |10.750    5.00 |16.833    1.96 | 22.92    1.31
              4.750    1.74 |10.833    6.75 |16.917    1.96 | 23.00    1.31
              4.833    1.74 |10.917    6.75 |17.000    1.96 | 23.08    1.31
              4.917    1.74 |11.000    6.75 |17.083    1.96 | 23.17    1.31
              5.000    1.74 |11.083    6.75 |17.167    1.96 | 23.25    1.31
              5.083    1.74 |11.167    6.75 |17.250    1.96 | 23.33    1.31
              5.167    1.74 |11.250    6.75 |17.333    1.96 | 23.42    1.31
              5.250    1.74 |11.333   10.44 |17.417    1.96 | 23.50    1.31
              5.333    1.74 |11.417   10.44 |17.500    1.96 | 23.58    1.31
              5.417    1.74 |11.500   10.44 |17.583    1.96 | 23.67    1.31
              5.500    1.74 |11.583   10.44 |17.667    1.96 | 23.75    1.31
              5.583    1.74 |11.667   10.44 |17.750    1.96 | 23.83    1.31
              5.667    1.74 |11.750   10.44 |17.833    1.96 | 23.92    1.31
              5.750    1.74 |11.833   32.20 |17.917    1.96 | 24.00    1.31
              5.833    1.74 |11.917   32.20 |18.000    1.96 | 24.08    1.31
              5.917    1.74 |12.000   32.20 |18.083    1.96 | 24.17    1.31
              6.000    1.74 |12.083  133.16 |18.167    1.96 | 24.25    1.31
              6.083    1.74 |12.167  133.17 |18.250    1.96 |

    Unit Hyd Qpeak  (cms)=   0.575

    PEAK FLOW       (cms)=   0.664 (i)
    TIME TO PEAK    (hrs)=  12.833
    RUNOFF VOLUME    (mm)=  58.769
    TOTAL RAINFALL   (mm)= 108.800
    RUNOFF COEFFICIENT   =   0.540

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

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| CALIB              |
| NASHYD   (  0002)|   Area    (ha)=   1.57   Curve Number   (CN)= 71.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.35

        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    1.74 |12.250  133.17 | 18.33    1.96
              0.167    0.00 | 6.250    1.74 |12.333   15.68 | 18.42    1.96
              0.250    0.00 | 6.333    1.96 |12.417   15.67 | 18.50    1.96
              0.333    1.20 | 6.417    1.96 |12.500   15.67 | 18.58    1.96
              0.417    1.20 | 6.500    1.96 |12.583   15.67 | 18.67    1.96
              0.500    1.20 | 6.583    1.96 |12.667   15.67 | 18.75    1.96
              0.583    1.20 | 6.667    1.96 |12.750   15.67 | 18.83    1.96
              0.667    1.20 | 6.750    1.96 |12.833    8.05 | 18.92    1.96
              0.750    1.20 | 6.833    1.96 |12.917    8.05 | 19.00    1.96
              0.833    1.20 | 6.917    1.96 |13.000    8.05 | 19.08    1.96
              0.917    1.20 | 7.000    1.96 |13.083    8.05 | 19.17    1.96
              1.000    1.20 | 7.083    1.96 |13.167    8.05 | 19.25    1.96
              1.083    1.20 | 7.167    1.96 |13.250    8.05 | 19.33    1.96
              1.167    1.20 | 7.250    1.96 |13.333    5.88 | 19.42    1.96
              1.250    1.20 | 7.333    2.39 |13.417    5.88 | 19.50    1.96
              1.333    1.20 | 7.417    2.39 |13.500    5.88 | 19.58    1.96
              1.417    1.20 | 7.500    2.39 |13.583    5.88 | 19.67    1.96
              1.500    1.20 | 7.583    2.39 |13.667    5.88 | 19.75    1.96
              1.583    1.20 | 7.667    2.39 |13.750    5.88 | 19.83    1.96
              1.667    1.20 | 7.750    2.39 |13.833    4.57 | 19.92    1.96
              1.750    1.20 | 7.833    2.39 |13.917    4.57 | 20.00    1.96
              1.833    1.20 | 7.917    2.39 |14.000    4.57 | 20.08    1.96
              1.917    1.20 | 8.000    2.39 |14.083    4.57 | 20.17    1.96
              2.000    1.20 | 8.083    2.39 |14.167    4.57 | 20.25    1.96
              2.083    1.20 | 8.167    2.39 |14.250    4.57 | 20.33    1.31
              2.167    1.20 | 8.250    2.39 |14.333    3.26 | 20.42    1.31
              2.250    1.20 | 8.333    2.83 |14.417    3.26 | 20.50    1.31
              2.333    1.41 | 8.417    2.83 |14.500    3.26 | 20.58    1.31
              2.417    1.41 | 8.500    2.83 |14.583    3.26 | 20.67    1.31
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              2.500    1.41 | 8.583    2.83 |14.667    3.26 | 20.75    1.31
              2.583    1.41 | 8.667    2.83 |14.750    3.26 | 20.83    1.31
              2.667    1.41 | 8.750    2.83 |14.833    3.26 | 20.92    1.31
              2.750    1.41 | 8.833    3.05 |14.917    3.26 | 21.00    1.31
              2.833    1.41 | 8.917    3.05 |15.000    3.26 | 21.08    1.31
              2.917    1.41 | 9.000    3.05 |15.083    3.26 | 21.17    1.31
              3.000    1.41 | 9.083    3.05 |15.167    3.26 | 21.25    1.31
              3.083    1.41 | 9.167    3.05 |15.250    3.26 | 21.33    1.31
              3.167    1.41 | 9.250    3.05 |15.333    3.26 | 21.42    1.31
              3.250    1.41 | 9.333    3.48 |15.417    3.26 | 21.50    1.31
              3.333    1.41 | 9.417    3.48 |15.500    3.26 | 21.58    1.31
              3.417    1.41 | 9.500    3.48 |15.583    3.26 | 21.67    1.31
              3.500    1.41 | 9.583    3.48 |15.667    3.26 | 21.75    1.31
              3.583    1.41 | 9.667    3.48 |15.750    3.26 | 21.83    1.31
              3.667    1.41 | 9.750    3.48 |15.833    3.26 | 21.92    1.31
              3.750    1.41 | 9.833    3.92 |15.917    3.26 | 22.00    1.31
              3.833    1.41 | 9.917    3.92 |16.000    3.26 | 22.08    1.31
              3.917    1.41 |10.000    3.92 |16.083    3.26 | 22.17    1.31
              4.000    1.41 |10.083    3.92 |16.167    3.26 | 22.25    1.31
              4.083    1.41 |10.167    3.92 |16.250    3.26 | 22.33    1.31
              4.167    1.41 |10.250    3.92 |16.333    1.96 | 22.42    1.31
              4.250    1.41 |10.333    5.00 |16.417    1.96 | 22.50    1.31
              4.333    1.74 |10.417    5.00 |16.500    1.96 | 22.58    1.31
              4.417    1.74 |10.500    5.00 |16.583    1.96 | 22.67    1.31
              4.500    1.74 |10.583    5.00 |16.667    1.96 | 22.75    1.31
              4.583    1.74 |10.667    5.00 |16.750    1.96 | 22.83    1.31
              4.667    1.74 |10.750    5.00 |16.833    1.96 | 22.92    1.31
              4.750    1.74 |10.833    6.75 |16.917    1.96 | 23.00    1.31
              4.833    1.74 |10.917    6.75 |17.000    1.96 | 23.08    1.31
              4.917    1.74 |11.000    6.75 |17.083    1.96 | 23.17    1.31
              5.000    1.74 |11.083    6.75 |17.167    1.96 | 23.25    1.31
              5.083    1.74 |11.167    6.75 |17.250    1.96 | 23.33    1.31
              5.167    1.74 |11.250    6.75 |17.333    1.96 | 23.42    1.31
              5.250    1.74 |11.333   10.44 |17.417    1.96 | 23.50    1.31
              5.333    1.74 |11.417   10.44 |17.500    1.96 | 23.58    1.31
              5.417    1.74 |11.500   10.44 |17.583    1.96 | 23.67    1.31
              5.500    1.74 |11.583   10.44 |17.667    1.96 | 23.75    1.31
              5.583    1.74 |11.667   10.44 |17.750    1.96 | 23.83    1.31
              5.667    1.74 |11.750   10.44 |17.833    1.96 | 23.92    1.31
              5.750    1.74 |11.833   32.20 |17.917    1.96 | 24.00    1.31
              5.833    1.74 |11.917   32.20 |18.000    1.96 | 24.08    1.31
              5.917    1.74 |12.000   32.20 |18.083    1.96 | 24.17    1.31
              6.000    1.74 |12.083  133.16 |18.167    1.96 | 24.25    1.31
              6.083    1.74 |12.167  133.17 |18.250    1.96 |

    Unit Hyd Qpeak  (cms)=   0.171

    PEAK FLOW       (cms)=   0.136 (i)
    TIME TO PEAK    (hrs)=  12.500
    RUNOFF VOLUME    (mm)=  49.663
    TOTAL RAINFALL   (mm)= 108.800
    RUNOFF COEFFICIENT   =   0.456

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

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| CALIB              |
| NASHYD   (  0003)|   Area    (ha)=   7.36   Curve Number   (CN)= 75.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.50

        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    1.74 |12.250  133.17 | 18.33    1.96
              0.167    0.00 | 6.250    1.74 |12.333   15.68 | 18.42    1.96
              0.250    0.00 | 6.333    1.96 |12.417   15.67 | 18.50    1.96
              0.333    1.20 | 6.417    1.96 |12.500   15.67 | 18.58    1.96
              0.417    1.20 | 6.500    1.96 |12.583   15.67 | 18.67    1.96
              0.500    1.20 | 6.583    1.96 |12.667   15.67 | 18.75    1.96
              0.583    1.20 | 6.667    1.96 |12.750   15.67 | 18.83    1.96
              0.667    1.20 | 6.750    1.96 |12.833    8.05 | 18.92    1.96
              0.750    1.20 | 6.833    1.96 |12.917    8.05 | 19.00    1.96
              0.833    1.20 | 6.917    1.96 |13.000    8.05 | 19.08    1.96
              0.917    1.20 | 7.000    1.96 |13.083    8.05 | 19.17    1.96
              1.000    1.20 | 7.083    1.96 |13.167    8.05 | 19.25    1.96
              1.083    1.20 | 7.167    1.96 |13.250    8.05 | 19.33    1.96
              1.167    1.20 | 7.250    1.96 |13.333    5.88 | 19.42    1.96
              1.250    1.20 | 7.333    2.39 |13.417    5.88 | 19.50    1.96
              1.333    1.20 | 7.417    2.39 |13.500    5.88 | 19.58    1.96
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                1.417    1.20 | 7.500    2.39 |13.583    5.88 | 19.67    1.96
                1.500    1.20 | 7.583    2.39 |13.667    5.88 | 19.75    1.96
                1.583    1.20 | 7.667    2.39 |13.750    5.88 | 19.83    1.96
                1.667    1.20 | 7.750    2.39 |13.833    4.57 | 19.92    1.96
                1.750    1.20 | 7.833    2.39 |13.917    4.57 | 20.00    1.96
                1.833    1.20 | 7.917    2.39 |14.000    4.57 | 20.08    1.96
                1.917    1.20 | 8.000    2.39 |14.083    4.57 | 20.17    1.96
                2.000    1.20 | 8.083    2.39 |14.167    4.57 | 20.25    1.96
                2.083    1.20 | 8.167    2.39 |14.250    4.57 | 20.33    1.31
                2.167    1.20 | 8.250    2.39 |14.333    3.26 | 20.42    1.31
                2.250    1.20 | 8.333    2.83 |14.417    3.26 | 20.50    1.31
                2.333    1.41 | 8.417    2.83 |14.500    3.26 | 20.58    1.31
                2.417    1.41 | 8.500    2.83 |14.583    3.26 | 20.67    1.31
                2.500    1.41 | 8.583    2.83 |14.667    3.26 | 20.75    1.31
                2.583    1.41 | 8.667    2.83 |14.750    3.26 | 20.83    1.31
                2.667    1.41 | 8.750    2.83 |14.833    3.26 | 20.92    1.31
                2.750    1.41 | 8.833    3.05 |14.917    3.26 | 21.00    1.31
                2.833    1.41 | 8.917    3.05 |15.000    3.26 | 21.08    1.31
                2.917    1.41 | 9.000    3.05 |15.083    3.26 | 21.17    1.31
                3.000    1.41 | 9.083    3.05 |15.167    3.26 | 21.25    1.31
                3.083    1.41 | 9.167    3.05 |15.250    3.26 | 21.33    1.31
                3.167    1.41 | 9.250    3.05 |15.333    3.26 | 21.42    1.31
                3.250    1.41 | 9.333    3.48 |15.417    3.26 | 21.50    1.31
                3.333    1.41 | 9.417    3.48 |15.500    3.26 | 21.58    1.31
                3.417    1.41 | 9.500    3.48 |15.583    3.26 | 21.67    1.31
                3.500    1.41 | 9.583    3.48 |15.667    3.26 | 21.75    1.31
                3.583    1.41 | 9.667    3.48 |15.750    3.26 | 21.83    1.31
                3.667    1.41 | 9.750    3.48 |15.833    3.26 | 21.92    1.31
                3.750    1.41 | 9.833    3.92 |15.917    3.26 | 22.00    1.31
                3.833    1.41 | 9.917    3.92 |16.000    3.26 | 22.08    1.31
                3.917    1.41 |10.000    3.92 |16.083    3.26 | 22.17    1.31
                4.000    1.41 |10.083    3.92 |16.167    3.26 | 22.25    1.31
                4.083    1.41 |10.167    3.92 |16.250    3.26 | 22.33    1.31
                4.167    1.41 |10.250    3.92 |16.333    1.96 | 22.42    1.31
                4.250    1.41 |10.333    5.00 |16.417    1.96 | 22.50    1.31
                4.333    1.74 |10.417    5.00 |16.500    1.96 | 22.58    1.31
                4.417    1.74 |10.500    5.00 |16.583    1.96 | 22.67    1.31
                4.500    1.74 |10.583    5.00 |16.667    1.96 | 22.75    1.31
                4.583    1.74 |10.667    5.00 |16.750    1.96 | 22.83    1.31
                4.667    1.74 |10.750    5.00 |16.833    1.96 | 22.92    1.31
                4.750    1.74 |10.833    6.75 |16.917    1.96 | 23.00    1.31
                4.833    1.74 |10.917    6.75 |17.000    1.96 | 23.08    1.31
                4.917    1.74 |11.000    6.75 |17.083    1.96 | 23.17    1.31
                5.000    1.74 |11.083    6.75 |17.167    1.96 | 23.25    1.31
                5.083    1.74 |11.167    6.75 |17.250    1.96 | 23.33    1.31
                5.167    1.74 |11.250    6.75 |17.333    1.96 | 23.42    1.31
                5.250    1.74 |11.333   10.44 |17.417    1.96 | 23.50    1.31
                5.333    1.74 |11.417   10.44 |17.500    1.96 | 23.58    1.31
                5.417    1.74 |11.500   10.44 |17.583    1.96 | 23.67    1.31
                5.500    1.74 |11.583   10.44 |17.667    1.96 | 23.75    1.31
                5.583    1.74 |11.667   10.44 |17.750    1.96 | 23.83    1.31
                5.667    1.74 |11.750   10.44 |17.833    1.96 | 23.92    1.31
                5.750    1.74 |11.833   32.20 |17.917    1.96 | 24.00    1.31
                5.833    1.74 |11.917   32.20 |18.000    1.96 | 24.08    1.31
                5.917    1.74 |12.000   32.20 |18.083    1.96 | 24.17    1.31
                6.000    1.74 |12.083  133.16 |18.167    1.96 | 24.25    1.31
                6.083    1.74 |12.167  133.17 |18.250    1.96 |

     Unit Hyd Qpeak  (cms)=   0.562

     PEAK FLOW       (cms)=   0.567 (i)
     TIME TO PEAK    (hrs)=  12.667
     RUNOFF VOLUME    (mm)=  56.556
     TOTAL RAINFALL   (mm)= 108.800
     RUNOFF COEFFICIENT   =   0.520

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

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| CALIB              |
| NASHYD   (  0004)|   Area    (ha)=    5.75   Curve Number   (CN)= 74.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=    6.83   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.45

         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    1.74 |12.250  133.17 | 18.33    1.96
                0.167    0.00 | 6.250    1.74 |12.333   15.68 | 18.42    1.96
                0.250    0.00 | 6.333    1.96 |12.417   15.67 | 18.50    1.96
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                0.333    1.20 | 6.417    1.96 |12.500   15.67 | 18.58    1.96
                0.417    1.20 | 6.500    1.96 |12.583   15.67 | 18.67    1.96
                0.500    1.20 | 6.583    1.96 |12.667   15.67 | 18.75    1.96
                0.583    1.20 | 6.667    1.96 |12.750   15.67 | 18.83    1.96
                0.667    1.20 | 6.750    1.96 |12.833    8.05 | 18.92    1.96
                0.750    1.20 | 6.833    1.96 |12.917    8.05 | 19.00    1.96
                0.833    1.20 | 6.917    1.96 |13.000    8.05 | 19.08    1.96
                0.917    1.20 | 7.000    1.96 |13.083    8.05 | 19.17    1.96
                1.000    1.20 | 7.083    1.96 |13.167    8.05 | 19.25    1.96
                1.083    1.20 | 7.167    1.96 |13.250    8.05 | 19.33    1.96
                1.167    1.20 | 7.250    1.96 |13.333    5.88 | 19.42    1.96
                1.250    1.20 | 7.333    2.39 |13.417    5.88 | 19.50    1.96
                1.333    1.20 | 7.417    2.39 |13.500    5.88 | 19.58    1.96
                1.417    1.20 | 7.500    2.39 |13.583    5.88 | 19.67    1.96
                1.500    1.20 | 7.583    2.39 |13.667    5.88 | 19.75    1.96
                1.583    1.20 | 7.667    2.39 |13.750    5.88 | 19.83    1.96
                1.667    1.20 | 7.750    2.39 |13.833    4.57 | 19.92    1.96
                1.750    1.20 | 7.833    2.39 |13.917    4.57 | 20.00    1.96
                1.833    1.20 | 7.917    2.39 |14.000    4.57 | 20.08    1.96
                1.917    1.20 | 8.000    2.39 |14.083    4.57 | 20.17    1.96
                2.000    1.20 | 8.083    2.39 |14.167    4.57 | 20.25    1.96
                2.083    1.20 | 8.167    2.39 |14.250    4.57 | 20.33    1.31
                2.167    1.20 | 8.250    2.39 |14.333    3.26 | 20.42    1.31
                2.250    1.20 | 8.333    2.83 |14.417    3.26 | 20.50    1.31
                2.333    1.41 | 8.417    2.83 |14.500    3.26 | 20.58    1.31
                2.417    1.41 | 8.500    2.83 |14.583    3.26 | 20.67    1.31
                2.500    1.41 | 8.583    2.83 |14.667    3.26 | 20.75    1.31
                2.583    1.41 | 8.667    2.83 |14.750    3.26 | 20.83    1.31
                2.667    1.41 | 8.750    2.83 |14.833    3.26 | 20.92    1.31
                2.750    1.41 | 8.833    3.05 |14.917    3.26 | 21.00    1.31
                2.833    1.41 | 8.917    3.05 |15.000    3.26 | 21.08    1.31
                2.917    1.41 | 9.000    3.05 |15.083    3.26 | 21.17    1.31
                3.000    1.41 | 9.083    3.05 |15.167    3.26 | 21.25    1.31
                3.083    1.41 | 9.167    3.05 |15.250    3.26 | 21.33    1.31
                3.167    1.41 | 9.250    3.05 |15.333    3.26 | 21.42    1.31
                3.250    1.41 | 9.333    3.48 |15.417    3.26 | 21.50    1.31
                3.333    1.41 | 9.417    3.48 |15.500    3.26 | 21.58    1.31
                3.417    1.41 | 9.500    3.48 |15.583    3.26 | 21.67    1.31
                3.500    1.41 | 9.583    3.48 |15.667    3.26 | 21.75    1.31
                3.583    1.41 | 9.667    3.48 |15.750    3.26 | 21.83    1.31
                3.667    1.41 | 9.750    3.48 |15.833    3.26 | 21.92    1.31
                3.750    1.41 | 9.833    3.92 |15.917    3.26 | 22.00    1.31
                3.833    1.41 | 9.917    3.92 |16.000    3.26 | 22.08    1.31
                3.917    1.41 |10.000    3.92 |16.083    3.26 | 22.17    1.31
                4.000    1.41 |10.083    3.92 |16.167    3.26 | 22.25    1.31
                4.083    1.41 |10.167    3.92 |16.250    3.26 | 22.33    1.31
                4.167    1.41 |10.250    3.92 |16.333    1.96 | 22.42    1.31
                4.250    1.41 |10.333    5.00 |16.417    1.96 | 22.50    1.31
                4.333    1.74 |10.417    5.00 |16.500    1.96 | 22.58    1.31
                4.417    1.74 |10.500    5.00 |16.583    1.96 | 22.67    1.31
                4.500    1.74 |10.583    5.00 |16.667    1.96 | 22.75    1.31
                4.583    1.74 |10.667    5.00 |16.750    1.96 | 22.83    1.31
                4.667    1.74 |10.750    5.00 |16.833    1.96 | 22.92    1.31
                4.750    1.74 |10.833    6.75 |16.917    1.96 | 23.00    1.31
                4.833    1.74 |10.917    6.75 |17.000    1.96 | 23.08    1.31
                4.917    1.74 |11.000    6.75 |17.083    1.96 | 23.17    1.31
                5.000    1.74 |11.083    6.75 |17.167    1.96 | 23.25    1.31
                5.083    1.74 |11.167    6.75 |17.250    1.96 | 23.33    1.31
                5.167    1.74 |11.250    6.75 |17.333    1.96 | 23.42    1.31
                5.250    1.74 |11.333   10.44 |17.417    1.96 | 23.50    1.31
                5.333    1.74 |11.417   10.44 |17.500    1.96 | 23.58    1.31
                5.417    1.74 |11.500   10.44 |17.583    1.96 | 23.67    1.31
                5.500    1.74 |11.583   10.44 |17.667    1.96 | 23.75    1.31
                5.583    1.74 |11.667   10.44 |17.750    1.96 | 23.83    1.31
                5.667    1.74 |11.750   10.44 |17.833    1.96 | 23.92    1.31
                5.750    1.74 |11.833   32.20 |17.917    1.96 | 24.00    1.31
                5.833    1.74 |11.917   32.20 |18.000    1.96 | 24.08    1.31
                5.917    1.74 |12.000   32.20 |18.083    1.96 | 24.17    1.31
                6.000    1.74 |12.083  133.16 |18.167    1.96 | 24.25    1.31
                6.083    1.74 |12.167  133.17 |18.250    1.96 |

     Unit Hyd Qpeak  (cms)=   0.488

     PEAK FLOW       (cms)=   0.461 (i)
     TIME TO PEAK    (hrs)=  12.583
     RUNOFF VOLUME    (mm)=  54.638
     TOTAL RAINFALL   (mm)= 108.800
     RUNOFF COEFFICIENT   =   0.502

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

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| CALIB              |
| NASHYD   (  0010)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.57

        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    1.74 |12.250  133.17 | 18.33    1.96
                0.167    0.00 | 6.250    1.74 |12.333   15.68 | 18.42    1.96
                0.250    0.00 | 6.333    1.96 |12.417   15.67 | 18.50    1.96
                0.333    1.20 | 6.417    1.96 |12.500   15.67 | 18.58    1.96
                0.417    1.20 | 6.500    1.96 |12.583   15.67 | 18.67    1.96
                0.500    1.20 | 6.583    1.96 |12.667   15.67 | 18.75    1.96
                0.583    1.20 | 6.667    1.96 |12.750   15.67 | 18.83    1.96
                0.667    1.20 | 6.750    1.96 |12.833    8.05 | 18.92    1.96
                0.750    1.20 | 6.833    1.96 |12.917    8.05 | 19.00    1.96
                0.833    1.20 | 6.917    1.96 |13.000    8.05 | 19.08    1.96
                0.917    1.20 | 7.000    1.96 |13.083    8.05 | 19.17    1.96
                1.000    1.20 | 7.083    1.96 |13.167    8.05 | 19.25    1.96
                1.083    1.20 | 7.167    1.96 |13.250    8.05 | 19.33    1.96
                1.167    1.20 | 7.250    1.96 |13.333    5.88 | 19.42    1.96
                1.250    1.20 | 7.333    2.39 |13.417    5.88 | 19.50    1.96
                1.333    1.20 | 7.417    2.39 |13.500    5.88 | 19.58    1.96
                1.417    1.20 | 7.500    2.39 |13.583    5.88 | 19.67    1.96
                1.500    1.20 | 7.583    2.39 |13.667    5.88 | 19.75    1.96
                1.583    1.20 | 7.667    2.39 |13.750    5.88 | 19.83    1.96
                1.667    1.20 | 7.750    2.39 |13.833    4.57 | 19.92    1.96
                1.750    1.20 | 7.833    2.39 |13.917    4.57 | 20.00    1.96
                1.833    1.20 | 7.917    2.39 |14.000    4.57 | 20.08    1.96
                1.917    1.20 | 8.000    2.39 |14.083    4.57 | 20.17    1.96
                2.000    1.20 | 8.083    2.39 |14.167    4.57 | 20.25    1.96
                2.083    1.20 | 8.167    2.39 |14.250    4.57 | 20.33    1.31
                2.167    1.20 | 8.250    2.39 |14.333    3.26 | 20.42    1.31
                2.250    1.20 | 8.333    2.83 |14.417    3.26 | 20.50    1.31
                2.333    1.41 | 8.417    2.83 |14.500    3.26 | 20.58    1.31
                2.417    1.41 | 8.500    2.83 |14.583    3.26 | 20.67    1.31
                2.500    1.41 | 8.583    2.83 |14.667    3.26 | 20.75    1.31
                2.583    1.41 | 8.667    2.83 |14.750    3.26 | 20.83    1.31
                2.667    1.41 | 8.750    2.83 |14.833    3.26 | 20.92    1.31
                2.750    1.41 | 8.833    3.05 |14.917    3.26 | 21.00    1.31
                2.833    1.41 | 8.917    3.05 |15.000    3.26 | 21.08    1.31
                2.917    1.41 | 9.000    3.05 |15.083    3.26 | 21.17    1.31
                3.000    1.41 | 9.083    3.05 |15.167    3.26 | 21.25    1.31
                3.083    1.41 | 9.167    3.05 |15.250    3.26 | 21.33    1.31
                3.167    1.41 | 9.250    3.05 |15.333    3.26 | 21.42    1.31
                3.250    1.41 | 9.333    3.48 |15.417    3.26 | 21.50    1.31
                3.333    1.41 | 9.417    3.48 |15.500    3.26 | 21.58    1.31
                3.417    1.41 | 9.500    3.48 |15.583    3.26 | 21.67    1.31
                3.500    1.41 | 9.583    3.48 |15.667    3.26 | 21.75    1.31
                3.583    1.41 | 9.667    3.48 |15.750    3.26 | 21.83    1.31
                3.667    1.41 | 9.750    3.48 |15.833    3.26 | 21.92    1.31
                3.750    1.41 | 9.833    3.92 |15.917    3.26 | 22.00    1.31
                3.833    1.41 | 9.917    3.92 |16.000    3.26 | 22.08    1.31
                3.917    1.41 |10.000    3.92 |16.083    3.26 | 22.17    1.31
                4.000    1.41 |10.083    3.92 |16.167    3.26 | 22.25    1.31
                4.083    1.41 |10.167    3.92 |16.250    3.26 | 22.33    1.31
                4.167    1.41 |10.250    3.92 |16.333    1.96 | 22.42    1.31
                4.250    1.41 |10.333    5.00 |16.417    1.96 | 22.50    1.31
                4.333    1.74 |10.417    5.00 |16.500    1.96 | 22.58    1.31
                4.417    1.74 |10.500    5.00 |16.583    1.96 | 22.67    1.31
                4.500    1.74 |10.583    5.00 |16.667    1.96 | 22.75    1.31
                4.583    1.74 |10.667    5.00 |16.750    1.96 | 22.83    1.31
                4.667    1.74 |10.750    5.00 |16.833    1.96 | 22.92    1.31
                4.750    1.74 |10.833    6.75 |16.917    1.96 | 23.00    1.31
                4.833    1.74 |10.917    6.75 |17.000    1.96 | 23.08    1.31
                4.917    1.74 |11.000    6.75 |17.083    1.96 | 23.17    1.31
                5.000    1.74 |11.083    6.75 |17.167    1.96 | 23.25    1.31
                5.083    1.74 |11.167    6.75 |17.250    1.96 | 23.33    1.31
                5.167    1.74 |11.250    6.75 |17.333    1.96 | 23.42    1.31
                5.250    1.74 |11.333   10.44 |17.417    1.96 | 23.50    1.31
                5.333    1.74 |11.417   10.44 |17.500    1.96 | 23.58    1.31
                5.417    1.74 |11.500   10.44 |17.583    1.96 | 23.67    1.31
                5.500    1.74 |11.583   10.44 |17.667    1.96 | 23.75    1.31
                5.583    1.74 |11.667   10.44 |17.750    1.96 | 23.83    1.31
                5.667    1.74 |11.750   10.44 |17.833    1.96 | 23.92    1.31
                5.750    1.74 |11.833   32.20 |17.917    1.96 | 24.00    1.31
                5.833    1.74 |11.917   32.20 |18.000    1.96 | 24.08    1.31
                5.917    1.74 |12.000   32.20 |18.083    1.96 | 24.17    1.31
                6.000    1.74 |12.083  133.16 |18.167    1.96 | 24.25    1.31
                6.083    1.74 |12.167  133.17 |18.250    1.96 |
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```
     Unit Hyd Qpeak  (cms)=   0.972

     PEAK FLOW       (cms)=   1.049 (i)
     TIME TO PEAK    (hrs)=  12.750
     RUNOFF VOLUME    (mm)=  58.220
     TOTAL RAINFALL   (mm)= 108.800
     RUNOFF COEFFICIENT   =   0.535

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

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--------------------
| ADD HYD  (  0009)|
|  1 +  2 =  3     |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0010):   14.50    1.049    12.75    58.22
      + ID2= 2 (  0002):    1.57    0.136    12.50    49.66
        ==================================================
        ID = 3 (  0009):   16.07    1.163    12.67    57.38

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0009)|
|  3 +  2 =  1     |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0009):   16.07    1.163    12.67    57.38
      + ID2= 2 (  0003):    7.36    0.567    12.67    56.56
        ==================================================
        ID = 1 (  0009):   23.43    1.730    12.67    57.12

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

--------------------
| ADD HYD  (  0009)|
|  1 +  2 =  3     |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0009):   23.43    1.730    12.67    57.12
      + ID2= 2 (  0004):    5.75    0.461    12.58    54.64
        ==================================================
        ID = 3 (  0009):   29.18    2.181    12.67    56.63

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
***********************************************
** SIMULATION:K. 50yr 24hr 15min SCS Type II **
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--------------------
|    READ STORM    |    Filename: C:\Users\noconnor\AppD
|                  |              ata\Local\Temp\
|                  |              49753dce-993e-48a5-8960-fc674d25ac10\4ed811d1
| Ptotal=120.77 mm |    Comments: 50yr 24hr 15min SCS Type II
--------------------
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.00    0.00 |  6.25    2.17 | 12.50   17.39 | 18.75    2.17
                 0.25    1.33 |  6.50    2.17 | 12.75    8.94 | 19.00    2.17
                 0.50    1.33 |  6.75    2.17 | 13.00    8.94 | 19.25    2.17
                 0.75    1.33 |  7.00    2.17 | 13.25    6.52 | 19.50    2.17
                 1.00    1.33 |  7.25    2.66 | 13.50    6.52 | 19.75    2.17
                 1.25    1.33 |  7.50    2.66 | 13.75    5.07 | 20.00    2.17
                 1.50    1.33 |  7.75    2.66 | 14.00    5.07 | 20.25    1.45
                 1.75    1.33 |  8.00    2.66 | 14.25    3.62 | 20.50    1.45
                 2.00    1.33 |  8.25    3.14 | 14.50    3.62 | 20.75    1.45
                 2.25    1.57 |  8.50    3.14 | 14.75    3.62 | 21.00    1.45
                 2.50    1.57 |  8.75    3.38 | 15.00    3.62 | 21.25    1.45
                 2.75    1.57 |  9.00    3.38 | 15.25    3.62 | 21.50    1.45
                 3.00    1.57 |  9.25    3.86 | 15.50    3.62 | 21.75    1.45
                 3.25    1.57 |  9.50    3.86 | 15.75    3.62 | 22.00    1.45
                 3.50    1.57 |  9.75    4.35 | 16.00    3.62 | 22.25    1.45
                 3.75    1.57 | 10.00    4.35 | 16.25    2.17 | 22.50    1.45
                 4.00    1.57 | 10.25    5.56 | 16.50    2.17 | 22.75    1.45
                 4.25    1.93 | 10.50    5.56 | 16.75    2.17 | 23.00    1.45
                 4.50    1.93 | 10.75    7.49 | 17.00    2.17 | 23.25    1.45
                 4.75    1.93 | 11.00    7.49 | 17.25    2.17 | 23.50    1.45
                 5.00    1.93 | 11.25   11.59 | 17.50    2.17 | 23.75    1.45
                 5.25    1.93 | 11.50   11.59 | 17.75    2.17 | 24.00    1.45
                 5.50    1.93 | 11.75   35.75 | 18.00    2.17 |
                 5.75    1.93 | 12.00  147.82 | 18.25    2.17 |
                 6.00    1.93 | 12.25   17.39 | 18.50    2.17 |
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| CALIB              |
| NASHYD   (  0001)|   Area    (ha)=  10.54   Curve Number   (CN)= 77.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.15   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

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


                              ---- TRANSFORMED HYETOGRAPH ----
                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.083    0.00 | 6.167    1.93 |12.250  147.82 | 18.33    2.17
                 0.167    0.00 | 6.250    1.93 |12.333   17.41 | 18.42    2.17
                 0.250    0.00 | 6.333    2.17 |12.417   17.39 | 18.50    2.17
                 0.333    1.33 | 6.417    2.17 |12.500   17.39 | 18.58    2.17
                 0.417    1.33 | 6.500    2.17 |12.583   17.39 | 18.67    2.17
                 0.500    1.33 | 6.583    2.17 |12.667   17.39 | 18.75    2.17
                 0.583    1.33 | 6.667    2.17 |12.750   17.39 | 18.83    2.17
                 0.667    1.33 | 6.750    2.17 |12.833    8.94 | 18.92    2.17
                 0.750    1.33 | 6.833    2.17 |12.917    8.94 | 19.00    2.17
                 0.833    1.33 | 6.917    2.17 |13.000    8.94 | 19.08    2.17
                 0.917    1.33 | 7.000    2.17 |13.083    8.94 | 19.17    2.17
                 1.000    1.33 | 7.083    2.17 |13.167    8.94 | 19.25    2.17
                 1.083    1.33 | 7.167    2.17 |13.250    8.94 | 19.33    2.17
                 1.167    1.33 | 7.250    2.17 |13.333    6.52 | 19.42    2.17
                 1.250    1.33 | 7.333    2.66 |13.417    6.52 | 19.50    2.17
                 1.333    1.33 | 7.417    2.66 |13.500    6.52 | 19.58    2.17
                 1.417    1.33 | 7.500    2.66 |13.583    6.52 | 19.67    2.17
                 1.500    1.33 | 7.583    2.66 |13.667    6.52 | 19.75    2.17
                 1.583    1.33 | 7.667    2.66 |13.750    6.52 | 19.83    2.17
                 1.667    1.33 | 7.750    2.66 |13.833    5.07 | 19.92    2.17
                 1.750    1.33 | 7.833    2.66 |13.917    5.07 | 20.00    2.17
                 1.833    1.33 | 7.917    2.66 |14.000    5.07 | 20.08    2.17
                 1.917    1.33 | 8.000    2.66 |14.083    5.07 | 20.17    2.17
                 2.000    1.33 | 8.083    2.66 |14.167    5.07 | 20.25    2.17
                 2.083    1.33 | 8.167    2.66 |14.250    5.07 | 20.33    1.45
                 2.167    1.33 | 8.250    2.66 |14.333    3.62 | 20.42    1.45
                 2.250    1.33 | 8.333    3.14 |14.417    3.62 | 20.50    1.45
                 2.333    1.57 | 8.417    3.14 |14.500    3.62 | 20.58    1.45
                 2.417    1.57 | 8.500    3.14 |14.583    3.62 | 20.67    1.45
                 2.500    1.57 | 8.583    3.14 |14.667    3.62 | 20.75    1.45
                 2.583    1.57 | 8.667    3.14 |14.750    3.62 | 20.83    1.45
                 2.667    1.57 | 8.750    3.14 |14.833    3.62 | 20.92    1.45
                 2.750    1.57 | 8.833    3.38 |14.917    3.62 | 21.00    1.45
                 2.833    1.57 | 8.917    3.38 |15.000    3.62 | 21.08    1.45
                 2.917    1.57 | 9.000    3.38 |15.083    3.62 | 21.17    1.45
                 3.000    1.57 | 9.083    3.38 |15.167    3.62 | 21.25    1.45
                 3.083    1.57 | 9.167    3.38 |15.250    3.62 | 21.33    1.45
                 3.167    1.57 | 9.250    3.38 |15.333    3.62 | 21.42    1.45
                 3.250    1.57 | 9.333    3.86 |15.417    3.62 | 21.50    1.45
                 3.333    1.57 | 9.417    3.86 |15.500    3.62 | 21.58    1.45
                 3.417    1.57 | 9.500    3.86 |15.583    3.62 | 21.67    1.45
                 3.500    1.57 | 9.583    3.86 |15.667    3.62 | 21.75    1.45
                 3.583    1.57 | 9.667    3.86 |15.750    3.62 | 21.83    1.45
                 3.667    1.57 | 9.750    3.86 |15.833    3.62 | 21.92    1.45
                 3.750    1.57 | 9.833    4.35 |15.917    3.62 | 22.00    1.45
                 3.833    1.57 | 9.917    4.35 |16.000    3.62 | 22.08    1.45
                 3.917    1.57 |10.000    4.35 |16.083    3.62 | 22.17    1.45
                 4.000    1.57 |10.083    4.35 |16.167    3.62 | 22.25    1.45
                 4.083    1.57 |10.167    4.35 |16.250    3.62 | 22.33    1.45
                 4.167    1.57 |10.250    4.35 |16.333    2.17 | 22.42    1.45
                 4.250    1.57 |10.333    5.56 |16.417    2.17 | 22.50    1.45
                 4.333    1.93 |10.417    5.56 |16.500    2.17 | 22.58    1.45
                 4.417    1.93 |10.500    5.56 |16.583    2.17 | 22.67    1.45
                 4.500    1.93 |10.583    5.56 |16.667    2.17 | 22.75    1.45
                 4.583    1.93 |10.667    5.56 |16.750    2.17 | 22.83    1.45
                 4.667    1.93 |10.750    5.56 |16.833    2.17 | 22.92    1.45
                 4.750    1.93 |10.833    7.49 |16.917    2.17 | 23.00    1.45
                 4.833    1.93 |10.917    7.49 |17.000    2.17 | 23.08    1.45
                 4.917    1.93 |11.000    7.49 |17.083    2.17 | 23.17    1.45
                 5.000    1.93 |11.083    7.49 |17.167    2.17 | 23.25    1.45
                 5.083    1.93 |11.167    7.49 |17.250    2.17 | 23.33    1.45
                 5.167    1.93 |11.250    7.49 |17.333    2.17 | 23.42    1.45
                 5.250    1.93 |11.333   11.59 |17.417    2.17 | 23.50    1.45
                 5.333    1.93 |11.417   11.59 |17.500    2.17 | 23.58    1.45
                 5.417    1.93 |11.500   11.59 |17.583    2.17 | 23.67    1.45
                 5.500    1.93 |11.583   11.59 |17.667    2.17 | 23.75    1.45
                 5.583    1.93 |11.667   11.59 |17.750    2.17 | 23.83    1.45
                 5.667    1.93 |11.750   11.59 |17.833    2.17 | 23.92    1.45
                 5.750    1.93 |11.833   35.75 |17.917    2.17 | 24.00    1.45
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                 5.833    1.93 |11.917   35.75 |18.000    2.17 | 24.08    1.45
                 5.917    1.93 |12.000   35.75 |18.083    2.17 | 24.17    1.45
                 6.000    1.93 |12.083  147.81 |18.167    2.17 | 24.25    1.45
                 6.083    1.93 |12.167  147.82 |18.250    2.17 |

     Unit Hyd Qpeak  (cms)=   0.575

     PEAK FLOW       (cms)=   0.779 (i)
     TIME TO PEAK    (hrs)=  12.833
     RUNOFF VOLUME    (mm)=  68.745
     TOTAL RAINFALL   (mm)= 120.770
     RUNOFF COEFFICIENT   =   0.569

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

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| CALIB              |
| NASHYD   (  0002)|   Area    (ha)=   1.57   Curve Number   (CN)= 71.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.35

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


                              ---- TRANSFORMED HYETOGRAPH ----
                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.083    0.00 | 6.167    1.93 |12.250  147.82 | 18.33    2.17
                 0.167    0.00 | 6.250    1.93 |12.333   17.41 | 18.42    2.17
                 0.250    0.00 | 6.333    2.17 |12.417   17.39 | 18.50    2.17
                 0.333    1.33 | 6.417    2.17 |12.500   17.39 | 18.58    2.17
                 0.417    1.33 | 6.500    2.17 |12.583   17.39 | 18.67    2.17
                 0.500    1.33 | 6.583    2.17 |12.667   17.39 | 18.75    2.17
                 0.583    1.33 | 6.667    2.17 |12.750   17.39 | 18.83    2.17
                 0.667    1.33 | 6.750    2.17 |12.833    8.94 | 18.92    2.17
                 0.750    1.33 | 6.833    2.17 |12.917    8.94 | 19.00    2.17
                 0.833    1.33 | 6.917    2.17 |13.000    8.94 | 19.08    2.17
                 0.917    1.33 | 7.000    2.17 |13.083    8.94 | 19.17    2.17
                 1.000    1.33 | 7.083    2.17 |13.167    8.94 | 19.25    2.17
                 1.083    1.33 | 7.167    2.17 |13.250    8.94 | 19.33    2.17
                 1.167    1.33 | 7.250    2.17 |13.333    6.52 | 19.42    2.17
                 1.250    1.33 | 7.333    2.66 |13.417    6.52 | 19.50    2.17
                 1.333    1.33 | 7.417    2.66 |13.500    6.52 | 19.58    2.17
                 1.417    1.33 | 7.500    2.66 |13.583    6.52 | 19.67    2.17
                 1.500    1.33 | 7.583    2.66 |13.667    6.52 | 19.75    2.17
                 1.583    1.33 | 7.667    2.66 |13.750    6.52 | 19.83    2.17
                 1.667    1.33 | 7.750    2.66 |13.833    5.07 | 19.92    2.17
                 1.750    1.33 | 7.833    2.66 |13.917    5.07 | 20.00    2.17
                 1.833    1.33 | 7.917    2.66 |14.000    5.07 | 20.08    2.17
                 1.917    1.33 | 8.000    2.66 |14.083    5.07 | 20.17    2.17
                 2.000    1.33 | 8.083    2.66 |14.167    5.07 | 20.25    2.17
                 2.083    1.33 | 8.167    2.66 |14.250    5.07 | 20.33    1.45
                 2.167    1.33 | 8.250    2.66 |14.333    3.62 | 20.42    1.45
                 2.250    1.33 | 8.333    3.14 |14.417    3.62 | 20.50    1.45
                 2.333    1.57 | 8.417    3.14 |14.500    3.62 | 20.58    1.45
                 2.417    1.57 | 8.500    3.14 |14.583    3.62 | 20.67    1.45
                 2.500    1.57 | 8.583    3.14 |14.667    3.62 | 20.75    1.45
                 2.583    1.57 | 8.667    3.14 |14.750    3.62 | 20.83    1.45
                 2.667    1.57 | 8.750    3.14 |14.833    3.62 | 20.92    1.45
                 2.750    1.57 | 8.833    3.38 |14.917    3.62 | 21.00    1.45
                 2.833    1.57 | 8.917    3.38 |15.000    3.62 | 21.08    1.45
                 2.917    1.57 | 9.000    3.38 |15.083    3.62 | 21.17    1.45
                 3.000    1.57 | 9.083    3.38 |15.167    3.62 | 21.25    1.45
                 3.083    1.57 | 9.167    3.38 |15.250    3.62 | 21.33    1.45
                 3.167    1.57 | 9.250    3.38 |15.333    3.62 | 21.42    1.45
                 3.250    1.57 | 9.333    3.86 |15.417    3.62 | 21.50    1.45
                 3.333    1.57 | 9.417    3.86 |15.500    3.62 | 21.58    1.45
                 3.417    1.57 | 9.500    3.86 |15.583    3.62 | 21.67    1.45
                 3.500    1.57 | 9.583    3.86 |15.667    3.62 | 21.75    1.45
                 3.583    1.57 | 9.667    3.86 |15.750    3.62 | 21.83    1.45
                 3.667    1.57 | 9.750    3.86 |15.833    3.62 | 21.92    1.45
                 3.750    1.57 | 9.833    4.35 |15.917    3.62 | 22.00    1.45
                 3.833    1.57 | 9.917    4.35 |16.000    3.62 | 22.08    1.45
                 3.917    1.57 |10.000    4.35 |16.083    3.62 | 22.17    1.45
                 4.000    1.57 |10.083    4.35 |16.167    3.62 | 22.25    1.45
                 4.083    1.57 |10.167    4.35 |16.250    3.62 | 22.33    1.45
                 4.167    1.57 |10.250    4.35 |16.333    2.17 | 22.42    1.45
                 4.250    1.57 |10.333    5.56 |16.417    2.17 | 22.50    1.45
                 4.333    1.93 |10.417    5.56 |16.500    2.17 | 22.58    1.45
                 4.417    1.93 |10.500    5.56 |16.583    2.17 | 22.67    1.45
                 4.500    1.93 |10.583    5.56 |16.667    2.17 | 22.75    1.45
                 4.583    1.93 |10.667    5.56 |16.750    2.17 | 22.83    1.45
                 4.667    1.93 |10.750    5.56 |16.833    2.17 | 22.92    1.45
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          4.750    1.93 |10.833    7.49 |16.917    2.17 | 23.00    1.45
          4.833    1.93 |10.917    7.49 |17.000    2.17 | 23.08    1.45
          4.917    1.93 |11.000    7.49 |17.083    2.17 | 23.17    1.45
          5.000    1.93 |11.083    7.49 |17.167    2.17 | 23.25    1.45
          5.083    1.93 |11.167    7.49 |17.250    2.17 | 23.33    1.45
          5.167    1.93 |11.250    7.49 |17.333    2.17 | 23.42    1.45
          5.250    1.93 |11.333   11.59 |17.417    2.17 | 23.50    1.45
          5.333    1.93 |11.417   11.59 |17.500    2.17 | 23.58    1.45
          5.417    1.93 |11.500   11.59 |17.583    2.17 | 23.67    1.45
          5.500    1.93 |11.583   11.59 |17.667    2.17 | 23.75    1.45
          5.583    1.93 |11.667   11.59 |17.750    2.17 | 23.83    1.45
          5.667    1.93 |11.750   11.59 |17.833    2.17 | 23.92    1.45
          5.750    1.93 |11.833   35.75 |17.917    2.17 | 24.00    1.45
          5.833    1.93 |11.917   35.75 |18.000    2.17 | 24.08    1.45
          5.917    1.93 |12.000   35.75 |18.083    2.17 | 24.17    1.45
          6.000    1.93 |12.083  147.81 |18.167    2.17 | 24.25    1.45
          6.083    1.93 |12.167  147.82 |18.250    2.17 |

    Unit Hyd Qpeak  (cms)=   0.171

    PEAK FLOW       (cms)=   0.161 (i)
    TIME TO PEAK    (hrs)=  12.500
    RUNOFF VOLUME    (mm)=  58.722
    TOTAL RAINFALL   (mm)= 120.770
    RUNOFF COEFFICIENT   =   0.486

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

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| CALIB            |
| NASHYD   (  0003)|   Area    (ha)=   7.36   Curve Number   (CN)= 75.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.50

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


                                ---- TRANSFORMED HYETOGRAPH ----
           TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME     RAIN
            hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs    mm/hr
          0.083    0.00 | 6.167    1.93 |12.250  147.82 | 18.33    2.17
          0.167    0.00 | 6.250    1.93 |12.333   17.41 | 18.42    2.17
          0.250    0.00 | 6.333    2.17 |12.417   17.39 | 18.50    2.17
          0.333    1.33 | 6.417    2.17 |12.500   17.39 | 18.58    2.17
          0.417    1.33 | 6.500    2.17 |12.583   17.39 | 18.67    2.17
          0.500    1.33 | 6.583    2.17 |12.667   17.39 | 18.75    2.17
          0.583    1.33 | 6.667    2.17 |12.750   17.39 | 18.83    2.17
          0.667    1.33 | 6.750    2.17 |12.833    8.94 | 18.92    2.17
          0.750    1.33 | 6.833    2.17 |12.917    8.94 | 19.00    2.17
          0.833    1.33 | 6.917    2.17 |13.000    8.94 | 19.08    2.17
          0.917    1.33 | 7.000    2.17 |13.083    8.94 | 19.17    2.17
          1.000    1.33 | 7.083    2.17 |13.167    8.94 | 19.25    2.17
          1.083    1.33 | 7.167    2.17 |13.250    8.94 | 19.33    2.17
          1.167    1.33 | 7.250    2.17 |13.333    6.52 | 19.42    2.17
          1.250    1.33 | 7.333    2.66 |13.417    6.52 | 19.50    2.17
          1.333    1.33 | 7.417    2.66 |13.500    6.52 | 19.58    2.17
          1.417    1.33 | 7.500    2.66 |13.583    6.52 | 19.67    2.17
          1.500    1.33 | 7.583    2.66 |13.667    6.52 | 19.75    2.17
          1.583    1.33 | 7.667    2.66 |13.750    6.52 | 19.83    2.17
          1.667    1.33 | 7.750    2.66 |13.833    5.07 | 19.92    2.17
          1.750    1.33 | 7.833    2.66 |13.917    5.07 | 20.00    2.17
          1.833    1.33 | 7.917    2.66 |14.000    5.07 | 20.08    2.17
          1.917    1.33 | 8.000    2.66 |14.083    5.07 | 20.17    2.17
          2.000    1.33 | 8.083    2.66 |14.167    5.07 | 20.25    2.17
          2.083    1.33 | 8.167    2.66 |14.250    5.07 | 20.33    1.45
          2.167    1.33 | 8.250    2.66 |14.333    3.62 | 20.42    1.45
          2.250    1.33 | 8.333    3.14 |14.417    3.62 | 20.50    1.45
          2.333    1.57 | 8.417    3.14 |14.500    3.62 | 20.58    1.45
          2.417    1.57 | 8.500    3.14 |14.583    3.62 | 20.67    1.45
          2.500    1.57 | 8.583    3.14 |14.667    3.62 | 20.75    1.45
          2.583    1.57 | 8.667    3.14 |14.750    3.62 | 20.83    1.45
          2.667    1.57 | 8.750    3.14 |14.833    3.62 | 20.92    1.45
          2.750    1.57 | 8.833    3.38 |14.917    3.62 | 21.00    1.45
          2.833    1.57 | 8.917    3.38 |15.000    3.62 | 21.08    1.45
          2.917    1.57 | 9.000    3.38 |15.083    3.62 | 21.17    1.45
          3.000    1.57 | 9.083    3.38 |15.167    3.62 | 21.25    1.45
          3.083    1.57 | 9.167    3.38 |15.250    3.62 | 21.33    1.45
          3.167    1.57 | 9.250    3.38 |15.333    3.62 | 21.42    1.45
          3.250    1.57 | 9.333    3.86 |15.417    3.62 | 21.50    1.45
          3.333    1.57 | 9.417    3.86 |15.500    3.62 | 21.58    1.45
          3.417    1.57 | 9.500    3.86 |15.583    3.62 | 21.67    1.45
          3.500    1.57 | 9.583    3.86 |15.667    3.62 | 21.75    1.45
          3.583    1.57 | 9.667    3.86 |15.750    3.62 | 21.83    1.45
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          3.667    1.57 | 9.750    3.86 |15.833    3.62 | 21.92    1.45
          3.750    1.57 | 9.833    4.35 |15.917    3.62 | 22.00    1.45
          3.833    1.57 | 9.917    4.35 |16.000    3.62 | 22.08    1.45
          3.917    1.57 |10.000    4.35 |16.083    3.62 | 22.17    1.45
          4.000    1.57 |10.083    4.35 |16.167    3.62 | 22.25    1.45
          4.083    1.57 |10.167    4.35 |16.250    3.62 | 22.33    1.45
          4.167    1.57 |10.250    4.35 |16.333    2.17 | 22.42    1.45
          4.250    1.57 |10.333    5.56 |16.417    2.17 | 22.50    1.45
          4.333    1.93 |10.417    5.56 |16.500    2.17 | 22.58    1.45
          4.417    1.93 |10.500    5.56 |16.583    2.17 | 22.67    1.45
          4.500    1.93 |10.583    5.56 |16.667    2.17 | 22.75    1.45
          4.583    1.93 |10.667    5.56 |16.750    2.17 | 22.83    1.45
          4.667    1.93 |10.750    5.56 |16.833    2.17 | 22.92    1.45
          4.750    1.93 |10.833    7.49 |16.917    2.17 | 23.00    1.45
          4.833    1.93 |10.917    7.49 |17.000    2.17 | 23.08    1.45
          4.917    1.93 |11.000    7.49 |17.083    2.17 | 23.17    1.45
          5.000    1.93 |11.083    7.49 |17.167    2.17 | 23.25    1.45
          5.083    1.93 |11.167    7.49 |17.250    2.17 | 23.33    1.45
          5.167    1.93 |11.250    7.49 |17.333    2.17 | 23.42    1.45
          5.250    1.93 |11.333   11.59 |17.417    2.17 | 23.50    1.45
          5.333    1.93 |11.417   11.59 |17.500    2.17 | 23.58    1.45
          5.417    1.93 |11.500   11.59 |17.583    2.17 | 23.67    1.45
          5.500    1.93 |11.583   11.59 |17.667    2.17 | 23.75    1.45
          5.583    1.93 |11.667   11.59 |17.750    2.17 | 23.83    1.45
          5.667    1.93 |11.750   11.59 |17.833    2.17 | 23.92    1.45
          5.750    1.93 |11.833   35.75 |17.917    2.17 | 24.00    1.45
          5.833    1.93 |11.917   35.75 |18.000    2.17 | 24.08    1.45
          5.917    1.93 |12.000   35.75 |18.083    2.17 | 24.17    1.45
          6.000    1.93 |12.083  147.81 |18.167    2.17 | 24.25    1.45
          6.083    1.93 |12.167  147.82 |18.250    2.17 |

    Unit Hyd Qpeak  (cms)=   0.562

    PEAK FLOW       (cms)=   0.667 (i)
    TIME TO PEAK    (hrs)=  12.667
    RUNOFF VOLUME    (mm)=  66.323
    TOTAL RAINFALL   (mm)= 120.770
    RUNOFF COEFFICIENT   =   0.549

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

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| CALIB            |
| NASHYD   (  0004)|   Area    (ha)=   5.75   Curve Number   (CN)= 74.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.83   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.45

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


                                ---- TRANSFORMED HYETOGRAPH ----
           TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME     RAIN
            hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs    mm/hr
          0.083    0.00 | 6.167    1.93 |12.250  147.82 | 18.33    2.17
          0.167    0.00 | 6.250    1.93 |12.333   17.41 | 18.42    2.17
          0.250    0.00 | 6.333    2.17 |12.417   17.39 | 18.50    2.17
          0.333    1.33 | 6.417    2.17 |12.500   17.39 | 18.58    2.17
          0.417    1.33 | 6.500    2.17 |12.583   17.39 | 18.67    2.17
          0.500    1.33 | 6.583    2.17 |12.667   17.39 | 18.75    2.17
          0.583    1.33 | 6.667    2.17 |12.750   17.39 | 18.83    2.17
          0.667    1.33 | 6.750    2.17 |12.833    8.94 | 18.92    2.17
          0.750    1.33 | 6.833    2.17 |12.917    8.94 | 19.00    2.17
          0.833    1.33 | 6.917    2.17 |13.000    8.94 | 19.08    2.17
          0.917    1.33 | 7.000    2.17 |13.083    8.94 | 19.17    2.17
          1.000    1.33 | 7.083    2.17 |13.167    8.94 | 19.25    2.17
          1.083    1.33 | 7.167    2.17 |13.250    8.94 | 19.33    2.17
          1.167    1.33 | 7.250    2.17 |13.333    6.52 | 19.42    2.17
          1.250    1.33 | 7.333    2.66 |13.417    6.52 | 19.50    2.17
          1.333    1.33 | 7.417    2.66 |13.500    6.52 | 19.58    2.17
          1.417    1.33 | 7.500    2.66 |13.583    6.52 | 19.67    2.17
          1.500    1.33 | 7.583    2.66 |13.667    6.52 | 19.75    2.17
          1.583    1.33 | 7.667    2.66 |13.750    6.52 | 19.83    2.17
          1.667    1.33 | 7.750    2.66 |13.833    5.07 | 19.92    2.17
          1.750    1.33 | 7.833    2.66 |13.917    5.07 | 20.00    2.17
          1.833    1.33 | 7.917    2.66 |14.000    5.07 | 20.08    2.17
          1.917    1.33 | 8.000    2.66 |14.083    5.07 | 20.17    2.17
          2.000    1.33 | 8.083    2.66 |14.167    5.07 | 20.25    2.17
          2.083    1.33 | 8.167    2.66 |14.250    5.07 | 20.33    1.45
          2.167    1.33 | 8.250    2.66 |14.333    3.62 | 20.42    1.45
          2.250    1.33 | 8.333    3.14 |14.417    3.62 | 20.50    1.45
          2.333    1.57 | 8.417    3.14 |14.500    3.62 | 20.58    1.45
          2.417    1.57 | 8.500    3.14 |14.583    3.62 | 20.67    1.45
          2.500    1.57 | 8.583    3.14 |14.667    3.62 | 20.75    1.45
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                2.583    1.57 | 8.667    3.14 |14.750    3.62 | 20.83    1.45
                2.667    1.57 | 8.750    3.14 |14.833    3.62 | 20.92    1.45
                2.750    1.57 | 8.833    3.38 |14.917    3.62 | 21.00    1.45
                2.833    1.57 | 8.917    3.38 |15.000    3.62 | 21.08    1.45
                2.917    1.57 | 9.000    3.38 |15.083    3.62 | 21.17    1.45
                3.000    1.57 | 9.083    3.38 |15.167    3.62 | 21.25    1.45
                3.083    1.57 | 9.167    3.38 |15.250    3.62 | 21.33    1.45
                3.167    1.57 | 9.250    3.38 |15.333    3.62 | 21.42    1.45
                3.250    1.57 | 9.333    3.86 |15.417    3.62 | 21.50    1.45
                3.333    1.57 | 9.417    3.86 |15.500    3.62 | 21.58    1.45
                3.417    1.57 | 9.500    3.86 |15.583    3.62 | 21.67    1.45
                3.500    1.57 | 9.583    3.86 |15.667    3.62 | 21.75    1.45
                3.583    1.57 | 9.667    3.86 |15.750    3.62 | 21.83    1.45
                3.667    1.57 | 9.750    3.86 |15.833    3.62 | 21.92    1.45
                3.750    1.57 | 9.833    4.35 |15.917    3.62 | 22.00    1.45
                3.833    1.57 | 9.917    4.35 |16.000    3.62 | 22.08    1.45
                3.917    1.57 |10.000    4.35 |16.083    3.62 | 22.17    1.45
                4.000    1.57 |10.083    4.35 |16.167    3.62 | 22.25    1.45
                4.083    1.57 |10.167    4.35 |16.250    3.62 | 22.33    1.45
                4.167    1.57 |10.250    4.35 |16.333    2.17 | 22.42    1.45
                4.250    1.57 |10.333    5.56 |16.417    2.17 | 22.50    1.45
                4.333    1.93 |10.417    5.56 |16.500    2.17 | 22.58    1.45
                4.417    1.93 |10.500    5.56 |16.583    2.17 | 22.67    1.45
                4.500    1.93 |10.583    5.56 |16.667    2.17 | 22.75    1.45
                4.583    1.93 |10.667    5.56 |16.750    2.17 | 22.83    1.45
                4.667    1.93 |10.750    5.56 |16.833    2.17 | 22.92    1.45
                4.750    1.93 |10.833    7.49 |16.917    2.17 | 23.00    1.45
                4.833    1.93 |10.917    7.49 |17.000    2.17 | 23.08    1.45
                4.917    1.93 |11.000    7.49 |17.083    2.17 | 23.17    1.45
                5.000    1.93 |11.083    7.49 |17.167    2.17 | 23.25    1.45
                5.083    1.93 |11.167    7.49 |17.250    2.17 | 23.33    1.45
                5.167    1.93 |11.250    7.49 |17.333    2.17 | 23.42    1.45
                5.250    1.93 |11.333   11.59 |17.417    2.17 | 23.50    1.45
                5.333    1.93 |11.417   11.59 |17.500    2.17 | 23.58    1.45
                5.417    1.93 |11.500   11.59 |17.583    2.17 | 23.67    1.45
                5.500    1.93 |11.583   11.59 |17.667    2.17 | 23.75    1.45
                5.583    1.93 |11.667   11.59 |17.750    2.17 | 23.83    1.45
                5.667    1.93 |11.750   11.59 |17.833    2.17 | 23.92    1.45
                5.750    1.93 |11.833   35.75 |17.917    2.17 | 24.00    1.45
                5.833    1.93 |11.917   35.75 |18.000    2.17 | 24.08    1.45
                5.917    1.93 |12.000   35.75 |18.083    2.17 | 24.17    1.45
                6.000    1.93 |12.083  147.81 |18.167    2.17 | 24.25    1.45
                6.083    1.93 |12.167  147.82 |18.250    2.17 |

     Unit Hyd Qpeak  (cms)=   0.488

     PEAK FLOW       (cms)=   0.544 (i)
     TIME TO PEAK    (hrs)=  12.583
     RUNOFF VOLUME    (mm)=  64.182
     TOTAL RAINFALL   (mm)= 120.770
     RUNOFF COEFFICIENT   =   0.531

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

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| CALIB              |
| NASHYD   (  0010)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.57

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.00 | 6.167    1.93 |12.250  147.82 | 18.33    2.17
                0.167    0.00 | 6.250    1.93 |12.333   17.41 | 18.42    2.17
                0.250    0.00 | 6.333    2.17 |12.417   17.39 | 18.50    2.17
                0.333    1.33 | 6.417    2.17 |12.500   17.39 | 18.58    2.17
                0.417    1.33 | 6.500    2.17 |12.583   17.39 | 18.67    2.17
                0.500    1.33 | 6.583    2.17 |12.667   17.39 | 18.75    2.17
                0.583    1.33 | 6.667    2.17 |12.750   17.39 | 18.83    2.17
                0.667    1.33 | 6.750    2.17 |12.833    8.94 | 18.92    2.17
                0.750    1.33 | 6.833    2.17 |12.917    8.94 | 19.00    2.17
                0.833    1.33 | 6.917    2.17 |13.000    8.94 | 19.08    2.17
                0.917    1.33 | 7.000    2.17 |13.083    8.94 | 19.17    2.17
                1.000    1.33 | 7.083    2.17 |13.167    8.94 | 19.25    2.17
                1.083    1.33 | 7.167    2.17 |13.250    8.94 | 19.33    2.17
                1.167    1.33 | 7.250    2.17 |13.333    6.52 | 19.42    2.17
                1.250    1.33 | 7.333    2.66 |13.417    6.52 | 19.50    2.17
                1.333    1.33 | 7.417    2.66 |13.500    6.52 | 19.58    2.17
                1.417    1.33 | 7.500    2.66 |13.583    6.52 | 19.67    2.17
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                1.500    1.33 | 7.583    2.66 |13.667    6.52 | 19.75    2.17
                1.583    1.33 | 7.667    2.66 |13.750    6.52 | 19.83    2.17
                1.667    1.33 | 7.750    2.66 |13.833    5.07 | 19.92    2.17
                1.750    1.33 | 7.833    2.66 |13.917    5.07 | 20.00    2.17
                1.833    1.33 | 7.917    2.66 |14.000    5.07 | 20.08    2.17
                1.917    1.33 | 8.000    2.66 |14.083    5.07 | 20.17    2.17
                2.000    1.33 | 8.083    2.66 |14.167    5.07 | 20.25    2.17
                2.083    1.33 | 8.167    2.66 |14.250    5.07 | 20.33    1.45
                2.167    1.33 | 8.250    2.66 |14.333    3.62 | 20.42    1.45
                2.250    1.33 | 8.333    3.14 |14.417    3.62 | 20.50    1.45
                2.333    1.57 | 8.417    3.14 |14.500    3.62 | 20.58    1.45
                2.417    1.57 | 8.500    3.14 |14.583    3.62 | 20.67    1.45
                2.500    1.57 | 8.583    3.14 |14.667    3.62 | 20.75    1.45
                2.583    1.57 | 8.667    3.14 |14.750    3.62 | 20.83    1.45
                2.667    1.57 | 8.750    3.14 |14.833    3.62 | 20.92    1.45
                2.750    1.57 | 8.833    3.38 |14.917    3.62 | 21.00    1.45
                2.833    1.57 | 8.917    3.38 |15.000    3.62 | 21.08    1.45
                2.917    1.57 | 9.000    3.38 |15.083    3.62 | 21.17    1.45
                3.000    1.57 | 9.083    3.38 |15.167    3.62 | 21.25    1.45
                3.083    1.57 | 9.167    3.38 |15.250    3.62 | 21.33    1.45
                3.167    1.57 | 9.250    3.38 |15.333    3.62 | 21.42    1.45
                3.250    1.57 | 9.333    3.86 |15.417    3.62 | 21.50    1.45
                3.333    1.57 | 9.417    3.86 |15.500    3.62 | 21.58    1.45
                3.417    1.57 | 9.500    3.86 |15.583    3.62 | 21.67    1.45
                3.500    1.57 | 9.583    3.86 |15.667    3.62 | 21.75    1.45
                3.583    1.57 | 9.667    3.86 |15.750    3.62 | 21.83    1.45
                3.667    1.57 | 9.750    3.86 |15.833    3.62 | 21.92    1.45
                3.750    1.57 | 9.833    4.35 |15.917    3.62 | 22.00    1.45
                3.833    1.57 | 9.917    4.35 |16.000    3.62 | 22.08    1.45
                3.917    1.57 |10.000    4.35 |16.083    3.62 | 22.17    1.45
                4.000    1.57 |10.083    4.35 |16.167    3.62 | 22.25    1.45
                4.083    1.57 |10.167    4.35 |16.250    3.62 | 22.33    1.45
                4.167    1.57 |10.250    4.35 |16.333    2.17 | 22.42    1.45
                4.250    1.57 |10.333    5.56 |16.417    2.17 | 22.50    1.45
                4.333    1.93 |10.417    5.56 |16.500    2.17 | 22.58    1.45
                4.417    1.93 |10.500    5.56 |16.583    2.17 | 22.67    1.45
                4.500    1.93 |10.583    5.56 |16.667    2.17 | 22.75    1.45
                4.583    1.93 |10.667    5.56 |16.750    2.17 | 22.83    1.45
                4.667    1.93 |10.750    5.56 |16.833    2.17 | 22.92    1.45
                4.750    1.93 |10.833    7.49 |16.917    2.17 | 23.00    1.45
                4.833    1.93 |10.917    7.49 |17.000    2.17 | 23.08    1.45
                4.917    1.93 |11.000    7.49 |17.083    2.17 | 23.17    1.45
                5.000    1.93 |11.083    7.49 |17.167    2.17 | 23.25    1.45
                5.083    1.93 |11.167    7.49 |17.250    2.17 | 23.33    1.45
                5.167    1.93 |11.250    7.49 |17.333    2.17 | 23.42    1.45
                5.250    1.93 |11.333   11.59 |17.417    2.17 | 23.50    1.45
                5.333    1.93 |11.417   11.59 |17.500    2.17 | 23.58    1.45
                5.417    1.93 |11.500   11.59 |17.583    2.17 | 23.67    1.45
                5.500    1.93 |11.583   11.59 |17.667    2.17 | 23.75    1.45
                5.583    1.93 |11.667   11.59 |17.750    2.17 | 23.83    1.45
                5.667    1.93 |11.750   11.59 |17.833    2.17 | 23.92    1.45
                5.750    1.93 |11.833   35.75 |17.917    2.17 | 24.00    1.45
                5.833    1.93 |11.917   35.75 |18.000    2.17 | 24.08    1.45
                5.917    1.93 |12.000   35.75 |18.083    2.17 | 24.17    1.45
                6.000    1.93 |12.083  147.81 |18.167    2.17 | 24.25    1.45
                6.083    1.93 |12.167  147.82 |18.250    2.17 |

     Unit Hyd Qpeak  (cms)=   0.972

     PEAK FLOW       (cms)=   1.231 (i)
     TIME TO PEAK    (hrs)=  12.750
     RUNOFF VOLUME    (mm)=  68.142
     TOTAL RAINFALL   (mm)= 120.770
     RUNOFF COEFFICIENT   =   0.564

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

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--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0010):    14.50   1.231    12.75    68.14
      + ID2= 2 (  0002):     1.57   0.161    12.50    58.72
        ==================================================
        ID = 3 (  0009):    16.07   1.368    12.67    67.22

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0009)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
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--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0009):    16.07   1.368    12.67    67.22
      + ID2= 2 (  0003):     7.36   0.667    12.67    66.32
        ==================================================
        ID = 1 (  0009):    23.43   2.035    12.67    66.94

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0009):    23.43   2.035    12.67    66.94
      + ID2= 2 (  0004):     5.75   0.544    12.58    64.18
        ==================================================
        ID = 3 (  0009):    29.18   2.565    12.67    66.40

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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************************************************
** SIMULATION:L. 100yr 24hr 15min SCS Type II **
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|    READ STORM    |    Filename: C:\Users\noconnor\AppD
|                  |              ata\Local\Temp\
|                  |              49753dce-993e-48a5-8960-fc674d25ac10\91f91896
| Ptotal=132.74 mm |    Comments: 100yr 24hr 15min SCS Type II
--------------------
                 TIME    RAIN |   TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |    hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.00    0.00 |   6.25    2.39 | 12.50   19.11 | 18.75    2.39
                 0.25    1.46 |   6.50    2.39 | 12.75    9.82 | 19.00    2.39
                 0.50    1.46 |   6.75    2.39 | 13.00    9.82 | 19.25    2.39
                 0.75    1.46 |   7.00    2.39 | 13.25    7.17 | 19.50    2.39
                 1.00    1.46 |   7.25    2.92 | 13.50    7.17 | 19.75    2.39
                 1.25    1.46 |   7.50    2.92 | 13.75    5.58 | 20.00    2.39
                 1.50    1.46 |   7.75    2.92 | 14.00    5.58 | 20.25    1.59
                 1.75    1.46 |   8.00    2.92 | 14.25    3.98 | 20.50    1.59
                 2.00    1.46 |   8.25    3.45 | 14.50    3.98 | 20.75    1.59
                 2.25    1.73 |   8.50    3.45 | 14.75    3.98 | 21.00    1.59
                 2.50    1.73 |   8.75    3.72 | 15.00    3.98 | 21.25    1.59
                 2.75    1.73 |   9.00    3.72 | 15.25    3.98 | 21.50    1.59
                 3.00    1.73 |   9.25    4.25 | 15.50    3.98 | 21.75    1.59
                 3.25    1.73 |   9.50    4.25 | 15.75    3.98 | 22.00    1.59
                 3.50    1.73 |   9.75    4.78 | 16.00    3.98 | 22.25    1.59
                 3.75    1.73 |  10.00    4.78 | 16.25    2.39 | 22.50    1.59
                 4.00    1.73 |  10.25    6.11 | 16.50    2.39 | 22.75    1.59
                 4.25    2.12 |  10.50    6.11 | 16.75    2.39 | 23.00    1.59
                 4.50    2.12 |  10.75    8.23 | 17.00    2.39 | 23.25    1.59
                 4.75    2.12 |  11.00    8.23 | 17.25    2.39 | 23.50    1.59
                 5.00    2.12 |  11.25   12.74 | 17.50    2.39 | 23.75    1.59
                 5.25    2.12 |  11.50   12.74 | 17.75    2.39 | 24.00    1.59
                 5.50    2.12 |  11.75   39.29 | 18.00    2.39 |
                 5.75    2.12 |  12.00  162.47 | 18.25    2.39 |
                 6.00    2.12 |  12.25   19.11 | 18.50    2.39 |

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| CALIB            |
| NASHYD   (  0001)|   Area    (ha)=  10.54   Curve Number   (CN)= 77.4
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.15   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.70

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.00 | 6.167    2.12 |12.250  162.47 | 18.33    2.39
                0.167    0.00 | 6.250    2.12 |12.333   19.13 | 18.42    2.39
                0.250    0.00 | 6.333    2.39 |12.417   19.11 | 18.50    2.39
                0.333    1.46 | 6.417    2.39 |12.500   19.11 | 18.58    2.39
                0.417    1.46 | 6.500    2.39 |12.583   19.11 | 18.67    2.39
                0.500    1.46 | 6.583    2.39 |12.667   19.11 | 18.75    2.39
                0.583    1.46 | 6.667    2.39 |12.750   19.11 | 18.83    2.39
                0.667    1.46 | 6.750    2.39 |12.833    9.82 | 18.92    2.39
                0.750    1.46 | 6.833    2.39 |12.917    9.82 | 19.00    2.39
                0.833    1.46 | 6.917    2.39 |13.000    9.82 | 19.08    2.39
                0.917    1.46 | 7.000    2.39 |13.083    9.82 | 19.17    2.39
                1.000    1.46 | 7.083    2.39 |13.167    9.82 | 19.25    2.39
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                1.083    1.46 | 7.167    2.39 |13.250    9.82 | 19.33    2.39
                1.167    1.46 | 7.250    2.39 |13.333    7.17 | 19.42    2.39
                1.250    1.46 | 7.333    2.92 |13.417    7.17 | 19.50    2.39
                1.333    1.46 | 7.417    2.92 |13.500    7.17 | 19.58    2.39
                1.417    1.46 | 7.500    2.92 |13.583    7.17 | 19.67    2.39
                1.500    1.46 | 7.583    2.92 |13.667    7.17 | 19.75    2.39
                1.583    1.46 | 7.667    2.92 |13.750    7.17 | 19.83    2.39
                1.667    1.46 | 7.750    2.92 |13.833    5.58 | 19.92    2.39
                1.750    1.46 | 7.833    2.92 |13.917    5.58 | 20.00    2.39
                1.833    1.46 | 7.917    2.92 |14.000    5.58 | 20.08    2.39
                1.917    1.46 | 8.000    2.92 |14.083    5.58 | 20.17    2.39
                2.000    1.46 | 8.083    2.92 |14.167    5.58 | 20.25    2.39
                2.083    1.46 | 8.167    2.92 |14.250    5.58 | 20.33    1.59
                2.167    1.46 | 8.250    2.92 |14.333    3.98 | 20.42    1.59
                2.250    1.46 | 8.333    3.45 |14.417    3.98 | 20.50    1.59
                2.333    1.73 | 8.417    3.45 |14.500    3.98 | 20.58    1.59
                2.417    1.73 | 8.500    3.45 |14.583    3.98 | 20.67    1.59
                2.500    1.73 | 8.583    3.45 |14.667    3.98 | 20.75    1.59
                2.583    1.73 | 8.667    3.45 |14.750    3.98 | 20.83    1.59
                2.667    1.73 | 8.750    3.45 |14.833    3.98 | 20.92    1.59
                2.750    1.73 | 8.833    3.72 |14.917    3.98 | 21.00    1.59
                2.833    1.73 | 8.917    3.72 |15.000    3.98 | 21.08    1.59
                2.917    1.73 | 9.000    3.72 |15.083    3.98 | 21.17    1.59
                3.000    1.73 | 9.083    3.72 |15.167    3.98 | 21.25    1.59
                3.083    1.73 | 9.167    3.72 |15.250    3.98 | 21.33    1.59
                3.167    1.73 | 9.250    3.72 |15.333    3.98 | 21.42    1.59
                3.250    1.73 | 9.333    4.25 |15.417    3.98 | 21.50    1.59
                3.333    1.73 | 9.417    4.25 |15.500    3.98 | 21.58    1.59
                3.417    1.73 | 9.500    4.25 |15.583    3.98 | 21.67    1.59
                3.500    1.73 | 9.583    4.25 |15.667    3.98 | 21.75    1.59
                3.583    1.73 | 9.667    4.25 |15.750    3.98 | 21.83    1.59
                3.667    1.73 | 9.750    4.25 |15.833    3.98 | 21.92    1.59
                3.750    1.73 | 9.833    4.78 |15.917    3.98 | 22.00    1.59
                3.833    1.73 | 9.917    4.78 |16.000    3.98 | 22.08    1.59
                3.917    1.73 |10.000    4.78 |16.083    3.98 | 22.17    1.59
                4.000    1.73 |10.083    4.78 |16.167    3.98 | 22.25    1.59
                4.083    1.73 |10.167    4.78 |16.250    3.98 | 22.33    1.59
                4.167    1.73 |10.250    4.78 |16.333    2.39 | 22.42    1.59
                4.250    1.73 |10.333    6.11 |16.417    2.39 | 22.50    1.59
                4.333    2.12 |10.417    6.11 |16.500    2.39 | 22.58    1.59
                4.417    2.12 |10.500    6.11 |16.583    2.39 | 22.67    1.59
                4.500    2.12 |10.583    6.11 |16.667    2.39 | 22.75    1.59
                4.583    2.12 |10.667    6.11 |16.750    2.39 | 22.83    1.59
                4.667    2.12 |10.750    6.11 |16.833    2.39 | 22.92    1.59
                4.750    2.12 |10.833    8.23 |16.917    2.39 | 23.00    1.59
                4.833    2.12 |10.917    8.23 |17.000    2.39 | 23.08    1.59
                4.917    2.12 |11.000    8.23 |17.083    2.39 | 23.17    1.59
                5.000    2.12 |11.083    8.23 |17.167    2.39 | 23.25    1.59
                5.083    2.12 |11.167    8.23 |17.250    2.39 | 23.33    1.59
                5.167    2.12 |11.250    8.23 |17.333    2.39 | 23.42    1.59
                5.250    2.12 |11.333   12.74 |17.417    2.39 | 23.50    1.59
                5.333    2.12 |11.417   12.74 |17.500    2.39 | 23.58    1.59
                5.417    2.12 |11.500   12.74 |17.583    2.39 | 23.67    1.59
                5.500    2.12 |11.583   12.74 |17.667    2.39 | 23.75    1.59
                5.583    2.12 |11.667   12.74 |17.750    2.39 | 23.83    1.59
                5.667    2.12 |11.750   12.74 |17.833    2.39 | 23.92    1.59
                5.750    2.12 |11.833   39.29 |17.917    2.39 | 24.00    1.59
                5.833    2.12 |11.917   39.29 |18.000    2.39 | 24.08    1.59
                5.917    2.12 |12.000   39.29 |18.083    2.39 | 24.17    1.59
                6.000    2.12 |12.083  162.46 |18.167    2.39 | 24.25    1.59
                6.083    2.12 |12.167  162.47 |18.250    2.39 |

     Unit Hyd Qpeak  (cms)=   0.575

     PEAK FLOW       (cms)=   0.897 (i)
     TIME TO PEAK    (hrs)=  12.833
     RUNOFF VOLUME    (mm)=  78.960
     TOTAL RAINFALL   (mm)= 132.740
     RUNOFF COEFFICIENT   =   0.595

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

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| CALIB            |
| NASHYD   (  0002)|   Area    (ha)=   1.57   Curve Number   (CN)= 71.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   8.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.35

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
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    hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs    mm/hr
  0.083    0.00 | 6.167    2.12 |12.250  162.47 | 18.33    2.39
  0.167    0.00 | 6.250    2.12 |12.333   19.13 | 18.42    2.39
  0.250    0.00 | 6.333    2.39 |12.417   19.11 | 18.50    2.39
  0.333    1.46 | 6.417    2.39 |12.500   19.11 | 18.58    2.39
  0.417    1.46 | 6.500    2.39 |12.583   19.11 | 18.67    2.39
  0.500    1.46 | 6.583    2.39 |12.667   19.11 | 18.75    2.39
  0.583    1.46 | 6.667    2.39 |12.750   19.11 | 18.83    2.39
  0.667    1.46 | 6.750    2.39 |12.833    9.82 | 18.92    2.39
  0.750    1.46 | 6.833    2.39 |12.917    9.82 | 19.00    2.39
  0.833    1.46 | 6.917    2.39 |13.000    9.82 | 19.08    2.39
  0.917    1.46 | 7.000    2.39 |13.083    9.82 | 19.17    2.39
  1.000    1.46 | 7.083    2.39 |13.167    9.82 | 19.25    2.39
  1.083    1.46 | 7.167    2.39 |13.250    9.82 | 19.33    2.39
  1.167    1.46 | 7.250    2.39 |13.333    7.17 | 19.42    2.39
  1.250    1.46 | 7.333    2.92 |13.417    7.17 | 19.50    2.39
  1.333    1.46 | 7.417    2.92 |13.500    7.17 | 19.58    2.39
  1.417    1.46 | 7.500    2.92 |13.583    7.17 | 19.67    2.39
  1.500    1.46 | 7.583    2.92 |13.667    7.17 | 19.75    2.39
  1.583    1.46 | 7.667    2.92 |13.750    7.17 | 19.83    2.39
  1.667    1.46 | 7.750    2.92 |13.833    5.58 | 19.92    2.39
  1.750    1.46 | 7.833    2.92 |13.917    5.58 | 20.00    2.39
  1.833    1.46 | 7.917    2.92 |14.000    5.58 | 20.08    2.39
  1.917    1.46 | 8.000    2.92 |14.083    5.58 | 20.17    2.39
  2.000    1.46 | 8.083    2.92 |14.167    5.58 | 20.25    2.39
  2.083    1.46 | 8.167    2.92 |14.250    5.58 | 20.33    1.59
  2.167    1.46 | 8.250    2.92 |14.333    3.98 | 20.42    1.59
  2.250    1.46 | 8.333    3.45 |14.417    3.98 | 20.50    1.59
  2.333    1.73 | 8.417    3.45 |14.500    3.98 | 20.58    1.59
  2.417    1.73 | 8.500    3.45 |14.583    3.98 | 20.67    1.59
  2.500    1.73 | 8.583    3.45 |14.667    3.98 | 20.75    1.59
  2.583    1.73 | 8.667    3.45 |14.750    3.98 | 20.83    1.59
  2.667    1.73 | 8.750    3.45 |14.833    3.98 | 20.92    1.59
  2.750    1.73 | 8.833    3.72 |14.917    3.98 | 21.00    1.59
  2.833    1.73 | 8.917    3.72 |15.000    3.98 | 21.08    1.59
  2.917    1.73 | 9.000    3.72 |15.083    3.98 | 21.17    1.59
  3.000    1.73 | 9.083    3.72 |15.167    3.98 | 21.25    1.59
  3.083    1.73 | 9.167    3.72 |15.250    3.98 | 21.33    1.59
  3.167    1.73 | 9.250    3.72 |15.333    3.98 | 21.42    1.59
  3.250    1.73 | 9.333    4.25 |15.417    3.98 | 21.50    1.59
  3.333    1.73 | 9.417    4.25 |15.500    3.98 | 21.58    1.59
  3.417    1.73 | 9.500    4.25 |15.583    3.98 | 21.67    1.59
  3.500    1.73 | 9.583    4.25 |15.667    3.98 | 21.75    1.59
  3.583    1.73 | 9.667    4.25 |15.750    3.98 | 21.83    1.59
  3.667    1.73 | 9.750    4.25 |15.833    3.98 | 21.92    1.59
  3.750    1.73 | 9.833    4.78 |15.917    3.98 | 22.00    1.59
  3.833    1.73 | 9.917    4.78 |16.000    3.98 | 22.08    1.59
  3.917    1.73 |10.000    4.78 |16.083    3.98 | 22.17    1.59
  4.000    1.73 |10.083    4.78 |16.167    3.98 | 22.25    1.59
  4.083    1.73 |10.167    4.78 |16.250    3.98 | 22.33    1.59
  4.167    1.73 |10.250    4.78 |16.333    2.39 | 22.42    1.59
  4.250    1.73 |10.333    6.11 |16.417    2.39 | 22.50    1.59
  4.333    2.12 |10.417    6.11 |16.500    2.39 | 22.58    1.59
  4.417    2.12 |10.500    6.11 |16.583    2.39 | 22.67    1.59
  4.500    2.12 |10.583    6.11 |16.667    2.39 | 22.75    1.59
  4.583    2.12 |10.667    6.11 |16.750    2.39 | 22.83    1.59
  4.667    2.12 |10.750    6.11 |16.833    2.39 | 22.92    1.59
  4.750    2.12 |10.833    8.23 |16.917    2.39 | 23.00    1.59
  4.833    2.12 |10.917    8.23 |17.000    2.39 | 23.08    1.59
  4.917    2.12 |11.000    8.23 |17.083    2.39 | 23.17    1.59
  5.000    2.12 |11.083    8.23 |17.167    2.39 | 23.25    1.59
  5.083    2.12 |11.167    8.23 |17.250    2.39 | 23.33    1.59
  5.167    2.12 |11.250    8.23 |17.333    2.39 | 23.42    1.59
  5.250    2.12 |11.333   12.74 |17.417    2.39 | 23.50    1.59
  5.333    2.12 |11.417   12.74 |17.500    2.39 | 23.58    1.59
  5.417    2.12 |11.500   12.74 |17.583    2.39 | 23.67    1.59
  5.500    2.12 |11.583   12.74 |17.667    2.39 | 23.75    1.59
  5.583    2.12 |11.667   12.74 |17.750    2.39 | 23.83    1.59
  5.667    2.12 |11.750   12.74 |17.833    2.39 | 23.92    1.59
  5.750    2.12 |11.833   39.29 |17.917    2.39 | 24.00    1.59
  5.833    2.12 |11.917   39.29 |18.000    2.39 | 24.08    1.59
  5.917    2.12 |12.000   39.29 |18.083    2.39 | 24.17    1.59
  6.000    2.12 |12.083  162.46 |18.167    2.39 | 24.25    1.59
  6.083    2.12 |12.167  162.47 |18.250    2.39 |

Unit Hyd Qpeak  (cms)=   0.171

PEAK FLOW       (cms)=   0.188 (i)
TIME TO PEAK    (hrs)=  12.500
RUNOFF VOLUME    (mm)=  68.086
TOTAL RAINFALL   (mm)= 132.740
RUNOFF COEFFICIENT   =   0.513

(i) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB             |
| NASHYD   (  0003)|   Area    (ha)=   7.36   Curve Number   (CN)= 75.9
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.30   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.50

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

                              ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.00 | 6.167    2.12 |12.250  162.47 | 18.33    2.39
                0.167    0.00 | 6.250    2.12 |12.333   19.13 | 18.42    2.39
                0.250    0.00 | 6.333    2.39 |12.417   19.11 | 18.50    2.39
                0.333    1.46 | 6.417    2.39 |12.500   19.11 | 18.58    2.39
                0.417    1.46 | 6.500    2.39 |12.583   19.11 | 18.67    2.39
                0.500    1.46 | 6.583    2.39 |12.667   19.11 | 18.75    2.39
                0.583    1.46 | 6.667    2.39 |12.750   19.11 | 18.83    2.39
                0.667    1.46 | 6.750    2.39 |12.833    9.82 | 18.92    2.39
                0.750    1.46 | 6.833    2.39 |12.917    9.82 | 19.00    2.39
                0.833    1.46 | 6.917    2.39 |13.000    9.82 | 19.08    2.39
                0.917    1.46 | 7.000    2.39 |13.083    9.82 | 19.17    2.39
                1.000    1.46 | 7.083    2.39 |13.167    9.82 | 19.25    2.39
                1.083    1.46 | 7.167    2.39 |13.250    9.82 | 19.33    2.39
                1.167    1.46 | 7.250    2.39 |13.333    7.17 | 19.42    2.39
                1.250    1.46 | 7.333    2.92 |13.417    7.17 | 19.50    2.39
                1.333    1.46 | 7.417    2.92 |13.500    7.17 | 19.58    2.39
                1.417    1.46 | 7.500    2.92 |13.583    7.17 | 19.67    2.39
                1.500    1.46 | 7.583    2.92 |13.667    7.17 | 19.75    2.39
                1.583    1.46 | 7.667    2.92 |13.750    7.17 | 19.83    2.39
                1.667    1.46 | 7.750    2.92 |13.833    5.58 | 19.92    2.39
                1.750    1.46 | 7.833    2.92 |13.917    5.58 | 20.00    2.39
                1.833    1.46 | 7.917    2.92 |14.000    5.58 | 20.08    2.39
                1.917    1.46 | 8.000    2.92 |14.083    5.58 | 20.17    2.39
                2.000    1.46 | 8.083    2.92 |14.167    5.58 | 20.25    2.39
                2.083    1.46 | 8.167    2.92 |14.250    5.58 | 20.33    1.59
                2.167    1.46 | 8.250    2.92 |14.333    3.98 | 20.42    1.59
                2.250    1.46 | 8.333    3.45 |14.417    3.98 | 20.50    1.59
                2.333    1.73 | 8.417    3.45 |14.500    3.98 | 20.58    1.59
                2.417    1.73 | 8.500    3.45 |14.583    3.98 | 20.67    1.59
                2.500    1.73 | 8.583    3.45 |14.667    3.98 | 20.75    1.59
                2.583    1.73 | 8.667    3.45 |14.750    3.98 | 20.83    1.59
                2.667    1.73 | 8.750    3.45 |14.833    3.98 | 20.92    1.59
                2.750    1.73 | 8.833    3.72 |14.917    3.98 | 21.00    1.59
                2.833    1.73 | 8.917    3.72 |15.000    3.98 | 21.08    1.59
                2.917    1.73 | 9.000    3.72 |15.083    3.98 | 21.17    1.59
                3.000    1.73 | 9.083    3.72 |15.167    3.98 | 21.25    1.59
                3.083    1.73 | 9.167    3.72 |15.250    3.98 | 21.33    1.59
                3.167    1.73 | 9.250    3.72 |15.333    3.98 | 21.42    1.59
                3.250    1.73 | 9.333    4.25 |15.417    3.98 | 21.50    1.59
                3.333    1.73 | 9.417    4.25 |15.500    3.98 | 21.58    1.59
                3.417    1.73 | 9.500    4.25 |15.583    3.98 | 21.67    1.59
                3.500    1.73 | 9.583    4.25 |15.667    3.98 | 21.75    1.59
                3.583    1.73 | 9.667    4.25 |15.750    3.98 | 21.83    1.59
                3.667    1.73 | 9.750    4.25 |15.833    3.98 | 21.92    1.59
                3.750    1.73 | 9.833    4.78 |15.917    3.98 | 22.00    1.59
                3.833    1.73 | 9.917    4.78 |16.000    3.98 | 22.08    1.59
                3.917    1.73 |10.000    4.78 |16.083    3.98 | 22.17    1.59
                4.000    1.73 |10.083    4.78 |16.167    3.98 | 22.25    1.59
                4.083    1.73 |10.167    4.78 |16.250    3.98 | 22.33    1.59
                4.167    1.73 |10.250    4.78 |16.333    2.39 | 22.42    1.59
                4.250    1.73 |10.333    6.11 |16.417    2.39 | 22.50    1.59
                4.333    2.12 |10.417    6.11 |16.500    2.39 | 22.58    1.59
                4.417    2.12 |10.500    6.11 |16.583    2.39 | 22.67    1.59
                4.500    2.12 |10.583    6.11 |16.667    2.39 | 22.75    1.59
                4.583    2.12 |10.667    6.11 |16.750    2.39 | 22.83    1.59
                4.667    2.12 |10.750    6.11 |16.833    2.39 | 22.92    1.59
                4.750    2.12 |10.833    8.23 |16.917    2.39 | 23.00    1.59
                4.833    2.12 |10.917    8.23 |17.000    2.39 | 23.08    1.59
                4.917    2.12 |11.000    8.23 |17.083    2.39 | 23.17    1.59
                5.000    2.12 |11.083    8.23 |17.167    2.39 | 23.25    1.59
                5.083    2.12 |11.167    8.23 |17.250    2.39 | 23.33    1.59
                5.167    2.12 |11.250    8.23 |17.333    2.39 | 23.42    1.59
                5.250    2.12 |11.333   12.74 |17.417    2.39 | 23.50    1.59
                5.333    2.12 |11.417   12.74 |17.500    2.39 | 23.58    1.59
                5.417    2.12 |11.500   12.74 |17.583    2.39 | 23.67    1.59
                5.500    2.12 |11.583   12.74 |17.667    2.39 | 23.75    1.59
                5.583    2.12 |11.667   12.74 |17.750    2.39 | 23.83    1.59
                5.667    2.12 |11.750   12.74 |17.833    2.39 | 23.92    1.59
                5.750    2.12 |11.833   39.29 |17.917    2.39 | 24.00    1.59
                5.833    2.12 |11.917   39.29 |18.000    2.39 | 24.08    1.59
                5.917    2.12 |12.000   39.29 |18.083    2.39 | 24.17     1.59
                6.000    2.12 |12.083  162.46 |18.167    2.39 | 24.25     1.59
                6.083    2.12 |12.167  162.47 |18.250    2.39 |

     Unit Hyd Qpeak  (cms)=   0.562

     PEAK FLOW       (cms)=   0.770 (i)
     TIME TO PEAK    (hrs)=  12.667
     RUNOFF VOLUME    (mm)=  76.347
     TOTAL RAINFALL   (mm)= 132.740
     RUNOFF COEFFICIENT   =   0.575

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

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| CALIB             |
| NASHYD   (  0004)|   Area    (ha)=   5.75   Curve Number   (CN)= 74.2
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.83   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.45

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


                            ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME     RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs    mm/hr
                0.083    0.00 | 6.167    2.12 |12.250  162.47 | 18.33     2.39
                0.167    0.00 | 6.250    2.12 |12.333   19.13 | 18.42     2.39
                0.250    0.00 | 6.333    2.39 |12.417   19.11 | 18.50     2.39
                0.333    1.46 | 6.417    2.39 |12.500   19.11 | 18.58     2.39
                0.417    1.46 | 6.500    2.39 |12.583   19.11 | 18.67     2.39
                0.500    1.46 | 6.583    2.39 |12.667   19.11 | 18.75     2.39
                0.583    1.46 | 6.667    2.39 |12.750   19.11 | 18.83     2.39
                0.667    1.46 | 6.750    2.39 |12.833    9.82 | 18.92     2.39
                0.750    1.46 | 6.833    2.39 |12.917    9.82 | 19.00     2.39
                0.833    1.46 | 6.917    2.39 |13.000    9.82 | 19.08     2.39
                0.917    1.46 | 7.000    2.39 |13.083    9.82 | 19.17     2.39
                1.000    1.46 | 7.083    2.39 |13.167    9.82 | 19.25     2.39
                1.083    1.46 | 7.167    2.39 |13.250    9.82 | 19.33     2.39
                1.167    1.46 | 7.250    2.39 |13.333    7.17 | 19.42     2.39
                1.250    1.46 | 7.333    2.92 |13.417    7.17 | 19.50     2.39
                1.333    1.46 | 7.417    2.92 |13.500    7.17 | 19.58     2.39
                1.417    1.46 | 7.500    2.92 |13.583    7.17 | 19.67     2.39
                1.500    1.46 | 7.583    2.92 |13.667    7.17 | 19.75     2.39
                1.583    1.46 | 7.667    2.92 |13.750    7.17 | 19.83     2.39
                1.667    1.46 | 7.750    2.92 |13.833    5.58 | 19.92     2.39
                1.750    1.46 | 7.833    2.92 |13.917    5.58 | 20.00     2.39
                1.833    1.46 | 7.917    2.92 |14.000    5.58 | 20.08     2.39
                1.917    1.46 | 8.000    2.92 |14.083    5.58 | 20.17     2.39
                2.000    1.46 | 8.083    2.92 |14.167    5.58 | 20.25     2.39
                2.083    1.46 | 8.167    2.92 |14.250    5.58 | 20.33     1.59
                2.167    1.46 | 8.250    2.92 |14.333    3.98 | 20.42     1.59
                2.250    1.46 | 8.333    3.45 |14.417    3.98 | 20.50     1.59
                2.333    1.73 | 8.417    3.45 |14.500    3.98 | 20.58     1.59
                2.417    1.73 | 8.500    3.45 |14.583    3.98 | 20.67     1.59
                2.500    1.73 | 8.583    3.45 |14.667    3.98 | 20.75     1.59
                2.583    1.73 | 8.667    3.45 |14.750    3.98 | 20.83     1.59
                2.667    1.73 | 8.750    3.45 |14.833    3.98 | 20.92     1.59
                2.750    1.73 | 8.833    3.72 |14.917    3.98 | 21.00     1.59
                2.833    1.73 | 8.917    3.72 |15.000    3.98 | 21.08     1.59
                2.917    1.73 | 9.000    3.72 |15.083    3.98 | 21.17     1.59
                3.000    1.73 | 9.083    3.72 |15.167    3.98 | 21.25     1.59
                3.083    1.73 | 9.167    3.72 |15.250    3.98 | 21.33     1.59
                3.167    1.73 | 9.250    3.72 |15.333    3.98 | 21.42     1.59
                3.250    1.73 | 9.333    4.25 |15.417    3.98 | 21.50     1.59
                3.333    1.73 | 9.417    4.25 |15.500    3.98 | 21.58     1.59
                3.417    1.73 | 9.500    4.25 |15.583    3.98 | 21.67     1.59
                3.500    1.73 | 9.583    4.25 |15.667    3.98 | 21.75     1.59
                3.583    1.73 | 9.667    4.25 |15.750    3.98 | 21.83     1.59
                3.667    1.73 | 9.750    4.25 |15.833    3.98 | 21.92     1.59
                3.750    1.73 | 9.833    4.78 |15.917    3.98 | 22.00     1.59
                3.833    1.73 | 9.917    4.78 |16.000    3.98 | 22.08     1.59
                3.917    1.73 |10.000    4.78 |16.083    3.98 | 22.17     1.59
                4.000    1.73 |10.083    4.78 |16.167    3.98 | 22.25     1.59
                4.083    1.73 |10.167    4.78 |16.250    3.98 | 22.33     1.59
                4.167    1.73 |10.250    4.78 |16.333    2.39 | 22.42     1.59
                4.250    1.73 |10.333    6.11 |16.417    2.39 | 22.50     1.59
                4.333    2.12 |10.417    6.11 |16.500    2.39 | 22.58     1.59
                4.417    2.12 |10.500    6.11 |16.583    2.39 | 22.67     1.59
                4.500    2.12 |10.583    6.11 |16.667    2.39 | 22.75     1.59
                4.583    2.12 |10.667    6.11 |16.750    2.39 | 22.83     1.59
                4.667    2.12 |10.750    6.11 |16.833    2.39 | 22.92     1.59
                4.750    2.12 |10.833    8.23 |16.917    2.39 | 23.00     1.59
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                4.833    2.12 |10.917    8.23 |17.000    2.39 | 23.08     1.59
                4.917    2.12 |11.000    8.23 |17.083    2.39 | 23.17     1.59
                5.000    2.12 |11.083    8.23 |17.167    2.39 | 23.25     1.59
                5.083    2.12 |11.167    8.23 |17.250    2.39 | 23.33     1.59
                5.167    2.12 |11.250    8.23 |17.333    2.39 | 23.42     1.59
                5.250    2.12 |11.333   12.74 |17.417    2.39 | 23.50     1.59
                5.333    2.12 |11.417   12.74 |17.500    2.39 | 23.58     1.59
                5.417    2.12 |11.500   12.74 |17.583    2.39 | 23.67     1.59
                5.500    2.12 |11.583   12.74 |17.667    2.39 | 23.75     1.59
                5.583    2.12 |11.667   12.74 |17.750    2.39 | 23.83     1.59
                5.667    2.12 |11.750   12.74 |17.833    2.39 | 23.92     1.59
                5.750    2.12 |11.833   39.29 |17.917    2.39 | 24.00     1.59
                5.833    2.12 |11.917   39.29 |18.000    2.39 | 24.08     1.59
                5.917    2.12 |12.000   39.29 |18.083    2.39 | 24.17     1.59
                6.000    2.12 |12.083  162.46 |18.167    2.39 | 24.25     1.59
                6.083    2.12 |12.167  162.47 |18.250    2.39 |

     Unit Hyd Qpeak  (cms)=   0.488

     PEAK FLOW       (cms)=   0.629 (i)
     TIME TO PEAK    (hrs)=  12.583
     RUNOFF VOLUME    (mm)=  73.997
     TOTAL RAINFALL   (mm)= 132.740
     RUNOFF COEFFICIENT   =   0.557

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

-------------------------------------------------------------------------------
--------------------
| CALIB             |
| NASHYD   (  0010)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.57

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


                            ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME     RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs    mm/hr
                0.083    0.00 | 6.167    2.12 |12.250  162.47 | 18.33     2.39
                0.167    0.00 | 6.250    2.12 |12.333   19.13 | 18.42     2.39
                0.250    0.00 | 6.333    2.39 |12.417   19.11 | 18.50     2.39
                0.333    1.46 | 6.417    2.39 |12.500   19.11 | 18.58     2.39
                0.417    1.46 | 6.500    2.39 |12.583   19.11 | 18.67     2.39
                0.500    1.46 | 6.583    2.39 |12.667   19.11 | 18.75     2.39
                0.583    1.46 | 6.667    2.39 |12.750   19.11 | 18.83     2.39
                0.667    1.46 | 6.750    2.39 |12.833    9.82 | 18.92     2.39
                0.750    1.46 | 6.833    2.39 |12.917    9.82 | 19.00     2.39
                0.833    1.46 | 6.917    2.39 |13.000    9.82 | 19.08     2.39
                0.917    1.46 | 7.000    2.39 |13.083    9.82 | 19.17     2.39
                1.000    1.46 | 7.083    2.39 |13.167    9.82 | 19.25     2.39
                1.083    1.46 | 7.167    2.39 |13.250    9.82 | 19.33     2.39
                1.167    1.46 | 7.250    2.39 |13.333    7.17 | 19.42     2.39
                1.250    1.46 | 7.333    2.92 |13.417    7.17 | 19.50     2.39
                1.333    1.46 | 7.417    2.92 |13.500    7.17 | 19.58     2.39
                1.417    1.46 | 7.500    2.92 |13.583    7.17 | 19.67     2.39
                1.500    1.46 | 7.583    2.92 |13.667    7.17 | 19.75     2.39
                1.583    1.46 | 7.667    2.92 |13.750    7.17 | 19.83     2.39
                1.667    1.46 | 7.750    2.92 |13.833    5.58 | 19.92     2.39
                1.750    1.46 | 7.833    2.92 |13.917    5.58 | 20.00     2.39
                1.833    1.46 | 7.917    2.92 |14.000    5.58 | 20.08     2.39
                1.917    1.46 | 8.000    2.92 |14.083    5.58 | 20.17     2.39
                2.000    1.46 | 8.083    2.92 |14.167    5.58 | 20.25     2.39
                2.083    1.46 | 8.167    2.92 |14.250    5.58 | 20.33     1.59
                2.167    1.46 | 8.250    2.92 |14.333    3.98 | 20.42     1.59
                2.250    1.46 | 8.333    3.45 |14.417    3.98 | 20.50     1.59
                2.333    1.73 | 8.417    3.45 |14.500    3.98 | 20.58     1.59
                2.417    1.73 | 8.500    3.45 |14.583    3.98 | 20.67     1.59
                2.500    1.73 | 8.583    3.45 |14.667    3.98 | 20.75     1.59
                2.583    1.73 | 8.667    3.45 |14.750    3.98 | 20.83     1.59
                2.667    1.73 | 8.750    3.45 |14.833    3.98 | 20.92     1.59
                2.750    1.73 | 8.833    3.72 |14.917    3.98 | 21.00     1.59
                2.833    1.73 | 8.917    3.72 |15.000    3.98 | 21.08     1.59
                2.917    1.73 | 9.000    3.72 |15.083    3.98 | 21.17     1.59
                3.000    1.73 | 9.083    3.72 |15.167    3.98 | 21.25     1.59
                3.083    1.73 | 9.167    3.72 |15.250    3.98 | 21.33     1.59
                3.167    1.73 | 9.250    3.72 |15.333    3.98 | 21.42     1.59
                3.250    1.73 | 9.333    4.25 |15.417    3.98 | 21.50     1.59
                3.333    1.73 | 9.417    4.25 |15.500    3.98 | 21.58     1.59
                3.417    1.73 | 9.500    4.25 |15.583    3.98 | 21.67     1.59
                3.500    1.73 | 9.583    4.25 |15.667    3.98 | 21.75     1.59
                3.583    1.73 | 9.667    4.25 |15.750    3.98 | 21.83     1.59
                3.667    1.73 | 9.750    4.25 |15.833    3.98 | 21.92     1.59
```

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               3.750    1.73 | 9.833    4.78 |15.917    3.98 | 22.00    1.59
               3.833    1.73 | 9.917    4.78 |16.000    3.98 | 22.08    1.59
               3.917    1.73 |10.000    4.78 |16.083    3.98 | 22.17    1.59
               4.000    1.73 |10.083    4.78 |16.167    3.98 | 22.25    1.59
               4.083    1.73 |10.167    4.78 |16.250    3.98 | 22.33    1.59
               4.167    1.73 |10.250    4.78 |16.333    2.39 | 22.42    1.59
               4.250    1.73 |10.333    6.11 |16.417    2.39 | 22.50    1.59
               4.333    2.12 |10.417    6.11 |16.500    2.39 | 22.58    1.59
               4.417    2.12 |10.500    6.11 |16.583    2.39 | 22.67    1.59
               4.500    2.12 |10.583    6.11 |16.667    2.39 | 22.75    1.59
               4.583    2.12 |10.667    6.11 |16.750    2.39 | 22.83    1.59
               4.667    2.12 |10.750    6.11 |16.833    2.39 | 22.92    1.59
               4.750    2.12 |10.833    8.23 |16.917    2.39 | 23.00    1.59
               4.833    2.12 |10.917    8.23 |17.000    2.39 | 23.08    1.59
               4.917    2.12 |11.000    8.23 |17.083    2.39 | 23.17    1.59
               5.000    2.12 |11.083    8.23 |17.167    2.39 | 23.25    1.59
               5.083    2.12 |11.167    8.23 |17.250    2.39 | 23.33    1.59
               5.167    2.12 |11.250    8.23 |17.333    2.39 | 23.42    1.59
               5.250    2.12 |11.333   12.74 |17.417    2.39 | 23.50    1.59
               5.333    2.12 |11.417   12.74 |17.500    2.39 | 23.58    1.59
               5.417    2.12 |11.500   12.74 |17.583    2.39 | 23.67    1.59
               5.500    2.12 |11.583   12.74 |17.667    2.39 | 23.75    1.59
               5.583    2.12 |11.667   12.74 |17.750    2.39 | 23.83    1.59
               5.667    2.12 |11.750   12.74 |17.833    2.39 | 23.92    1.59
               5.750    2.12 |11.833   39.29 |17.917    2.39 | 24.00    1.59
               5.833    2.12 |11.917   39.29 |18.000    2.39 | 24.08    1.59
               5.917    2.12 |12.000   39.29 |18.083    2.39 | 24.17    1.59
               6.000    2.12 |12.083  162.46 |18.167    2.39 | 24.25    1.59
               6.083    2.12 |12.167  162.47 |18.250    2.39 |

     Unit Hyd Qpeak  (cms)=   0.972

     PEAK FLOW       (cms)=   1.417 (i)
     TIME TO PEAK    (hrs)=  12.750
     RUNOFF VOLUME    (mm)=  78.308
     TOTAL RAINFALL   (mm)= 132.740
     RUNOFF COEFFICIENT   =   0.590

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

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

--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0010):    14.50   1.417    12.75    78.31
      + ID2= 2 (  0002):     1.57   0.188    12.50    68.09
        ===================================================
        ID = 3 (  0009):    16.07   1.577    12.67    77.31

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

--------------------
| ADD HYD  (  0009)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0009):    16.07   1.577    12.67    77.31
      + ID2= 2 (  0003):     7.36   0.770    12.67    76.35
        ===================================================
        ID = 1 (  0009):    23.43   2.347    12.67    77.01

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

--------------------
| ADD HYD  (  0009)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0009):    23.43   2.347    12.67    77.01
      + ID2= 2 (  0004):     5.75   0.629    12.58    74.00
        ===================================================
        ID = 3 (  0009):    29.18   2.959    12.67    76.41

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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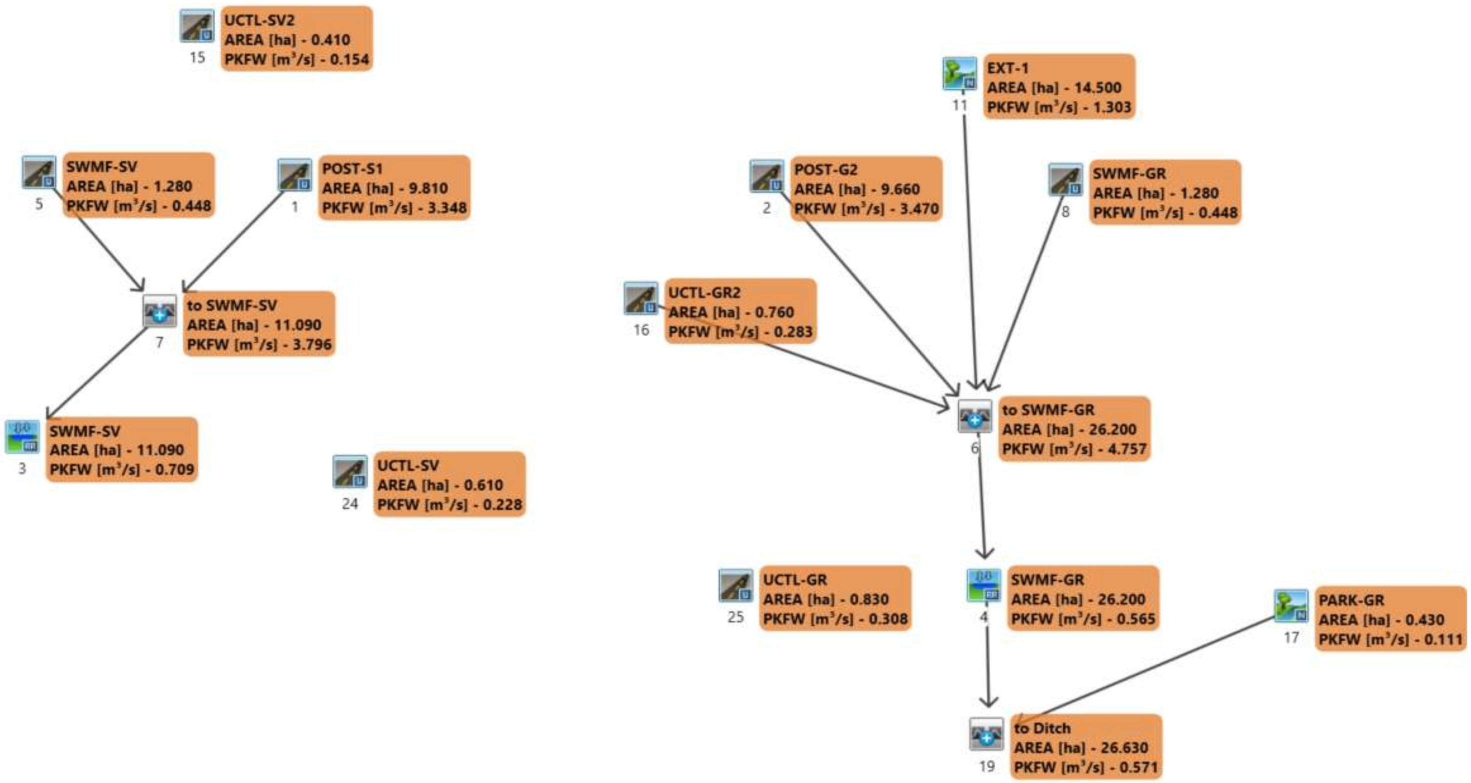
CROZIER
CONSULTING ENGINEERS

Project: Ida Street
Project No.: 1060-5590
File: Model Schematic (Post-Development)
Design by: AM
Date: 5/15/2024

Visual OTTHYMO 6 Model Schematic

Post-Development



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********************************
** SIMULATION:25mm            **
********************************

 --------------------
|    READ STORM      |    Filename: C:\Users\jkerschbaumer\AppD
|                    |              ata\Local\Temp\
|                    |              0e53ce72-2c36-4efc-8a1e-c647e636da9d\4bff76f6
| Ptotal= 24.99 mm   |    Comments: 25mm
 --------------------
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.00    1.36 |  1.00    6.91 |  2.00    4.18 |  3.00    1.86
                 0.08    1.45 |  1.08   11.02 |  2.08    3.77 |  3.08    1.78
                 0.17    1.55 |  1.17   26.16 |  2.17    3.43 |  3.17    1.71
                 0.25    1.67 |  1.25   76.07 |  2.25    3.16 |  3.25    1.64
                 0.33    1.81 |  1.33   33.71 |  2.33    2.92 |  3.33    1.58
                 0.42    1.99 |  1.42   18.64 |  2.42    2.72 |  3.42    1.52
                 0.50    2.20 |  1.50   12.61 |  2.50    2.55 |  3.50    1.47
                 0.58    2.47 |  1.58    9.46 |  2.58    2.39 |  3.58    1.43
                 0.67    2.82 |  1.67    7.55 |  2.67    2.26 |  3.67    1.38
                 0.75    3.29 |  1.75    6.28 |  2.75    2.14 |  3.75    1.34
                 0.83    3.97 |  1.83    5.38 |  2.83    2.04 |  3.83    1.30
                 0.92    5.03 |  1.92    4.70 |  2.92    1.94 |  3.92    1.26

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

 --------------------
| CALIB              |
| STANDHYD (  0001)  |   Area    (ha)=   9.81
|ID= 1 DT= 5.0 min   |   Total Imp(%)=  58.00   Dir. Conn.(%)=  48.00
 --------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.69         4.12
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     255.73        30.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      76.07         8.44
                over (min)        5.00        25.00
     Storage Coeff.  (min)=       6.16 (ii)   22.13 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.19         0.05
                                                             *TOTALS*
     PEAK FLOW       (cms)=       0.66         0.05           0.665 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.75            1.33
     RUNOFF VOLUME    (mm)=      23.99         4.91           14.07
     TOTAL RAINFALL   (mm)=      24.99        24.99           24.99
     RUNOFF COEFFICIENT  =        0.96         0.20            0.56


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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 (  0005)  |   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min   |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
 --------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      76.07         5.07
                over (min)        5.00        25.00
     Storage Coeff.  (min)=       3.35 (ii)   22.93 (ii)
     Unit Hyd. Tpeak (min)=       5.00        25.00
     Unit Hyd. peak  (cms)=       0.26         0.05
                                                             *TOTALS*
     PEAK FLOW       (cms)=       0.11         0.00           0.114 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.83            1.33
     RUNOFF VOLUME    (mm)=      22.99         3.82           13.39
     TOTAL RAINFALL   (mm)=      24.99        24.99           24.99
     RUNOFF COEFFICIENT  =        0.92         0.15            0.54

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

```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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  (  0007)|
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
 --------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0001):      9.81    0.665     1.33    14.07
      + ID2= 2 (  0005):      1.28    0.114     1.33    13.39
        ==================================================
        ID = 3 (  0007):     11.09    0.779     1.33    13.99

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
 --------------------
| RESERVOIR(  0003)|      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   |   0.3480     0.4690
                           0.0270     0.0900   |   0.8590     0.6570
                           0.0470     0.1880   |   1.5140     0.8590
                           0.0600     0.2950   |   0.0000     0.0000

                                   AREA     QPEAK     TPEAK       R.V.
                                   (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0007)       11.090     0.779      1.33      13.99
   OUTFLOW: ID= 1 (  0003)       11.090     0.034      3.67      13.92

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  4.33
                  TIME SHIFT OF PEAK FLOW       (min)=140.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.1228

--------------------------------------------------------------------------------
 --------------------
| CALIB              |
| STANDHYD (  0015)|   Area    (ha)=   0.41
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
 --------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.20         0.20
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      52.28        40.00
     Mannings n          =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      76.07        43.00
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       1.93 (ii)   11.82 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.31         0.09
                                                             *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.01           0.017 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50            1.33
     RUNOFF VOLUME    (mm)=      23.99        11.51           13.37
     TOTAL RAINFALL   (mm)=      24.99        24.99           24.99
     RUNOFF COEFFICIENT  =        0.96         0.46            0.53

***** 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*  =  85.0    Ia = Dep. 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   (  0011)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
 --------------------   U.H. Tp(hrs)=   0.64

     Unit Hyd Qpeak  (cms)=   0.865

     PEAK FLOW       (cms)=   0.065 (i)
     TIME TO PEAK    (hrs)=   2.333
     RUNOFF VOLUME    (mm)=   3.403
     TOTAL RAINFALL   (mm)=  24.991
     RUNOFF COEFFICIENT   =   0.136

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

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| STANDHYD (  0002)|   Area    (ha)=   9.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  50.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      6.57        3.09
     Dep. Storage     (mm)=      2.00        5.00
     Average Slope     (%)=      0.50        2.00
     Length            (m)=    253.77       30.00
     Mannings n           =     0.013       0.250

     Max.Eff.Inten.(mm/hr)=     76.07       16.20
                over (min)      5.00       20.00
     Storage Coeff.  (min)=      6.14 (ii)  18.43 (ii)
     Unit Hyd. Tpeak (min)=      5.00       20.00
     Unit Hyd. peak  (cms)=      0.19        0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.68        0.07         0.688 (iii)
     TIME TO PEAK    (hrs)=      1.33        1.67          1.33
     RUNOFF VOLUME    (mm)=     22.99        6.25         14.62
     TOTAL RAINFALL   (mm)=     24.99       24.99         24.99
     RUNOFF COEFFICIENT   =      0.92        0.25          0.58


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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 (  0008)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.64        0.64
     Dep. Storage     (mm)=      2.00        5.00
     Average Slope     (%)=      0.50        2.00
     Length            (m)=     92.38       30.00
     Mannings n           =     0.013       0.250

     Max.Eff.Inten.(mm/hr)=     76.07        5.07
                over (min)      5.00       25.00
     Storage Coeff.  (min)=      3.35 (ii)  22.93 (ii)
     Unit Hyd. Tpeak (min)=      5.00       25.00
     Unit Hyd. peak  (cms)=      0.26        0.05
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.11        0.00         0.114 (iii)
     TIME TO PEAK    (hrs)=      1.33        1.83          1.33
     RUNOFF VOLUME    (mm)=     22.99        3.82         13.39
     TOTAL RAINFALL   (mm)=     24.99       24.99         24.99
     RUNOFF COEFFICIENT   =      0.92        0.15          0.54

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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 (  0016)|   Area    (ha)=   0.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.38        0.38
     Dep. Storage     (mm)=      1.00        1.50
     Average Slope     (%)=      1.00        2.00
     Length            (m)=     71.18       40.00
     Mannings n           =     0.013       0.250
```

```
     Max.Eff.Inten.(mm/hr)=      76.07        43.00
                over (min)       5.00        15.00
     Storage Coeff.  (min)=       2.32 (ii)   12.22 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.30         0.09
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.02         0.031 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50          1.50
     RUNOFF VOLUME    (mm)=      23.99        11.51         13.38
     TOTAL RAINFALL   (mm)=      24.99        24.99         24.99
     RUNOFF COEFFICIENT   =       0.96         0.46          0.54

***** 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*  =  85.0    Ia = Dep. 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  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0011):    14.50   0.065     2.33     3.40
      + ID2= 2 (  0016):     0.76   0.031     1.50    13.38
        ===================================================
        ID = 3 (  0006):    15.26   0.073     2.25     3.90

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

--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0006):    15.26   0.073     2.25     3.90
      + ID2= 2 (  0002):     9.66   0.688     1.33    14.62
        ===================================================
        ID = 1 (  0006):    24.92   0.720     1.33     8.06

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

--------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0006):    24.92   0.720     1.33     8.06
      + ID2= 2 (  0008):     1.28   0.114     1.33    13.39
        ===================================================
        ID = 3 (  0006):    26.20   0.834     1.33     8.32

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0004)|     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   |   0.1460     0.6510
                          0.0160     0.1150   |   0.3020     0.9550
                          0.0250     0.2380   |   0.4430     1.1990
                          0.0410     0.3690   |   0.6010     1.4550

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0006)     26.200      0.834      1.33       8.32
   OUTFLOW: ID= 1 (  0004)     26.200      0.022      4.50       8.25

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.60
                    TIME SHIFT OF PEAK FLOW         (min)=190.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.1927

--------------------------------------------------------------------------------
--------------------
| CALIB              |
| NASHYD   (  0017)|   Area    (ha)=   0.43   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
```

```
--------------------   U.H. Tp(hrs)=   0.13

     Unit Hyd Qpeak  (cms)=   0.126

     PEAK FLOW       (cms)=   0.006 (i)
     TIME TO PEAK    (hrs)=   1.500
     RUNOFF VOLUME    (mm)=   3.780
     TOTAL RAINFALL   (mm)=  24.991
     RUNOFF COEFFICIENT   =   0.151

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

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--------------------
| ADD HYD  (  0019)|
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0017):     0.43   0.006     1.50     3.78
      + ID2= 2 (  0004):    26.20   0.022     4.50     8.25
        ==================================================
        ID = 3 (  0019):    26.63   0.022     4.00     8.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0024)|   Area    (ha)=   0.61
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31         0.31
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      63.77        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      76.07        43.00
                over (min)       5.00        15.00
     Storage Coeff.  (min)=       2.18 (ii)   12.07 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.31         0.09
                                                            *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.02          0.025 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50           1.50
     RUNOFF VOLUME    (mm)=      23.99        11.51          13.37
     TOTAL RAINFALL   (mm)=      24.99        24.99          24.99
     RUNOFF COEFFICIENT   =       0.96         0.46           0.54

***** 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*  =  85.0    Ia = Dep. 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 (  0025)|   Area    (ha)=   0.83
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.42         0.42
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      74.39        40.00
     Mannings n           =      0.013        0.250

     Max.Eff.Inten.(mm/hr)=      76.07        43.00
                over (min)       5.00        15.00
     Storage Coeff.  (min)=       2.39 (ii)   12.28 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.30         0.09
                                                            *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.03          0.034 (iii)
     TIME TO PEAK    (hrs)=       1.33         1.50           1.50
     RUNOFF VOLUME    (mm)=      23.99        11.51          13.38
     TOTAL RAINFALL   (mm)=      24.99        24.99          24.99
     RUNOFF COEFFICIENT   =       0.96         0.46           0.54
```

```
***** 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*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
*****************************************
** SIMULATION:A. 2yr 3hr 10min Chicago **
*****************************************
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 404.147
| Ptotal= 32.13 mm |                          B=   0.000
--------------------                          C=   0.699
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  3.00 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
                 0.00    3.76 |  0.83   80.82 |  1.67    5.83 |  2.50    3.63
                 0.17    4.42 |  1.00   17.11 |  1.83    5.15 |  2.67    3.39
                 0.33    5.48 |  1.17   10.79 |  2.00    4.63 |  2.83    3.20
                 0.50    7.50 |  1.33    8.23 |  2.17    4.23 |
                 0.67   13.95 |  1.50    6.78 |  2.33    3.90 |


------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0001)|   Area    (ha)=   9.81
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  48.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.69         4.12
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     255.73        30.00
     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    3.76 | 0.833   13.95 | 1.583    6.78 |  2.33    4.23
                0.167    3.76 | 0.917   80.82 | 1.667    6.78 |  2.42    3.90
                0.250    4.42 | 1.000   80.82 | 1.750    5.83 |  2.50    3.90
                0.333    4.42 | 1.083   17.11 | 1.833    5.83 |  2.58    3.63
                0.417    5.48 | 1.167   17.11 | 1.917    5.15 |  2.67    3.63
                0.500    5.48 | 1.250   10.79 | 2.000    5.15 |  2.75    3.39
                0.583    7.50 | 1.333   10.79 | 2.083    4.63 |  2.83    3.39
                0.667    7.50 | 1.417    8.23 | 2.167    4.63 |  2.92    3.20
                0.750   13.95 | 1.500    8.23 | 2.250    4.23 |  3.00    3.20

     Max.Eff.Inten.(mm/hr)=      80.82        16.02
                over (min)       5.00        20.00
     Storage Coeff.  (min)=       6.02 (ii)   18.37 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.19         0.06
                                                            *TOTALS*
     PEAK FLOW       (cms)=       0.89         0.10          0.916 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.25           1.00
     RUNOFF VOLUME    (mm)=      31.13         8.18          19.20
     TOTAL RAINFALL   (mm)=      32.13        32.13          32.13
     RUNOFF COEFFICIENT   =       0.97         0.25           0.60


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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 (  0005)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     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    3.76 | 0.833   13.95 | 1.583    6.78 |  2.33    4.23
               0.167    3.76 | 0.917   80.82 | 1.667    6.78 |  2.42    3.90
               0.250    4.42 | 1.000   80.82 | 1.750    5.83 |  2.50    3.90
               0.333    4.42 | 1.083   17.11 | 1.833    5.83 |  2.58    3.63
               0.417    5.48 | 1.167   17.11 | 1.917    5.15 |  2.67    3.63
               0.500    5.48 | 1.250   10.79 | 2.000    5.15 |  2.75    3.39
               0.583    7.50 | 1.333   10.79 | 2.083    4.63 |  2.83    3.39
               0.667    7.50 | 1.417    8.23 | 2.167    4.63 |  2.92    3.20
               0.750   13.95 | 1.500    8.23 | 2.250    4.23 |  3.00    3.20

     Max.Eff.Inten.(mm/hr)=      80.82         8.66
                over (min)        5.00        20.00
     Storage Coeff.  (min)=       3.27 (ii)   19.06 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.27         0.06
                                                           *TOTALS*
     PEAK FLOW       (cms)=       0.14         0.01          0.141 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.25           1.00
     RUNOFF VOLUME    (mm)=      30.13         6.58          18.35
     TOTAL RAINFALL   (mm)=      32.13        32.13          32.13
     RUNOFF COEFFICIENT   =       0.94         0.20           0.57

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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  (  0007)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0001):     9.81   0.916     1.00    19.20
      + ID2= 2 (  0005):     1.28   0.141     1.00    18.35
        ===============================================
        ID = 3 (  0007):    11.09   1.057     1.00    19.10

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0003)|     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   |   0.3480      0.4690
                          0.0270      0.0900   |   0.8590      0.6570
                          0.0470      0.1880   |   1.5140      0.8590
                          0.0600      0.2950   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0007)     11.090     1.057      1.00      19.10
   OUTFLOW: ID= 1 (  0003)     11.090     0.045      3.08      19.02

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)=  4.24
                 TIME SHIFT OF PEAK FLOW         (min)=125.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.1772

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0015)|   Area    (ha)=   0.41
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.20         0.20
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      52.28        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    3.76 | 0.833   13.95 | 1.583    6.78 |  2.33    4.23
               0.167    3.76 | 0.917   80.82 | 1.667    6.78 |  2.42    3.90
               0.250    4.42 | 1.000   80.82 | 1.750    5.83 |  2.50    3.90
               0.333    4.42 | 1.083   17.11 | 1.833    5.83 |  2.58    3.63
               0.417    5.48 | 1.167   17.11 | 1.917    5.15 |  2.67    3.63
               0.500    5.48 | 1.250   10.79 | 2.000    5.15 |  2.75    3.39
               0.583    7.50 | 1.333   10.79 | 2.083    4.63 |  2.83    3.39
               0.667    7.50 | 1.417    8.23 | 2.167    4.63 |  2.92    3.20
               0.750   13.95 | 1.500    8.23 | 2.250    4.23 |  3.00    3.20

     Max.Eff.Inten.(mm/hr)=      80.82        69.37
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       1.89 (ii)   10.05 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.32         0.10
                                                           *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.02          0.026 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.17           1.00
     RUNOFF VOLUME    (mm)=      31.13        16.95          19.06
     TOTAL RAINFALL   (mm)=      32.13        32.13          32.13
     RUNOFF COEFFICIENT   =       0.97         0.53           0.59

***** 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*  =  85.0    Ia = Dep. 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   (  0011)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.64

         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    3.76 | 0.833   13.95 | 1.583    6.78 |  2.33    4.23
               0.167    3.76 | 0.917   80.82 | 1.667    6.78 |  2.42    3.90
               0.250    4.42 | 1.000   80.82 | 1.750    5.83 |  2.50    3.90
               0.333    4.42 | 1.083   17.11 | 1.833    5.83 |  2.58    3.63
               0.417    5.48 | 1.167   17.11 | 1.917    5.15 |  2.67    3.63
               0.500    5.48 | 1.250   10.79 | 2.000    5.15 |  2.75    3.39
               0.583    7.50 | 1.333   10.79 | 2.083    4.63 |  2.83    3.39
               0.667    7.50 | 1.417    8.23 | 2.167    4.63 |  2.92    3.20
               0.750   13.95 | 1.500    8.23 | 2.250    4.23 |  3.00    3.20

     Unit Hyd Qpeak  (cms)=   0.865

     PEAK FLOW       (cms)=   0.120 (i)
     TIME TO PEAK    (hrs)=   1.917
     RUNOFF VOLUME    (mm)=   6.197
     TOTAL RAINFALL   (mm)=  32.132
     RUNOFF COEFFICIENT   =   0.193

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

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0002)|   Area    (ha)=   9.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  50.00
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```
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.57         3.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     253.77        30.00
     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    3.76 | 0.833   13.95 | 1.583    6.78 |  2.33    4.23
                0.167    3.76 | 0.917   80.82 | 1.667    6.78 |  2.42    3.90
                0.250    4.42 | 1.000   80.82 | 1.750    5.83 |  2.50    3.90
                0.333    4.42 | 1.083   17.11 | 1.833    5.83 |  2.58    3.63
                0.417    5.48 | 1.167   17.11 | 1.917    5.15 |  2.67    3.63
                0.500    5.48 | 1.250   10.79 | 2.000    5.15 |  2.75    3.39
                0.583    7.50 | 1.333   10.79 | 2.083    4.63 |  2.83    3.39
                0.667    7.50 | 1.417    8.23 | 2.167    4.63 |  2.92    3.20
                0.750   13.95 | 1.500    8.23 | 2.250    4.23 |  3.00    3.20

     Max.Eff.Inten.(mm/hr)=      80.82        33.50
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       5.99 (ii)   15.19 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.19         0.07
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.91         0.13         0.954 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.25          1.00
     RUNOFF VOLUME    (mm)=      30.13        10.07         20.10
     TOTAL RAINFALL   (mm)=      32.13        32.13         32.13
     RUNOFF COEFFICIENT   =       0.94         0.31          0.63


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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 (  0008)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     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    3.76 | 0.833   13.95 | 1.583    6.78 |  2.33    4.23
                0.167    3.76 | 0.917   80.82 | 1.667    6.78 |  2.42    3.90
                0.250    4.42 | 1.000   80.82 | 1.750    5.83 |  2.50    3.90
                0.333    4.42 | 1.083   17.11 | 1.833    5.83 |  2.58    3.63
                0.417    5.48 | 1.167   17.11 | 1.917    5.15 |  2.67    3.63
                0.500    5.48 | 1.250   10.79 | 2.000    5.15 |  2.75    3.39
                0.583    7.50 | 1.333   10.79 | 2.083    4.63 |  2.83    3.39
                0.667    7.50 | 1.417    8.23 | 2.167    4.63 |  2.92    3.20
                0.750   13.95 | 1.500    8.23 | 2.250    4.23 |  3.00    3.20

     Max.Eff.Inten.(mm/hr)=      80.82         8.66
               over (min)        5.00        20.00
     Storage Coeff.  (min)=       3.27 (ii)   19.06 (ii)
     Unit Hyd. Tpeak (min)=       5.00        20.00
     Unit Hyd. peak  (cms)=       0.27         0.06
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.14         0.01         0.141 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.25          1.00
     RUNOFF VOLUME    (mm)=      30.13         6.58         18.35
     TOTAL RAINFALL   (mm)=      32.13        32.13         32.13
     RUNOFF COEFFICIENT   =       0.94         0.20          0.57

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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 (  0016)|   Area    (ha)=   0.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.38         0.38
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      71.18        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    3.76 | 0.833   13.95 | 1.583    6.78 |  2.33    4.23
                0.167    3.76 | 0.917   80.82 | 1.667    6.78 |  2.42    3.90
                0.250    4.42 | 1.000   80.82 | 1.750    5.83 |  2.50    3.90
                0.333    4.42 | 1.083   17.11 | 1.833    5.83 |  2.58    3.63
                0.417    5.48 | 1.167   17.11 | 1.917    5.15 |  2.67    3.63
                0.500    5.48 | 1.250   10.79 | 2.000    5.15 |  2.75    3.39
                0.583    7.50 | 1.333   10.79 | 2.083    4.63 |  2.83    3.39
                0.667    7.50 | 1.417    8.23 | 2.167    4.63 |  2.92    3.20
                0.750   13.95 | 1.500    8.23 | 2.250    4.23 |  3.00    3.20

     Max.Eff.Inten.(mm/hr)=      80.82        69.37
               over (min)        5.00        15.00
     Storage Coeff.  (min)=       2.27 (ii)   10.44 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.30         0.09
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.04         0.047 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.17          1.00
     RUNOFF VOLUME    (mm)=      31.13        16.95         19.07
     TOTAL RAINFALL   (mm)=      32.13        32.13         32.13
     RUNOFF COEFFICIENT   =       0.97         0.53          0.59

***** 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*  =  85.0    Ia = Dep. 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  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0011):    14.50    0.120     1.92     6.20
      + ID2= 2 (  0016):     0.76    0.047     1.00    19.07
        ===================================================
        ID = 3 (  0006):    15.26    0.131     1.83     6.84

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

--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0006):    15.26    0.131     1.83     6.84
      + ID2= 2 (  0002):     9.66    0.954     1.00    20.10
        ===================================================
        ID = 1 (  0006):    24.92    1.009     1.00    11.98

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0006):    24.92   1.009     1.00    11.98
     + ID2= 2 (  0008):     1.28   0.141     1.00    18.35
       ==================================================
       ID = 3 (  0006):    26.20   1.150     1.00    12.29

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0004)|     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    |   0.1460      0.6510
                          0.0160      0.1150    |   0.3020      0.9550
                          0.0250      0.2380    |   0.4430      1.1990
                          0.0410      0.3690    |   0.6010      1.4550

                               AREA      QPEAK      TPEAK        R.V.
                               (ha)      (cms)      (hrs)        (mm)
   INFLOW : ID= 2 (  0006)     26.200      1.150      1.00       12.29
   OUTFLOW: ID= 1 (  0004)     26.200      0.031      3.92       12.22

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)=  2.73
                 TIME SHIFT OF PEAK FLOW         (min)=175.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.2902

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.43   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

         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    3.76 | 0.833   13.95 | 1.583    6.78 |  2.33    4.23
                 0.167    3.76 | 0.917   80.82 | 1.667    6.78 |  2.42    3.90
                 0.250    4.42 | 1.000   80.82 | 1.750    5.83 |  2.50    3.90
                 0.333    4.42 | 1.083   17.11 | 1.833    5.83 |  2.58    3.63
                 0.417    5.48 | 1.167   17.11 | 1.917    5.15 |  2.67    3.63
                 0.500    5.48 | 1.250   10.79 | 2.000    5.15 |  2.75    3.39
                 0.583    7.50 | 1.333   10.79 | 2.083    4.63 |  2.83    3.39
                 0.667    7.50 | 1.417    8.23 | 2.167    4.63 |  2.92    3.20
                 0.750   13.95 | 1.500    8.23 | 2.250    4.23 |  3.00    3.20

    Unit Hyd Qpeak  (cms)=   0.126

    PEAK FLOW       (cms)=   0.010 (i)
    TIME TO PEAK    (hrs)=   1.083
    RUNOFF VOLUME    (mm)=   6.519
    TOTAL RAINFALL   (mm)=  32.132
    RUNOFF COEFFICIENT   =   0.203

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

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--------------------
| ADD HYD  (  0019)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0017):     0.43   0.010     1.08     6.52
     + ID2= 2 (  0004):    26.20   0.031     3.92    12.22
       ==================================================
       ID = 3 (  0019):    26.63   0.031     3.92    12.13

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0024)|   Area    (ha)=   0.61
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       0.31         0.31
    Dep. Storage     (mm)=       1.00         1.50
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```
    Average Slope     (%)=       1.00         2.00
    Length            (m)=      63.77        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    3.76 | 0.833   13.95 | 1.583    6.78 |  2.33    4.23
                 0.167    3.76 | 0.917   80.82 | 1.667    6.78 |  2.42    3.90
                 0.250    4.42 | 1.000   80.82 | 1.750    5.83 |  2.50    3.90
                 0.333    4.42 | 1.083   17.11 | 1.833    5.83 |  2.58    3.63
                 0.417    5.48 | 1.167   17.11 | 1.917    5.15 |  2.67    3.63
                 0.500    5.48 | 1.250   10.79 | 2.000    5.15 |  2.75    3.39
                 0.583    7.50 | 1.333   10.79 | 2.083    4.63 |  2.83    3.39
                 0.667    7.50 | 1.417    8.23 | 2.167    4.63 |  2.92    3.20
                 0.750   13.95 | 1.500    8.23 | 2.250    4.23 |  3.00    3.20

    Max.Eff.Inten.(mm/hr)=      80.82        69.37
               over (min)        5.00        15.00
    Storage Coeff.  (min)=       2.12 (ii)   10.29 (ii)
    Unit Hyd. Tpeak (min)=       5.00        15.00
    Unit Hyd. peak  (cms)=       0.31         0.09
                                                            *TOTALS*
    PEAK FLOW       (cms)=       0.02         0.03           0.038 (iii)
    TIME TO PEAK    (hrs)=       1.00         1.17            1.00
    RUNOFF VOLUME    (mm)=      31.13        16.95           19.06
    TOTAL RAINFALL   (mm)=      32.13        32.13           32.13
    RUNOFF COEFFICIENT   =       0.97         0.53            0.59

***** 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*  =  85.0    Ia = Dep. 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 (  0025)|   Area    (ha)=   0.83
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       0.42         0.42
    Dep. Storage     (mm)=       1.00         1.50
    Average Slope     (%)=       1.00         2.00
    Length            (m)=      74.39        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    3.76 | 0.833   13.95 | 1.583    6.78 |  2.33    4.23
                 0.167    3.76 | 0.917   80.82 | 1.667    6.78 |  2.42    3.90
                 0.250    4.42 | 1.000   80.82 | 1.750    5.83 |  2.50    3.90
                 0.333    4.42 | 1.083   17.11 | 1.833    5.83 |  2.58    3.63
                 0.417    5.48 | 1.167   17.11 | 1.917    5.15 |  2.67    3.63
                 0.500    5.48 | 1.250   10.79 | 2.000    5.15 |  2.75    3.39
                 0.583    7.50 | 1.333   10.79 | 2.083    4.63 |  2.83    3.39
                 0.667    7.50 | 1.417    8.23 | 2.167    4.63 |  2.92    3.20
                 0.750   13.95 | 1.500    8.23 | 2.250    4.23 |  3.00    3.20

    Max.Eff.Inten.(mm/hr)=      80.82        69.37
               over (min)        5.00        15.00
    Storage Coeff.  (min)=       2.33 (ii)   10.50 (ii)
    Unit Hyd. Tpeak (min)=       5.00        15.00
    Unit Hyd. peak  (cms)=       0.30         0.09
                                                            *TOTALS*
    PEAK FLOW       (cms)=       0.03         0.04           0.052 (iii)
    TIME TO PEAK    (hrs)=       1.00         1.17            1.00
    RUNOFF VOLUME    (mm)=      31.13        16.95           19.07
    TOTAL RAINFALL   (mm)=      32.13        32.13           32.13
    RUNOFF COEFFICIENT   =       0.97         0.53            0.59

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. 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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*****************************************
** SIMULATION:B. 5yr 3hr 10min Chicago **
*****************************************
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 535.364
| Ptotal= 42.56 mm |                          B=   0.000
--------------------                          C=   0.699
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  3.00 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
                 0.00    4.98 |  0.83  107.07 |  1.67    7.72 |  2.50    4.80
                 0.17    5.86 |  1.00   22.67 |  1.83    6.82 |  2.67    4.50
                 0.33    7.26 |  1.17   14.30 |  2.00    6.14 |  2.83    4.24
                 0.50    9.93 |  1.33   10.90 |  2.17    5.60 |
                 0.67   18.47 |  1.50    8.98 |  2.33    5.16 |


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--------------------
| CALIB            |
| STANDHYD (  0001)|   Area    (ha)=   9.81
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  48.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.69         4.12
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     255.73        30.00
     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    4.98 | 0.833   18.47 | 1.583    8.98 |  2.33    5.60
                0.167    4.98 | 0.917  107.07 | 1.667    8.98 |  2.42    5.16
                0.250    5.86 | 1.000  107.07 | 1.750    7.72 |  2.50    5.16
                0.333    5.86 | 1.083   22.67 | 1.833    7.72 |  2.58    4.80
                0.417    7.26 | 1.167   22.67 | 1.917    6.82 |  2.67    4.80
                0.500    7.26 | 1.250   14.30 | 2.000    6.82 |  2.75    4.50
                0.583    9.93 | 1.333   14.30 | 2.083    6.14 |  2.83    4.50
                0.667    9.93 | 1.417   10.90 | 2.167    6.14 |  2.92    4.24
                0.750   18.47 | 1.500   10.90 | 2.250    5.60 |  3.00    4.24

     Max.Eff.Inten.(mm/hr)=     107.07        36.96
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       5.38 (ii)   14.22 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.21         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.22         0.21         1.311 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.17          1.00
     RUNOFF VOLUME    (mm)=      41.56        13.88         27.17
     TOTAL RAINFALL   (mm)=      42.56        42.56         42.56
     RUNOFF COEFFICIENT   =       0.98         0.33          0.64


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0005)|   Area    (ha)=   1.28
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```
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     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    4.98 | 0.833   18.47 | 1.583    8.98 |  2.33    5.60
                0.167    4.98 | 0.917  107.07 | 1.667    8.98 |  2.42    5.16
                0.250    5.86 | 1.000  107.07 | 1.750    7.72 |  2.50    5.16
                0.333    5.86 | 1.083   22.67 | 1.833    7.72 |  2.58    4.80
                0.417    7.26 | 1.167   22.67 | 1.917    6.82 |  2.67    4.80
                0.500    7.26 | 1.250   14.30 | 2.000    6.82 |  2.75    4.50
                0.583    9.93 | 1.333   14.30 | 2.083    6.14 |  2.83    4.50
                0.667    9.93 | 1.417   10.90 | 2.167    6.14 |  2.92    4.24
                0.750   18.47 | 1.500   10.90 | 2.250    5.60 |  3.00    4.24

     Max.Eff.Inten.(mm/hr)=     107.07        18.53
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       2.92 (ii)   14.58 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.28         0.08
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.19         0.02         0.194 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.17          1.00
     RUNOFF VOLUME    (mm)=      40.56        11.54         26.05
     TOTAL RAINFALL   (mm)=      42.56        42.56         42.56
     RUNOFF COEFFICIENT   =       0.95         0.27          0.61

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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  (  0007)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0001):      9.81   1.311     1.00    27.17
     + ID2= 2 (  0005):      1.28   0.194     1.00    26.05
       ===============================================
       ID = 3 (  0007):     11.09   1.505     1.00    27.04

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0003)|    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   |   0.3480     0.4690
                         0.0270     0.0900   |   0.8590     0.6570
                         0.0470     0.1880   |   1.5140     0.8590
                         0.0600     0.2950   |   0.0000     0.0000

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0007)    11.090     1.505      1.00      27.04
   OUTFLOW: ID= 1 (  0003)    11.090     0.055      3.08      26.96

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.67
                   TIME SHIFT OF PEAK FLOW         (min)=125.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.2566

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0015)|   Area    (ha)=   0.41
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.20         0.20
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      52.28        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    4.98 | 0.833   18.47 | 1.583    8.98 |  2.33    5.60
                0.167    4.98 | 0.917  107.07 | 1.667    8.98 |  2.42    5.16
                0.250    5.86 | 1.000  107.07 | 1.750    7.72 |  2.50    5.16
                0.333    5.86 | 1.083   22.67 | 1.833    7.72 |  2.58    4.80
                0.417    7.26 | 1.167   22.67 | 1.917    6.82 |  2.67    4.80
                0.500    7.26 | 1.250   14.30 | 2.000    6.82 |  2.75    4.50
                0.583    9.93 | 1.333   14.30 | 2.083    6.14 |  2.83    4.50
                0.667    9.93 | 1.417   10.90 | 2.167    6.14 |  2.92    4.24
                0.750   18.47 | 1.500   10.90 | 2.250    5.60 |  3.00    4.24

     Max.Eff.Inten.(mm/hr)=     107.07       107.48
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.68 (ii)    8.54 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.12
                                                           *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.04          0.052 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08           1.00
     RUNOFF VOLUME    (mm)=      41.56        25.53          27.92
     TOTAL RAINFALL   (mm)=      42.56        42.56          42.56
     RUNOFF COEFFICIENT   =       0.98         0.60           0.66

***** 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*  =  85.0    Ia = Dep. 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   (  0011)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.64

         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    4.98 | 0.833   18.47 | 1.583    8.98 |  2.33    5.60
                0.167    4.98 | 0.917  107.07 | 1.667    8.98 |  2.42    5.16
                0.250    5.86 | 1.000  107.07 | 1.750    7.72 |  2.50    5.16
                0.333    5.86 | 1.083   22.67 | 1.833    7.72 |  2.58    4.80
                0.417    7.26 | 1.167   22.67 | 1.917    6.82 |  2.67    4.80
                0.500    7.26 | 1.250   14.30 | 2.000    6.82 |  2.75    4.50
                0.583    9.93 | 1.333   14.30 | 2.083    6.14 |  2.83    4.50
                0.667    9.93 | 1.417   10.90 | 2.167    6.14 |  2.92    4.24
                0.750   18.47 | 1.500   10.90 | 2.250    5.60 |  3.00    4.24

     Unit Hyd Qpeak  (cms)=   0.865

     PEAK FLOW       (cms)=   0.226 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  11.281
     TOTAL RAINFALL   (mm)=  42.565
     RUNOFF COEFFICIENT   =   0.265

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0002)|   Area    (ha)=   9.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
```

```
     Surface Area     (ha)=       6.57         3.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     253.77        30.00
     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    4.98 | 0.833   18.47 | 1.583    8.98 |  2.33    5.60
                0.167    4.98 | 0.917  107.07 | 1.667    8.98 |  2.42    5.16
                0.250    5.86 | 1.000  107.07 | 1.750    7.72 |  2.50    5.16
                0.333    5.86 | 1.083   22.67 | 1.833    7.72 |  2.58    4.80
                0.417    7.26 | 1.167   22.67 | 1.917    6.82 |  2.67    4.80
                0.500    7.26 | 1.250   14.30 | 2.000    6.82 |  2.75    4.50
                0.583    9.93 | 1.333   14.30 | 2.083    6.14 |  2.83    4.50
                0.667    9.93 | 1.417   10.90 | 2.167    6.14 |  2.92    4.24
                0.750   18.47 | 1.500   10.90 | 2.250    5.60 |  3.00    4.24

     Max.Eff.Inten.(mm/hr)=     107.07        58.09
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       5.35 (ii)   10.19 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.21         0.09
                                                           *TOTALS*
     PEAK FLOW       (cms)=       1.25         0.29          1.391 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.17           1.00
     RUNOFF VOLUME    (mm)=      40.56        16.56          28.56
     TOTAL RAINFALL   (mm)=      42.56        42.56          42.56
     RUNOFF COEFFICIENT   =       0.95         0.39           0.67


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0008)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     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    4.98 | 0.833   18.47 | 1.583    8.98 |  2.33    5.60
                0.167    4.98 | 0.917  107.07 | 1.667    8.98 |  2.42    5.16
                0.250    5.86 | 1.000  107.07 | 1.750    7.72 |  2.50    5.16
                0.333    5.86 | 1.083   22.67 | 1.833    7.72 |  2.58    4.80
                0.417    7.26 | 1.167   22.67 | 1.917    6.82 |  2.67    4.80
                0.500    7.26 | 1.250   14.30 | 2.000    6.82 |  2.75    4.50
                0.583    9.93 | 1.333   14.30 | 2.083    6.14 |  2.83    4.50
                0.667    9.93 | 1.417   10.90 | 2.167    6.14 |  2.92    4.24
                0.750   18.47 | 1.500   10.90 | 2.250    5.60 |  3.00    4.24

     Max.Eff.Inten.(mm/hr)=     107.07        18.53
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       2.92 (ii)   14.58 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.28         0.08
                                                           *TOTALS*
     PEAK FLOW       (cms)=       0.19         0.02          0.194 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.17           1.00
     RUNOFF VOLUME    (mm)=      40.56        11.54          26.05
     TOTAL RAINFALL   (mm)=      42.56        42.56          42.56
     RUNOFF COEFFICIENT   =       0.95         0.27           0.61

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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 (  0016)|   Area    (ha)=   0.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.38         0.38
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      71.18        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    4.98 | 0.833   18.47 | 1.583    8.98 |  2.33    5.60
               0.167    4.98 | 0.917  107.07 | 1.667    8.98 |  2.42    5.16
               0.250    5.86 | 1.000  107.07 | 1.750    7.72 |  2.50    5.16
               0.333    5.86 | 1.083   22.67 | 1.833    7.72 |  2.58    4.80
               0.417    7.26 | 1.167   22.67 | 1.917    6.82 |  2.67    4.80
               0.500    7.26 | 1.250   14.30 | 2.000    6.82 |  2.75    4.50
               0.583    9.93 | 1.333   14.30 | 2.083    6.14 |  2.83    4.50
               0.667    9.93 | 1.417   10.90 | 2.167    6.14 |  2.92    4.24
               0.750   18.47 | 1.500   10.90 | 2.250    5.60 |  3.00    4.24

     Max.Eff.Inten.(mm/hr)=     107.07       107.48
                over (min)       5.00        10.00
     Storage Coeff.  (min)=       2.03 (ii)    8.88 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.12
                                                            *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.07           0.095 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08            1.00
     RUNOFF VOLUME    (mm)=      41.56        25.53           27.93
     TOTAL RAINFALL   (mm)=      42.56        42.56           42.56
     RUNOFF COEFFICIENT   =       0.98         0.60            0.66

***** 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*  =  85.0    Ia = Dep. 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  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (  0011):    14.50   0.226     1.83    11.28
        + ID2= 2 (  0016):     0.76   0.095     1.00    27.93
          ==================================================
          ID = 3 (  0006):    15.26   0.242     1.83    12.11

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

--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 3 (  0006):    15.26   0.242     1.83    12.11
        + ID2= 2 (  0002):     9.66   1.391     1.00    28.56
          ==================================================
          ID = 1 (  0006):    24.92   1.505     1.00    18.49

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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```
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (  0006):    24.92   1.505     1.00    18.49
        + ID2= 2 (  0008):     1.28   0.194     1.00    26.05
          ==================================================
          ID = 3 (  0006):    26.20   1.699     1.00    18.86

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0004)|     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   |   0.1460      0.6510
                          0.0160     0.1150   |   0.3020      0.9550
                          0.0250     0.2380   |   0.4430      1.1990
                          0.0410     0.3690   |   0.6010      1.4550

                                 AREA     QPEAK     TPEAK       R.V.
                                 (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0006)     26.200      1.699      1.00      18.86
   OUTFLOW: ID= 1 (  0004)     26.200      0.067      3.75      18.79

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)=  3.93
                 TIME SHIFT OF PEAK FLOW         (min)=165.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.4383

-------------------------------------------------------------------------------
--------------------
| CALIB             |
| NASHYD   (  0017)|   Area    (ha)=   0.43   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

         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    4.98 | 0.833   18.47 | 1.583    8.98 |  2.33    5.60
               0.167    4.98 | 0.917  107.07 | 1.667    8.98 |  2.42    5.16
               0.250    5.86 | 1.000  107.07 | 1.750    7.72 |  2.50    5.16
               0.333    5.86 | 1.083   22.67 | 1.833    7.72 |  2.58    4.80
               0.417    7.26 | 1.167   22.67 | 1.917    6.82 |  2.67    4.80
               0.500    7.26 | 1.250   14.30 | 2.000    6.82 |  2.75    4.50
               0.583    9.93 | 1.333   14.30 | 2.083    6.14 |  2.83    4.50
               0.667    9.93 | 1.417   10.90 | 2.167    6.14 |  2.92    4.24
               0.750   18.47 | 1.500   10.90 | 2.250    5.60 |  3.00    4.24

     Unit Hyd Qpeak  (cms)=   0.126

     PEAK FLOW       (cms)=   0.019 (i)
     TIME TO PEAK    (hrs)=   1.083
     RUNOFF VOLUME    (mm)=  11.429
     TOTAL RAINFALL   (mm)=  42.565
     RUNOFF COEFFICIENT   =   0.269

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

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--------------------
| ADD HYD  (  0019)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (  0017):     0.43   0.019     1.08    11.43
        + ID2= 2 (  0004):    26.20   0.067     3.75    18.79
          ==================================================
          ID = 3 (  0019):    26.63   0.067     3.75    18.67

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD (  0024)|   Area    (ha)=   0.61
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31         0.31
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      63.77        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    4.98 | 0.833   18.47 | 1.583    8.98 |  2.33    5.60
                0.167    4.98 | 0.917  107.07 | 1.667    8.98 |  2.42    5.16
                0.250    5.86 | 1.000  107.07 | 1.750    7.72 |  2.50    5.16
                0.333    5.86 | 1.083   22.67 | 1.833    7.72 |  2.58    4.80
                0.417    7.26 | 1.167   22.67 | 1.917    6.82 |  2.67    4.80
                0.500    7.26 | 1.250   14.30 | 2.000    6.82 |  2.75    4.50
                0.583    9.93 | 1.333   14.30 | 2.083    6.14 |  2.83    4.50
                0.667    9.93 | 1.417   10.90 | 2.167    6.14 |  2.92    4.24
                0.750   18.47 | 1.500   10.90 | 2.250    5.60 |  3.00    4.24

     Max.Eff.Inten.(mm/hr)=     107.07       107.48
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.90 (ii)    8.75 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.12
                                                            *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.06           0.076 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08            1.00
     RUNOFF VOLUME    (mm)=      41.56        25.53           27.93
     TOTAL RAINFALL   (mm)=      42.56        42.56           42.56
     RUNOFF COEFFICIENT   =       0.98         0.60            0.66

***** 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*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD (  0025)|   Area    (ha)=   0.83
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.42         0.42
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      74.39        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    4.98 | 0.833   18.47 | 1.583    8.98 |  2.33    5.60
                0.167    4.98 | 0.917  107.07 | 1.667    8.98 |  2.42    5.16
                0.250    5.86 | 1.000  107.07 | 1.750    7.72 |  2.50    5.16
                0.333    5.86 | 1.083   22.67 | 1.833    7.72 |  2.58    4.80
                0.417    7.26 | 1.167   22.67 | 1.917    6.82 |  2.67    4.80
                0.500    7.26 | 1.250   14.30 | 2.000    6.82 |  2.75    4.50
                0.583    9.93 | 1.333   14.30 | 2.083    6.14 |  2.83    4.50
                0.667    9.93 | 1.417   10.90 | 2.167    6.14 |  2.92    4.24
                0.750   18.47 | 1.500   10.90 | 2.250    5.60 |  3.00    4.24

     Max.Eff.Inten.(mm/hr)=     107.07       107.48
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.08 (ii)    8.94 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.12
                                                            *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.08           0.103 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08            1.00
     RUNOFF VOLUME    (mm)=      41.56        25.53           27.93
     TOTAL RAINFALL   (mm)=      42.56        42.56           42.56
     RUNOFF COEFFICIENT   =       0.98         0.60            0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
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              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  85.0    Ia = Dep. 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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******************************************
** SIMULATION:C. 10yr 3hr 10min Chicago **
******************************************
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 622.842
| Ptotal= 49.52 mm |                          B=   0.000
--------------------                          C=   0.699
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  3.00 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
                 0.00    5.79 |  0.83  124.56 |  1.67    8.98 |  2.50    5.59
                 0.17    6.82 |  1.00   26.38 |  1.83    7.93 |  2.67    5.23
                 0.33    8.45 |  1.17   16.63 |  2.00    7.14 |  2.83    4.93
                 0.50   11.56 |  1.33   12.68 |  2.17    6.51 |
                 0.67   21.49 |  1.50   10.45 |  2.33    6.01 |


-------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD (  0001)|   Area    (ha)=   9.81
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  48.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.69         4.12
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     255.73        30.00
     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    5.79 | 0.833   21.49 | 1.583   10.45 |  2.33    6.51
                0.167    5.79 | 0.917  124.56 | 1.667   10.45 |  2.42    6.01
                0.250    6.82 | 1.000  124.56 | 1.750    8.98 |  2.50    6.01
                0.333    6.82 | 1.083   26.38 | 1.833    8.98 |  2.58    5.59
                0.417    8.45 | 1.167   26.38 | 1.917    7.93 |  2.67    5.59
                0.500    8.45 | 1.250   16.63 | 2.000    7.93 |  2.75    5.23
                0.583   11.56 | 1.333   16.63 | 2.083    7.14 |  2.83    5.23
                0.667   11.56 | 1.417   12.68 | 2.167    7.14 |  2.92    4.93
                0.750   21.49 | 1.500   12.68 | 2.250    6.51 |  3.00    4.93

     Max.Eff.Inten.(mm/hr)=     124.56        49.78
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       5.06 (ii)   12.91 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.21         0.08
                                                            *TOTALS*
     PEAK FLOW       (cms)=       1.44         0.29           1.578 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.17            1.00
     RUNOFF VOLUME    (mm)=      48.52        18.17           32.74
     TOTAL RAINFALL   (mm)=      49.52        49.52           49.52
     RUNOFF COEFFICIENT   =       0.98         0.37            0.66


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD (  0005)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
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--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64          0.64
     Dep. Storage     (mm)=       2.00          5.00
     Average Slope     (%)=       0.50          2.00
     Length            (m)=      92.38         30.00
     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    5.79 | 0.833   21.49 | 1.583   10.45 |  2.33    6.51
                0.167    5.79 | 0.917  124.56 | 1.667   10.45 |  2.42    6.01
                0.250    6.82 | 1.000  124.56 | 1.750    8.98 |  2.50    6.01
                0.333    6.82 | 1.083   26.38 | 1.833    8.98 |  2.58    5.59
                0.417    8.45 | 1.167   26.38 | 1.917    7.93 |  2.67    5.59
                0.500    8.45 | 1.250   16.63 | 2.000    7.93 |  2.75    5.23
                0.583   11.56 | 1.333   16.63 | 2.083    7.14 |  2.83    5.23
                0.667   11.56 | 1.417   12.68 | 2.167    7.14 |  2.92    4.93
                0.750   21.49 | 1.500   12.68 | 2.250    6.51 |  3.00    4.93

     Max.Eff.Inten.(mm/hr)=     124.56        32.56
                over (min)        5.00         15.00
     Storage Coeff.  (min)=       2.75 (ii)   12.05 (ii)
     Unit Hyd. Tpeak (min)=       5.00         15.00
     Unit Hyd. peak  (cms)=       0.28          0.09
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.22          0.03          0.231 (iii)
     TIME TO PEAK    (hrs)=       1.00          1.17           1.00
     RUNOFF VOLUME    (mm)=      47.52         15.34          31.42
     TOTAL RAINFALL   (mm)=      49.52         49.52          49.52
     RUNOFF COEFFICIENT   =       0.96          0.31           0.63

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =   75.0    Ia = Dep. 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  (  0007)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0001):     9.81   1.578     1.00    32.74
      + ID2= 2 (  0005):     1.28   0.231     1.00    31.42
        ==================================================
        ID = 3 (  0007):    11.09   1.809     1.00    32.58

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0003)|     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   |   0.3480      0.4690
                          0.0270     0.0900   |   0.8590      0.6570
                          0.0470     0.1880   |   1.5140      0.8590
                          0.0600     0.2950   |   0.0000      0.0000

                                AREA     QPEAK      TPEAK        R.V.
                                (ha)     (cms)      (hrs)        (mm)
   INFLOW : ID= 2 (  0007)     11.090      1.809      1.00        32.58
   OUTFLOW: ID= 1 (  0003)     11.090      0.084      3.08        32.51

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  4.64
                   TIME SHIFT OF PEAK FLOW         (min)=125.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.3096

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--------------------
| CALIB            |
| STANDHYD (  0015)|   Area    (ha)=   0.41
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.20          0.20
```

```
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      52.28         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    5.79 | 0.833   21.49 | 1.583   10.45 |  2.33    6.51
                0.167    5.79 | 0.917  124.56 | 1.667   10.45 |  2.42    6.01
                0.250    6.82 | 1.000  124.56 | 1.750    8.98 |  2.50    6.01
                0.333    6.82 | 1.083   26.38 | 1.833    8.98 |  2.58    5.59
                0.417    8.45 | 1.167   26.38 | 1.917    7.93 |  2.67    5.59
                0.500    8.45 | 1.250   16.63 | 2.000    7.93 |  2.75    5.23
                0.583   11.56 | 1.333   16.63 | 2.083    7.14 |  2.83    5.23
                0.667   11.56 | 1.417   12.68 | 2.167    7.14 |  2.92    4.93
                0.750   21.49 | 1.500   12.68 | 2.250    6.51 |  3.00    4.93

     Max.Eff.Inten.(mm/hr)=     124.56       134.54
                over (min)        5.00         10.00
     Storage Coeff.  (min)=       1.59 (ii)    7.85 (ii)
     Unit Hyd. Tpeak (min)=       5.00         10.00
     Unit Hyd. peak  (cms)=       0.33          0.13
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.02          0.05          0.066 (iii)
     TIME TO PEAK    (hrs)=       1.00          1.08           1.00
     RUNOFF VOLUME    (mm)=      48.52         31.54          34.07
     TOTAL RAINFALL   (mm)=      49.52         49.52          49.52
     RUNOFF COEFFICIENT   =       0.98          0.64           0.69

***** 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*  =   85.0    Ia = Dep. 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   (  0011)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia       (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.64

         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    5.79 | 0.833   21.49 | 1.583   10.45 |  2.33    6.51
                0.167    5.79 | 0.917  124.56 | 1.667   10.45 |  2.42    6.01
                0.250    6.82 | 1.000  124.56 | 1.750    8.98 |  2.50    6.01
                0.333    6.82 | 1.083   26.38 | 1.833    8.98 |  2.58    5.59
                0.417    8.45 | 1.167   26.38 | 1.917    7.93 |  2.67    5.59
                0.500    8.45 | 1.250   16.63 | 2.000    7.93 |  2.75    5.23
                0.583   11.56 | 1.333   16.63 | 2.083    7.14 |  2.83    5.23
                0.667   11.56 | 1.417   12.68 | 2.167    7.14 |  2.92    4.93
                0.750   21.49 | 1.500   12.68 | 2.250    6.51 |  3.00    4.93

     Unit Hyd Qpeak  (cms)=   0.865

     PEAK FLOW       (cms)=   0.311 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  15.194
     TOTAL RAINFALL   (mm)=  49.520
     RUNOFF COEFFICIENT  =   0.307

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

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--------------------
| CALIB            |
| STANDHYD (  0002)|   Area    (ha)=   9.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.57          3.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     253.77        30.00
     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    5.79 | 0.833   21.49 | 1.583   10.45 |  2.33    6.51
              0.167    5.79 | 0.917  124.56 | 1.667   10.45 |  2.42    6.01
              0.250    6.82 | 1.000  124.56 | 1.750    8.98 |  2.50    6.01
              0.333    6.82 | 1.083   26.38 | 1.833    8.98 |  2.58    5.59
              0.417    8.45 | 1.167   26.38 | 1.917    7.93 |  2.67    5.59
              0.500    8.45 | 1.250   16.63 | 2.000    7.93 |  2.75    5.23
              0.583   11.56 | 1.333   16.63 | 2.083    7.14 |  2.83    5.23
              0.667   11.56 | 1.417   12.68 | 2.167    7.14 |  2.92    4.93
              0.750   21.49 | 1.500   12.68 | 2.250    6.51 |  3.00    4.93

     Max.Eff.Inten.(mm/hr)=     124.56        76.71
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.04 (ii)    9.59 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.21         0.11
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.48         0.42         1.801 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08          1.00
     RUNOFF VOLUME    (mm)=      47.52        21.35         34.43
     TOTAL RAINFALL   (mm)=      49.52        49.52         49.52
     RUNOFF COEFFICIENT   =       0.96         0.43          0.70

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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 (  0008)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     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    5.79 | 0.833   21.49 | 1.583   10.45 |  2.33    6.51
              0.167    5.79 | 0.917  124.56 | 1.667   10.45 |  2.42    6.01
              0.250    6.82 | 1.000  124.56 | 1.750    8.98 |  2.50    6.01
              0.333    6.82 | 1.083   26.38 | 1.833    8.98 |  2.58    5.59
              0.417    8.45 | 1.167   26.38 | 1.917    7.93 |  2.67    5.59
              0.500    8.45 | 1.250   16.63 | 2.000    7.93 |  2.75    5.23
              0.583   11.56 | 1.333   16.63 | 2.083    7.14 |  2.83    5.23
              0.667   11.56 | 1.417   12.68 | 2.167    7.14 |  2.92    4.93
              0.750   21.49 | 1.500   12.68 | 2.250    6.51 |  3.00    4.93

     Max.Eff.Inten.(mm/hr)=     124.56        32.56
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       2.75 (ii)   12.05 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.28         0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.22         0.03         0.231 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.17          1.00
     RUNOFF VOLUME    (mm)=      47.52        15.34         31.42
     TOTAL RAINFALL   (mm)=      49.52        49.52         49.52
     RUNOFF COEFFICIENT   =       0.96         0.31          0.63

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
```

```
            CN*  =  75.0    Ia = Dep. 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 (  0016)|   Area    (ha)=   0.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.38         0.38
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      71.18        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    5.79 | 0.833   21.49 | 1.583   10.45 |  2.33    6.51
              0.167    5.79 | 0.917  124.56 | 1.667   10.45 |  2.42    6.01
              0.250    6.82 | 1.000  124.56 | 1.750    8.98 |  2.50    6.01
              0.333    6.82 | 1.083   26.38 | 1.833    8.98 |  2.58    5.59
              0.417    8.45 | 1.167   26.38 | 1.917    7.93 |  2.67    5.59
              0.500    8.45 | 1.250   16.63 | 2.000    7.93 |  2.75    5.23
              0.583   11.56 | 1.333   16.63 | 2.083    7.14 |  2.83    5.23
              0.667   11.56 | 1.417   12.68 | 2.167    7.14 |  2.92    4.93
              0.750   21.49 | 1.500   12.68 | 2.250    6.51 |  3.00    4.93

     Max.Eff.Inten.(mm/hr)=     124.56       134.54
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.91 (ii)    8.18 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.09         0.120 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08          1.00
     RUNOFF VOLUME    (mm)=      48.52        31.54         34.08
     TOTAL RAINFALL   (mm)=      49.52        49.52         49.52
     RUNOFF COEFFICIENT   =       0.98         0.64          0.69

***** 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*  =  85.0    Ia = Dep. 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  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0011):    14.50   0.311     1.83    15.19
      + ID2= 2 (  0016):     0.76   0.120     1.00    34.08
        ==================================================
        ID = 3 (  0006):    15.26   0.329     1.83    16.13

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

--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0006):    15.26   0.329     1.83    16.13
      + ID2= 2 (  0002):     9.66   1.801     1.00    34.43
        ==================================================
        ID = 1 (  0006):    24.92   1.950     1.00    23.23

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

--------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0006):    24.92   1.950     1.00    23.23
     + ID2= 2 (  0008):     1.28   0.231     1.00    31.42
       ===============================================
       ID = 3 (  0006):    26.20   2.181     1.00    23.63

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0004)|     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   |   0.1460      0.6510
                          0.0160     0.1150   |   0.3020      0.9550
                          0.0250     0.2380   |   0.4430      1.1990
                          0.0410     0.3690   |   0.6010      1.4550

                                AREA     QPEAK     TPEAK        R.V.
                                (ha)     (cms)     (hrs)        (mm)
  INFLOW : ID= 2 (  0006)     26.200      2.181      1.00       23.63
  OUTFLOW: ID= 1 (  0004)     26.200      0.103      3.58       23.56

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  4.74
                  TIME SHIFT OF PEAK FLOW         (min)=155.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.5365

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.43   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

        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    5.79 | 0.833   21.49 | 1.583   10.45 |  2.33     6.51
               0.167    5.79 | 0.917  124.56 | 1.667   10.45 |  2.42     6.01
               0.250    6.82 | 1.000  124.56 | 1.750    8.98 |  2.50     6.01
               0.333    6.82 | 1.083   26.38 | 1.833    8.98 |  2.58     5.59
               0.417    8.45 | 1.167   26.38 | 1.917    7.93 |  2.67     5.59
               0.500    8.45 | 1.250   16.63 | 2.000    7.93 |  2.75     5.23
               0.583   11.56 | 1.333   16.63 | 2.083    7.14 |  2.83     5.23
               0.667   11.56 | 1.417   12.68 | 2.167    7.14 |  2.92     4.93
               0.750   21.49 | 1.500   12.68 | 2.250    6.51 |  3.00     4.93

    Unit Hyd Qpeak  (cms)=   0.126

    PEAK FLOW       (cms)=   0.026 (i)
    TIME TO PEAK    (hrs)=   1.083
    RUNOFF VOLUME    (mm)=  15.190
    TOTAL RAINFALL   (mm)=  49.520
    RUNOFF COEFFICIENT   =   0.307

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

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--------------------
| ADD HYD  (  0019)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0017):     0.43   0.026     1.08    15.19
     + ID2= 2 (  0004):    26.20   0.103     3.58    23.56
       ===============================================
       ID = 3 (  0019):    26.63   0.103     3.58    23.42

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0024)|   Area    (ha)=   0.61
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                         IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       0.31         0.31
    Dep. Storage     (mm)=       1.00         1.50
    Average Slope     (%)=       1.00         2.00
    Length            (m)=      63.77        40.00
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    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    5.79 | 0.833   21.49 | 1.583   10.45 |  2.33     6.51
               0.167    5.79 | 0.917  124.56 | 1.667   10.45 |  2.42     6.01
               0.250    6.82 | 1.000  124.56 | 1.750    8.98 |  2.50     6.01
               0.333    6.82 | 1.083   26.38 | 1.833    8.98 |  2.58     5.59
               0.417    8.45 | 1.167   26.38 | 1.917    7.93 |  2.67     5.59
               0.500    8.45 | 1.250   16.63 | 2.000    7.93 |  2.75     5.23
               0.583   11.56 | 1.333   16.63 | 2.083    7.14 |  2.83     5.23
               0.667   11.56 | 1.417   12.68 | 2.167    7.14 |  2.92     4.93
               0.750   21.49 | 1.500   12.68 | 2.250    6.51 |  3.00     4.93

    Max.Eff.Inten.(mm/hr)=     124.56       134.54
               over (min)        5.00        10.00
    Storage Coeff.  (min)=       1.79 (ii)    8.05 (ii)
    Unit Hyd. Tpeak (min)=       5.00        10.00
    Unit Hyd. peak  (cms)=       0.32         0.13
                                                      *TOTALS*
    PEAK FLOW       (cms)=       0.03         0.08          0.097 (iii)
    TIME TO PEAK    (hrs)=       1.00         1.08           1.00
    RUNOFF VOLUME    (mm)=      48.52        31.54          34.08
    TOTAL RAINFALL   (mm)=      49.52        49.52          49.52
    RUNOFF COEFFICIENT   =       0.98         0.64           0.69

***** 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*  =  85.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0025)|   Area    (ha)=   0.83
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                         IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       0.42         0.42
    Dep. Storage     (mm)=       1.00         1.50
    Average Slope     (%)=       1.00         2.00
    Length            (m)=      74.39        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    5.79 | 0.833   21.49 | 1.583   10.45 |  2.33     6.51
               0.167    5.79 | 0.917  124.56 | 1.667   10.45 |  2.42     6.01
               0.250    6.82 | 1.000  124.56 | 1.750    8.98 |  2.50     6.01
               0.333    6.82 | 1.083   26.38 | 1.833    8.98 |  2.58     5.59
               0.417    8.45 | 1.167   26.38 | 1.917    7.93 |  2.67     5.59
               0.500    8.45 | 1.250   16.63 | 2.000    7.93 |  2.75     5.23
               0.583   11.56 | 1.333   16.63 | 2.083    7.14 |  2.83     5.23
               0.667   11.56 | 1.417   12.68 | 2.167    7.14 |  2.92     4.93
               0.750   21.49 | 1.500   12.68 | 2.250    6.51 |  3.00     4.93

    Max.Eff.Inten.(mm/hr)=     124.56       134.54
               over (min)        5.00        10.00
    Storage Coeff.  (min)=       1.96 (ii)    8.23 (ii)
    Unit Hyd. Tpeak (min)=       5.00        10.00
    Unit Hyd. peak  (cms)=       0.31         0.13
                                                      *TOTALS*
    PEAK FLOW       (cms)=       0.04         0.10          0.131 (iii)
    TIME TO PEAK    (hrs)=       1.00         1.08           1.00
    RUNOFF VOLUME    (mm)=      48.52        31.54          34.08
    TOTAL RAINFALL   (mm)=      49.52        49.52          49.52
    RUNOFF COEFFICIENT   =       0.98         0.64           0.69

***** 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* =  85.0    Ia = Dep. 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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******************************************
** SIMULATION:D. 25yr 3hr 10min Chicago **
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--------------------
| CHICAGO STORM    |   IDF curve parameters: A= 731.314
| Ptotal= 58.14 mm |                         B=   0.000
--------------------                         C=   0.699
                       used in:   INTENSITY =  A / (t + B)^C

                       Duration of storm  =  3.00 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
                 0.00    6.80 |  0.83  146.25 |  1.67   10.54 |  2.50    6.56
                 0.17    8.01 |  1.00   30.97 |  1.83    9.31 |  2.67    6.14
                 0.33    9.92 |  1.17   19.53 |  2.00    8.38 |  2.83    5.79
                 0.50   13.57 |  1.33   14.89 |  2.17    7.65 |
                 0.67   25.24 |  1.50   12.27 |  2.33    7.05 |

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--------------------
| CALIB            |
| STANDHYD (  0001)|   Area    (ha)=   9.81
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  48.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.69         4.12
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     255.73        30.00
     Mannings n           =      0.013        0.250

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    6.80 | 0.833   25.24 | 1.583   12.27 |  2.33    7.65
                0.167    6.80 | 0.917  146.25 | 1.667   12.27 |  2.42    7.05
                0.250    8.01 | 1.000  146.25 | 1.750   10.54 |  2.50    7.05
                0.333    8.01 | 1.083   30.97 | 1.833   10.54 |  2.58    6.56
                0.417    9.92 | 1.167   30.97 | 1.917    9.31 |  2.67    6.56
                0.500    9.92 | 1.250   19.53 | 2.000    9.31 |  2.75    6.14
                0.583   13.57 | 1.333   19.53 | 2.083    8.38 |  2.83    6.14
                0.667   13.57 | 1.417   14.89 | 2.167    8.38 |  2.92    5.79
                0.750   25.24 | 1.500   14.89 | 2.250    7.65 |  3.00    5.79

     Max.Eff.Inten.(mm/hr)=     146.25        67.28
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.75 (ii)    9.58 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.22         0.11
                                                            *TOTALS*
     PEAK FLOW       (cms)=       1.72         0.49           2.093 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08            1.00
     RUNOFF VOLUME    (mm)=      57.14        23.90           39.86
     TOTAL RAINFALL   (mm)=      58.14        58.14           58.14
     RUNOFF COEFFICIENT   =       0.98         0.41            0.69

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

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  75.0    Ia = Dep. 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 (  0005)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
```

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--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     Mannings n           =      0.013        0.250

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    6.80 | 0.833   25.24 | 1.583   12.27 |  2.33    7.65
                0.167    6.80 | 0.917  146.25 | 1.667   12.27 |  2.42    7.05
                0.250    8.01 | 1.000  146.25 | 1.750   10.54 |  2.50    7.05
                0.333    8.01 | 1.083   30.97 | 1.833   10.54 |  2.58    6.56
                0.417    9.92 | 1.167   30.97 | 1.917    9.31 |  2.67    6.56
                0.500    9.92 | 1.250   19.53 | 2.000    9.31 |  2.75    6.14
                0.583   13.57 | 1.333   19.53 | 2.083    8.38 |  2.83    6.14
                0.667   13.57 | 1.417   14.89 | 2.167    8.38 |  2.92    5.79
                0.750   25.24 | 1.500   14.89 | 2.250    7.65 |  3.00    5.79

     Max.Eff.Inten.(mm/hr)=     146.25        44.92
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       2.58 (ii)   10.76 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.29         0.09
                                                            *TOTALS*
     PEAK FLOW       (cms)=       0.26         0.05           0.277 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.17            1.00
     RUNOFF VOLUME    (mm)=      56.14        20.49           38.31
     TOTAL RAINFALL   (mm)=      58.14        58.14           58.14
     RUNOFF COEFFICIENT   =       0.97         0.35            0.66

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

      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN* =  75.0    Ia = Dep. 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  (  0007)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0001):     9.81    2.093     1.00    39.86
      + ID2= 2 (  0005):     1.28    0.277     1.00    38.31
        ===============================================
        ID = 3 (  0007):    11.09    2.370     1.00    39.68

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0003)|     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   |    0.3480     0.4690
                          0.0270     0.0900   |    0.8590     0.6570
                          0.0470     0.1880   |    1.5140     0.8590
                          0.0600     0.2950   |    0.0000     0.0000

                                  AREA     QPEAK     TPEAK        R.V.
                                  (ha)     (cms)     (hrs)        (mm)
   INFLOW : ID= 2 (  0007)      11.090     2.370      1.00       39.68
   OUTFLOW: ID= 1 (  0003)      11.090     0.152      3.00       39.60

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.42
                   TIME SHIFT OF PEAK FLOW         (min)=120.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.3507

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0015)|   Area    (ha)=   0.41
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.20         0.20
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      52.28        40.00
     Mannings n          =      0.013        0.250

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


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    6.80 | 0.833   25.24 | 1.583   12.27 |  2.33    7.65
               0.167    6.80 | 0.917  146.25 | 1.667   12.27 |  2.42    7.05
               0.250    8.01 | 1.000  146.25 | 1.750   10.54 |  2.50    7.05
               0.333    8.01 | 1.083   30.97 | 1.833   10.54 |  2.58    6.56
               0.417    9.92 | 1.167   30.97 | 1.917    9.31 |  2.67    6.56
               0.500    9.92 | 1.250   19.53 | 2.000    9.31 |  2.75    6.14
               0.583   13.57 | 1.333   19.53 | 2.083    8.38 |  2.83    6.14
               0.667   13.57 | 1.417   14.89 | 2.167    8.38 |  2.92    5.79
               0.750   25.24 | 1.500   14.89 | 2.250    7.65 |  3.00    5.79

     Max.Eff.Inten.(mm/hr)=     146.25       169.36
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.49 (ii)    7.20 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.07          0.084 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08           1.00
     RUNOFF VOLUME    (mm)=      57.14        39.21          41.89
     TOTAL RAINFALL   (mm)=      58.14        58.14          58.14
     RUNOFF COEFFICIENT   =       0.98         0.67           0.72

***** 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*  =  85.0    Ia = Dep. 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   (  0011)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.64

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


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    6.80 | 0.833   25.24 | 1.583   12.27 |  2.33    7.65
               0.167    6.80 | 0.917  146.25 | 1.667   12.27 |  2.42    7.05
               0.250    8.01 | 1.000  146.25 | 1.750   10.54 |  2.50    7.05
               0.333    8.01 | 1.083   30.97 | 1.833   10.54 |  2.58    6.56
               0.417    9.92 | 1.167   30.97 | 1.917    9.31 |  2.67    6.56
               0.500    9.92 | 1.250   19.53 | 2.000    9.31 |  2.75    6.14
               0.583   13.57 | 1.333   19.53 | 2.083    8.38 |  2.83    6.14
               0.667   13.57 | 1.417   14.89 | 2.167    8.38 |  2.92    5.79
               0.750   25.24 | 1.500   14.89 | 2.250    7.65 |  3.00    5.79

     Unit Hyd Qpeak  (cms)=   0.865

     PEAK FLOW       (cms)=   0.426 (i)
     TIME TO PEAK    (hrs)=   1.833
     RUNOFF VOLUME    (mm)=  20.510
     TOTAL RAINFALL   (mm)=  58.144
     RUNOFF COEFFICIENT   =   0.353

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

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD (  0002)|   Area    (ha)=   9.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.57         3.09
```

```
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     253.77        30.00
     Mannings n          =      0.013        0.250

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


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    6.80 | 0.833   25.24 | 1.583   12.27 |  2.33    7.65
               0.167    6.80 | 0.917  146.25 | 1.667   12.27 |  2.42    7.05
               0.250    8.01 | 1.000  146.25 | 1.750   10.54 |  2.50    7.05
               0.333    8.01 | 1.083   30.97 | 1.833   10.54 |  2.58    6.56
               0.417    9.92 | 1.167   30.97 | 1.917    9.31 |  2.67    6.56
               0.500    9.92 | 1.250   19.53 | 2.000    9.31 |  2.75    6.14
               0.583   13.57 | 1.333   19.53 | 2.083    8.38 |  2.83    6.14
               0.667   13.57 | 1.417   14.89 | 2.167    8.38 |  2.92    5.79
               0.750   25.24 | 1.500   14.89 | 2.250    7.65 |  3.00    5.79

     Max.Eff.Inten.(mm/hr)=     146.25       101.74
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.72 (ii)    8.99 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.22         0.12
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.76         0.57          2.214 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08           1.00
     RUNOFF VOLUME    (mm)=      56.14        27.66          41.90
     TOTAL RAINFALL   (mm)=      58.14        58.14          58.14
     RUNOFF COEFFICIENT   =       0.97         0.48           0.72

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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 (  0008)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     Mannings n          =      0.013        0.250

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


                          ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    6.80 | 0.833   25.24 | 1.583   12.27 |  2.33    7.65
               0.167    6.80 | 0.917  146.25 | 1.667   12.27 |  2.42    7.05
               0.250    8.01 | 1.000  146.25 | 1.750   10.54 |  2.50    7.05
               0.333    8.01 | 1.083   30.97 | 1.833   10.54 |  2.58    6.56
               0.417    9.92 | 1.167   30.97 | 1.917    9.31 |  2.67    6.56
               0.500    9.92 | 1.250   19.53 | 2.000    9.31 |  2.75    6.14
               0.583   13.57 | 1.333   19.53 | 2.083    8.38 |  2.83    6.14
               0.667   13.57 | 1.417   14.89 | 2.167    8.38 |  2.92    5.79
               0.750   25.24 | 1.500   14.89 | 2.250    7.65 |  3.00    5.79

     Max.Eff.Inten.(mm/hr)=     146.25        44.92
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       2.58 (ii)   10.76 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.29         0.09
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.26         0.05          0.277 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.17           1.00
     RUNOFF VOLUME    (mm)=      56.14        20.49          38.31
     TOTAL RAINFALL   (mm)=      58.14        58.14          58.14
     RUNOFF COEFFICIENT   =       0.97         0.35           0.66

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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 (  0016)|   Area    (ha)=   0.76
 |ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
 --------------------
                              IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=       0.38         0.38
      Dep. Storage     (mm)=       1.00         1.50
      Average Slope     (%)=       1.00         2.00
      Length            (m)=      71.18        40.00
      Mannings n          =      0.013        0.250

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


                                ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    6.80 | 0.833   25.24 | 1.583   12.27 |  2.33    7.65
                0.167    6.80 | 0.917  146.25 | 1.667   12.27 |  2.42    7.05
                0.250    8.01 | 1.000  146.25 | 1.750   10.54 |  2.50    7.05
                0.333    8.01 | 1.083   30.97 | 1.833   10.54 |  2.58    6.56
                0.417    9.92 | 1.167   30.97 | 1.917    9.31 |  2.67    6.56
                0.500    9.92 | 1.250   19.53 | 2.000    9.31 |  2.75    6.14
                0.583   13.57 | 1.333   19.53 | 2.083    8.38 |  2.83    6.14
                0.667   13.57 | 1.417   14.89 | 2.167    8.38 |  2.92    5.79
                0.750   25.24 | 1.500   14.89 | 2.250    7.65 |  3.00    5.79

      Max.Eff.Inten.(mm/hr)=     146.25       169.36
                 over (min)       5.00        10.00
      Storage Coeff.  (min)=       1.79 (ii)    7.51 (ii)
      Unit Hyd. Tpeak (min)=       5.00        10.00
      Unit Hyd. peak  (cms)=       0.32         0.13
                                                             *TOTALS*
      PEAK FLOW       (cms)=       0.05         0.12           0.153 (iii)
      TIME TO PEAK    (hrs)=       1.00         1.08            1.00
      RUNOFF VOLUME    (mm)=      57.14        39.21           41.89
      TOTAL RAINFALL   (mm)=      58.14        58.14           58.14
      RUNOFF COEFFICIENT   =       0.98         0.67            0.72

 ***** 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*  =  85.0    Ia = Dep. 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  (  0006)|
 |   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
 --------------------          (ha)    (cms)    (hrs)     (mm)
           ID1= 1 (  0011):    14.50   0.426     1.83    20.51
         + ID2= 2 (  0016):     0.76   0.153     1.00    41.89
           ==================================================
           ID = 3 (  0006):    15.26   0.449     1.75    21.57

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

 --------------------
 | ADD HYD  (  0006)|
 |   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
 --------------------          (ha)    (cms)    (hrs)     (mm)
           ID1= 3 (  0006):    15.26   0.449     1.75    21.57
         + ID2= 2 (  0002):     9.66   2.214     1.00    41.90
           ==================================================
           ID = 1 (  0006):    24.92   2.411     1.00    29.45

      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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 | ADD HYD  (  0006)|
 |   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
 --------------------          (ha)    (cms)    (hrs)     (mm)
           ID1= 1 (  0006):    24.92   2.411     1.00    29.45
         + ID2= 2 (  0008):     1.28   0.277     1.00    38.31
           ==================================================
           ID = 3 (  0006):    26.20   2.688     1.00    29.89

      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
 -------------------------------------------------------------------------------
 --------------------
 | RESERVOIR(  0004)|     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    |  0.1460      0.6510
                          0.0160     0.1150    |  0.3020      0.9550
                          0.0250     0.2380    |  0.4430      1.1990
                          0.0410     0.3690    |  0.6010      1.4550

                               AREA     QPEAK     TPEAK       R.V.
                               (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0006)     26.200     2.688      1.00      29.89
   OUTFLOW: ID= 1 (  0004)     26.200     0.152      3.50      29.82

                PEAK   FLOW   REDUCTION [Qout/Qin](%)=  5.66
                TIME SHIFT OF PEAK FLOW         (min)=150.00
                MAXIMUM  STORAGE   USED       (ha.m.)=  0.6629

 -------------------------------------------------------------------------------
 --------------------
 | CALIB              |
 | NASHYD   (  0017)|   Area    (ha)=   0.43   Curve Number   (CN)= 75.0
 |ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
 --------------------   U.H. Tp(hrs)=   0.13

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


                                ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    6.80 | 0.833   25.24 | 1.583   12.27 |  2.33    7.65
                0.167    6.80 | 0.917  146.25 | 1.667   12.27 |  2.42    7.05
                0.250    8.01 | 1.000  146.25 | 1.750   10.54 |  2.50    7.05
                0.333    8.01 | 1.083   30.97 | 1.833   10.54 |  2.58    6.56
                0.417    9.92 | 1.167   30.97 | 1.917    9.31 |  2.67    6.56
                0.500    9.92 | 1.250   19.53 | 2.000    9.31 |  2.75    6.14
                0.583   13.57 | 1.333   19.53 | 2.083    8.38 |  2.83    6.14
                0.667   13.57 | 1.417   14.89 | 2.167    8.38 |  2.92    5.79
                0.750   25.24 | 1.500   14.89 | 2.250    7.65 |  3.00    5.79

      Unit Hyd Qpeak  (cms)=   0.126

      PEAK FLOW       (cms)=   0.035 (i)
      TIME TO PEAK    (hrs)=   1.083
      RUNOFF VOLUME    (mm)=  20.290
      TOTAL RAINFALL   (mm)=  58.144
      RUNOFF COEFFICIENT   =   0.349

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

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 --------------------
 | ADD HYD  (  0019)|
 |   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
 --------------------          (ha)    (cms)    (hrs)     (mm)
           ID1= 1 (  0017):     0.43   0.035     1.08    20.29
         + ID2= 2 (  0004):    26.20   0.152     3.50    29.82
           ==================================================
           ID = 3 (  0019):    26.63   0.152     3.50    29.66

      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
 -------------------------------------------------------------------------------
 --------------------
 | CALIB              |
 | STANDHYD (  0024)|   Area    (ha)=   0.61
 |ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
 --------------------
                              IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=       0.31         0.31
      Dep. Storage     (mm)=       1.00         1.50
      Average Slope     (%)=       1.00         2.00
```

```
     Length            (m)=      63.77        40.00
     Mannings n          =      0.013        0.250

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


                              ---- TRANSFORMED HYETOGRAPH ----
                  TIME    RAIN |   TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |    hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.083    6.80 | 0.833   25.24 | 1.583   12.27 |  2.33    7.65
                 0.167    6.80 | 0.917  146.25 | 1.667   12.27 |  2.42    7.05
                 0.250    8.01 | 1.000  146.25 | 1.750   10.54 |  2.50    7.05
                 0.333    8.01 | 1.083   30.97 | 1.833   10.54 |  2.58    6.56
                 0.417    9.92 | 1.167   30.97 | 1.917    9.31 |  2.67    6.56
                 0.500    9.92 | 1.250   19.53 | 2.000    9.31 |  2.75    6.14
                 0.583   13.57 | 1.333   19.53 | 2.083    8.38 |  2.83    6.14
                 0.667   13.57 | 1.417   14.89 | 2.167    8.38 |  2.92    5.79
                 0.750   25.24 | 1.500   14.89 | 2.250    7.65 |  3.00    5.79

     Max.Eff.Inten.(mm/hr)=     146.25       169.36
                over (min)       5.00        10.00
     Storage Coeff.  (min)=       1.68 (ii)    7.39 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.10          0.124 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08           1.00
     RUNOFF VOLUME    (mm)=      57.14        39.21          41.89
     TOTAL RAINFALL   (mm)=      58.14        58.14          58.14
     RUNOFF COEFFICIENT   =       0.98         0.67           0.72

***** 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*  =  85.0    Ia = Dep. 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 (  0025)|   Area    (ha)=   0.83
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.42         0.42
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      74.39        40.00
     Mannings n          =      0.013        0.250

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


                              ---- TRANSFORMED HYETOGRAPH ----
                  TIME    RAIN |   TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |    hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.083    6.80 | 0.833   25.24 | 1.583   12.27 |  2.33    7.65
                 0.167    6.80 | 0.917  146.25 | 1.667   12.27 |  2.42    7.05
                 0.250    8.01 | 1.000  146.25 | 1.750   10.54 |  2.50    7.05
                 0.333    8.01 | 1.083   30.97 | 1.833   10.54 |  2.58    6.56
                 0.417    9.92 | 1.167   30.97 | 1.917    9.31 |  2.67    6.56
                 0.500    9.92 | 1.250   19.53 | 2.000    9.31 |  2.75    6.14
                 0.583   13.57 | 1.333   19.53 | 2.083    8.38 |  2.83    6.14
                 0.667   13.57 | 1.417   14.89 | 2.167    8.38 |  2.92    5.79
                 0.750   25.24 | 1.500   14.89 | 2.250    7.65 |  3.00    5.79

     Max.Eff.Inten.(mm/hr)=     146.25       169.36
                over (min)       5.00        10.00
     Storage Coeff.  (min)=       1.84 (ii)    7.55 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.13          0.167 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08           1.00
     RUNOFF VOLUME    (mm)=      57.14        39.21          41.89
     TOTAL RAINFALL   (mm)=      58.14        58.14          58.14
     RUNOFF COEFFICIENT   =       0.98         0.67           0.72

***** 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*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

------------------------------------------------------------------------------
******************************************
** SIMULATION:E. 50yr 3hr 10min Chicago **
******************************************
--------------------
| CHICAGO STORM    |    IDF curve parameters: A= 811.794
| Ptotal= 64.54 mm |                          B=   0.000
--------------------                          C=   0.699
                        used in:   INTENSITY =  A / (t + B)^C

                        Duration of storm  =  3.00 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
                 0.00    7.55 |  0.83  162.35 |  1.67   11.70 |  2.50    7.28
                 0.17    8.89 |  1.00   34.38 |  1.83   10.34 |  2.67    6.82
                 0.33   11.01 |  1.17   21.68 |  2.00    9.30 |  2.83    6.42
                 0.50   15.06 |  1.33   16.53 |  2.17    8.49 |
                 0.67   28.01 |  1.50   13.62 |  2.33    7.83 |


------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD (  0001)|   Area    (ha)=   9.81
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  48.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.69         4.12
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     255.73        30.00
     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    7.55 | 0.833   28.01 | 1.583   13.62 |  2.33    8.49
                 0.167    7.55 | 0.917  162.35 | 1.667   13.62 |  2.42    7.83
                 0.250    8.89 | 1.000  162.35 | 1.750   11.70 |  2.50    7.83
                 0.333    8.89 | 1.083   34.38 | 1.833   11.70 |  2.58    7.28
                 0.417   11.01 | 1.167   34.38 | 1.917   10.34 |  2.67    7.28
                 0.500   11.01 | 1.250   21.68 | 2.000   10.34 |  2.75    6.82
                 0.583   15.06 | 1.333   21.68 | 2.083    9.30 |  2.83    6.82
                 0.667   15.06 | 1.417   16.53 | 2.167    9.30 |  2.92    6.42
                 0.750   28.01 | 1.500   16.53 | 2.250    8.49 |  3.00    6.42

     Max.Eff.Inten.(mm/hr)=     162.35        81.26
                over (min)       5.00        10.00
     Storage Coeff.  (min)=       4.55 (ii)    9.19 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.23         0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       1.93         0.60          2.394 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08           1.00
     RUNOFF VOLUME    (mm)=      63.54        28.40          45.27
     TOTAL RAINFALL   (mm)=      64.54        64.54          64.54
     RUNOFF COEFFICIENT   =       0.98         0.44           0.70

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB             |
| STANDHYD (  0005)|   Area    (ha)=   1.28
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```
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     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    7.55 | 0.833   28.01 | 1.583   13.62 |  2.33    8.49
                0.167    7.55 | 0.917  162.35 | 1.667   13.62 |  2.42    7.83
                0.250    8.89 | 1.000  162.35 | 1.750   11.70 |  2.50    7.83
                0.333    8.89 | 1.083   34.38 | 1.833   11.70 |  2.58    7.28
                0.417   11.01 | 1.167   34.38 | 1.917   10.34 |  2.67    7.28
                0.500   11.01 | 1.250   21.68 | 2.000   10.34 |  2.75    6.82
                0.583   15.06 | 1.333   21.68 | 2.083    9.30 |  2.83    6.82
                0.667   15.06 | 1.417   16.53 | 2.167    9.30 |  2.92    6.42
                0.750   28.01 | 1.500   16.53 | 2.250    8.49 |  3.00    6.42

     Max.Eff.Inten.(mm/hr)=     162.35        54.90
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.47 (ii)    7.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.13
                                                            *TOTALS*
     PEAK FLOW       (cms)=       0.28         0.07           0.339 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08            1.00
     RUNOFF VOLUME    (mm)=      62.54        24.58           43.56
     TOTAL RAINFALL   (mm)=      64.54        64.54           64.54
     RUNOFF COEFFICIENT   =       0.97         0.38            0.67

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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  (  0007)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0001):     9.81   2.394     1.00    45.27
      + ID2= 2 (  0005):     1.28   0.339     1.00    43.56
        ===============================================
        ID = 3 (  0007):    11.09   2.733     1.00    45.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0003)|     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    |   0.3480      0.4690
                          0.0270     0.0900    |   0.8590      0.6570
                          0.0470     0.1880    |   1.5140      0.8590
                          0.0600     0.2950    |   0.0000      0.0000

                                AREA     QPEAK     TPEAK        R.V.
                                (ha)     (cms)     (hrs)        (mm)
   INFLOW : ID= 2 (  0007)     11.090      2.733      1.00        45.07
   OUTFLOW: ID= 1 (  0003)     11.090      0.198      2.58        45.00

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.25
                   TIME SHIFT OF PEAK FLOW         (min)= 95.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.3784

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0015)|   Area    (ha)=   0.41
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
```

```
     Surface Area     (ha)=       0.20         0.20
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      52.28        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    7.55 | 0.833   28.01 | 1.583   13.62 |  2.33    8.49
                0.167    7.55 | 0.917  162.35 | 1.667   13.62 |  2.42    7.83
                0.250    8.89 | 1.000  162.35 | 1.750   11.70 |  2.50    7.83
                0.333    8.89 | 1.083   34.38 | 1.833   11.70 |  2.58    7.28
                0.417   11.01 | 1.167   34.38 | 1.917   10.34 |  2.67    7.28
                0.500   11.01 | 1.250   21.68 | 2.000   10.34 |  2.75    6.82
                0.583   15.06 | 1.333   21.68 | 2.083    9.30 |  2.83    6.82
                0.667   15.06 | 1.417   16.53 | 2.167    9.30 |  2.92    6.42
                0.750   28.01 | 1.500   16.53 | 2.250    8.49 |  3.00    6.42

     Max.Eff.Inten.(mm/hr)=     162.35       195.85
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.43 (ii)    6.82 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.14
                                                            *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.08           0.098 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08            1.00
     RUNOFF VOLUME    (mm)=      63.54        45.02           47.79
     TOTAL RAINFALL   (mm)=      64.54        64.54           64.54
     RUNOFF COEFFICIENT   =       0.98         0.70            0.74

***** 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*  =  85.0    Ia = Dep. 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   (  0011)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.64

         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    7.55 | 0.833   28.01 | 1.583   13.62 |  2.33    8.49
                0.167    7.55 | 0.917  162.35 | 1.667   13.62 |  2.42    7.83
                0.250    8.89 | 1.000  162.35 | 1.750   11.70 |  2.50    7.83
                0.333    8.89 | 1.083   34.38 | 1.833   11.70 |  2.58    7.28
                0.417   11.01 | 1.167   34.38 | 1.917   10.34 |  2.67    7.28
                0.500   11.01 | 1.250   21.68 | 2.000   10.34 |  2.75    6.82
                0.583   15.06 | 1.333   21.68 | 2.083    9.30 |  2.83    6.82
                0.667   15.06 | 1.417   16.53 | 2.167    9.30 |  2.92    6.42
                0.750   28.01 | 1.500   16.53 | 2.250    8.49 |  3.00    6.42

     Unit Hyd Qpeak  (cms)=   0.865

     PEAK FLOW       (cms)=   0.519 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=  24.730
     TOTAL RAINFALL   (mm)=  64.542
     RUNOFF COEFFICIENT   =   0.383

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

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--------------------
| CALIB            |
| STANDHYD (  0002)|   Area    (ha)=   9.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.57         3.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     253.77        30.00
     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    7.55 | 0.833   28.01 | 1.583   13.62 |  2.33    8.49
                0.167    7.55 | 0.917  162.35 | 1.667   13.62 |  2.42    7.83
                0.250    8.89 | 1.000  162.35 | 1.750   11.70 |  2.50    7.83
                0.333    8.89 | 1.083   34.38 | 1.833   11.70 |  2.58    7.28
                0.417   11.01 | 1.167   34.38 | 1.917   10.34 |  2.67    7.28
                0.500   11.01 | 1.250   21.68 | 2.000   10.34 |  2.75    6.82
                0.583   15.06 | 1.333   21.68 | 2.083    9.30 |  2.83    6.82
                0.667   15.06 | 1.417   16.53 | 2.167    9.30 |  2.92    6.42
                0.750   28.01 | 1.500   16.53 | 2.250    8.49 |  3.00    6.42

     Max.Eff.Inten.(mm/hr)=     162.35       121.47
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.53 (ii)    8.62 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.23         0.12
                                                           *TOTALS*
     PEAK FLOW       (cms)=       1.98         0.69          2.532 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08           1.00
     RUNOFF VOLUME    (mm)=      62.54        32.57          47.56
     TOTAL RAINFALL   (mm)=      64.54        64.54          64.54
     RUNOFF COEFFICIENT   =       0.97         0.50           0.74

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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 (  0008)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     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    7.55 | 0.833   28.01 | 1.583   13.62 |  2.33    8.49
                0.167    7.55 | 0.917  162.35 | 1.667   13.62 |  2.42    7.83
                0.250    8.89 | 1.000  162.35 | 1.750   11.70 |  2.50    7.83
                0.333    8.89 | 1.083   34.38 | 1.833   11.70 |  2.58    7.28
                0.417   11.01 | 1.167   34.38 | 1.917   10.34 |  2.67    7.28
                0.500   11.01 | 1.250   21.68 | 2.000   10.34 |  2.75    6.82
                0.583   15.06 | 1.333   21.68 | 2.083    9.30 |  2.83    6.82
                0.667   15.06 | 1.417   16.53 | 2.167    9.30 |  2.92    6.42
                0.750   28.01 | 1.500   16.53 | 2.250    8.49 |  3.00    6.42

     Max.Eff.Inten.(mm/hr)=     162.35        54.90
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.47 (ii)    7.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.13
                                                           *TOTALS*
     PEAK FLOW       (cms)=       0.28         0.07          0.339 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08           1.00
     RUNOFF VOLUME    (mm)=      62.54        24.58          43.56
     TOTAL RAINFALL   (mm)=      64.54        64.54          64.54
     RUNOFF COEFFICIENT   =       0.97         0.38           0.67

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

```
       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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 (  0016)|   Area    (ha)=   0.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.38         0.38
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      71.18        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    7.55 | 0.833   28.01 | 1.583   13.62 |  2.33    8.49
                0.167    7.55 | 0.917  162.35 | 1.667   13.62 |  2.42    7.83
                0.250    8.89 | 1.000  162.35 | 1.750   11.70 |  2.50    7.83
                0.333    8.89 | 1.083   34.38 | 1.833   11.70 |  2.58    7.28
                0.417   11.01 | 1.167   34.38 | 1.917   10.34 |  2.67    7.28
                0.500   11.01 | 1.250   21.68 | 2.000   10.34 |  2.75    6.82
                0.583   15.06 | 1.333   21.68 | 2.083    9.30 |  2.83    6.82
                0.667   15.06 | 1.417   16.53 | 2.167    9.30 |  2.92    6.42
                0.750   28.01 | 1.500   16.53 | 2.250    8.49 |  3.00    6.42

     Max.Eff.Inten.(mm/hr)=     162.35       195.85
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.72 (ii)    7.11 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.14
                                                           *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.14          0.179 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08           1.00
     RUNOFF VOLUME    (mm)=      63.54        45.02          47.79
     TOTAL RAINFALL   (mm)=      64.54        64.54          64.54
     RUNOFF COEFFICIENT   =       0.98         0.70           0.74

***** 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*  =  85.0    Ia = Dep. 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  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0011):    14.50   0.519     1.75    24.73
      + ID2= 2 (  0016):     0.76   0.179     1.00    47.79
        ====================================================
        ID = 3 (  0006):    15.26   0.546     1.75    25.88

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

--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0006):    15.26   0.546     1.75    25.88
      + ID2= 2 (  0002):     9.66   2.532     1.00    47.56
        ====================================================
        ID = 1 (  0006):    24.92   2.768     1.00    34.28

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

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--------------------
| ADD HYD  (  0006)|
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0006):     24.92   2.768     1.00     34.28
     + ID2= 2 (  0008):      1.28   0.339     1.00     43.56
       ===================================================
       ID = 3 (  0006):     26.20   3.107     1.00     34.73

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0004)|     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   |   0.1460     0.6510
                          0.0160     0.1150   |   0.3020     0.9550
                          0.0250     0.2380   |   0.4430     1.1990
                          0.0410     0.3690   |   0.6010     1.4550

                                AREA     QPEAK     TPEAK        R.V.
                                (ha)     (cms)     (hrs)        (mm)
   INFLOW : ID= 2 (  0006)     26.200     3.107      1.00       34.73
   OUTFLOW: ID= 1 (  0004)     26.200     0.200      3.42       34.67

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.44
                  TIME SHIFT OF PEAK FLOW         (min)=145.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.7566

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.43   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

        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    7.55 | 0.833   28.01 | 1.583   13.62 |  2.33     8.49
                  0.167    7.55 | 0.917  162.35 | 1.667   13.62 |  2.42     7.83
                  0.250    8.89 | 1.000  162.35 | 1.750   11.70 |  2.50     7.83
                  0.333    8.89 | 1.083   34.38 | 1.833   11.70 |  2.58     7.28
                  0.417   11.01 | 1.167   34.38 | 1.917   10.34 |  2.67     7.28
                  0.500   11.01 | 1.250   21.68 | 2.000   10.34 |  2.75     6.82
                  0.583   15.06 | 1.333   21.68 | 2.083    9.30 |  2.83     6.82
                  0.667   15.06 | 1.417   16.53 | 2.167    9.30 |  2.92     6.42
                  0.750   28.01 | 1.500   16.53 | 2.250    8.49 |  3.00     6.42

    Unit Hyd Qpeak  (cms)=   0.126

    PEAK FLOW       (cms)=   0.043 (i)
    TIME TO PEAK    (hrs)=   1.083
    RUNOFF VOLUME    (mm)=  24.340
    TOTAL RAINFALL   (mm)=  64.542
    RUNOFF COEFFICIENT   =   0.377

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

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| ADD HYD  (  0019)|
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0017):      0.43   0.043     1.08     24.34
     + ID2= 2 (  0004):     26.20   0.200     3.42     34.67
       ===================================================
       ID = 3 (  0019):     26.63   0.200     3.42     34.50

    NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0024)|   Area    (ha)=   0.61
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       0.31         0.31
    Dep. Storage     (mm)=       1.00         1.50
```

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    Average Slope     (%)=       1.00         2.00
    Length            (m)=      63.77        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    7.55 | 0.833   28.01 | 1.583   13.62 |  2.33     8.49
                  0.167    7.55 | 0.917  162.35 | 1.667   13.62 |  2.42     7.83
                  0.250    8.89 | 1.000  162.35 | 1.750   11.70 |  2.50     7.83
                  0.333    8.89 | 1.083   34.38 | 1.833   11.70 |  2.58     7.28
                  0.417   11.01 | 1.167   34.38 | 1.917   10.34 |  2.67     7.28
                  0.500   11.01 | 1.250   21.68 | 2.000   10.34 |  2.75     6.82
                  0.583   15.06 | 1.333   21.68 | 2.083    9.30 |  2.83     6.82
                  0.667   15.06 | 1.417   16.53 | 2.167    9.30 |  2.92     6.42
                  0.750   28.01 | 1.500   16.53 | 2.250    8.49 |  3.00     6.42

    Max.Eff.Inten.(mm/hr)=     162.35       195.85
               over (min)        5.00        10.00
    Storage Coeff.  (min)=       1.61 (ii)    7.00 (ii)
    Unit Hyd. Tpeak (min)=       5.00        10.00
    Unit Hyd. peak  (cms)=       0.32         0.14
                                                       *TOTALS*
    PEAK FLOW       (cms)=       0.04         0.12          0.145 (iii)
    TIME TO PEAK    (hrs)=       1.00         1.08          1.00
    RUNOFF VOLUME    (mm)=      63.54        45.02         47.79
    TOTAL RAINFALL   (mm)=      64.54        64.54         64.54
    RUNOFF COEFFICIENT   =       0.98         0.70          0.74

***** 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*  =  85.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0025)|   Area    (ha)=   0.83
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       0.42         0.42
    Dep. Storage     (mm)=       1.00         1.50
    Average Slope     (%)=       1.00         2.00
    Length            (m)=      74.39        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    7.55 | 0.833   28.01 | 1.583   13.62 |  2.33     8.49
                  0.167    7.55 | 0.917  162.35 | 1.667   13.62 |  2.42     7.83
                  0.250    8.89 | 1.000  162.35 | 1.750   11.70 |  2.50     7.83
                  0.333    8.89 | 1.083   34.38 | 1.833   11.70 |  2.58     7.28
                  0.417   11.01 | 1.167   34.38 | 1.917   10.34 |  2.67     7.28
                  0.500   11.01 | 1.250   21.68 | 2.000   10.34 |  2.75     6.82
                  0.583   15.06 | 1.333   21.68 | 2.083    9.30 |  2.83     6.82
                  0.667   15.06 | 1.417   16.53 | 2.167    9.30 |  2.92     6.42
                  0.750   28.01 | 1.500   16.53 | 2.250    8.49 |  3.00     6.42

    Max.Eff.Inten.(mm/hr)=     162.35       195.85
               over (min)        5.00        10.00
    Storage Coeff.  (min)=       1.76 (ii)    7.16 (ii)
    Unit Hyd. Tpeak (min)=       5.00        10.00
    Unit Hyd. peak  (cms)=       0.32         0.14
                                                       *TOTALS*
    PEAK FLOW       (cms)=       0.06         0.16          0.195 (iii)
    TIME TO PEAK    (hrs)=       1.00         1.08          1.00
    RUNOFF VOLUME    (mm)=      63.54        45.02         47.79
    TOTAL RAINFALL   (mm)=      64.54        64.54         64.54
    RUNOFF COEFFICIENT   =       0.98         0.70          0.74

***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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***** WARNING:FOR AREAS WITH IMPERVIOUS RATIOS BELOW 20%
              YOU SHOULD CONSIDER SPLITTING THE AREA.

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  85.0    Ia = Dep. 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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*******************************************
** SIMULATION:F. 100yr 3hr 10min Chicago **
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--------------------
| CHICAGO STORM    |   IDF curve parameters: A= 892.273
| Ptotal= 70.94 mm |                         B=   0.000
--------------------                         C=   0.699
                         used in:   INTENSITY =  A / (t + B)^C

                         Duration of storm  =  3.00 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
                 0.00    8.30 |  0.83  178.44 |  1.67   12.86 |  2.50    8.00
                 0.17    9.77 |  1.00   37.79 |  1.83   11.36 |  2.67    7.50
                 0.33   12.10 |  1.17   23.83 |  2.00   10.23 |  2.83    7.06
                 0.50   16.55 |  1.33   18.17 |  2.17    9.33 |
                 0.67   30.79 |  1.50   14.97 |  2.33    8.61 |


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--------------------
| CALIB            |
| STANDHYD (  0001)|   Area    (ha)=   9.81
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  48.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.69         4.12
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     255.73        30.00
     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    8.30 | 0.833   30.79 | 1.583   14.97 |  2.33    9.33
                0.167    8.30 | 0.917  178.44 | 1.667   14.97 |  2.42    8.61
                0.250    9.77 | 1.000  178.44 | 1.750   12.86 |  2.50    8.61
                0.333    9.77 | 1.083   37.79 | 1.833   12.86 |  2.58    8.00
                0.417   12.10 | 1.167   37.79 | 1.917   11.36 |  2.67    8.00
                0.500   12.10 | 1.250   23.83 | 2.000   11.36 |  2.75    7.50
                0.583   16.55 | 1.333   23.83 | 2.083   10.23 |  2.83    7.50
                0.667   16.55 | 1.417   18.17 | 2.167   10.23 |  2.92    7.06
                0.750   30.79 | 1.500   18.17 | 2.250    9.33 |  3.00    7.06

     Max.Eff.Inten.(mm/hr)=     178.44        95.96
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.38 (ii)    8.85 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.23         0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.13         0.72          2.704 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08           1.00
     RUNOFF VOLUME    (mm)=      69.94        33.08          50.78
     TOTAL RAINFALL   (mm)=      70.94        70.94          70.94
     RUNOFF COEFFICIENT   =       0.99         0.47           0.72

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.0    Ia = Dep. 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            |
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| STANDHYD (  0005)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     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    8.30 | 0.833   30.79 | 1.583   14.97 |  2.33    9.33
                0.167    8.30 | 0.917  178.44 | 1.667   14.97 |  2.42    8.61
                0.250    9.77 | 1.000  178.44 | 1.750   12.86 |  2.50    8.61
                0.333    9.77 | 1.083   37.79 | 1.833   12.86 |  2.58    8.00
                0.417   12.10 | 1.167   37.79 | 1.917   11.36 |  2.67    8.00
                0.500   12.10 | 1.250   23.83 | 2.000   11.36 |  2.75    7.50
                0.583   16.55 | 1.333   23.83 | 2.083   10.23 |  2.83    7.50
                0.667   16.55 | 1.417   18.17 | 2.167   10.23 |  2.92    7.06
                0.750   30.79 | 1.500   18.17 | 2.250    9.33 |  3.00    7.06

     Max.Eff.Inten.(mm/hr)=     178.44        65.50
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.38 (ii)    7.09 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.31         0.08          0.380 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08           1.00
     RUNOFF VOLUME    (mm)=      68.94        28.87          48.90
     TOTAL RAINFALL   (mm)=      70.94        70.94          70.94
     RUNOFF COEFFICIENT   =       0.97         0.41           0.69

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.0    Ia = Dep. 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  (  0007)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0001):     9.81    2.704     1.00    50.78
      + ID2= 2 (  0005):     1.28    0.380     1.00    48.90
        ==================================================
        ID = 3 (  0007):    11.09    3.084     1.00    50.56

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| RESERVOIR(  0003)|     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   |   0.3480     0.4690
                          0.0270     0.0900   |   0.8590     0.6570
                          0.0470     0.1880   |   1.5140     0.8590
                          0.0600     0.2950   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0007)     11.090     3.084      1.00      50.56
   OUTFLOW: ID= 1 (  0003)     11.090     0.247      2.33      50.48

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.01
                  TIME SHIFT OF PEAK FLOW         (min)= 80.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.4081

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--------------------
| CALIB            |
| STANDHYD (  0015)|   Area    (ha)=   0.41
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
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                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.20        0.20
     Dep. Storage     (mm)=       1.00        1.50
     Average Slope     (%)=       1.00        2.00
     Length            (m)=      52.28       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    8.30 | 0.833   30.79 | 1.583   14.97 |  2.33    9.33
               0.167    8.30 | 0.917  178.44 | 1.667   14.97 |  2.42    8.61
               0.250    9.77 | 1.000  178.44 | 1.750   12.86 |  2.50    8.61
               0.333    9.77 | 1.083   37.79 | 1.833   12.86 |  2.58    8.00
               0.417   12.10 | 1.167   37.79 | 1.917   11.36 |  2.67    8.00
               0.500   12.10 | 1.250   23.83 | 2.000   11.36 |  2.75    7.50
               0.583   16.55 | 1.333   23.83 | 2.083   10.23 |  2.83    7.50
               0.667   16.55 | 1.417   18.17 | 2.167   10.23 |  2.92    7.06
               0.750   30.79 | 1.500   18.17 | 2.250    9.33 |  3.00    7.06

     Max.Eff.Inten.(mm/hr)=     178.44      222.76
                over (min)        5.00       10.00
     Storage Coeff.  (min)=       1.37 (ii)    6.50 (ii)
     Unit Hyd. Tpeak (min)=       5.00       10.00
     Unit Hyd. peak  (cms)=       0.33        0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.03        0.09        0.113 (iii)
     TIME TO PEAK    (hrs)=       1.00        1.08         1.00
     RUNOFF VOLUME    (mm)=      69.94       50.90        53.75
     TOTAL RAINFALL   (mm)=      70.94       70.94        70.94
     RUNOFF COEFFICIENT   =       0.99        0.72         0.76

***** 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*  =  85.0    Ia = Dep. 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   (  0011)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.64

         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    8.30 | 0.833   30.79 | 1.583   14.97 |  2.33    9.33
               0.167    8.30 | 0.917  178.44 | 1.667   14.97 |  2.42    8.61
               0.250    9.77 | 1.000  178.44 | 1.750   12.86 |  2.50    8.61
               0.333    9.77 | 1.083   37.79 | 1.833   12.86 |  2.58    8.00
               0.417   12.10 | 1.167   37.79 | 1.917   11.36 |  2.67    8.00
               0.500   12.10 | 1.250   23.83 | 2.000   11.36 |  2.75    7.50
               0.583   16.55 | 1.333   23.83 | 2.083   10.23 |  2.83    7.50
               0.667   16.55 | 1.417   18.17 | 2.167   10.23 |  2.92    7.06
               0.750   30.79 | 1.500   18.17 | 2.250    9.33 |  3.00    7.06

     Unit Hyd Qpeak  (cms)=   0.865

     PEAK FLOW       (cms)=   0.618 (i)
     TIME TO PEAK    (hrs)=   1.750
     RUNOFF VOLUME    (mm)=  29.150
     TOTAL RAINFALL   (mm)=  70.941
     RUNOFF COEFFICIENT   =   0.411

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

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--------------------
| CALIB            |
| STANDHYD (  0002)|   Area    (ha)=   9.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  50.00
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                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.57        3.09
     Dep. Storage     (mm)=       2.00        5.00
     Average Slope     (%)=       0.50        2.00
     Length            (m)=     253.77       30.00
     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    8.30 | 0.833   30.79 | 1.583   14.97 |  2.33    9.33
               0.167    8.30 | 0.917  178.44 | 1.667   14.97 |  2.42    8.61
               0.250    9.77 | 1.000  178.44 | 1.750   12.86 |  2.50    8.61
               0.333    9.77 | 1.083   37.79 | 1.833   12.86 |  2.58    8.00
               0.417   12.10 | 1.167   37.79 | 1.917   11.36 |  2.67    8.00
               0.500   12.10 | 1.250   23.83 | 2.000   11.36 |  2.75    7.50
               0.583   16.55 | 1.333   23.83 | 2.083   10.23 |  2.83    7.50
               0.667   16.55 | 1.417   18.17 | 2.167   10.23 |  2.92    7.06
               0.750   30.79 | 1.500   18.17 | 2.250    9.33 |  3.00    7.06

     Max.Eff.Inten.(mm/hr)=     178.44      142.02
                over (min)        5.00       10.00
     Storage Coeff.  (min)=       4.36 (ii)    8.30 (ii)
     Unit Hyd. Tpeak (min)=       5.00       10.00
     Unit Hyd. peak  (cms)=       0.23        0.13
                                                        *TOTALS*
     PEAK FLOW       (cms)=       2.19        0.81        2.858 (iii)
     TIME TO PEAK    (hrs)=       1.00        1.08         1.00
     RUNOFF VOLUME    (mm)=      68.94       37.64        53.29
     TOTAL RAINFALL   (mm)=      70.94       70.94        70.94
     RUNOFF COEFFICIENT   =       0.97        0.53         0.75

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0008)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64        0.64
     Dep. Storage     (mm)=       2.00        5.00
     Average Slope     (%)=       0.50        2.00
     Length            (m)=      92.38       30.00
     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    8.30 | 0.833   30.79 | 1.583   14.97 |  2.33    9.33
               0.167    8.30 | 0.917  178.44 | 1.667   14.97 |  2.42    8.61
               0.250    9.77 | 1.000  178.44 | 1.750   12.86 |  2.50    8.61
               0.333    9.77 | 1.083   37.79 | 1.833   12.86 |  2.58    8.00
               0.417   12.10 | 1.167   37.79 | 1.917   11.36 |  2.67    8.00
               0.500   12.10 | 1.250   23.83 | 2.000   11.36 |  2.75    7.50
               0.583   16.55 | 1.333   23.83 | 2.083   10.23 |  2.83    7.50
               0.667   16.55 | 1.417   18.17 | 2.167   10.23 |  2.92    7.06
               0.750   30.79 | 1.500   18.17 | 2.250    9.33 |  3.00    7.06

     Max.Eff.Inten.(mm/hr)=     178.44       65.50
                over (min)        5.00       10.00
     Storage Coeff.  (min)=       2.38 (ii)    7.09 (ii)
     Unit Hyd. Tpeak (min)=       5.00       10.00
     Unit Hyd. peak  (cms)=       0.30        0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.31        0.08        0.380 (iii)
     TIME TO PEAK    (hrs)=       1.00        1.08         1.00
     RUNOFF VOLUME    (mm)=      68.94       28.87        48.90
     TOTAL RAINFALL   (mm)=      70.94       70.94        70.94
     RUNOFF COEFFICIENT   =       0.97        0.41         0.69
```

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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 (  0016)|   Area    (ha)=   0.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.38          0.38
     Dep. Storage     (mm)=       1.00          1.50
     Average Slope     (%)=       1.00          2.00
     Length            (m)=      71.18         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    8.30 | 0.833   30.79 | 1.583   14.97 |  2.33    9.33
               0.167    8.30 | 0.917  178.44 | 1.667   14.97 |  2.42    8.61
               0.250    9.77 | 1.000  178.44 | 1.750   12.86 |  2.50    8.61
               0.333    9.77 | 1.083   37.79 | 1.833   12.86 |  2.58    8.00
               0.417   12.10 | 1.167   37.79 | 1.917   11.36 |  2.67    8.00
               0.500   12.10 | 1.250   23.83 | 2.000   11.36 |  2.75    7.50
               0.583   16.55 | 1.333   23.83 | 2.083   10.23 |  2.83    7.50
               0.667   16.55 | 1.417   18.17 | 2.167   10.23 |  2.92    7.06
               0.750   30.79 | 1.500   18.17 | 2.250    9.33 |  3.00    7.06

     Max.Eff.Inten.(mm/hr)=     178.44       222.76
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.65 (ii)    6.78 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.14
                                                              *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.16           0.206 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08            1.00
     RUNOFF VOLUME    (mm)=      69.94        50.90           53.75
     TOTAL RAINFALL   (mm)=      70.94        70.94           70.94
     RUNOFF COEFFICIENT   =       0.99         0.72            0.76

***** 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*  =  85.0    Ia = Dep. 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  (  0006)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0011):     14.50   0.618     1.75     29.15
      + ID2= 2 (  0016):      0.76   0.206     1.00     53.75
        ================================================
        ID = 3 (  0006):     15.26   0.647     1.75     30.38

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

--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0006):     15.26   0.647     1.75     30.38
      + ID2= 2 (  0002):      9.66   2.858     1.00     53.29
        ================================================
        ID = 1 (  0006):     24.92   3.135     1.00     39.26

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

```
--------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0006):     24.92   3.135     1.00     39.26
      + ID2= 2 (  0008):      1.28   0.380     1.00     48.90
        ================================================
        ID = 3 (  0006):     26.20   3.516     1.00     39.73

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0004)|     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    |  0.1460      0.6510
                         0.0160     0.1150    |  0.3020      0.9550
                         0.0250     0.2380    |  0.4430      1.1990
                         0.0410     0.3690    |  0.6010      1.4550

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0006)      26.200      3.516      1.00      39.73
   OUTFLOW: ID= 1 (  0004)      26.200      0.249      3.33      39.66

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  7.08
                  TIME SHIFT OF PEAK FLOW        (min)=140.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.8514

--------------------------------------------------------------------------------
--------------------
| CALIB             |
| NASHYD   (  0017)|   Area    (ha)=   0.43   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

          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    8.30 | 0.833   30.79 | 1.583   14.97 |  2.33    9.33
               0.167    8.30 | 0.917  178.44 | 1.667   14.97 |  2.42    8.61
               0.250    9.77 | 1.000  178.44 | 1.750   12.86 |  2.50    8.61
               0.333    9.77 | 1.083   37.79 | 1.833   12.86 |  2.58    8.00
               0.417   12.10 | 1.167   37.79 | 1.917   11.36 |  2.67    8.00
               0.500   12.10 | 1.250   23.83 | 2.000   11.36 |  2.75    7.50
               0.583   16.55 | 1.333   23.83 | 2.083   10.23 |  2.83    7.50
               0.667   16.55 | 1.417   18.17 | 2.167   10.23 |  2.92    7.06
               0.750   30.79 | 1.500   18.17 | 2.250    9.33 |  3.00    7.06

     Unit Hyd Qpeak  (cms)=   0.126

     PEAK FLOW       (cms)=   0.051 (i)
     TIME TO PEAK    (hrs)=   1.083
     RUNOFF VOLUME    (mm)=  28.584
     TOTAL RAINFALL   (mm)=  70.941
     RUNOFF COEFFICIENT   =   0.403

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

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--------------------
| ADD HYD  (  0019)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0017):      0.43   0.051     1.08     28.58
      + ID2= 2 (  0004):     26.20   0.249     3.33     39.66
        ================================================
        ID = 3 (  0019):     26.63   0.249     3.17     39.48

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB             |
| STANDHYD (  0024)|   Area    (ha)=   0.61
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31          0.31
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      63.77        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    8.30 | 0.833   30.79 | 1.583   14.97 |  2.33    9.33
                0.167    8.30 | 0.917  178.44 | 1.667   14.97 |  2.42    8.61
                0.250    9.77 | 1.000  178.44 | 1.750   12.86 |  2.50    8.61
                0.333    9.77 | 1.083   37.79 | 1.833   12.86 |  2.58    8.00
                0.417   12.10 | 1.167   37.79 | 1.917   11.36 |  2.67    8.00
                0.500   12.10 | 1.250   23.83 | 2.000   11.36 |  2.75    7.50
                0.583   16.55 | 1.333   23.83 | 2.083   10.23 |  2.83    7.50
                0.667   16.55 | 1.417   18.17 | 2.167   10.23 |  2.92    7.06
                0.750   30.79 | 1.500   18.17 | 2.250    9.33 |  3.00    7.06

     Max.Eff.Inten.(mm/hr)=     178.44       222.76
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.55 (ii)    6.67 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.13         0.166 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08          1.00
     RUNOFF VOLUME    (mm)=      69.94        50.90         53.75
     TOTAL RAINFALL   (mm)=      70.94        70.94         70.94
     RUNOFF COEFFICIENT   =       0.99         0.72          0.76

***** 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*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD (  0025)|   Area    (ha)=   0.83
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.42         0.42
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      74.39        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    8.30 | 0.833   30.79 | 1.583   14.97 |  2.33    9.33
                0.167    8.30 | 0.917  178.44 | 1.667   14.97 |  2.42    8.61
                0.250    9.77 | 1.000  178.44 | 1.750   12.86 |  2.50    8.61
                0.333    9.77 | 1.083   37.79 | 1.833   12.86 |  2.58    8.00
                0.417   12.10 | 1.167   37.79 | 1.917   11.36 |  2.67    8.00
                0.500   12.10 | 1.250   23.83 | 2.000   11.36 |  2.75    7.50
                0.583   16.55 | 1.333   23.83 | 2.083   10.23 |  2.83    7.50
                0.667   16.55 | 1.417   18.17 | 2.167   10.23 |  2.92    7.06
                0.750   30.79 | 1.500   18.17 | 2.250    9.33 |  3.00    7.06

     Max.Eff.Inten.(mm/hr)=     178.44       222.76
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.70 (ii)    6.82 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.06         0.18         0.224 (iii)
     TIME TO PEAK    (hrs)=       1.00         1.08          1.00
     RUNOFF VOLUME    (mm)=      69.94        50.90         53.75
     TOTAL RAINFALL   (mm)=      70.94        70.94         70.94
     RUNOFF COEFFICIENT   =       0.99         0.72          0.76
```

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***** 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*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
**********************************************
** SIMULATION:G. 2yr 24hr 15min SCS Type II **
**********************************************

--------------------
|    READ STORM    |    Filename: C:\Users\jkerschbaumer\AppD
|                  |              ata\Local\Temp\
|                  |              0e53ce72-2c36-4efc-8a1e-c647e636da9d\04a9bd10
| Ptotal= 60.13 mm |    Comments: 2yr 24hr 15min SCS Type II
--------------------
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.00    0.00 |  6.25    1.08 | 12.50    8.66 | 18.75    1.08
                 0.25    0.66 |  6.50    1.08 | 12.75    4.45 | 19.00    1.08
                 0.50    0.66 |  6.75    1.08 | 13.00    4.45 | 19.25    1.08
                 0.75    0.66 |  7.00    1.08 | 13.25    3.25 | 19.50    1.08
                 1.00    0.66 |  7.25    1.32 | 13.50    3.25 | 19.75    1.08
                 1.25    0.66 |  7.50    1.32 | 13.75    2.53 | 20.00    1.08
                 1.50    0.66 |  7.75    1.32 | 14.00    2.53 | 20.25    0.72
                 1.75    0.66 |  8.00    1.32 | 14.25    1.80 | 20.50    0.72
                 2.00    0.66 |  8.25    1.56 | 14.50    1.80 | 20.75    0.72
                 2.25    0.78 |  8.50    1.56 | 14.75    1.80 | 21.00    0.72
                 2.50    0.78 |  8.75    1.68 | 15.00    1.80 | 21.25    0.72
                 2.75    0.78 |  9.00    1.68 | 15.25    1.80 | 21.50    0.72
                 3.00    0.78 |  9.25    1.92 | 15.50    1.80 | 21.75    0.72
                 3.25    0.78 |  9.50    1.92 | 15.75    1.80 | 22.00    0.72
                 3.50    0.78 |  9.75    2.16 | 16.00    1.80 | 22.25    0.72
                 3.75    0.78 | 10.00    2.16 | 16.25    1.08 | 22.50    0.72
                 4.00    0.78 | 10.25    2.77 | 16.50    1.08 | 22.75    0.72
                 4.25    0.96 | 10.50    2.77 | 16.75    1.08 | 23.00    0.72
                 4.50    0.96 | 10.75    3.73 | 17.00    1.08 | 23.25    0.72
                 4.75    0.96 | 11.00    3.73 | 17.25    1.08 | 23.50    0.72
                 5.00    0.96 | 11.25    5.77 | 17.50    1.08 | 23.75    0.72
                 5.25    0.96 | 11.50    5.77 | 17.75    1.08 | 24.00    0.72
                 5.50    0.96 | 11.75   17.80 | 18.00    1.08 |
                 5.75    0.96 | 12.00   73.60 | 18.25    1.08 |
                 6.00    0.96 | 12.25    8.66 | 18.50    1.08 |

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--------------------
| CALIB              |
| STANDHYD (  0001)|   Area    (ha)=   9.81
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  48.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.69         4.12
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     255.73        30.00
     Mannings n          =      0.013        0.250

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.00 | 6.167    0.96 |12.250   73.60 | 18.33    1.08
                0.167    0.00 | 6.250    0.96 |12.333    8.67 | 18.42    1.08
                0.250    0.00 | 6.333    1.08 |12.417    8.66 | 18.50    1.08
                0.333    0.66 | 6.417    1.08 |12.500    8.66 | 18.58    1.08
                0.417    0.66 | 6.500    1.08 |12.583    8.66 | 18.67    1.08
                0.500    0.66 | 6.583    1.08 |12.667    8.66 | 18.75    1.08
                0.583    0.66 | 6.667    1.08 |12.750    8.66 | 18.83    1.08
                0.667    0.66 | 6.750    1.08 |12.833    4.45 | 18.92    1.08
                0.750    0.66 | 6.833    1.08 |12.917    4.45 | 19.00    1.08
                0.833    0.66 | 6.917    1.08 |13.000    4.45 | 19.08    1.08
                0.917    0.66 | 7.000    1.08 |13.083    4.45 | 19.17    1.08
                1.000    0.66 | 7.083    1.08 |13.167    4.45 | 19.25    1.08
                1.083    0.66 | 7.167    1.08 |13.250    4.45 | 19.33    1.08
                1.167    0.66 | 7.250    1.08 |13.333    3.25 | 19.42    1.08
                1.250    0.66 | 7.333    1.32 |13.417    3.25 | 19.50    1.08
              1.333    0.66 | 7.417    1.32 |13.500    3.25 | 19.58    1.08
              1.417    0.66 | 7.500    1.32 |13.583    3.25 | 19.67    1.08
              1.500    0.66 | 7.583    1.32 |13.667    3.25 | 19.75    1.08
              1.583    0.66 | 7.667    1.32 |13.750    3.25 | 19.83    1.08
              1.667    0.66 | 7.750    1.32 |13.833    2.53 | 19.92    1.08
              1.750    0.66 | 7.833    1.32 |13.917    2.53 | 20.00    1.08
              1.833    0.66 | 7.917    1.32 |14.000    2.53 | 20.08    1.08
              1.917    0.66 | 8.000    1.32 |14.083    2.53 | 20.17    1.08
              2.000    0.66 | 8.083    1.32 |14.167    2.53 | 20.25    1.08
              2.083    0.66 | 8.167    1.32 |14.250    2.53 | 20.33    0.72
              2.167    0.66 | 8.250    1.32 |14.333    1.80 | 20.42    0.72
              2.250    0.66 | 8.333    1.56 |14.417    1.80 | 20.50    0.72
              2.333    0.78 | 8.417    1.56 |14.500    1.80 | 20.58    0.72
              2.417    0.78 | 8.500    1.56 |14.583    1.80 | 20.67    0.72
              2.500    0.78 | 8.583    1.56 |14.667    1.80 | 20.75    0.72
              2.583    0.78 | 8.667    1.56 |14.750    1.80 | 20.83    0.72
              2.667    0.78 | 8.750    1.56 |14.833    1.80 | 20.92    0.72
              2.750    0.78 | 8.833    1.68 |14.917    1.80 | 21.00    0.72
              2.833    0.78 | 8.917    1.68 |15.000    1.80 | 21.08    0.72
              2.917    0.78 | 9.000    1.68 |15.083    1.80 | 21.17    0.72
              3.000    0.78 | 9.083    1.68 |15.167    1.80 | 21.25    0.72
              3.083    0.78 | 9.167    1.68 |15.250    1.80 | 21.33    0.72
              3.167    0.78 | 9.250    1.68 |15.333    1.80 | 21.42    0.72
              3.250    0.78 | 9.333    1.92 |15.417    1.80 | 21.50    0.72
              3.333    0.78 | 9.417    1.92 |15.500    1.80 | 21.58    0.72
              3.417    0.78 | 9.500    1.92 |15.583    1.80 | 21.67    0.72
              3.500    0.78 | 9.583    1.92 |15.667    1.80 | 21.75    0.72
              3.583    0.78 | 9.667    1.92 |15.750    1.80 | 21.83    0.72
              3.667    0.78 | 9.750    1.92 |15.833    1.80 | 21.92    0.72
              3.750    0.78 | 9.833    2.16 |15.917    1.80 | 22.00    0.72
              3.833    0.78 | 9.917    2.16 |16.000    1.80 | 22.08    0.72
              3.917    0.78 |10.000    2.16 |16.083    1.80 | 22.17    0.72
              4.000    0.78 |10.083    2.16 |16.167    1.80 | 22.25    0.72
              4.083    0.78 |10.167    2.16 |16.250    1.80 | 22.33    0.72
              4.167    0.78 |10.250    2.16 |16.333    1.08 | 22.42    0.72
              4.250    0.78 |10.333    2.77 |16.417    1.08 | 22.50    0.72
              4.333    0.96 |10.417    2.77 |16.500    1.08 | 22.58    0.72
              4.417    0.96 |10.500    2.77 |16.583    1.08 | 22.67    0.72
              4.500    0.96 |10.583    2.77 |16.667    1.08 | 22.75    0.72
              4.583    0.96 |10.667    2.77 |16.750    1.08 | 22.83    0.72
              4.667    0.96 |10.750    2.77 |16.833    1.08 | 22.92    0.72
              4.750    0.96 |10.833    3.73 |16.917    1.08 | 23.00    0.72
              4.833    0.96 |10.917    3.73 |17.000    1.08 | 23.08    0.72
              4.917    0.96 |11.000    3.73 |17.083    1.08 | 23.17    0.72
              5.000    0.96 |11.083    3.73 |17.167    1.08 | 23.25    0.72
              5.083    0.96 |11.167    3.73 |17.250    1.08 | 23.33    0.72
              5.167    0.96 |11.250    3.73 |17.333    1.08 | 23.42    0.72
              5.250    0.96 |11.333    5.77 |17.417    1.08 | 23.50    0.72
              5.333    0.96 |11.417    5.77 |17.500    1.08 | 23.58    0.72
              5.417    0.96 |11.500    5.77 |17.583    1.08 | 23.67    0.72
              5.500    0.96 |11.583    5.77 |17.667    1.08 | 23.75    0.72
              5.583    0.96 |11.667    5.77 |17.750    1.08 | 23.83    0.72
              5.667    0.96 |11.750    5.77 |17.833    1.08 | 23.92    0.72
              5.750    0.96 |11.833   17.80 |17.917    1.08 | 24.00    0.72
              5.833    0.96 |11.917   17.80 |18.000    1.08 | 24.08    0.72
              5.917    0.96 |12.000   17.80 |18.083    1.08 | 24.17    0.72
              6.000    0.96 |12.083   73.59 |18.167    1.08 | 24.25    0.72
              6.083    0.96 |12.167   73.60 |18.250    1.08 |

     Max.Eff.Inten.(mm/hr)=      73.60        46.65
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.25 (ii)   14.30 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.19         0.08
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.90         0.30        1.145 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.33        12.25
     RUNOFF VOLUME    (mm)=      59.13        25.28        41.53
     TOTAL RAINFALL   (mm)=      60.13        60.13        60.13
     RUNOFF COEFFICIENT   =       0.98         0.42         0.69


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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 | CALIB            |
 | STANDHYD (  0005)|   Area    (ha)=   1.28
 |ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
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                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     Mannings n          =       0.013        0.250

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


                               ---- TRANSFORMED HYETOGRAPH ----
                    TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                     hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                   0.083    0.00 | 6.167    0.96 |12.250   73.60 | 18.33    1.08
                   0.167    0.00 | 6.250    0.96 |12.333    8.67 | 18.42    1.08
                   0.250    0.00 | 6.333    1.08 |12.417    8.66 | 18.50    1.08
                   0.333    0.66 | 6.417    1.08 |12.500    8.66 | 18.58    1.08
                   0.417    0.66 | 6.500    1.08 |12.583    8.66 | 18.67    1.08
                   0.500    0.66 | 6.583    1.08 |12.667    8.66 | 18.75    1.08
                   0.583    0.66 | 6.667    1.08 |12.750    8.66 | 18.83    1.08
                   0.667    0.66 | 6.750    1.08 |12.833    4.45 | 18.92    1.08
                   0.750    0.66 | 6.833    1.08 |12.917    4.45 | 19.00    1.08
                   0.833    0.66 | 6.917    1.08 |13.000    4.45 | 19.08    1.08
                   0.917    0.66 | 7.000    1.08 |13.083    4.45 | 19.17    1.08
                   1.000    0.66 | 7.083    1.08 |13.167    4.45 | 19.25    1.08
                   1.083    0.66 | 7.167    1.08 |13.250    4.45 | 19.33    1.08
                   1.167    0.66 | 7.250    1.08 |13.333    3.25 | 19.42    1.08
                   1.250    0.66 | 7.333    1.32 |13.417    3.25 | 19.50    1.08
                   1.333    0.66 | 7.417    1.32 |13.500    3.25 | 19.58    1.08
                   1.417    0.66 | 7.500    1.32 |13.583    3.25 | 19.67    1.08
                   1.500    0.66 | 7.583    1.32 |13.667    3.25 | 19.75    1.08
                   1.583    0.66 | 7.667    1.32 |13.750    3.25 | 19.83    1.08
                   1.667    0.66 | 7.750    1.32 |13.833    2.53 | 19.92    1.08
                   1.750    0.66 | 7.833    1.32 |13.917    2.53 | 20.00    1.08
                   1.833    0.66 | 7.917    1.32 |14.000    2.53 | 20.08    1.08
                   1.917    0.66 | 8.000    1.32 |14.083    2.53 | 20.17    1.08
                   2.000    0.66 | 8.083    1.32 |14.167    2.53 | 20.25    1.08
                   2.083    0.66 | 8.167    1.32 |14.250    2.53 | 20.33    0.72
                   2.167    0.66 | 8.250    1.32 |14.333    1.80 | 20.42    0.72
                   2.250    0.66 | 8.333    1.56 |14.417    1.80 | 20.50    0.72
                   2.333    0.78 | 8.417    1.56 |14.500    1.80 | 20.58    0.72
                   2.417    0.78 | 8.500    1.56 |14.583    1.80 | 20.67    0.72
                   2.500    0.78 | 8.583    1.56 |14.667    1.80 | 20.75    0.72
                   2.583    0.78 | 8.667    1.56 |14.750    1.80 | 20.83    0.72
                   2.667    0.78 | 8.750    1.56 |14.833    1.80 | 20.92    0.72
                   2.750    0.78 | 8.833    1.68 |14.917    1.80 | 21.00    0.72
                   2.833    0.78 | 8.917    1.68 |15.000    1.80 | 21.08    0.72
                   2.917    0.78 | 9.000    1.68 |15.083    1.80 | 21.17    0.72
                   3.000    0.78 | 9.083    1.68 |15.167    1.80 | 21.25    0.72
                   3.083    0.78 | 9.167    1.68 |15.250    1.80 | 21.33    0.72
                   3.167    0.78 | 9.250    1.68 |15.333    1.80 | 21.42    0.72
                   3.250    0.78 | 9.333    1.92 |15.417    1.80 | 21.50    0.72
                   3.333    0.78 | 9.417    1.92 |15.500    1.80 | 21.58    0.72
                   3.417    0.78 | 9.500    1.92 |15.583    1.80 | 21.67    0.72
                   3.500    0.78 | 9.583    1.92 |15.667    1.80 | 21.75    0.72
                   3.583    0.78 | 9.667    1.92 |15.750    1.80 | 21.83    0.72
                   3.667    0.78 | 9.750    1.92 |15.833    1.80 | 21.92    0.72
                   3.750    0.78 | 9.833    2.16 |15.917    1.80 | 22.00    0.72
                   3.833    0.78 | 9.917    2.16 |16.000    1.80 | 22.08    0.72
                   3.917    0.78 |10.000    2.16 |16.083    1.80 | 22.17    0.72
                   4.000    0.78 |10.083    2.16 |16.167    1.80 | 22.25    0.72
                   4.083    0.78 |10.167    2.16 |16.250    1.80 | 22.33    0.72
                   4.167    0.78 |10.250    2.16 |16.333    1.08 | 22.42    0.72
                   4.250    0.78 |10.333    2.77 |16.417    1.08 | 22.50    0.72
                   4.333    0.96 |10.417    2.77 |16.500    1.08 | 22.58    0.72
                   4.417    0.96 |10.500    2.77 |16.583    1.08 | 22.67    0.72
                   4.500    0.96 |10.583    2.77 |16.667    1.08 | 22.75    0.72
                   4.583    0.96 |10.667    2.77 |16.750    1.08 | 22.83    0.72
                   4.667    0.96 |10.750    2.77 |16.833    1.08 | 22.92    0.72
                   4.750    0.96 |10.833    3.73 |16.917    1.08 | 23.00    0.72
                   4.833    0.96 |10.917    3.73 |17.000    1.08 | 23.08    0.72
                   4.917    0.96 |11.000    3.73 |17.083    1.08 | 23.17    0.72
                   5.000    0.96 |11.083    3.73 |17.167    1.08 | 23.25    0.72
                   5.083    0.96 |11.167    3.73 |17.250    1.08 | 23.33    0.72
                   5.167    0.96 |11.250    3.73 |17.333    1.08 | 23.42    0.72
                   5.250    0.96 |11.333    5.77 |17.417    1.08 | 23.50    0.72
                   5.333    0.96 |11.417    5.77 |17.500    1.08 | 23.58    0.72
                   5.417    0.96 |11.500    5.77 |17.583    1.08 | 23.67    0.72
                   5.500    0.96 |11.583    5.77 |17.667    1.08 | 23.75    0.72
                   5.583    0.96 |11.667    5.77 |17.750    1.08 | 23.83    0.72
                   5.667    0.96 |11.750    5.77 |17.833    1.08 | 23.92    0.72
                   5.750    0.96 |11.833   17.80 |17.917    1.08 | 24.00    0.72
                   5.833    0.96 |11.917   17.80 |18.000    1.08 | 24.08    0.72
                   5.917    0.96 |12.000   17.80 |18.083    1.08 | 24.17    0.72
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                6.000    0.96 |12.083   73.59 |18.167    1.08 | 24.25    0.72
                6.083    0.96 |12.167   73.60 |18.250    1.08 |

     Max.Eff.Inten.(mm/hr)=      73.60        32.45
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       3.39 (ii)   12.71 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.26         0.08
                                                         *TOTALS*
     PEAK FLOW       (cms)=       0.13         0.03        0.158 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.33        12.25
     RUNOFF VOLUME    (mm)=      58.13        21.74        39.93
     TOTAL RAINFALL   (mm)=      60.13        60.13        60.13
     RUNOFF COEFFICIENT   =       0.97         0.36         0.66

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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  (  0007)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0001):     9.81   1.145    12.25    41.53
      + ID2= 2 (  0005):     1.28   0.158    12.25    39.93
        ==================================================
        ID = 3 (  0007):    11.09   1.303    12.25    41.34

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| RESERVOIR(  0003)|     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   |   0.3480      0.4690
                          0.0270     0.0900   |   0.8590      0.6570
                          0.0470     0.1880   |   1.5140      0.8590
                          0.0600     0.2950   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0007)     11.090     1.303     12.25      41.34
   OUTFLOW: ID= 1 (  0003)     11.090     0.059     14.33      41.26

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  4.53
                   TIME SHIFT OF PEAK FLOW        (min)=125.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.2866

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| CALIB            |
| STANDHYD (  0015)|   Area    (ha)=   0.41
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.20         0.20
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      52.28        40.00
     Mannings n          =       0.013        0.250

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.00 | 6.167    0.96 |12.250   73.60 | 18.33    1.08
                0.167    0.00 | 6.250    0.96 |12.333    8.67 | 18.42    1.08
                0.250    0.00 | 6.333    1.08 |12.417    8.66 | 18.50    1.08
                0.333    0.66 | 6.417    1.08 |12.500    8.66 | 18.58    1.08
                0.417    0.66 | 6.500    1.08 |12.583    8.66 | 18.67    1.08
                0.500    0.66 | 6.583    1.08 |12.667    8.66 | 18.75    1.08
                0.583    0.66 | 6.667    1.08 |12.750    8.66 | 18.83    1.08
                0.667    0.66 | 6.750    1.08 |12.833    4.45 | 18.92    1.08
                0.750    0.66 | 6.833    1.08 |12.917    4.45 | 19.00    1.08
                0.833    0.66 | 6.917    1.08 |13.000    4.45 | 19.08    1.08
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                0.917    0.66 | 7.000    1.08 |13.083    4.45 | 19.17    1.08
                1.000    0.66 | 7.083    1.08 |13.167    4.45 | 19.25    1.08
                1.083    0.66 | 7.167    1.08 |13.250    4.45 | 19.33    1.08
                1.167    0.66 | 7.250    1.08 |13.333    3.25 | 19.42    1.08
                1.250    0.66 | 7.333    1.32 |13.417    3.25 | 19.50    1.08
                1.333    0.66 | 7.417    1.32 |13.500    3.25 | 19.58    1.08
                1.417    0.66 | 7.500    1.32 |13.583    3.25 | 19.67    1.08
                1.500    0.66 | 7.583    1.32 |13.667    3.25 | 19.75    1.08
                1.583    0.66 | 7.667    1.32 |13.750    3.25 | 19.83    1.08
                1.667    0.66 | 7.750    1.32 |13.833    2.53 | 19.92    1.08
                1.750    0.66 | 7.833    1.32 |13.917    2.53 | 20.00    1.08
                1.833    0.66 | 7.917    1.32 |14.000    2.53 | 20.08    1.08
                1.917    0.66 | 8.000    1.32 |14.083    2.53 | 20.17    1.08
                2.000    0.66 | 8.083    1.32 |14.167    2.53 | 20.25    1.08
                2.083    0.66 | 8.167    1.32 |14.250    2.53 | 20.33    0.72
                2.167    0.66 | 8.250    1.32 |14.333    1.80 | 20.42    0.72
                2.250    0.66 | 8.333    1.56 |14.417    1.80 | 20.50    0.72
                2.333    0.78 | 8.417    1.56 |14.500    1.80 | 20.58    0.72
                2.417    0.78 | 8.500    1.56 |14.583    1.80 | 20.67    0.72
                2.500    0.78 | 8.583    1.56 |14.667    1.80 | 20.75    0.72
                2.583    0.78 | 8.667    1.56 |14.750    1.80 | 20.83    0.72
                2.667    0.78 | 8.750    1.56 |14.833    1.80 | 20.92    0.72
                2.750    0.78 | 8.833    1.68 |14.917    1.80 | 21.00    0.72
                2.833    0.78 | 8.917    1.68 |15.000    1.80 | 21.08    0.72
                2.917    0.78 | 9.000    1.68 |15.083    1.80 | 21.17    0.72
                3.000    0.78 | 9.083    1.68 |15.167    1.80 | 21.25    0.72
                3.083    0.78 | 9.167    1.68 |15.250    1.80 | 21.33    0.72
                3.167    0.78 | 9.250    1.68 |15.333    1.80 | 21.42    0.72
                3.250    0.78 | 9.333    1.92 |15.417    1.80 | 21.50    0.72
                3.333    0.78 | 9.417    1.92 |15.500    1.80 | 21.58    0.72
                3.417    0.78 | 9.500    1.92 |15.583    1.80 | 21.67    0.72
                3.500    0.78 | 9.583    1.92 |15.667    1.80 | 21.75    0.72
                3.583    0.78 | 9.667    1.92 |15.750    1.80 | 21.83    0.72
                3.667    0.78 | 9.750    1.92 |15.833    1.80 | 21.92    0.72
                3.750    0.78 | 9.833    2.16 |15.917    1.80 | 22.00    0.72
                3.833    0.78 | 9.917    2.16 |16.000    1.80 | 22.08    0.72
                3.917    0.78 |10.000    2.16 |16.083    1.80 | 22.17    0.72
                4.000    0.78 |10.083    2.16 |16.167    1.80 | 22.25    0.72
                4.083    0.78 |10.167    2.16 |16.250    1.80 | 22.33    0.72
                4.167    0.78 |10.250    2.16 |16.333    1.08 | 22.42    0.72
                4.250    0.78 |10.333    2.77 |16.417    1.08 | 22.50    0.72
                4.333    0.96 |10.417    2.77 |16.500    1.08 | 22.58    0.72
                4.417    0.96 |10.500    2.77 |16.583    1.08 | 22.67    0.72
                4.500    0.96 |10.583    2.77 |16.667    1.08 | 22.75    0.72
                4.583    0.96 |10.667    2.77 |16.750    1.08 | 22.83    0.72
                4.667    0.96 |10.750    2.77 |16.833    1.08 | 22.92    0.72
                4.750    0.96 |10.833    3.73 |16.917    1.08 | 23.00    0.72
                4.833    0.96 |10.917    3.73 |17.000    1.08 | 23.08    0.72
                4.917    0.96 |11.000    3.73 |17.083    1.08 | 23.17    0.72
                5.000    0.96 |11.083    3.73 |17.167    1.08 | 23.25    0.72
                5.083    0.96 |11.167    3.73 |17.250    1.08 | 23.33    0.72
                5.167    0.96 |11.250    3.73 |17.333    1.08 | 23.42    0.72
                5.250    0.96 |11.333    5.77 |17.417    1.08 | 23.50    0.72
                5.333    0.96 |11.417    5.77 |17.500    1.08 | 23.58    0.72
                5.417    0.96 |11.500    5.77 |17.583    1.08 | 23.67    0.72
                5.500    0.96 |11.583    5.77 |17.667    1.08 | 23.75    0.72
                5.583    0.96 |11.667    5.77 |17.750    1.08 | 23.83    0.72
                5.667    0.96 |11.750    5.77 |17.833    1.08 | 23.92    0.72
                5.750    0.96 |11.833   17.80 |17.917    1.08 | 24.00    0.72
                5.833    0.96 |11.917   17.80 |18.000    1.08 | 24.08    0.72
                5.917    0.96 |12.000   17.80 |18.083    1.08 | 24.17    0.72
                6.000    0.96 |12.083   73.59 |18.167    1.08 | 24.25    0.72
                6.083    0.96 |12.167   73.60 |18.250    1.08 |

     Max.Eff.Inten.(mm/hr)=      73.60       100.04
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.96 (ii)    9.01 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.12
                                                         *TOTALS*
     PEAK FLOW       (cms)=       0.01         0.04        0.055 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25        12.25
     RUNOFF VOLUME    (mm)=      59.13        41.00        43.70
     TOTAL RAINFALL   (mm)=      60.13        60.13        60.13
     RUNOFF COEFFICIENT   =       0.98         0.68         0.73

***** 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*  =  85.0    Ia = Dep. 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   (  0011)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.64

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


                                ---- TRANSFORMED HYETOGRAPH ----
              TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
             0.083    0.00 | 6.167    0.96 |12.250   73.60 | 18.33    1.08
             0.167    0.00 | 6.250    0.96 |12.333    8.67 | 18.42    1.08
             0.250    0.00 | 6.333    1.08 |12.417    8.66 | 18.50    1.08
             0.333    0.66 | 6.417    1.08 |12.500    8.66 | 18.58    1.08
             0.417    0.66 | 6.500    1.08 |12.583    8.66 | 18.67    1.08
             0.500    0.66 | 6.583    1.08 |12.667    8.66 | 18.75    1.08
             0.583    0.66 | 6.667    1.08 |12.750    8.66 | 18.83    1.08
             0.667    0.66 | 6.750    1.08 |12.833    4.45 | 18.92    1.08
             0.750    0.66 | 6.833    1.08 |12.917    4.45 | 19.00    1.08
             0.833    0.66 | 6.917    1.08 |13.000    4.45 | 19.08    1.08
             0.917    0.66 | 7.000    1.08 |13.083    4.45 | 19.17    1.08
             1.000    0.66 | 7.083    1.08 |13.167    4.45 | 19.25    1.08
             1.083    0.66 | 7.167    1.08 |13.250    4.45 | 19.33    1.08
             1.167    0.66 | 7.250    1.08 |13.333    3.25 | 19.42    1.08
             1.250    0.66 | 7.333    1.32 |13.417    3.25 | 19.50    1.08
             1.333    0.66 | 7.417    1.32 |13.500    3.25 | 19.58    1.08
             1.417    0.66 | 7.500    1.32 |13.583    3.25 | 19.67    1.08
             1.500    0.66 | 7.583    1.32 |13.667    3.25 | 19.75    1.08
             1.583    0.66 | 7.667    1.32 |13.750    3.25 | 19.83    1.08
             1.667    0.66 | 7.750    1.32 |13.833    2.53 | 19.92    1.08
             1.750    0.66 | 7.833    1.32 |13.917    2.53 | 20.00    1.08
             1.833    0.66 | 7.917    1.32 |14.000    2.53 | 20.08    1.08
             1.917    0.66 | 8.000    1.32 |14.083    2.53 | 20.17    1.08
             2.000    0.66 | 8.083    1.32 |14.167    2.53 | 20.25    1.08
             2.083    0.66 | 8.167    1.32 |14.250    2.53 | 20.33    0.72
             2.167    0.66 | 8.250    1.32 |14.333    1.80 | 20.42    0.72
             2.250    0.66 | 8.333    1.56 |14.417    1.80 | 20.50    0.72
             2.333    0.78 | 8.417    1.56 |14.500    1.80 | 20.58    0.72
             2.417    0.78 | 8.500    1.56 |14.583    1.80 | 20.67    0.72
             2.500    0.78 | 8.583    1.56 |14.667    1.80 | 20.75    0.72
             2.583    0.78 | 8.667    1.56 |14.750    1.80 | 20.83    0.72
             2.667    0.78 | 8.750    1.56 |14.833    1.80 | 20.92    0.72
             2.750    0.78 | 8.833    1.68 |14.917    1.80 | 21.00    0.72
             2.833    0.78 | 8.917    1.68 |15.000    1.80 | 21.08    0.72
             2.917    0.78 | 9.000    1.68 |15.083    1.80 | 21.17    0.72
             3.000    0.78 | 9.083    1.68 |15.167    1.80 | 21.25    0.72
             3.083    0.78 | 9.167    1.68 |15.250    1.80 | 21.33    0.72
             3.167    0.78 | 9.250    1.68 |15.333    1.80 | 21.42    0.72
             3.250    0.78 | 9.333    1.92 |15.417    1.80 | 21.50    0.72
             3.333    0.78 | 9.417    1.92 |15.500    1.80 | 21.58    0.72
             3.417    0.78 | 9.500    1.92 |15.583    1.80 | 21.67    0.72
             3.500    0.78 | 9.583    1.92 |15.667    1.80 | 21.75    0.72
             3.583    0.78 | 9.667    1.92 |15.750    1.80 | 21.83    0.72
             3.667    0.78 | 9.750    1.92 |15.833    1.80 | 21.92    0.72
             3.750    0.78 | 9.833    2.16 |15.917    1.80 | 22.00    0.72
             3.833    0.78 | 9.917    2.16 |16.000    1.80 | 22.08    0.72
             3.917    0.78 |10.000    2.16 |16.083    1.80 | 22.17    0.72
             4.000    0.78 |10.083    2.16 |16.167    1.80 | 22.25    0.72
             4.083    0.78 |10.167    2.16 |16.250    1.80 | 22.33    0.72
             4.167    0.78 |10.250    2.16 |16.333    1.08 | 22.42    0.72
             4.250    0.78 |10.333    2.77 |16.417    1.08 | 22.50    0.72
             4.333    0.96 |10.417    2.77 |16.500    1.08 | 22.58    0.72
             4.417    0.96 |10.500    2.77 |16.583    1.08 | 22.67    0.72
             4.500    0.96 |10.583    2.77 |16.667    1.08 | 22.75    0.72
             4.583    0.96 |10.667    2.77 |16.750    1.08 | 22.83    0.72
             4.667    0.96 |10.750    2.77 |16.833    1.08 | 22.92    0.72
             4.750    0.96 |10.833    3.73 |16.917    1.08 | 23.00    0.72
             4.833    0.96 |10.917    3.73 |17.000    1.08 | 23.08    0.72
             4.917    0.96 |11.000    3.73 |17.083    1.08 | 23.17    0.72
             5.000    0.96 |11.083    3.73 |17.167    1.08 | 23.25    0.72
             5.083    0.96 |11.167    3.73 |17.250    1.08 | 23.33    0.72
             5.167    0.96 |11.250    3.73 |17.333    1.08 | 23.42    0.72
             5.250    0.96 |11.333    5.77 |17.417    1.08 | 23.50    0.72
             5.333    0.96 |11.417    5.77 |17.500    1.08 | 23.58    0.72
             5.417    0.96 |11.500    5.77 |17.583    1.08 | 23.67    0.72
             5.500    0.96 |11.583    5.77 |17.667    1.08 | 23.75    0.72
             5.583    0.96 |11.667    5.77 |17.750    1.08 | 23.83    0.72
             5.667    0.96 |11.750    5.77 |17.833    1.08 | 23.92    0.72
             5.750    0.96 |11.833   17.80 |17.917    1.08 | 24.00    0.72
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             5.833    0.96 |11.917   17.80 |18.000    1.08 | 24.08    0.72
             5.917    0.96 |12.000   17.80 |18.083    1.08 | 24.17    0.72
             6.000    0.96 |12.083   73.59 |18.167    1.08 | 24.25    0.72
             6.083    0.96 |12.167   73.60 |18.250    1.08 |

     Unit Hyd Qpeak  (cms)=   0.865

     PEAK FLOW       (cms)=   0.349 (i)
     TIME TO PEAK    (hrs)=  12.833
     RUNOFF VOLUME    (mm)=  21.797
     TOTAL RAINFALL   (mm)=  60.130
     RUNOFF COEFFICIENT   =   0.362

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

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| CALIB            |
| STANDHYD (  0002)|   Area    (ha)=   9.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  50.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      6.57        3.09
     Dep. Storage     (mm)=      2.00        5.00
     Average Slope     (%)=      0.50        2.00
     Length            (m)=    253.77       30.00
     Mannings n          =      0.013       0.250

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


                                ---- TRANSFORMED HYETOGRAPH ----
              TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
               hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
             0.083    0.00 | 6.167    0.96 |12.250   73.60 | 18.33    1.08
             0.167    0.00 | 6.250    0.96 |12.333    8.67 | 18.42    1.08
             0.250    0.00 | 6.333    1.08 |12.417    8.66 | 18.50    1.08
             0.333    0.66 | 6.417    1.08 |12.500    8.66 | 18.58    1.08
             0.417    0.66 | 6.500    1.08 |12.583    8.66 | 18.67    1.08
             0.500    0.66 | 6.583    1.08 |12.667    8.66 | 18.75    1.08
             0.583    0.66 | 6.667    1.08 |12.750    8.66 | 18.83    1.08
             0.667    0.66 | 6.750    1.08 |12.833    4.45 | 18.92    1.08
             0.750    0.66 | 6.833    1.08 |12.917    4.45 | 19.00    1.08
             0.833    0.66 | 6.917    1.08 |13.000    4.45 | 19.08    1.08
             0.917    0.66 | 7.000    1.08 |13.083    4.45 | 19.17    1.08
             1.000    0.66 | 7.083    1.08 |13.167    4.45 | 19.25    1.08
             1.083    0.66 | 7.167    1.08 |13.250    4.45 | 19.33    1.08
             1.167    0.66 | 7.250    1.08 |13.333    3.25 | 19.42    1.08
             1.250    0.66 | 7.333    1.32 |13.417    3.25 | 19.50    1.08
             1.333    0.66 | 7.417    1.32 |13.500    3.25 | 19.58    1.08
             1.417    0.66 | 7.500    1.32 |13.583    3.25 | 19.67    1.08
             1.500    0.66 | 7.583    1.32 |13.667    3.25 | 19.75    1.08
             1.583    0.66 | 7.667    1.32 |13.750    3.25 | 19.83    1.08
             1.667    0.66 | 7.750    1.32 |13.833    2.53 | 19.92    1.08
             1.750    0.66 | 7.833    1.32 |13.917    2.53 | 20.00    1.08
             1.833    0.66 | 7.917    1.32 |14.000    2.53 | 20.08    1.08
             1.917    0.66 | 8.000    1.32 |14.083    2.53 | 20.17    1.08
             2.000    0.66 | 8.083    1.32 |14.167    2.53 | 20.25    1.08
             2.083    0.66 | 8.167    1.32 |14.250    2.53 | 20.33    0.72
             2.167    0.66 | 8.250    1.32 |14.333    1.80 | 20.42    0.72
             2.250    0.66 | 8.333    1.56 |14.417    1.80 | 20.50    0.72
             2.333    0.78 | 8.417    1.56 |14.500    1.80 | 20.58    0.72
             2.417    0.78 | 8.500    1.56 |14.583    1.80 | 20.67    0.72
             2.500    0.78 | 8.583    1.56 |14.667    1.80 | 20.75    0.72
             2.583    0.78 | 8.667    1.56 |14.750    1.80 | 20.83    0.72
             2.667    0.78 | 8.750    1.56 |14.833    1.80 | 20.92    0.72
             2.750    0.78 | 8.833    1.68 |14.917    1.80 | 21.00    0.72
             2.833    0.78 | 8.917    1.68 |15.000    1.80 | 21.08    0.72
             2.917    0.78 | 9.000    1.68 |15.083    1.80 | 21.17    0.72
             3.000    0.78 | 9.083    1.68 |15.167    1.80 | 21.25    0.72
             3.083    0.78 | 9.167    1.68 |15.250    1.80 | 21.33    0.72
             3.167    0.78 | 9.250    1.68 |15.333    1.80 | 21.42    0.72
             3.250    0.78 | 9.333    1.92 |15.417    1.80 | 21.50    0.72
             3.333    0.78 | 9.417    1.92 |15.500    1.80 | 21.58    0.72
             3.417    0.78 | 9.500    1.92 |15.583    1.80 | 21.67    0.72
             3.500    0.78 | 9.583    1.92 |15.667    1.80 | 21.75    0.72
             3.583    0.78 | 9.667    1.92 |15.750    1.80 | 21.83    0.72
             3.667    0.78 | 9.750    1.92 |15.833    1.80 | 21.92    0.72
             3.750    0.78 | 9.833    2.16 |15.917    1.80 | 22.00    0.72
             3.833    0.78 | 9.917    2.16 |16.000    1.80 | 22.08    0.72
             3.917    0.78 |10.000    2.16 |16.083    1.80 | 22.17    0.72
             4.000    0.78 |10.083    2.16 |16.167    1.80 | 22.25    0.72
             4.083    0.78 |10.167    2.16 |16.250    1.80 | 22.33    0.72
             4.167    0.78 |10.250    2.16 |16.333    1.08 | 22.42    0.72
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                4.250    0.78 |10.333    2.77 |16.417    1.08 | 22.50    0.72
                4.333    0.96 |10.417    2.77 |16.500    1.08 | 22.58    0.72
                4.417    0.96 |10.500    2.77 |16.583    1.08 | 22.67    0.72
                4.500    0.96 |10.583    2.77 |16.667    1.08 | 22.75    0.72
                4.583    0.96 |10.667    2.77 |16.750    1.08 | 22.83    0.72
                4.667    0.96 |10.750    2.77 |16.833    1.08 | 22.92    0.72
                4.750    0.96 |10.833    3.73 |16.917    1.08 | 23.00    0.72
                4.833    0.96 |10.917    3.73 |17.000    1.08 | 23.08    0.72
                4.917    0.96 |11.000    3.73 |17.083    1.08 | 23.17    0.72
                5.000    0.96 |11.083    3.73 |17.167    1.08 | 23.25    0.72
                5.083    0.96 |11.167    3.73 |17.250    1.08 | 23.33    0.72
                5.167    0.96 |11.250    3.73 |17.333    1.08 | 23.42    0.72
                5.250    0.96 |11.333    5.77 |17.417    1.08 | 23.50    0.72
                5.333    0.96 |11.417    5.77 |17.500    1.08 | 23.58    0.72
                5.417    0.96 |11.500    5.77 |17.583    1.08 | 23.67    0.72
                5.500    0.96 |11.583    5.77 |17.667    1.08 | 23.75    0.72
                5.583    0.96 |11.667    5.77 |17.750    1.08 | 23.83    0.72
                5.667    0.96 |11.750    5.77 |17.833    1.08 | 23.92    0.72
                5.750    0.96 |11.833   17.80 |17.917    1.08 | 24.00    0.72
                5.833    0.96 |11.917   17.80 |18.000    1.08 | 24.08    0.72
                5.917    0.96 |12.000   17.80 |18.083    1.08 | 24.17    0.72
                6.000    0.96 |12.083   73.59 |18.167    1.08 | 24.25    0.72
                6.083    0.96 |12.167   73.60 |18.250    1.08 |

     Max.Eff.Inten.(mm/hr)=      73.60        67.71
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       6.22 (ii)   13.16 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.19         0.08
                                                            *TOTALS*
     PEAK FLOW      (cms)=       0.92         0.34          1.210 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.33          12.25
     RUNOFF VOLUME    (mm)=      58.13        29.17          43.65
     TOTAL RAINFALL   (mm)=      60.13        60.13          60.13
     RUNOFF COEFFICIENT   =       0.97         0.49           0.73


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0008)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     Mannings n          =      0.013        0.250

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.00 | 6.167    0.96 |12.250   73.60 | 18.33    1.08
                0.167    0.00 | 6.250    0.96 |12.333    8.67 | 18.42    1.08
                0.250    0.00 | 6.333    1.08 |12.417    8.66 | 18.50    1.08
                0.333    0.66 | 6.417    1.08 |12.500    8.66 | 18.58    1.08
                0.417    0.66 | 6.500    1.08 |12.583    8.66 | 18.67    1.08
                0.500    0.66 | 6.583    1.08 |12.667    8.66 | 18.75    1.08
                0.583    0.66 | 6.667    1.08 |12.750    8.66 | 18.83    1.08
                0.667    0.66 | 6.750    1.08 |12.833    4.45 | 18.92    1.08
                0.750    0.66 | 6.833    1.08 |12.917    4.45 | 19.00    1.08
                0.833    0.66 | 6.917    1.08 |13.000    4.45 | 19.08    1.08
                0.917    0.66 | 7.000    1.08 |13.083    4.45 | 19.17    1.08
                1.000    0.66 | 7.083    1.08 |13.167    4.45 | 19.25    1.08
                1.083    0.66 | 7.167    1.08 |13.250    4.45 | 19.33    1.08
                1.167    0.66 | 7.250    1.08 |13.333    3.25 | 19.42    1.08
                1.250    0.66 | 7.333    1.32 |13.417    3.25 | 19.50    1.08
                1.333    0.66 | 7.417    1.32 |13.500    3.25 | 19.58    1.08
                1.417    0.66 | 7.500    1.32 |13.583    3.25 | 19.67    1.08
                1.500    0.66 | 7.583    1.32 |13.667    3.25 | 19.75    1.08
                1.583    0.66 | 7.667    1.32 |13.750    3.25 | 19.83    1.08
                1.667    0.66 | 7.750    1.32 |13.833    2.53 | 19.92    1.08
                1.750    0.66 | 7.833    1.32 |13.917    2.53 | 20.00    1.08
                1.833    0.66 | 7.917    1.32 |14.000    2.53 | 20.08    1.08
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                1.917    0.66 | 8.000    1.32 |14.083    2.53 | 20.17    1.08
                2.000    0.66 | 8.083    1.32 |14.167    2.53 | 20.25    1.08
                2.083    0.66 | 8.167    1.32 |14.250    2.53 | 20.33    0.72
                2.167    0.66 | 8.250    1.32 |14.333    1.80 | 20.42    0.72
                2.250    0.66 | 8.333    1.56 |14.417    1.80 | 20.50    0.72
                2.333    0.78 | 8.417    1.56 |14.500    1.80 | 20.58    0.72
                2.417    0.78 | 8.500    1.56 |14.583    1.80 | 20.67    0.72
                2.500    0.78 | 8.583    1.56 |14.667    1.80 | 20.75    0.72
                2.583    0.78 | 8.667    1.56 |14.750    1.80 | 20.83    0.72
                2.667    0.78 | 8.750    1.56 |14.833    1.80 | 20.92    0.72
                2.750    0.78 | 8.833    1.68 |14.917    1.80 | 21.00    0.72
                2.833    0.78 | 8.917    1.68 |15.000    1.80 | 21.08    0.72
                2.917    0.78 | 9.000    1.68 |15.083    1.80 | 21.17    0.72
                3.000    0.78 | 9.083    1.68 |15.167    1.80 | 21.25    0.72
                3.083    0.78 | 9.167    1.68 |15.250    1.80 | 21.33    0.72
                3.167    0.78 | 9.250    1.68 |15.333    1.80 | 21.42    0.72
                3.250    0.78 | 9.333    1.92 |15.417    1.80 | 21.50    0.72
                3.333    0.78 | 9.417    1.92 |15.500    1.80 | 21.58    0.72
                3.417    0.78 | 9.500    1.92 |15.583    1.80 | 21.67    0.72
                3.500    0.78 | 9.583    1.92 |15.667    1.80 | 21.75    0.72
                3.583    0.78 | 9.667    1.92 |15.750    1.80 | 21.83    0.72
                3.667    0.78 | 9.750    1.92 |15.833    1.80 | 21.92    0.72
                3.750    0.78 | 9.833    2.16 |15.917    1.80 | 22.00    0.72
                3.833    0.78 | 9.917    2.16 |16.000    1.80 | 22.08    0.72
                3.917    0.78 |10.000    2.16 |16.083    1.80 | 22.17    0.72
                4.000    0.78 |10.083    2.16 |16.167    1.80 | 22.25    0.72
                4.083    0.78 |10.167    2.16 |16.250    1.80 | 22.33    0.72
                4.167    0.78 |10.250    2.16 |16.333    1.08 | 22.42    0.72
                4.250    0.78 |10.333    2.77 |16.417    1.08 | 22.50    0.72
                4.333    0.96 |10.417    2.77 |16.500    1.08 | 22.58    0.72
                4.417    0.96 |10.500    2.77 |16.583    1.08 | 22.67    0.72
                4.500    0.96 |10.583    2.77 |16.667    1.08 | 22.75    0.72
                4.583    0.96 |10.667    2.77 |16.750    1.08 | 22.83    0.72
                4.667    0.96 |10.750    2.77 |16.833    1.08 | 22.92    0.72
                4.750    0.96 |10.833    3.73 |16.917    1.08 | 23.00    0.72
                4.833    0.96 |10.917    3.73 |17.000    1.08 | 23.08    0.72
                4.917    0.96 |11.000    3.73 |17.083    1.08 | 23.17    0.72
                5.000    0.96 |11.083    3.73 |17.167    1.08 | 23.25    0.72
                5.083    0.96 |11.167    3.73 |17.250    1.08 | 23.33    0.72
                5.167    0.96 |11.250    3.73 |17.333    1.08 | 23.42    0.72
                5.250    0.96 |11.333    5.77 |17.417    1.08 | 23.50    0.72
                5.333    0.96 |11.417    5.77 |17.500    1.08 | 23.58    0.72
                5.417    0.96 |11.500    5.77 |17.583    1.08 | 23.67    0.72
                5.500    0.96 |11.583    5.77 |17.667    1.08 | 23.75    0.72
                5.583    0.96 |11.667    5.77 |17.750    1.08 | 23.83    0.72
                5.667    0.96 |11.750    5.77 |17.833    1.08 | 23.92    0.72
                5.750    0.96 |11.833   17.80 |17.917    1.08 | 24.00    0.72
                5.833    0.96 |11.917   17.80 |18.000    1.08 | 24.08    0.72
                5.917    0.96 |12.000   17.80 |18.083    1.08 | 24.17    0.72
                6.000    0.96 |12.083   73.59 |18.167    1.08 | 24.25    0.72
                6.083    0.96 |12.167   73.60 |18.250    1.08 |

     Max.Eff.Inten.(mm/hr)=      73.60        32.45
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       3.39 (ii)   12.71 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.26         0.08
                                                            *TOTALS*
     PEAK FLOW      (cms)=       0.13         0.03          0.158 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.33          12.25
     RUNOFF VOLUME    (mm)=      58.13        21.74          39.93
     TOTAL RAINFALL   (mm)=      60.13        60.13          60.13
     RUNOFF COEFFICIENT   =       0.97         0.36           0.66

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0016)|   Area    (ha)=   0.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.38         0.38
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      71.18        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    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
             hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
           0.083    0.00 | 6.167    0.96 |12.250   73.60 | 18.33    1.08
           0.167    0.00 | 6.250    0.96 |12.333    8.67 | 18.42    1.08
           0.250    0.00 | 6.333    1.08 |12.417    8.66 | 18.50    1.08
           0.333    0.66 | 6.417    1.08 |12.500    8.66 | 18.58    1.08
           0.417    0.66 | 6.500    1.08 |12.583    8.66 | 18.67    1.08
           0.500    0.66 | 6.583    1.08 |12.667    8.66 | 18.75    1.08
           0.583    0.66 | 6.667    1.08 |12.750    8.66 | 18.83    1.08
           0.667    0.66 | 6.750    1.08 |12.833    4.45 | 18.92    1.08
           0.750    0.66 | 6.833    1.08 |12.917    4.45 | 19.00    1.08
           0.833    0.66 | 6.917    1.08 |13.000    4.45 | 19.08    1.08
           0.917    0.66 | 7.000    1.08 |13.083    4.45 | 19.17    1.08
           1.000    0.66 | 7.083    1.08 |13.167    4.45 | 19.25    1.08
           1.083    0.66 | 7.167    1.08 |13.250    4.45 | 19.33    1.08
           1.167    0.66 | 7.250    1.08 |13.333    3.25 | 19.42    1.08
           1.250    0.66 | 7.333    1.32 |13.417    3.25 | 19.50    1.08
           1.333    0.66 | 7.417    1.32 |13.500    3.25 | 19.58    1.08
           1.417    0.66 | 7.500    1.32 |13.583    3.25 | 19.67    1.08
           1.500    0.66 | 7.583    1.32 |13.667    3.25 | 19.75    1.08
           1.583    0.66 | 7.667    1.32 |13.750    3.25 | 19.83    1.08
           1.667    0.66 | 7.750    1.32 |13.833    2.53 | 19.92    1.08
           1.750    0.66 | 7.833    1.32 |13.917    2.53 | 20.00    1.08
           1.833    0.66 | 7.917    1.32 |14.000    2.53 | 20.08    1.08
           1.917    0.66 | 8.000    1.32 |14.083    2.53 | 20.17    1.08
           2.000    0.66 | 8.083    1.32 |14.167    2.53 | 20.25    1.08
           2.083    0.66 | 8.167    1.32 |14.250    2.53 | 20.33    0.72
           2.167    0.66 | 8.250    1.32 |14.333    1.80 | 20.42    0.72
           2.250    0.66 | 8.333    1.56 |14.417    1.80 | 20.50    0.72
           2.333    0.78 | 8.417    1.56 |14.500    1.80 | 20.58    0.72
           2.417    0.78 | 8.500    1.56 |14.583    1.80 | 20.67    0.72
           2.500    0.78 | 8.583    1.56 |14.667    1.80 | 20.75    0.72
           2.583    0.78 | 8.667    1.56 |14.750    1.80 | 20.83    0.72
           2.667    0.78 | 8.750    1.56 |14.833    1.80 | 20.92    0.72
           2.750    0.78 | 8.833    1.68 |14.917    1.80 | 21.00    0.72
           2.833    0.78 | 8.917    1.68 |15.000    1.80 | 21.08    0.72
           2.917    0.78 | 9.000    1.68 |15.083    1.80 | 21.17    0.72
           3.000    0.78 | 9.083    1.68 |15.167    1.80 | 21.25    0.72
           3.083    0.78 | 9.167    1.68 |15.250    1.80 | 21.33    0.72
           3.167    0.78 | 9.250    1.68 |15.333    1.80 | 21.42    0.72
           3.250    0.78 | 9.333    1.92 |15.417    1.80 | 21.50    0.72
           3.333    0.78 | 9.417    1.92 |15.500    1.80 | 21.58    0.72
           3.417    0.78 | 9.500    1.92 |15.583    1.80 | 21.67    0.72
           3.500    0.78 | 9.583    1.92 |15.667    1.80 | 21.75    0.72
           3.583    0.78 | 9.667    1.92 |15.750    1.80 | 21.83    0.72
           3.667    0.78 | 9.750    1.92 |15.833    1.80 | 21.92    0.72
           3.750    0.78 | 9.833    2.16 |15.917    1.80 | 22.00    0.72
           3.833    0.78 | 9.917    2.16 |16.000    1.80 | 22.08    0.72
           3.917    0.78 |10.000    2.16 |16.083    1.80 | 22.17    0.72
           4.000    0.78 |10.083    2.16 |16.167    1.80 | 22.25    0.72
           4.083    0.78 |10.167    2.16 |16.250    1.80 | 22.33    0.72
           4.167    0.78 |10.250    2.16 |16.333    1.08 | 22.42    0.72
           4.250    0.78 |10.333    2.77 |16.417    1.08 | 22.50    0.72
           4.333    0.96 |10.417    2.77 |16.500    1.08 | 22.58    0.72
           4.417    0.96 |10.500    2.77 |16.583    1.08 | 22.67    0.72
           4.500    0.96 |10.583    2.77 |16.667    1.08 | 22.75    0.72
           4.583    0.96 |10.667    2.77 |16.750    1.08 | 22.83    0.72
           4.667    0.96 |10.750    2.77 |16.833    1.08 | 22.92    0.72
           4.750    0.96 |10.833    3.73 |16.917    1.08 | 23.00    0.72
           4.833    0.96 |10.917    3.73 |17.000    1.08 | 23.08    0.72
           4.917    0.96 |11.000    3.73 |17.083    1.08 | 23.17    0.72
           5.000    0.96 |11.083    3.73 |17.167    1.08 | 23.25    0.72
           5.083    0.96 |11.167    3.73 |17.250    1.08 | 23.33    0.72
           5.167    0.96 |11.250    3.73 |17.333    1.08 | 23.42    0.72
           5.250    0.96 |11.333    5.77 |17.417    1.08 | 23.50    0.72
           5.333    0.96 |11.417    5.77 |17.500    1.08 | 23.58    0.72
           5.417    0.96 |11.500    5.77 |17.583    1.08 | 23.67    0.72
           5.500    0.96 |11.583    5.77 |17.667    1.08 | 23.75    0.72
           5.583    0.96 |11.667    5.77 |17.750    1.08 | 23.83    0.72
           5.667    0.96 |11.750    5.77 |17.833    1.08 | 23.92    0.72
           5.750    0.96 |11.833   17.80 |17.917    1.08 | 24.00    0.72
           5.833    0.96 |11.917   17.80 |18.000    1.08 | 24.08    0.72
           5.917    0.96 |12.000   17.80 |18.083    1.08 | 24.17    0.72
           6.000    0.96 |12.083   73.59 |18.167    1.08 | 24.25    0.72
           6.083    0.96 |12.167   73.60 |18.250    1.08 |

  Max.Eff.Inten.(mm/hr)=      73.60       100.04
             over (min)        5.00        10.00
  Storage Coeff.  (min)=       2.36 (ii)    9.41 (ii)
```

```
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.08          0.101 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=      59.13        41.00          43.71
     TOTAL RAINFALL   (mm)=      60.13        60.13          60.13
     RUNOFF COEFFICIENT   =       0.98         0.68           0.73

***** 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*  =  85.0    Ia = Dep. 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  (  0006)|
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0011):    14.50   0.349    12.83    21.80
      + ID2= 2 (  0016):     0.76   0.101    12.25    43.71
        ===============================================
        ID = 3 (  0006):    15.26   0.366    12.75    22.89

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0006)|
|  3 +  2 =  1     |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0006):    15.26   0.366    12.75    22.89
      + ID2= 2 (  0002):     9.66   1.210    12.25    43.65
        ===============================================
        ID = 1 (  0006):    24.92   1.439    12.25    30.94

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

--------------------
| ADD HYD  (  0006)|
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0006):    24.92   1.439    12.25    30.94
      + ID2= 2 (  0008):     1.28   0.158    12.25    39.93
        ===============================================
        ID = 3 (  0006):    26.20   1.597    12.25    31.37

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

--------------------
| RESERVOIR(  0004)|     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   |   0.1460      0.6510
                          0.0160     0.1150   |   0.3020      0.9550
                          0.0250     0.2380   |   0.4430      1.1990
                          0.0410     0.3690   |   0.6010      1.4550

                                 AREA     QPEAK      TPEAK        R.V.
                                 (ha)     (cms)      (hrs)        (mm)
   INFLOW : ID= 2 (  0006)      26.200      1.597      12.25       31.37
   OUTFLOW: ID= 1 (  0004)      26.200      0.101      15.50       31.31

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  6.34
                   TIME SHIFT OF PEAK FLOW          (min)=195.00
                   MAXIMUM  STORAGE   USED        (ha.m.)=  0.5309

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--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.43   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

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

```
                  ---- TRANSFORMED HYETOGRAPH ----
    TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
     hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
   0.083    0.00 | 6.167    0.96 |12.250   73.60 | 18.33    1.08
   0.167    0.00 | 6.250    0.96 |12.333    8.67 | 18.42    1.08
   0.250    0.00 | 6.333    1.08 |12.417    8.66 | 18.50    1.08
   0.333    0.66 | 6.417    1.08 |12.500    8.66 | 18.58    1.08
   0.417    0.66 | 6.500    1.08 |12.583    8.66 | 18.67    1.08
   0.500    0.66 | 6.583    1.08 |12.667    8.66 | 18.75    1.08
   0.583    0.66 | 6.667    1.08 |12.750    8.66 | 18.83    1.08
   0.667    0.66 | 6.750    1.08 |12.833    4.45 | 18.92    1.08
   0.750    0.66 | 6.833    1.08 |12.917    4.45 | 19.00    1.08
   0.833    0.66 | 6.917    1.08 |13.000    4.45 | 19.08    1.08
   0.917    0.66 | 7.000    1.08 |13.083    4.45 | 19.17    1.08
   1.000    0.66 | 7.083    1.08 |13.167    4.45 | 19.25    1.08
   1.083    0.66 | 7.167    1.08 |13.250    4.45 | 19.33    1.08
   1.167    0.66 | 7.250    1.08 |13.333    3.25 | 19.42    1.08
   1.250    0.66 | 7.333    1.32 |13.417    3.25 | 19.50    1.08
   1.333    0.66 | 7.417    1.32 |13.500    3.25 | 19.58    1.08
   1.417    0.66 | 7.500    1.32 |13.583    3.25 | 19.67    1.08
   1.500    0.66 | 7.583    1.32 |13.667    3.25 | 19.75    1.08
   1.583    0.66 | 7.667    1.32 |13.750    3.25 | 19.83    1.08
   1.667    0.66 | 7.750    1.32 |13.833    2.53 | 19.92    1.08
   1.750    0.66 | 7.833    1.32 |13.917    2.53 | 20.00    1.08
   1.833    0.66 | 7.917    1.32 |14.000    2.53 | 20.08    1.08
   1.917    0.66 | 8.000    1.32 |14.083    2.53 | 20.17    1.08
   2.000    0.66 | 8.083    1.32 |14.167    2.53 | 20.25    1.08
   2.083    0.66 | 8.167    1.32 |14.250    2.53 | 20.33    0.72
   2.167    0.66 | 8.250    1.32 |14.333    1.80 | 20.42    0.72
   2.250    0.66 | 8.333    1.56 |14.417    1.80 | 20.50    0.72
   2.333    0.78 | 8.417    1.56 |14.500    1.80 | 20.58    0.72
   2.417    0.78 | 8.500    1.56 |14.583    1.80 | 20.67    0.72
   2.500    0.78 | 8.583    1.56 |14.667    1.80 | 20.75    0.72
   2.583    0.78 | 8.667    1.56 |14.750    1.80 | 20.83    0.72
   2.667    0.78 | 8.750    1.56 |14.833    1.80 | 20.92    0.72
   2.750    0.78 | 8.833    1.68 |14.917    1.80 | 21.00    0.72
   2.833    0.78 | 8.917    1.68 |15.000    1.80 | 21.08    0.72
   2.917    0.78 | 9.000    1.68 |15.083    1.80 | 21.17    0.72
   3.000    0.78 | 9.083    1.68 |15.167    1.80 | 21.25    0.72
   3.083    0.78 | 9.167    1.68 |15.250    1.80 | 21.33    0.72
   3.167    0.78 | 9.250    1.68 |15.333    1.80 | 21.42    0.72
   3.250    0.78 | 9.333    1.92 |15.417    1.80 | 21.50    0.72
   3.333    0.78 | 9.417    1.92 |15.500    1.80 | 21.58    0.72
   3.417    0.78 | 9.500    1.92 |15.583    1.80 | 21.67    0.72
   3.500    0.78 | 9.583    1.92 |15.667    1.80 | 21.75    0.72
   3.583    0.78 | 9.667    1.92 |15.750    1.80 | 21.83    0.72
   3.667    0.78 | 9.750    1.92 |15.833    1.80 | 21.92    0.72
   3.750    0.78 | 9.833    2.16 |15.917    1.80 | 22.00    0.72
   3.833    0.78 | 9.917    2.16 |16.000    1.80 | 22.08    0.72
   3.917    0.78 |10.000    2.16 |16.083    1.80 | 22.17    0.72
   4.000    0.78 |10.083    2.16 |16.167    1.80 | 22.25    0.72
   4.083    0.78 |10.167    2.16 |16.250    1.80 | 22.33    0.72
   4.167    0.78 |10.250    2.16 |16.333    1.08 | 22.42    0.72
   4.250    0.78 |10.333    2.77 |16.417    1.08 | 22.50    0.72
   4.333    0.96 |10.417    2.77 |16.500    1.08 | 22.58    0.72
   4.417    0.96 |10.500    2.77 |16.583    1.08 | 22.67    0.72
   4.500    0.96 |10.583    2.77 |16.667    1.08 | 22.75    0.72
   4.583    0.96 |10.667    2.77 |16.750    1.08 | 22.83    0.72
   4.667    0.96 |10.750    2.77 |16.833    1.08 | 22.92    0.72
   4.750    0.96 |10.833    3.73 |16.917    1.08 | 23.00    0.72
   4.833    0.96 |10.917    3.73 |17.000    1.08 | 23.08    0.72
   4.917    0.96 |11.000    3.73 |17.083    1.08 | 23.17    0.72
   5.000    0.96 |11.083    3.73 |17.167    1.08 | 23.25    0.72
   5.083    0.96 |11.167    3.73 |17.250    1.08 | 23.33    0.72
   5.167    0.96 |11.250    3.73 |17.333    1.08 | 23.42    0.72
   5.250    0.96 |11.333    5.77 |17.417    1.08 | 23.50    0.72
   5.333    0.96 |11.417    5.77 |17.500    1.08 | 23.58    0.72
   5.417    0.96 |11.500    5.77 |17.583    1.08 | 23.67    0.72
   5.500    0.96 |11.583    5.77 |17.667    1.08 | 23.75    0.72
   5.583    0.96 |11.667    5.77 |17.750    1.08 | 23.83    0.72
   5.667    0.96 |11.750    5.77 |17.833    1.08 | 23.92    0.72
   5.750    0.96 |11.833   17.80 |17.917    1.08 | 24.00    0.72
   5.833    0.96 |11.917   17.80 |18.000    1.08 | 24.08    0.72
   5.917    0.96 |12.000   17.80 |18.083    1.08 | 24.17    0.72
   6.000    0.96 |12.083   73.59 |18.167    1.08 | 24.25    0.72
   6.083    0.96 |12.167   73.60 |18.250    1.08 |

Unit Hyd Qpeak  (cms)=   0.126

PEAK FLOW       (cms)=   0.031 (i)
TIME TO PEAK    (hrs)=  12.250
RUNOFF VOLUME    (mm)=  21.525
TOTAL RAINFALL   (mm)=  60.130
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     RUNOFF COEFFICIENT   =   0.358

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

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--------------------
| ADD HYD  (  0019)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0017):     0.43   0.031    12.25    21.53
      + ID2= 2 (  0004):    26.20   0.101    15.50    31.31
        ===================================================
        ID = 3 (  0019):    26.63   0.103    15.50    31.15

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0024)|   Area    (ha)=   0.61
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        0.31         0.31
     Dep. Storage     (mm)=        1.00         1.50
     Average Slope     (%)=        1.00         2.00
     Length            (m)=       63.77        40.00
     Mannings n          =        0.013        0.250

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


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 6.167    0.96 |12.250   73.60 | 18.33    1.08
               0.167    0.00 | 6.250    0.96 |12.333    8.67 | 18.42    1.08
               0.250    0.00 | 6.333    1.08 |12.417    8.66 | 18.50    1.08
               0.333    0.66 | 6.417    1.08 |12.500    8.66 | 18.58    1.08
               0.417    0.66 | 6.500    1.08 |12.583    8.66 | 18.67    1.08
               0.500    0.66 | 6.583    1.08 |12.667    8.66 | 18.75    1.08
               0.583    0.66 | 6.667    1.08 |12.750    8.66 | 18.83    1.08
               0.667    0.66 | 6.750    1.08 |12.833    4.45 | 18.92    1.08
               0.750    0.66 | 6.833    1.08 |12.917    4.45 | 19.00    1.08
               0.833    0.66 | 6.917    1.08 |13.000    4.45 | 19.08    1.08
               0.917    0.66 | 7.000    1.08 |13.083    4.45 | 19.17    1.08
               1.000    0.66 | 7.083    1.08 |13.167    4.45 | 19.25    1.08
               1.083    0.66 | 7.167    1.08 |13.250    4.45 | 19.33    1.08
               1.167    0.66 | 7.250    1.08 |13.333    3.25 | 19.42    1.08
               1.250    0.66 | 7.333    1.32 |13.417    3.25 | 19.50    1.08
               1.333    0.66 | 7.417    1.32 |13.500    3.25 | 19.58    1.08
               1.417    0.66 | 7.500    1.32 |13.583    3.25 | 19.67    1.08
               1.500    0.66 | 7.583    1.32 |13.667    3.25 | 19.75    1.08
               1.583    0.66 | 7.667    1.32 |13.750    3.25 | 19.83    1.08
               1.667    0.66 | 7.750    1.32 |13.833    2.53 | 19.92    1.08
               1.750    0.66 | 7.833    1.32 |13.917    2.53 | 20.00    1.08
               1.833    0.66 | 7.917    1.32 |14.000    2.53 | 20.08    1.08
               1.917    0.66 | 8.000    1.32 |14.083    2.53 | 20.17    1.08
               2.000    0.66 | 8.083    1.32 |14.167    2.53 | 20.25    1.08
               2.083    0.66 | 8.167    1.32 |14.250    2.53 | 20.33    0.72
               2.167    0.66 | 8.250    1.32 |14.333    1.80 | 20.42    0.72
               2.250    0.66 | 8.333    1.56 |14.417    1.80 | 20.50    0.72
               2.333    0.78 | 8.417    1.56 |14.500    1.80 | 20.58    0.72
               2.417    0.78 | 8.500    1.56 |14.583    1.80 | 20.67    0.72
               2.500    0.78 | 8.583    1.56 |14.667    1.80 | 20.75    0.72
               2.583    0.78 | 8.667    1.56 |14.750    1.80 | 20.83    0.72
               2.667    0.78 | 8.750    1.56 |14.833    1.80 | 20.92    0.72
               2.750    0.78 | 8.833    1.68 |14.917    1.80 | 21.00    0.72
               2.833    0.78 | 8.917    1.68 |15.000    1.80 | 21.08    0.72
               2.917    0.78 | 9.000    1.68 |15.083    1.80 | 21.17    0.72
               3.000    0.78 | 9.083    1.68 |15.167    1.80 | 21.25    0.72
               3.083    0.78 | 9.167    1.68 |15.250    1.80 | 21.33    0.72
               3.167    0.78 | 9.250    1.68 |15.333    1.80 | 21.42    0.72
               3.250    0.78 | 9.333    1.92 |15.417    1.80 | 21.50    0.72
               3.333    0.78 | 9.417    1.92 |15.500    1.80 | 21.58    0.72
               3.417    0.78 | 9.500    1.92 |15.583    1.80 | 21.67    0.72
               3.500    0.78 | 9.583    1.92 |15.667    1.80 | 21.75    0.72
               3.583    0.78 | 9.667    1.92 |15.750    1.80 | 21.83    0.72
               3.667    0.78 | 9.750    1.92 |15.833    1.80 | 21.92    0.72
               3.750    0.78 | 9.833    2.16 |15.917    1.80 | 22.00    0.72
               3.833    0.78 | 9.917    2.16 |16.000    1.80 | 22.08    0.72
               3.917    0.78 |10.000    2.16 |16.083    1.80 | 22.17    0.72
               4.000    0.78 |10.083    2.16 |16.167    1.80 | 22.25    0.72
               4.083    0.78 |10.167    2.16 |16.250    1.80 | 22.33    0.72
               4.167    0.78 |10.250    2.16 |16.333    1.08 | 22.42    0.72
               4.250    0.78 |10.333    2.77 |16.417    1.08 | 22.50    0.72
               4.333    0.96 |10.417    2.77 |16.500    1.08 | 22.58    0.72
               4.417    0.96 |10.500    2.77 |16.583    1.08 | 22.67    0.72
               4.500    0.96 |10.583    2.77 |16.667    1.08 | 22.75    0.72
               4.583    0.96 |10.667    2.77 |16.750    1.08 | 22.83    0.72
               4.667    0.96 |10.750    2.77 |16.833    1.08 | 22.92    0.72
               4.750    0.96 |10.833    3.73 |16.917    1.08 | 23.00    0.72
               4.833    0.96 |10.917    3.73 |17.000    1.08 | 23.08    0.72
               4.917    0.96 |11.000    3.73 |17.083    1.08 | 23.17    0.72
               5.000    0.96 |11.083    3.73 |17.167    1.08 | 23.25    0.72
               5.083    0.96 |11.167    3.73 |17.250    1.08 | 23.33    0.72
               5.167    0.96 |11.250    3.73 |17.333    1.08 | 23.42    0.72
               5.250    0.96 |11.333    5.77 |17.417    1.08 | 23.50    0.72
               5.333    0.96 |11.417    5.77 |17.500    1.08 | 23.58    0.72
               5.417    0.96 |11.500    5.77 |17.583    1.08 | 23.67    0.72
               5.500    0.96 |11.583    5.77 |17.667    1.08 | 23.75    0.72
               5.583    0.96 |11.667    5.77 |17.750    1.08 | 23.83    0.72
               5.667    0.96 |11.750    5.77 |17.833    1.08 | 23.92    0.72
               5.750    0.96 |11.833   17.80 |17.917    1.08 | 24.00    0.72
               5.833    0.96 |11.917   17.80 |18.000    1.08 | 24.08    0.72
               5.917    0.96 |12.000   17.80 |18.083    1.08 | 24.17    0.72
               6.000    0.96 |12.083   73.59 |18.167    1.08 | 24.25    0.72
               6.083    0.96 |12.167   73.60 |18.250    1.08 |

     Max.Eff.Inten.(mm/hr)=      73.60       100.04
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.20 (ii)    9.26 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.12
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.06         0.082 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25        12.25
     RUNOFF VOLUME    (mm)=      59.13        41.00        43.71
     TOTAL RAINFALL   (mm)=      60.13        60.13        60.13
     RUNOFF COEFFICIENT   =       0.98         0.68         0.73

***** 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*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| STANDHYD (  0025)|   Area    (ha)=   0.83
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
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                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.42         0.42
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      74.39        40.00
     Mannings n           =      0.013        0.250

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


                              ---- TRANSFORMED HYETOGRAPH ----
                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 6.167    0.96 |12.250   73.60 | 18.33    1.08
               0.167    0.00 | 6.250    0.96 |12.333    8.67 | 18.42    1.08
               0.250    0.00 | 6.333    1.08 |12.417    8.66 | 18.50    1.08
               0.333    0.66 | 6.417    1.08 |12.500    8.66 | 18.58    1.08
               0.417    0.66 | 6.500    1.08 |12.583    8.66 | 18.67    1.08
               0.500    0.66 | 6.583    1.08 |12.667    8.66 | 18.75    1.08
               0.583    0.66 | 6.667    1.08 |12.750    8.66 | 18.83    1.08
               0.667    0.66 | 6.750    1.08 |12.833    4.45 | 18.92    1.08
               0.750    0.66 | 6.833    1.08 |12.917    4.45 | 19.00    1.08
               0.833    0.66 | 6.917    1.08 |13.000    4.45 | 19.08    1.08
               0.917    0.66 | 7.000    1.08 |13.083    4.45 | 19.17    1.08
               1.000    0.66 | 7.083    1.08 |13.167    4.45 | 19.25    1.08
               1.083    0.66 | 7.167    1.08 |13.250    4.45 | 19.33    1.08
               1.167    0.66 | 7.250    1.08 |13.333    3.25 | 19.42    1.08
               1.250    0.66 | 7.333    1.32 |13.417    3.25 | 19.50    1.08
               1.333    0.66 | 7.417    1.32 |13.500    3.25 | 19.58    1.08
               1.417    0.66 | 7.500    1.32 |13.583    3.25 | 19.67    1.08
               1.500    0.66 | 7.583    1.32 |13.667    3.25 | 19.75    1.08
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               1.583    0.66 | 7.667    1.32 |13.750    3.25 | 19.83    1.08
               1.667    0.66 | 7.750    1.32 |13.833    2.53 | 19.92    1.08
               1.750    0.66 | 7.833    1.32 |13.917    2.53 | 20.00    1.08
               1.833    0.66 | 7.917    1.32 |14.000    2.53 | 20.08    1.08
               1.917    0.66 | 8.000    1.32 |14.083    2.53 | 20.17    1.08
               2.000    0.66 | 8.083    1.32 |14.167    2.53 | 20.25    1.08
               2.083    0.66 | 8.167    1.32 |14.250    2.53 | 20.33    0.72
               2.167    0.66 | 8.250    1.32 |14.333    1.80 | 20.42    0.72
               2.250    0.66 | 8.333    1.56 |14.417    1.80 | 20.50    0.72
               2.333    0.78 | 8.417    1.56 |14.500    1.80 | 20.58    0.72
               2.417    0.78 | 8.500    1.56 |14.583    1.80 | 20.67    0.72
               2.500    0.78 | 8.583    1.56 |14.667    1.80 | 20.75    0.72
               2.583    0.78 | 8.667    1.56 |14.750    1.80 | 20.83    0.72
               2.667    0.78 | 8.750    1.56 |14.833    1.80 | 20.92    0.72
               2.750    0.78 | 8.833    1.68 |14.917    1.80 | 21.00    0.72
               2.833    0.78 | 8.917    1.68 |15.000    1.80 | 21.08    0.72
               2.917    0.78 | 9.000    1.68 |15.083    1.80 | 21.17    0.72
               3.000    0.78 | 9.083    1.68 |15.167    1.80 | 21.25    0.72
               3.083    0.78 | 9.167    1.68 |15.250    1.80 | 21.33    0.72
               3.167    0.78 | 9.250    1.68 |15.333    1.80 | 21.42    0.72
               3.250    0.78 | 9.333    1.92 |15.417    1.80 | 21.50    0.72
               3.333    0.78 | 9.417    1.92 |15.500    1.80 | 21.58    0.72
               3.417    0.78 | 9.500    1.92 |15.583    1.80 | 21.67    0.72
               3.500    0.78 | 9.583    1.92 |15.667    1.80 | 21.75    0.72
               3.583    0.78 | 9.667    1.92 |15.750    1.80 | 21.83    0.72
               3.667    0.78 | 9.750    1.92 |15.833    1.80 | 21.92    0.72
               3.750    0.78 | 9.833    2.16 |15.917    1.80 | 22.00    0.72
               3.833    0.78 | 9.917    2.16 |16.000    1.80 | 22.08    0.72
               3.917    0.78 |10.000    2.16 |16.083    1.80 | 22.17    0.72
               4.000    0.78 |10.083    2.16 |16.167    1.80 | 22.25    0.72
               4.083    0.78 |10.167    2.16 |16.250    1.80 | 22.33    0.72
               4.167    0.78 |10.250    2.16 |16.333    1.08 | 22.42    0.72
               4.250    0.78 |10.333    2.77 |16.417    1.08 | 22.50    0.72
               4.333    0.96 |10.417    2.77 |16.500    1.08 | 22.58    0.72
               4.417    0.96 |10.500    2.77 |16.583    1.08 | 22.67    0.72
               4.500    0.96 |10.583    2.77 |16.667    1.08 | 22.75    0.72
               4.583    0.96 |10.667    2.77 |16.750    1.08 | 22.83    0.72
               4.667    0.96 |10.750    2.77 |16.833    1.08 | 22.92    0.72
               4.750    0.96 |10.833    3.73 |16.917    1.08 | 23.00    0.72
               4.833    0.96 |10.917    3.73 |17.000    1.08 | 23.08    0.72
               4.917    0.96 |11.000    3.73 |17.083    1.08 | 23.17    0.72
               5.000    0.96 |11.083    3.73 |17.167    1.08 | 23.25    0.72
               5.083    0.96 |11.167    3.73 |17.250    1.08 | 23.33    0.72
               5.167    0.96 |11.250    3.73 |17.333    1.08 | 23.42    0.72
               5.250    0.96 |11.333    5.77 |17.417    1.08 | 23.50    0.72
               5.333    0.96 |11.417    5.77 |17.500    1.08 | 23.58    0.72
               5.417    0.96 |11.500    5.77 |17.583    1.08 | 23.67    0.72
               5.500    0.96 |11.583    5.77 |17.667    1.08 | 23.75    0.72
               5.583    0.96 |11.667    5.77 |17.750    1.08 | 23.83    0.72
               5.667    0.96 |11.750    5.77 |17.833    1.08 | 23.92    0.72
               5.750    0.96 |11.833   17.80 |17.917    1.08 | 24.00    0.72
               5.833    0.96 |11.917   17.80 |18.000    1.08 | 24.08    0.72
               5.917    0.96 |12.000   17.80 |18.083    1.08 | 24.17    0.72
               6.000    0.96 |12.083   73.59 |18.167    1.08 | 24.25    0.72
               6.083    0.96 |12.167   73.60 |18.250    1.08 |

     Max.Eff.Inten.(mm/hr)=      73.60       100.04
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.42 (ii)    9.47 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.30         0.12
                                                        *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.08         0.110 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25        12.25
     RUNOFF VOLUME    (mm)=      59.13        41.00        43.71
     TOTAL RAINFALL   (mm)=      60.13        60.13        60.13
     RUNOFF COEFFICIENT   =       0.98         0.68         0.73

***** 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*  =  85.0    Ia = Dep. 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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**********************************************
** SIMULATION:H. 5yr 24hr 15min SCS Type II **
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|    READ STORM    |    Filename: C:\Users\jkerschbaumer\AppD
|                  |              ata\Local\Temp\
|                  |              0e53ce72-2c36-4efc-8a1e-c647e636da9d\e01076bb
| Ptotal= 79.65 mm |    Comments: 5yr 24hr 15min SCS Type II
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                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.00    0.00 |  6.25    1.43 | 12.50   11.47 | 18.75    1.43
                0.25    0.88 |  6.50    1.43 | 12.75    5.89 | 19.00    1.43
                0.50    0.88 |  6.75    1.43 | 13.00    5.89 | 19.25    1.43
                0.75    0.88 |  7.00    1.43 | 13.25    4.30 | 19.50    1.43
                1.00    0.88 |  7.25    1.75 | 13.50    4.30 | 19.75    1.43
                1.25    0.88 |  7.50    1.75 | 13.75    3.35 | 20.00    1.43
                1.50    0.88 |  7.75    1.75 | 14.00    3.35 | 20.25    0.96
                1.75    0.88 |  8.00    1.75 | 14.25    2.39 | 20.50    0.96
                2.00    0.88 |  8.25    2.07 | 14.50    2.39 | 20.75    0.96
                2.25    1.04 |  8.50    2.07 | 14.75    2.39 | 21.00    0.96
                2.50    1.04 |  8.75    2.23 | 15.00    2.39 | 21.25    0.96
                2.75    1.04 |  9.00    2.23 | 15.25    2.39 | 21.50    0.96
                3.00    1.04 |  9.25    2.55 | 15.50    2.39 | 21.75    0.96
                3.25    1.04 |  9.50    2.55 | 15.75    2.39 | 22.00    0.96
                3.50    1.04 |  9.75    2.87 | 16.00    2.39 | 22.25    0.96
                3.75    1.04 | 10.00    2.87 | 16.25    1.43 | 22.50    0.96
                4.00    1.04 | 10.25    3.66 | 16.50    1.43 | 22.75    0.96
                4.25    1.27 | 10.50    3.66 | 16.75    1.43 | 23.00    0.96
                4.50    1.27 | 10.75    4.94 | 17.00    1.43 | 23.25    0.96
                4.75    1.27 | 11.00    4.94 | 17.25    1.43 | 23.50    0.96
                5.00    1.27 | 11.25    7.65 | 17.50    1.43 | 23.75    0.96
                5.25    1.27 | 11.50    7.65 | 17.75    1.43 | 24.00    0.96
                5.50    1.27 | 11.75   23.58 | 18.00    1.43 |
                5.75    1.27 | 12.00   97.49 | 18.25    1.43 |
                6.00    1.27 | 12.25   11.47 | 18.50    1.43 |

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| CALIB            |
| STANDHYD (  0001)|   Area    (ha)=   9.81
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  48.00
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                            IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       5.69          4.12
    Dep. Storage     (mm)=       1.00          5.00
    Average Slope     (%)=       0.50          2.00
    Length            (m)=     255.73         30.00
    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    1.27 |12.250   97.49 | 18.33    1.43
               0.167    0.00 | 6.250    1.27 |12.333   11.48 | 18.42    1.43
               0.250    0.00 | 6.333    1.43 |12.417   11.47 | 18.50    1.43
               0.333    0.88 | 6.417    1.43 |12.500   11.47 | 18.58    1.43
               0.417    0.88 | 6.500    1.43 |12.583   11.47 | 18.67    1.43
               0.500    0.88 | 6.583    1.43 |12.667   11.47 | 18.75    1.43
               0.583    0.88 | 6.667    1.43 |12.750   11.47 | 18.83    1.43
               0.667    0.88 | 6.750    1.43 |12.833    5.89 | 18.92    1.43
               0.750    0.88 | 6.833    1.43 |12.917    5.89 | 19.00    1.43
               0.833    0.88 | 6.917    1.43 |13.000    5.89 | 19.08    1.43
               0.917    0.88 | 7.000    1.43 |13.083    5.89 | 19.17    1.43
               1.000    0.88 | 7.083    1.43 |13.167    5.89 | 19.25    1.43
               1.083    0.88 | 7.167    1.43 |13.250    5.89 | 19.33    1.43
               1.167    0.88 | 7.250    1.43 |13.333    4.30 | 19.42    1.43
               1.250    0.88 | 7.333    1.75 |13.417    4.30 | 19.50    1.43
               1.333    0.88 | 7.417    1.75 |13.500    4.30 | 19.58    1.43
               1.417    0.88 | 7.500    1.75 |13.583    4.30 | 19.67    1.43
               1.500    0.88 | 7.583    1.75 |13.667    4.30 | 19.75    1.43
               1.583    0.88 | 7.667    1.75 |13.750    4.30 | 19.83    1.43
               1.667    0.88 | 7.750    1.75 |13.833    3.35 | 19.92    1.43
               1.750    0.88 | 7.833    1.75 |13.917    3.35 | 20.00    1.43
               1.833    0.88 | 7.917    1.75 |14.000    3.35 | 20.08    1.43
               1.917    0.88 | 8.000    1.75 |14.083    3.35 | 20.17    1.43
               2.000    0.88 | 8.083    1.75 |14.167    3.35 | 20.25    1.43
               2.083    0.88 | 8.167    1.75 |14.250    3.35 | 20.33    0.96
               2.167    0.88 | 8.250    1.75 |14.333    2.39 | 20.42    0.96
               2.250    0.88 | 8.333    2.07 |14.417    2.39 | 20.50    0.96
               2.333    1.04 | 8.417    2.07 |14.500    2.39 | 20.58    0.96
               2.417    1.04 | 8.500    2.07 |14.583    2.39 | 20.67    0.96
               2.500    1.04 | 8.583    2.07 |14.667    2.39 | 20.75    0.96
               2.583    1.04 | 8.667    2.07 |14.750    2.39 | 20.83    0.96
```

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               2.667    1.04 | 8.750    2.07 |14.833    2.39 | 20.92    0.96
               2.750    1.04 | 8.833    2.23 |14.917    2.39 | 21.00    0.96
               2.833    1.04 | 8.917    2.23 |15.000    2.39 | 21.08    0.96
               2.917    1.04 | 9.000    2.23 |15.083    2.39 | 21.17    0.96
               3.000    1.04 | 9.083    2.23 |15.167    2.39 | 21.25    0.96
               3.083    1.04 | 9.167    2.23 |15.250    2.39 | 21.33    0.96
               3.167    1.04 | 9.250    2.23 |15.333    2.39 | 21.42    0.96
               3.250    1.04 | 9.333    2.55 |15.417    2.39 | 21.50    0.96
               3.333    1.04 | 9.417    2.55 |15.500    2.39 | 21.58    0.96
               3.417    1.04 | 9.500    2.55 |15.583    2.39 | 21.67    0.96
               3.500    1.04 | 9.583    2.55 |15.667    2.39 | 21.75    0.96
               3.583    1.04 | 9.667    2.55 |15.750    2.39 | 21.83    0.96
               3.667    1.04 | 9.750    2.55 |15.833    2.39 | 21.92    0.96
               3.750    1.04 | 9.833    2.87 |15.917    2.39 | 22.00    0.96
               3.833    1.04 | 9.917    2.87 |16.000    2.39 | 22.08    0.96
               3.917    1.04 |10.000    2.87 |16.083    2.39 | 22.17    0.96
               4.000    1.04 |10.083    2.87 |16.167    2.39 | 22.25    0.96
               4.083    1.04 |10.167    2.87 |16.250    2.39 | 22.33    0.96
               4.167    1.04 |10.250    2.87 |16.333    1.43 | 22.42    0.96
               4.250    1.04 |10.333    3.66 |16.417    1.43 | 22.50    0.96
               4.333    1.27 |10.417    3.66 |16.500    1.43 | 22.58    0.96
               4.417    1.27 |10.500    3.66 |16.583    1.43 | 22.67    0.96
               4.500    1.27 |10.583    3.66 |16.667    1.43 | 22.75    0.96
               4.583    1.27 |10.667    3.66 |16.750    1.43 | 22.83    0.96
               4.667    1.27 |10.750    3.66 |16.833    1.43 | 22.92    0.96
               4.750    1.27 |10.833    4.94 |16.917    1.43 | 23.00    0.96
               4.833    1.27 |10.917    4.94 |17.000    1.43 | 23.08    0.96
               4.917    1.27 |11.000    4.94 |17.083    1.43 | 23.17    0.96
               5.000    1.27 |11.083    4.94 |17.167    1.43 | 23.25    0.96
               5.083    1.27 |11.167    4.94 |17.250    1.43 | 23.33    0.96
               5.167    1.27 |11.250    4.94 |17.333    1.43 | 23.42    0.96
               5.250    1.27 |11.333    7.65 |17.417    1.43 | 23.50    0.96
               5.333    1.27 |11.417    7.65 |17.500    1.43 | 23.58    0.96
               5.417    1.27 |11.500    7.65 |17.583    1.43 | 23.67    0.96
               5.500    1.27 |11.583    7.65 |17.667    1.43 | 23.75    0.96
               5.583    1.27 |11.667    7.65 |17.750    1.43 | 23.83    0.96
               5.667    1.27 |11.750    7.65 |17.833    1.43 | 23.92    0.96
               5.750    1.27 |11.833   23.57 |17.917    1.43 | 24.00    0.96
               5.833    1.27 |11.917   23.58 |18.000    1.43 | 24.08    0.96
               5.917    1.27 |12.000   23.58 |18.083    1.43 | 24.17    0.96
               6.000    1.27 |12.083   97.48 |18.167    1.43 | 24.25    0.96
               6.083    1.27 |12.167   97.49 |18.250    1.43 |

    Max.Eff.Inten.(mm/hr)=      97.49        72.95
               over (min)        5.00        15.00
    Storage Coeff.  (min)=       5.58 (ii)   12.32 (ii)
    Unit Hyd. Tpeak (min)=       5.00        15.00
    Unit Hyd. peak  (cms)=       0.20         0.09
                                                         *TOTALS*
    PEAK FLOW       (cms)=       1.21         0.51         1.643 (iii)
    TIME TO PEAK    (hrs)=      12.25        12.33        12.25
    RUNOFF VOLUME    (mm)=      78.65        39.70        58.40
    TOTAL RAINFALL   (mm)=      79.65        79.65        79.65
    RUNOFF COEFFICIENT   =       0.99         0.50         0.73


      (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
          CN*  =  75.0    Ia = Dep. Storage  (Above)
     (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
          THAN THE STORAGE COEFFICIENT.
    (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0005)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       0.64          0.64
    Dep. Storage     (mm)=       2.00          5.00
    Average Slope     (%)=       0.50          2.00
    Length            (m)=      92.38         30.00
    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    1.27 |12.250   97.49 | 18.33    1.43
               0.167    0.00 | 6.250    1.27 |12.333   11.48 | 18.42    1.43
               0.250    0.00 | 6.333    1.43 |12.417   11.47 | 18.50    1.43
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              0.333    0.88 | 6.417    1.43 |12.500   11.47 | 18.58    1.43
              0.417    0.88 | 6.500    1.43 |12.583   11.47 | 18.67    1.43
              0.500    0.88 | 6.583    1.43 |12.667   11.47 | 18.75    1.43
              0.583    0.88 | 6.667    1.43 |12.750   11.47 | 18.83    1.43
              0.667    0.88 | 6.750    1.43 |12.833    5.89 | 18.92    1.43
              0.750    0.88 | 6.833    1.43 |12.917    5.89 | 19.00    1.43
              0.833    0.88 | 6.917    1.43 |13.000    5.89 | 19.08    1.43
              0.917    0.88 | 7.000    1.43 |13.083    5.89 | 19.17    1.43
              1.000    0.88 | 7.083    1.43 |13.167    5.89 | 19.25    1.43
              1.083    0.88 | 7.167    1.43 |13.250    5.89 | 19.33    1.43
              1.167    0.88 | 7.250    1.43 |13.333    4.30 | 19.42    1.43
              1.250    0.88 | 7.333    1.75 |13.417    4.30 | 19.50    1.43
              1.333    0.88 | 7.417    1.75 |13.500    4.30 | 19.58    1.43
              1.417    0.88 | 7.500    1.75 |13.583    4.30 | 19.67    1.43
              1.500    0.88 | 7.583    1.75 |13.667    4.30 | 19.75    1.43
              1.583    0.88 | 7.667    1.75 |13.750    4.30 | 19.83    1.43
              1.667    0.88 | 7.750    1.75 |13.833    3.35 | 19.92    1.43
              1.750    0.88 | 7.833    1.75 |13.917    3.35 | 20.00    1.43
              1.833    0.88 | 7.917    1.75 |14.000    3.35 | 20.08    1.43
              1.917    0.88 | 8.000    1.75 |14.083    3.35 | 20.17    1.43
              2.000    0.88 | 8.083    1.75 |14.167    3.35 | 20.25    1.43
              2.083    0.88 | 8.167    1.75 |14.250    3.35 | 20.33    0.96
              2.167    0.88 | 8.250    1.75 |14.333    2.39 | 20.42    0.96
              2.250    0.88 | 8.333    2.07 |14.417    2.39 | 20.50    0.96
              2.333    1.04 | 8.417    2.07 |14.500    2.39 | 20.58    0.96
              2.417    1.04 | 8.500    2.07 |14.583    2.39 | 20.67    0.96
              2.500    1.04 | 8.583    2.07 |14.667    2.39 | 20.75    0.96
              2.583    1.04 | 8.667    2.07 |14.750    2.39 | 20.83    0.96
              2.667    1.04 | 8.750    2.07 |14.833    2.39 | 20.92    0.96
              2.750    1.04 | 8.833    2.23 |14.917    2.39 | 21.00    0.96
              2.833    1.04 | 8.917    2.23 |15.000    2.39 | 21.08    0.96
              2.917    1.04 | 9.000    2.23 |15.083    2.39 | 21.17    0.96
              3.000    1.04 | 9.083    2.23 |15.167    2.39 | 21.25    0.96
              3.083    1.04 | 9.167    2.23 |15.250    2.39 | 21.33    0.96
              3.167    1.04 | 9.250    2.23 |15.333    2.39 | 21.42    0.96
              3.250    1.04 | 9.333    2.55 |15.417    2.39 | 21.50    0.96
              3.333    1.04 | 9.417    2.55 |15.500    2.39 | 21.58    0.96
              3.417    1.04 | 9.500    2.55 |15.583    2.39 | 21.67    0.96
              3.500    1.04 | 9.583    2.55 |15.667    2.39 | 21.75    0.96
              3.583    1.04 | 9.667    2.55 |15.750    2.39 | 21.83    0.96
              3.667    1.04 | 9.750    2.55 |15.833    2.39 | 21.92    0.96
              3.750    1.04 | 9.833    2.87 |15.917    2.39 | 22.00    0.96
              3.833    1.04 | 9.917    2.87 |16.000    2.39 | 22.08    0.96
              3.917    1.04 |10.000    2.87 |16.083    2.39 | 22.17    0.96
              4.000    1.04 |10.083    2.87 |16.167    2.39 | 22.25    0.96
              4.083    1.04 |10.167    2.87 |16.250    2.39 | 22.33    0.96
              4.167    1.04 |10.250    2.87 |16.333    1.43 | 22.42    0.96
              4.250    1.04 |10.333    3.66 |16.417    1.43 | 22.50    0.96
              4.333    1.27 |10.417    3.66 |16.500    1.43 | 22.58    0.96
              4.417    1.27 |10.500    3.66 |16.583    1.43 | 22.67    0.96
              4.500    1.27 |10.583    3.66 |16.667    1.43 | 22.75    0.96
              4.583    1.27 |10.667    3.66 |16.750    1.43 | 22.83    0.96
              4.667    1.27 |10.750    3.66 |16.833    1.43 | 22.92    0.96
              4.750    1.27 |10.833    4.94 |16.917    1.43 | 23.00    0.96
              4.833    1.27 |10.917    4.94 |17.000    1.43 | 23.08    0.96
              4.917    1.27 |11.000    4.94 |17.083    1.43 | 23.17    0.96
              5.000    1.27 |11.083    4.94 |17.167    1.43 | 23.25    0.96
              5.083    1.27 |11.167    4.94 |17.250    1.43 | 23.33    0.96
              5.167    1.27 |11.250    4.94 |17.333    1.43 | 23.42    0.96
              5.250    1.27 |11.333    7.65 |17.417    1.43 | 23.50    0.96
              5.333    1.27 |11.417    7.65 |17.500    1.43 | 23.58    0.96
              5.417    1.27 |11.500    7.65 |17.583    1.43 | 23.67    0.96
              5.500    1.27 |11.583    7.65 |17.667    1.43 | 23.75    0.96
              5.583    1.27 |11.667    7.65 |17.750    1.43 | 23.83    0.96
              5.667    1.27 |11.750    7.65 |17.833    1.43 | 23.92    0.96
              5.750    1.27 |11.833   23.57 |17.917    1.43 | 24.00    0.96
              5.833    1.27 |11.917   23.58 |18.000    1.43 | 24.08    0.96
              5.917    1.27 |12.000   23.58 |18.083    1.43 | 24.17    0.96
              6.000    1.27 |12.083   97.48 |18.167    1.43 | 24.25    0.96
              6.083    1.27 |12.167   97.49 |18.250    1.43 |

     Max.Eff.Inten.(mm/hr)=      97.49         52.10
               over (min)         5.00         15.00
     Storage Coeff.  (min)=       3.03 (ii)    10.74 (ii)
     Unit Hyd. Tpeak (min)=       5.00         15.00
     Unit Hyd. peak  (cms)=       0.27          0.09
                                                          *TOTALS*
     PEAK FLOW        (cms)=       0.17          0.06           0.223 (iii)
     TIME TO PEAK     (hrs)=      12.25         12.33          12.25
     RUNOFF VOLUME     (mm)=      77.65         34.98          56.31
     TOTAL RAINFALL    (mm)=      79.65         79.65          79.65
     RUNOFF COEFFICIENT   =        0.97          0.44           0.71

 ***** WARNING: STORAGE COEFF. IS SMALLER THAN TIME STEP!
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```
         (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
              CN*  =  75.0    Ia = Dep. 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  (  0007)|
 |  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
 --------------------         (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (  0001):     9.81   1.643    12.25    58.40
        + ID2= 2 (  0005):     1.28   0.223    12.25    56.31
          ===============================================
          ID = 3 (  0007):    11.09   1.865    12.25    58.16

      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
 -------------------------------------------------------------------------------
 --------------------
 | RESERVOIR(  0003)|     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    |   0.3480      0.4690
                          0.0270     0.0900    |   0.8590      0.6570
                          0.0470     0.1880    |   1.5140      0.8590
                          0.0600     0.2950    |   0.0000      0.0000

                                 AREA     QPEAK      TPEAK        R.V.
                                 (ha)     (cms)      (hrs)        (mm)
    INFLOW : ID= 2 (  0007)     11.090     1.865      12.25       58.16
    OUTFLOW: ID= 1 (  0003)     11.090     0.182      13.17       58.08

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.78
                   TIME SHIFT OF PEAK FLOW        (min)= 55.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.3691

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 --------------------
 | CALIB            |
 | STANDHYD (  0015)|   Area    (ha)=   0.41
 |ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
 --------------------
                              IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=       0.20         0.20
      Dep. Storage     (mm)=       1.00         1.50
      Average Slope     (%)=       1.00         2.00
      Length            (m)=      52.28        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     1.27 |12.250    97.49 | 18.33     1.43
                0.167     0.00 | 6.250     1.27 |12.333    11.48 | 18.42     1.43
                0.250     0.00 | 6.333     1.43 |12.417    11.47 | 18.50     1.43
                0.333     0.88 | 6.417     1.43 |12.500    11.47 | 18.58     1.43
                0.417     0.88 | 6.500     1.43 |12.583    11.47 | 18.67     1.43
                0.500     0.88 | 6.583     1.43 |12.667    11.47 | 18.75     1.43
                0.583     0.88 | 6.667     1.43 |12.750    11.47 | 18.83     1.43
                0.667     0.88 | 6.750     1.43 |12.833     5.89 | 18.92     1.43
                0.750     0.88 | 6.833     1.43 |12.917     5.89 | 19.00     1.43
                0.833     0.88 | 6.917     1.43 |13.000     5.89 | 19.08     1.43
                0.917     0.88 | 7.000     1.43 |13.083     5.89 | 19.17     1.43
                1.000     0.88 | 7.083     1.43 |13.167     5.89 | 19.25     1.43
                1.083     0.88 | 7.167     1.43 |13.250     5.89 | 19.33     1.43
                1.167     0.88 | 7.250     1.43 |13.333     4.30 | 19.42     1.43
                1.250     0.88 | 7.333     1.75 |13.417     4.30 | 19.50     1.43
                1.333     0.88 | 7.417     1.75 |13.500     4.30 | 19.58     1.43
                1.417     0.88 | 7.500     1.75 |13.583     4.30 | 19.67     1.43
                1.500     0.88 | 7.583     1.75 |13.667     4.30 | 19.75     1.43
                1.583     0.88 | 7.667     1.75 |13.750     4.30 | 19.83     1.43
                1.667     0.88 | 7.750     1.75 |13.833     3.35 | 19.92     1.43
                1.750     0.88 | 7.833     1.75 |13.917     3.35 | 20.00     1.43
                1.833     0.88 | 7.917     1.75 |14.000     3.35 | 20.08     1.43
                1.917     0.88 | 8.000     1.75 |14.083     3.35 | 20.17     1.43
                2.000     0.88 | 8.083     1.75 |14.167     3.35 | 20.25     1.43
                2.083     0.88 | 8.167     1.75 |14.250     3.35 | 20.33     0.96
                2.167     0.88 | 8.250     1.75 |14.333     2.39 | 20.42     0.96
                2.250    0.88 | 8.333    2.07 |14.417    2.39 | 20.50    0.96
                2.333    1.04 | 8.417    2.07 |14.500    2.39 | 20.58    0.96
                2.417    1.04 | 8.500    2.07 |14.583    2.39 | 20.67    0.96
                2.500    1.04 | 8.583    2.07 |14.667    2.39 | 20.75    0.96
                2.583    1.04 | 8.667    2.07 |14.750    2.39 | 20.83    0.96
                2.667    1.04 | 8.750    2.07 |14.833    2.39 | 20.92    0.96
                2.750    1.04 | 8.833    2.23 |14.917    2.39 | 21.00    0.96
                2.833    1.04 | 8.917    2.23 |15.000    2.39 | 21.08    0.96
                2.917    1.04 | 9.000    2.23 |15.083    2.39 | 21.17    0.96
                3.000    1.04 | 9.083    2.23 |15.167    2.39 | 21.25    0.96
                3.083    1.04 | 9.167    2.23 |15.250    2.39 | 21.33    0.96
                3.167    1.04 | 9.250    2.23 |15.333    2.39 | 21.42    0.96
                3.250    1.04 | 9.333    2.55 |15.417    2.39 | 21.50    0.96
                3.333    1.04 | 9.417    2.55 |15.500    2.39 | 21.58    0.96
                3.417    1.04 | 9.500    2.55 |15.583    2.39 | 21.67    0.96
                3.500    1.04 | 9.583    2.55 |15.667    2.39 | 21.75    0.96
                3.583    1.04 | 9.667    2.55 |15.750    2.39 | 21.83    0.96
                3.667    1.04 | 9.750    2.55 |15.833    2.39 | 21.92    0.96
                3.750    1.04 | 9.833    2.87 |15.917    2.39 | 22.00    0.96
                3.833    1.04 | 9.917    2.87 |16.000    2.39 | 22.08    0.96
                3.917    1.04 |10.000    2.87 |16.083    2.39 | 22.17    0.96
                4.000    1.04 |10.083    2.87 |16.167    2.39 | 22.25    0.96
                4.083    1.04 |10.167    2.87 |16.250    2.39 | 22.33    0.96
                4.167    1.04 |10.250    2.87 |16.333    1.43 | 22.42    0.96
                4.250    1.04 |10.333    3.66 |16.417    1.43 | 22.50    0.96
                4.333    1.27 |10.417    3.66 |16.500    1.43 | 22.58    0.96
                4.417    1.27 |10.500    3.66 |16.583    1.43 | 22.67    0.96
                4.500    1.27 |10.583    3.66 |16.667    1.43 | 22.75    0.96
                4.583    1.27 |10.667    3.66 |16.750    1.43 | 22.83    0.96
                4.667    1.27 |10.750    3.66 |16.833    1.43 | 22.92    0.96
                4.750    1.27 |10.833    4.94 |16.917    1.43 | 23.00    0.96
                4.833    1.27 |10.917    4.94 |17.000    1.43 | 23.08    0.96
                4.917    1.27 |11.000    4.94 |17.083    1.43 | 23.17    0.96
                5.000    1.27 |11.083    4.94 |17.167    1.43 | 23.25    0.96
                5.083    1.27 |11.167    4.94 |17.250    1.43 | 23.33    0.96
                5.167    1.27 |11.250    4.94 |17.333    1.43 | 23.42    0.96
                5.250    1.27 |11.333    7.65 |17.417    1.43 | 23.50    0.96
                5.333    1.27 |11.417    7.65 |17.500    1.43 | 23.58    0.96
                5.417    1.27 |11.500    7.65 |17.583    1.43 | 23.67    0.96
                5.500    1.27 |11.583    7.65 |17.667    1.43 | 23.75    0.96
                5.583    1.27 |11.667    7.65 |17.750    1.43 | 23.83    0.96
                5.667    1.27 |11.750    7.65 |17.833    1.43 | 23.92    0.96
                5.750    1.27 |11.833   23.57 |17.917    1.43 | 24.00    0.96
                5.833    1.27 |11.917   23.58 |18.000    1.43 | 24.08    0.96
                5.917    1.27 |12.000   23.58 |18.083    1.43 | 24.17    0.96
                6.000    1.27 |12.083   97.48 |18.167    1.43 | 24.25    0.96
                6.083    1.27 |12.167   97.49 |18.250    1.43 |

     Max.Eff.Inten.(mm/hr)=      97.49       142.02
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.75 (ii)    7.88 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.13
                                                              *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.06          0.081 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=      78.65        59.01          61.95
     TOTAL RAINFALL   (mm)=      79.65        79.65          79.65
     RUNOFF COEFFICIENT   =       0.99         0.74           0.78

***** 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*  =  85.0    Ia = Dep. 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   (  0011)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.64

         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    1.27 |12.250   97.49 | 18.33    1.43
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                0.167    0.00 | 6.250    1.27 |12.333   11.48 | 18.42    1.43
                0.250    0.00 | 6.333    1.43 |12.417   11.47 | 18.50    1.43
                0.333    0.88 | 6.417    1.43 |12.500   11.47 | 18.58    1.43
                0.417    0.88 | 6.500    1.43 |12.583   11.47 | 18.67    1.43
                0.500    0.88 | 6.583    1.43 |12.667   11.47 | 18.75    1.43
                0.583    0.88 | 6.667    1.43 |12.750   11.47 | 18.83    1.43
                0.667    0.88 | 6.750    1.43 |12.833    5.89 | 18.92    1.43
                0.750    0.88 | 6.833    1.43 |12.917    5.89 | 19.00    1.43
                0.833    0.88 | 6.917    1.43 |13.000    5.89 | 19.08    1.43
                0.917    0.88 | 7.000    1.43 |13.083    5.89 | 19.17    1.43
                1.000    0.88 | 7.083    1.43 |13.167    5.89 | 19.25    1.43
                1.083    0.88 | 7.167    1.43 |13.250    5.89 | 19.33    1.43
                1.167    0.88 | 7.250    1.43 |13.333    4.30 | 19.42    1.43
                1.250    0.88 | 7.333    1.75 |13.417    4.30 | 19.50    1.43
                1.333    0.88 | 7.417    1.75 |13.500    4.30 | 19.58    1.43
                1.417    0.88 | 7.500    1.75 |13.583    4.30 | 19.67    1.43
                1.500    0.88 | 7.583    1.75 |13.667    4.30 | 19.75    1.43
                1.583    0.88 | 7.667    1.75 |13.750    4.30 | 19.83    1.43
                1.667    0.88 | 7.750    1.75 |13.833    3.35 | 19.92    1.43
                1.750    0.88 | 7.833    1.75 |13.917    3.35 | 20.00    1.43
                1.833    0.88 | 7.917    1.75 |14.000    3.35 | 20.08    1.43
                1.917    0.88 | 8.000    1.75 |14.083    3.35 | 20.17    1.43
                2.000    0.88 | 8.083    1.75 |14.167    3.35 | 20.25    1.43
                2.083    0.88 | 8.167    1.75 |14.250    3.35 | 20.33    0.96
                2.167    0.88 | 8.250    1.75 |14.333    2.39 | 20.42    0.96
                2.250    0.88 | 8.333    2.07 |14.417    2.39 | 20.50    0.96
                2.333    1.04 | 8.417    2.07 |14.500    2.39 | 20.58    0.96
                2.417    1.04 | 8.500    2.07 |14.583    2.39 | 20.67    0.96
                2.500    1.04 | 8.583    2.07 |14.667    2.39 | 20.75    0.96
                2.583    1.04 | 8.667    2.07 |14.750    2.39 | 20.83    0.96
                2.667    1.04 | 8.750    2.07 |14.833    2.39 | 20.92    0.96
                2.750    1.04 | 8.833    2.23 |14.917    2.39 | 21.00    0.96
                2.833    1.04 | 8.917    2.23 |15.000    2.39 | 21.08    0.96
                2.917    1.04 | 9.000    2.23 |15.083    2.39 | 21.17    0.96
                3.000    1.04 | 9.083    2.23 |15.167    2.39 | 21.25    0.96
                3.083    1.04 | 9.167    2.23 |15.250    2.39 | 21.33    0.96
                3.167    1.04 | 9.250    2.23 |15.333    2.39 | 21.42    0.96
                3.250    1.04 | 9.333    2.55 |15.417    2.39 | 21.50    0.96
                3.333    1.04 | 9.417    2.55 |15.500    2.39 | 21.58    0.96
                3.417    1.04 | 9.500    2.55 |15.583    2.39 | 21.67    0.96
                3.500    1.04 | 9.583    2.55 |15.667    2.39 | 21.75    0.96
                3.583    1.04 | 9.667    2.55 |15.750    2.39 | 21.83    0.96
                3.667    1.04 | 9.750    2.55 |15.833    2.39 | 21.92    0.96
                3.750    1.04 | 9.833    2.87 |15.917    2.39 | 22.00    0.96
                3.833    1.04 | 9.917    2.87 |16.000    2.39 | 22.08    0.96
                3.917    1.04 |10.000    2.87 |16.083    2.39 | 22.17    0.96
                4.000    1.04 |10.083    2.87 |16.167    2.39 | 22.25    0.96
                4.083    1.04 |10.167    2.87 |16.250    2.39 | 22.33    0.96
                4.167    1.04 |10.250    2.87 |16.333    1.43 | 22.42    0.96
                4.250    1.04 |10.333    3.66 |16.417    1.43 | 22.50    0.96
                4.333    1.27 |10.417    3.66 |16.500    1.43 | 22.58    0.96
                4.417    1.27 |10.500    3.66 |16.583    1.43 | 22.67    0.96
                4.500    1.27 |10.583    3.66 |16.667    1.43 | 22.75    0.96
                4.583    1.27 |10.667    3.66 |16.750    1.43 | 22.83    0.96
                4.667    1.27 |10.750    3.66 |16.833    1.43 | 22.92    0.96
                4.750    1.27 |10.833    4.94 |16.917    1.43 | 23.00    0.96
                4.833    1.27 |10.917    4.94 |17.000    1.43 | 23.08    0.96
                4.917    1.27 |11.000    4.94 |17.083    1.43 | 23.17    0.96
                5.000    1.27 |11.083    4.94 |17.167    1.43 | 23.25    0.96
                5.083    1.27 |11.167    4.94 |17.250    1.43 | 23.33    0.96
                5.167    1.27 |11.250    4.94 |17.333    1.43 | 23.42    0.96
                5.250    1.27 |11.333    7.65 |17.417    1.43 | 23.50    0.96
                5.333    1.27 |11.417    7.65 |17.500    1.43 | 23.58    0.96
                5.417    1.27 |11.500    7.65 |17.583    1.43 | 23.67    0.96
                5.500    1.27 |11.583    7.65 |17.667    1.43 | 23.75    0.96
                5.583    1.27 |11.667    7.65 |17.750    1.43 | 23.83    0.96
                5.667    1.27 |11.750    7.65 |17.833    1.43 | 23.92    0.96
                5.750    1.27 |11.833   23.57 |17.917    1.43 | 24.00    0.96
                5.833    1.27 |11.917   23.58 |18.000    1.43 | 24.08    0.96
                5.917    1.27 |12.000   23.58 |18.083    1.43 | 24.17    0.96
                6.000    1.27 |12.083   97.48 |18.167    1.43 | 24.25    0.96
                6.083    1.27 |12.167   97.49 |18.250    1.43 |

     Unit Hyd Qpeak  (cms)=   0.865

     PEAK FLOW       (cms)=   0.579 (i)
     TIME TO PEAK    (hrs)=  12.833
     RUNOFF VOLUME    (mm)=  35.441
     TOTAL RAINFALL   (mm)=  79.650
     RUNOFF COEFFICIENT   =   0.445

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

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| CALIB            |
| STANDHYD (  0002)|   Area    (ha)=   9.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  50.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.57         3.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     253.77        30.00
     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     1.27 |12.250    97.49 | 18.33     1.43
               0.167    0.00 | 6.250     1.27 |12.333    11.48 | 18.42     1.43
               0.250    0.00 | 6.333     1.43 |12.417    11.47 | 18.50     1.43
               0.333    0.88 | 6.417     1.43 |12.500    11.47 | 18.58     1.43
               0.417    0.88 | 6.500     1.43 |12.583    11.47 | 18.67     1.43
               0.500    0.88 | 6.583     1.43 |12.667    11.47 | 18.75     1.43
               0.583    0.88 | 6.667     1.43 |12.750    11.47 | 18.83     1.43
               0.667    0.88 | 6.750     1.43 |12.833     5.89 | 18.92     1.43
               0.750    0.88 | 6.833     1.43 |12.917     5.89 | 19.00     1.43
               0.833    0.88 | 6.917     1.43 |13.000     5.89 | 19.08     1.43
               0.917    0.88 | 7.000     1.43 |13.083     5.89 | 19.17     1.43
               1.000    0.88 | 7.083     1.43 |13.167     5.89 | 19.25     1.43
               1.083    0.88 | 7.167     1.43 |13.250     5.89 | 19.33     1.43
               1.167    0.88 | 7.250     1.43 |13.333     4.30 | 19.42     1.43
               1.250    0.88 | 7.333     1.75 |13.417     4.30 | 19.50     1.43
               1.333    0.88 | 7.417     1.75 |13.500     4.30 | 19.58     1.43
               1.417    0.88 | 7.500     1.75 |13.583     4.30 | 19.67     1.43
               1.500    0.88 | 7.583     1.75 |13.667     4.30 | 19.75     1.43
               1.583    0.88 | 7.667     1.75 |13.750     4.30 | 19.83     1.43
               1.667    0.88 | 7.750     1.75 |13.833     3.35 | 19.92     1.43
               1.750    0.88 | 7.833     1.75 |13.917     3.35 | 20.00     1.43
               1.833    0.88 | 7.917     1.75 |14.000     3.35 | 20.08     1.43
               1.917    0.88 | 8.000     1.75 |14.083     3.35 | 20.17     1.43
               2.000    0.88 | 8.083     1.75 |14.167     3.35 | 20.25     1.43
               2.083    0.88 | 8.167     1.75 |14.250     3.35 | 20.33     0.96
               2.167    0.88 | 8.250     1.75 |14.333     2.39 | 20.42     0.96
               2.250    0.88 | 8.333     2.07 |14.417     2.39 | 20.50     0.96
               2.333    1.04 | 8.417     2.07 |14.500     2.39 | 20.58     0.96
               2.417    1.04 | 8.500     2.07 |14.583     2.39 | 20.67     0.96
               2.500    1.04 | 8.583     2.07 |14.667     2.39 | 20.75     0.96
               2.583    1.04 | 8.667     2.07 |14.750     2.39 | 20.83     0.96
               2.667    1.04 | 8.750     2.07 |14.833     2.39 | 20.92     0.96
               2.750    1.04 | 8.833     2.23 |14.917     2.39 | 21.00     0.96
               2.833    1.04 | 8.917     2.23 |15.000     2.39 | 21.08     0.96
               2.917    1.04 | 9.000     2.23 |15.083     2.39 | 21.17     0.96
               3.000    1.04 | 9.083     2.23 |15.167     2.39 | 21.25     0.96
               3.083    1.04 | 9.167     2.23 |15.250     2.39 | 21.33     0.96
               3.167    1.04 | 9.250     2.23 |15.333     2.39 | 21.42     0.96
               3.250    1.04 | 9.333     2.55 |15.417     2.39 | 21.50     0.96
               3.333    1.04 | 9.417     2.55 |15.500     2.39 | 21.58     0.96
               3.417    1.04 | 9.500     2.55 |15.583     2.39 | 21.67     0.96
               3.500    1.04 | 9.583     2.55 |15.667     2.39 | 21.75     0.96
               3.583    1.04 | 9.667     2.55 |15.750     2.39 | 21.83     0.96
               3.667    1.04 | 9.750     2.55 |15.833     2.39 | 21.92     0.96
               3.750    1.04 | 9.833     2.87 |15.917     2.39 | 22.00     0.96
               3.833    1.04 | 9.917     2.87 |16.000     2.39 | 22.08     0.96
               3.917    1.04 |10.000     2.87 |16.083     2.39 | 22.17     0.96
               4.000    1.04 |10.083     2.87 |16.167     2.39 | 22.25     0.96
               4.083    1.04 |10.167     2.87 |16.250     2.39 | 22.33     0.96
               4.167    1.04 |10.250     2.87 |16.333     1.43 | 22.42     0.96
               4.250    1.04 |10.333     3.66 |16.417     1.43 | 22.50     0.96
               4.333    1.27 |10.417     3.66 |16.500     1.43 | 22.58     0.96
               4.417    1.27 |10.500     3.66 |16.583     1.43 | 22.67     0.96
               4.500    1.27 |10.583     3.66 |16.667     1.43 | 22.75     0.96
               4.583    1.27 |10.667     3.66 |16.750     1.43 | 22.83     0.96
               4.667    1.27 |10.750     3.66 |16.833     1.43 | 22.92     0.96
               4.750    1.27 |10.833     4.94 |16.917     1.43 | 23.00     0.96
               4.833    1.27 |10.917     4.94 |17.000     1.43 | 23.08     0.96
               4.917    1.27 |11.000     4.94 |17.083     1.43 | 23.17     0.96
               5.000    1.27 |11.083     4.94 |17.167     1.43 | 23.25     0.96
               5.083    1.27 |11.167     4.94 |17.250     1.43 | 23.33     0.96
               5.167    1.27 |11.250     4.94 |17.333     1.43 | 23.42     0.96
               5.250    1.27 |11.333     7.65 |17.417     1.43 | 23.50     0.96
               5.333    1.27 |11.417     7.65 |17.500     1.43 | 23.58     0.96
               5.417    1.27 |11.500     7.65 |17.583     1.43 | 23.67     0.96
               5.500    1.27 |11.583     7.65 |17.667     1.43 | 23.75     0.96
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               5.583    1.27 |11.667     7.65 |17.750     1.43 | 23.83     0.96
               5.667    1.27 |11.750     7.65 |17.833     1.43 | 23.92     0.96
               5.750    1.27 |11.833    23.57 |17.917     1.43 | 24.00     0.96
               5.833    1.27 |11.917    23.58 |18.000     1.43 | 24.08     0.96
               5.917    1.27 |12.000    23.58 |18.083     1.43 | 24.17     0.96
               6.000    1.27 |12.083    97.48 |18.167     1.43 | 24.25     0.96
               6.083    1.27 |12.167    97.49 |18.250     1.43 |

     Max.Eff.Inten.(mm/hr)=      97.49       103.11
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       5.56 (ii)   11.42 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.20         0.09
                                                        *TOTALS*
     PEAK FLOW       (cms)=       1.24         0.56          1.728 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.33          12.25
     RUNOFF VOLUME    (mm)=      77.65        44.74          61.19
     TOTAL RAINFALL   (mm)=      79.65        79.65          79.65
     RUNOFF COEFFICIENT   =       0.97         0.56           0.77


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0008)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     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     1.27 |12.250    97.49 | 18.33     1.43
               0.167    0.00 | 6.250     1.27 |12.333    11.48 | 18.42     1.43
               0.250    0.00 | 6.333     1.43 |12.417    11.47 | 18.50     1.43
               0.333    0.88 | 6.417     1.43 |12.500    11.47 | 18.58     1.43
               0.417    0.88 | 6.500     1.43 |12.583    11.47 | 18.67     1.43
               0.500    0.88 | 6.583     1.43 |12.667    11.47 | 18.75     1.43
               0.583    0.88 | 6.667     1.43 |12.750    11.47 | 18.83     1.43
               0.667    0.88 | 6.750     1.43 |12.833     5.89 | 18.92     1.43
               0.750    0.88 | 6.833     1.43 |12.917     5.89 | 19.00     1.43
               0.833    0.88 | 6.917     1.43 |13.000     5.89 | 19.08     1.43
               0.917    0.88 | 7.000     1.43 |13.083     5.89 | 19.17     1.43
               1.000    0.88 | 7.083     1.43 |13.167     5.89 | 19.25     1.43
               1.083    0.88 | 7.167     1.43 |13.250     5.89 | 19.33     1.43
               1.167    0.88 | 7.250     1.43 |13.333     4.30 | 19.42     1.43
               1.250    0.88 | 7.333     1.75 |13.417     4.30 | 19.50     1.43
               1.333    0.88 | 7.417     1.75 |13.500     4.30 | 19.58     1.43
               1.417    0.88 | 7.500     1.75 |13.583     4.30 | 19.67     1.43
               1.500    0.88 | 7.583     1.75 |13.667     4.30 | 19.75     1.43
               1.583    0.88 | 7.667     1.75 |13.750     4.30 | 19.83     1.43
               1.667    0.88 | 7.750     1.75 |13.833     3.35 | 19.92     1.43
               1.750    0.88 | 7.833     1.75 |13.917     3.35 | 20.00     1.43
               1.833    0.88 | 7.917     1.75 |14.000     3.35 | 20.08     1.43
               1.917    0.88 | 8.000     1.75 |14.083     3.35 | 20.17     1.43
               2.000    0.88 | 8.083     1.75 |14.167     3.35 | 20.25     1.43
               2.083    0.88 | 8.167     1.75 |14.250     3.35 | 20.33     0.96
               2.167    0.88 | 8.250     1.75 |14.333     2.39 | 20.42     0.96
               2.250    0.88 | 8.333     2.07 |14.417     2.39 | 20.50     0.96
               2.333    1.04 | 8.417     2.07 |14.500     2.39 | 20.58     0.96
               2.417    1.04 | 8.500     2.07 |14.583     2.39 | 20.67     0.96
               2.500    1.04 | 8.583     2.07 |14.667     2.39 | 20.75     0.96
               2.583    1.04 | 8.667     2.07 |14.750     2.39 | 20.83     0.96
               2.667    1.04 | 8.750     2.07 |14.833     2.39 | 20.92     0.96
               2.750    1.04 | 8.833     2.23 |14.917     2.39 | 21.00     0.96
               2.833    1.04 | 8.917     2.23 |15.000     2.39 | 21.08     0.96
               2.917    1.04 | 9.000     2.23 |15.083     2.39 | 21.17     0.96
               3.000    1.04 | 9.083     2.23 |15.167     2.39 | 21.25     0.96
               3.083    1.04 | 9.167     2.23 |15.250     2.39 | 21.33     0.96
               3.167    1.04 | 9.250     2.23 |15.333     2.39 | 21.42     0.96
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              3.250    1.04 | 9.333    2.55 |15.417    2.39 | 21.50    0.96
              3.333    1.04 | 9.417    2.55 |15.500    2.39 | 21.58    0.96
              3.417    1.04 | 9.500    2.55 |15.583    2.39 | 21.67    0.96
              3.500    1.04 | 9.583    2.55 |15.667    2.39 | 21.75    0.96
              3.583    1.04 | 9.667    2.55 |15.750    2.39 | 21.83    0.96
              3.667    1.04 | 9.750    2.55 |15.833    2.39 | 21.92    0.96
              3.750    1.04 | 9.833    2.87 |15.917    2.39 | 22.00    0.96
              3.833    1.04 | 9.917    2.87 |16.000    2.39 | 22.08    0.96
              3.917    1.04 |10.000    2.87 |16.083    2.39 | 22.17    0.96
              4.000    1.04 |10.083    2.87 |16.167    2.39 | 22.25    0.96
              4.083    1.04 |10.167    2.87 |16.250    2.39 | 22.33    0.96
              4.167    1.04 |10.250    2.87 |16.333    1.43 | 22.42    0.96
              4.250    1.04 |10.333    3.66 |16.417    1.43 | 22.50    0.96
              4.333    1.27 |10.417    3.66 |16.500    1.43 | 22.58    0.96
              4.417    1.27 |10.500    3.66 |16.583    1.43 | 22.67    0.96
              4.500    1.27 |10.583    3.66 |16.667    1.43 | 22.75    0.96
              4.583    1.27 |10.667    3.66 |16.750    1.43 | 22.83    0.96
              4.667    1.27 |10.750    3.66 |16.833    1.43 | 22.92    0.96
              4.750    1.27 |10.833    4.94 |16.917    1.43 | 23.00    0.96
              4.833    1.27 |10.917    4.94 |17.000    1.43 | 23.08    0.96
              4.917    1.27 |11.000    4.94 |17.083    1.43 | 23.17    0.96
              5.000    1.27 |11.083    4.94 |17.167    1.43 | 23.25    0.96
              5.083    1.27 |11.167    4.94 |17.250    1.43 | 23.33    0.96
              5.167    1.27 |11.250    4.94 |17.333    1.43 | 23.42    0.96
              5.250    1.27 |11.333    7.65 |17.417    1.43 | 23.50    0.96
              5.333    1.27 |11.417    7.65 |17.500    1.43 | 23.58    0.96
              5.417    1.27 |11.500    7.65 |17.583    1.43 | 23.67    0.96
              5.500    1.27 |11.583    7.65 |17.667    1.43 | 23.75    0.96
              5.583    1.27 |11.667    7.65 |17.750    1.43 | 23.83    0.96
              5.667    1.27 |11.750    7.65 |17.833    1.43 | 23.92    0.96
              5.750    1.27 |11.833   23.57 |17.917    1.43 | 24.00    0.96
              5.833    1.27 |11.917   23.58 |18.000    1.43 | 24.08    0.96
              5.917    1.27 |12.000   23.58 |18.083    1.43 | 24.17    0.96
              6.000    1.27 |12.083   97.48 |18.167    1.43 | 24.25    0.96
              6.083    1.27 |12.167   97.49 |18.250    1.43 |

     Max.Eff.Inten.(mm/hr)=      97.49        52.10
               over (min)         5.00        15.00
     Storage Coeff.  (min)=       3.03 (ii)   10.74 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.27         0.09
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.17         0.06          0.223 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.33          12.25
     RUNOFF VOLUME    (mm)=      77.65        34.98          56.31
     TOTAL RAINFALL   (mm)=      79.65        79.65          79.65
     RUNOFF COEFFICIENT   =       0.97         0.44           0.71

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD (  0016)|   Area    (ha)=   0.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.38         0.38
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      71.18        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    1.27 |12.250   97.49 | 18.33    1.43
              0.167    0.00 | 6.250    1.27 |12.333   11.48 | 18.42    1.43
              0.250    0.00 | 6.333    1.43 |12.417   11.47 | 18.50    1.43
              0.333    0.88 | 6.417    1.43 |12.500   11.47 | 18.58    1.43
              0.417    0.88 | 6.500    1.43 |12.583   11.47 | 18.67    1.43
              0.500    0.88 | 6.583    1.43 |12.667   11.47 | 18.75    1.43
              0.583    0.88 | 6.667    1.43 |12.750   11.47 | 18.83    1.43
              0.667    0.88 | 6.750    1.43 |12.833    5.89 | 18.92    1.43
              0.750    0.88 | 6.833    1.43 |12.917    5.89 | 19.00    1.43
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              0.833    0.88 | 6.917    1.43 |13.000    5.89 | 19.08    1.43
              0.917    0.88 | 7.000    1.43 |13.083    5.89 | 19.17    1.43
              1.000    0.88 | 7.083    1.43 |13.167    5.89 | 19.25    1.43
              1.083    0.88 | 7.167    1.43 |13.250    5.89 | 19.33    1.43
              1.167    0.88 | 7.250    1.43 |13.333    4.30 | 19.42    1.43
              1.250    0.88 | 7.333    1.75 |13.417    4.30 | 19.50    1.43
              1.333    0.88 | 7.417    1.75 |13.500    4.30 | 19.58    1.43
              1.417    0.88 | 7.500    1.75 |13.583    4.30 | 19.67    1.43
              1.500    0.88 | 7.583    1.75 |13.667    4.30 | 19.75    1.43
              1.583    0.88 | 7.667    1.75 |13.750    4.30 | 19.83    1.43
              1.667    0.88 | 7.750    1.75 |13.833    3.35 | 19.92    1.43
              1.750    0.88 | 7.833    1.75 |13.917    3.35 | 20.00    1.43
              1.833    0.88 | 7.917    1.75 |14.000    3.35 | 20.08    1.43
              1.917    0.88 | 8.000    1.75 |14.083    3.35 | 20.17    1.43
              2.000    0.88 | 8.083    1.75 |14.167    3.35 | 20.25    1.43
              2.083    0.88 | 8.167    1.75 |14.250    3.35 | 20.33    0.96
              2.167    0.88 | 8.250    1.75 |14.333    2.39 | 20.42    0.96
              2.250    0.88 | 8.333    2.07 |14.417    2.39 | 20.50    0.96
              2.333    1.04 | 8.417    2.07 |14.500    2.39 | 20.58    0.96
              2.417    1.04 | 8.500    2.07 |14.583    2.39 | 20.67    0.96
              2.500    1.04 | 8.583    2.07 |14.667    2.39 | 20.75    0.96
              2.583    1.04 | 8.667    2.07 |14.750    2.39 | 20.83    0.96
              2.667    1.04 | 8.750    2.07 |14.833    2.39 | 20.92    0.96
              2.750    1.04 | 8.833    2.23 |14.917    2.39 | 21.00    0.96
              2.833    1.04 | 8.917    2.23 |15.000    2.39 | 21.08    0.96
              2.917    1.04 | 9.000    2.23 |15.083    2.39 | 21.17    0.96
              3.000    1.04 | 9.083    2.23 |15.167    2.39 | 21.25    0.96
              3.083    1.04 | 9.167    2.23 |15.250    2.39 | 21.33    0.96
              3.167    1.04 | 9.250    2.23 |15.333    2.39 | 21.42    0.96
              3.250    1.04 | 9.333    2.55 |15.417    2.39 | 21.50    0.96
              3.333    1.04 | 9.417    2.55 |15.500    2.39 | 21.58    0.96
              3.417    1.04 | 9.500    2.55 |15.583    2.39 | 21.67    0.96
              3.500    1.04 | 9.583    2.55 |15.667    2.39 | 21.75    0.96
              3.583    1.04 | 9.667    2.55 |15.750    2.39 | 21.83    0.96
              3.667    1.04 | 9.750    2.55 |15.833    2.39 | 21.92    0.96
              3.750    1.04 | 9.833    2.87 |15.917    2.39 | 22.00    0.96
              3.833    1.04 | 9.917    2.87 |16.000    2.39 | 22.08    0.96
              3.917    1.04 |10.000    2.87 |16.083    2.39 | 22.17    0.96
              4.000    1.04 |10.083    2.87 |16.167    2.39 | 22.25    0.96
              4.083    1.04 |10.167    2.87 |16.250    2.39 | 22.33    0.96
              4.167    1.04 |10.250    2.87 |16.333    1.43 | 22.42    0.96
              4.250    1.04 |10.333    3.66 |16.417    1.43 | 22.50    0.96
              4.333    1.27 |10.417    3.66 |16.500    1.43 | 22.58    0.96
              4.417    1.27 |10.500    3.66 |16.583    1.43 | 22.67    0.96
              4.500    1.27 |10.583    3.66 |16.667    1.43 | 22.75    0.96
              4.583    1.27 |10.667    3.66 |16.750    1.43 | 22.83    0.96
              4.667    1.27 |10.750    3.66 |16.833    1.43 | 22.92    0.96
              4.750    1.27 |10.833    4.94 |16.917    1.43 | 23.00    0.96
              4.833    1.27 |10.917    4.94 |17.000    1.43 | 23.08    0.96
              4.917    1.27 |11.000    4.94 |17.083    1.43 | 23.17    0.96
              5.000    1.27 |11.083    4.94 |17.167    1.43 | 23.25    0.96
              5.083    1.27 |11.167    4.94 |17.250    1.43 | 23.33    0.96
              5.167    1.27 |11.250    4.94 |17.333    1.43 | 23.42    0.96
              5.250    1.27 |11.333    7.65 |17.417    1.43 | 23.50    0.96
              5.333    1.27 |11.417    7.65 |17.500    1.43 | 23.58    0.96
              5.417    1.27 |11.500    7.65 |17.583    1.43 | 23.67    0.96
              5.500    1.27 |11.583    7.65 |17.667    1.43 | 23.75    0.96
              5.583    1.27 |11.667    7.65 |17.750    1.43 | 23.83    0.96
              5.667    1.27 |11.750    7.65 |17.833    1.43 | 23.92    0.96
              5.750    1.27 |11.833   23.57 |17.917    1.43 | 24.00    0.96
              5.833    1.27 |11.917   23.58 |18.000    1.43 | 24.08    0.96
              5.917    1.27 |12.000   23.58 |18.083    1.43 | 24.17    0.96
              6.000    1.27 |12.083   97.48 |18.167    1.43 | 24.25    0.96
              6.083    1.27 |12.167   97.49 |18.250    1.43 |

     Max.Eff.Inten.(mm/hr)=      97.49       142.02
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       2.10 (ii)    8.24 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.12          0.148 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=      78.65        59.01          61.95
     TOTAL RAINFALL   (mm)=      79.65        79.65          79.65
     RUNOFF COEFFICIENT   =       0.99         0.74           0.78

***** 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*  =  85.0    Ia = Dep. 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  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0011):    14.50   0.579    12.83    35.44
      + ID2= 2 (  0016):     0.76   0.148    12.25    61.95
        ====================================================
        ID = 3 (  0006):    15.26   0.603    12.75    36.76

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0006):    15.26   0.603    12.75    36.76
      + ID2= 2 (  0002):     9.66   1.728    12.25    61.19
        ====================================================
        ID = 1 (  0006):    24.92   2.103    12.25    46.23

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

--------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0006):    24.92   2.103    12.25    46.23
      + ID2= 2 (  0008):     1.28   0.223    12.25    56.31
        ====================================================
        ID = 3 (  0006):    26.20   2.326    12.25    46.72

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0004)|     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   |   0.1460      0.6510
                          0.0160     0.1150   |   0.3020      0.9550
                          0.0250     0.2380   |   0.4430      1.1990
                          0.0410     0.3690   |   0.6010      1.4550

                                AREA     QPEAK      TPEAK        R.V.
                                (ha)     (cms)      (hrs)        (mm)
   INFLOW : ID= 2 (  0006)     26.200      2.326      12.25       46.72
   OUTFLOW: ID= 1 (  0004)     26.200      0.200      14.67       46.65

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)=  8.58
                    TIME SHIFT OF PEAK FLOW         (min)=145.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  0.7554

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| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.43   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

         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    1.27 |12.250   97.49 | 18.33    1.43
                0.167    0.00 | 6.250    1.27 |12.333   11.48 | 18.42    1.43
                0.250    0.00 | 6.333    1.43 |12.417   11.47 | 18.50    1.43
                0.333    0.88 | 6.417    1.43 |12.500   11.47 | 18.58    1.43
                0.417    0.88 | 6.500    1.43 |12.583   11.47 | 18.67    1.43
                0.500    0.88 | 6.583    1.43 |12.667   11.47 | 18.75    1.43
                0.583    0.88 | 6.667    1.43 |12.750   11.47 | 18.83    1.43
                0.667    0.88 | 6.750    1.43 |12.833    5.89 | 18.92    1.43
                0.750    0.88 | 6.833    1.43 |12.917    5.89 | 19.00    1.43
                0.833    0.88 | 6.917    1.43 |13.000    5.89 | 19.08    1.43
                0.917    0.88 | 7.000    1.43 |13.083    5.89 | 19.17    1.43
                1.000    0.88 | 7.083    1.43 |13.167    5.89 | 19.25    1.43
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                1.083    0.88 | 7.167    1.43 |13.250    5.89 | 19.33    1.43
                1.167    0.88 | 7.250    1.43 |13.333    4.30 | 19.42    1.43
                1.250    0.88 | 7.333    1.75 |13.417    4.30 | 19.50    1.43
                1.333    0.88 | 7.417    1.75 |13.500    4.30 | 19.58    1.43
                1.417    0.88 | 7.500    1.75 |13.583    4.30 | 19.67    1.43
                1.500    0.88 | 7.583    1.75 |13.667    4.30 | 19.75    1.43
                1.583    0.88 | 7.667    1.75 |13.750    4.30 | 19.83    1.43
                1.667    0.88 | 7.750    1.75 |13.833    3.35 | 19.92    1.43
                1.750    0.88 | 7.833    1.75 |13.917    3.35 | 20.00    1.43
                1.833    0.88 | 7.917    1.75 |14.000    3.35 | 20.08    1.43
                1.917    0.88 | 8.000    1.75 |14.083    3.35 | 20.17    1.43
                2.000    0.88 | 8.083    1.75 |14.167    3.35 | 20.25    1.43
                2.083    0.88 | 8.167    1.75 |14.250    3.35 | 20.33    0.96
                2.167    0.88 | 8.250    1.75 |14.333    2.39 | 20.42    0.96
                2.250    0.88 | 8.333    2.07 |14.417    2.39 | 20.50    0.96
                2.333    1.04 | 8.417    2.07 |14.500    2.39 | 20.58    0.96
                2.417    1.04 | 8.500    2.07 |14.583    2.39 | 20.67    0.96
                2.500    1.04 | 8.583    2.07 |14.667    2.39 | 20.75    0.96
                2.583    1.04 | 8.667    2.07 |14.750    2.39 | 20.83    0.96
                2.667    1.04 | 8.750    2.07 |14.833    2.39 | 20.92    0.96
                2.750    1.04 | 8.833    2.23 |14.917    2.39 | 21.00    0.96
                2.833    1.04 | 8.917    2.23 |15.000    2.39 | 21.08    0.96
                2.917    1.04 | 9.000    2.23 |15.083    2.39 | 21.17    0.96
                3.000    1.04 | 9.083    2.23 |15.167    2.39 | 21.25    0.96
                3.083    1.04 | 9.167    2.23 |15.250    2.39 | 21.33    0.96
                3.167    1.04 | 9.250    2.23 |15.333    2.39 | 21.42    0.96
                3.250    1.04 | 9.333    2.55 |15.417    2.39 | 21.50    0.96
                3.333    1.04 | 9.417    2.55 |15.500    2.39 | 21.58    0.96
                3.417    1.04 | 9.500    2.55 |15.583    2.39 | 21.67    0.96
                3.500    1.04 | 9.583    2.55 |15.667    2.39 | 21.75    0.96
                3.583    1.04 | 9.667    2.55 |15.750    2.39 | 21.83    0.96
                3.667    1.04 | 9.750    2.55 |15.833    2.39 | 21.92    0.96
                3.750    1.04 | 9.833    2.87 |15.917    2.39 | 22.00    0.96
                3.833    1.04 | 9.917    2.87 |16.000    2.39 | 22.08    0.96
                3.917    1.04 |10.000    2.87 |16.083    2.39 | 22.17    0.96
                4.000    1.04 |10.083    2.87 |16.167    2.39 | 22.25    0.96
                4.083    1.04 |10.167    2.87 |16.250    2.39 | 22.33    0.96
                4.167    1.04 |10.250    2.87 |16.333    1.43 | 22.42    0.96
                4.250    1.04 |10.333    3.66 |16.417    1.43 | 22.50    0.96
                4.333    1.27 |10.417    3.66 |16.500    1.43 | 22.58    0.96
                4.417    1.27 |10.500    3.66 |16.583    1.43 | 22.67    0.96
                4.500    1.27 |10.583    3.66 |16.667    1.43 | 22.75    0.96
                4.583    1.27 |10.667    3.66 |16.750    1.43 | 22.83    0.96
                4.667    1.27 |10.750    3.66 |16.833    1.43 | 22.92    0.96
                4.750    1.27 |10.833    4.94 |16.917    1.43 | 23.00    0.96
                4.833    1.27 |10.917    4.94 |17.000    1.43 | 23.08    0.96
                4.917    1.27 |11.000    4.94 |17.083    1.43 | 23.17    0.96
                5.000    1.27 |11.083    4.94 |17.167    1.43 | 23.25    0.96
                5.083    1.27 |11.167    4.94 |17.250    1.43 | 23.33    0.96
                5.167    1.27 |11.250    4.94 |17.333    1.43 | 23.42    0.96
                5.250    1.27 |11.333    7.65 |17.417    1.43 | 23.50    0.96
                5.333    1.27 |11.417    7.65 |17.500    1.43 | 23.58    0.96
                5.417    1.27 |11.500    7.65 |17.583    1.43 | 23.67    0.96
                5.500    1.27 |11.583    7.65 |17.667    1.43 | 23.75    0.96
                5.583    1.27 |11.667    7.65 |17.750    1.43 | 23.83    0.96
                5.667    1.27 |11.750    7.65 |17.833    1.43 | 23.92    0.96
                5.750    1.27 |11.833   23.57 |17.917    1.43 | 24.00    0.96
                5.833    1.27 |11.917   23.58 |18.000    1.43 | 24.08    0.96
                5.917    1.27 |12.000   23.58 |18.083    1.43 | 24.17    0.96
                6.000    1.27 |12.083   97.48 |18.167    1.43 | 24.25    0.96
                6.083    1.27 |12.167   97.49 |18.250    1.43 |

     Unit Hyd Qpeak  (cms)=   0.126

     PEAK FLOW       (cms)=   0.050 (i)
     TIME TO PEAK    (hrs)=  12.250
     RUNOFF VOLUME    (mm)=  34.631
     TOTAL RAINFALL   (mm)=  79.650
     RUNOFF COEFFICIENT  =   0.435

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

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--------------------
| ADD HYD  (  0019)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0017):     0.43   0.050    12.25    34.63
      + ID2= 2 (  0004):    26.20   0.200    14.67    46.65
        ====================================================
        ID = 3 (  0019):    26.63   0.201    14.58    46.46

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| STANDHYD (  0024)|   Area    (ha)=   0.61
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31         0.31
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      63.77        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    1.27 |12.250   97.49 | 18.33    1.43
                  0.167    0.00 | 6.250    1.27 |12.333   11.48 | 18.42    1.43
                  0.250    0.00 | 6.333    1.43 |12.417   11.47 | 18.50    1.43
                  0.333    0.88 | 6.417    1.43 |12.500   11.47 | 18.58    1.43
                  0.417    0.88 | 6.500    1.43 |12.583   11.47 | 18.67    1.43
                  0.500    0.88 | 6.583    1.43 |12.667   11.47 | 18.75    1.43
                  0.583    0.88 | 6.667    1.43 |12.750   11.47 | 18.83    1.43
                  0.667    0.88 | 6.750    1.43 |12.833    5.89 | 18.92    1.43
                  0.750    0.88 | 6.833    1.43 |12.917    5.89 | 19.00    1.43
                  0.833    0.88 | 6.917    1.43 |13.000    5.89 | 19.08    1.43
                  0.917    0.88 | 7.000    1.43 |13.083    5.89 | 19.17    1.43
                  1.000    0.88 | 7.083    1.43 |13.167    5.89 | 19.25    1.43
                  1.083    0.88 | 7.167    1.43 |13.250    5.89 | 19.33    1.43
                  1.167    0.88 | 7.250    1.43 |13.333    4.30 | 19.42    1.43
                  1.250    0.88 | 7.333    1.75 |13.417    4.30 | 19.50    1.43
                  1.333    0.88 | 7.417    1.75 |13.500    4.30 | 19.58    1.43
                  1.417    0.88 | 7.500    1.75 |13.583    4.30 | 19.67    1.43
                  1.500    0.88 | 7.583    1.75 |13.667    4.30 | 19.75    1.43
                  1.583    0.88 | 7.667    1.75 |13.750    4.30 | 19.83    1.43
                  1.667    0.88 | 7.750    1.75 |13.833    3.35 | 19.92    1.43
                  1.750    0.88 | 7.833    1.75 |13.917    3.35 | 20.00    1.43
                  1.833    0.88 | 7.917    1.75 |14.000    3.35 | 20.08    1.43
                  1.917    0.88 | 8.000    1.75 |14.083    3.35 | 20.17    1.43
                  2.000    0.88 | 8.083    1.75 |14.167    3.35 | 20.25    1.43
                  2.083    0.88 | 8.167    1.75 |14.250    3.35 | 20.33    0.96
                  2.167    0.88 | 8.250    1.75 |14.333    2.39 | 20.42    0.96
                  2.250    0.88 | 8.333    2.07 |14.417    2.39 | 20.50    0.96
                  2.333    1.04 | 8.417    2.07 |14.500    2.39 | 20.58    0.96
                  2.417    1.04 | 8.500    2.07 |14.583    2.39 | 20.67    0.96
                  2.500    1.04 | 8.583    2.07 |14.667    2.39 | 20.75    0.96
                  2.583    1.04 | 8.667    2.07 |14.750    2.39 | 20.83    0.96
                  2.667    1.04 | 8.750    2.07 |14.833    2.39 | 20.92    0.96
                  2.750    1.04 | 8.833    2.23 |14.917    2.39 | 21.00    0.96
                  2.833    1.04 | 8.917    2.23 |15.000    2.39 | 21.08    0.96
                  2.917    1.04 | 9.000    2.23 |15.083    2.39 | 21.17    0.96
                  3.000    1.04 | 9.083    2.23 |15.167    2.39 | 21.25    0.96
                  3.083    1.04 | 9.167    2.23 |15.250    2.39 | 21.33    0.96
                  3.167    1.04 | 9.250    2.23 |15.333    2.39 | 21.42    0.96
                  3.250    1.04 | 9.333    2.55 |15.417    2.39 | 21.50    0.96
                  3.333    1.04 | 9.417    2.55 |15.500    2.39 | 21.58    0.96
                  3.417    1.04 | 9.500    2.55 |15.583    2.39 | 21.67    0.96
                  3.500    1.04 | 9.583    2.55 |15.667    2.39 | 21.75    0.96
                  3.583    1.04 | 9.667    2.55 |15.750    2.39 | 21.83    0.96
                  3.667    1.04 | 9.750    2.55 |15.833    2.39 | 21.92    0.96
                  3.750    1.04 | 9.833    2.87 |15.917    2.39 | 22.00    0.96
                  3.833    1.04 | 9.917    2.87 |16.000    2.39 | 22.08    0.96
                  3.917    1.04 |10.000    2.87 |16.083    2.39 | 22.17    0.96
                  4.000    1.04 |10.083    2.87 |16.167    2.39 | 22.25    0.96
                  4.083    1.04 |10.167    2.87 |16.250    2.39 | 22.33    0.96
                  4.167    1.04 |10.250    2.87 |16.333    1.43 | 22.42    0.96
                  4.250    1.04 |10.333    3.66 |16.417    1.43 | 22.50    0.96
                  4.333    1.27 |10.417    3.66 |16.500    1.43 | 22.58    0.96
                  4.417    1.27 |10.500    3.66 |16.583    1.43 | 22.67    0.96
                  4.500    1.27 |10.583    3.66 |16.667    1.43 | 22.75    0.96
                  4.583    1.27 |10.667    3.66 |16.750    1.43 | 22.83    0.96
                  4.667    1.27 |10.750    3.66 |16.833    1.43 | 22.92    0.96
                  4.750    1.27 |10.833    4.94 |16.917    1.43 | 23.00    0.96
                  4.833    1.27 |10.917    4.94 |17.000    1.43 | 23.08    0.96
                  4.917    1.27 |11.000    4.94 |17.083    1.43 | 23.17    0.96
                  5.000    1.27 |11.083    4.94 |17.167    1.43 | 23.25    0.96
                  5.083    1.27 |11.167    4.94 |17.250    1.43 | 23.33    0.96
                  5.167    1.27 |11.250    4.94 |17.333    1.43 | 23.42    0.96
                  5.250    1.27 |11.333    7.65 |17.417    1.43 | 23.50    0.96
                  5.333    1.27 |11.417    7.65 |17.500    1.43 | 23.58    0.96
                  5.417    1.27 |11.500    7.65 |17.583    1.43 | 23.67    0.96
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                  5.500    1.27 |11.583    7.65 |17.667    1.43 | 23.75    0.96
                  5.583    1.27 |11.667    7.65 |17.750    1.43 | 23.83    0.96
                  5.667    1.27 |11.750    7.65 |17.833    1.43 | 23.92    0.96
                  5.750    1.27 |11.833   23.57 |17.917    1.43 | 24.00    0.96
                  5.833    1.27 |11.917   23.58 |18.000    1.43 | 24.08    0.96
                  5.917    1.27 |12.000   23.58 |18.083    1.43 | 24.17    0.96
                  6.000    1.27 |12.083   97.48 |18.167    1.43 | 24.25    0.96
                  6.083    1.27 |12.167   97.49 |18.250    1.43 |

     Max.Eff.Inten.(mm/hr)=      97.49       142.02
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.97 (ii)    8.10 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.02         0.09          0.120 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=      78.65        59.01          61.95
     TOTAL RAINFALL   (mm)=      79.65        79.65          79.65
     RUNOFF COEFFICIENT   =       0.99         0.74           0.78

***** 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*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0025)|   Area    (ha)=   0.83
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.42         0.42
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      74.39        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    1.27 |12.250   97.49 | 18.33    1.43
                  0.167    0.00 | 6.250    1.27 |12.333   11.48 | 18.42    1.43
                  0.250    0.00 | 6.333    1.43 |12.417   11.47 | 18.50    1.43
                  0.333    0.88 | 6.417    1.43 |12.500   11.47 | 18.58    1.43
                  0.417    0.88 | 6.500    1.43 |12.583   11.47 | 18.67    1.43
                  0.500    0.88 | 6.583    1.43 |12.667   11.47 | 18.75    1.43
                  0.583    0.88 | 6.667    1.43 |12.750   11.47 | 18.83    1.43
                  0.667    0.88 | 6.750    1.43 |12.833    5.89 | 18.92    1.43
                  0.750    0.88 | 6.833    1.43 |12.917    5.89 | 19.00    1.43
                  0.833    0.88 | 6.917    1.43 |13.000    5.89 | 19.08    1.43
                  0.917    0.88 | 7.000    1.43 |13.083    5.89 | 19.17    1.43
                  1.000    0.88 | 7.083    1.43 |13.167    5.89 | 19.25    1.43
                  1.083    0.88 | 7.167    1.43 |13.250    5.89 | 19.33    1.43
                  1.167    0.88 | 7.250    1.43 |13.333    4.30 | 19.42    1.43
                  1.250    0.88 | 7.333    1.75 |13.417    4.30 | 19.50    1.43
                  1.333    0.88 | 7.417    1.75 |13.500    4.30 | 19.58    1.43
                  1.417    0.88 | 7.500    1.75 |13.583    4.30 | 19.67    1.43
                  1.500    0.88 | 7.583    1.75 |13.667    4.30 | 19.75    1.43
                  1.583    0.88 | 7.667    1.75 |13.750    4.30 | 19.83    1.43
                  1.667    0.88 | 7.750    1.75 |13.833    3.35 | 19.92    1.43
                  1.750    0.88 | 7.833    1.75 |13.917    3.35 | 20.00    1.43
                  1.833    0.88 | 7.917    1.75 |14.000    3.35 | 20.08    1.43
                  1.917    0.88 | 8.000    1.75 |14.083    3.35 | 20.17    1.43
                  2.000    0.88 | 8.083    1.75 |14.167    3.35 | 20.25    1.43
                  2.083    0.88 | 8.167    1.75 |14.250    3.35 | 20.33    0.96
                  2.167    0.88 | 8.250    1.75 |14.333    2.39 | 20.42    0.96
                  2.250    0.88 | 8.333    2.07 |14.417    2.39 | 20.50    0.96
                  2.333    1.04 | 8.417    2.07 |14.500    2.39 | 20.58    0.96
                  2.417    1.04 | 8.500    2.07 |14.583    2.39 | 20.67    0.96
                  2.500    1.04 | 8.583    2.07 |14.667    2.39 | 20.75    0.96
                  2.583    1.04 | 8.667    2.07 |14.750    2.39 | 20.83    0.96
                  2.667    1.04 | 8.750    2.07 |14.833    2.39 | 20.92    0.96
                  2.750    1.04 | 8.833    2.23 |14.917    2.39 | 21.00    0.96
                  2.833    1.04 | 8.917    2.23 |15.000    2.39 | 21.08    0.96
                2.917    1.04 | 9.000    2.23 |15.083    2.39 | 21.17    0.96
                3.000    1.04 | 9.083    2.23 |15.167    2.39 | 21.25    0.96
                3.083    1.04 | 9.167    2.23 |15.250    2.39 | 21.33    0.96
                3.167    1.04 | 9.250    2.23 |15.333    2.39 | 21.42    0.96
                3.250    1.04 | 9.333    2.55 |15.417    2.39 | 21.50    0.96
                3.333    1.04 | 9.417    2.55 |15.500    2.39 | 21.58    0.96
                3.417    1.04 | 9.500    2.55 |15.583    2.39 | 21.67    0.96
                3.500    1.04 | 9.583    2.55 |15.667    2.39 | 21.75    0.96
                3.583    1.04 | 9.667    2.55 |15.750    2.39 | 21.83    0.96
                3.667    1.04 | 9.750    2.55 |15.833    2.39 | 21.92    0.96
                3.750    1.04 | 9.833    2.87 |15.917    2.39 | 22.00    0.96
                3.833    1.04 | 9.917    2.87 |16.000    2.39 | 22.08    0.96
                3.917    1.04 |10.000    2.87 |16.083    2.39 | 22.17    0.96
                4.000    1.04 |10.083    2.87 |16.167    2.39 | 22.25    0.96
                4.083    1.04 |10.167    2.87 |16.250    2.39 | 22.33    0.96
                4.167    1.04 |10.250    2.87 |16.333    1.43 | 22.42    0.96
                4.250    1.04 |10.333    3.66 |16.417    1.43 | 22.50    0.96
                4.333    1.27 |10.417    3.66 |16.500    1.43 | 22.58    0.96
                4.417    1.27 |10.500    3.66 |16.583    1.43 | 22.67    0.96
                4.500    1.27 |10.583    3.66 |16.667    1.43 | 22.75    0.96
                4.583    1.27 |10.667    3.66 |16.750    1.43 | 22.83    0.96
                4.667    1.27 |10.750    3.66 |16.833    1.43 | 22.92    0.96
                4.750    1.27 |10.833    4.94 |16.917    1.43 | 23.00    0.96
                4.833    1.27 |10.917    4.94 |17.000    1.43 | 23.08    0.96
                4.917    1.27 |11.000    4.94 |17.083    1.43 | 23.17    0.96
                5.000    1.27 |11.083    4.94 |17.167    1.43 | 23.25    0.96
                5.083    1.27 |11.167    4.94 |17.250    1.43 | 23.33    0.96
                5.167    1.27 |11.250    4.94 |17.333    1.43 | 23.42    0.96
                5.250    1.27 |11.333    7.65 |17.417    1.43 | 23.50    0.96
                5.333    1.27 |11.417    7.65 |17.500    1.43 | 23.58    0.96
                5.417    1.27 |11.500    7.65 |17.583    1.43 | 23.67    0.96
                5.500    1.27 |11.583    7.65 |17.667    1.43 | 23.75    0.96
                5.583    1.27 |11.667    7.65 |17.750    1.43 | 23.83    0.96
                5.667    1.27 |11.750    7.65 |17.833    1.43 | 23.92    0.96
                5.750    1.27 |11.833   23.57 |17.917    1.43 | 24.00    0.96
                5.833    1.27 |11.917   23.58 |18.000    1.43 | 24.08    0.96
                5.917    1.27 |12.000   23.58 |18.083    1.43 | 24.17    0.96
                6.000    1.27 |12.083   97.48 |18.167    1.43 | 24.25    0.96
                6.083    1.27 |12.167   97.49 |18.250    1.43 |

     Max.Eff.Inten.(mm/hr)=      97.49       142.02
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.16 (ii)    8.29 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.13
                                                         *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.13         0.162 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25         12.25
     RUNOFF VOLUME    (mm)=      78.65        59.01         61.95
     TOTAL RAINFALL   (mm)=      79.65        79.65         79.65
     RUNOFF COEFFICIENT   =       0.99         0.74          0.78

***** 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*  =  85.0    Ia = Dep. 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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***********************************************
** SIMULATION:I. 10yr 24hr 15min SCS Type II **
***********************************************

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|    READ STORM     |    Filename: C:\Users\jkerschbaumer\AppD
|                   |              ata\Local\Temp\
|                   |              0e53ce72-2c36-4efc-8a1e-c647e636da9d\714a6f50
| Ptotal= 92.66 mm  |    Comments: 10yr 24hr 15min SCS Type II
--------------------
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN | TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |  hrs   mm/hr
                 0.00    0.00 |  6.25    1.67 | 12.50   13.34 | 18.75    1.67
                 0.25    1.02 |  6.50    1.67 | 12.75    6.86 | 19.00    1.67
                 0.50    1.02 |  6.75    1.67 | 13.00    6.86 | 19.25    1.67
                 0.75    1.02 |  7.00    1.67 | 13.25    5.00 | 19.50    1.67
                 1.00    1.02 |  7.25    2.04 | 13.50    5.00 | 19.75    1.67
                 1.25    1.02 |  7.50    2.04 | 13.75    3.89 | 20.00    1.67
                 1.50    1.02 |  7.75    2.04 | 14.00    3.89 | 20.25    1.11
                 1.75    1.02 |  8.00    2.04 | 14.25    2.78 | 20.50    1.11
                 2.00    1.02 |  8.25    2.41 | 14.50    2.78 | 20.75    1.11
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                 2.25    1.20 |  8.50    2.41 | 14.75    2.78 | 21.00    1.11
                 2.50    1.20 |  8.75    2.59 | 15.00    2.78 | 21.25    1.11
                 2.75    1.20 |  9.00    2.59 | 15.25    2.78 | 21.50    1.11
                 3.00    1.20 |  9.25    2.97 | 15.50    2.78 | 21.75    1.11
                 3.25    1.20 |  9.50    2.97 | 15.75    2.78 | 22.00    1.11
                 3.50    1.20 |  9.75    3.34 | 16.00    2.78 | 22.25    1.11
                 3.75    1.20 | 10.00    3.34 | 16.25    1.67 | 22.50    1.11
                 4.00    1.20 | 10.25    4.26 | 16.50    1.67 | 22.75    1.11
                 4.25    1.48 | 10.50    4.26 | 16.75    1.67 | 23.00    1.11
                 4.50    1.48 | 10.75    5.74 | 17.00    1.67 | 23.25    1.11
                 4.75    1.48 | 11.00    5.74 | 17.25    1.67 | 23.50    1.11
                 5.00    1.48 | 11.25    8.90 | 17.50    1.67 | 23.75    1.11
                 5.25    1.48 | 11.50    8.90 | 17.75    1.67 | 24.00    1.11
                 5.50    1.48 | 11.75   27.43 | 18.00    1.67 |
                 5.75    1.48 | 12.00  113.42 | 18.25    1.67 |
                 6.00    1.48 | 12.25   13.34 | 18.50    1.67 |

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| CALIB             |
| STANDHYD (  0001)|   Area    (ha)=   9.81
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  48.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.69         4.12
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     255.73        30.00
     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    1.48 |12.250  113.42 | 18.33    1.67
                0.167    0.00 | 6.250    1.48 |12.333   13.36 | 18.42    1.67
                0.250    0.00 | 6.333    1.67 |12.417   13.34 | 18.50    1.67
                0.333    1.02 | 6.417    1.67 |12.500   13.34 | 18.58    1.67
                0.417    1.02 | 6.500    1.67 |12.583   13.34 | 18.67    1.67
                0.500    1.02 | 6.583    1.67 |12.667   13.34 | 18.75    1.67
                0.583    1.02 | 6.667    1.67 |12.750   13.34 | 18.83    1.67
                0.667    1.02 | 6.750    1.67 |12.833    6.86 | 18.92    1.67
                0.750    1.02 | 6.833    1.67 |12.917    6.86 | 19.00    1.67
                0.833    1.02 | 6.917    1.67 |13.000    6.86 | 19.08    1.67
                0.917    1.02 | 7.000    1.67 |13.083    6.86 | 19.17    1.67
                1.000    1.02 | 7.083    1.67 |13.167    6.86 | 19.25    1.67
                1.083    1.02 | 7.167    1.67 |13.250    6.86 | 19.33    1.67
                1.167    1.02 | 7.250    1.67 |13.333    5.00 | 19.42    1.67
                1.250    1.02 | 7.333    2.04 |13.417    5.00 | 19.50    1.67
                1.333    1.02 | 7.417    2.04 |13.500    5.00 | 19.58    1.67
                1.417    1.02 | 7.500    2.04 |13.583    5.00 | 19.67    1.67
                1.500    1.02 | 7.583    2.04 |13.667    5.00 | 19.75    1.67
                1.583    1.02 | 7.667    2.04 |13.750    5.00 | 19.83    1.67
                1.667    1.02 | 7.750    2.04 |13.833    3.89 | 19.92    1.67
                1.750    1.02 | 7.833    2.04 |13.917    3.89 | 20.00    1.67
                1.833    1.02 | 7.917    2.04 |14.000    3.89 | 20.08    1.67
                1.917    1.02 | 8.000    2.04 |14.083    3.89 | 20.17    1.67
                2.000    1.02 | 8.083    2.04 |14.167    3.89 | 20.25    1.67
                2.083    1.02 | 8.167    2.04 |14.250    3.89 | 20.33    1.11
                2.167    1.02 | 8.250    2.04 |14.333    2.78 | 20.42    1.11
                2.250    1.02 | 8.333    2.41 |14.417    2.78 | 20.50    1.11
                2.333    1.20 | 8.417    2.41 |14.500    2.78 | 20.58    1.11
                2.417    1.20 | 8.500    2.41 |14.583    2.78 | 20.67    1.11
                2.500    1.20 | 8.583    2.41 |14.667    2.78 | 20.75    1.11
                2.583    1.20 | 8.667    2.41 |14.750    2.78 | 20.83    1.11
                2.667    1.20 | 8.750    2.41 |14.833    2.78 | 20.92    1.11
                2.750    1.20 | 8.833    2.59 |14.917    2.78 | 21.00    1.11
                2.833    1.20 | 8.917    2.59 |15.000    2.78 | 21.08    1.11
                2.917    1.20 | 9.000    2.59 |15.083    2.78 | 21.17    1.11
                3.000    1.20 | 9.083    2.59 |15.167    2.78 | 21.25    1.11
                3.083    1.20 | 9.167    2.59 |15.250    2.78 | 21.33    1.11
                3.167    1.20 | 9.250    2.59 |15.333    2.78 | 21.42    1.11
                3.250    1.20 | 9.333    2.97 |15.417    2.78 | 21.50    1.11
                3.333    1.20 | 9.417    2.97 |15.500    2.78 | 21.58    1.11
                3.417    1.20 | 9.500    2.97 |15.583    2.78 | 21.67    1.11
                3.500    1.20 | 9.583    2.97 |15.667    2.78 | 21.75    1.11
                3.583    1.20 | 9.667    2.97 |15.750    2.78 | 21.83    1.11
                3.667    1.20 | 9.750    2.97 |15.833    2.78 | 21.92    1.11
                3.750    1.20 | 9.833    3.34 |15.917    2.78 | 22.00    1.11
                3.833    1.20 | 9.917    3.34 |16.000    2.78 | 22.08    1.11
                3.917    1.20 |10.000    3.34 |16.083    2.78 | 22.17    1.11
                4.000    1.20 |10.083    3.34 |16.167    2.78 | 22.25    1.11
                4.083    1.20 |10.167    3.34 |16.250    2.78 | 22.33    1.11
                4.167    1.20 |10.250    3.34 |16.333    1.67 | 22.42    1.11
                4.250    1.20 |10.333    4.26 |16.417    1.67 | 22.50    1.11
                4.333    1.48 |10.417    4.26 |16.500    1.67 | 22.58    1.11
                4.417    1.48 |10.500    4.26 |16.583    1.67 | 22.67    1.11
                4.500    1.48 |10.583    4.26 |16.667    1.67 | 22.75    1.11
                4.583    1.48 |10.667    4.26 |16.750    1.67 | 22.83    1.11
                4.667    1.48 |10.750    4.26 |16.833    1.67 | 22.92    1.11
                4.750    1.48 |10.833    5.74 |16.917    1.67 | 23.00    1.11
                4.833    1.48 |10.917    5.74 |17.000    1.67 | 23.08    1.11
                4.917    1.48 |11.000    5.74 |17.083    1.67 | 23.17    1.11
                5.000    1.48 |11.083    5.74 |17.167    1.67 | 23.25    1.11
                5.083    1.48 |11.167    5.74 |17.250    1.67 | 23.33    1.11
                5.167    1.48 |11.250    5.74 |17.333    1.67 | 23.42    1.11
                5.250    1.48 |11.333    8.90 |17.417    1.67 | 23.50    1.11
                5.333    1.48 |11.417    8.90 |17.500    1.67 | 23.58    1.11
                5.417    1.48 |11.500    8.90 |17.583    1.67 | 23.67    1.11
                5.500    1.48 |11.583    8.90 |17.667    1.67 | 23.75    1.11
                5.583    1.48 |11.667    8.90 |17.750    1.67 | 23.83    1.11
                5.667    1.48 |11.750    8.90 |17.833    1.67 | 23.92    1.11
                5.750    1.48 |11.833   27.43 |17.917    1.67 | 24.00    1.11
                5.833    1.48 |11.917   27.43 |18.000    1.67 | 24.08    1.11
                5.917    1.48 |12.000   27.43 |18.083    1.67 | 24.17    1.11
                6.000    1.48 |12.083  113.41 |18.167    1.67 | 24.25    1.11
                6.083    1.48 |12.167  113.42 |18.250    1.67 |

     Max.Eff.Inten.(mm/hr)=     113.42        91.57
                over (min)        5.00        15.00
     Storage Coeff.  (min)=       5.25 (ii)   11.41 (ii)
     Unit Hyd. Tpeak (min)=       5.00        15.00
     Unit Hyd. peak  (cms)=       0.21         0.09
                                                            *TOTALS*
     PEAK FLOW       (cms)=       1.42         0.66           1.991 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.33          12.25
     RUNOFF VOLUME    (mm)=      91.66        50.02          70.01
     TOTAL RAINFALL   (mm)=      92.66        92.66          92.66
     RUNOFF COEFFICIENT   =       0.99         0.54           0.76


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| STANDHYD (  0005)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     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    1.48 |12.250  113.42 | 18.33    1.67
                0.167    0.00 | 6.250    1.48 |12.333   13.36 | 18.42    1.67
                0.250    0.00 | 6.333    1.67 |12.417   13.34 | 18.50    1.67
                0.333    1.02 | 6.417    1.67 |12.500   13.34 | 18.58    1.67
                0.417    1.02 | 6.500    1.67 |12.583   13.34 | 18.67    1.67
                0.500    1.02 | 6.583    1.67 |12.667   13.34 | 18.75    1.67
                0.583    1.02 | 6.667    1.67 |12.750   13.34 | 18.83    1.67
                0.667    1.02 | 6.750    1.67 |12.833    6.86 | 18.92    1.67
                0.750    1.02 | 6.833    1.67 |12.917    6.86 | 19.00    1.67
                0.833    1.02 | 6.917    1.67 |13.000    6.86 | 19.08    1.67
                0.917    1.02 | 7.000    1.67 |13.083    6.86 | 19.17    1.67
                1.000    1.02 | 7.083    1.67 |13.167    6.86 | 19.25    1.67
                1.083    1.02 | 7.167    1.67 |13.250    6.86 | 19.33    1.67
                1.167    1.02 | 7.250    1.67 |13.333    5.00 | 19.42    1.67
                1.250    1.02 | 7.333    2.04 |13.417    5.00 | 19.50    1.67
                1.333    1.02 | 7.417    2.04 |13.500    5.00 | 19.58    1.67
                1.417    1.02 | 7.500    2.04 |13.583    5.00 | 19.67    1.67
                1.500    1.02 | 7.583    2.04 |13.667    5.00 | 19.75    1.67
                1.583    1.02 | 7.667    2.04 |13.750    5.00 | 19.83    1.67
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                1.667    1.02 | 7.750    2.04 |13.833    3.89 | 19.92    1.67
                1.750    1.02 | 7.833    2.04 |13.917    3.89 | 20.00    1.67
                1.833    1.02 | 7.917    2.04 |14.000    3.89 | 20.08    1.67
                1.917    1.02 | 8.000    2.04 |14.083    3.89 | 20.17    1.67
                2.000    1.02 | 8.083    2.04 |14.167    3.89 | 20.25    1.67
                2.083    1.02 | 8.167    2.04 |14.250    3.89 | 20.33    1.11
                2.167    1.02 | 8.250    2.04 |14.333    2.78 | 20.42    1.11
                2.250    1.02 | 8.333    2.41 |14.417    2.78 | 20.50    1.11
                2.333    1.20 | 8.417    2.41 |14.500    2.78 | 20.58    1.11
                2.417    1.20 | 8.500    2.41 |14.583    2.78 | 20.67    1.11
                2.500    1.20 | 8.583    2.41 |14.667    2.78 | 20.75    1.11
                2.583    1.20 | 8.667    2.41 |14.750    2.78 | 20.83    1.11
                2.667    1.20 | 8.750    2.41 |14.833    2.78 | 20.92    1.11
                2.750    1.20 | 8.833    2.59 |14.917    2.78 | 21.00    1.11
                2.833    1.20 | 8.917    2.59 |15.000    2.78 | 21.08    1.11
                2.917    1.20 | 9.000    2.59 |15.083    2.78 | 21.17    1.11
                3.000    1.20 | 9.083    2.59 |15.167    2.78 | 21.25    1.11
                3.083    1.20 | 9.167    2.59 |15.250    2.78 | 21.33    1.11
                3.167    1.20 | 9.250    2.59 |15.333    2.78 | 21.42    1.11
                3.250    1.20 | 9.333    2.97 |15.417    2.78 | 21.50    1.11
                3.333    1.20 | 9.417    2.97 |15.500    2.78 | 21.58    1.11
                3.417    1.20 | 9.500    2.97 |15.583    2.78 | 21.67    1.11
                3.500    1.20 | 9.583    2.97 |15.667    2.78 | 21.75    1.11
                3.583    1.20 | 9.667    2.97 |15.750    2.78 | 21.83    1.11
                3.667    1.20 | 9.750    2.97 |15.833    2.78 | 21.92    1.11
                3.750    1.20 | 9.833    3.34 |15.917    2.78 | 22.00    1.11
                3.833    1.20 | 9.917    3.34 |16.000    2.78 | 22.08    1.11
                3.917    1.20 |10.000    3.34 |16.083    2.78 | 22.17    1.11
                4.000    1.20 |10.083    3.34 |16.167    2.78 | 22.25    1.11
                4.083    1.20 |10.167    3.34 |16.250    2.78 | 22.33    1.11
                4.167    1.20 |10.250    3.34 |16.333    1.67 | 22.42    1.11
                4.250    1.20 |10.333    4.26 |16.417    1.67 | 22.50    1.11
                4.333    1.48 |10.417    4.26 |16.500    1.67 | 22.58    1.11
                4.417    1.48 |10.500    4.26 |16.583    1.67 | 22.67    1.11
                4.500    1.48 |10.583    4.26 |16.667    1.67 | 22.75    1.11
                4.583    1.48 |10.667    4.26 |16.750    1.67 | 22.83    1.11
                4.667    1.48 |10.750    4.26 |16.833    1.67 | 22.92    1.11
                4.750    1.48 |10.833    5.74 |16.917    1.67 | 23.00    1.11
                4.833    1.48 |10.917    5.74 |17.000    1.67 | 23.08    1.11
                4.917    1.48 |11.000    5.74 |17.083    1.67 | 23.17    1.11
                5.000    1.48 |11.083    5.74 |17.167    1.67 | 23.25    1.11
                5.083    1.48 |11.167    5.74 |17.250    1.67 | 23.33    1.11
                5.167    1.48 |11.250    5.74 |17.333    1.67 | 23.42    1.11
                5.250    1.48 |11.333    8.90 |17.417    1.67 | 23.50    1.11
                5.333    1.48 |11.417    8.90 |17.500    1.67 | 23.58    1.11
                5.417    1.48 |11.500    8.90 |17.583    1.67 | 23.67    1.11
                5.500    1.48 |11.583    8.90 |17.667    1.67 | 23.75    1.11
                5.583    1.48 |11.667    8.90 |17.750    1.67 | 23.83    1.11
                5.667    1.48 |11.750    8.90 |17.833    1.67 | 23.92    1.11
                5.750    1.48 |11.833   27.43 |17.917    1.67 | 24.00    1.11
                5.833    1.48 |11.917   27.43 |18.000    1.67 | 24.08    1.11
                5.917    1.48 |12.000   27.43 |18.083    1.67 | 24.17    1.11
                6.000    1.48 |12.083  113.41 |18.167    1.67 | 24.25    1.11
                6.083    1.48 |12.167  113.42 |18.250    1.67 |

     Max.Eff.Inten.(mm/hr)=     113.42        66.26
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.85 (ii)    9.85 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.28         0.11
                                                            *TOTALS*
     PEAK FLOW       (cms)=       0.20         0.08           0.283 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=      90.66        44.59          67.62
     TOTAL RAINFALL   (mm)=      92.66        92.66          92.66
     RUNOFF COEFFICIENT   =       0.98         0.48           0.73

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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  (  0007)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (  0001):     9.81   1.991    12.25    70.01
       + ID2= 2 (  0005):     1.28   0.283    12.25    67.62
         ==================================================
      ID = 3 (  0007):    11.09   2.274    12.25    69.73

   NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| RESERVOIR(  0003)|     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   |   0.3480      0.4690
                          0.0270     0.0900   |   0.8590      0.6570
                          0.0470     0.1880   |   1.5140      0.8590
                          0.0600     0.2950   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0007)     11.090     2.274     12.25      69.73
   OUTFLOW: ID= 1 (  0003)     11.090     0.278     12.92      69.66

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 12.23
                   TIME SHIFT OF PEAK FLOW         (min)= 40.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.4268

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--------------------
| CALIB            |
| STANDHYD (  0015)|   Area    (ha)=   0.41
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=       0.20          0.20
    Dep. Storage     (mm)=       1.00          1.50
    Average Slope     (%)=       1.00          2.00
    Length            (m)=      52.28         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    1.48 |12.250  113.42 | 18.33    1.67
         0.167    0.00 | 6.250    1.48 |12.333   13.36 | 18.42    1.67
         0.250    0.00 | 6.333    1.67 |12.417   13.34 | 18.50    1.67
         0.333    1.02 | 6.417    1.67 |12.500   13.34 | 18.58    1.67
         0.417    1.02 | 6.500    1.67 |12.583   13.34 | 18.67    1.67
         0.500    1.02 | 6.583    1.67 |12.667   13.34 | 18.75    1.67
         0.583    1.02 | 6.667    1.67 |12.750   13.34 | 18.83    1.67
         0.667    1.02 | 6.750    1.67 |12.833    6.86 | 18.92    1.67
         0.750    1.02 | 6.833    1.67 |12.917    6.86 | 19.00    1.67
         0.833    1.02 | 6.917    1.67 |13.000    6.86 | 19.08    1.67
         0.917    1.02 | 7.000    1.67 |13.083    6.86 | 19.17    1.67
         1.000    1.02 | 7.083    1.67 |13.167    6.86 | 19.25    1.67
         1.083    1.02 | 7.167    1.67 |13.250    6.86 | 19.33    1.67
         1.167    1.02 | 7.250    1.67 |13.333    5.00 | 19.42    1.67
         1.250    1.02 | 7.333    2.04 |13.417    5.00 | 19.50    1.67
         1.333    1.02 | 7.417    2.04 |13.500    5.00 | 19.58    1.67
         1.417    1.02 | 7.500    2.04 |13.583    5.00 | 19.67    1.67
         1.500    1.02 | 7.583    2.04 |13.667    5.00 | 19.75    1.67
         1.583    1.02 | 7.667    2.04 |13.750    5.00 | 19.83    1.67
         1.667    1.02 | 7.750    2.04 |13.833    3.89 | 19.92    1.67
         1.750    1.02 | 7.833    2.04 |13.917    3.89 | 20.00    1.67
         1.833    1.02 | 7.917    2.04 |14.000    3.89 | 20.08    1.67
         1.917    1.02 | 8.000    2.04 |14.083    3.89 | 20.17    1.67
         2.000    1.02 | 8.083    2.04 |14.167    3.89 | 20.25    1.67
         2.083    1.02 | 8.167    2.04 |14.250    3.89 | 20.33    1.11
         2.167    1.02 | 8.250    2.04 |14.333    2.78 | 20.42    1.11
         2.250    1.02 | 8.333    2.41 |14.417    2.78 | 20.50    1.11
         2.333    1.20 | 8.417    2.41 |14.500    2.78 | 20.58    1.11
         2.417    1.20 | 8.500    2.41 |14.583    2.78 | 20.67    1.11
         2.500    1.20 | 8.583    2.41 |14.667    2.78 | 20.75    1.11
         2.583    1.20 | 8.667    2.41 |14.750    2.78 | 20.83    1.11
         2.667    1.20 | 8.750    2.41 |14.833    2.78 | 20.92    1.11
         2.750    1.20 | 8.833    2.59 |14.917    2.78 | 21.00    1.11
         2.833    1.20 | 8.917    2.59 |15.000    2.78 | 21.08    1.11
         2.917    1.20 | 9.000    2.59 |15.083    2.78 | 21.17    1.11
         3.000    1.20 | 9.083    2.59 |15.167    2.78 | 21.25    1.11
         3.083    1.20 | 9.167    2.59 |15.250    2.78 | 21.33    1.11
         3.167    1.20 | 9.250    2.59 |15.333    2.78 | 21.42    1.11
         3.250    1.20 | 9.333    2.97 |15.417    2.78 | 21.50    1.11
         3.333    1.20 | 9.417    2.97 |15.500    2.78 | 21.58    1.11
         3.417    1.20 | 9.500    2.97 |15.583    2.78 | 21.67    1.11
         3.500    1.20 | 9.583    2.97 |15.667    2.78 | 21.75    1.11
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         3.583    1.20 | 9.667    2.97 |15.750    2.78 | 21.83    1.11
         3.667    1.20 | 9.750    2.97 |15.833    2.78 | 21.92    1.11
         3.750    1.20 | 9.833    3.34 |15.917    2.78 | 22.00    1.11
         3.833    1.20 | 9.917    3.34 |16.000    2.78 | 22.08    1.11
         3.917    1.20 |10.000    3.34 |16.083    2.78 | 22.17    1.11
         4.000    1.20 |10.083    3.34 |16.167    2.78 | 22.25    1.11
         4.083    1.20 |10.167    3.34 |16.250    2.78 | 22.33    1.11
         4.167    1.20 |10.250    3.34 |16.333    1.67 | 22.42    1.11
         4.250    1.20 |10.333    4.26 |16.417    1.67 | 22.50    1.11
         4.333    1.48 |10.417    4.26 |16.500    1.67 | 22.58    1.11
         4.417    1.48 |10.500    4.26 |16.583    1.67 | 22.67    1.11
         4.500    1.48 |10.583    4.26 |16.667    1.67 | 22.75    1.11
         4.583    1.48 |10.667    4.26 |16.750    1.67 | 22.83    1.11
         4.667    1.48 |10.750    4.26 |16.833    1.67 | 22.92    1.11
         4.750    1.48 |10.833    5.74 |16.917    1.67 | 23.00    1.11
         4.833    1.48 |10.917    5.74 |17.000    1.67 | 23.08    1.11
         4.917    1.48 |11.000    5.74 |17.083    1.67 | 23.17    1.11
         5.000    1.48 |11.083    5.74 |17.167    1.67 | 23.25    1.11
         5.083    1.48 |11.167    5.74 |17.250    1.67 | 23.33    1.11
         5.167    1.48 |11.250    5.74 |17.333    1.67 | 23.42    1.11
         5.250    1.48 |11.333    8.90 |17.417    1.67 | 23.50    1.11
         5.333    1.48 |11.417    8.90 |17.500    1.67 | 23.58    1.11
         5.417    1.48 |11.500    8.90 |17.583    1.67 | 23.67    1.11
         5.500    1.48 |11.583    8.90 |17.667    1.67 | 23.75    1.11
         5.583    1.48 |11.667    8.90 |17.750    1.67 | 23.83    1.11
         5.667    1.48 |11.750    8.90 |17.833    1.67 | 23.92    1.11
         5.750    1.48 |11.833   27.43 |17.917    1.67 | 24.00    1.11
         5.833    1.48 |11.917   27.43 |18.000    1.67 | 24.08    1.11
         5.917    1.48 |12.000   27.43 |18.083    1.67 | 24.17    1.11
         6.000    1.48 |12.083  113.41 |18.167    1.67 | 24.25    1.11
         6.083    1.48 |12.167  113.42 |18.250    1.67 |

     Max.Eff.Inten.(mm/hr)=     113.42       170.13
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.65 (ii)    7.35 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.13
                                                          *TOTALS*
     PEAK FLOW      (cms)=       0.02         0.08          0.099 (iii)
     TIME TO PEAK   (hrs)=      12.25        12.25         12.25
     RUNOFF VOLUME   (mm)=      91.66        71.29         74.34
     TOTAL RAINFALL  (mm)=      92.66        92.66         92.66
     RUNOFF COEFFICIENT  =       0.99         0.77          0.80

***** 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*  =  85.0    Ia = Dep. 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   (  0011)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.64

        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    1.48 |12.250  113.42 | 18.33    1.67
         0.167    0.00 | 6.250    1.48 |12.333   13.36 | 18.42    1.67
         0.250    0.00 | 6.333    1.67 |12.417   13.34 | 18.50    1.67
         0.333    1.02 | 6.417    1.67 |12.500   13.34 | 18.58    1.67
         0.417    1.02 | 6.500    1.67 |12.583   13.34 | 18.67    1.67
         0.500    1.02 | 6.583    1.67 |12.667   13.34 | 18.75    1.67
         0.583    1.02 | 6.667    1.67 |12.750   13.34 | 18.83    1.67
         0.667    1.02 | 6.750    1.67 |12.833    6.86 | 18.92    1.67
         0.750    1.02 | 6.833    1.67 |12.917    6.86 | 19.00    1.67
         0.833    1.02 | 6.917    1.67 |13.000    6.86 | 19.08    1.67
         0.917    1.02 | 7.000    1.67 |13.083    6.86 | 19.17    1.67
         1.000    1.02 | 7.083    1.67 |13.167    6.86 | 19.25    1.67
         1.083    1.02 | 7.167    1.67 |13.250    6.86 | 19.33    1.67
         1.167    1.02 | 7.250    1.67 |13.333    5.00 | 19.42    1.67
         1.250    1.02 | 7.333    2.04 |13.417    5.00 | 19.50    1.67
         1.333    1.02 | 7.417    2.04 |13.500    5.00 | 19.58    1.67
         1.417    1.02 | 7.500    2.04 |13.583    5.00 | 19.67    1.67
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              1.500    1.02 | 7.583    2.04 |13.667    5.00 | 19.75    1.67
              1.583    1.02 | 7.667    2.04 |13.750    5.00 | 19.83    1.67
              1.667    1.02 | 7.750    2.04 |13.833    3.89 | 19.92    1.67
              1.750    1.02 | 7.833    2.04 |13.917    3.89 | 20.00    1.67
              1.833    1.02 | 7.917    2.04 |14.000    3.89 | 20.08    1.67
              1.917    1.02 | 8.000    2.04 |14.083    3.89 | 20.17    1.67
              2.000    1.02 | 8.083    2.04 |14.167    3.89 | 20.25    1.67
              2.083    1.02 | 8.167    2.04 |14.250    3.89 | 20.33    1.11
              2.167    1.02 | 8.250    2.04 |14.333    2.78 | 20.42    1.11
              2.250    1.02 | 8.333    2.41 |14.417    2.78 | 20.50    1.11
              2.333    1.20 | 8.417    2.41 |14.500    2.78 | 20.58    1.11
              2.417    1.20 | 8.500    2.41 |14.583    2.78 | 20.67    1.11
              2.500    1.20 | 8.583    2.41 |14.667    2.78 | 20.75    1.11
              2.583    1.20 | 8.667    2.41 |14.750    2.78 | 20.83    1.11
              2.667    1.20 | 8.750    2.41 |14.833    2.78 | 20.92    1.11
              2.750    1.20 | 8.833    2.59 |14.917    2.78 | 21.00    1.11
              2.833    1.20 | 8.917    2.59 |15.000    2.78 | 21.08    1.11
              2.917    1.20 | 9.000    2.59 |15.083    2.78 | 21.17    1.11
              3.000    1.20 | 9.083    2.59 |15.167    2.78 | 21.25    1.11
              3.083    1.20 | 9.167    2.59 |15.250    2.78 | 21.33    1.11
              3.167    1.20 | 9.250    2.59 |15.333    2.78 | 21.42    1.11
              3.250    1.20 | 9.333    2.97 |15.417    2.78 | 21.50    1.11
              3.333    1.20 | 9.417    2.97 |15.500    2.78 | 21.58    1.11
              3.417    1.20 | 9.500    2.97 |15.583    2.78 | 21.67    1.11
              3.500    1.20 | 9.583    2.97 |15.667    2.78 | 21.75    1.11
              3.583    1.20 | 9.667    2.97 |15.750    2.78 | 21.83    1.11
              3.667    1.20 | 9.750    2.97 |15.833    2.78 | 21.92    1.11
              3.750    1.20 | 9.833    3.34 |15.917    2.78 | 22.00    1.11
              3.833    1.20 | 9.917    3.34 |16.000    2.78 | 22.08    1.11
              3.917    1.20 |10.000    3.34 |16.083    2.78 | 22.17    1.11
              4.000    1.20 |10.083    3.34 |16.167    2.78 | 22.25    1.11
              4.083    1.20 |10.167    3.34 |16.250    2.78 | 22.33    1.11
              4.167    1.20 |10.250    3.34 |16.333    1.67 | 22.42    1.11
              4.250    1.20 |10.333    4.26 |16.417    1.67 | 22.50    1.11
              4.333    1.48 |10.417    4.26 |16.500    1.67 | 22.58    1.11
              4.417    1.48 |10.500    4.26 |16.583    1.67 | 22.67    1.11
              4.500    1.48 |10.583    4.26 |16.667    1.67 | 22.75    1.11
              4.583    1.48 |10.667    4.26 |16.750    1.67 | 22.83    1.11
              4.667    1.48 |10.750    4.26 |16.833    1.67 | 22.92    1.11
              4.750    1.48 |10.833    5.74 |16.917    1.67 | 23.00    1.11
              4.833    1.48 |10.917    5.74 |17.000    1.67 | 23.08    1.11
              4.917    1.48 |11.000    5.74 |17.083    1.67 | 23.17    1.11
              5.000    1.48 |11.083    5.74 |17.167    1.67 | 23.25    1.11
              5.083    1.48 |11.167    5.74 |17.250    1.67 | 23.33    1.11
              5.167    1.48 |11.250    5.74 |17.333    1.67 | 23.42    1.11
              5.250    1.48 |11.333    8.90 |17.417    1.67 | 23.50    1.11
              5.333    1.48 |11.417    8.90 |17.500    1.67 | 23.58    1.11
              5.417    1.48 |11.500    8.90 |17.583    1.67 | 23.67    1.11
              5.500    1.48 |11.583    8.90 |17.667    1.67 | 23.75    1.11
              5.583    1.48 |11.667    8.90 |17.750    1.67 | 23.83    1.11
              5.667    1.48 |11.750    8.90 |17.833    1.67 | 23.92    1.11
              5.750    1.48 |11.833   27.43 |17.917    1.67 | 24.00    1.11
              5.833    1.48 |11.917   27.43 |18.000    1.67 | 24.08    1.11
              5.917    1.48 |12.000   27.43 |18.083    1.67 | 24.17    1.11
              6.000    1.48 |12.083  113.41 |18.167    1.67 | 24.25    1.11
              6.083    1.48 |12.167  113.42 |18.250    1.67 |

     Unit Hyd Qpeak  (cms)=   0.865

     PEAK FLOW       (cms)=   0.747 (i)
     TIME TO PEAK    (hrs)=  12.833
     RUNOFF VOLUME    (mm)=  45.324
     TOTAL RAINFALL   (mm)=  92.660
     RUNOFF COEFFICIENT   =   0.489

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

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 | CALIB              |
 | STANDHYD (  0002)|   Area    (ha)=   9.66
 |ID= 1 DT= 5.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  50.00
 --------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.57         3.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     253.77        30.00
     Mannings n           =      0.013        0.250

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

                          ---- TRANSFORMED HYETOGRAPH ----
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                TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
               0.083    0.00 | 6.167    1.48 |12.250  113.42 | 18.33    1.67
               0.167    0.00 | 6.250    1.48 |12.333   13.36 | 18.42    1.67
               0.250    0.00 | 6.333    1.67 |12.417   13.34 | 18.50    1.67
               0.333    1.02 | 6.417    1.67 |12.500   13.34 | 18.58    1.67
               0.417    1.02 | 6.500    1.67 |12.583   13.34 | 18.67    1.67
               0.500    1.02 | 6.583    1.67 |12.667   13.34 | 18.75    1.67
               0.583    1.02 | 6.667    1.67 |12.750   13.34 | 18.83    1.67
               0.667    1.02 | 6.750    1.67 |12.833    6.86 | 18.92    1.67
               0.750    1.02 | 6.833    1.67 |12.917    6.86 | 19.00    1.67
               0.833    1.02 | 6.917    1.67 |13.000    6.86 | 19.08    1.67
               0.917    1.02 | 7.000    1.67 |13.083    6.86 | 19.17    1.67
               1.000    1.02 | 7.083    1.67 |13.167    6.86 | 19.25    1.67
               1.083    1.02 | 7.167    1.67 |13.250    6.86 | 19.33    1.67
               1.167    1.02 | 7.250    1.67 |13.333    5.00 | 19.42    1.67
               1.250    1.02 | 7.333    2.04 |13.417    5.00 | 19.50    1.67
               1.333    1.02 | 7.417    2.04 |13.500    5.00 | 19.58    1.67
               1.417    1.02 | 7.500    2.04 |13.583    5.00 | 19.67    1.67
               1.500    1.02 | 7.583    2.04 |13.667    5.00 | 19.75    1.67
               1.583    1.02 | 7.667    2.04 |13.750    5.00 | 19.83    1.67
               1.667    1.02 | 7.750    2.04 |13.833    3.89 | 19.92    1.67
               1.750    1.02 | 7.833    2.04 |13.917    3.89 | 20.00    1.67
               1.833    1.02 | 7.917    2.04 |14.000    3.89 | 20.08    1.67
               1.917    1.02 | 8.000    2.04 |14.083    3.89 | 20.17    1.67
               2.000    1.02 | 8.083    2.04 |14.167    3.89 | 20.25    1.67
               2.083    1.02 | 8.167    2.04 |14.250    3.89 | 20.33    1.11
               2.167    1.02 | 8.250    2.04 |14.333    2.78 | 20.42    1.11
               2.250    1.02 | 8.333    2.41 |14.417    2.78 | 20.50    1.11
               2.333    1.20 | 8.417    2.41 |14.500    2.78 | 20.58    1.11
               2.417    1.20 | 8.500    2.41 |14.583    2.78 | 20.67    1.11
               2.500    1.20 | 8.583    2.41 |14.667    2.78 | 20.75    1.11
               2.583    1.20 | 8.667    2.41 |14.750    2.78 | 20.83    1.11
               2.667    1.20 | 8.750    2.41 |14.833    2.78 | 20.92    1.11
               2.750    1.20 | 8.833    2.59 |14.917    2.78 | 21.00    1.11
               2.833    1.20 | 8.917    2.59 |15.000    2.78 | 21.08    1.11
               2.917    1.20 | 9.000    2.59 |15.083    2.78 | 21.17    1.11
               3.000    1.20 | 9.083    2.59 |15.167    2.78 | 21.25    1.11
               3.083    1.20 | 9.167    2.59 |15.250    2.78 | 21.33    1.11
               3.167    1.20 | 9.250    2.59 |15.333    2.78 | 21.42    1.11
               3.250    1.20 | 9.333    2.97 |15.417    2.78 | 21.50    1.11
               3.333    1.20 | 9.417    2.97 |15.500    2.78 | 21.58    1.11
               3.417    1.20 | 9.500    2.97 |15.583    2.78 | 21.67    1.11
               3.500    1.20 | 9.583    2.97 |15.667    2.78 | 21.75    1.11
               3.583    1.20 | 9.667    2.97 |15.750    2.78 | 21.83    1.11
               3.667    1.20 | 9.750    2.97 |15.833    2.78 | 21.92    1.11
               3.750    1.20 | 9.833    3.34 |15.917    2.78 | 22.00    1.11
               3.833    1.20 | 9.917    3.34 |16.000    2.78 | 22.08    1.11
               3.917    1.20 |10.000    3.34 |16.083    2.78 | 22.17    1.11
               4.000    1.20 |10.083    3.34 |16.167    2.78 | 22.25    1.11
               4.083    1.20 |10.167    3.34 |16.250    2.78 | 22.33    1.11
               4.167    1.20 |10.250    3.34 |16.333    1.67 | 22.42    1.11
               4.250    1.20 |10.333    4.26 |16.417    1.67 | 22.50    1.11
               4.333    1.48 |10.417    4.26 |16.500    1.67 | 22.58    1.11
               4.417    1.48 |10.500    4.26 |16.583    1.67 | 22.67    1.11
               4.500    1.48 |10.583    4.26 |16.667    1.67 | 22.75    1.11
               4.583    1.48 |10.667    4.26 |16.750    1.67 | 22.83    1.11
               4.667    1.48 |10.750    4.26 |16.833    1.67 | 22.92    1.11
               4.750    1.48 |10.833    5.74 |16.917    1.67 | 23.00    1.11
               4.833    1.48 |10.917    5.74 |17.000    1.67 | 23.08    1.11
               4.917    1.48 |11.000    5.74 |17.083    1.67 | 23.17    1.11
               5.000    1.48 |11.083    5.74 |17.167    1.67 | 23.25    1.11
               5.083    1.48 |11.167    5.74 |17.250    1.67 | 23.33    1.11
               5.167    1.48 |11.250    5.74 |17.333    1.67 | 23.42    1.11
               5.250    1.48 |11.333    8.90 |17.417    1.67 | 23.50    1.11
               5.333    1.48 |11.417    8.90 |17.500    1.67 | 23.58    1.11
               5.417    1.48 |11.500    8.90 |17.583    1.67 | 23.67    1.11
               5.500    1.48 |11.583    8.90 |17.667    1.67 | 23.75    1.11
               5.583    1.48 |11.667    8.90 |17.750    1.67 | 23.83    1.11
               5.667    1.48 |11.750    8.90 |17.833    1.67 | 23.92    1.11
               5.750    1.48 |11.833   27.43 |17.917    1.67 | 24.00    1.11
               5.833    1.48 |11.917   27.43 |18.000    1.67 | 24.08    1.11
               5.917    1.48 |12.000   27.43 |18.083    1.67 | 24.17    1.11
               6.000    1.48 |12.083  113.41 |18.167    1.67 | 24.25    1.11
               6.083    1.48 |12.167  113.42 |18.250    1.67 |

     Max.Eff.Inten.(mm/hr)=     113.42       127.72
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       5.23 (ii)    9.95 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.21         0.11
                                                         *TOTALS*
     PEAK FLOW       (cms)=       1.46         0.78          2.234 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=      90.66        55.71          73.19
     TOTAL RAINFALL   (mm)=      92.66        92.66          92.66
     RUNOFF COEFFICIENT   =       0.98         0.60           0.79


       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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 --------------------
 | CALIB              |
 | STANDHYD (  0008)|   Area    (ha)=   1.28
 |ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
 --------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     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    1.48 |12.250  113.42 | 18.33    1.67
                 0.167    0.00 | 6.250    1.48 |12.333   13.36 | 18.42    1.67
                 0.250    0.00 | 6.333    1.67 |12.417   13.34 | 18.50    1.67
                 0.333    1.02 | 6.417    1.67 |12.500   13.34 | 18.58    1.67
                 0.417    1.02 | 6.500    1.67 |12.583   13.34 | 18.67    1.67
                 0.500    1.02 | 6.583    1.67 |12.667   13.34 | 18.75    1.67
                 0.583    1.02 | 6.667    1.67 |12.750   13.34 | 18.83    1.67
                 0.667    1.02 | 6.750    1.67 |12.833    6.86 | 18.92    1.67
                 0.750    1.02 | 6.833    1.67 |12.917    6.86 | 19.00    1.67
                 0.833    1.02 | 6.917    1.67 |13.000    6.86 | 19.08    1.67
                 0.917    1.02 | 7.000    1.67 |13.083    6.86 | 19.17    1.67
                 1.000    1.02 | 7.083    1.67 |13.167    6.86 | 19.25    1.67
                 1.083    1.02 | 7.167    1.67 |13.250    6.86 | 19.33    1.67
                 1.167    1.02 | 7.250    1.67 |13.333    5.00 | 19.42    1.67
                 1.250    1.02 | 7.333    2.04 |13.417    5.00 | 19.50    1.67
                 1.333    1.02 | 7.417    2.04 |13.500    5.00 | 19.58    1.67
                 1.417    1.02 | 7.500    2.04 |13.583    5.00 | 19.67    1.67
                 1.500    1.02 | 7.583    2.04 |13.667    5.00 | 19.75    1.67
                 1.583    1.02 | 7.667    2.04 |13.750    5.00 | 19.83    1.67
                 1.667    1.02 | 7.750    2.04 |13.833    3.89 | 19.92    1.67
                 1.750    1.02 | 7.833    2.04 |13.917    3.89 | 20.00    1.67
                 1.833    1.02 | 7.917    2.04 |14.000    3.89 | 20.08    1.67
                 1.917    1.02 | 8.000    2.04 |14.083    3.89 | 20.17    1.67
                 2.000    1.02 | 8.083    2.04 |14.167    3.89 | 20.25    1.67
                 2.083    1.02 | 8.167    2.04 |14.250    3.89 | 20.33    1.11
                 2.167    1.02 | 8.250    2.04 |14.333    2.78 | 20.42    1.11
                 2.250    1.02 | 8.333    2.41 |14.417    2.78 | 20.50    1.11
                 2.333    1.20 | 8.417    2.41 |14.500    2.78 | 20.58    1.11
                 2.417    1.20 | 8.500    2.41 |14.583    2.78 | 20.67    1.11
                 2.500    1.20 | 8.583    2.41 |14.667    2.78 | 20.75    1.11
                 2.583    1.20 | 8.667    2.41 |14.750    2.78 | 20.83    1.11
                 2.667    1.20 | 8.750    2.41 |14.833    2.78 | 20.92    1.11
                 2.750    1.20 | 8.833    2.59 |14.917    2.78 | 21.00    1.11
                 2.833    1.20 | 8.917    2.59 |15.000    2.78 | 21.08    1.11
                 2.917    1.20 | 9.000    2.59 |15.083    2.78 | 21.17    1.11
                 3.000    1.20 | 9.083    2.59 |15.167    2.78 | 21.25    1.11
                 3.083    1.20 | 9.167    2.59 |15.250    2.78 | 21.33    1.11
                 3.167    1.20 | 9.250    2.59 |15.333    2.78 | 21.42    1.11
                 3.250    1.20 | 9.333    2.97 |15.417    2.78 | 21.50    1.11
                 3.333    1.20 | 9.417    2.97 |15.500    2.78 | 21.58    1.11
                 3.417    1.20 | 9.500    2.97 |15.583    2.78 | 21.67    1.11
                 3.500    1.20 | 9.583    2.97 |15.667    2.78 | 21.75    1.11
                 3.583    1.20 | 9.667    2.97 |15.750    2.78 | 21.83    1.11
                 3.667    1.20 | 9.750    2.97 |15.833    2.78 | 21.92    1.11
                 3.750    1.20 | 9.833    3.34 |15.917    2.78 | 22.00    1.11
                 3.833    1.20 | 9.917    3.34 |16.000    2.78 | 22.08    1.11
                 3.917    1.20 |10.000    3.34 |16.083    2.78 | 22.17    1.11
                 4.000    1.20 |10.083    3.34 |16.167    2.78 | 22.25    1.11
                 4.083    1.20 |10.167    3.34 |16.250    2.78 | 22.33    1.11
                 4.167    1.20 |10.250    3.34 |16.333    1.67 | 22.42    1.11
                 4.250    1.20 |10.333    4.26 |16.417    1.67 | 22.50    1.11
                 4.333    1.48 |10.417    4.26 |16.500    1.67 | 22.58    1.11
                 4.417    1.48 |10.500    4.26 |16.583    1.67 | 22.67    1.11
                 4.500    1.48 |10.583    4.26 |16.667    1.67 | 22.75    1.11
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                 4.583    1.48 |10.667    4.26 |16.750    1.67 | 22.83    1.11
                 4.667    1.48 |10.750    4.26 |16.833    1.67 | 22.92    1.11
                 4.750    1.48 |10.833    5.74 |16.917    1.67 | 23.00    1.11
                 4.833    1.48 |10.917    5.74 |17.000    1.67 | 23.08    1.11
                 4.917    1.48 |11.000    5.74 |17.083    1.67 | 23.17    1.11
                 5.000    1.48 |11.083    5.74 |17.167    1.67 | 23.25    1.11
                 5.083    1.48 |11.167    5.74 |17.250    1.67 | 23.33    1.11
                 5.167    1.48 |11.250    5.74 |17.333    1.67 | 23.42    1.11
                 5.250    1.48 |11.333    8.90 |17.417    1.67 | 23.50    1.11
                 5.333    1.48 |11.417    8.90 |17.500    1.67 | 23.58    1.11
                 5.417    1.48 |11.500    8.90 |17.583    1.67 | 23.67    1.11
                 5.500    1.48 |11.583    8.90 |17.667    1.67 | 23.75    1.11
                 5.583    1.48 |11.667    8.90 |17.750    1.67 | 23.83    1.11
                 5.667    1.48 |11.750    8.90 |17.833    1.67 | 23.92    1.11
                 5.750    1.48 |11.833   27.43 |17.917    1.67 | 24.00    1.11
                 5.833    1.48 |11.917   27.43 |18.000    1.67 | 24.08    1.11
                 5.917    1.48 |12.000   27.43 |18.083    1.67 | 24.17    1.11
                 6.000    1.48 |12.083  113.41 |18.167    1.67 | 24.25    1.11
                 6.083    1.48 |12.167  113.42 |18.250    1.67 |

     Max.Eff.Inten.(mm/hr)=     113.42        66.26
                over (min)       5.00        10.00
     Storage Coeff.  (min)=       2.85 (ii)    9.85 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.28         0.11
                                                        *TOTALS*
     PEAK FLOW      (cms)=       0.20         0.08          0.283 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=      90.66        44.59          67.62
     TOTAL RAINFALL   (mm)=      92.66        92.66          92.66
     RUNOFF COEFFICIENT   =       0.98         0.48           0.73

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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 | CALIB              |
 | STANDHYD (  0016)|   Area    (ha)=   0.76
 |ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
 --------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.38         0.38
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      71.18        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    1.48 |12.250  113.42 | 18.33    1.67
                 0.167    0.00 | 6.250    1.48 |12.333   13.36 | 18.42    1.67
                 0.250    0.00 | 6.333    1.67 |12.417   13.34 | 18.50    1.67
                 0.333    1.02 | 6.417    1.67 |12.500   13.34 | 18.58    1.67
                 0.417    1.02 | 6.500    1.67 |12.583   13.34 | 18.67    1.67
                 0.500    1.02 | 6.583    1.67 |12.667   13.34 | 18.75    1.67
                 0.583    1.02 | 6.667    1.67 |12.750   13.34 | 18.83    1.67
                 0.667    1.02 | 6.750    1.67 |12.833    6.86 | 18.92    1.67
                 0.750    1.02 | 6.833    1.67 |12.917    6.86 | 19.00    1.67
                 0.833    1.02 | 6.917    1.67 |13.000    6.86 | 19.08    1.67
                 0.917    1.02 | 7.000    1.67 |13.083    6.86 | 19.17    1.67
                 1.000    1.02 | 7.083    1.67 |13.167    6.86 | 19.25    1.67
                 1.083    1.02 | 7.167    1.67 |13.250    6.86 | 19.33    1.67
                 1.167    1.02 | 7.250    1.67 |13.333    5.00 | 19.42    1.67
                 1.250    1.02 | 7.333    2.04 |13.417    5.00 | 19.50    1.67
                 1.333    1.02 | 7.417    2.04 |13.500    5.00 | 19.58    1.67
                 1.417    1.02 | 7.500    2.04 |13.583    5.00 | 19.67    1.67
                 1.500    1.02 | 7.583    2.04 |13.667    5.00 | 19.75    1.67
                 1.583    1.02 | 7.667    2.04 |13.750    5.00 | 19.83    1.67
                 1.667    1.02 | 7.750    2.04 |13.833    3.89 | 19.92    1.67
                 1.750    1.02 | 7.833    2.04 |13.917    3.89 | 20.00    1.67
                 1.833    1.02 | 7.917    2.04 |14.000    3.89 | 20.08    1.67
                 1.917    1.02 | 8.000    2.04 |14.083    3.89 | 20.17    1.67
                 2.000    1.02 | 8.083    2.04 |14.167    3.89 | 20.25    1.67
                 2.083    1.02 | 8.167    2.04 |14.250    3.89 | 20.33    1.11
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               2.167    1.02 | 8.250    2.04 |14.333    2.78 | 20.42    1.11
               2.250    1.02 | 8.333    2.41 |14.417    2.78 | 20.50    1.11
               2.333    1.20 | 8.417    2.41 |14.500    2.78 | 20.58    1.11
               2.417    1.20 | 8.500    2.41 |14.583    2.78 | 20.67    1.11
               2.500    1.20 | 8.583    2.41 |14.667    2.78 | 20.75    1.11
               2.583    1.20 | 8.667    2.41 |14.750    2.78 | 20.83    1.11
               2.667    1.20 | 8.750    2.41 |14.833    2.78 | 20.92    1.11
               2.750    1.20 | 8.833    2.59 |14.917    2.78 | 21.00    1.11
               2.833    1.20 | 8.917    2.59 |15.000    2.78 | 21.08    1.11
               2.917    1.20 | 9.000    2.59 |15.083    2.78 | 21.17    1.11
               3.000    1.20 | 9.083    2.59 |15.167    2.78 | 21.25    1.11
               3.083    1.20 | 9.167    2.59 |15.250    2.78 | 21.33    1.11
               3.167    1.20 | 9.250    2.59 |15.333    2.78 | 21.42    1.11
               3.250    1.20 | 9.333    2.97 |15.417    2.78 | 21.50    1.11
               3.333    1.20 | 9.417    2.97 |15.500    2.78 | 21.58    1.11
               3.417    1.20 | 9.500    2.97 |15.583    2.78 | 21.67    1.11
               3.500    1.20 | 9.583    2.97 |15.667    2.78 | 21.75    1.11
               3.583    1.20 | 9.667    2.97 |15.750    2.78 | 21.83    1.11
               3.667    1.20 | 9.750    2.97 |15.833    2.78 | 21.92    1.11
               3.750    1.20 | 9.833    3.34 |15.917    2.78 | 22.00    1.11
               3.833    1.20 | 9.917    3.34 |16.000    2.78 | 22.08    1.11
               3.917    1.20 |10.000    3.34 |16.083    2.78 | 22.17    1.11
               4.000    1.20 |10.083    3.34 |16.167    2.78 | 22.25    1.11
               4.083    1.20 |10.167    3.34 |16.250    2.78 | 22.33    1.11
               4.167    1.20 |10.250    3.34 |16.333    1.67 | 22.42    1.11
               4.250    1.20 |10.333    4.26 |16.417    1.67 | 22.50    1.11
               4.333    1.48 |10.417    4.26 |16.500    1.67 | 22.58    1.11
               4.417    1.48 |10.500    4.26 |16.583    1.67 | 22.67    1.11
               4.500    1.48 |10.583    4.26 |16.667    1.67 | 22.75    1.11
               4.583    1.48 |10.667    4.26 |16.750    1.67 | 22.83    1.11
               4.667    1.48 |10.750    4.26 |16.833    1.67 | 22.92    1.11
               4.750    1.48 |10.833    5.74 |16.917    1.67 | 23.00    1.11
               4.833    1.48 |10.917    5.74 |17.000    1.67 | 23.08    1.11
               4.917    1.48 |11.000    5.74 |17.083    1.67 | 23.17    1.11
               5.000    1.48 |11.083    5.74 |17.167    1.67 | 23.25    1.11
               5.083    1.48 |11.167    5.74 |17.250    1.67 | 23.33    1.11
               5.167    1.48 |11.250    5.74 |17.333    1.67 | 23.42    1.11
               5.250    1.48 |11.333    8.90 |17.417    1.67 | 23.50    1.11
               5.333    1.48 |11.417    8.90 |17.500    1.67 | 23.58    1.11
               5.417    1.48 |11.500    8.90 |17.583    1.67 | 23.67    1.11
               5.500    1.48 |11.583    8.90 |17.667    1.67 | 23.75    1.11
               5.583    1.48 |11.667    8.90 |17.750    1.67 | 23.83    1.11
               5.667    1.48 |11.750    8.90 |17.833    1.67 | 23.92    1.11
               5.750    1.48 |11.833   27.43 |17.917    1.67 | 24.00    1.11
               5.833    1.48 |11.917   27.43 |18.000    1.67 | 24.08    1.11
               5.917    1.48 |12.000   27.43 |18.083    1.67 | 24.17    1.11
               6.000    1.48 |12.083  113.41 |18.167    1.67 | 24.25    1.11
               6.083    1.48 |12.167  113.42 |18.250    1.67 |

     Max.Eff.Inten.(mm/hr)=     113.42      170.13
                over (min)        5.00       10.00
     Storage Coeff.  (min)=       1.98 (ii)    7.69 (ii)
     Unit Hyd. Tpeak (min)=       5.00       10.00
     Unit Hyd. peak  (cms)=       0.31        0.13
                                                              *TOTALS*
     PEAK FLOW       (cms)=       0.04        0.14              0.181 (iii)
     TIME TO PEAK    (hrs)=      12.25       12.25             12.25
     RUNOFF VOLUME    (mm)=      91.66       71.30             74.35
     TOTAL RAINFALL   (mm)=      92.66       92.66             92.66
     RUNOFF COEFFICIENT   =       0.99        0.77              0.80

***** 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*  =  85.0    Ia = Dep. 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  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (  0011):    14.50   0.747    12.83    45.32
       + ID2= 2 (  0016):     0.76   0.181    12.25    74.35
         ===================================================
         ID = 3 (  0006):    15.26   0.774    12.75    46.77

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (  0006):    15.26   0.774    12.75    46.77
       + ID2= 2 (  0002):     9.66   2.234    12.25    73.19
         ===================================================
         ID = 1 (  0006):    24.92   2.716    12.25    57.01

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

--------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (  0006):    24.92   2.716    12.25    57.01
       + ID2= 2 (  0008):     1.28   0.283    12.25    67.62
         ===================================================
         ID = 3 (  0006):    26.20   2.998    12.25    57.53

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0004)|     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   |   0.1460      0.6510
                          0.0160     0.1150   |   0.3020      0.9550
                          0.0250     0.2380   |   0.4430      1.1990
                          0.0410     0.3690   |   0.6010      1.4550

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0006)     26.200     2.998     12.25      57.53
   OUTFLOW: ID= 1 (  0004)     26.200     0.278     14.42      57.46

                  PEAK   FLOW   REDUCTION [Qout/Qin](%)=  9.28
                  TIME SHIFT OF PEAK FLOW         (min)=130.00
                  MAXIMUM  STORAGE   USED       (ha.m.)=  0.9089

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--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.43   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

         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    1.48 |12.250  113.42 | 18.33    1.67
                 0.167    0.00 | 6.250    1.48 |12.333   13.36 | 18.42    1.67
                 0.250    0.00 | 6.333    1.67 |12.417   13.34 | 18.50    1.67
                 0.333    1.02 | 6.417    1.67 |12.500   13.34 | 18.58    1.67
                 0.417    1.02 | 6.500    1.67 |12.583   13.34 | 18.67    1.67
                 0.500    1.02 | 6.583    1.67 |12.667   13.34 | 18.75    1.67
                 0.583    1.02 | 6.667    1.67 |12.750   13.34 | 18.83    1.67
                 0.667    1.02 | 6.750    1.67 |12.833    6.86 | 18.92    1.67
                 0.750    1.02 | 6.833    1.67 |12.917    6.86 | 19.00    1.67
                 0.833    1.02 | 6.917    1.67 |13.000    6.86 | 19.08    1.67
                 0.917    1.02 | 7.000    1.67 |13.083    6.86 | 19.17    1.67
                 1.000    1.02 | 7.083    1.67 |13.167    6.86 | 19.25    1.67
                 1.083    1.02 | 7.167    1.67 |13.250    6.86 | 19.33    1.67
                 1.167    1.02 | 7.250    1.67 |13.333    5.00 | 19.42    1.67
                 1.250    1.02 | 7.333    2.04 |13.417    5.00 | 19.50    1.67
                 1.333    1.02 | 7.417    2.04 |13.500    5.00 | 19.58    1.67
                 1.417    1.02 | 7.500    2.04 |13.583    5.00 | 19.67    1.67
                 1.500    1.02 | 7.583    2.04 |13.667    5.00 | 19.75    1.67
                 1.583    1.02 | 7.667    2.04 |13.750    5.00 | 19.83    1.67
                 1.667    1.02 | 7.750    2.04 |13.833    3.89 | 19.92    1.67
                 1.750    1.02 | 7.833    2.04 |13.917    3.89 | 20.00    1.67
                 1.833    1.02 | 7.917    2.04 |14.000    3.89 | 20.08    1.67
                 1.917    1.02 | 8.000    2.04 |14.083    3.89 | 20.17    1.67
                 2.000    1.02 | 8.083    2.04 |14.167    3.89 | 20.25    1.67
                 2.083    1.02 | 8.167    2.04 |14.250    3.89 | 20.33    1.11
                 2.167    1.02 | 8.250    2.04 |14.333    2.78 | 20.42    1.11
                 2.250    1.02 | 8.333    2.41 |14.417    2.78 | 20.50    1.11
                 2.333    1.20 | 8.417    2.41 |14.500    2.78 | 20.58    1.11
```

```
               2.417    1.20 | 8.500    2.41 |14.583    2.78 | 20.67    1.11
               2.500    1.20 | 8.583    2.41 |14.667    2.78 | 20.75    1.11
               2.583    1.20 | 8.667    2.41 |14.750    2.78 | 20.83    1.11
               2.667    1.20 | 8.750    2.41 |14.833    2.78 | 20.92    1.11
               2.750    1.20 | 8.833    2.59 |14.917    2.78 | 21.00    1.11
               2.833    1.20 | 8.917    2.59 |15.000    2.78 | 21.08    1.11
               2.917    1.20 | 9.000    2.59 |15.083    2.78 | 21.17    1.11
               3.000    1.20 | 9.083    2.59 |15.167    2.78 | 21.25    1.11
               3.083    1.20 | 9.167    2.59 |15.250    2.78 | 21.33    1.11
               3.167    1.20 | 9.250    2.59 |15.333    2.78 | 21.42    1.11
               3.250    1.20 | 9.333    2.97 |15.417    2.78 | 21.50    1.11
               3.333    1.20 | 9.417    2.97 |15.500    2.78 | 21.58    1.11
               3.417    1.20 | 9.500    2.97 |15.583    2.78 | 21.67    1.11
               3.500    1.20 | 9.583    2.97 |15.667    2.78 | 21.75    1.11
               3.583    1.20 | 9.667    2.97 |15.750    2.78 | 21.83    1.11
               3.667    1.20 | 9.750    2.97 |15.833    2.78 | 21.92    1.11
               3.750    1.20 | 9.833    3.34 |15.917    2.78 | 22.00    1.11
               3.833    1.20 | 9.917    3.34 |16.000    2.78 | 22.08    1.11
               3.917    1.20 |10.000    3.34 |16.083    2.78 | 22.17    1.11
               4.000    1.20 |10.083    3.34 |16.167    2.78 | 22.25    1.11
               4.083    1.20 |10.167    3.34 |16.250    2.78 | 22.33    1.11
               4.167    1.20 |10.250    3.34 |16.333    1.67 | 22.42    1.11
               4.250    1.20 |10.333    4.26 |16.417    1.67 | 22.50    1.11
               4.333    1.48 |10.417    4.26 |16.500    1.67 | 22.58    1.11
               4.417    1.48 |10.500    4.26 |16.583    1.67 | 22.67    1.11
               4.500    1.48 |10.583    4.26 |16.667    1.67 | 22.75    1.11
               4.583    1.48 |10.667    4.26 |16.750    1.67 | 22.83    1.11
               4.667    1.48 |10.750    4.26 |16.833    1.67 | 22.92    1.11
               4.750    1.48 |10.833    5.74 |16.917    1.67 | 23.00    1.11
               4.833    1.48 |10.917    5.74 |17.000    1.67 | 23.08    1.11
               4.917    1.48 |11.000    5.74 |17.083    1.67 | 23.17    1.11
               5.000    1.48 |11.083    5.74 |17.167    1.67 | 23.25    1.11
               5.083    1.48 |11.167    5.74 |17.250    1.67 | 23.33    1.11
               5.167    1.48 |11.250    5.74 |17.333    1.67 | 23.42    1.11
               5.250    1.48 |11.333    8.90 |17.417    1.67 | 23.50    1.11
               5.333    1.48 |11.417    8.90 |17.500    1.67 | 23.58    1.11
               5.417    1.48 |11.500    8.90 |17.583    1.67 | 23.67    1.11
               5.500    1.48 |11.583    8.90 |17.667    1.67 | 23.75    1.11
               5.583    1.48 |11.667    8.90 |17.750    1.67 | 23.83    1.11
               5.667    1.48 |11.750    8.90 |17.833    1.67 | 23.92    1.11
               5.750    1.48 |11.833   27.43 |17.917    1.67 | 24.00    1.11
               5.833    1.48 |11.917   27.43 |18.000    1.67 | 24.08    1.11
               5.917    1.48 |12.000   27.43 |18.083    1.67 | 24.17    1.11
               6.000    1.48 |12.083  113.41 |18.167    1.67 | 24.25    1.11
               6.083    1.48 |12.167  113.42 |18.250    1.67 |

     Unit Hyd Qpeak  (cms)=   0.126

     PEAK FLOW       (cms)=   0.064 (i)
     TIME TO PEAK    (hrs)=  12.250
     RUNOFF VOLUME    (mm)=  44.149
     TOTAL RAINFALL   (mm)=  92.660
     RUNOFF COEFFICIENT   =   0.476

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

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

  --------------------
  | ADD HYD  (  0019)|
  |   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
  --------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0017):       0.43   0.064    12.25    44.15
      + ID2= 2 (  0004):      26.20   0.278    14.42    57.46
        ====================================================
        ID = 3 (  0019):      26.63   0.281    14.33    57.24

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
  -------------------------------------------------------------------------------
  --------------------
  | CALIB            |
  | STANDHYD (  0024)|   Area    (ha)=   0.61
  |ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
  --------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31         0.31
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      63.77        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    0.00 | 6.167    1.48 |12.250  113.42 | 18.33    1.67
              0.167    0.00 | 6.250    1.48 |12.333   13.36 | 18.42    1.67
              0.250    0.00 | 6.333    1.67 |12.417   13.34 | 18.50    1.67
              0.333    1.02 | 6.417    1.67 |12.500   13.34 | 18.58    1.67
              0.417    1.02 | 6.500    1.67 |12.583   13.34 | 18.67    1.67
              0.500    1.02 | 6.583    1.67 |12.667   13.34 | 18.75    1.67
              0.583    1.02 | 6.667    1.67 |12.750   13.34 | 18.83    1.67
              0.667    1.02 | 6.750    1.67 |12.833    6.86 | 18.92    1.67
              0.750    1.02 | 6.833    1.67 |12.917    6.86 | 19.00    1.67
              0.833    1.02 | 6.917    1.67 |13.000    6.86 | 19.08    1.67
              0.917    1.02 | 7.000    1.67 |13.083    6.86 | 19.17    1.67
              1.000    1.02 | 7.083    1.67 |13.167    6.86 | 19.25    1.67
              1.083    1.02 | 7.167    1.67 |13.250    6.86 | 19.33    1.67
              1.167    1.02 | 7.250    1.67 |13.333    5.00 | 19.42    1.67
              1.250    1.02 | 7.333    2.04 |13.417    5.00 | 19.50    1.67
              1.333    1.02 | 7.417    2.04 |13.500    5.00 | 19.58    1.67
              1.417    1.02 | 7.500    2.04 |13.583    5.00 | 19.67    1.67
              1.500    1.02 | 7.583    2.04 |13.667    5.00 | 19.75    1.67
              1.583    1.02 | 7.667    2.04 |13.750    5.00 | 19.83    1.67
              1.667    1.02 | 7.750    2.04 |13.833    3.89 | 19.92    1.67
              1.750    1.02 | 7.833    2.04 |13.917    3.89 | 20.00    1.67
              1.833    1.02 | 7.917    2.04 |14.000    3.89 | 20.08    1.67
              1.917    1.02 | 8.000    2.04 |14.083    3.89 | 20.17    1.67
              2.000    1.02 | 8.083    2.04 |14.167    3.89 | 20.25    1.67
              2.083    1.02 | 8.167    2.04 |14.250    3.89 | 20.33    1.11
              2.167    1.02 | 8.250    2.04 |14.333    2.78 | 20.42    1.11
              2.250    1.02 | 8.333    2.41 |14.417    2.78 | 20.50    1.11
              2.333    1.20 | 8.417    2.41 |14.500    2.78 | 20.58    1.11
              2.417    1.20 | 8.500    2.41 |14.583    2.78 | 20.67    1.11
              2.500    1.20 | 8.583    2.41 |14.667    2.78 | 20.75    1.11
              2.583    1.20 | 8.667    2.41 |14.750    2.78 | 20.83    1.11
              2.667    1.20 | 8.750    2.41 |14.833    2.78 | 20.92    1.11
              2.750    1.20 | 8.833    2.59 |14.917    2.78 | 21.00    1.11
              2.833    1.20 | 8.917    2.59 |15.000    2.78 | 21.08    1.11
              2.917    1.20 | 9.000    2.59 |15.083    2.78 | 21.17    1.11
              3.000    1.20 | 9.083    2.59 |15.167    2.78 | 21.25    1.11
              3.083    1.20 | 9.167    2.59 |15.250    2.78 | 21.33    1.11
              3.167    1.20 | 9.250    2.59 |15.333    2.78 | 21.42    1.11
              3.250    1.20 | 9.333    2.97 |15.417    2.78 | 21.50    1.11
              3.333    1.20 | 9.417    2.97 |15.500    2.78 | 21.58    1.11
              3.417    1.20 | 9.500    2.97 |15.583    2.78 | 21.67    1.11
              3.500    1.20 | 9.583    2.97 |15.667    2.78 | 21.75    1.11
              3.583    1.20 | 9.667    2.97 |15.750    2.78 | 21.83    1.11
              3.667    1.20 | 9.750    2.97 |15.833    2.78 | 21.92    1.11
              3.750    1.20 | 9.833    3.34 |15.917    2.78 | 22.00    1.11
              3.833    1.20 | 9.917    3.34 |16.000    2.78 | 22.08    1.11
              3.917    1.20 |10.000    3.34 |16.083    2.78 | 22.17    1.11
              4.000    1.20 |10.083    3.34 |16.167    2.78 | 22.25    1.11
              4.083    1.20 |10.167    3.34 |16.250    2.78 | 22.33    1.11
              4.167    1.20 |10.250    3.34 |16.333    1.67 | 22.42    1.11
              4.250    1.20 |10.333    4.26 |16.417    1.67 | 22.50    1.11
              4.333    1.48 |10.417    4.26 |16.500    1.67 | 22.58    1.11
              4.417    1.48 |10.500    4.26 |16.583    1.67 | 22.67    1.11
              4.500    1.48 |10.583    4.26 |16.667    1.67 | 22.75    1.11
              4.583    1.48 |10.667    4.26 |16.750    1.67 | 22.83    1.11
              4.667    1.48 |10.750    4.26 |16.833    1.67 | 22.92    1.11
              4.750    1.48 |10.833    5.74 |16.917    1.67 | 23.00    1.11
              4.833    1.48 |10.917    5.74 |17.000    1.67 | 23.08    1.11
              4.917    1.48 |11.000    5.74 |17.083    1.67 | 23.17    1.11
              5.000    1.48 |11.083    5.74 |17.167    1.67 | 23.25    1.11
              5.083    1.48 |11.167    5.74 |17.250    1.67 | 23.33    1.11
              5.167    1.48 |11.250    5.74 |17.333    1.67 | 23.42    1.11
              5.250    1.48 |11.333    8.90 |17.417    1.67 | 23.50    1.11
              5.333    1.48 |11.417    8.90 |17.500    1.67 | 23.58    1.11
              5.417    1.48 |11.500    8.90 |17.583    1.67 | 23.67    1.11
              5.500    1.48 |11.583    8.90 |17.667    1.67 | 23.75    1.11
              5.583    1.48 |11.667    8.90 |17.750    1.67 | 23.83    1.11
              5.667    1.48 |11.750    8.90 |17.833    1.67 | 23.92    1.11
              5.750    1.48 |11.833   27.43 |17.917    1.67 | 24.00    1.11
              5.833    1.48 |11.917   27.43 |18.000    1.67 | 24.08    1.11
              5.917    1.48 |12.000   27.43 |18.083    1.67 | 24.17    1.11
              6.000    1.48 |12.083  113.41 |18.167    1.67 | 24.25    1.11
              6.083    1.48 |12.167  113.42 |18.250    1.67 |

     Max.Eff.Inten.(mm/hr)=     113.42       170.13
               over (min)         5.00        10.00
     Storage Coeff.  (min)=       1.85 (ii)    7.56 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.12         0.146 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=      91.66        71.30          74.34
     TOTAL RAINFALL   (mm)=      92.66        92.66          92.60
     RUNOFF COEFFICIENT   =       0.99         0.77           0.80

***** 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*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB              |
| STANDHYD (  0025)|   Area    (ha)=   0.83
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.42         0.42
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      74.39        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      1.48 |12.250   113.42 | 18.33      1.67
                0.167     0.00 | 6.250      1.48 |12.333    13.36 | 18.42      1.67
                0.250     0.00 | 6.333      1.67 |12.417    13.34 | 18.50      1.67
                0.333     1.02 | 6.417      1.67 |12.500    13.34 | 18.58      1.67
                0.417     1.02 | 6.500      1.67 |12.583    13.34 | 18.67      1.67
                0.500     1.02 | 6.583      1.67 |12.667    13.34 | 18.75      1.67
                0.583     1.02 | 6.667      1.67 |12.750    13.34 | 18.83      1.67
                0.667     1.02 | 6.750      1.67 |12.833     6.86 | 18.92      1.67
                0.750     1.02 | 6.833      1.67 |12.917     6.86 | 19.00      1.67
                0.833     1.02 | 6.917      1.67 |13.000     6.86 | 19.08      1.67
                0.917     1.02 | 7.000      1.67 |13.083     6.86 | 19.17      1.67
                1.000     1.02 | 7.083      1.67 |13.167     6.86 | 19.25      1.67
                1.083     1.02 | 7.167      1.67 |13.250     6.86 | 19.33      1.67
                1.167     1.02 | 7.250      1.67 |13.333     5.00 | 19.42      1.67
                1.250     1.02 | 7.333      2.04 |13.417     5.00 | 19.50      1.67
                1.333     1.02 | 7.417      2.04 |13.500     5.00 | 19.58      1.67
                1.417     1.02 | 7.500      2.04 |13.583     5.00 | 19.67      1.67
                1.500     1.02 | 7.583      2.04 |13.667     5.00 | 19.75      1.67
                1.583     1.02 | 7.667      2.04 |13.750     5.00 | 19.83      1.67
                1.667     1.02 | 7.750      2.04 |13.833     3.89 | 19.92      1.67
                1.750     1.02 | 7.833      2.04 |13.917     3.89 | 20.00      1.67
                1.833     1.02 | 7.917      2.04 |14.000     3.89 | 20.08      1.67
                1.917     1.02 | 8.000      2.04 |14.083     3.89 | 20.17      1.67
                2.000     1.02 | 8.083      2.04 |14.167     3.89 | 20.25      1.67
                2.083     1.02 | 8.167      2.04 |14.250     3.89 | 20.33      1.11
                2.167     1.02 | 8.250      2.04 |14.333     2.78 | 20.42      1.11
                2.250     1.02 | 8.333      2.41 |14.417     2.78 | 20.50      1.11
                2.333     1.20 | 8.417      2.41 |14.500     2.78 | 20.58      1.11
                2.417     1.20 | 8.500      2.41 |14.583     2.78 | 20.67      1.11
                2.500     1.20 | 8.583      2.41 |14.667     2.78 | 20.75      1.11
                2.583     1.20 | 8.667      2.41 |14.750     2.78 | 20.83      1.11
                2.667     1.20 | 8.750      2.41 |14.833     2.78 | 20.92      1.11
                2.750     1.20 | 8.833      2.59 |14.917     2.78 | 21.00      1.11
                2.833     1.20 | 8.917      2.59 |15.000     2.78 | 21.08      1.11
                2.917     1.20 | 9.000      2.59 |15.083     2.78 | 21.17      1.11
                3.000     1.20 | 9.083      2.59 |15.167     2.78 | 21.25      1.11
                3.083     1.20 | 9.167      2.59 |15.250     2.78 | 21.33      1.11
                3.167     1.20 | 9.250      2.59 |15.333     2.78 | 21.42      1.11
                3.250     1.20 | 9.333      2.97 |15.417     2.78 | 21.50      1.11
                3.333     1.20 | 9.417      2.97 |15.500     2.78 | 21.58      1.11
                3.417     1.20 | 9.500      2.97 |15.583     2.78 | 21.67      1.11
                3.500     1.20 | 9.583      2.97 |15.667     2.78 | 21.75      1.11
                3.583     1.20 | 9.667      2.97 |15.750     2.78 | 21.83      1.11
                3.667     1.20 | 9.750      2.97 |15.833     2.78 | 21.92      1.11
                3.750     1.20 | 9.833      3.34 |15.917     2.78 | 22.00      1.11
                3.833     1.20 | 9.917      3.34 |16.000     2.78 | 22.08      1.11
                3.917     1.20 |10.000      3.34 |16.083     2.78 | 22.17      1.11
                4.000     1.20 |10.083      3.34 |16.167     2.78 | 22.25      1.11
                4.083     1.20 |10.167      3.34 |16.250     2.78 | 22.33      1.11
                4.167     1.20 |10.250      3.34 |16.333     1.67 | 22.42      1.11
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                4.250     1.20 |10.333      4.26 |16.417     1.67 | 22.50      1.11
                4.333     1.48 |10.417      4.26 |16.500     1.67 | 22.58      1.11
                4.417     1.48 |10.500      4.26 |16.583     1.67 | 22.67      1.11
                4.500     1.48 |10.583      4.26 |16.667     1.67 | 22.75      1.11
                4.583     1.48 |10.667      4.26 |16.750     1.67 | 22.83      1.11
                4.667     1.48 |10.750      4.26 |16.833     1.67 | 22.92      1.11
                4.750     1.48 |10.833      5.74 |16.917     1.67 | 23.00      1.11
                4.833     1.48 |10.917      5.74 |17.000     1.67 | 23.08      1.11
                4.917     1.48 |11.000      5.74 |17.083     1.67 | 23.17      1.11
                5.000     1.48 |11.083      5.74 |17.167     1.67 | 23.25      1.11
                5.083     1.48 |11.167      5.74 |17.250     1.67 | 23.33      1.11
                5.167     1.48 |11.250      5.74 |17.333     1.67 | 23.42      1.11
                5.250     1.48 |11.333      8.90 |17.417     1.67 | 23.50      1.11
                5.333     1.48 |11.417      8.90 |17.500     1.67 | 23.58      1.11
                5.417     1.48 |11.500      8.90 |17.583     1.67 | 23.67      1.11
                5.500     1.48 |11.583      8.90 |17.667     1.67 | 23.75      1.11
                5.583     1.48 |11.667      8.90 |17.750     1.67 | 23.83      1.11
                5.667     1.48 |11.750      8.90 |17.833     1.67 | 23.92      1.11
                5.750     1.48 |11.833     27.43 |17.917     1.67 | 24.00      1.11
                5.833     1.48 |11.917     27.43 |18.000     1.67 | 24.08      1.11
                5.917     1.48 |12.000     27.43 |18.083     1.67 | 24.17      1.11
                6.000     1.48 |12.083    113.41 |18.167     1.67 | 24.25      1.11
                6.083     1.48 |12.167    113.42 |18.250     1.67 |

     Max.Eff.Inten.(mm/hr)=     113.42       170.13
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.03 (ii)    7.74 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.31         0.13
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.16          0.197 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=      91.66        71.30          74.35
     TOTAL RAINFALL   (mm)=      92.66        92.66          92.66
     RUNOFF COEFFICIENT   =       0.99         0.77           0.80

***** 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*  =  85.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

-------------------------------------------------------------------------------
***********************************************
** SIMULATION:J. 25yr 24hr 15min SCS Type II **
***********************************************

--------------------
|    READ STORM    |    Filename: C:\Users\jkerschbaumer\AppD
|                  |              ata\Local\Temp\
|                  |              0e53ce72-2c36-4efc-8a1e-c647e636da9d\7e11bead
| Ptotal=108.80 mm |    Comments: 25yr 24hr 15min SCS Type II
--------------------
                 TIME     RAIN |  TIME     RAIN |'  TIME    RAIN |  TIME     RAIN
                  hrs    mm/hr |   hrs    mm/hr |'   hrs   mm/hr |   hrs    mm/hr
                 0.00     0.00 |  6.25     1.96 | 12.50   15.67 | 18.75     1.96
                 0.25     1.20 |  6.50     1.96 | 12.75    8.05 | 19.00     1.96
                 0.50     1.20 |  6.75     1.96 | 13.00    8.05 | 19.25     1.96
                 0.75     1.20 |  7.00     1.96 | 13.25    5.88 | 19.50     1.96
                 1.00     1.20 |  7.25     2.39 | 13.50    5.88 | 19.75     1.96
                 1.25     1.20 |  7.50     2.39 | 13.75    4.57 | 20.00     1.96
                 1.50     1.20 |  7.75     2.39 | 14.00    4.57 | 20.25     1.31
                 1.75     1.20 |  8.00     2.39 | 14.25    3.26 | 20.50     1.31
                 2.00     1.20 |  8.25     2.83 | 14.50    3.26 | 20.75     1.31
                 2.25     1.41 |  8.50     2.83 | 14.75    3.26 | 21.00     1.31
                 2.50     1.41 |  8.75     3.05 | 15.00    3.26 | 21.25     1.31
                 2.75     1.41 |  9.00     3.05 | 15.25    3.26 | 21.50     1.31
                 3.00     1.41 |  9.25     3.48 | 15.50    3.26 | 21.75     1.31
                 3.25     1.41 |  9.50     3.48 | 15.75    3.26 | 22.00     1.31
                 3.50     1.41 |  9.75     3.92 | 16.00    3.26 | 22.25     1.31
                 3.75     1.41 | 10.00     3.92 | 16.25    1.96 | 22.50     1.31
                 4.00     1.41 | 10.25     5.00 | 16.50    1.96 | 22.75     1.31
                 4.25     1.74 | 10.50     5.00 | 16.75    1.96 | 23.00     1.31
                 4.50     1.74 | 10.75     6.75 | 17.00    1.96 | 23.25     1.31
                 4.75     1.74 | 11.00     6.75 | 17.25    1.96 | 23.50     1.31
                 5.00     1.74 | 11.25    10.44 | 17.50    1.96 | 23.75     1.31
                 5.25     1.74 | 11.50    10.44 | 17.75    1.96 | 24.00     1.31
                 5.50     1.74 | 11.75    32.20 | 18.00    1.96 |
                 5.75     1.74 | 12.00   133.17 | 18.25    1.96 |
                 6.00     1.74 | 12.25    15.67 | 18.50    1.96 |
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 --------------------
 | CALIB              |
 | STANDHYD (  0001)|   Area    (ha)=   9.81
 |ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  48.00
 --------------------
                              IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=       5.69         4.12
      Dep. Storage     (mm)=       1.00         5.00
      Average Slope     (%)=       0.50         2.00
      Length            (m)=     255.73        30.00
      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    1.74 |12.250  133.17 | 18.33    1.96
                0.167    0.00 | 6.250    1.74 |12.333   15.68 | 18.42    1.96
                0.250    0.00 | 6.333    1.96 |12.417   15.67 | 18.50    1.96
                0.333    1.20 | 6.417    1.96 |12.500   15.67 | 18.58    1.96
                0.417    1.20 | 6.500    1.96 |12.583   15.67 | 18.67    1.96
                0.500    1.20 | 6.583    1.96 |12.667   15.67 | 18.75    1.96
                0.583    1.20 | 6.667    1.96 |12.750   15.67 | 18.83    1.96
                0.667    1.20 | 6.750    1.96 |12.833    8.05 | 18.92    1.96
                0.750    1.20 | 6.833    1.96 |12.917    8.05 | 19.00    1.96
                0.833    1.20 | 6.917    1.96 |13.000    8.05 | 19.08    1.96
                0.917    1.20 | 7.000    1.96 |13.083    8.05 | 19.17    1.96
                1.000    1.20 | 7.083    1.96 |13.167    8.05 | 19.25    1.96
                1.083    1.20 | 7.167    1.96 |13.250    8.05 | 19.33    1.96
                1.167    1.20 | 7.250    1.96 |13.333    5.88 | 19.42    1.96
                1.250    1.20 | 7.333    2.39 |13.417    5.88 | 19.50    1.96
                1.333    1.20 | 7.417    2.39 |13.500    5.88 | 19.58    1.96
                1.417    1.20 | 7.500    2.39 |13.583    5.88 | 19.67    1.96
                1.500    1.20 | 7.583    2.39 |13.667    5.88 | 19.75    1.96
                1.583    1.20 | 7.667    2.39 |13.750    5.88 | 19.83    1.96
                1.667    1.20 | 7.750    2.39 |13.833    4.57 | 19.92    1.96
                1.750    1.20 | 7.833    2.39 |13.917    4.57 | 20.00    1.96
                1.833    1.20 | 7.917    2.39 |14.000    4.57 | 20.08    1.96
                1.917    1.20 | 8.000    2.39 |14.083    4.57 | 20.17    1.96
                2.000    1.20 | 8.083    2.39 |14.167    4.57 | 20.25    1.96
                2.083    1.20 | 8.167    2.39 |14.250    4.57 | 20.33    1.31
                2.167    1.20 | 8.250    2.39 |14.333    3.26 | 20.42    1.31
                2.250    1.20 | 8.333    2.83 |14.417    3.26 | 20.50    1.31
                2.333    1.41 | 8.417    2.83 |14.500    3.26 | 20.58    1.31
                2.417    1.41 | 8.500    2.83 |14.583    3.26 | 20.67    1.31
                2.500    1.41 | 8.583    2.83 |14.667    3.26 | 20.75    1.31
                2.583    1.41 | 8.667    2.83 |14.750    3.26 | 20.83    1.31
                2.667    1.41 | 8.750    2.83 |14.833    3.26 | 20.92    1.31
                2.750    1.41 | 8.833    3.05 |14.917    3.26 | 21.00    1.31
                2.833    1.41 | 8.917    3.05 |15.000    3.26 | 21.08    1.31
                2.917    1.41 | 9.000    3.05 |15.083    3.26 | 21.17    1.31
                3.000    1.41 | 9.083    3.05 |15.167    3.26 | 21.25    1.31
                3.083    1.41 | 9.167    3.05 |15.250    3.26 | 21.33    1.31
                3.167    1.41 | 9.250    3.05 |15.333    3.26 | 21.42    1.31
                3.250    1.41 | 9.333    3.48 |15.417    3.26 | 21.50    1.31
                3.333    1.41 | 9.417    3.48 |15.500    3.26 | 21.58    1.31
                3.417    1.41 | 9.500    3.48 |15.583    3.26 | 21.67    1.31
                3.500    1.41 | 9.583    3.48 |15.667    3.26 | 21.75    1.31
                3.583    1.41 | 9.667    3.48 |15.750    3.26 | 21.83    1.31
                3.667    1.41 | 9.750    3.48 |15.833    3.26 | 21.92    1.31
                3.750    1.41 | 9.833    3.92 |15.917    3.26 | 22.00    1.31
                3.833    1.41 | 9.917    3.92 |16.000    3.26 | 22.08    1.31
                3.917    1.41 |10.000    3.92 |16.083    3.26 | 22.17    1.31
                4.000    1.41 |10.083    3.92 |16.167    3.26 | 22.25    1.31
                4.083    1.41 |10.167    3.92 |16.250    3.26 | 22.33    1.31
                4.167    1.41 |10.250    3.92 |16.333    1.96 | 22.42    1.31
                4.250    1.41 |10.333    5.00 |16.417    1.96 | 22.50    1.31
                4.333    1.74 |10.417    5.00 |16.500    1.96 | 22.58    1.31
                4.417    1.74 |10.500    5.00 |16.583    1.96 | 22.67    1.31
                4.500    1.74 |10.583    5.00 |16.667    1.96 | 22.75    1.31
                4.583    1.74 |10.667    5.00 |16.750    1.96 | 22.83    1.31
                4.667    1.74 |10.750    5.00 |16.833    1.96 | 22.92    1.31
                4.750    1.74 |10.833    6.75 |16.917    1.96 | 23.00    1.31
                4.833    1.74 |10.917    6.75 |17.000    1.96 | 23.08    1.31
                4.917    1.74 |11.000    6.75 |17.083    1.96 | 23.17    1.31
                5.000    1.74 |11.083    6.75 |17.167    1.96 | 23.25    1.31
                5.083    1.74 |11.167    6.75 |17.250    1.96 | 23.33    1.31
                5.167    1.74 |11.250    6.75 |17.333    1.96 | 23.42    1.31
                5.250    1.74 |11.333   10.44 |17.417    1.96 | 23.50    1.31
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                5.333    1.74 |11.417   10.44 |17.500    1.96 | 23.58    1.31
                5.417    1.74 |11.500   10.44 |17.583    1.96 | 23.67    1.31
                5.500    1.74 |11.583   10.44 |17.667    1.96 | 23.75    1.31
                5.583    1.74 |11.667   10.44 |17.750    1.96 | 23.83    1.31
                5.667    1.74 |11.750   10.44 |17.833    1.96 | 23.92    1.31
                5.750    1.74 |11.833   32.20 |17.917    1.96 | 24.00    1.31
                5.833    1.74 |11.917   32.20 |18.000    1.96 | 24.08    1.31
                5.917    1.74 |12.000   32.20 |18.083    1.96 | 24.17    1.31
                6.000    1.74 |12.083  133.16 |18.167    1.96 | 24.25    1.31
                6.083    1.74 |12.167  133.17 |18.250    1.96 |

      Max.Eff.Inten.(mm/hr)=     133.17       115.44
                 over (min)        5.00        15.00
      Storage Coeff.  (min)=       4.93 (ii)   10.53 (ii)
      Unit Hyd. Tpeak (min)=       5.00        15.00
      Unit Hyd. peak  (cms)=       0.22         0.09
                                                          *TOTALS*
      PEAK FLOW       (cms)=       1.68         0.87         2.439 (iii)
      TIME TO PEAK    (hrs)=      12.25        12.33         12.25
      RUNOFF VOLUME    (mm)=     107.80        63.39         84.70
      TOTAL RAINFALL   (mm)=     108.80       108.80        108.80
      RUNOFF COEFFICIENT   =       0.99         0.58          0.78

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

        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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 --------------------
 | CALIB              |
 | STANDHYD (  0005)|   Area    (ha)=   1.28
 |ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
 --------------------
                              IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=       0.64         0.64
      Dep. Storage     (mm)=       2.00         5.00
      Average Slope     (%)=       0.50         2.00
      Length            (m)=      92.38        30.00
      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    1.74 |12.250  133.17 | 18.33    1.96
                0.167    0.00 | 6.250    1.74 |12.333   15.68 | 18.42    1.96
                0.250    0.00 | 6.333    1.96 |12.417   15.67 | 18.50    1.96
                0.333    1.20 | 6.417    1.96 |12.500   15.67 | 18.58    1.96
                0.417    1.20 | 6.500    1.96 |12.583   15.67 | 18.67    1.96
                0.500    1.20 | 6.583    1.96 |12.667   15.67 | 18.75    1.96
                0.583    1.20 | 6.667    1.96 |12.750   15.67 | 18.83    1.96
                0.667    1.20 | 6.750    1.96 |12.833    8.05 | 18.92    1.96
                0.750    1.20 | 6.833    1.96 |12.917    8.05 | 19.00    1.96
                0.833    1.20 | 6.917    1.96 |13.000    8.05 | 19.08    1.96
                0.917    1.20 | 7.000    1.96 |13.083    8.05 | 19.17    1.96
                1.000    1.20 | 7.083    1.96 |13.167    8.05 | 19.25    1.96
                1.083    1.20 | 7.167    1.96 |13.250    8.05 | 19.33    1.96
                1.167    1.20 | 7.250    1.96 |13.333    5.88 | 19.42    1.96
                1.250    1.20 | 7.333    2.39 |13.417    5.88 | 19.50    1.96
                1.333    1.20 | 7.417    2.39 |13.500    5.88 | 19.58    1.96
                1.417    1.20 | 7.500    2.39 |13.583    5.88 | 19.67    1.96
                1.500    1.20 | 7.583    2.39 |13.667    5.88 | 19.75    1.96
                1.583    1.20 | 7.667    2.39 |13.750    5.88 | 19.83    1.96
                1.667    1.20 | 7.750    2.39 |13.833    4.57 | 19.92    1.96
                1.750    1.20 | 7.833    2.39 |13.917    4.57 | 20.00    1.96
                1.833    1.20 | 7.917    2.39 |14.000    4.57 | 20.08    1.96
                1.917    1.20 | 8.000    2.39 |14.083    4.57 | 20.17    1.96
                2.000    1.20 | 8.083    2.39 |14.167    4.57 | 20.25    1.96
                2.083    1.20 | 8.167    2.39 |14.250    4.57 | 20.33    1.31
                2.167    1.20 | 8.250    2.39 |14.333    3.26 | 20.42    1.31
                2.250    1.20 | 8.333    2.83 |14.417    3.26 | 20.50    1.31
                2.333    1.41 | 8.417    2.83 |14.500    3.26 | 20.58    1.31
                2.417    1.41 | 8.500    2.83 |14.583    3.26 | 20.67    1.31
                2.500    1.41 | 8.583    2.83 |14.667    3.26 | 20.75    1.31
                2.583    1.41 | 8.667    2.83 |14.750    3.26 | 20.83    1.31
                2.667    1.41 | 8.750    2.83 |14.833    3.26 | 20.92    1.31
                2.750    1.41 | 8.833    3.05 |14.917    3.26 | 21.00    1.31
                2.833    1.41 | 8.917    3.05 |15.000    3.26 | 21.08    1.31
                2.917    1.41 | 9.000    3.05 |15.083    3.26 | 21.17    1.31
                3.000    1.41 | 9.083    3.05 |15.167    3.26 | 21.25    1.31
                3.083    1.41 | 9.167    3.05 |15.250    3.26 | 21.33    1.31
                3.167    1.41 | 9.250    3.05 |15.333    3.26 | 21.42    1.31
                3.250    1.41 | 9.333    3.48 |15.417    3.26 | 21.50    1.31
                3.333    1.41 | 9.417    3.48 |15.500    3.26 | 21.58    1.31
                3.417    1.41 | 9.500    3.48 |15.583    3.26 | 21.67    1.31
                3.500    1.41 | 9.583    3.48 |15.667    3.26 | 21.75    1.31
                3.583    1.41 | 9.667    3.48 |15.750    3.26 | 21.83    1.31
                3.667    1.41 | 9.750    3.48 |15.833    3.26 | 21.92    1.31
                3.750    1.41 | 9.833    3.92 |15.917    3.26 | 22.00    1.31
                3.833    1.41 | 9.917    3.92 |16.000    3.26 | 22.08    1.31
                3.917    1.41 |10.000    3.92 |16.083    3.26 | 22.17    1.31
                4.000    1.41 |10.083    3.92 |16.167    3.26 | 22.25    1.31
                4.083    1.41 |10.167    3.92 |16.250    3.26 | 22.33    1.31
                4.167    1.41 |10.250    3.92 |16.333    1.96 | 22.42    1.31
                4.250    1.41 |10.333    5.00 |16.417    1.96 | 22.50    1.31
                4.333    1.74 |10.417    5.00 |16.500    1.96 | 22.58    1.31
                4.417    1.74 |10.500    5.00 |16.583    1.96 | 22.67    1.31
                4.500    1.74 |10.583    5.00 |16.667    1.96 | 22.75    1.31
                4.583    1.74 |10.667    5.00 |16.750    1.96 | 22.83    1.31
                4.667    1.74 |10.750    5.00 |16.833    1.96 | 22.92    1.31
                4.750    1.74 |10.833    6.75 |16.917    1.96 | 23.00    1.31
                4.833    1.74 |10.917    6.75 |17.000    1.96 | 23.08    1.31
                4.917    1.74 |11.000    6.75 |17.083    1.96 | 23.17    1.31
                5.000    1.74 |11.083    6.75 |17.167    1.96 | 23.25    1.31
                5.083    1.74 |11.167    6.75 |17.250    1.96 | 23.33    1.31
                5.167    1.74 |11.250    6.75 |17.333    1.96 | 23.42    1.31
                5.250    1.74 |11.333   10.44 |17.417    1.96 | 23.50    1.31
                5.333    1.74 |11.417   10.44 |17.500    1.96 | 23.58    1.31
                5.417    1.74 |11.500   10.44 |17.583    1.96 | 23.67    1.31
                5.500    1.74 |11.583   10.44 |17.667    1.96 | 23.75    1.31
                5.583    1.74 |11.667   10.44 |17.750    1.96 | 23.83    1.31
                5.667    1.74 |11.750   10.44 |17.833    1.96 | 23.92    1.31
                5.750    1.74 |11.833   32.20 |17.917    1.96 | 24.00    1.31
                5.833    1.74 |11.917   32.20 |18.000    1.96 | 24.08    1.31
                5.917    1.74 |12.000   32.20 |18.083    1.96 | 24.17    1.31
                6.000    1.74 |12.083  133.16 |18.167    1.96 | 24.25    1.31
                6.083    1.74 |12.167  133.17 |18.250    1.96 |

     Max.Eff.Inten.(mm/hr)=     133.17        84.65
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.67 (ii)    9.02 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.24         0.11          0.346 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25         12.25
     RUNOFF VOLUME    (mm)=     106.80        57.17         81.98
     TOTAL RAINFALL   (mm)=     108.80       108.80        108.80
     RUNOFF COEFFICIENT   =       0.98         0.53          0.75

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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  (  0007)|
|   1 +  2 =  3    |        AREA    QPEAK    TPEAK     R.V.
--------------------        (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0001):     9.81   2.439    12.25    84.70
      + ID2= 2 (  0005):     1.28   0.346    12.25    81.98
        ===============================================
        ID = 3 (  0007):    11.09   2.785    12.25    84.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0003)|     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   |   0.3480     0.4690
                          0.0270     0.0900   |   0.8590     0.6570
                          0.0470     0.1880   |   1.5140     0.8590
                          0.0600     0.2950   |   0.0000     0.0000

                                AREA     QPEAK     TPEAK       R.V.
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                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0007)     11.090     2.785     12.25      84.39
   OUTFLOW: ID= 1 (  0003)     11.090     0.429     12.83      84.31

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 15.41
                   TIME SHIFT OF PEAK FLOW         (min)= 35.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.4993

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| CALIB            |
| STANDHYD (  0015)|   Area    (ha)=   0.41
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.20         0.20
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      52.28        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     1.74 |12.250  133.17 | 18.33     1.96
                0.167     0.00 | 6.250     1.74 |12.333   15.68 | 18.42     1.96
                0.250     0.00 | 6.333     1.96 |12.417   15.67 | 18.50     1.96
                0.333     1.20 | 6.417     1.96 |12.500   15.67 | 18.58     1.96
                0.417     1.20 | 6.500     1.96 |12.583   15.67 | 18.67     1.96
                0.500     1.20 | 6.583     1.96 |12.667   15.67 | 18.75     1.96
                0.583     1.20 | 6.667     1.96 |12.750   15.67 | 18.83     1.96
                0.667     1.20 | 6.750     1.96 |12.833    8.05 | 18.92     1.96
                0.750     1.20 | 6.833     1.96 |12.917    8.05 | 19.00     1.96
                0.833     1.20 | 6.917     1.96 |13.000    8.05 | 19.08     1.96
                0.917     1.20 | 7.000     1.96 |13.083    8.05 | 19.17     1.96
                1.000     1.20 | 7.083     1.96 |13.167    8.05 | 19.25     1.96
                1.083     1.20 | 7.167     1.96 |13.250    8.05 | 19.33     1.96
                1.167     1.20 | 7.250     1.96 |13.333    5.88 | 19.42     1.96
                1.250     1.20 | 7.333     2.39 |13.417    5.88 | 19.50     1.96
                1.333     1.20 | 7.417     2.39 |13.500    5.88 | 19.58     1.96
                1.417     1.20 | 7.500     2.39 |13.583    5.88 | 19.67     1.96
                1.500     1.20 | 7.583     2.39 |13.667    5.88 | 19.75     1.96
                1.583     1.20 | 7.667     2.39 |13.750    5.88 | 19.83     1.96
                1.667     1.20 | 7.750     2.39 |13.833    4.57 | 19.92     1.96
                1.750     1.20 | 7.833     2.39 |13.917    4.57 | 20.00     1.96
                1.833     1.20 | 7.917     2.39 |14.000    4.57 | 20.08     1.96
                1.917     1.20 | 8.000     2.39 |14.083    4.57 | 20.17     1.96
                2.000     1.20 | 8.083     2.39 |14.167    4.57 | 20.25     1.96
                2.083     1.20 | 8.167     2.39 |14.250    4.57 | 20.33     1.31
                2.167     1.20 | 8.250     2.39 |14.333    3.26 | 20.42     1.31
                2.250     1.20 | 8.333     2.83 |14.417    3.26 | 20.50     1.31
                2.333     1.41 | 8.417     2.83 |14.500    3.26 | 20.58     1.31
                2.417     1.41 | 8.500     2.83 |14.583    3.26 | 20.67     1.31
                2.500     1.41 | 8.583     2.83 |14.667    3.26 | 20.75     1.31
                2.583     1.41 | 8.667     2.83 |14.750    3.26 | 20.83     1.31
                2.667     1.41 | 8.750     2.83 |14.833    3.26 | 20.92     1.31
                2.750     1.41 | 8.833     3.05 |14.917    3.26 | 21.00     1.31
                2.833     1.41 | 8.917     3.05 |15.000    3.26 | 21.08     1.31
                2.917     1.41 | 9.000     3.05 |15.083    3.26 | 21.17     1.31
                3.000     1.41 | 9.083     3.05 |15.167    3.26 | 21.25     1.31
                3.083     1.41 | 9.167     3.05 |15.250    3.26 | 21.33     1.31
                3.167     1.41 | 9.250     3.05 |15.333    3.26 | 21.42     1.31
                3.250     1.41 | 9.333     3.48 |15.417    3.26 | 21.50     1.31
                3.333     1.41 | 9.417     3.48 |15.500    3.26 | 21.58     1.31
                3.417     1.41 | 9.500     3.48 |15.583    3.26 | 21.67     1.31
                3.500     1.41 | 9.583     3.48 |15.667    3.26 | 21.75     1.31
                3.583     1.41 | 9.667     3.48 |15.750    3.26 | 21.83     1.31
                3.667     1.41 | 9.750     3.48 |15.833    3.26 | 21.92     1.31
                3.750     1.41 | 9.833     3.92 |15.917    3.26 | 22.00     1.31
                3.833     1.41 | 9.917     3.92 |16.000    3.26 | 22.08     1.31
                3.917     1.41 |10.000     3.92 |16.083    3.26 | 22.17     1.31
                4.000     1.41 |10.083     3.92 |16.167    3.26 | 22.25     1.31
                4.083     1.41 |10.167     3.92 |16.250    3.26 | 22.33     1.31
                4.167     1.41 |10.250     3.92 |16.333    1.96 | 22.42     1.31
                4.250     1.41 |10.333     5.00 |16.417    1.96 | 22.50     1.31
                4.333     1.74 |10.417     5.00 |16.500    1.96 | 22.58     1.31
                4.417     1.74 |10.500     5.00 |16.583    1.96 | 22.67     1.31
                4.500     1.74 |10.583     5.00 |16.667    1.96 | 22.75     1.31
                4.583     1.74 |10.667     5.00 |16.750    1.96 | 22.83     1.31
                4.667     1.74 |10.750     5.00 |16.833    1.96 | 22.92     1.31
                4.750     1.74 |10.833     6.75 |16.917    1.96 | 23.00     1.31
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                 4.833    1.74 |10.917    6.75 |17.000    1.96 | 23.08    1.31
                 4.917    1.74 |11.000    6.75 |17.083    1.96 | 23.17    1.31
                 5.000    1.74 |11.083    6.75 |17.167    1.96 | 23.25    1.31
                 5.083    1.74 |11.167    6.75 |17.250    1.96 | 23.33    1.31
                 5.167    1.74 |11.250    6.75 |17.333    1.96 | 23.42    1.31
                 5.250    1.74 |11.333   10.44 |17.417    1.96 | 23.50    1.31
                 5.333    1.74 |11.417   10.44 |17.500    1.96 | 23.58    1.31
                 5.417    1.74 |11.500   10.44 |17.583    1.96 | 23.67    1.31
                 5.500    1.74 |11.583   10.44 |17.667    1.96 | 23.75    1.31
                 5.583    1.74 |11.667   10.44 |17.750    1.96 | 23.83    1.31
                 5.667    1.74 |11.750   10.44 |17.833    1.96 | 23.92    1.31
                 5.750    1.74 |11.833   32.20 |17.917    1.96 | 24.00    1.31
                 5.833    1.74 |11.917   32.20 |18.000    1.96 | 24.08    1.31
                 5.917    1.74 |12.000   32.20 |18.083    1.96 | 24.17    1.31
                 6.000    1.74 |12.083  133.16 |18.167    1.96 | 24.25    1.31
                 6.083    1.74 |12.167  133.17 |18.250    1.96 |

      Max.Eff.Inten.(mm/hr)=     133.17       205.01
                 over (min)        5.00        10.00
      Storage Coeff.  (min)=       1.54 (ii)    6.84 (ii)
      Unit Hyd. Tpeak (min)=       5.00        10.00
      Unit Hyd. peak  (cms)=       0.33         0.14
                                                          *TOTALS*
      PEAK FLOW      (cms)=       0.02         0.10         0.121 (iii)
      TIME TO PEAK    (hrs)=      12.25        12.25         12.25
      RUNOFF VOLUME    (mm)=     107.80        86.73         89.88
      TOTAL RAINFALL   (mm)=     108.80       108.80        108.80
      RUNOFF COEFFICIENT   =       0.99         0.80          0.83

***** 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*  =  85.0    Ia = Dep. 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   (  0011)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.64

          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    1.74 |12.250  133.17 | 18.33    1.96
                 0.167    0.00 | 6.250    1.74 |12.333   15.68 | 18.42    1.96
                 0.250    0.00 | 6.333    1.96 |12.417   15.67 | 18.50    1.96
                 0.333    1.20 | 6.417    1.96 |12.500   15.67 | 18.58    1.96
                 0.417    1.20 | 6.500    1.96 |12.583   15.67 | 18.67    1.96
                 0.500    1.20 | 6.583    1.96 |12.667   15.67 | 18.75    1.96
                 0.583    1.20 | 6.667    1.96 |12.750   15.67 | 18.83    1.96
                 0.667    1.20 | 6.750    1.96 |12.833    8.05 | 18.92    1.96
                 0.750    1.20 | 6.833    1.96 |12.917    8.05 | 19.00    1.96
                 0.833    1.20 | 6.917    1.96 |13.000    8.05 | 19.08    1.96
                 0.917    1.20 | 7.000    1.96 |13.083    8.05 | 19.17    1.96
                 1.000    1.20 | 7.083    1.96 |13.167    8.05 | 19.25    1.96
                 1.083    1.20 | 7.167    1.96 |13.250    8.05 | 19.33    1.96
                 1.167    1.20 | 7.250    1.96 |13.333    5.88 | 19.42    1.96
                 1.250    1.20 | 7.333    2.39 |13.417    5.88 | 19.50    1.96
                 1.333    1.20 | 7.417    2.39 |13.500    5.88 | 19.58    1.96
                 1.417    1.20 | 7.500    2.39 |13.583    5.88 | 19.67    1.96
                 1.500    1.20 | 7.583    2.39 |13.667    5.88 | 19.75    1.96
                 1.583    1.20 | 7.667    2.39 |13.750    5.88 | 19.83    1.96
                 1.667    1.20 | 7.750    2.39 |13.833    4.57 | 19.92    1.96
                 1.750    1.20 | 7.833    2.39 |13.917    4.57 | 20.00    1.96
                 1.833    1.20 | 7.917    2.39 |14.000    4.57 | 20.08    1.96
                 1.917    1.20 | 8.000    2.39 |14.083    4.57 | 20.17    1.96
                 2.000    1.20 | 8.083    2.39 |14.167    4.57 | 20.25    1.96
                 2.083    1.20 | 8.167    2.39 |14.250    4.57 | 20.33    1.31
                 2.167    1.20 | 8.250    2.39 |14.333    3.26 | 20.42    1.31
                 2.250    1.20 | 8.333    2.83 |14.417    3.26 | 20.50    1.31
                 2.333    1.41 | 8.417    2.83 |14.500    3.26 | 20.58    1.31
                 2.417    1.41 | 8.500    2.83 |14.583    3.26 | 20.67    1.31
                 2.500    1.41 | 8.583    2.83 |14.667    3.26 | 20.75    1.31
                 2.583    1.41 | 8.667    2.83 |14.750    3.26 | 20.83    1.31
                 2.667    1.41 | 8.750    2.83 |14.833    3.26 | 20.92    1.31
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                 2.750    1.41 | 8.833    3.05 |14.917    3.26 | 21.00    1.31
                 2.833    1.41 | 8.917    3.05 |15.000    3.26 | 21.08    1.31
                 2.917    1.41 | 9.000    3.05 |15.083    3.26 | 21.17    1.31
                 3.000    1.41 | 9.083    3.05 |15.167    3.26 | 21.25    1.31
                 3.083    1.41 | 9.167    3.05 |15.250    3.26 | 21.33    1.31
                 3.167    1.41 | 9.250    3.05 |15.333    3.26 | 21.42    1.31
                 3.250    1.41 | 9.333    3.48 |15.417    3.26 | 21.50    1.31
                 3.333    1.41 | 9.417    3.48 |15.500    3.26 | 21.58    1.31
                 3.417    1.41 | 9.500    3.48 |15.583    3.26 | 21.67    1.31
                 3.500    1.41 | 9.583    3.48 |15.667    3.26 | 21.75    1.31
                 3.583    1.41 | 9.667    3.48 |15.750    3.26 | 21.83    1.31
                 3.667    1.41 | 9.750    3.48 |15.833    3.26 | 21.92    1.31
                 3.750    1.41 | 9.833    3.92 |15.917    3.26 | 22.00    1.31
                 3.833    1.41 | 9.917    3.92 |16.000    3.26 | 22.08    1.31
                 3.917    1.41 |10.000    3.92 |16.083    3.26 | 22.17    1.31
                 4.000    1.41 |10.083    3.92 |16.167    3.26 | 22.25    1.31
                 4.083    1.41 |10.167    3.92 |16.250    3.26 | 22.33    1.31
                 4.167    1.41 |10.250    3.92 |16.333    1.96 | 22.42    1.31
                 4.250    1.41 |10.333    5.00 |16.417    1.96 | 22.50    1.31
                 4.333    1.74 |10.417    5.00 |16.500    1.96 | 22.58    1.31
                 4.417    1.74 |10.500    5.00 |16.583    1.96 | 22.67    1.31
                 4.500    1.74 |10.583    5.00 |16.667    1.96 | 22.75    1.31
                 4.583    1.74 |10.667    5.00 |16.750    1.96 | 22.83    1.31
                 4.667    1.74 |10.750    5.00 |16.833    1.96 | 22.92    1.31
                 4.750    1.74 |10.833    6.75 |16.917    1.96 | 23.00    1.31
                 4.833    1.74 |10.917    6.75 |17.000    1.96 | 23.08    1.31
                 4.917    1.74 |11.000    6.75 |17.083    1.96 | 23.17    1.31
                 5.000    1.74 |11.083    6.75 |17.167    1.96 | 23.25    1.31
                 5.083    1.74 |11.167    6.75 |17.250    1.96 | 23.33    1.31
                 5.167    1.74 |11.250    6.75 |17.333    1.96 | 23.42    1.31
                 5.250    1.74 |11.333   10.44 |17.417    1.96 | 23.50    1.31
                 5.333    1.74 |11.417   10.44 |17.500    1.96 | 23.58    1.31
                 5.417    1.74 |11.500   10.44 |17.583    1.96 | 23.67    1.31
                 5.500    1.74 |11.583   10.44 |17.667    1.96 | 23.75    1.31
                 5.583    1.74 |11.667   10.44 |17.750    1.96 | 23.83    1.31
                 5.667    1.74 |11.750   10.44 |17.833    1.96 | 23.92    1.31
                 5.750    1.74 |11.833   32.20 |17.917    1.96 | 24.00    1.31
                 5.833    1.74 |11.917   32.20 |18.000    1.96 | 24.08    1.31
                 5.917    1.74 |12.000   32.20 |18.083    1.96 | 24.17    1.31
                 6.000    1.74 |12.083  133.16 |18.167    1.96 | 24.25    1.31
                 6.083    1.74 |12.167  133.17 |18.250    1.96 |

      Unit Hyd Qpeak  (cms)=   0.865

      PEAK FLOW      (cms)=   0.964 (i)
      TIME TO PEAK    (hrs)=  12.833
      RUNOFF VOLUME    (mm)=  58.221
      TOTAL RAINFALL   (mm)= 108.800
      RUNOFF COEFFICIENT   =   0.535

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

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| CALIB             |
| STANDHYD (  0002)|   Area    (ha)=   9.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  50.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=      6.57         3.09
      Dep. Storage     (mm)=      2.00         5.00
      Average Slope     (%)=      0.50         2.00
      Length            (m)=    253.77        30.00
      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    1.74 |12.250  133.17 | 18.33    1.96
                 0.167    0.00 | 6.250    1.74 |12.333   15.68 | 18.42    1.96
                 0.250    0.00 | 6.333    1.96 |12.417   15.67 | 18.50    1.96
                 0.333    1.20 | 6.417    1.96 |12.500   15.67 | 18.58    1.96
                 0.417    1.20 | 6.500    1.96 |12.583   15.67 | 18.67    1.96
                 0.500    1.20 | 6.583    1.96 |12.667   15.67 | 18.75    1.96
                 0.583    1.20 | 6.667    1.96 |12.750   15.67 | 18.83    1.96
                 0.667    1.20 | 6.750    1.96 |12.833    8.05 | 18.92    1.96
                 0.750    1.20 | 6.833    1.96 |12.917    8.05 | 19.00    1.96
                 0.833    1.20 | 6.917    1.96 |13.000    8.05 | 19.08    1.96
                 0.917    1.20 | 7.000    1.96 |13.083    8.05 | 19.17    1.96
                 1.000    1.20 | 7.083    1.96 |13.167    8.05 | 19.25    1.96
                 1.083    1.20 | 7.167    1.96 |13.250    8.05 | 19.33    1.96
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            1.167    1.20 | 7.250    1.96 |13.333    5.88 | 19.42    1.96
            1.250    1.20 | 7.333    2.39 |13.417    5.88 | 19.50    1.96
            1.333    1.20 | 7.417    2.39 |13.500    5.88 | 19.58    1.96
            1.417    1.20 | 7.500    2.39 |13.583    5.88 | 19.67    1.96
            1.500    1.20 | 7.583    2.39 |13.667    5.88 | 19.75    1.96
            1.583    1.20 | 7.667    2.39 |13.750    5.88 | 19.83    1.96
            1.667    1.20 | 7.750    2.39 |13.833    4.57 | 19.92    1.96
            1.750    1.20 | 7.833    2.39 |13.917    4.57 | 20.00    1.96
            1.833    1.20 | 7.917    2.39 |14.000    4.57 | 20.08    1.96
            1.917    1.20 | 8.000    2.39 |14.083    4.57 | 20.17    1.96
            2.000    1.20 | 8.083    2.39 |14.167    4.57 | 20.25    1.96
            2.083    1.20 | 8.167    2.39 |14.250    4.57 | 20.33    1.31
            2.167    1.20 | 8.250    2.39 |14.333    3.26 | 20.42    1.31
            2.250    1.20 | 8.333    2.83 |14.417    3.26 | 20.50    1.31
            2.333    1.41 | 8.417    2.83 |14.500    3.26 | 20.58    1.31
            2.417    1.41 | 8.500    2.83 |14.583    3.26 | 20.67    1.31
            2.500    1.41 | 8.583    2.83 |14.667    3.26 | 20.75    1.31
            2.583    1.41 | 8.667    2.83 |14.750    3.26 | 20.83    1.31
            2.667    1.41 | 8.750    2.83 |14.833    3.26 | 20.92    1.31
            2.750    1.41 | 8.833    3.05 |14.917    3.26 | 21.00    1.31
            2.833    1.41 | 8.917    3.05 |15.000    3.26 | 21.08    1.31
            2.917    1.41 | 9.000    3.05 |15.083    3.26 | 21.17    1.31
            3.000    1.41 | 9.083    3.05 |15.167    3.26 | 21.25    1.31
            3.083    1.41 | 9.167    3.05 |15.250    3.26 | 21.33    1.31
            3.167    1.41 | 9.250    3.05 |15.333    3.26 | 21.42    1.31
            3.250    1.41 | 9.333    3.48 |15.417    3.26 | 21.50    1.31
            3.333    1.41 | 9.417    3.48 |15.500    3.26 | 21.58    1.31
            3.417    1.41 | 9.500    3.48 |15.583    3.26 | 21.67    1.31
            3.500    1.41 | 9.583    3.48 |15.667    3.26 | 21.75    1.31
            3.583    1.41 | 9.667    3.48 |15.750    3.26 | 21.83    1.31
            3.667    1.41 | 9.750    3.48 |15.833    3.26 | 21.92    1.31
            3.750    1.41 | 9.833    3.92 |15.917    3.26 | 22.00    1.31
            3.833    1.41 | 9.917    3.92 |16.000    3.26 | 22.08    1.31
            3.917    1.41 |10.000    3.92 |16.083    3.26 | 22.17    1.31
            4.000    1.41 |10.083    3.92 |16.167    3.26 | 22.25    1.31
            4.083    1.41 |10.167    3.92 |16.250    3.26 | 22.33    1.31
            4.167    1.41 |10.250    3.92 |16.333    1.96 | 22.42    1.31
            4.250    1.41 |10.333    5.00 |16.417    1.96 | 22.50    1.31
            4.333    1.74 |10.417    5.00 |16.500    1.96 | 22.58    1.31
            4.417    1.74 |10.500    5.00 |16.583    1.96 | 22.67    1.31
            4.500    1.74 |10.583    5.00 |16.667    1.96 | 22.75    1.31
            4.583    1.74 |10.667    5.00 |16.750    1.96 | 22.83    1.31
            4.667    1.74 |10.750    5.00 |16.833    1.96 | 22.92    1.31
            4.750    1.74 |10.833    6.75 |16.917    1.96 | 23.00    1.31
            4.833    1.74 |10.917    6.75 |17.000    1.96 | 23.08    1.31
            4.917    1.74 |11.000    6.75 |17.083    1.96 | 23.17    1.31
            5.000    1.74 |11.083    6.75 |17.167    1.96 | 23.25    1.31
            5.083    1.74 |11.167    6.75 |17.250    1.96 | 23.33    1.31
            5.167    1.74 |11.250    6.75 |17.333    1.96 | 23.42    1.31
            5.250    1.74 |11.333   10.44 |17.417    1.96 | 23.50    1.31
            5.333    1.74 |11.417   10.44 |17.500    1.96 | 23.58    1.31
            5.417    1.74 |11.500   10.44 |17.583    1.96 | 23.67    1.31
            5.500    1.74 |11.583   10.44 |17.667    1.96 | 23.75    1.31
            5.583    1.74 |11.667   10.44 |17.750    1.96 | 23.83    1.31
            5.667    1.74 |11.750   10.44 |17.833    1.96 | 23.92    1.31
            5.750    1.74 |11.833   32.20 |17.917    1.96 | 24.00    1.31
            5.833    1.74 |11.917   32.20 |18.000    1.96 | 24.08    1.31
            5.917    1.74 |12.000   32.20 |18.083    1.96 | 24.17    1.31
            6.000    1.74 |12.083  133.16 |18.167    1.96 | 24.25    1.31
            6.083    1.74 |12.167  133.17 |18.250    1.96 |

     Max.Eff.Inten.(mm/hr)=     133.17       158.91
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.90 (ii)    9.33 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.22         0.12
                                                           *TOTALS*
     PEAK FLOW      (cms)=        1.72         1.00          2.725 (iii)
     TIME TO PEAK   (hrs)=       12.25        12.25         12.25
     RUNOFF VOLUME   (mm)=      106.80        69.79         88.29
     TOTAL RAINFALL  (mm)=      108.80       108.80        108.80
     RUNOFF COEFFICIENT  =        0.98         0.64          0.81

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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              |
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| STANDHYD (  0008)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     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    1.74 |12.250  133.17 | 18.33    1.96
                0.167    0.00 | 6.250    1.74 |12.333   15.68 | 18.42    1.96
                0.250    0.00 | 6.333    1.96 |12.417   15.67 | 18.50    1.96
                0.333    1.20 | 6.417    1.96 |12.500   15.67 | 18.58    1.96
                0.417    1.20 | 6.500    1.96 |12.583   15.67 | 18.67    1.96
                0.500    1.20 | 6.583    1.96 |12.667   15.67 | 18.75    1.96
                0.583    1.20 | 6.667    1.96 |12.750   15.67 | 18.83    1.96
                0.667    1.20 | 6.750    1.96 |12.833    8.05 | 18.92    1.96
                0.750    1.20 | 6.833    1.96 |12.917    8.05 | 19.00    1.96
                0.833    1.20 | 6.917    1.96 |13.000    8.05 | 19.08    1.96
                0.917    1.20 | 7.000    1.96 |13.083    8.05 | 19.17    1.96
                1.000    1.20 | 7.083    1.96 |13.167    8.05 | 19.25    1.96
                1.083    1.20 | 7.167    1.96 |13.250    8.05 | 19.33    1.96
                1.167    1.20 | 7.250    1.96 |13.333    5.88 | 19.42    1.96
                1.250    1.20 | 7.333    2.39 |13.417    5.88 | 19.50    1.96
                1.333    1.20 | 7.417    2.39 |13.500    5.88 | 19.58    1.96
                1.417    1.20 | 7.500    2.39 |13.583    5.88 | 19.67    1.96
                1.500    1.20 | 7.583    2.39 |13.667    5.88 | 19.75    1.96
                1.583    1.20 | 7.667    2.39 |13.750    5.88 | 19.83    1.96
                1.667    1.20 | 7.750    2.39 |13.833    4.57 | 19.92    1.96
                1.750    1.20 | 7.833    2.39 |13.917    4.57 | 20.00    1.96
                1.833    1.20 | 7.917    2.39 |14.000    4.57 | 20.08    1.96
                1.917    1.20 | 8.000    2.39 |14.083    4.57 | 20.17    1.96
                2.000    1.20 | 8.083    2.39 |14.167    4.57 | 20.25    1.96
                2.083    1.20 | 8.167    2.39 |14.250    4.57 | 20.33    1.31
                2.167    1.20 | 8.250    2.39 |14.333    3.26 | 20.42    1.31
                2.250    1.20 | 8.333    2.83 |14.417    3.26 | 20.50    1.31
                2.333    1.41 | 8.417    2.83 |14.500    3.26 | 20.58    1.31
                2.417    1.41 | 8.500    2.83 |14.583    3.26 | 20.67    1.31
                2.500    1.41 | 8.583    2.83 |14.667    3.26 | 20.75    1.31
                2.583    1.41 | 8.667    2.83 |14.750    3.26 | 20.83    1.31
                2.667    1.41 | 8.750    2.83 |14.833    3.26 | 20.92    1.31
                2.750    1.41 | 8.833    3.05 |14.917    3.26 | 21.00    1.31
                2.833    1.41 | 8.917    3.05 |15.000    3.26 | 21.08    1.31
                2.917    1.41 | 9.000    3.05 |15.083    3.26 | 21.17    1.31
                3.000    1.41 | 9.083    3.05 |15.167    3.26 | 21.25    1.31
                3.083    1.41 | 9.167    3.05 |15.250    3.26 | 21.33    1.31
                3.167    1.41 | 9.250    3.05 |15.333    3.26 | 21.42    1.31
                3.250    1.41 | 9.333    3.48 |15.417    3.26 | 21.50    1.31
                3.333    1.41 | 9.417    3.48 |15.500    3.26 | 21.58    1.31
                3.417    1.41 | 9.500    3.48 |15.583    3.26 | 21.67    1.31
                3.500    1.41 | 9.583    3.48 |15.667    3.26 | 21.75    1.31
                3.583    1.41 | 9.667    3.48 |15.750    3.26 | 21.83    1.31
                3.667    1.41 | 9.750    3.48 |15.833    3.26 | 21.92    1.31
                3.750    1.41 | 9.833    3.92 |15.917    3.26 | 22.00    1.31
                3.833    1.41 | 9.917    3.92 |16.000    3.26 | 22.08    1.31
                3.917    1.41 |10.000    3.92 |16.083    3.26 | 22.17    1.31
                4.000    1.41 |10.083    3.92 |16.167    3.26 | 22.25    1.31
                4.083    1.41 |10.167    3.92 |16.250    3.26 | 22.33    1.31
                4.167    1.41 |10.250    3.92 |16.333    1.96 | 22.42    1.31
                4.250    1.41 |10.333    5.00 |16.417    1.96 | 22.50    1.31
                4.333    1.74 |10.417    5.00 |16.500    1.96 | 22.58    1.31
                4.417    1.74 |10.500    5.00 |16.583    1.96 | 22.67    1.31
                4.500    1.74 |10.583    5.00 |16.667    1.96 | 22.75    1.31
                4.583    1.74 |10.667    5.00 |16.750    1.96 | 22.83    1.31
                4.667    1.74 |10.750    5.00 |16.833    1.96 | 22.92    1.31
                4.750    1.74 |10.833    6.75 |16.917    1.96 | 23.00    1.31
                4.833    1.74 |10.917    6.75 |17.000    1.96 | 23.08    1.31
                4.917    1.74 |11.000    6.75 |17.083    1.96 | 23.17    1.31
                5.000    1.74 |11.083    6.75 |17.167    1.96 | 23.25    1.31
                5.083    1.74 |11.167    6.75 |17.250    1.96 | 23.33    1.31
                5.167    1.74 |11.250    6.75 |17.333    1.96 | 23.42    1.31
                5.250    1.74 |11.333   10.44 |17.417    1.96 | 23.50    1.31
                5.333    1.74 |11.417   10.44 |17.500    1.96 | 23.58    1.31
                5.417    1.74 |11.500   10.44 |17.583    1.96 | 23.67    1.31
                5.500    1.74 |11.583   10.44 |17.667    1.96 | 23.75    1.31
                5.583    1.74 |11.667   10.44 |17.750    1.96 | 23.83    1.31
                5.667    1.74 |11.750   10.44 |17.833    1.96 | 23.92    1.31
                5.750    1.74 |11.833   32.20 |17.917    1.96 | 24.00    1.31
                5.833    1.74 |11.917   32.20 |18.000    1.96 | 24.08    1.31
                5.917    1.74 |12.000   32.20 |18.083    1.96 | 24.17    1.31
                6.000    1.74 |12.083  133.16 |18.167    1.96 | 24.25    1.31
                6.083    1.74 |12.167  133.17 |18.250    1.96 |

     Max.Eff.Inten.(mm/hr)=     133.17        84.65
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.67 (ii)    9.02 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.24         0.11          0.346 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=     106.80        57.17          81.98
     TOTAL RAINFALL   (mm)=     108.80       108.80         108.80
     RUNOFF COEFFICIENT   =       0.98         0.53           0.75

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0016)|   Area    (ha)=   0.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.38         0.38
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      71.18        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    1.74 |12.250  133.17 | 18.33    1.96
                0.167    0.00 | 6.250    1.74 |12.333   15.68 | 18.42    1.96
                0.250    0.00 | 6.333    1.96 |12.417   15.67 | 18.50    1.96
                0.333    1.20 | 6.417    1.96 |12.500   15.67 | 18.58    1.96
                0.417    1.20 | 6.500    1.96 |12.583   15.67 | 18.67    1.96
                0.500    1.20 | 6.583    1.96 |12.667   15.67 | 18.75    1.96
                0.583    1.20 | 6.667    1.96 |12.750   15.67 | 18.83    1.96
                0.667    1.20 | 6.750    1.96 |12.833    8.05 | 18.92    1.96
                0.750    1.20 | 6.833    1.96 |12.917    8.05 | 19.00    1.96
                0.833    1.20 | 6.917    1.96 |13.000    8.05 | 19.08    1.96
                0.917    1.20 | 7.000    1.96 |13.083    8.05 | 19.17    1.96
                1.000    1.20 | 7.083    1.96 |13.167    8.05 | 19.25    1.96
                1.083    1.20 | 7.167    1.96 |13.250    8.05 | 19.33    1.96
                1.167    1.20 | 7.250    1.96 |13.333    5.88 | 19.42    1.96
                1.250    1.20 | 7.333    2.39 |13.417    5.88 | 19.50    1.96
                1.333    1.20 | 7.417    2.39 |13.500    5.88 | 19.58    1.96
                1.417    1.20 | 7.500    2.39 |13.583    5.88 | 19.67    1.96
                1.500    1.20 | 7.583    2.39 |13.667    5.88 | 19.75    1.96
                1.583    1.20 | 7.667    2.39 |13.750    5.88 | 19.83    1.96
                1.667    1.20 | 7.750    2.39 |13.833    4.57 | 19.92    1.96
                1.750    1.20 | 7.833    2.39 |13.917    4.57 | 20.00    1.96
                1.833    1.20 | 7.917    2.39 |14.000    4.57 | 20.08    1.96
                1.917    1.20 | 8.000    2.39 |14.083    4.57 | 20.17    1.96
                2.000    1.20 | 8.083    2.39 |14.167    4.57 | 20.25    1.96
                2.083    1.20 | 8.167    2.39 |14.250    4.57 | 20.33    1.31
                2.167    1.20 | 8.250    2.39 |14.333    3.26 | 20.42    1.31
                2.250    1.20 | 8.333    2.83 |14.417    3.26 | 20.50    1.31
                2.333    1.41 | 8.417    2.83 |14.500    3.26 | 20.58    1.31
                2.417    1.41 | 8.500    2.83 |14.583    3.26 | 20.67    1.31
                2.500    1.41 | 8.583    2.83 |14.667    3.26 | 20.75    1.31
                2.583    1.41 | 8.667    2.83 |14.750    3.26 | 20.83    1.31
                2.667    1.41 | 8.750    2.83 |14.833    3.26 | 20.92    1.31
                2.750    1.41 | 8.833    3.05 |14.917    3.26 | 21.00    1.31
                2.833    1.41 | 8.917    3.05 |15.000    3.26 | 21.08    1.31
                2.917    1.41 | 9.000    3.05 |15.083    3.26 | 21.17    1.31
                3.000    1.41 | 9.083    3.05 |15.167    3.26 | 21.25    1.31
                3.083    1.41 | 9.167    3.05 |15.250    3.26 | 21.33    1.31
                3.167    1.41 | 9.250    3.05 |15.333    3.26 | 21.42    1.31
                3.250    1.41 | 9.333    3.48 |15.417    3.26 | 21.50    1.31
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                3.333    1.41 | 9.417    3.48 |15.500    3.26 | 21.58    1.31
                3.417    1.41 | 9.500    3.48 |15.583    3.26 | 21.67    1.31
                3.500    1.41 | 9.583    3.48 |15.667    3.26 | 21.75    1.31
                3.583    1.41 | 9.667    3.48 |15.750    3.26 | 21.83    1.31
                3.667    1.41 | 9.750    3.48 |15.833    3.26 | 21.92    1.31
                3.750    1.41 | 9.833    3.92 |15.917    3.26 | 22.00    1.31
                3.833    1.41 | 9.917    3.92 |16.000    3.26 | 22.08    1.31
                3.917    1.41 |10.000    3.92 |16.083    3.26 | 22.17    1.31
                4.000    1.41 |10.083    3.92 |16.167    3.26 | 22.25    1.31
                4.083    1.41 |10.167    3.92 |16.250    3.26 | 22.33    1.31
                4.167    1.41 |10.250    3.92 |16.333    1.96 | 22.42    1.31
                4.250    1.41 |10.333    5.00 |16.417    1.96 | 22.50    1.31
                4.333    1.74 |10.417    5.00 |16.500    1.96 | 22.58    1.31
                4.417    1.74 |10.500    5.00 |16.583    1.96 | 22.67    1.31
                4.500    1.74 |10.583    5.00 |16.667    1.96 | 22.75    1.31
                4.583    1.74 |10.667    5.00 |16.750    1.96 | 22.83    1.31
                4.667    1.74 |10.750    5.00 |16.833    1.96 | 22.92    1.31
                4.750    1.74 |10.833    6.75 |16.917    1.96 | 23.00    1.31
                4.833    1.74 |10.917    6.75 |17.000    1.96 | 23.08    1.31
                4.917    1.74 |11.000    6.75 |17.083    1.96 | 23.17    1.31
                5.000    1.74 |11.083    6.75 |17.167    1.96 | 23.25    1.31
                5.083    1.74 |11.167    6.75 |17.250    1.96 | 23.33    1.31
                5.167    1.74 |11.250    6.75 |17.333    1.96 | 23.42    1.31
                5.250    1.74 |11.333   10.44 |17.417    1.96 | 23.50    1.31
                5.333    1.74 |11.417   10.44 |17.500    1.96 | 23.58    1.31
                5.417    1.74 |11.500   10.44 |17.583    1.96 | 23.67    1.31
                5.500    1.74 |11.583   10.44 |17.667    1.96 | 23.75    1.31
                5.583    1.74 |11.667   10.44 |17.750    1.96 | 23.83    1.31
                5.667    1.74 |11.750   10.44 |17.833    1.96 | 23.92    1.31
                5.750    1.74 |11.833   32.20 |17.917    1.96 | 24.00    1.31
                5.833    1.74 |11.917   32.20 |18.000    1.96 | 24.08    1.31
                5.917    1.74 |12.000   32.20 |18.083    1.96 | 24.17    1.31
                6.000    1.74 |12.083  133.16 |18.167    1.96 | 24.25    1.31
                6.083    1.74 |12.167  133.17 |18.250    1.96 |

     Max.Eff.Inten.(mm/hr)=     133.17       205.01
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.86 (ii)    7.15 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.14
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.18          0.221 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=     107.80        86.73          89.88
     TOTAL RAINFALL   (mm)=     108.80       108.80         108.80
     RUNOFF COEFFICIENT   =       0.99         0.80           0.83

***** 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*  =  85.0    Ia = Dep. 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  (  0006)|
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0011):     14.50   0.964    12.83    58.22
      + ID2= 2 (  0016):      0.76   0.221    12.25    89.88
        ==================================================
        ID = 3 (  0006):     15.26   0.998    12.75    59.80

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0006):     15.26   0.998    12.75    59.80
      + ID2= 2 (  0002):      9.66   2.725    12.25    88.29
        ==================================================
        ID = 1 (  0006):     24.92   3.346    12.25    70.84

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0006):     24.92   3.346    12.25    70.84
     + ID2= 2 (  0008):      1.28   0.346    12.25    81.98
       ==================================================
       ID = 3 (  0006):     26.20   3.692    12.25    71.39

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| RESERVOIR(  0004)|     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   |   0.1460     0.6510
                          0.0160     0.1150   |   0.3020     0.9550
                          0.0250     0.2380   |   0.4430     1.1990
                          0.0410     0.3690   |   0.6010     1.4550

                                AREA     QPEAK      TPEAK        R.V.
                                (ha)     (cms)      (hrs)        (mm)
   INFLOW : ID= 2 (  0006)     26.200     3.692      12.25       71.39
   OUTFLOW: ID= 1 (  0004)     26.200     0.388      14.33       71.32

                    PEAK   FLOW   REDUCTION [Qout/Qin](%)= 10.51
                    TIME SHIFT OF PEAK FLOW         (min)=125.00
                    MAXIMUM  STORAGE   USED       (ha.m.)=  1.1038

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--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.43   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

         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    1.74 |12.250  133.17 | 18.33    1.96
               0.167    0.00 | 6.250    1.74 |12.333   15.68 | 18.42    1.96
               0.250    0.00 | 6.333    1.96 |12.417   15.67 | 18.50    1.96
               0.333    1.20 | 6.417    1.96 |12.500   15.67 | 18.58    1.96
               0.417    1.20 | 6.500    1.96 |12.583   15.67 | 18.67    1.96
               0.500    1.20 | 6.583    1.96 |12.667   15.67 | 18.75    1.96
               0.583    1.20 | 6.667    1.96 |12.750   15.67 | 18.83    1.96
               0.667    1.20 | 6.750    1.96 |12.833    8.05 | 18.92    1.96
               0.750    1.20 | 6.833    1.96 |12.917    8.05 | 19.00    1.96
               0.833    1.20 | 6.917    1.96 |13.000    8.05 | 19.08    1.96
               0.917    1.20 | 7.000    1.96 |13.083    8.05 | 19.17    1.96
               1.000    1.20 | 7.083    1.96 |13.167    8.05 | 19.25    1.96
               1.083    1.20 | 7.167    1.96 |13.250    8.05 | 19.33    1.96
               1.167    1.20 | 7.250    1.96 |13.333    5.88 | 19.42    1.96
               1.250    1.20 | 7.333    2.39 |13.417    5.88 | 19.50    1.96
               1.333    1.20 | 7.417    2.39 |13.500    5.88 | 19.58    1.96
               1.417    1.20 | 7.500    2.39 |13.583    5.88 | 19.67    1.96
               1.500    1.20 | 7.583    2.39 |13.667    5.88 | 19.75    1.96
               1.583    1.20 | 7.667    2.39 |13.750    5.88 | 19.83    1.96
               1.667    1.20 | 7.750    2.39 |13.833    4.57 | 19.92    1.96
               1.750    1.20 | 7.833    2.39 |13.917    4.57 | 20.00    1.96
               1.833    1.20 | 7.917    2.39 |14.000    4.57 | 20.08    1.96
               1.917    1.20 | 8.000    2.39 |14.083    4.57 | 20.17    1.96
               2.000    1.20 | 8.083    2.39 |14.167    4.57 | 20.25    1.96
               2.083    1.20 | 8.167    2.39 |14.250    4.57 | 20.33    1.31
               2.167    1.20 | 8.250    2.39 |14.333    3.26 | 20.42    1.31
               2.250    1.20 | 8.333    2.83 |14.417    3.26 | 20.50    1.31
               2.333    1.41 | 8.417    2.83 |14.500    3.26 | 20.58    1.31
               2.417    1.41 | 8.500    2.83 |14.583    3.26 | 20.67    1.31
               2.500    1.41 | 8.583    2.83 |14.667    3.26 | 20.75    1.31
               2.583    1.41 | 8.667    2.83 |14.750    3.26 | 20.83    1.31
               2.667    1.41 | 8.750    2.83 |14.833    3.26 | 20.92    1.31
               2.750    1.41 | 8.833    3.05 |14.917    3.26 | 21.00    1.31
               2.833    1.41 | 8.917    3.05 |15.000    3.26 | 21.08    1.31
               2.917    1.41 | 9.000    3.05 |15.083    3.26 | 21.17    1.31
               3.000    1.41 | 9.083    3.05 |15.167    3.26 | 21.25    1.31
               3.083    1.41 | 9.167    3.05 |15.250    3.26 | 21.33    1.31
               3.167    1.41 | 9.250    3.05 |15.333    3.26 | 21.42    1.31
               3.250    1.41 | 9.333    3.48 |15.417    3.26 | 21.50    1.31
               3.333    1.41 | 9.417    3.48 |15.500    3.26 | 21.58    1.31
               3.417    1.41 | 9.500    3.48 |15.583    3.26 | 21.67    1.31
               3.500    1.41 | 9.583    3.48 |15.667    3.26 | 21.75    1.31
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               3.583    1.41 | 9.667    3.48 |15.750    3.26 | 21.83    1.31
               3.667    1.41 | 9.750    3.48 |15.833    3.26 | 21.92    1.31
               3.750    1.41 | 9.833    3.92 |15.917    3.26 | 22.00    1.31
               3.833    1.41 | 9.917    3.92 |16.000    3.26 | 22.08    1.31
               3.917    1.41 |10.000    3.92 |16.083    3.26 | 22.17    1.31
               4.000    1.41 |10.083    3.92 |16.167    3.26 | 22.25    1.31
               4.083    1.41 |10.167    3.92 |16.250    3.26 | 22.33    1.31
               4.167    1.41 |10.250    3.92 |16.333    1.96 | 22.42    1.31
               4.250    1.41 |10.333    5.00 |16.417    1.96 | 22.50    1.31
               4.333    1.74 |10.417    5.00 |16.500    1.96 | 22.58    1.31
               4.417    1.74 |10.500    5.00 |16.583    1.96 | 22.67    1.31
               4.500    1.74 |10.583    5.00 |16.667    1.96 | 22.75    1.31
               4.583    1.74 |10.667    5.00 |16.750    1.96 | 22.83    1.31
               4.667    1.74 |10.750    5.00 |16.833    1.96 | 22.92    1.31
               4.750    1.74 |10.833    6.75 |16.917    1.96 | 23.00    1.31
               4.833    1.74 |10.917    6.75 |17.000    1.96 | 23.08    1.31
               4.917    1.74 |11.000    6.75 |17.083    1.96 | 23.17    1.31
               5.000    1.74 |11.083    6.75 |17.167    1.96 | 23.25    1.31
               5.083    1.74 |11.167    6.75 |17.250    1.96 | 23.33    1.31
               5.167    1.74 |11.250    6.75 |17.333    1.96 | 23.42    1.31
               5.250    1.74 |11.333   10.44 |17.417    1.96 | 23.50    1.31
               5.333    1.74 |11.417   10.44 |17.500    1.96 | 23.58    1.31
               5.417    1.74 |11.500   10.44 |17.583    1.96 | 23.67    1.31
               5.500    1.74 |11.583   10.44 |17.667    1.96 | 23.75    1.31
               5.583    1.74 |11.667   10.44 |17.750    1.96 | 23.83    1.31
               5.667    1.74 |11.750   10.44 |17.833    1.96 | 23.92    1.31
               5.750    1.74 |11.833   32.20 |17.917    1.96 | 24.00    1.31
               5.833    1.74 |11.917   32.20 |18.000    1.96 | 24.08    1.31
               5.917    1.74 |12.000   32.20 |18.083    1.96 | 24.17    1.31
               6.000    1.74 |12.083  133.16 |18.167    1.96 | 24.25    1.31
               6.083    1.74 |12.167  133.17 |18.250    1.96 |

     Unit Hyd Qpeak  (cms)=   0.126

     PEAK FLOW       (cms)=   0.082 (i)
     TIME TO PEAK    (hrs)=  12.250
     RUNOFF VOLUME    (mm)=  56.602
     TOTAL RAINFALL   (mm)= 108.800
     RUNOFF COEFFICIENT   =   0.520

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

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| ADD HYD  (  0019)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
       ID1= 1 (  0017):      0.43   0.082    12.25    56.60
     + ID2= 2 (  0004):     26.20   0.388    14.33    71.32
       ==================================================
       ID = 3 (  0019):     26.63   0.392    14.25    71.08

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
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--------------------
| CALIB            |
| STANDHYD (  0024)|   Area    (ha)=   0.61
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                             IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31         0.31
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      63.77        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    1.74 |12.250  133.17 | 18.33    1.96
               0.167    0.00 | 6.250    1.74 |12.333   15.68 | 18.42    1.96
               0.250    0.00 | 6.333    1.96 |12.417   15.67 | 18.50    1.96
               0.333    1.20 | 6.417    1.96 |12.500   15.67 | 18.58    1.96
               0.417    1.20 | 6.500    1.96 |12.583   15.67 | 18.67    1.96
               0.500    1.20 | 6.583    1.96 |12.667   15.67 | 18.75    1.96
               0.583    1.20 | 6.667    1.96 |12.750   15.67 | 18.83    1.96
               0.667    1.20 | 6.750    1.96 |12.833    8.05 | 18.92    1.96
               0.750    1.20 | 6.833    1.96 |12.917    8.05 | 19.00    1.96
               0.833    1.20 | 6.917    1.96 |13.000    8.05 | 19.08    1.96
               0.917    1.20 | 7.000    1.96 |13.083    8.05 | 19.17    1.96
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          1.000    1.20 | 7.083    1.96 |13.167    8.05 | 19.25    1.96
          1.083    1.20 | 7.167    1.96 |13.250    8.05 | 19.33    1.96
          1.167    1.20 | 7.250    1.96 |13.333    5.88 | 19.42    1.96
          1.250    1.20 | 7.333    2.39 |13.417    5.88 | 19.50    1.96
          1.333    1.20 | 7.417    2.39 |13.500    5.88 | 19.58    1.96
          1.417    1.20 | 7.500    2.39 |13.583    5.88 | 19.67    1.96
          1.500    1.20 | 7.583    2.39 |13.667    5.88 | 19.75    1.96
          1.583    1.20 | 7.667    2.39 |13.750    5.88 | 19.83    1.96
          1.667    1.20 | 7.750    2.39 |13.833    4.57 | 19.92    1.96
          1.750    1.20 | 7.833    2.39 |13.917    4.57 | 20.00    1.96
          1.833    1.20 | 7.917    2.39 |14.000    4.57 | 20.08    1.96
          1.917    1.20 | 8.000    2.39 |14.083    4.57 | 20.17    1.96
          2.000    1.20 | 8.083    2.39 |14.167    4.57 | 20.25    1.96
          2.083    1.20 | 8.167    2.39 |14.250    4.57 | 20.33    1.31
          2.167    1.20 | 8.250    2.39 |14.333    3.26 | 20.42    1.31
          2.250    1.20 | 8.333    2.83 |14.417    3.26 | 20.50    1.31
          2.333    1.41 | 8.417    2.83 |14.500    3.26 | 20.58    1.31
          2.417    1.41 | 8.500    2.83 |14.583    3.26 | 20.67    1.31
          2.500    1.41 | 8.583    2.83 |14.667    3.26 | 20.75    1.31
          2.583    1.41 | 8.667    2.83 |14.750    3.26 | 20.83    1.31
          2.667    1.41 | 8.750    2.83 |14.833    3.26 | 20.92    1.31
          2.750    1.41 | 8.833    3.05 |14.917    3.26 | 21.00    1.31
          2.833    1.41 | 8.917    3.05 |15.000    3.26 | 21.08    1.31
          2.917    1.41 | 9.000    3.05 |15.083    3.26 | 21.17    1.31
          3.000    1.41 | 9.083    3.05 |15.167    3.26 | 21.25    1.31
          3.083    1.41 | 9.167    3.05 |15.250    3.26 | 21.33    1.31
          3.167    1.41 | 9.250    3.05 |15.333    3.26 | 21.42    1.31
          3.250    1.41 | 9.333    3.48 |15.417    3.26 | 21.50    1.31
          3.333    1.41 | 9.417    3.48 |15.500    3.26 | 21.58    1.31
          3.417    1.41 | 9.500    3.48 |15.583    3.26 | 21.67    1.31
          3.500    1.41 | 9.583    3.48 |15.667    3.26 | 21.75    1.31
          3.583    1.41 | 9.667    3.48 |15.750    3.26 | 21.83    1.31
          3.667    1.41 | 9.750    3.48 |15.833    3.26 | 21.92    1.31
          3.750    1.41 | 9.833    3.92 |15.917    3.26 | 22.00    1.31
          3.833    1.41 | 9.917    3.92 |16.000    3.26 | 22.08    1.31
          3.917    1.41 |10.000    3.92 |16.083    3.26 | 22.17    1.31
          4.000    1.41 |10.083    3.92 |16.167    3.26 | 22.25    1.31
          4.083    1.41 |10.167    3.92 |16.250    3.26 | 22.33    1.31
          4.167    1.41 |10.250    3.92 |16.333    1.96 | 22.42    1.31
          4.250    1.41 |10.333    5.00 |16.417    1.96 | 22.50    1.31
          4.333    1.74 |10.417    5.00 |16.500    1.96 | 22.58    1.31
          4.417    1.74 |10.500    5.00 |16.583    1.96 | 22.67    1.31
          4.500    1.74 |10.583    5.00 |16.667    1.96 | 22.75    1.31
          4.583    1.74 |10.667    5.00 |16.750    1.96 | 22.83    1.31
          4.667    1.74 |10.750    5.00 |16.833    1.96 | 22.92    1.31
          4.750    1.74 |10.833    6.75 |16.917    1.96 | 23.00    1.31
          4.833    1.74 |10.917    6.75 |17.000    1.96 | 23.08    1.31
          4.917    1.74 |11.000    6.75 |17.083    1.96 | 23.17    1.31
          5.000    1.74 |11.083    6.75 |17.167    1.96 | 23.25    1.31
          5.083    1.74 |11.167    6.75 |17.250    1.96 | 23.33    1.31
          5.167    1.74 |11.250    6.75 |17.333    1.96 | 23.42    1.31
          5.250    1.74 |11.333   10.44 |17.417    1.96 | 23.50    1.31
          5.333    1.74 |11.417   10.44 |17.500    1.96 | 23.58    1.31
          5.417    1.74 |11.500   10.44 |17.583    1.96 | 23.67    1.31
          5.500    1.74 |11.583   10.44 |17.667    1.96 | 23.75    1.31
          5.583    1.74 |11.667   10.44 |17.750    1.96 | 23.83    1.31
          5.667    1.74 |11.750   10.44 |17.833    1.96 | 23.92    1.31
          5.750    1.74 |11.833   32.20 |17.917    1.96 | 24.00    1.31
          5.833    1.74 |11.917   32.20 |18.000    1.96 | 24.08    1.31
          5.917    1.74 |12.000   32.20 |18.083    1.96 | 24.17    1.31
          6.000    1.74 |12.083  133.16 |18.167    1.96 | 24.25    1.31
          6.083    1.74 |12.167  133.17 |18.250    1.96 |

Max.Eff.Inten.(mm/hr)=     133.17       205.01
          over (min)         5.00        10.00
Storage Coeff.  (min)=       1.74 (ii)    7.04 (ii)
Unit Hyd. Tpeak (min)=       5.00        10.00
Unit Hyd. peak  (cms)=       0.32         0.14
                                                      *TOTALS*
PEAK FLOW       (cms)=       0.03         0.14          0.178 (iii)
TIME TO PEAK    (hrs)=      12.25        12.25          12.25
RUNOFF VOLUME    (mm)=     107.80        86.73          89.88
TOTAL RAINFALL   (mm)=     108.80       108.80         108.80
RUNOFF COEFFICIENT   =       0.99         0.80           0.83

***** 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*  =  85.0    Ia = Dep. Storage  (Above)
    (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
         THAN THE STORAGE COEFFICIENT.
   (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.
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| CALIB            |
| STANDHYD (  0025)|   Area    (ha)=   0.83
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                          IMPERVIOUS    PERVIOUS (i)
    Surface Area     (ha)=      0.42         0.42
    Dep. Storage     (mm)=      1.00         1.50
    Average Slope     (%)=      1.00         2.00
    Length            (m)=     74.39        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    1.74 |12.250  133.17 | 18.33    1.96
              0.167    0.00 | 6.250    1.74 |12.333   15.68 | 18.42    1.96
              0.250    0.00 | 6.333    1.96 |12.417   15.67 | 18.50    1.96
              0.333    1.20 | 6.417    1.96 |12.500   15.67 | 18.58    1.96
              0.417    1.20 | 6.500    1.96 |12.583   15.67 | 18.67    1.96
              0.500    1.20 | 6.583    1.96 |12.667   15.67 | 18.75    1.96
              0.583    1.20 | 6.667    1.96 |12.750   15.67 | 18.83    1.96
              0.667    1.20 | 6.750    1.96 |12.833    8.05 | 18.92    1.96
              0.750    1.20 | 6.833    1.96 |12.917    8.05 | 19.00    1.96
              0.833    1.20 | 6.917    1.96 |13.000    8.05 | 19.08    1.96
              0.917    1.20 | 7.000    1.96 |13.083    8.05 | 19.17    1.96
              1.000    1.20 | 7.083    1.96 |13.167    8.05 | 19.25    1.96
              1.083    1.20 | 7.167    1.96 |13.250    8.05 | 19.33    1.96
              1.167    1.20 | 7.250    1.96 |13.333    5.88 | 19.42    1.96
              1.250    1.20 | 7.333    2.39 |13.417    5.88 | 19.50    1.96
              1.333    1.20 | 7.417    2.39 |13.500    5.88 | 19.58    1.96
              1.417    1.20 | 7.500    2.39 |13.583    5.88 | 19.67    1.96
              1.500    1.20 | 7.583    2.39 |13.667    5.88 | 19.75    1.96
              1.583    1.20 | 7.667    2.39 |13.750    5.88 | 19.83    1.96
              1.667    1.20 | 7.750    2.39 |13.833    4.57 | 19.92    1.96
              1.750    1.20 | 7.833    2.39 |13.917    4.57 | 20.00    1.96
              1.833    1.20 | 7.917    2.39 |14.000    4.57 | 20.08    1.96
              1.917    1.20 | 8.000    2.39 |14.083    4.57 | 20.17    1.96
              2.000    1.20 | 8.083    2.39 |14.167    4.57 | 20.25    1.96
              2.083    1.20 | 8.167    2.39 |14.250    4.57 | 20.33    1.31
              2.167    1.20 | 8.250    2.39 |14.333    3.26 | 20.42    1.31
              2.250    1.20 | 8.333    2.83 |14.417    3.26 | 20.50    1.31
              2.333    1.41 | 8.417    2.83 |14.500    3.26 | 20.58    1.31
              2.417    1.41 | 8.500    2.83 |14.583    3.26 | 20.67    1.31
              2.500    1.41 | 8.583    2.83 |14.667    3.26 | 20.75    1.31
              2.583    1.41 | 8.667    2.83 |14.750    3.26 | 20.83    1.31
              2.667    1.41 | 8.750    2.83 |14.833    3.26 | 20.92    1.31
              2.750    1.41 | 8.833    3.05 |14.917    3.26 | 21.00    1.31
              2.833    1.41 | 8.917    3.05 |15.000    3.26 | 21.08    1.31
              2.917    1.41 | 9.000    3.05 |15.083    3.26 | 21.17    1.31
              3.000    1.41 | 9.083    3.05 |15.167    3.26 | 21.25    1.31
              3.083    1.41 | 9.167    3.05 |15.250    3.26 | 21.33    1.31
              3.167    1.41 | 9.250    3.05 |15.333    3.26 | 21.42    1.31
              3.250    1.41 | 9.333    3.48 |15.417    3.26 | 21.50    1.31
              3.333    1.41 | 9.417    3.48 |15.500    3.26 | 21.58    1.31
              3.417    1.41 | 9.500    3.48 |15.583    3.26 | 21.67    1.31
              3.500    1.41 | 9.583    3.48 |15.667    3.26 | 21.75    1.31
              3.583    1.41 | 9.667    3.48 |15.750    3.26 | 21.83    1.31
              3.667    1.41 | 9.750    3.48 |15.833    3.26 | 21.92    1.31
              3.750    1.41 | 9.833    3.92 |15.917    3.26 | 22.00    1.31
              3.833    1.41 | 9.917    3.92 |16.000    3.26 | 22.08    1.31
              3.917    1.41 |10.000    3.92 |16.083    3.26 | 22.17    1.31
              4.000    1.41 |10.083    3.92 |16.167    3.26 | 22.25    1.31
              4.083    1.41 |10.167    3.92 |16.250    3.26 | 22.33    1.31
              4.167    1.41 |10.250    3.92 |16.333    1.96 | 22.42    1.31
              4.250    1.41 |10.333    5.00 |16.417    1.96 | 22.50    1.31
              4.333    1.74 |10.417    5.00 |16.500    1.96 | 22.58    1.31
              4.417    1.74 |10.500    5.00 |16.583    1.96 | 22.67    1.31
              4.500    1.74 |10.583    5.00 |16.667    1.96 | 22.75    1.31
              4.583    1.74 |10.667    5.00 |16.750    1.96 | 22.83    1.31
              4.667    1.74 |10.750    5.00 |16.833    1.96 | 22.92    1.31
              4.750    1.74 |10.833    6.75 |16.917    1.96 | 23.00    1.31
              4.833    1.74 |10.917    6.75 |17.000    1.96 | 23.08    1.31
              4.917    1.74 |11.000    6.75 |17.083    1.96 | 23.17    1.31
              5.000    1.74 |11.083    6.75 |17.167    1.96 | 23.25    1.31
              5.083    1.74 |11.167    6.75 |17.250    1.96 | 23.33    1.31
              5.167    1.74 |11.250    6.75 |17.333    1.96 | 23.42    1.31
              5.250    1.74 |11.333   10.44 |17.417    1.96 | 23.50    1.31
              5.333    1.74 |11.417   10.44 |17.500    1.96 | 23.58    1.31
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                5.417    1.74 |11.500   10.44 |17.583    1.96 | 23.67    1.31
                5.500    1.74 |11.583   10.44 |17.667    1.96 | 23.75    1.31
                5.583    1.74 |11.667   10.44 |17.750    1.96 | 23.83    1.31
                5.667    1.74 |11.750   10.44 |17.833    1.96 | 23.92    1.31
                5.750    1.74 |11.833   32.20 |17.917    1.96 | 24.00    1.31
                5.833    1.74 |11.917   32.20 |18.000    1.96 | 24.08    1.31
                5.917    1.74 |12.000   32.20 |18.083    1.96 | 24.17    1.31
                6.000    1.74 |12.083  133.16 |18.167    1.96 | 24.25    1.31
                6.083    1.74 |12.167  133.17 |18.250    1.96 |

     Max.Eff.Inten.(mm/hr)=     133.17       205.01
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.91 (ii)    7.20 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.14
                                                            *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.20           0.241 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25           12.25
     RUNOFF VOLUME    (mm)=     107.80        86.73           89.88
     TOTAL RAINFALL   (mm)=     108.80       108.80          108.80
     RUNOFF COEFFICIENT   =       0.99         0.80            0.83

***** 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*  =  85.0    Ia = Dep. 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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***********************************************
** SIMULATION:K. 50yr 24hr 15min SCS Type II **
***********************************************

--------------------
|    READ STORM    |    Filename: C:\Users\jkerschbaumer\AppD
|                  |              ata\Local\Temp\
|                  |              0e53ce72-2c36-4efc-8a1e-c647e636da9d\4ed811d1
| Ptotal=120.77 mm |    Comments: 50yr 24hr 15min SCS Type II
--------------------
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.00    0.00 |  6.25    2.17 | 12.50   17.39 | 18.75    2.17
                 0.25    1.33 |  6.50    2.17 | 12.75    8.94 | 19.00    2.17
                 0.50    1.33 |  6.75    2.17 | 13.00    8.94 | 19.25    2.17
                 0.75    1.33 |  7.00    2.17 | 13.25    6.52 | 19.50    2.17
                 1.00    1.33 |  7.25    2.66 | 13.50    6.52 | 19.75    2.17
                 1.25    1.33 |  7.50    2.66 | 13.75    5.07 | 20.00    2.17
                 1.50    1.33 |  7.75    2.66 | 14.00    5.07 | 20.25    1.45
                 1.75    1.33 |  8.00    2.66 | 14.25    3.62 | 20.50    1.45
                 2.00    1.33 |  8.25    3.14 | 14.50    3.62 | 20.75    1.45
                 2.25    1.57 |  8.50    3.14 | 14.75    3.62 | 21.00    1.45
                 2.50    1.57 |  8.75    3.38 | 15.00    3.62 | 21.25    1.45
                 2.75    1.57 |  9.00    3.38 | 15.25    3.62 | 21.50    1.45
                 3.00    1.57 |  9.25    3.86 | 15.50    3.62 | 21.75    1.45
                 3.25    1.57 |  9.50    3.86 | 15.75    3.62 | 22.00    1.45
                 3.50    1.57 |  9.75    4.35 | 16.00    3.62 | 22.25    1.45
                 3.75    1.57 | 10.00    4.35 | 16.25    2.17 | 22.50    1.45
                 4.00    1.57 | 10.25    5.56 | 16.50    2.17 | 22.75    1.45
                 4.25    1.93 | 10.50    5.56 | 16.75    2.17 | 23.00    1.45
                 4.50    1.93 | 10.75    7.49 | 17.00    2.17 | 23.25    1.45
                 4.75    1.93 | 11.00    7.49 | 17.25    2.17 | 23.50    1.45
                 5.00    1.93 | 11.25   11.59 | 17.50    2.17 | 23.75    1.45
                 5.25    1.93 | 11.50   11.59 | 17.75    2.17 | 24.00    1.45
                 5.50    1.93 | 11.75   35.75 | 18.00    2.17 |
                 5.75    1.93 | 12.00  147.82 | 18.25    2.17 |
                 6.00    1.93 | 12.25   17.39 | 18.50    2.17 |

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| CALIB            |
| STANDHYD (  0001)|   Area    (ha)=   9.81
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  48.00
--------------------
                            IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       5.69         4.12
     Dep. Storage     (mm)=       1.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     255.73        30.00
     Mannings n          =       0.013        0.250
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    NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.

                        ---- TRANSFORMED HYETOGRAPH ----
      TIME    RAIN |  TIME    RAIN |' TIME    RAIN |  TIME    RAIN
       hrs   mm/hr |   hrs   mm/hr |'  hrs   mm/hr |   hrs   mm/hr
     0.083    0.00 | 6.167    1.93 |12.250  147.82 | 18.33    2.17
     0.167    0.00 | 6.250    1.93 |12.333   17.41 | 18.42    2.17
     0.250    0.00 | 6.333    2.17 |12.417   17.39 | 18.50    2.17
     0.333    1.33 | 6.417    2.17 |12.500   17.39 | 18.58    2.17
     0.417    1.33 | 6.500    2.17 |12.583   17.39 | 18.67    2.17
     0.500    1.33 | 6.583    2.17 |12.667   17.39 | 18.75    2.17
     0.583    1.33 | 6.667    2.17 |12.750   17.39 | 18.83    2.17
     0.667    1.33 | 6.750    2.17 |12.833    8.94 | 18.92    2.17
     0.750    1.33 | 6.833    2.17 |12.917    8.94 | 19.00    2.17
     0.833    1.33 | 6.917    2.17 |13.000    8.94 | 19.08    2.17
     0.917    1.33 | 7.000    2.17 |13.083    8.94 | 19.17    2.17
     1.000    1.33 | 7.083    2.17 |13.167    8.94 | 19.25    2.17
     1.083    1.33 | 7.167    2.17 |13.250    8.94 | 19.33    2.17
     1.167    1.33 | 7.250    2.17 |13.333    6.52 | 19.42    2.17
     1.250    1.33 | 7.333    2.66 |13.417    6.52 | 19.50    2.17
     1.333    1.33 | 7.417    2.66 |13.500    6.52 | 19.58    2.17
     1.417    1.33 | 7.500    2.66 |13.583    6.52 | 19.67    2.17
     1.500    1.33 | 7.583    2.66 |13.667    6.52 | 19.75    2.17
     1.583    1.33 | 7.667    2.66 |13.750    6.52 | 19.83    2.17
     1.667    1.33 | 7.750    2.66 |13.833    5.07 | 19.92    2.17
     1.750    1.33 | 7.833    2.66 |13.917    5.07 | 20.00    2.17
     1.833    1.33 | 7.917    2.66 |14.000    5.07 | 20.08    2.17
     1.917    1.33 | 8.000    2.66 |14.083    5.07 | 20.17    2.17
     2.000    1.33 | 8.083    2.66 |14.167    5.07 | 20.25    2.17
     2.083    1.33 | 8.167    2.66 |14.250    5.07 | 20.33    1.45
     2.167    1.33 | 8.250    2.66 |14.333    3.62 | 20.42    1.45
     2.250    1.33 | 8.333    3.14 |14.417    3.62 | 20.50    1.45
     2.333    1.57 | 8.417    3.14 |14.500    3.62 | 20.58    1.45
     2.417    1.57 | 8.500    3.14 |14.583    3.62 | 20.67    1.45
     2.500    1.57 | 8.583    3.14 |14.667    3.62 | 20.75    1.45
     2.583    1.57 | 8.667    3.14 |14.750    3.62 | 20.83    1.45
     2.667    1.57 | 8.750    3.14 |14.833    3.62 | 20.92    1.45
     2.750    1.57 | 8.833    3.38 |14.917    3.62 | 21.00    1.45
     2.833    1.57 | 8.917    3.38 |15.000    3.62 | 21.08    1.45
     2.917    1.57 | 9.000    3.38 |15.083    3.62 | 21.17    1.45
     3.000    1.57 | 9.083    3.38 |15.167    3.62 | 21.25    1.45
     3.083    1.57 | 9.167    3.38 |15.250    3.62 | 21.33    1.45
     3.167    1.57 | 9.250    3.38 |15.333    3.62 | 21.42    1.45
     3.250    1.57 | 9.333    3.86 |15.417    3.62 | 21.50    1.45
     3.333    1.57 | 9.417    3.86 |15.500    3.62 | 21.58    1.45
     3.417    1.57 | 9.500    3.86 |15.583    3.62 | 21.67    1.45
     3.500    1.57 | 9.583    3.86 |15.667    3.62 | 21.75    1.45
     3.583    1.57 | 9.667    3.86 |15.750    3.62 | 21.83    1.45
     3.667    1.57 | 9.750    3.86 |15.833    3.62 | 21.92    1.45
     3.750    1.57 | 9.833    4.35 |15.917    3.62 | 22.00    1.45
     3.833    1.57 | 9.917    4.35 |16.000    3.62 | 22.08    1.45
     3.917    1.57 |10.000    4.35 |16.083    3.62 | 22.17    1.45
     4.000    1.57 |10.083    4.35 |16.167    3.62 | 22.25    1.45
     4.083    1.57 |10.167    4.35 |16.250    3.62 | 22.33    1.45
     4.167    1.57 |10.250    4.35 |16.333    2.17 | 22.42    1.45
     4.250    1.57 |10.333    5.56 |16.417    2.17 | 22.50    1.45
     4.333    1.93 |10.417    5.56 |16.500    2.17 | 22.58    1.45
     4.417    1.93 |10.500    5.56 |16.583    2.17 | 22.67    1.45
     4.500    1.93 |10.583    5.56 |16.667    2.17 | 22.75    1.45
     4.583    1.93 |10.667    5.56 |16.750    2.17 | 22.83    1.45
     4.667    1.93 |10.750    5.56 |16.833    2.17 | 22.92    1.45
     4.750    1.93 |10.833    7.49 |16.917    2.17 | 23.00    1.45
     4.833    1.93 |10.917    7.49 |17.000    2.17 | 23.08    1.45
     4.917    1.93 |11.000    7.49 |17.083    2.17 | 23.17    1.45
     5.000    1.93 |11.083    7.49 |17.167    2.17 | 23.25    1.45
     5.083    1.93 |11.167    7.49 |17.250    2.17 | 23.33    1.45
     5.167    1.93 |11.250    7.49 |17.333    2.17 | 23.42    1.45
     5.250    1.93 |11.333   11.59 |17.417    2.17 | 23.50    1.45
     5.333    1.93 |11.417   11.59 |17.500    2.17 | 23.58    1.45
     5.417    1.93 |11.500   11.59 |17.583    2.17 | 23.67    1.45
     5.500    1.93 |11.583   11.59 |17.667    2.17 | 23.75    1.45
     5.583    1.93 |11.667   11.59 |17.750    2.17 | 23.83    1.45
     5.667    1.93 |11.750   11.59 |17.833    2.17 | 23.92    1.45
     5.750    1.93 |11.833   35.75 |17.917    2.17 | 24.00    1.45
     5.833    1.93 |11.917   35.75 |18.000    2.17 | 24.08    1.45
     5.917    1.93 |12.000   35.75 |18.083    2.17 | 24.17    1.45
     6.000    1.93 |12.083  147.81 |18.167    2.17 | 24.25    1.45
     6.083    1.93 |12.167  147.82 |18.250    2.17 |

Max.Eff.Inten.(mm/hr)=     147.82       133.54
           over (min)        5.00        10.00
Storage Coeff.  (min)=       4.73 (ii)    9.54 (ii)
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     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.22         0.12
                                                             *TOTALS*
     PEAK FLOW       (cms)=       1.87         1.11          2.978 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=     119.77        73.61          95.77
     TOTAL RAINFALL   (mm)=     120.77       120.77         120.77
     RUNOFF COEFFICIENT   =       0.99         0.61           0.79

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0005)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     Mannings n           =      0.013        0.250

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.00 | 6.167    1.93 |12.250  147.82 | 18.33     2.17
                0.167    0.00 | 6.250    1.93 |12.333   17.41 | 18.42     2.17
                0.250    0.00 | 6.333    2.17 |12.417   17.39 | 18.50     2.17
                0.333    1.33 | 6.417    2.17 |12.500   17.39 | 18.58     2.17
                0.417    1.33 | 6.500    2.17 |12.583   17.39 | 18.67     2.17
                0.500    1.33 | 6.583    2.17 |12.667   17.39 | 18.75     2.17
                0.583    1.33 | 6.667    2.17 |12.750   17.39 | 18.83     2.17
                0.667    1.33 | 6.750    2.17 |12.833    8.94 | 18.92     2.17
                0.750    1.33 | 6.833    2.17 |12.917    8.94 | 19.00     2.17
                0.833    1.33 | 6.917    2.17 |13.000    8.94 | 19.08     2.17
                0.917    1.33 | 7.000    2.17 |13.083    8.94 | 19.17     2.17
                1.000    1.33 | 7.083    2.17 |13.167    8.94 | 19.25     2.17
                1.083    1.33 | 7.167    2.17 |13.250    8.94 | 19.33     2.17
                1.167    1.33 | 7.250    2.17 |13.333    6.52 | 19.42     2.17
                1.250    1.33 | 7.333    2.66 |13.417    6.52 | 19.50     2.17
                1.333    1.33 | 7.417    2.66 |13.500    6.52 | 19.58     2.17
                1.417    1.33 | 7.500    2.66 |13.583    6.52 | 19.67     2.17
                1.500    1.33 | 7.583    2.66 |13.667    6.52 | 19.75     2.17
                1.583    1.33 | 7.667    2.66 |13.750    6.52 | 19.83     2.17
                1.667    1.33 | 7.750    2.66 |13.833    5.07 | 19.92     2.17
                1.750    1.33 | 7.833    2.66 |13.917    5.07 | 20.00     2.17
                1.833    1.33 | 7.917    2.66 |14.000    5.07 | 20.08     2.17
                1.917    1.33 | 8.000    2.66 |14.083    5.07 | 20.17     2.17
                2.000    1.33 | 8.083    2.66 |14.167    5.07 | 20.25     2.17
                2.083    1.33 | 8.167    2.66 |14.250    5.07 | 20.33     1.45
                2.167    1.33 | 8.250    2.66 |14.333    3.62 | 20.42     1.45
                2.250    1.33 | 8.333    3.14 |14.417    3.62 | 20.50     1.45
                2.333    1.57 | 8.417    3.14 |14.500    3.62 | 20.58     1.45
                2.417    1.57 | 8.500    3.14 |14.583    3.62 | 20.67     1.45
                2.500    1.57 | 8.583    3.14 |14.667    3.62 | 20.75     1.45
                2.583    1.57 | 8.667    3.14 |14.750    3.62 | 20.83     1.45
                2.667    1.57 | 8.750    3.14 |14.833    3.62 | 20.92     1.45
                2.750    1.57 | 8.833    3.38 |14.917    3.62 | 21.00     1.45
                2.833    1.57 | 8.917    3.38 |15.000    3.62 | 21.08     1.45
                2.917    1.57 | 9.000    3.38 |15.083    3.62 | 21.17     1.45
                3.000    1.57 | 9.083    3.38 |15.167    3.62 | 21.25     1.45
                3.083    1.57 | 9.167    3.38 |15.250    3.62 | 21.33     1.45
                3.167    1.57 | 9.250    3.38 |15.333    3.62 | 21.42     1.45
                3.250    1.57 | 9.333    3.86 |15.417    3.62 | 21.50     1.45
                3.333    1.57 | 9.417    3.86 |15.500    3.62 | 21.58     1.45
                3.417    1.57 | 9.500    3.86 |15.583    3.62 | 21.67     1.45
                3.500    1.57 | 9.583    3.86 |15.667    3.62 | 21.75     1.45
                3.583    1.57 | 9.667    3.86 |15.750    3.62 | 21.83     1.45
                3.667    1.57 | 9.750    3.86 |15.833    3.62 | 21.92     1.45
                3.750    1.57 | 9.833    4.35 |15.917    3.62 | 22.00     1.45
                3.833    1.57 | 9.917    4.35 |16.000    3.62 | 22.08     1.45
                3.917    1.57 |10.000    4.35 |16.083    3.62 | 22.17     1.45
                4.000    1.57 |10.083    4.35 |16.167    3.62 | 22.25     1.45
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                4.083    1.57 |10.167    4.35 |16.250    3.62 | 22.33     1.45
                4.167    1.57 |10.250    4.35 |16.333    2.17 | 22.42     1.45
                4.250    1.57 |10.333    5.56 |16.417    2.17 | 22.50     1.45
                4.333    1.93 |10.417    5.56 |16.500    2.17 | 22.58     1.45
                4.417    1.93 |10.500    5.56 |16.583    2.17 | 22.67     1.45
                4.500    1.93 |10.583    5.56 |16.667    2.17 | 22.75     1.45
                4.583    1.93 |10.667    5.56 |16.750    2.17 | 22.83     1.45
                4.667    1.93 |10.750    5.56 |16.833    2.17 | 22.92     1.45
                4.750    1.93 |10.833    7.49 |16.917    2.17 | 23.00     1.45
                4.833    1.93 |10.917    7.49 |17.000    2.17 | 23.08     1.45
                4.917    1.93 |11.000    7.49 |17.083    2.17 | 23.17     1.45
                5.000    1.93 |11.083    7.49 |17.167    2.17 | 23.25     1.45
                5.083    1.93 |11.167    7.49 |17.250    2.17 | 23.33     1.45
                5.167    1.93 |11.250    7.49 |17.333    2.17 | 23.42     1.45
                5.250    1.93 |11.333   11.59 |17.417    2.17 | 23.50     1.45
                5.333    1.93 |11.417   11.59 |17.500    2.17 | 23.58     1.45
                5.417    1.93 |11.500   11.59 |17.583    2.17 | 23.67     1.45
                5.500    1.93 |11.583   11.59 |17.667    2.17 | 23.75     1.45
                5.583    1.93 |11.667   11.59 |17.750    2.17 | 23.83     1.45
                5.667    1.93 |11.750   11.59 |17.833    2.17 | 23.92     1.45
                5.750    1.93 |11.833   35.75 |17.917    2.17 | 24.00     1.45
                5.833    1.93 |11.917   35.75 |18.000    2.17 | 24.08     1.45
                5.917    1.93 |12.000   35.75 |18.083    2.17 | 24.17     1.45
                6.000    1.93 |12.083  147.81 |18.167    2.17 | 24.25     1.45
                6.083    1.93 |12.167  147.82 |18.250    2.17 |

     Max.Eff.Inten.(mm/hr)=     147.82        98.72
                over (min)       5.00        10.00
     Storage Coeff.  (min)=       2.57 (ii)    8.53 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       0.26         0.13         0.394 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25         12.25
     RUNOFF VOLUME    (mm)=     118.77        66.87         92.81
     TOTAL RAINFALL   (mm)=     120.77       120.77        120.77
     RUNOFF COEFFICIENT   =       0.98         0.55          0.77

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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  (  0007)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0001):     9.81   2.978    12.25    95.77
      + ID2= 2 (  0005):     1.28   0.394    12.25    92.81
        ==================================================
        ID = 3 (  0007):    11.09   3.372    12.25    95.43

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0003)|     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   |   0.3480     0.4690
                          0.0270     0.0900   |   0.8590     0.6570
                          0.0470     0.1880   |   1.5140     0.8590
                          0.0600     0.2950   |   0.0000     0.0000

                                  AREA     QPEAK     TPEAK       R.V.
                                  (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0007)      11.090     3.372     12.25      95.43
   OUTFLOW: ID= 1 (  0003)      11.090     0.568     12.75      95.35

                 PEAK   FLOW   REDUCTION [Qout/Qin](%)= 16.83
                 TIME SHIFT OF PEAK FLOW         (min)= 30.00
                 MAXIMUM  STORAGE   USED       (ha.m.)=  0.5501

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| CALIB            |
| STANDHYD (  0015)|   Area    (ha)=   0.41
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
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                       IMPERVIOUS    PERVIOUS (i)
Surface Area     (ha)=      0.20         0.20
Dep. Storage     (mm)=      1.00         1.50
Average Slope     (%)=      1.00         2.00
Length            (m)=     52.28        40.00
Mannings n           =     0.013        0.250

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


                          ---- TRANSFORMED HYETOGRAPH ----
                 TIME   RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs  mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083   0.00 | 6.167    1.93 |12.250  147.82 | 18.33    2.17
                0.167   0.00 | 6.250    1.93 |12.333   17.41 | 18.42    2.17
                0.250   0.00 | 6.333    2.17 |12.417   17.39 | 18.50    2.17
                0.333   1.33 | 6.417    2.17 |12.500   17.39 | 18.58    2.17
                0.417   1.33 | 6.500    2.17 |12.583   17.39 | 18.67    2.17
                0.500   1.33 | 6.583    2.17 |12.667   17.39 | 18.75    2.17
                0.583   1.33 | 6.667    2.17 |12.750   17.39 | 18.83    2.17
                0.667   1.33 | 6.750    2.17 |12.833    8.94 | 18.92    2.17
                0.750   1.33 | 6.833    2.17 |12.917    8.94 | 19.00    2.17
                0.833   1.33 | 6.917    2.17 |13.000    8.94 | 19.08    2.17
                0.917   1.33 | 7.000    2.17 |13.083    8.94 | 19.17    2.17
                1.000   1.33 | 7.083    2.17 |13.167    8.94 | 19.25    2.17
                1.083   1.33 | 7.167    2.17 |13.250    8.94 | 19.33    2.17
                1.167   1.33 | 7.250    2.17 |13.333    6.52 | 19.42    2.17
                1.250   1.33 | 7.333    2.66 |13.417    6.52 | 19.50    2.17
                1.333   1.33 | 7.417    2.66 |13.500    6.52 | 19.58    2.17
                1.417   1.33 | 7.500    2.66 |13.583    6.52 | 19.67    2.17
                1.500   1.33 | 7.583    2.66 |13.667    6.52 | 19.75    2.17
                1.583   1.33 | 7.667    2.66 |13.750    6.52 | 19.83    2.17
                1.667   1.33 | 7.750    2.66 |13.833    5.07 | 19.92    2.17
                1.750   1.33 | 7.833    2.66 |13.917    5.07 | 20.00    2.17
                1.833   1.33 | 7.917    2.66 |14.000    5.07 | 20.08    2.17
                1.917   1.33 | 8.000    2.66 |14.083    5.07 | 20.17    2.17
                2.000   1.33 | 8.083    2.66 |14.167    5.07 | 20.25    2.17
                2.083   1.33 | 8.167    2.66 |14.250    5.07 | 20.33    1.45
                2.167   1.33 | 8.250    2.66 |14.333    3.62 | 20.42    1.45
                2.250   1.33 | 8.333    3.14 |14.417    3.62 | 20.50    1.45
                2.333   1.57 | 8.417    3.14 |14.500    3.62 | 20.58    1.45
                2.417   1.57 | 8.500    3.14 |14.583    3.62 | 20.67    1.45
                2.500   1.57 | 8.583    3.14 |14.667    3.62 | 20.75    1.45
                2.583   1.57 | 8.667    3.14 |14.750    3.62 | 20.83    1.45
                2.667   1.57 | 8.750    3.14 |14.833    3.62 | 20.92    1.45
                2.750   1.57 | 8.833    3.38 |14.917    3.62 | 21.00    1.45
                2.833   1.57 | 8.917    3.38 |15.000    3.62 | 21.08    1.45
                2.917   1.57 | 9.000    3.38 |15.083    3.62 | 21.17    1.45
                3.000   1.57 | 9.083    3.38 |15.167    3.62 | 21.25    1.45
                3.083   1.57 | 9.167    3.38 |15.250    3.62 | 21.33    1.45
                3.167   1.57 | 9.250    3.38 |15.333    3.62 | 21.42    1.45
                3.250   1.57 | 9.333    3.86 |15.417    3.62 | 21.50    1.45
                3.333   1.57 | 9.417    3.86 |15.500    3.62 | 21.58    1.45
                3.417   1.57 | 9.500    3.86 |15.583    3.62 | 21.67    1.45
                3.500   1.57 | 9.583    3.86 |15.667    3.62 | 21.75    1.45
                3.583   1.57 | 9.667    3.86 |15.750    3.62 | 21.83    1.45
                3.667   1.57 | 9.750    3.86 |15.833    3.62 | 21.92    1.45
                3.750   1.57 | 9.833    4.35 |15.917    3.62 | 22.00    1.45
                3.833   1.57 | 9.917    4.35 |16.000    3.62 | 22.08    1.45
                3.917   1.57 |10.000    4.35 |16.083    3.62 | 22.17    1.45
                4.000   1.57 |10.083    4.35 |16.167    3.62 | 22.25    1.45
                4.083   1.57 |10.167    4.35 |16.250    3.62 | 22.33    1.45
                4.167   1.57 |10.250    4.35 |16.333    2.17 | 22.42    1.45
                4.250   1.57 |10.333    5.56 |16.417    2.17 | 22.50    1.45
                4.333   1.93 |10.417    5.56 |16.500    2.17 | 22.58    1.45
                4.417   1.93 |10.500    5.56 |16.583    2.17 | 22.67    1.45
                4.500   1.93 |10.583    5.56 |16.667    2.17 | 22.75    1.45
                4.583   1.93 |10.667    5.56 |16.750    2.17 | 22.83    1.45
                4.667   1.93 |10.750    5.56 |16.833    2.17 | 22.92    1.45
                4.750   1.93 |10.833    7.49 |16.917    2.17 | 23.00    1.45
                4.833   1.93 |10.917    7.49 |17.000    2.17 | 23.08    1.45
                4.917   1.93 |11.000    7.49 |17.083    2.17 | 23.17    1.45
                5.000   1.93 |11.083    7.49 |17.167    2.17 | 23.25    1.45
                5.083   1.93 |11.167    7.49 |17.250    2.17 | 23.33    1.45
                5.167   1.93 |11.250    7.49 |17.333    2.17 | 23.42    1.45
                5.250   1.93 |11.333   11.59 |17.417    2.17 | 23.50    1.45
                5.333   1.93 |11.417   11.59 |17.500    2.17 | 23.58    1.45
                5.417   1.93 |11.500   11.59 |17.583    2.17 | 23.67    1.45
                5.500   1.93 |11.583   11.59 |17.667    2.17 | 23.75    1.45
                5.583   1.93 |11.667   11.59 |17.750    2.17 | 23.83    1.45
                5.667   1.93 |11.750   11.59 |17.833    2.17 | 23.92    1.45
                5.750   1.93 |11.833   35.75 |17.917    2.17 | 24.00    1.45
                5.833   1.93 |11.917   35.75 |18.000    2.17 | 24.08    1.45
                5.917   1.93 |12.000   35.75 |18.083    2.17 | 24.17    1.45
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                6.000   1.93 |12.083  147.81 |18.167    2.17 | 24.25    1.45
                6.083   1.93 |12.167  147.82 |18.250    2.17 |

    Max.Eff.Inten.(mm/hr)=     147.82       230.84
               over (min)        5.00        10.00
    Storage Coeff.  (min)=       1.48 (ii)    6.53 (ii)
    Unit Hyd. Tpeak (min)=       5.00        10.00
    Unit Hyd. peak  (cms)=       0.33         0.14
                                                          *TOTALS*
    PEAK FLOW       (cms)=       0.03         0.11          0.137 (iii)
    TIME TO PEAK    (hrs)=      12.25        12.25          12.25
    RUNOFF VOLUME    (mm)=     119.77        98.27         101.49
    TOTAL RAINFALL   (mm)=     120.77       120.77         120.77
    RUNOFF COEFFICIENT   =       0.99         0.81           0.84

***** 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*  =  85.0    Ia = Dep. 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   (  0011)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.64

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


                          ---- TRANSFORMED HYETOGRAPH ----
                 TIME   RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs  mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083   0.00 | 6.167    1.93 |12.250  147.82 | 18.33    2.17
                0.167   0.00 | 6.250    1.93 |12.333   17.41 | 18.42    2.17
                0.250   0.00 | 6.333    2.17 |12.417   17.39 | 18.50    2.17
                0.333   1.33 | 6.417    2.17 |12.500   17.39 | 18.58    2.17
                0.417   1.33 | 6.500    2.17 |12.583   17.39 | 18.67    2.17
                0.500   1.33 | 6.583    2.17 |12.667   17.39 | 18.75    2.17
                0.583   1.33 | 6.667    2.17 |12.750   17.39 | 18.83    2.17
                0.667   1.33 | 6.750    2.17 |12.833    8.94 | 18.92    2.17
                0.750   1.33 | 6.833    2.17 |12.917    8.94 | 19.00    2.17
                0.833   1.33 | 6.917    2.17 |13.000    8.94 | 19.08    2.17
                0.917   1.33 | 7.000    2.17 |13.083    8.94 | 19.17    2.17
                1.000   1.33 | 7.083    2.17 |13.167    8.94 | 19.25    2.17
                1.083   1.33 | 7.167    2.17 |13.250    8.94 | 19.33    2.17
                1.167   1.33 | 7.250    2.17 |13.333    6.52 | 19.42    2.17
                1.250   1.33 | 7.333    2.66 |13.417    6.52 | 19.50    2.17
                1.333   1.33 | 7.417    2.66 |13.500    6.52 | 19.58    2.17
                1.417   1.33 | 7.500    2.66 |13.583    6.52 | 19.67    2.17
                1.500   1.33 | 7.583    2.66 |13.667    6.52 | 19.75    2.17
                1.583   1.33 | 7.667    2.66 |13.750    6.52 | 19.83    2.17
                1.667   1.33 | 7.750    2.66 |13.833    5.07 | 19.92    2.17
                1.750   1.33 | 7.833    2.66 |13.917    5.07 | 20.00    2.17
                1.833   1.33 | 7.917    2.66 |14.000    5.07 | 20.08    2.17
                1.917   1.33 | 8.000    2.66 |14.083    5.07 | 20.17    2.17
                2.000   1.33 | 8.083    2.66 |14.167    5.07 | 20.25    2.17
                2.083   1.33 | 8.167    2.66 |14.250    5.07 | 20.33    1.45
                2.167   1.33 | 8.250    2.66 |14.333    3.62 | 20.42    1.45
                2.250   1.33 | 8.333    3.14 |14.417    3.62 | 20.50    1.45
                2.333   1.57 | 8.417    3.14 |14.500    3.62 | 20.58    1.45
                2.417   1.57 | 8.500    3.14 |14.583    3.62 | 20.67    1.45
                2.500   1.57 | 8.583    3.14 |14.667    3.62 | 20.75    1.45
                2.583   1.57 | 8.667    3.14 |14.750    3.62 | 20.83    1.45
                2.667   1.57 | 8.750    3.14 |14.833    3.62 | 20.92    1.45
                2.750   1.57 | 8.833    3.38 |14.917    3.62 | 21.00    1.45
                2.833   1.57 | 8.917    3.38 |15.000    3.62 | 21.08    1.45
                2.917   1.57 | 9.000    3.38 |15.083    3.62 | 21.17    1.45
                3.000   1.57 | 9.083    3.38 |15.167    3.62 | 21.25    1.45
                3.083   1.57 | 9.167    3.38 |15.250    3.62 | 21.33    1.45
                3.167   1.57 | 9.250    3.38 |15.333    3.62 | 21.42    1.45
                3.250   1.57 | 9.333    3.86 |15.417    3.62 | 21.50    1.45
                3.333   1.57 | 9.417    3.86 |15.500    3.62 | 21.58    1.45
                3.417   1.57 | 9.500    3.86 |15.583    3.62 | 21.67    1.45
                3.500   1.57 | 9.583    3.86 |15.667    3.62 | 21.75    1.45
                3.583   1.57 | 9.667    3.86 |15.750    3.62 | 21.83    1.45
                3.667   1.57 | 9.750    3.86 |15.833    3.62 | 21.92    1.45
                3.750   1.57 | 9.833    4.35 |15.917    3.62 | 22.00    1.45
                3.833   1.57 | 9.917    4.35 |16.000    3.62 | 22.08    1.45
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                 3.917    1.57 |10.000    4.35 |16.083    3.62 | 22.17    1.45
                 4.000    1.57 |10.083    4.35 |16.167    3.62 | 22.25    1.45
                 4.083    1.57 |10.167    4.35 |16.250    3.62 | 22.33    1.45
                 4.167    1.57 |10.250    4.35 |16.333    2.17 | 22.42    1.45
                 4.250    1.57 |10.333    5.56 |16.417    2.17 | 22.50    1.45
                 4.333    1.93 |10.417    5.56 |16.500    2.17 | 22.58    1.45
                 4.417    1.93 |10.500    5.56 |16.583    2.17 | 22.67    1.45
                 4.500    1.93 |10.583    5.56 |16.667    2.17 | 22.75    1.45
                 4.583    1.93 |10.667    5.56 |16.750    2.17 | 22.83    1.45
                 4.667    1.93 |10.750    5.56 |16.833    2.17 | 22.92    1.45
                 4.750    1.93 |10.833    7.49 |16.917    2.17 | 23.00    1.45
                 4.833    1.93 |10.917    7.49 |17.000    2.17 | 23.08    1.45
                 4.917    1.93 |11.000    7.49 |17.083    2.17 | 23.17    1.45
                 5.000    1.93 |11.083    7.49 |17.167    2.17 | 23.25    1.45
                 5.083    1.93 |11.167    7.49 |17.250    2.17 | 23.33    1.45
                 5.167    1.93 |11.250    7.49 |17.333    2.17 | 23.42    1.45
                 5.250    1.93 |11.333   11.59 |17.417    2.17 | 23.50    1.45
                 5.333    1.93 |11.417   11.59 |17.500    2.17 | 23.58    1.45
                 5.417    1.93 |11.500   11.59 |17.583    2.17 | 23.67    1.45
                 5.500    1.93 |11.583   11.59 |17.667    2.17 | 23.75    1.45
                 5.583    1.93 |11.667   11.59 |17.750    2.17 | 23.83    1.45
                 5.667    1.93 |11.750   11.59 |17.833    2.17 | 23.92    1.45
                 5.750    1.93 |11.833   35.75 |17.917    2.17 | 24.00    1.45
                 5.833    1.93 |11.917   35.75 |18.000    2.17 | 24.08    1.45
                 5.917    1.93 |12.000   35.75 |18.083    2.17 | 24.17    1.45
                 6.000    1.93 |12.083  147.81 |18.167    2.17 | 24.25    1.45
                 6.083    1.93 |12.167  147.82 |18.250    2.17 |

     Unit Hyd Qpeak  (cms)=   0.865

     PEAK FLOW       (cms)=   1.132 (i)
     TIME TO PEAK    (hrs)=  12.833
     RUNOFF VOLUME    (mm)=  68.143
     TOTAL RAINFALL   (mm)= 120.770
     RUNOFF COEFFICIENT   =   0.564

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

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| CALIB            |
| STANDHYD (  0002)|   Area    (ha)=   9.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  50.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       6.57         3.09
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=     253.77        30.00
     Mannings n          =      0.013        0.250

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


                                ---- TRANSFORMED HYETOGRAPH ----
                  TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                   hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                 0.083    0.00 | 6.167    1.93 |12.250  147.82 | 18.33    2.17
                 0.167    0.00 | 6.250    1.93 |12.333   17.41 | 18.42    2.17
                 0.250    0.00 | 6.333    2.17 |12.417   17.39 | 18.50    2.17
                 0.333    1.33 | 6.417    2.17 |12.500   17.39 | 18.58    2.17
                 0.417    1.33 | 6.500    2.17 |12.583   17.39 | 18.67    2.17
                 0.500    1.33 | 6.583    2.17 |12.667   17.39 | 18.75    2.17
                 0.583    1.33 | 6.667    2.17 |12.750   17.39 | 18.83    2.17
                 0.667    1.33 | 6.750    2.17 |12.833    8.94 | 18.92    2.17
                 0.750    1.33 | 6.833    2.17 |12.917    8.94 | 19.00    2.17
                 0.833    1.33 | 6.917    2.17 |13.000    8.94 | 19.08    2.17
                 0.917    1.33 | 7.000    2.17 |13.083    8.94 | 19.17    2.17
                 1.000    1.33 | 7.083    2.17 |13.167    8.94 | 19.25    2.17
                 1.083    1.33 | 7.167    2.17 |13.250    8.94 | 19.33    2.17
                 1.167    1.33 | 7.250    2.17 |13.333    6.52 | 19.42    2.17
                 1.250    1.33 | 7.333    2.66 |13.417    6.52 | 19.50    2.17
                 1.333    1.33 | 7.417    2.66 |13.500    6.52 | 19.58    2.17
                 1.417    1.33 | 7.500    2.66 |13.583    6.52 | 19.67    2.17
                 1.500    1.33 | 7.583    2.66 |13.667    6.52 | 19.75    2.17
                 1.583    1.33 | 7.667    2.66 |13.750    6.52 | 19.83    2.17
                 1.667    1.33 | 7.750    2.66 |13.833    5.07 | 19.92    2.17
                 1.750    1.33 | 7.833    2.66 |13.917    5.07 | 20.00    2.17
                 1.833    1.33 | 7.917    2.66 |14.000    5.07 | 20.08    2.17
                 1.917    1.33 | 8.000    2.66 |14.083    5.07 | 20.17    2.17
                 2.000    1.33 | 8.083    2.66 |14.167    5.07 | 20.25    2.17
                 2.083    1.33 | 8.167    2.66 |14.250    5.07 | 20.33    1.45
                 2.167    1.33 | 8.250    2.66 |14.333    3.62 | 20.42    1.45
                 2.250    1.33 | 8.333    3.14 |14.417    3.62 | 20.50    1.45
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                 2.333    1.57 | 8.417    3.14 |14.500    3.62 | 20.58    1.45
                 2.417    1.57 | 8.500    3.14 |14.583    3.62 | 20.67    1.45
                 2.500    1.57 | 8.583    3.14 |14.667    3.62 | 20.75    1.45
                 2.583    1.57 | 8.667    3.14 |14.750    3.62 | 20.83    1.45
                 2.667    1.57 | 8.750    3.14 |14.833    3.62 | 20.92    1.45
                 2.750    1.57 | 8.833    3.38 |14.917    3.62 | 21.00    1.45
                 2.833    1.57 | 8.917    3.38 |15.000    3.62 | 21.08    1.45
                 2.917    1.57 | 9.000    3.38 |15.083    3.62 | 21.17    1.45
                 3.000    1.57 | 9.083    3.38 |15.167    3.62 | 21.25    1.45
                 3.083    1.57 | 9.167    3.38 |15.250    3.62 | 21.33    1.45
                 3.167    1.57 | 9.250    3.38 |15.333    3.62 | 21.42    1.45
                 3.250    1.57 | 9.333    3.86 |15.417    3.62 | 21.50    1.45
                 3.333    1.57 | 9.417    3.86 |15.500    3.62 | 21.58    1.45
                 3.417    1.57 | 9.500    3.86 |15.583    3.62 | 21.67    1.45
                 3.500    1.57 | 9.583    3.86 |15.667    3.62 | 21.75    1.45
                 3.583    1.57 | 9.667    3.86 |15.750    3.62 | 21.83    1.45
                 3.667    1.57 | 9.750    3.86 |15.833    3.62 | 21.92    1.45
                 3.750    1.57 | 9.833    4.35 |15.917    3.62 | 22.00    1.45
                 3.833    1.57 | 9.917    4.35 |16.000    3.62 | 22.08    1.45
                 3.917    1.57 |10.000    4.35 |16.083    3.62 | 22.17    1.45
                 4.000    1.57 |10.083    4.35 |16.167    3.62 | 22.25    1.45
                 4.083    1.57 |10.167    4.35 |16.250    3.62 | 22.33    1.45
                 4.167    1.57 |10.250    4.35 |16.333    2.17 | 22.42    1.45
                 4.250    1.57 |10.333    5.56 |16.417    2.17 | 22.50    1.45
                 4.333    1.93 |10.417    5.56 |16.500    2.17 | 22.58    1.45
                 4.417    1.93 |10.500    5.56 |16.583    2.17 | 22.67    1.45
                 4.500    1.93 |10.583    5.56 |16.667    2.17 | 22.75    1.45
                 4.583    1.93 |10.667    5.56 |16.750    2.17 | 22.83    1.45
                 4.667    1.93 |10.750    5.56 |16.833    2.17 | 22.92    1.45
                 4.750    1.93 |10.833    7.49 |16.917    2.17 | 23.00    1.45
                 4.833    1.93 |10.917    7.49 |17.000    2.17 | 23.08    1.45
                 4.917    1.93 |11.000    7.49 |17.083    2.17 | 23.17    1.45
                 5.000    1.93 |11.083    7.49 |17.167    2.17 | 23.25    1.45
                 5.083    1.93 |11.167    7.49 |17.250    2.17 | 23.33    1.45
                 5.167    1.93 |11.250    7.49 |17.333    2.17 | 23.42    1.45
                 5.250    1.93 |11.333   11.59 |17.417    2.17 | 23.50    1.45
                 5.333    1.93 |11.417   11.59 |17.500    2.17 | 23.58    1.45
                 5.417    1.93 |11.500   11.59 |17.583    2.17 | 23.67    1.45
                 5.500    1.93 |11.583   11.59 |17.667    2.17 | 23.75    1.45
                 5.583    1.93 |11.667   11.59 |17.750    2.17 | 23.83    1.45
                 5.667    1.93 |11.750   11.59 |17.833    2.17 | 23.92    1.45
                 5.750    1.93 |11.833   35.75 |17.917    2.17 | 24.00    1.45
                 5.833    1.93 |11.917   35.75 |18.000    2.17 | 24.08    1.45
                 5.917    1.93 |12.000   35.75 |18.083    2.17 | 24.17    1.45
                 6.000    1.93 |12.083  147.81 |18.167    2.17 | 24.25    1.45
                 6.083    1.93 |12.167  147.82 |18.250    2.17 |

     Max.Eff.Inten.(mm/hr)=     147.82       182.35
                over (min)       5.00        10.00
     Storage Coeff.  (min)=       4.70 (ii)    8.95 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.22         0.12
                                                         *TOTALS*
     PEAK FLOW       (cms)=       1.92         1.17         3.096 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25         12.25
     RUNOFF VOLUME    (mm)=     118.77        80.48         99.62
     TOTAL RAINFALL   (mm)=     120.77       120.77        120.77
     RUNOFF COEFFICIENT   =       0.98         0.67          0.82

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

        (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
             CN*  =  75.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0008)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     Mannings n          =      0.013        0.250

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


                                ---- TRANSFORMED HYETOGRAPH ----
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          TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
           hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
         0.083    0.00 | 6.167    1.93 |12.250  147.82 | 18.33    2.17
         0.167    0.00 | 6.250    1.93 |12.333   17.41 | 18.42    2.17
         0.250    0.00 | 6.333    2.17 |12.417   17.39 | 18.50    2.17
         0.333    1.33 | 6.417    2.17 |12.500   17.39 | 18.58    2.17
         0.417    1.33 | 6.500    2.17 |12.583   17.39 | 18.67    2.17
         0.500    1.33 | 6.583    2.17 |12.667   17.39 | 18.75    2.17
         0.583    1.33 | 6.667    2.17 |12.750   17.39 | 18.83    2.17
         0.667    1.33 | 6.750    2.17 |12.833    8.94 | 18.92    2.17
         0.750    1.33 | 6.833    2.17 |12.917    8.94 | 19.00    2.17
         0.833    1.33 | 6.917    2.17 |13.000    8.94 | 19.08    2.17
         0.917    1.33 | 7.000    2.17 |13.083    8.94 | 19.17    2.17
         1.000    1.33 | 7.083    2.17 |13.167    8.94 | 19.25    2.17
         1.083    1.33 | 7.167    2.17 |13.250    8.94 | 19.33    2.17
         1.167    1.33 | 7.250    2.17 |13.333    6.52 | 19.42    2.17
         1.250    1.33 | 7.333    2.66 |13.417    6.52 | 19.50    2.17
         1.333    1.33 | 7.417    2.66 |13.500    6.52 | 19.58    2.17
         1.417    1.33 | 7.500    2.66 |13.583    6.52 | 19.67    2.17
         1.500    1.33 | 7.583    2.66 |13.667    6.52 | 19.75    2.17
         1.583    1.33 | 7.667    2.66 |13.750    6.52 | 19.83    2.17
         1.667    1.33 | 7.750    2.66 |13.833    5.07 | 19.92    2.17
         1.750    1.33 | 7.833    2.66 |13.917    5.07 | 20.00    2.17
         1.833    1.33 | 7.917    2.66 |14.000    5.07 | 20.08    2.17
         1.917    1.33 | 8.000    2.66 |14.083    5.07 | 20.17    2.17
         2.000    1.33 | 8.083    2.66 |14.167    5.07 | 20.25    2.17
         2.083    1.33 | 8.167    2.66 |14.250    5.07 | 20.33    1.45
         2.167    1.33 | 8.250    2.66 |14.333    3.62 | 20.42    1.45
         2.250    1.33 | 8.333    3.14 |14.417    3.62 | 20.50    1.45
         2.333    1.57 | 8.417    3.14 |14.500    3.62 | 20.58    1.45
         2.417    1.57 | 8.500    3.14 |14.583    3.62 | 20.67    1.45
         2.500    1.57 | 8.583    3.14 |14.667    3.62 | 20.75    1.45
         2.583    1.57 | 8.667    3.14 |14.750    3.62 | 20.83    1.45
         2.667    1.57 | 8.750    3.14 |14.833    3.62 | 20.92    1.45
         2.750    1.57 | 8.833    3.38 |14.917    3.62 | 21.00    1.45
         2.833    1.57 | 8.917    3.38 |15.000    3.62 | 21.08    1.45
         2.917    1.57 | 9.000    3.38 |15.083    3.62 | 21.17    1.45
         3.000    1.57 | 9.083    3.38 |15.167    3.62 | 21.25    1.45
         3.083    1.57 | 9.167    3.38 |15.250    3.62 | 21.33    1.45
         3.167    1.57 | 9.250    3.38 |15.333    3.62 | 21.42    1.45
         3.250    1.57 | 9.333    3.86 |15.417    3.62 | 21.50    1.45
         3.333    1.57 | 9.417    3.86 |15.500    3.62 | 21.58    1.45
         3.417    1.57 | 9.500    3.86 |15.583    3.62 | 21.67    1.45
         3.500    1.57 | 9.583    3.86 |15.667    3.62 | 21.75    1.45
         3.583    1.57 | 9.667    3.86 |15.750    3.62 | 21.83    1.45
         3.667    1.57 | 9.750    3.86 |15.833    3.62 | 21.92    1.45
         3.750    1.57 | 9.833    4.35 |15.917    3.62 | 22.00    1.45
         3.833    1.57 | 9.917    4.35 |16.000    3.62 | 22.08    1.45
         3.917    1.57 |10.000    4.35 |16.083    3.62 | 22.17    1.45
         4.000    1.57 |10.083    4.35 |16.167    3.62 | 22.25    1.45
         4.083    1.57 |10.167    4.35 |16.250    3.62 | 22.33    1.45
         4.167    1.57 |10.250    4.35 |16.333    2.17 | 22.42    1.45
         4.250    1.57 |10.333    5.56 |16.417    2.17 | 22.50    1.45
         4.333    1.93 |10.417    5.56 |16.500    2.17 | 22.58    1.45
         4.417    1.93 |10.500    5.56 |16.583    2.17 | 22.67    1.45
         4.500    1.93 |10.583    5.56 |16.667    2.17 | 22.75    1.45
         4.583    1.93 |10.667    5.56 |16.750    2.17 | 22.83    1.45
         4.667    1.93 |10.750    5.56 |16.833    2.17 | 22.92    1.45
         4.750    1.93 |10.833    7.49 |16.917    2.17 | 23.00    1.45
         4.833    1.93 |10.917    7.49 |17.000    2.17 | 23.08    1.45
         4.917    1.93 |11.000    7.49 |17.083    2.17 | 23.17    1.45
         5.000    1.93 |11.083    7.49 |17.167    2.17 | 23.25    1.45
         5.083    1.93 |11.167    7.49 |17.250    2.17 | 23.33    1.45
         5.167    1.93 |11.250    7.49 |17.333    2.17 | 23.42    1.45
         5.250    1.93 |11.333   11.59 |17.417    2.17 | 23.50    1.45
         5.333    1.93 |11.417   11.59 |17.500    2.17 | 23.58    1.45
         5.417    1.93 |11.500   11.59 |17.583    2.17 | 23.67    1.45
         5.500    1.93 |11.583   11.59 |17.667    2.17 | 23.75    1.45
         5.583    1.93 |11.667   11.59 |17.750    2.17 | 23.83    1.45
         5.667    1.93 |11.750   11.59 |17.833    2.17 | 23.92    1.45
         5.750    1.93 |11.833   35.75 |17.917    2.17 | 24.00    1.45
         5.833    1.93 |11.917   35.75 |18.000    2.17 | 24.08    1.45
         5.917    1.93 |12.000   35.75 |18.083    2.17 | 24.17    1.45
         6.000    1.93 |12.083  147.81 |18.167    2.17 | 24.25    1.45
         6.083    1.93 |12.167  147.82 |18.250    2.17 |

Max.Eff.Inten.(mm/hr)=     147.82         98.72
           over (min)        5.00         10.00
Storage Coeff.  (min)=       2.57 (ii)     8.53 (ii)
Unit Hyd. Tpeak (min)=       5.00         10.00
Unit Hyd. peak  (cms)=       0.29          0.12
                                                    *TOTALS*
PEAK FLOW       (cms)=       0.26          0.13       0.394 (iii)
TIME TO PEAK    (hrs)=      12.25         12.25      12.25
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     RUNOFF VOLUME    (mm)=     118.77        66.87         92.81
     TOTAL RAINFALL   (mm)=     120.77       120.77        120.77
     RUNOFF COEFFICIENT   =       0.98         0.55          0.77

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0016)|   Area    (ha)=   0.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                               IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.38         0.38
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      71.18        40.00
     Mannings n           =      0.013        0.250

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


                      ---- TRANSFORMED HYETOGRAPH ----
          TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
           hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
         0.083    0.00 | 6.167    1.93 |12.250  147.82 | 18.33    2.17
         0.167    0.00 | 6.250    1.93 |12.333   17.41 | 18.42    2.17
         0.250    0.00 | 6.333    2.17 |12.417   17.39 | 18.50    2.17
         0.333    1.33 | 6.417    2.17 |12.500   17.39 | 18.58    2.17
         0.417    1.33 | 6.500    2.17 |12.583   17.39 | 18.67    2.17
         0.500    1.33 | 6.583    2.17 |12.667   17.39 | 18.75    2.17
         0.583    1.33 | 6.667    2.17 |12.750   17.39 | 18.83    2.17
         0.667    1.33 | 6.750    2.17 |12.833    8.94 | 18.92    2.17
         0.750    1.33 | 6.833    2.17 |12.917    8.94 | 19.00    2.17
         0.833    1.33 | 6.917    2.17 |13.000    8.94 | 19.08    2.17
         0.917    1.33 | 7.000    2.17 |13.083    8.94 | 19.17    2.17
         1.000    1.33 | 7.083    2.17 |13.167    8.94 | 19.25    2.17
         1.083    1.33 | 7.167    2.17 |13.250    8.94 | 19.33    2.17
         1.167    1.33 | 7.250    2.17 |13.333    6.52 | 19.42    2.17
         1.250    1.33 | 7.333    2.66 |13.417    6.52 | 19.50    2.17
         1.333    1.33 | 7.417    2.66 |13.500    6.52 | 19.58    2.17
         1.417    1.33 | 7.500    2.66 |13.583    6.52 | 19.67    2.17
         1.500    1.33 | 7.583    2.66 |13.667    6.52 | 19.75    2.17
         1.583    1.33 | 7.667    2.66 |13.750    6.52 | 19.83    2.17
         1.667    1.33 | 7.750    2.66 |13.833    5.07 | 19.92    2.17
         1.750    1.33 | 7.833    2.66 |13.917    5.07 | 20.00    2.17
         1.833    1.33 | 7.917    2.66 |14.000    5.07 | 20.08    2.17
         1.917    1.33 | 8.000    2.66 |14.083    5.07 | 20.17    2.17
         2.000    1.33 | 8.083    2.66 |14.167    5.07 | 20.25    2.17
         2.083    1.33 | 8.167    2.66 |14.250    5.07 | 20.33    1.45
         2.167    1.33 | 8.250    2.66 |14.333    3.62 | 20.42    1.45
         2.250    1.33 | 8.333    3.14 |14.417    3.62 | 20.50    1.45
         2.333    1.57 | 8.417    3.14 |14.500    3.62 | 20.58    1.45
         2.417    1.57 | 8.500    3.14 |14.583    3.62 | 20.67    1.45
         2.500    1.57 | 8.583    3.14 |14.667    3.62 | 20.75    1.45
         2.583    1.57 | 8.667    3.14 |14.750    3.62 | 20.83    1.45
         2.667    1.57 | 8.750    3.14 |14.833    3.62 | 20.92    1.45
         2.750    1.57 | 8.833    3.38 |14.917    3.62 | 21.00    1.45
         2.833    1.57 | 8.917    3.38 |15.000    3.62 | 21.08    1.45
         2.917    1.57 | 9.000    3.38 |15.083    3.62 | 21.17    1.45
         3.000    1.57 | 9.083    3.38 |15.167    3.62 | 21.25    1.45
         3.083    1.57 | 9.167    3.38 |15.250    3.62 | 21.33    1.45
         3.167    1.57 | 9.250    3.38 |15.333    3.62 | 21.42    1.45
         3.250    1.57 | 9.333    3.86 |15.417    3.62 | 21.50    1.45
         3.333    1.57 | 9.417    3.86 |15.500    3.62 | 21.58    1.45
         3.417    1.57 | 9.500    3.86 |15.583    3.62 | 21.67    1.45
         3.500    1.57 | 9.583    3.86 |15.667    3.62 | 21.75    1.45
         3.583    1.57 | 9.667    3.86 |15.750    3.62 | 21.83    1.45
         3.667    1.57 | 9.750    3.86 |15.833    3.62 | 21.92    1.45
         3.750    1.57 | 9.833    4.35 |15.917    3.62 | 22.00    1.45
         3.833    1.57 | 9.917    4.35 |16.000    3.62 | 22.08    1.45
         3.917    1.57 |10.000    4.35 |16.083    3.62 | 22.17    1.45
         4.000    1.57 |10.083    4.35 |16.167    3.62 | 22.25    1.45
         4.083    1.57 |10.167    4.35 |16.250    3.62 | 22.33    1.45
         4.167    1.57 |10.250    4.35 |16.333    2.17 | 22.42    1.45
         4.250    1.57 |10.333    5.56 |16.417    2.17 | 22.50    1.45
         4.333    1.93 |10.417    5.56 |16.500    2.17 | 22.58    1.45
         4.417    1.93 |10.500    5.56 |16.583    2.17 | 22.67    1.45
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                4.500     1.93 |10.583    5.56 |16.667    2.17 | 22.75    1.45
                4.583     1.93 |10.667    5.56 |16.750    2.17 | 22.83    1.45
                4.667     1.93 |10.750    5.56 |16.833    2.17 | 22.92    1.45
                4.750     1.93 |10.833    7.49 |16.917    2.17 | 23.00    1.45
                4.833     1.93 |10.917    7.49 |17.000    2.17 | 23.08    1.45
                4.917     1.93 |11.000    7.49 |17.083    2.17 | 23.17    1.45
                5.000     1.93 |11.083    7.49 |17.167    2.17 | 23.25    1.45
                5.083     1.93 |11.167    7.49 |17.250    2.17 | 23.33    1.45
                5.167     1.93 |11.250    7.49 |17.333    2.17 | 23.42    1.45
                5.250     1.93 |11.333   11.59 |17.417    2.17 | 23.50    1.45
                5.333     1.93 |11.417   11.59 |17.500    2.17 | 23.58    1.45
                5.417     1.93 |11.500   11.59 |17.583    2.17 | 23.67    1.45
                5.500     1.93 |11.583   11.59 |17.667    2.17 | 23.75    1.45
                5.583     1.93 |11.667   11.59 |17.750    2.17 | 23.83    1.45
                5.667     1.93 |11.750   11.59 |17.833    2.17 | 23.92    1.45
                5.750     1.93 |11.833   35.75 |17.917    2.17 | 24.00    1.45
                5.833     1.93 |11.917   35.75 |18.000    2.17 | 24.08    1.45
                5.917     1.93 |12.000   35.75 |18.083    2.17 | 24.17    1.45
                6.000     1.93 |12.083  147.81 |18.167    2.17 | 24.25    1.45
                6.083     1.93 |12.167  147.82 |18.250    2.17 |

     Max.Eff.Inten.(mm/hr)=     147.82       230.84
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.78 (ii)    6.83 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.14
                                                           *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.21          0.252 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=     119.77        98.28         101.49
     TOTAL RAINFALL   (mm)=     120.77       120.77         120.77
     RUNOFF COEFFICIENT   =       0.99         0.81           0.84

***** 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*  =  85.0    Ia = Dep. 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  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (  0011):   14.50   1.132    12.83    68.14
       + ID2= 2 (  0016):    0.76   0.252    12.25   101.49
         ==================================================
         ID = 3 (  0006):   15.26   1.170    12.75    69.80

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

--------------------
| ADD HYD  (  0006)|
|   3 +  2 =  1    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 3 (  0006):   15.26   1.170    12.75    69.80
       + ID2= 2 (  0002):    9.66   3.096    12.25    99.62
         ==================================================
         ID = 1 (  0006):   24.92   3.824    12.25    81.36

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

--------------------
| ADD HYD  (  0006)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (  0006):   24.92   3.824    12.25    81.36
       + ID2= 2 (  0008):    1.28   0.394    12.25    92.81
         ==================================================
         ID = 3 (  0006):   26.20   4.218    12.25    81.92

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
--------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0004)|     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   |   0.1460      0.6510
                              0.0160     0.1150   |   0.3020      0.9550
                              0.0250     0.2380   |   0.4430      1.1990
                              0.0410     0.3690   |   0.6010      1.4550

                                    AREA     QPEAK     TPEAK       R.V.
                                    (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0006)        26.200     4.218     12.25      81.92
   OUTFLOW: ID= 1 (  0004)        26.200     0.474     14.25      81.85

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.25
                   TIME SHIFT OF PEAK FLOW         (min)=120.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.2501

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD   (  0017)|   Area    (ha)=   0.43   Curve Number   (CN)= 75.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   5.00   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.13

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


                              ---- TRANSFORMED HYETOGRAPH ----
                 TIME     RAIN |  TIME     RAIN |'  TIME     RAIN |  TIME     RAIN
                  hrs    mm/hr |   hrs    mm/hr |'   hrs    mm/hr |   hrs    mm/hr
                0.083     0.00 | 6.167     1.93 |12.250  147.82 | 18.33     2.17
                0.167     0.00 | 6.250     1.93 |12.333   17.41 | 18.42     2.17
                0.250     0.00 | 6.333     2.17 |12.417   17.39 | 18.50     2.17
                0.333     1.33 | 6.417     2.17 |12.500   17.39 | 18.58     2.17
                0.417     1.33 | 6.500     2.17 |12.583   17.39 | 18.67     2.17
                0.500     1.33 | 6.583     2.17 |12.667   17.39 | 18.75     2.17
                0.583     1.33 | 6.667     2.17 |12.750   17.39 | 18.83     2.17
                0.667     1.33 | 6.750     2.17 |12.833    8.94 | 18.92     2.17
                0.750     1.33 | 6.833     2.17 |12.917    8.94 | 19.00     2.17
                0.833     1.33 | 6.917     2.17 |13.000    8.94 | 19.08     2.17
                0.917     1.33 | 7.000     2.17 |13.083    8.94 | 19.17     2.17
                1.000     1.33 | 7.083     2.17 |13.167    8.94 | 19.25     2.17
                1.083     1.33 | 7.167     2.17 |13.250    8.94 | 19.33     2.17
                1.167     1.33 | 7.250     2.17 |13.333    6.52 | 19.42     2.17
                1.250     1.33 | 7.333     2.66 |13.417    6.52 | 19.50     2.17
                1.333     1.33 | 7.417     2.66 |13.500    6.52 | 19.58     2.17
                1.417     1.33 | 7.500     2.66 |13.583    6.52 | 19.67     2.17
                1.500     1.33 | 7.583     2.66 |13.667    6.52 | 19.75     2.17
                1.583     1.33 | 7.667     2.66 |13.750    6.52 | 19.83     2.17
                1.667     1.33 | 7.750     2.66 |13.833    5.07 | 19.92     2.17
                1.750     1.33 | 7.833     2.66 |13.917    5.07 | 20.00     2.17
                1.833     1.33 | 7.917     2.66 |14.000    5.07 | 20.08     2.17
                1.917     1.33 | 8.000     2.66 |14.083    5.07 | 20.17     2.17
                2.000     1.33 | 8.083     2.66 |14.167    5.07 | 20.25     2.17
                2.083     1.33 | 8.167     2.66 |14.250    5.07 | 20.33     1.45
                2.167     1.33 | 8.250     2.66 |14.333    3.62 | 20.42     1.45
                2.250     1.33 | 8.333     3.14 |14.417    3.62 | 20.50     1.45
                2.333     1.57 | 8.417     3.14 |14.500    3.62 | 20.58     1.45
                2.417     1.57 | 8.500     3.14 |14.583    3.62 | 20.67     1.45
                2.500     1.57 | 8.583     3.14 |14.667    3.62 | 20.75     1.45
                2.583     1.57 | 8.667     3.14 |14.750    3.62 | 20.83     1.45
                2.667     1.57 | 8.750     3.14 |14.833    3.62 | 20.92     1.45
                2.750     1.57 | 8.833     3.38 |14.917    3.62 | 21.00     1.45
                2.833     1.57 | 8.917     3.38 |15.000    3.62 | 21.08     1.45
                2.917     1.57 | 9.000     3.38 |15.083    3.62 | 21.17     1.45
                3.000     1.57 | 9.083     3.38 |15.167    3.62 | 21.25     1.45
                3.083     1.57 | 9.167     3.38 |15.250    3.62 | 21.33     1.45
                3.167     1.57 | 9.250     3.38 |15.333    3.62 | 21.42     1.45
                3.250     1.57 | 9.333     3.86 |15.417    3.62 | 21.50     1.45
                3.333     1.57 | 9.417     3.86 |15.500    3.62 | 21.58     1.45
                3.417     1.57 | 9.500     3.86 |15.583    3.62 | 21.67     1.45
                3.500     1.57 | 9.583     3.86 |15.667    3.62 | 21.75     1.45
                3.583     1.57 | 9.667     3.86 |15.750    3.62 | 21.83     1.45
                3.667     1.57 | 9.750     3.86 |15.833    3.62 | 21.92     1.45
                3.750     1.57 | 9.833     4.35 |15.917    3.62 | 22.00     1.45
                3.833     1.57 | 9.917     4.35 |16.000    3.62 | 22.08     1.45
                3.917     1.57 |10.000     4.35 |16.083    3.62 | 22.17     1.45
                4.000     1.57 |10.083     4.35 |16.167    3.62 | 22.25     1.45
                4.083     1.57 |10.167     4.35 |16.250    3.62 | 22.33     1.45
                4.167     1.57 |10.250     4.35 |16.333    2.17 | 22.42     1.45
                4.250     1.57 |10.333     5.56 |16.417    2.17 | 22.50     1.45
                4.333     1.93 |10.417     5.56 |16.500    2.17 | 22.58     1.45
                4.417     1.93 |10.500     5.56 |16.583    2.17 | 22.67     1.45
                4.500     1.93 |10.583     5.56 |16.667    2.17 | 22.75     1.45
                4.583     1.93 |10.667     5.56 |16.750    2.17 | 22.83     1.45
                4.667     1.93 |10.750     5.56 |16.833    2.17 | 22.92     1.45
                4.750    1.93 |10.833    7.49 |16.917    2.17 | 23.00    1.45
                4.833    1.93 |10.917    7.49 |17.000    2.17 | 23.08    1.45
                4.917    1.93 |11.000    7.49 |17.083    2.17 | 23.17    1.45
                5.000    1.93 |11.083    7.49 |17.167    2.17 | 23.25    1.45
                5.083    1.93 |11.167    7.49 |17.250    2.17 | 23.33    1.45
                5.167    1.93 |11.250    7.49 |17.333    2.17 | 23.42    1.45
                5.250    1.93 |11.333   11.59 |17.417    2.17 | 23.50    1.45
                5.333    1.93 |11.417   11.59 |17.500    2.17 | 23.58    1.45
                5.417    1.93 |11.500   11.59 |17.583    2.17 | 23.67    1.45
                5.500    1.93 |11.583   11.59 |17.667    2.17 | 23.75    1.45
                5.583    1.93 |11.667   11.59 |17.750    2.17 | 23.83    1.45
                5.667    1.93 |11.750   11.59 |17.833    2.17 | 23.92    1.45
                5.750    1.93 |11.833   35.75 |17.917    2.17 | 24.00    1.45
                5.833    1.93 |11.917   35.75 |18.000    2.17 | 24.08    1.45
                5.917    1.93 |12.000   35.75 |18.083    2.17 | 24.17    1.45
                6.000    1.93 |12.083  147.81 |18.167    2.17 | 24.25    1.45
                6.083    1.93 |12.167  147.82 |18.250    2.17 |

     Unit Hyd Qpeak  (cms)=   0.126

     PEAK FLOW       (cms)=   0.096 (i)
     TIME TO PEAK    (hrs)=  12.250
     RUNOFF VOLUME    (mm)=  66.204
     TOTAL RAINFALL   (mm)= 120.770
     RUNOFF COEFFICIENT   =   0.548

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

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--------------------
| ADD HYD  (  0019)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0017):      0.43   0.096    12.25    66.20
      + ID2= 2 (  0004):     26.20   0.474    14.25    81.85
        ===============================================
        ID = 3 (  0019):     26.63   0.479    14.25    81.60

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0024)|   Area    (ha)=   0.61
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.31         0.31
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      63.77        40.00
     Mannings n           =      0.013        0.250

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


                                ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.00 | 6.167    1.93 |12.250  147.82 | 18.33    2.17
                0.167    0.00 | 6.250    1.93 |12.333   17.41 | 18.42    2.17
                0.250    0.00 | 6.333    2.17 |12.417   17.39 | 18.50    2.17
                0.333    1.33 | 6.417    2.17 |12.500   17.39 | 18.58    2.17
                0.417    1.33 | 6.500    2.17 |12.583   17.39 | 18.67    2.17
                0.500    1.33 | 6.583    2.17 |12.667   17.39 | 18.75    2.17
                0.583    1.33 | 6.667    2.17 |12.750   17.39 | 18.83    2.17
                0.667    1.33 | 6.750    2.17 |12.833    8.94 | 18.92    2.17
                0.750    1.33 | 6.833    2.17 |12.917    8.94 | 19.00    2.17
                0.833    1.33 | 6.917    2.17 |13.000    8.94 | 19.08    2.17
                0.917    1.33 | 7.000    2.17 |13.083    8.94 | 19.17    2.17
                1.000    1.33 | 7.083    2.17 |13.167    8.94 | 19.25    2.17
                1.083    1.33 | 7.167    2.17 |13.250    8.94 | 19.33    2.17
                1.167    1.33 | 7.250    2.17 |13.333    6.52 | 19.42    2.17
                1.250    1.33 | 7.333    2.66 |13.417    6.52 | 19.50    2.17
                1.333    1.33 | 7.417    2.66 |13.500    6.52 | 19.58    2.17
                1.417    1.33 | 7.500    2.66 |13.583    6.52 | 19.67    2.17
                1.500    1.33 | 7.583    2.66 |13.667    6.52 | 19.75    2.17
                1.583    1.33 | 7.667    2.66 |13.750    6.52 | 19.83    2.17
                1.667    1.33 | 7.750    2.66 |13.833    5.07 | 19.92    2.17
                1.750    1.33 | 7.833    2.66 |13.917    5.07 | 20.00    2.17
                1.833    1.33 | 7.917    2.66 |14.000    5.07 | 20.08    2.17
                1.917    1.33 | 8.000    2.66 |14.083    5.07 | 20.17    2.17
                2.000    1.33 | 8.083    2.66 |14.167    5.07 | 20.25    2.17
                2.083    1.33 | 8.167    2.66 |14.250    5.07 | 20.33    1.45
```

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                2.167    1.33 | 8.250    2.66 |14.333    3.62 | 20.42    1.45
                2.250    1.33 | 8.333    3.14 |14.417    3.62 | 20.50    1.45
                2.333    1.57 | 8.417    3.14 |14.500    3.62 | 20.58    1.45
                2.417    1.57 | 8.500    3.14 |14.583    3.62 | 20.67    1.45
                2.500    1.57 | 8.583    3.14 |14.667    3.62 | 20.75    1.45
                2.583    1.57 | 8.667    3.14 |14.750    3.62 | 20.83    1.45
                2.667    1.57 | 8.750    3.14 |14.833    3.62 | 20.92    1.45
                2.750    1.57 | 8.833    3.38 |14.917    3.62 | 21.00    1.45
                2.833    1.57 | 8.917    3.38 |15.000    3.62 | 21.08    1.45
                2.917    1.57 | 9.000    3.38 |15.083    3.62 | 21.17    1.45
                3.000    1.57 | 9.083    3.38 |15.167    3.62 | 21.25    1.45
                3.083    1.57 | 9.167    3.38 |15.250    3.62 | 21.33    1.45
                3.167    1.57 | 9.250    3.38 |15.333    3.62 | 21.42    1.45
                3.250    1.57 | 9.333    3.86 |15.417    3.62 | 21.50    1.45
                3.333    1.57 | 9.417    3.86 |15.500    3.62 | 21.58    1.45
                3.417    1.57 | 9.500    3.86 |15.583    3.62 | 21.67    1.45
                3.500    1.57 | 9.583    3.86 |15.667    3.62 | 21.75    1.45
                3.583    1.57 | 9.667    3.86 |15.750    3.62 | 21.83    1.45
                3.667    1.57 | 9.750    3.86 |15.833    3.62 | 21.92    1.45
                3.750    1.57 | 9.833    4.35 |15.917    3.62 | 22.00    1.45
                3.833    1.57 | 9.917    4.35 |16.000    3.62 | 22.08    1.45
                3.917    1.57 |10.000    4.35 |16.083    3.62 | 22.17    1.45
                4.000    1.57 |10.083    4.35 |16.167    3.62 | 22.25    1.45
                4.083    1.57 |10.167    4.35 |16.250    3.62 | 22.33    1.45
                4.167    1.57 |10.250    4.35 |16.333    2.17 | 22.42    1.45
                4.250    1.57 |10.333    5.56 |16.417    2.17 | 22.50    1.45
                4.333    1.93 |10.417    5.56 |16.500    2.17 | 22.58    1.45
                4.417    1.93 |10.500    5.56 |16.583    2.17 | 22.67    1.45
                4.500    1.93 |10.583    5.56 |16.667    2.17 | 22.75    1.45
                4.583    1.93 |10.667    5.56 |16.750    2.17 | 22.83    1.45
                4.667    1.93 |10.750    5.56 |16.833    2.17 | 22.92    1.45
                4.750    1.93 |10.833    7.49 |16.917    2.17 | 23.00    1.45
                4.833    1.93 |10.917    7.49 |17.000    2.17 | 23.08    1.45
                4.917    1.93 |11.000    7.49 |17.083    2.17 | 23.17    1.45
                5.000    1.93 |11.083    7.49 |17.167    2.17 | 23.25    1.45
                5.083    1.93 |11.167    7.49 |17.250    2.17 | 23.33    1.45
                5.167    1.93 |11.250    7.49 |17.333    2.17 | 23.42    1.45
                5.250    1.93 |11.333   11.59 |17.417    2.17 | 23.50    1.45
                5.333    1.93 |11.417   11.59 |17.500    2.17 | 23.58    1.45
                5.417    1.93 |11.500   11.59 |17.583    2.17 | 23.67    1.45
                5.500    1.93 |11.583   11.59 |17.667    2.17 | 23.75    1.45
                5.583    1.93 |11.667   11.59 |17.750    2.17 | 23.83    1.45
                5.667    1.93 |11.750   11.59 |17.833    2.17 | 23.92    1.45
                5.750    1.93 |11.833   35.75 |17.917    2.17 | 24.00    1.45
                5.833    1.93 |11.917   35.75 |18.000    2.17 | 24.08    1.45
                5.917    1.93 |12.000   35.75 |18.083    2.17 | 24.17    1.45
                6.000    1.93 |12.083  147.81 |18.167    2.17 | 24.25    1.45
                6.083    1.93 |12.167  147.82 |18.250    2.17 |

     Max.Eff.Inten.(mm/hr)=     147.82       230.84
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.67 (ii)    6.72 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.14
                                                           *TOTALS*
     PEAK FLOW       (cms)=       0.04         0.17          0.203 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=     119.77        98.27         101.49
     TOTAL RAINFALL   (mm)=     120.77       120.77         120.77
     RUNOFF COEFFICIENT   =       0.99         0.81           0.84

***** 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*  =  85.0    Ia = Dep. Storage  (Above)
       (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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--------------------
| CALIB            |
| STANDHYD (  0025)|   Area    (ha)=   0.83
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.42         0.42
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      74.39        40.00
     Mannings n           =      0.013        0.250
     NOTE:  RAINFALL WAS TRANSFORMED TO   5.0 MIN. TIME STEP.


                           ---- TRANSFORMED HYETOGRAPH ----
            TIME    RAIN |  TIME     RAIN |'  TIME    RAIN |  TIME     RAIN
             hrs   mm/hr |   hrs    mm/hr |'   hrs   mm/hr |   hrs    mm/hr
           0.083    0.00 | 6.167     1.93 |12.250  147.82 | 18.33     2.17
           0.167    0.00 | 6.250     1.93 |12.333   17.41 | 18.42     2.17
           0.250    0.00 | 6.333     2.17 |12.417   17.39 | 18.50     2.17
           0.333    1.33 | 6.417     2.17 |12.500   17.39 | 18.58     2.17
           0.417    1.33 | 6.500     2.17 |12.583   17.39 | 18.67     2.17
           0.500    1.33 | 6.583     2.17 |12.667   17.39 | 18.75     2.17
           0.583    1.33 | 6.667     2.17 |12.750   17.39 | 18.83     2.17
           0.667    1.33 | 6.750     2.17 |12.833    8.94 | 18.92     2.17
           0.750    1.33 | 6.833     2.17 |12.917    8.94 | 19.00     2.17
           0.833    1.33 | 6.917     2.17 |13.000    8.94 | 19.08     2.17
           0.917    1.33 | 7.000     2.17 |13.083    8.94 | 19.17     2.17
           1.000    1.33 | 7.083     2.17 |13.167    8.94 | 19.25     2.17
           1.083    1.33 | 7.167     2.17 |13.250    8.94 | 19.33     2.17
           1.167    1.33 | 7.250     2.17 |13.333    6.52 | 19.42     2.17
           1.250    1.33 | 7.333     2.66 |13.417    6.52 | 19.50     2.17
           1.333    1.33 | 7.417     2.66 |13.500    6.52 | 19.58     2.17
           1.417    1.33 | 7.500     2.66 |13.583    6.52 | 19.67     2.17
           1.500    1.33 | 7.583     2.66 |13.667    6.52 | 19.75     2.17
           1.583    1.33 | 7.667     2.66 |13.750    6.52 | 19.83     2.17
           1.667    1.33 | 7.750     2.66 |13.833    5.07 | 19.92     2.17
           1.750    1.33 | 7.833     2.66 |13.917    5.07 | 20.00     2.17
           1.833    1.33 | 7.917     2.66 |14.000    5.07 | 20.08     2.17
           1.917    1.33 | 8.000     2.66 |14.083    5.07 | 20.17     2.17
           2.000    1.33 | 8.083     2.66 |14.167    5.07 | 20.25     2.17
           2.083    1.33 | 8.167     2.66 |14.250    5.07 | 20.33     1.45
           2.167    1.33 | 8.250     2.66 |14.333    3.62 | 20.42     1.45
           2.250    1.33 | 8.333     3.14 |14.417    3.62 | 20.50     1.45
           2.333    1.57 | 8.417     3.14 |14.500    3.62 | 20.58     1.45
           2.417    1.57 | 8.500     3.14 |14.583    3.62 | 20.67     1.45
           2.500    1.57 | 8.583     3.14 |14.667    3.62 | 20.75     1.45
           2.583    1.57 | 8.667     3.14 |14.750    3.62 | 20.83     1.45
           2.667    1.57 | 8.750     3.14 |14.833    3.62 | 20.92     1.45
           2.750    1.57 | 8.833     3.38 |14.917    3.62 | 21.00     1.45
           2.833    1.57 | 8.917     3.38 |15.000    3.62 | 21.08     1.45
           2.917    1.57 | 9.000     3.38 |15.083    3.62 | 21.17     1.45
           3.000    1.57 | 9.083     3.38 |15.167    3.62 | 21.25     1.45
           3.083    1.57 | 9.167     3.38 |15.250    3.62 | 21.33     1.45
           3.167    1.57 | 9.250     3.38 |15.333    3.62 | 21.42     1.45
           3.250    1.57 | 9.333     3.86 |15.417    3.62 | 21.50     1.45
           3.333    1.57 | 9.417     3.86 |15.500    3.62 | 21.58     1.45
           3.417    1.57 | 9.500     3.86 |15.583    3.62 | 21.67     1.45
           3.500    1.57 | 9.583     3.86 |15.667    3.62 | 21.75     1.45
           3.583    1.57 | 9.667     3.86 |15.750    3.62 | 21.83     1.45
           3.667    1.57 | 9.750     3.86 |15.833    3.62 | 21.92     1.45
           3.750    1.57 | 9.833     4.35 |15.917    3.62 | 22.00     1.45
           3.833    1.57 | 9.917     4.35 |16.000    3.62 | 22.08     1.45
           3.917    1.57 |10.000     4.35 |16.083    3.62 | 22.17     1.45
           4.000    1.57 |10.083     4.35 |16.167    3.62 | 22.25     1.45
           4.083    1.57 |10.167     4.35 |16.250    3.62 | 22.33     1.45
           4.167    1.57 |10.250     4.35 |16.333    2.17 | 22.42     1.45
           4.250    1.57 |10.333     5.56 |16.417    2.17 | 22.50     1.45
           4.333    1.93 |10.417     5.56 |16.500    2.17 | 22.58     1.45
           4.417    1.93 |10.500     5.56 |16.583    2.17 | 22.67     1.45
           4.500    1.93 |10.583     5.56 |16.667    2.17 | 22.75     1.45
           4.583    1.93 |10.667     5.56 |16.750    2.17 | 22.83     1.45
           4.667    1.93 |10.750     5.56 |16.833    2.17 | 22.92     1.45
           4.750    1.93 |10.833     7.49 |16.917    2.17 | 23.00     1.45
           4.833    1.93 |10.917     7.49 |17.000    2.17 | 23.08     1.45
           4.917    1.93 |11.000     7.49 |17.083    2.17 | 23.17     1.45
           5.000    1.93 |11.083     7.49 |17.167    2.17 | 23.25     1.45
           5.083    1.93 |11.167     7.49 |17.250    2.17 | 23.33     1.45
           5.167    1.93 |11.250     7.49 |17.333    2.17 | 23.42     1.45
           5.250    1.93 |11.333    11.59 |17.417    2.17 | 23.50     1.45
           5.333    1.93 |11.417    11.59 |17.500    2.17 | 23.58     1.45
           5.417    1.93 |11.500    11.59 |17.583    2.17 | 23.67     1.45
           5.500    1.93 |11.583    11.59 |17.667    2.17 | 23.75     1.45
           5.583    1.93 |11.667    11.59 |17.750    2.17 | 23.83     1.45
           5.667    1.93 |11.750    11.59 |17.833    2.17 | 23.92     1.45
           5.750    1.93 |11.833    35.75 |17.917    2.17 | 24.00     1.45
           5.833    1.93 |11.917    35.75 |18.000    2.17 | 24.08     1.45
           5.917    1.93 |12.000    35.75 |18.083    2.17 | 24.17     1.45
           6.000    1.93 |12.083   147.81 |18.167    2.17 | 24.25     1.45
           6.083    1.93 |12.167   147.82 |18.250    2.17 |

 Max.Eff.Inten.(mm/hr)=     147.82       230.84
           over (min)         5.00        10.00
 Storage Coeff.  (min)=       1.83 (ii)    6.88 (ii)
 Unit Hyd. Tpeak (min)=       5.00        10.00
```

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     Unit Hyd. peak  (cms)=       0.32         0.14
                                                           *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.22          0.275 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=     119.77        98.27         101.49
     TOTAL RAINFALL   (mm)=     120.77       120.77         120.77
     RUNOFF COEFFICIENT   =       0.99         0.81           0.84

***** 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*  =  85.0    Ia = Dep. 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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************************************************
** SIMULATION:L. 100yr 24hr 15min SCS Type II **
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--------------------
|    READ STORM    |    Filename: C:\Users\jkerschbaumer\AppD
|                  |              ata\Local\Temp\
|                  |              0e53ce72-2c36-4efc-8a1e-c647e636da9d\91f91896
| Ptotal=132.74 mm |    Comments: 100yr 24hr 15min SCS Type II
--------------------
                 TIME    RAIN |  TIME     RAIN |'  TIME    RAIN |  TIME     RAIN
                  hrs   mm/hr |   hrs    mm/hr |'   hrs   mm/hr |   hrs    mm/hr
                 0.00    0.00 |  6.25     2.39 | 12.50   19.11 | 18.75     2.39
                 0.25    1.46 |  6.50     2.39 | 12.75    9.82 | 19.00     2.39
                 0.50    1.46 |  6.75     2.39 | 13.00    9.82 | 19.25     2.39
                 0.75    1.46 |  7.00     2.39 | 13.25    7.17 | 19.50     2.39
                 1.00    1.46 |  7.25     2.92 | 13.50    7.17 | 19.75     2.39
                 1.25    1.46 |  7.50     2.92 | 13.75    5.58 | 20.00     2.39
                 1.50    1.46 |  7.75     2.92 | 14.00    5.58 | 20.25     1.59
                 1.75    1.46 |  8.00     2.92 | 14.25    3.98 | 20.50     1.59
                 2.00    1.46 |  8.25     3.45 | 14.50    3.98 | 20.75     1.59
                 2.25    1.73 |  8.50     3.45 | 14.75    3.98 | 21.00     1.59
                 2.50    1.73 |  8.75     3.72 | 15.00    3.98 | 21.25     1.59
                 2.75    1.73 |  9.00     3.72 | 15.25    3.98 | 21.50     1.59
                 3.00    1.73 |  9.25     4.25 | 15.50    3.98 | 21.75     1.59
                 3.25    1.73 |  9.50     4.25 | 15.75    3.98 | 22.00     1.59
                 3.50    1.73 |  9.75     4.78 | 16.00    3.98 | 22.25     1.59
                 3.75    1.73 | 10.00     4.78 | 16.25    2.39 | 22.50     1.59
                 4.00    1.73 | 10.25     6.11 | 16.50    2.39 | 22.75     1.59
                 4.25    2.12 | 10.50     6.11 | 16.75    2.39 | 23.00     1.59
                 4.50    2.12 | 10.75     8.23 | 17.00    2.39 | 23.25     1.59
                 4.75    2.12 | 11.00     8.23 | 17.25    2.39 | 23.50     1.59
                 5.00    2.12 | 11.25    12.74 | 17.50    2.39 | 23.75     1.59
                 5.25    2.12 | 11.50    12.74 | 17.75    2.39 | 24.00     1.59
                 5.50    2.12 | 11.75    39.29 | 18.00    2.39 |
                 5.75    2.12 | 12.00   162.47 | 18.25    2.39 |
                 6.00    2.12 | 12.25    19.11 | 18.50    2.39 |

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| CALIB            |
| STANDHYD (  0001)|   Area    (ha)=   9.81
|ID= 1 DT= 5.0 min |   Total Imp(%)=  58.00   Dir. Conn.(%)=  48.00
--------------------
                                IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=        5.69         4.12
     Dep. Storage     (mm)=        1.00         5.00
     Average Slope     (%)=        0.50         2.00
     Length            (m)=      255.73        30.00
     Mannings n          =        0.013        0.250

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


                             ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME     RAIN |'  TIME    RAIN |  TIME     RAIN
                  hrs   mm/hr |   hrs    mm/hr |'   hrs   mm/hr |   hrs    mm/hr
                0.083    0.00 | 6.167     2.12 |12.250  162.47 | 18.33     2.39
                0.167    0.00 | 6.250     2.12 |12.333   19.13 | 18.42     2.39
                0.250    0.00 | 6.333     2.39 |12.417   19.11 | 18.50     2.39
                0.333    1.46 | 6.417     2.39 |12.500   19.11 | 18.58     2.39
                0.417    1.46 | 6.500     2.39 |12.583   19.11 | 18.67     2.39
                0.500    1.46 | 6.583     2.39 |12.667   19.11 | 18.75     2.39
                0.583    1.46 | 6.667     2.39 |12.750   19.11 | 18.83     2.39
           0.667    1.46 | 6.750    2.39 |12.833    9.82 | 18.92    2.39
           0.750    1.46 | 6.833    2.39 |12.917    9.82 | 19.00    2.39
           0.833    1.46 | 6.917    2.39 |13.000    9.82 | 19.08    2.39
           0.917    1.46 | 7.000    2.39 |13.083    9.82 | 19.17    2.39
           1.000    1.46 | 7.083    2.39 |13.167    9.82 | 19.25    2.39
           1.083    1.46 | 7.167    2.39 |13.250    9.82 | 19.33    2.39
           1.167    1.46 | 7.250    2.39 |13.333    7.17 | 19.42    2.39
           1.250    1.46 | 7.333    2.92 |13.417    7.17 | 19.50    2.39
           1.333    1.46 | 7.417    2.92 |13.500    7.17 | 19.58    2.39
           1.417    1.46 | 7.500    2.92 |13.583    7.17 | 19.67    2.39
           1.500    1.46 | 7.583    2.92 |13.667    7.17 | 19.75    2.39
           1.583    1.46 | 7.667    2.92 |13.750    7.17 | 19.83    2.39
           1.667    1.46 | 7.750    2.92 |13.833    5.58 | 19.92    2.39
           1.750    1.46 | 7.833    2.92 |13.917    5.58 | 20.00    2.39
           1.833    1.46 | 7.917    2.92 |14.000    5.58 | 20.08    2.39
           1.917    1.46 | 8.000    2.92 |14.083    5.58 | 20.17    2.39
           2.000    1.46 | 8.083    2.92 |14.167    5.58 | 20.25    2.39
           2.083    1.46 | 8.167    2.92 |14.250    5.58 | 20.33    1.59
           2.167    1.46 | 8.250    2.92 |14.333    3.98 | 20.42    1.59
           2.250    1.46 | 8.333    3.45 |14.417    3.98 | 20.50    1.59
           2.333    1.73 | 8.417    3.45 |14.500    3.98 | 20.58    1.59
           2.417    1.73 | 8.500    3.45 |14.583    3.98 | 20.67    1.59
           2.500    1.73 | 8.583    3.45 |14.667    3.98 | 20.75    1.59
           2.583    1.73 | 8.667    3.45 |14.750    3.98 | 20.83    1.59
           2.667    1.73 | 8.750    3.45 |14.833    3.98 | 20.92    1.59
           2.750    1.73 | 8.833    3.72 |14.917    3.98 | 21.00    1.59
           2.833    1.73 | 8.917    3.72 |15.000    3.98 | 21.08    1.59
           2.917    1.73 | 9.000    3.72 |15.083    3.98 | 21.17    1.59
           3.000    1.73 | 9.083    3.72 |15.167    3.98 | 21.25    1.59
           3.083    1.73 | 9.167    3.72 |15.250    3.98 | 21.33    1.59
           3.167    1.73 | 9.250    3.72 |15.333    3.98 | 21.42    1.59
           3.250    1.73 | 9.333    4.25 |15.417    3.98 | 21.50    1.59
           3.333    1.73 | 9.417    4.25 |15.500    3.98 | 21.58    1.59
           3.417    1.73 | 9.500    4.25 |15.583    3.98 | 21.67    1.59
           3.500    1.73 | 9.583    4.25 |15.667    3.98 | 21.75    1.59
           3.583    1.73 | 9.667    4.25 |15.750    3.98 | 21.83    1.59
           3.667    1.73 | 9.750    4.25 |15.833    3.98 | 21.92    1.59
           3.750    1.73 | 9.833    4.78 |15.917    3.98 | 22.00    1.59
           3.833    1.73 | 9.917    4.78 |16.000    3.98 | 22.08    1.59
           3.917    1.73 |10.000    4.78 |16.083    3.98 | 22.17    1.59
           4.000    1.73 |10.083    4.78 |16.167    3.98 | 22.25    1.59
           4.083    1.73 |10.167    4.78 |16.250    3.98 | 22.33    1.59
           4.167    1.73 |10.250    4.78 |16.333    2.39 | 22.42    1.59
           4.250    1.73 |10.333    6.11 |16.417    2.39 | 22.50    1.59
           4.333    2.12 |10.417    6.11 |16.500    2.39 | 22.58    1.59
           4.417    2.12 |10.500    6.11 |16.583    2.39 | 22.67    1.59
           4.500    2.12 |10.583    6.11 |16.667    2.39 | 22.75    1.59
           4.583    2.12 |10.667    6.11 |16.750    2.39 | 22.83    1.59
           4.667    2.12 |10.750    6.11 |16.833    2.39 | 22.92    1.59
           4.750    2.12 |10.833    8.23 |16.917    2.39 | 23.00    1.59
           4.833    2.12 |10.917    8.23 |17.000    2.39 | 23.08    1.59
           4.917    2.12 |11.000    8.23 |17.083    2.39 | 23.17    1.59
           5.000    2.12 |11.083    8.23 |17.167    2.39 | 23.25    1.59
           5.083    2.12 |11.167    8.23 |17.250    2.39 | 23.33    1.59
           5.167    2.12 |11.250    8.23 |17.333    2.39 | 23.42    1.59
           5.250    2.12 |11.333   12.74 |17.417    2.39 | 23.50    1.59
           5.333    2.12 |11.417   12.74 |17.500    2.39 | 23.58    1.59
           5.417    2.12 |11.500   12.74 |17.583    2.39 | 23.67    1.59
           5.500    2.12 |11.583   12.74 |17.667    2.39 | 23.75    1.59
           5.583    2.12 |11.667   12.74 |17.750    2.39 | 23.83    1.59
           5.667    2.12 |11.750   12.74 |17.833    2.39 | 23.92    1.59
           5.750    2.12 |11.833   39.29 |17.917    2.39 | 24.00    1.59
           5.833    2.12 |11.917   39.29 |18.000    2.39 | 24.08    1.59
           5.917    2.12 |12.000   39.29 |18.083    2.39 | 24.17    1.59
           6.000    2.12 |12.083  162.46 |18.167    2.39 | 24.25    1.59
           6.083    2.12 |12.167  162.47 |18.250    2.39 |

     Max.Eff.Inten.(mm/hr)=     162.47       151.87
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.55 (ii)    9.19 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.23         0.12
                                                          *TOTALS*
     PEAK FLOW       (cms)=       2.07         1.28         3.348 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25         12.25
     RUNOFF VOLUME    (mm)=     131.74        84.04        106.94
     TOTAL RAINFALL   (mm)=     132.74       132.74        132.74
     RUNOFF COEFFICIENT   =       0.99         0.63          0.81

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
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```
            THAN THE STORAGE COEFFICIENT.
      (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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 | CALIB              |
 | STANDHYD (  0005)|   Area    (ha)=   1.28
 |ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
 --------------------
                              IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=       0.64          0.64
      Dep. Storage     (mm)=       2.00          5.00
      Average Slope     (%)=       0.50          2.00
      Length            (m)=      92.38         30.00
      Mannings n          =      0.013         0.250

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


                           ---- TRANSFORMED HYETOGRAPH ----
               TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
              0.083    0.00 | 6.167    2.12 |12.250  162.47 | 18.33    2.39
              0.167    0.00 | 6.250    2.12 |12.333   19.13 | 18.42    2.39
              0.250    0.00 | 6.333    2.39 |12.417   19.11 | 18.50    2.39
              0.333    1.46 | 6.417    2.39 |12.500   19.11 | 18.58    2.39
              0.417    1.46 | 6.500    2.39 |12.583   19.11 | 18.67    2.39
              0.500    1.46 | 6.583    2.39 |12.667   19.11 | 18.75    2.39
              0.583    1.46 | 6.667    2.39 |12.750   19.11 | 18.83    2.39
              0.667    1.46 | 6.750    2.39 |12.833    9.82 | 18.92    2.39
              0.750    1.46 | 6.833    2.39 |12.917    9.82 | 19.00    2.39
              0.833    1.46 | 6.917    2.39 |13.000    9.82 | 19.08    2.39
              0.917    1.46 | 7.000    2.39 |13.083    9.82 | 19.17    2.39
              1.000    1.46 | 7.083    2.39 |13.167    9.82 | 19.25    2.39
              1.083    1.46 | 7.167    2.39 |13.250    9.82 | 19.33    2.39
              1.167    1.46 | 7.250    2.39 |13.333    7.17 | 19.42    2.39
              1.250    1.46 | 7.333    2.92 |13.417    7.17 | 19.50    2.39
              1.333    1.46 | 7.417    2.92 |13.500    7.17 | 19.58    2.39
              1.417    1.46 | 7.500    2.92 |13.583    7.17 | 19.67    2.39
              1.500    1.46 | 7.583    2.92 |13.667    7.17 | 19.75    2.39
              1.583    1.46 | 7.667    2.92 |13.750    7.17 | 19.83    2.39
              1.667    1.46 | 7.750    2.92 |13.833    5.58 | 19.92    2.39
              1.750    1.46 | 7.833    2.92 |13.917    5.58 | 20.00    2.39
              1.833    1.46 | 7.917    2.92 |14.000    5.58 | 20.08    2.39
              1.917    1.46 | 8.000    2.92 |14.083    5.58 | 20.17    2.39
              2.000    1.46 | 8.083    2.92 |14.167    5.58 | 20.25    2.39
              2.083    1.46 | 8.167    2.92 |14.250    5.58 | 20.33    1.59
              2.167    1.46 | 8.250    2.92 |14.333    3.98 | 20.42    1.59
              2.250    1.46 | 8.333    3.45 |14.417    3.98 | 20.50    1.59
              2.333    1.73 | 8.417    3.45 |14.500    3.98 | 20.58    1.59
              2.417    1.73 | 8.500    3.45 |14.583    3.98 | 20.67    1.59
              2.500    1.73 | 8.583    3.45 |14.667    3.98 | 20.75    1.59
              2.583    1.73 | 8.667    3.45 |14.750    3.98 | 20.83    1.59
              2.667    1.73 | 8.750    3.45 |14.833    3.98 | 20.92    1.59
              2.750    1.73 | 8.833    3.72 |14.917    3.98 | 21.00    1.59
              2.833    1.73 | 8.917    3.72 |15.000    3.98 | 21.08    1.59
              2.917    1.73 | 9.000    3.72 |15.083    3.98 | 21.17    1.59
              3.000    1.73 | 9.083    3.72 |15.167    3.98 | 21.25    1.59
              3.083    1.73 | 9.167    3.72 |15.250    3.98 | 21.33    1.59
              3.167    1.73 | 9.250    3.72 |15.333    3.98 | 21.42    1.59
              3.250    1.73 | 9.333    4.25 |15.417    3.98 | 21.50    1.59
              3.333    1.73 | 9.417    4.25 |15.500    3.98 | 21.58    1.59
              3.417    1.73 | 9.500    4.25 |15.583    3.98 | 21.67    1.59
              3.500    1.73 | 9.583    4.25 |15.667    3.98 | 21.75    1.59
              3.583    1.73 | 9.667    4.25 |15.750    3.98 | 21.83    1.59
              3.667    1.73 | 9.750    4.25 |15.833    3.98 | 21.92    1.59
              3.750    1.73 | 9.833    4.78 |15.917    3.98 | 22.00    1.59
              3.833    1.73 | 9.917    4.78 |16.000    3.98 | 22.08    1.59
              3.917    1.73 |10.000    4.78 |16.083    3.98 | 22.17    1.59
              4.000    1.73 |10.083    4.78 |16.167    3.98 | 22.25    1.59
              4.083    1.73 |10.167    4.78 |16.250    3.98 | 22.33    1.59
              4.167    1.73 |10.250    4.78 |16.333    2.39 | 22.42    1.59
              4.250    1.73 |10.333    6.11 |16.417    2.39 | 22.50    1.59
              4.333    2.12 |10.417    6.11 |16.500    2.39 | 22.58    1.59
              4.417    2.12 |10.500    6.11 |16.583    2.39 | 22.67    1.59
              4.500    2.12 |10.583    6.11 |16.667    2.39 | 22.75    1.59
              4.583    2.12 |10.667    6.11 |16.750    2.39 | 22.83    1.59
              4.667    2.12 |10.750    6.11 |16.833    2.39 | 22.92    1.59
              4.750    2.12 |10.833    8.23 |16.917    2.39 | 23.00    1.59
              4.833    2.12 |10.917    8.23 |17.000    2.39 | 23.08    1.59
              4.917    2.12 |11.000    8.23 |17.083    2.39 | 23.17    1.59
              5.000    2.12 |11.083    8.23 |17.167    2.39 | 23.25    1.59
              5.083    2.12 |11.167    8.23 |17.250    2.39 | 23.33    1.59
              5.167    2.12 |11.250    8.23 |17.333    2.39 | 23.42    1.59
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                5.250    2.12 |11.333   12.74 |17.417    2.39 | 23.50    1.59
                5.333    2.12 |11.417   12.74 |17.500    2.39 | 23.58    1.59
                5.417    2.12 |11.500   12.74 |17.583    2.39 | 23.67    1.59
                5.500    2.12 |11.583   12.74 |17.667    2.39 | 23.75    1.59
                5.583    2.12 |11.667   12.74 |17.750    2.39 | 23.83    1.59
                5.667    2.12 |11.750   12.74 |17.833    2.39 | 23.92    1.59
                5.750    2.12 |11.833   39.29 |17.917    2.39 | 24.00    1.59
                5.833    2.12 |11.917   39.29 |18.000    2.39 | 24.08    1.59
                5.917    2.12 |12.000   39.29 |18.083    2.39 | 24.17    1.59
                6.000    2.12 |12.083  162.46 |18.167    2.39 | 24.25    1.59
                6.083    2.12 |12.167  162.47 |18.250    2.39 |

     Max.Eff.Inten.(mm/hr)=     162.47       113.07
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.47 (ii)    7.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.13
                                                           *TOTALS*
     PEAK FLOW       (cms)=       0.29         0.16          0.448 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=     130.74        76.82         103.78
     TOTAL RAINFALL   (mm)=     132.74       132.74         132.74
     RUNOFF COEFFICIENT   =       0.98         0.58           0.78

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
            CN*  =  75.0    Ia = Dep. 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  (  0007)|
|   1 +  2 =  3    |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0001):     9.81   3.348    12.25   106.94
      + ID2= 2 (  0005):     1.28   0.448    12.25   103.78
        ====================================================
        ID = 3 (  0007):    11.09   3.796    12.25   106.57

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
-------------------------------------------------------------------------------
--------------------
| RESERVOIR(  0003)|     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   |   0.3480      0.4690
                          0.0270     0.0900   |   0.8590      0.6570
                          0.0470     0.1880   |   1.5140      0.8590
                          0.0600     0.2950   |   0.0000      0.0000

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0007)     11.090      3.796      12.25      106.57
   OUTFLOW: ID= 1 (  0003)     11.090      0.709      12.67      106.50

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 18.68
                   TIME SHIFT OF PEAK FLOW         (min)= 25.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  0.6026

-------------------------------------------------------------------------------
--------------------
| CALIB            |
| STANDHYD (  0015)|   Area    (ha)=   0.41
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.20         0.20
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      52.28        40.00
     Mannings n          =       0.013        0.250

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.00 | 6.167    2.12 |12.250  162.47 | 18.33    2.39
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```
                0.167    0.00 | 6.250    2.12 |12.333   19.13 | 18.42    2.39
                0.250    0.00 | 6.333    2.39 |12.417   19.11 | 18.50    2.39
                0.333    1.46 | 6.417    2.39 |12.500   19.11 | 18.58    2.39
                0.417    1.46 | 6.500    2.39 |12.583   19.11 | 18.67    2.39
                0.500    1.46 | 6.583    2.39 |12.667   19.11 | 18.75    2.39
                0.583    1.46 | 6.667    2.39 |12.750   19.11 | 18.83    2.39
                0.667    1.46 | 6.750    2.39 |12.833    9.82 | 18.92    2.39
                0.750    1.46 | 6.833    2.39 |12.917    9.82 | 19.00    2.39
                0.833    1.46 | 6.917    2.39 |13.000    9.82 | 19.08    2.39
                0.917    1.46 | 7.000    2.39 |13.083    9.82 | 19.17    2.39
                1.000    1.46 | 7.083    2.39 |13.167    9.82 | 19.25    2.39
                1.083    1.46 | 7.167    2.39 |13.250    9.82 | 19.33    2.39
                1.167    1.46 | 7.250    2.39 |13.333    7.17 | 19.42    2.39
                1.250    1.46 | 7.333    2.92 |13.417    7.17 | 19.50    2.39
                1.333    1.46 | 7.417    2.92 |13.500    7.17 | 19.58    2.39
                1.417    1.46 | 7.500    2.92 |13.583    7.17 | 19.67    2.39
                1.500    1.46 | 7.583    2.92 |13.667    7.17 | 19.75    2.39
                1.583    1.46 | 7.667    2.92 |13.750    7.17 | 19.83    2.39
                1.667    1.46 | 7.750    2.92 |13.833    5.58 | 19.92    2.39
                1.750    1.46 | 7.833    2.92 |13.917    5.58 | 20.00    2.39
                1.833    1.46 | 7.917    2.92 |14.000    5.58 | 20.08    2.39
                1.917    1.46 | 8.000    2.92 |14.083    5.58 | 20.17    2.39
                2.000    1.46 | 8.083    2.92 |14.167    5.58 | 20.25    2.39
                2.083    1.46 | 8.167    2.92 |14.250    5.58 | 20.33    1.59
                2.167    1.46 | 8.250    2.92 |14.333    3.98 | 20.42    1.59
                2.250    1.46 | 8.333    3.45 |14.417    3.98 | 20.50    1.59
                2.333    1.73 | 8.417    3.45 |14.500    3.98 | 20.58    1.59
                2.417    1.73 | 8.500    3.45 |14.583    3.98 | 20.67    1.59
                2.500    1.73 | 8.583    3.45 |14.667    3.98 | 20.75    1.59
                2.583    1.73 | 8.667    3.45 |14.750    3.98 | 20.83    1.59
                2.667    1.73 | 8.750    3.45 |14.833    3.98 | 20.92    1.59
                2.750    1.73 | 8.833    3.72 |14.917    3.98 | 21.00    1.59
                2.833    1.73 | 8.917    3.72 |15.000    3.98 | 21.08    1.59
                2.917    1.73 | 9.000    3.72 |15.083    3.98 | 21.17    1.59
                3.000    1.73 | 9.083    3.72 |15.167    3.98 | 21.25    1.59
                3.083    1.73 | 9.167    3.72 |15.250    3.98 | 21.33    1.59
                3.167    1.73 | 9.250    3.72 |15.333    3.98 | 21.42    1.59
                3.250    1.73 | 9.333    4.25 |15.417    3.98 | 21.50    1.59
                3.333    1.73 | 9.417    4.25 |15.500    3.98 | 21.58    1.59
                3.417    1.73 | 9.500    4.25 |15.583    3.98 | 21.67    1.59
                3.500    1.73 | 9.583    4.25 |15.667    3.98 | 21.75    1.59
                3.583    1.73 | 9.667    4.25 |15.750    3.98 | 21.83    1.59
                3.667    1.73 | 9.750    4.25 |15.833    3.98 | 21.92    1.59
                3.750    1.73 | 9.833    4.78 |15.917    3.98 | 22.00    1.59
                3.833    1.73 | 9.917    4.78 |16.000    3.98 | 22.08    1.59
                3.917    1.73 |10.000    4.78 |16.083    3.98 | 22.17    1.59
                4.000    1.73 |10.083    4.78 |16.167    3.98 | 22.25    1.59
                4.083    1.73 |10.167    4.78 |16.250    3.98 | 22.33    1.59
                4.167    1.73 |10.250    4.78 |16.333    2.39 | 22.42    1.59
                4.250    1.73 |10.333    6.11 |16.417    2.39 | 22.50    1.59
                4.333    2.12 |10.417    6.11 |16.500    2.39 | 22.58    1.59
                4.417    2.12 |10.500    6.11 |16.583    2.39 | 22.67    1.59
                4.500    2.12 |10.583    6.11 |16.667    2.39 | 22.75    1.59
                4.583    2.12 |10.667    6.11 |16.750    2.39 | 22.83    1.59
                4.667    2.12 |10.750    6.11 |16.833    2.39 | 22.92    1.59
                4.750    2.12 |10.833    8.23 |16.917    2.39 | 23.00    1.59
                4.833    2.12 |10.917    8.23 |17.000    2.39 | 23.08    1.59
                4.917    2.12 |11.000    8.23 |17.083    2.39 | 23.17    1.59
                5.000    2.12 |11.083    8.23 |17.167    2.39 | 23.25    1.59
                5.083    2.12 |11.167    8.23 |17.250    2.39 | 23.33    1.59
                5.167    2.12 |11.250    8.23 |17.333    2.39 | 23.42    1.59
                5.250    2.12 |11.333   12.74 |17.417    2.39 | 23.50    1.59
                5.333    2.12 |11.417   12.74 |17.500    2.39 | 23.58    1.59
                5.417    2.12 |11.500   12.74 |17.583    2.39 | 23.67    1.59
                5.500    2.12 |11.583   12.74 |17.667    2.39 | 23.75    1.59
                5.583    2.12 |11.667   12.74 |17.750    2.39 | 23.83    1.59
                5.667    2.12 |11.750   12.74 |17.833    2.39 | 23.92    1.59
                5.750    2.12 |11.833   39.29 |17.917    2.39 | 24.00    1.59
                5.833    2.12 |11.917   39.29 |18.000    2.39 | 24.08    1.59
                5.917    2.12 |12.000   39.29 |18.083    2.39 | 24.17    1.59
                6.000    2.12 |12.083  162.46 |18.167    2.39 | 24.25    1.59
                6.083    2.12 |12.167  162.47 |18.250    2.39 |

     Max.Eff.Inten.(mm/hr)=     162.47       256.62
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.43 (ii)    6.27 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.33         0.15
                                                           *TOTALS*
     PEAK FLOW       (cms)=       0.03         0.13          0.154 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=     131.74       109.88         113.16
     TOTAL RAINFALL   (mm)=     132.74       132.74         132.74
     RUNOFF COEFFICIENT   =       0.99         0.83           0.85
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***** 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*  =  85.0    Ia = Dep. 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   (  0011)|   Area    (ha)=  14.50   Curve Number   (CN)= 77.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   7.13   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=   0.64

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


                              ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME     RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs    mm/hr
                0.083    0.00 | 6.167    2.12 |12.250  162.47 | 18.33     2.39
                0.167    0.00 | 6.250    2.12 |12.333   19.13 | 18.42     2.39
                0.250    0.00 | 6.333    2.39 |12.417   19.11 | 18.50     2.39
                0.333    1.46 | 6.417    2.39 |12.500   19.11 | 18.58     2.39
                0.417    1.46 | 6.500    2.39 |12.583   19.11 | 18.67     2.39
                0.500    1.46 | 6.583    2.39 |12.667   19.11 | 18.75     2.39
                0.583    1.46 | 6.667    2.39 |12.750   19.11 | 18.83     2.39
                0.667    1.46 | 6.750    2.39 |12.833    9.82 | 18.92     2.39
                0.750    1.46 | 6.833    2.39 |12.917    9.82 | 19.00     2.39
                0.833    1.46 | 6.917    2.39 |13.000    9.82 | 19.08     2.39
                0.917    1.46 | 7.000    2.39 |13.083    9.82 | 19.17     2.39
                1.000    1.46 | 7.083    2.39 |13.167    9.82 | 19.25     2.39
                1.083    1.46 | 7.167    2.39 |13.250    9.82 | 19.33     2.39
                1.167    1.46 | 7.250    2.39 |13.333    7.17 | 19.42     2.39
                1.250    1.46 | 7.333    2.92 |13.417    7.17 | 19.50     2.39
                1.333    1.46 | 7.417    2.92 |13.500    7.17 | 19.58     2.39
                1.417    1.46 | 7.500    2.92 |13.583    7.17 | 19.67     2.39
                1.500    1.46 | 7.583    2.92 |13.667    7.17 | 19.75     2.39
                1.583    1.46 | 7.667    2.92 |13.750    7.17 | 19.83     2.39
                1.667    1.46 | 7.750    2.92 |13.833    5.58 | 19.92     2.39
                1.750    1.46 | 7.833    2.92 |13.917    5.58 | 20.00     2.39
                1.833    1.46 | 7.917    2.92 |14.000    5.58 | 20.08     2.39
                1.917    1.46 | 8.000    2.92 |14.083    5.58 | 20.17     2.39
                2.000    1.46 | 8.083    2.92 |14.167    5.58 | 20.25     2.39
                2.083    1.46 | 8.167    2.92 |14.250    5.58 | 20.33     1.59
                2.167    1.46 | 8.250    2.92 |14.333    3.98 | 20.42     1.59
                2.250    1.46 | 8.333    3.45 |14.417    3.98 | 20.50     1.59
                2.333    1.73 | 8.417    3.45 |14.500    3.98 | 20.58     1.59
                2.417    1.73 | 8.500    3.45 |14.583    3.98 | 20.67     1.59
                2.500    1.73 | 8.583    3.45 |14.667    3.98 | 20.75     1.59
                2.583    1.73 | 8.667    3.45 |14.750    3.98 | 20.83     1.59
                2.667    1.73 | 8.750    3.45 |14.833    3.98 | 20.92     1.59
                2.750    1.73 | 8.833    3.72 |14.917    3.98 | 21.00     1.59
                2.833    1.73 | 8.917    3.72 |15.000    3.98 | 21.08     1.59
                2.917    1.73 | 9.000    3.72 |15.083    3.98 | 21.17     1.59
                3.000    1.73 | 9.083    3.72 |15.167    3.98 | 21.25     1.59
                3.083    1.73 | 9.167    3.72 |15.250    3.98 | 21.33     1.59
                3.167    1.73 | 9.250    3.72 |15.333    3.98 | 21.42     1.59
                3.250    1.73 | 9.333    4.25 |15.417    3.98 | 21.50     1.59
                3.333    1.73 | 9.417    4.25 |15.500    3.98 | 21.58     1.59
                3.417    1.73 | 9.500    4.25 |15.583    3.98 | 21.67     1.59
                3.500    1.73 | 9.583    4.25 |15.667    3.98 | 21.75     1.59
                3.583    1.73 | 9.667    4.25 |15.750    3.98 | 21.83     1.59
                3.667    1.73 | 9.750    4.25 |15.833    3.98 | 21.92     1.59
                3.750    1.73 | 9.833    4.78 |15.917    3.98 | 22.00     1.59
                3.833    1.73 | 9.917    4.78 |16.000    3.98 | 22.08     1.59
                3.917    1.73 |10.000    4.78 |16.083    3.98 | 22.17     1.59
                4.000    1.73 |10.083    4.78 |16.167    3.98 | 22.25     1.59
                4.083    1.73 |10.167    4.78 |16.250    3.98 | 22.33     1.59
                4.167    1.73 |10.250    4.78 |16.333    2.39 | 22.42     1.59
                4.250    1.73 |10.333    6.11 |16.417    2.39 | 22.50     1.59
                4.333    2.12 |10.417    6.11 |16.500    2.39 | 22.58     1.59
                4.417    2.12 |10.500    6.11 |16.583    2.39 | 22.67     1.59
                4.500    2.12 |10.583    6.11 |16.667    2.39 | 22.75     1.59
                4.583    2.12 |10.667    6.11 |16.750    2.39 | 22.83     1.59
                4.667    2.12 |10.750    6.11 |16.833    2.39 | 22.92     1.59
                4.750    2.12 |10.833    8.23 |16.917    2.39 | 23.00     1.59
                4.833    2.12 |10.917    8.23 |17.000    2.39 | 23.08     1.59
                4.917    2.12 |11.000    8.23 |17.083    2.39 | 23.17     1.59
                5.000    2.12 |11.083    8.23 |17.167    2.39 | 23.25     1.59
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                5.083    2.12 |11.167    8.23 |17.250    2.39 | 23.33     1.59
                5.167    2.12 |11.250    8.23 |17.333    2.39 | 23.42     1.59
                5.250    2.12 |11.333   12.74 |17.417    2.39 | 23.50     1.59
                5.333    2.12 |11.417   12.74 |17.500    2.39 | 23.58     1.59
                5.417    2.12 |11.500   12.74 |17.583    2.39 | 23.67     1.59
                5.500    2.12 |11.583   12.74 |17.667    2.39 | 23.75     1.59
                5.583    2.12 |11.667   12.74 |17.750    2.39 | 23.83     1.59
                5.667    2.12 |11.750   12.74 |17.833    2.39 | 23.92     1.59
                5.750    2.12 |11.833   39.29 |17.917    2.39 | 24.00     1.59
                5.833    2.12 |11.917   39.29 |18.000    2.39 | 24.08     1.59
                5.917    2.12 |12.000   39.29 |18.083    2.39 | 24.17     1.59
                6.000    2.12 |12.083  162.46 |18.167    2.39 | 24.25     1.59
                6.083    2.12 |12.167  162.47 |18.250    2.39 |

      Unit Hyd Qpeak  (cms)=   0.865

      PEAK FLOW       (cms)=   1.303 (i)
      TIME TO PEAK    (hrs)=  12.750
      RUNOFF VOLUME    (mm)=  78.309
      TOTAL RAINFALL   (mm)= 132.740
      RUNOFF COEFFICIENT   =   0.590

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

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| CALIB             |
| STANDHYD (  0002)|   Area    (ha)=   9.66
|ID= 1 DT= 5.0 min |   Total Imp(%)=  68.00   Dir. Conn.(%)=  50.00
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                            IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=       6.57         3.09
      Dep. Storage     (mm)=       2.00         5.00
      Average Slope     (%)=       0.50         2.00
      Length            (m)=     253.77        30.00
      Mannings n           =      0.013        0.250

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


                              ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME     RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs    mm/hr
                0.083    0.00 | 6.167    2.12 |12.250  162.47 | 18.33     2.39
                0.167    0.00 | 6.250    2.12 |12.333   19.13 | 18.42     2.39
                0.250    0.00 | 6.333    2.39 |12.417   19.11 | 18.50     2.39
                0.333    1.46 | 6.417    2.39 |12.500   19.11 | 18.58     2.39
                0.417    1.46 | 6.500    2.39 |12.583   19.11 | 18.67     2.39
                0.500    1.46 | 6.583    2.39 |12.667   19.11 | 18.75     2.39
                0.583    1.46 | 6.667    2.39 |12.750   19.11 | 18.83     2.39
                0.667    1.46 | 6.750    2.39 |12.833    9.82 | 18.92     2.39
                0.750    1.46 | 6.833    2.39 |12.917    9.82 | 19.00     2.39
                0.833    1.46 | 6.917    2.39 |13.000    9.82 | 19.08     2.39
                0.917    1.46 | 7.000    2.39 |13.083    9.82 | 19.17     2.39
                1.000    1.46 | 7.083    2.39 |13.167    9.82 | 19.25     2.39
                1.083    1.46 | 7.167    2.39 |13.250    9.82 | 19.33     2.39
                1.167    1.46 | 7.250    2.39 |13.333    7.17 | 19.42     2.39
                1.250    1.46 | 7.333    2.92 |13.417    7.17 | 19.50     2.39
                1.333    1.46 | 7.417    2.92 |13.500    7.17 | 19.58     2.39
                1.417    1.46 | 7.500    2.92 |13.583    7.17 | 19.67     2.39
                1.500    1.46 | 7.583    2.92 |13.667    7.17 | 19.75     2.39
                1.583    1.46 | 7.667    2.92 |13.750    7.17 | 19.83     2.39
                1.667    1.46 | 7.750    2.92 |13.833    5.58 | 19.92     2.39
                1.750    1.46 | 7.833    2.92 |13.917    5.58 | 20.00     2.39
                1.833    1.46 | 7.917    2.92 |14.000    5.58 | 20.08     2.39
                1.917    1.46 | 8.000    2.92 |14.083    5.58 | 20.17     2.39
                2.000    1.46 | 8.083    2.92 |14.167    5.58 | 20.25     2.39
                2.083    1.46 | 8.167    2.92 |14.250    5.58 | 20.33     1.59
                2.167    1.46 | 8.250    2.92 |14.333    3.98 | 20.42     1.59
                2.250    1.46 | 8.333    3.45 |14.417    3.98 | 20.50     1.59
                2.333    1.73 | 8.417    3.45 |14.500    3.98 | 20.58     1.59
                2.417    1.73 | 8.500    3.45 |14.583    3.98 | 20.67     1.59
                2.500    1.73 | 8.583    3.45 |14.667    3.98 | 20.75     1.59
                2.583    1.73 | 8.667    3.45 |14.750    3.98 | 20.83     1.59
                2.667    1.73 | 8.750    3.45 |14.833    3.98 | 20.92     1.59
                2.750    1.73 | 8.833    3.72 |14.917    3.98 | 21.00     1.59
                2.833    1.73 | 8.917    3.72 |15.000    3.98 | 21.08     1.59
                2.917    1.73 | 9.000    3.72 |15.083    3.98 | 21.17     1.59
                3.000    1.73 | 9.083    3.72 |15.167    3.98 | 21.25     1.59
                3.083    1.73 | 9.167    3.72 |15.250    3.98 | 21.33     1.59
                3.167    1.73 | 9.250    3.72 |15.333    3.98 | 21.42     1.59
                3.250    1.73 | 9.333    4.25 |15.417    3.98 | 21.50     1.59
                3.333    1.73 | 9.417    4.25 |15.500    3.98 | 21.58     1.59
                3.417    1.73 | 9.500    4.25 |15.583    3.98 | 21.67     1.59
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                  3.500    1.73 | 9.583    4.25 |15.667    3.98 | 21.75    1.59
                  3.583    1.73 | 9.667    4.25 |15.750    3.98 | 21.83    1.59
                  3.667    1.73 | 9.750    4.25 |15.833    3.98 | 21.92    1.59
                  3.750    1.73 | 9.833    4.78 |15.917    3.98 | 22.00    1.59
                  3.833    1.73 | 9.917    4.78 |16.000    3.98 | 22.08    1.59
                  3.917    1.73 |10.000    4.78 |16.083    3.98 | 22.17    1.59
                  4.000    1.73 |10.083    4.78 |16.167    3.98 | 22.25    1.59
                  4.083    1.73 |10.167    4.78 |16.250    3.98 | 22.33    1.59
                  4.167    1.73 |10.250    4.78 |16.333    2.39 | 22.42    1.59
                  4.250    1.73 |10.333    6.11 |16.417    2.39 | 22.50    1.59
                  4.333    2.12 |10.417    6.11 |16.500    2.39 | 22.58    1.59
                  4.417    2.12 |10.500    6.11 |16.583    2.39 | 22.67    1.59
                  4.500    2.12 |10.583    6.11 |16.667    2.39 | 22.75    1.59
                  4.583    2.12 |10.667    6.11 |16.750    2.39 | 22.83    1.59
                  4.667    2.12 |10.750    6.11 |16.833    2.39 | 22.92    1.59
                  4.750    2.12 |10.833    8.23 |16.917    2.39 | 23.00    1.59
                  4.833    2.12 |10.917    8.23 |17.000    2.39 | 23.08    1.59
                  4.917    2.12 |11.000    8.23 |17.083    2.39 | 23.17    1.59
                  5.000    2.12 |11.083    8.23 |17.167    2.39 | 23.25    1.59
                  5.083    2.12 |11.167    8.23 |17.250    2.39 | 23.33    1.59
                  5.167    2.12 |11.250    8.23 |17.333    2.39 | 23.42    1.59
                  5.250    2.12 |11.333   12.74 |17.417    2.39 | 23.50    1.59
                  5.333    2.12 |11.417   12.74 |17.500    2.39 | 23.58    1.59
                  5.417    2.12 |11.500   12.74 |17.583    2.39 | 23.67    1.59
                  5.500    2.12 |11.583   12.74 |17.667    2.39 | 23.75    1.59
                  5.583    2.12 |11.667   12.74 |17.750    2.39 | 23.83    1.59
                  5.667    2.12 |11.750   12.74 |17.833    2.39 | 23.92    1.59
                  5.750    2.12 |11.833   39.29 |17.917    2.39 | 24.00    1.59
                  5.833    2.12 |11.917   39.29 |18.000    2.39 | 24.08    1.59
                  5.917    2.12 |12.000   39.29 |18.083    2.39 | 24.17    1.59
                  6.000    2.12 |12.083  162.46 |18.167    2.39 | 24.25    1.59
                  6.083    2.12 |12.167  162.47 |18.250    2.39 |

     Max.Eff.Inten.(mm/hr)=     162.47       205.94
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       4.53 (ii)    8.62 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.23         0.12
                                                         *TOTALS*
     PEAK FLOW       (cms)=       2.12         1.35          3.470 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=     130.74        91.33         111.04
     TOTAL RAINFALL   (mm)=     132.74       132.74         132.74
     RUNOFF COEFFICIENT   =       0.98         0.69           0.84

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB             |
| STANDHYD (  0008)|   Area    (ha)=   1.28
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  50.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.64         0.64
     Dep. Storage     (mm)=       2.00         5.00
     Average Slope     (%)=       0.50         2.00
     Length            (m)=      92.38        30.00
     Mannings n           =      0.013        0.250

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


                                ---- TRANSFORMED HYETOGRAPH ----
                   TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                    hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.083    0.00 | 6.167    2.12 |12.250  162.47 | 18.33    2.39
                  0.167    0.00 | 6.250    2.12 |12.333   19.13 | 18.42    2.39
                  0.250    0.00 | 6.333    2.39 |12.417   19.11 | 18.50    2.39
                  0.333    1.46 | 6.417    2.39 |12.500   19.11 | 18.58    2.39
                  0.417    1.46 | 6.500    2.39 |12.583   19.11 | 18.67    2.39
                  0.500    1.46 | 6.583    2.39 |12.667   19.11 | 18.75    2.39
                  0.583    1.46 | 6.667    2.39 |12.750   19.11 | 18.83    2.39
                  0.667    1.46 | 6.750    2.39 |12.833    9.82 | 18.92    2.39
                  0.750    1.46 | 6.833    2.39 |12.917    9.82 | 19.00    2.39
                  0.833    1.46 | 6.917    2.39 |13.000    9.82 | 19.08    2.39
                  0.917    1.46 | 7.000    2.39 |13.083    9.82 | 19.17    2.39
                  1.000    1.46 | 7.083    2.39 |13.167    9.82 | 19.25    2.39
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                  1.083    1.46 | 7.167    2.39 |13.250    9.82 | 19.33    2.39
                  1.167    1.46 | 7.250    2.39 |13.333    7.17 | 19.42    2.39
                  1.250    1.46 | 7.333    2.92 |13.417    7.17 | 19.50    2.39
                  1.333    1.46 | 7.417    2.92 |13.500    7.17 | 19.58    2.39
                  1.417    1.46 | 7.500    2.92 |13.583    7.17 | 19.67    2.39
                  1.500    1.46 | 7.583    2.92 |13.667    7.17 | 19.75    2.39
                  1.583    1.46 | 7.667    2.92 |13.750    7.17 | 19.83    2.39
                  1.667    1.46 | 7.750    2.92 |13.833    5.58 | 19.92    2.39
                  1.750    1.46 | 7.833    2.92 |13.917    5.58 | 20.00    2.39
                  1.833    1.46 | 7.917    2.92 |14.000    5.58 | 20.08    2.39
                  1.917    1.46 | 8.000    2.92 |14.083    5.58 | 20.17    2.39
                  2.000    1.46 | 8.083    2.92 |14.167    5.58 | 20.25    2.39
                  2.083    1.46 | 8.167    2.92 |14.250    5.58 | 20.33    1.59
                  2.167    1.46 | 8.250    2.92 |14.333    3.98 | 20.42    1.59
                  2.250    1.46 | 8.333    3.45 |14.417    3.98 | 20.50    1.59
                  2.333    1.73 | 8.417    3.45 |14.500    3.98 | 20.58    1.59
                  2.417    1.73 | 8.500    3.45 |14.583    3.98 | 20.67    1.59
                  2.500    1.73 | 8.583    3.45 |14.667    3.98 | 20.75    1.59
                  2.583    1.73 | 8.667    3.45 |14.750    3.98 | 20.83    1.59
                  2.667    1.73 | 8.750    3.45 |14.833    3.98 | 20.92    1.59
                  2.750    1.73 | 8.833    3.72 |14.917    3.98 | 21.00    1.59
                  2.833    1.73 | 8.917    3.72 |15.000    3.98 | 21.08    1.59
                  2.917    1.73 | 9.000    3.72 |15.083    3.98 | 21.17    1.59
                  3.000    1.73 | 9.083    3.72 |15.167    3.98 | 21.25    1.59
                  3.083    1.73 | 9.167    3.72 |15.250    3.98 | 21.33    1.59
                  3.167    1.73 | 9.250    3.72 |15.333    3.98 | 21.42    1.59
                  3.250    1.73 | 9.333    4.25 |15.417    3.98 | 21.50    1.59
                  3.333    1.73 | 9.417    4.25 |15.500    3.98 | 21.58    1.59
                  3.417    1.73 | 9.500    4.25 |15.583    3.98 | 21.67    1.59
                  3.500    1.73 | 9.583    4.25 |15.667    3.98 | 21.75    1.59
                  3.583    1.73 | 9.667    4.25 |15.750    3.98 | 21.83    1.59
                  3.667    1.73 | 9.750    4.25 |15.833    3.98 | 21.92    1.59
                  3.750    1.73 | 9.833    4.78 |15.917    3.98 | 22.00    1.59
                  3.833    1.73 | 9.917    4.78 |16.000    3.98 | 22.08    1.59
                  3.917    1.73 |10.000    4.78 |16.083    3.98 | 22.17    1.59
                  4.000    1.73 |10.083    4.78 |16.167    3.98 | 22.25    1.59
                  4.083    1.73 |10.167    4.78 |16.250    3.98 | 22.33    1.59
                  4.167    1.73 |10.250    4.78 |16.333    2.39 | 22.42    1.59
                  4.250    1.73 |10.333    6.11 |16.417    2.39 | 22.50    1.59
                  4.333    2.12 |10.417    6.11 |16.500    2.39 | 22.58    1.59
                  4.417    2.12 |10.500    6.11 |16.583    2.39 | 22.67    1.59
                  4.500    2.12 |10.583    6.11 |16.667    2.39 | 22.75    1.59
                  4.583    2.12 |10.667    6.11 |16.750    2.39 | 22.83    1.59
                  4.667    2.12 |10.750    6.11 |16.833    2.39 | 22.92    1.59
                  4.750    2.12 |10.833    8.23 |16.917    2.39 | 23.00    1.59
                  4.833    2.12 |10.917    8.23 |17.000    2.39 | 23.08    1.59
                  4.917    2.12 |11.000    8.23 |17.083    2.39 | 23.17    1.59
                  5.000    2.12 |11.083    8.23 |17.167    2.39 | 23.25    1.59
                  5.083    2.12 |11.167    8.23 |17.250    2.39 | 23.33    1.59
                  5.167    2.12 |11.250    8.23 |17.333    2.39 | 23.42    1.59
                  5.250    2.12 |11.333   12.74 |17.417    2.39 | 23.50    1.59
                  5.333    2.12 |11.417   12.74 |17.500    2.39 | 23.58    1.59
                  5.417    2.12 |11.500   12.74 |17.583    2.39 | 23.67    1.59
                  5.500    2.12 |11.583   12.74 |17.667    2.39 | 23.75    1.59
                  5.583    2.12 |11.667   12.74 |17.750    2.39 | 23.83    1.59
                  5.667    2.12 |11.750   12.74 |17.833    2.39 | 23.92    1.59
                  5.750    2.12 |11.833   39.29 |17.917    2.39 | 24.00    1.59
                  5.833    2.12 |11.917   39.29 |18.000    2.39 | 24.08    1.59
                  5.917    2.12 |12.000   39.29 |18.083    2.39 | 24.17    1.59
                  6.000    2.12 |12.083  162.46 |18.167    2.39 | 24.25    1.59
                  6.083    2.12 |12.167  162.47 |18.250    2.39 |

     Max.Eff.Inten.(mm/hr)=     162.47       113.07
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       2.47 (ii)    7.36 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.29         0.13
                                                         *TOTALS*
     PEAK FLOW       (cms)=       0.29         0.16          0.448 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=     130.74        76.82         103.78
     TOTAL RAINFALL   (mm)=     132.74       132.74         132.74
     RUNOFF COEFFICIENT   =       0.98         0.58           0.78

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

       (i) CN PROCEDURE SELECTED FOR PERVIOUS LOSSES:
           CN*  =  75.0    Ia = Dep. Storage  (Above)
      (ii) TIME STEP (DT) SHOULD BE SMALLER OR EQUAL
           THAN THE STORAGE COEFFICIENT.
     (iii) PEAK FLOW DOES NOT INCLUDE BASEFLOW IF ANY.

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| CALIB            |
| STANDHYD (  0016)|   Area    (ha)=   0.76
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
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                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=       0.38         0.38
     Dep. Storage     (mm)=       1.00         1.50
     Average Slope     (%)=       1.00         2.00
     Length            (m)=      71.18        40.00
     Mannings n          =       0.013        0.250

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.00 | 6.167    2.12 |12.250  162.47 | 18.33    2.39
                0.167    0.00 | 6.250    2.12 |12.333   19.13 | 18.42    2.39
                0.250    0.00 | 6.333    2.39 |12.417   19.11 | 18.50    2.39
                0.333    1.46 | 6.417    2.39 |12.500   19.11 | 18.58    2.39
                0.417    1.46 | 6.500    2.39 |12.583   19.11 | 18.67    2.39
                0.500    1.46 | 6.583    2.39 |12.667   19.11 | 18.75    2.39
                0.583    1.46 | 6.667    2.39 |12.750   19.11 | 18.83    2.39
                0.667    1.46 | 6.750    2.39 |12.833    9.82 | 18.92    2.39
                0.750    1.46 | 6.833    2.39 |12.917    9.82 | 19.00    2.39
                0.833    1.46 | 6.917    2.39 |13.000    9.82 | 19.08    2.39
                0.917    1.46 | 7.000    2.39 |13.083    9.82 | 19.17    2.39
                1.000    1.46 | 7.083    2.39 |13.167    9.82 | 19.25    2.39
                1.083    1.46 | 7.167    2.39 |13.250    9.82 | 19.33    2.39
                1.167    1.46 | 7.250    2.39 |13.333    7.17 | 19.42    2.39
                1.250    1.46 | 7.333    2.92 |13.417    7.17 | 19.50    2.39
                1.333    1.46 | 7.417    2.92 |13.500    7.17 | 19.58    2.39
                1.417    1.46 | 7.500    2.92 |13.583    7.17 | 19.67    2.39
                1.500    1.46 | 7.583    2.92 |13.667    7.17 | 19.75    2.39
                1.583    1.46 | 7.667    2.92 |13.750    7.17 | 19.83    2.39
                1.667    1.46 | 7.750    2.92 |13.833    5.58 | 19.92    2.39
                1.750    1.46 | 7.833    2.92 |13.917    5.58 | 20.00    2.39
                1.833    1.46 | 7.917    2.92 |14.000    5.58 | 20.08    2.39
                1.917    1.46 | 8.000    2.92 |14.083    5.58 | 20.17    2.39
                2.000    1.46 | 8.083    2.92 |14.167    5.58 | 20.25    2.39
                2.083    1.46 | 8.167    2.92 |14.250    5.58 | 20.33    1.59
                2.167    1.46 | 8.250    2.92 |14.333    3.98 | 20.42    1.59
                2.250    1.46 | 8.333    3.45 |14.417    3.98 | 20.50    1.59
                2.333    1.73 | 8.417    3.45 |14.500    3.98 | 20.58    1.59
                2.417    1.73 | 8.500    3.45 |14.583    3.98 | 20.67    1.59
                2.500    1.73 | 8.583    3.45 |14.667    3.98 | 20.75    1.59
                2.583    1.73 | 8.667    3.45 |14.750    3.98 | 20.83    1.59
                2.667    1.73 | 8.750    3.45 |14.833    3.98 | 20.92    1.59
                2.750    1.73 | 8.833    3.72 |14.917    3.98 | 21.00    1.59
                2.833    1.73 | 8.917    3.72 |15.000    3.98 | 21.08    1.59
                2.917    1.73 | 9.000    3.72 |15.083    3.98 | 21.17    1.59
                3.000    1.73 | 9.083    3.72 |15.167    3.98 | 21.25    1.59
                3.083    1.73 | 9.167    3.72 |15.250    3.98 | 21.33    1.59
                3.167    1.73 | 9.250    3.72 |15.333    3.98 | 21.42    1.59
                3.250    1.73 | 9.333    4.25 |15.417    3.98 | 21.50    1.59
                3.333    1.73 | 9.417    4.25 |15.500    3.98 | 21.58    1.59
                3.417    1.73 | 9.500    4.25 |15.583    3.98 | 21.67    1.59
                3.500    1.73 | 9.583    4.25 |15.667    3.98 | 21.75    1.59
                3.583    1.73 | 9.667    4.25 |15.750    3.98 | 21.83    1.59
                3.667    1.73 | 9.750    4.25 |15.833    3.98 | 21.92    1.59
                3.750    1.73 | 9.833    4.78 |15.917    3.98 | 22.00    1.59
                3.833    1.73 | 9.917    4.78 |16.000    3.98 | 22.08    1.59
                3.917    1.73 |10.000    4.78 |16.083    3.98 | 22.17    1.59
                4.000    1.73 |10.083    4.78 |16.167    3.98 | 22.25    1.59
                4.083    1.73 |10.167    4.78 |16.250    3.98 | 22.33    1.59
                4.167    1.73 |10.250    4.78 |16.333    2.39 | 22.42    1.59
                4.250    1.73 |10.333    6.11 |16.417    2.39 | 22.50    1.59
                4.333    2.12 |10.417    6.11 |16.500    2.39 | 22.58    1.59
                4.417    2.12 |10.500    6.11 |16.583    2.39 | 22.67    1.59
                4.500    2.12 |10.583    6.11 |16.667    2.39 | 22.75    1.59
                4.583    2.12 |10.667    6.11 |16.750    2.39 | 22.83    1.59
                4.667    2.12 |10.750    6.11 |16.833    2.39 | 22.92    1.59
                4.750    2.12 |10.833    8.23 |16.917    2.39 | 23.00    1.59
                4.833    2.12 |10.917    8.23 |17.000    2.39 | 23.08    1.59
                4.917    2.12 |11.000    8.23 |17.083    2.39 | 23.17    1.59
                5.000    2.12 |11.083    8.23 |17.167    2.39 | 23.25    1.59
                5.083    2.12 |11.167    8.23 |17.250    2.39 | 23.33    1.59
                5.167    2.12 |11.250    8.23 |17.333    2.39 | 23.42    1.59
                5.250    2.12 |11.333   12.74 |17.417    2.39 | 23.50    1.59
                5.333    2.12 |11.417   12.74 |17.500    2.39 | 23.58    1.59
                5.417    2.12 |11.500   12.74 |17.583    2.39 | 23.67    1.59
                5.500    2.12 |11.583   12.74 |17.667    2.39 | 23.75    1.59
                5.583    2.12 |11.667   12.74 |17.750    2.39 | 23.83    1.59
```

```
                5.667    2.12 |11.750   12.74 |17.833    2.39 | 23.92    1.59
                5.750    2.12 |11.833   39.29 |17.917    2.39 | 24.00    1.59
                5.833    2.12 |11.917   39.29 |18.000    2.39 | 24.08    1.59
                5.917    2.12 |12.000   39.29 |18.083    2.39 | 24.17    1.59
                6.000    2.12 |12.083  162.46 |18.167    2.39 | 24.25    1.59
                6.083    2.12 |12.167  162.47 |18.250    2.39 |

     Max.Eff.Inten.(mm/hr)=     162.47       256.62
                over (min)        5.00        10.00
     Storage Coeff.  (min)=       1.72 (ii)    6.56 (ii)
     Unit Hyd. Tpeak (min)=       5.00        10.00
     Unit Hyd. peak  (cms)=       0.32         0.14
                                                           *TOTALS*
     PEAK FLOW       (cms)=       0.05         0.23          0.283 (iii)
     TIME TO PEAK    (hrs)=      12.25        12.25          12.25
     RUNOFF VOLUME    (mm)=     131.74       109.88         113.16
     TOTAL RAINFALL   (mm)=     132.74       132.74         132.74
     RUNOFF COEFFICIENT   =       0.99         0.83           0.85

***** 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*  =  85.0    Ia = Dep. 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  (  0006)|
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0011):    14.50   1.303    12.75    78.31
      + ID2= 2 (  0016):     0.76   0.283    12.25   113.16
        ====================================================
        ID = 3 (  0006):    15.26   1.346    12.75    80.04

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

--------------------
| ADD HYD  (  0006)|
|  3 +  2 =  1     |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 3 (  0006):    15.26   1.346    12.75    80.04
      + ID2= 2 (  0002):     9.66   3.470    12.25   111.04
        ====================================================
        ID = 1 (  0006):    24.92   4.310    12.25    92.06

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

--------------------
| ADD HYD  (  0006)|
|  1 +  2 =  3     |         AREA    QPEAK    TPEAK     R.V.
--------------------         (ha)    (cms)    (hrs)     (mm)
        ID1= 1 (  0006):    24.92   4.310    12.25    92.06
      + ID2= 2 (  0008):     1.28   0.448    12.25   103.78
        ====================================================
        ID = 3 (  0006):    26.20   4.757    12.25    92.63

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

--------------------
| RESERVOIR(  0004)|     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   |   0.1460      0.6510
                          0.0160     0.1150   |   0.3020      0.9550
                          0.0250     0.2380   |   0.4430      1.1990
                          0.0410     0.3690   |   0.6010      1.4550

                                AREA     QPEAK     TPEAK       R.V.
                                (ha)     (cms)     (hrs)       (mm)
   INFLOW : ID= 2 (  0006)     26.200      4.757     12.25       92.63
   OUTFLOW: ID= 1 (  0004)     26.200      0.565     14.17       92.56

                   PEAK   FLOW   REDUCTION [Qout/Qin](%)= 11.88
                   TIME SHIFT OF PEAK FLOW         (min)=115.00
                   MAXIMUM  STORAGE   USED       (ha.m.)=  1.3974
```

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 ------------------------------------------------------------------------------
 --------------------
 | CALIB              |
 | NASHYD    (  0017)|   Area     (ha)=    0.43   Curve Number   (CN)= 75.0
 |ID= 1 DT= 5.0 min |   Ia       (mm)=    5.00   # of Linear Res.(N)= 3.00
 --------------------   U.H. Tp(hrs)=    0.13

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


                              ---- TRANSFORMED HYETOGRAPH ----
                   TIME    RAIN |   TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                    hrs   mm/hr |    hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.083    0.00 | 6.167     2.12 |12.250  162.47 | 18.33    2.39
                  0.167    0.00 | 6.250     2.12 |12.333   19.13 | 18.42    2.39
                  0.250    0.00 | 6.333     2.39 |12.417   19.11 | 18.50    2.39
                  0.333    1.46 | 6.417     2.39 |12.500   19.11 | 18.58    2.39
                  0.417    1.46 | 6.500     2.39 |12.583   19.11 | 18.67    2.39
                  0.500    1.46 | 6.583     2.39 |12.667   19.11 | 18.75    2.39
                  0.583    1.46 | 6.667     2.39 |12.750   19.11 | 18.83    2.39
                  0.667    1.46 | 6.750     2.39 |12.833    9.82 | 18.92    2.39
                  0.750    1.46 | 6.833     2.39 |12.917    9.82 | 19.00    2.39
                  0.833    1.46 | 6.917     2.39 |13.000    9.82 | 19.08    2.39
                  0.917    1.46 | 7.000     2.39 |13.083    9.82 | 19.17    2.39
                  1.000    1.46 | 7.083     2.39 |13.167    9.82 | 19.25    2.39
                  1.083    1.46 | 7.167     2.39 |13.250    9.82 | 19.33    2.39
                  1.167    1.46 | 7.250     2.39 |13.333    7.17 | 19.42    2.39
                  1.250    1.46 | 7.333     2.92 |13.417    7.17 | 19.50    2.39
                  1.333    1.46 | 7.417     2.92 |13.500    7.17 | 19.58    2.39
                  1.417    1.46 | 7.500     2.92 |13.583    7.17 | 19.67    2.39
                  1.500    1.46 | 7.583     2.92 |13.667    7.17 | 19.75    2.39
                  1.583    1.46 | 7.667     2.92 |13.750    7.17 | 19.83    2.39
                  1.667    1.46 | 7.750     2.92 |13.833    5.58 | 19.92    2.39
                  1.750    1.46 | 7.833     2.92 |13.917    5.58 | 20.00    2.39
                  1.833    1.46 | 7.917     2.92 |14.000    5.58 | 20.08    2.39
                  1.917    1.46 | 8.000     2.92 |14.083    5.58 | 20.17    2.39
                  2.000    1.46 | 8.083     2.92 |14.167    5.58 | 20.25    2.39
                  2.083    1.46 | 8.167     2.92 |14.250    5.58 | 20.33    1.59
                  2.167    1.46 | 8.250     2.92 |14.333    3.98 | 20.42    1.59
                  2.250    1.46 | 8.333     3.45 |14.417    3.98 | 20.50    1.59
                  2.333    1.73 | 8.417     3.45 |14.500    3.98 | 20.58    1.59
                  2.417    1.73 | 8.500     3.45 |14.583    3.98 | 20.67    1.59
                  2.500    1.73 | 8.583     3.45 |14.667    3.98 | 20.75    1.59
                  2.583    1.73 | 8.667     3.45 |14.750    3.98 | 20.83    1.59
                  2.667    1.73 | 8.750     3.45 |14.833    3.98 | 20.92    1.59
                  2.750    1.73 | 8.833     3.72 |14.917    3.98 | 21.00    1.59
                  2.833    1.73 | 8.917     3.72 |15.000    3.98 | 21.08    1.59
                  2.917    1.73 | 9.000     3.72 |15.083    3.98 | 21.17    1.59
                  3.000    1.73 | 9.083     3.72 |15.167    3.98 | 21.25    1.59
                  3.083    1.73 | 9.167     3.72 |15.250    3.98 | 21.33    1.59
                  3.167    1.73 | 9.250     3.72 |15.333    3.98 | 21.42    1.59
                  3.250    1.73 | 9.333     4.25 |15.417    3.98 | 21.50    1.59
                  3.333    1.73 | 9.417     4.25 |15.500    3.98 | 21.58    1.59
                  3.417    1.73 | 9.500     4.25 |15.583    3.98 | 21.67    1.59
                  3.500    1.73 | 9.583     4.25 |15.667    3.98 | 21.75    1.59
                  3.583    1.73 | 9.667     4.25 |15.750    3.98 | 21.83    1.59
                  3.667    1.73 | 9.750     4.25 |15.833    3.98 | 21.92    1.59
                  3.750    1.73 | 9.833     4.78 |15.917    3.98 | 22.00    1.59
                  3.833    1.73 | 9.917     4.78 |16.000    3.98 | 22.08    1.59
                  3.917    1.73 |10.000     4.78 |16.083    3.98 | 22.17    1.59
                  4.000    1.73 |10.083     4.78 |16.167    3.98 | 22.25    1.59
                  4.083    1.73 |10.167     4.78 |16.250    3.98 | 22.33    1.59
                  4.167    1.73 |10.250     4.78 |16.333    2.39 | 22.42    1.59
                  4.250    1.73 |10.333     6.11 |16.417    2.39 | 22.50    1.59
                  4.333    2.12 |10.417     6.11 |16.500    2.39 | 22.58    1.59
                  4.417    2.12 |10.500     6.11 |16.583    2.39 | 22.67    1.59
                  4.500    2.12 |10.583     6.11 |16.667    2.39 | 22.75    1.59
                  4.583    2.12 |10.667     6.11 |16.750    2.39 | 22.83    1.59
                  4.667    2.12 |10.750     6.11 |16.833    2.39 | 22.92    1.59
                  4.750    2.12 |10.833     8.23 |16.917    2.39 | 23.00    1.59
                  4.833    2.12 |10.917     8.23 |17.000    2.39 | 23.08    1.59
                  4.917    2.12 |11.000     8.23 |17.083    2.39 | 23.17    1.59
                  5.000    2.12 |11.083     8.23 |17.167    2.39 | 23.25    1.59
                  5.083    2.12 |11.167     8.23 |17.250    2.39 | 23.33    1.59
                  5.167    2.12 |11.250     8.23 |17.333    2.39 | 23.42    1.59
                  5.250    2.12 |11.333    12.74 |17.417    2.39 | 23.50    1.59
                  5.333    2.12 |11.417    12.74 |17.500    2.39 | 23.58    1.59
                  5.417    2.12 |11.500    12.74 |17.583    2.39 | 23.67    1.59
                  5.500    2.12 |11.583    12.74 |17.667    2.39 | 23.75    1.59
                  5.583    2.12 |11.667    12.74 |17.750    2.39 | 23.83    1.59
                  5.667    2.12 |11.750    12.74 |17.833    2.39 | 23.92    1.59
                  5.750    2.12 |11.833    39.29 |17.917    2.39 | 24.00    1.59
                  5.833    2.12 |11.917    39.29 |18.000    2.39 | 24.08    1.59
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                  5.917    2.12 |12.000   39.29 |18.083    2.39 | 24.17    1.59
                  6.000    2.12 |12.083  162.46 |18.167    2.39 | 24.25    1.59
                  6.083    2.12 |12.167  162.47 |18.250    2.39 |

      Unit Hyd Qpeak  (cms)=   0.126

      PEAK FLOW       (cms)=   0.111 (i)
      TIME TO PEAK    (hrs)=  12.250
      RUNOFF VOLUME    (mm)=  76.061
      TOTAL RAINFALL   (mm)= 132.740
      RUNOFF COEFFICIENT   =   0.573

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

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

 --------------------
 | ADD HYD  (  0019)|
 |   1 +  2 =  3    |          AREA     QPEAK     TPEAK      R.V.
 --------------------          (ha)     (cms)     (hrs)      (mm)
          ID1= 1 (  0017):     0.43    0.111     12.25     76.06
        + ID2= 2 (  0004):    26.20    0.565     14.17     92.56
          ===============================================
          ID = 3 (  0019):    26.63    0.571     14.17     92.29

      NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.
 ------------------------------------------------------------------------------
 --------------------
 | CALIB            |
 | STANDHYD (  0024)|   Area    (ha)=   0.61
 |ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
 --------------------
                             IMPERVIOUS    PERVIOUS (i)
      Surface Area     (ha)=       0.31         0.31
      Dep. Storage     (mm)=       1.00         1.50
      Average Slope     (%)=       1.00         2.00
      Length            (m)=      63.77        40.00
      Mannings n          =      0.013        0.250

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


                              ---- TRANSFORMED HYETOGRAPH ----
                   TIME    RAIN |   TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                    hrs   mm/hr |    hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                  0.083    0.00 | 6.167     2.12 |12.250  162.47 | 18.33    2.39
                  0.167    0.00 | 6.250     2.12 |12.333   19.13 | 18.42    2.39
                  0.250    0.00 | 6.333     2.39 |12.417   19.11 | 18.50    2.39
                  0.333    1.46 | 6.417     2.39 |12.500   19.11 | 18.58    2.39
                  0.417    1.46 | 6.500     2.39 |12.583   19.11 | 18.67    2.39
                  0.500    1.46 | 6.583     2.39 |12.667   19.11 | 18.75    2.39
                  0.583    1.46 | 6.667     2.39 |12.750   19.11 | 18.83    2.39
                  0.667    1.46 | 6.750     2.39 |12.833    9.82 | 18.92    2.39
                  0.750    1.46 | 6.833     2.39 |12.917    9.82 | 19.00    2.39
                  0.833    1.46 | 6.917     2.39 |13.000    9.82 | 19.08    2.39
                  0.917    1.46 | 7.000     2.39 |13.083    9.82 | 19.17    2.39
                  1.000    1.46 | 7.083     2.39 |13.167    9.82 | 19.25    2.39
                  1.083    1.46 | 7.167     2.39 |13.250    9.82 | 19.33    2.39
                  1.167    1.46 | 7.250     2.39 |13.333    7.17 | 19.42    2.39
                  1.250    1.46 | 7.333     2.92 |13.417    7.17 | 19.50    2.39
                  1.333    1.46 | 7.417     2.92 |13.500    7.17 | 19.58    2.39
                  1.417    1.46 | 7.500     2.92 |13.583    7.17 | 19.67    2.39
                  1.500    1.46 | 7.583     2.92 |13.667    7.17 | 19.75    2.39
                  1.583    1.46 | 7.667     2.92 |13.750    7.17 | 19.83    2.39
                  1.667    1.46 | 7.750     2.92 |13.833    5.58 | 19.92    2.39
                  1.750    1.46 | 7.833     2.92 |13.917    5.58 | 20.00    2.39
                  1.833    1.46 | 7.917     2.92 |14.000    5.58 | 20.08    2.39
                  1.917    1.46 | 8.000     2.92 |14.083    5.58 | 20.17    2.39
                  2.000    1.46 | 8.083     2.92 |14.167    5.58 | 20.25    2.39
                  2.083    1.46 | 8.167     2.92 |14.250    5.58 | 20.33    1.59
                  2.167    1.46 | 8.250     2.92 |14.333    3.98 | 20.42    1.59
                  2.250    1.46 | 8.333     3.45 |14.417    3.98 | 20.50    1.59
                  2.333    1.73 | 8.417     3.45 |14.500    3.98 | 20.58    1.59
                  2.417    1.73 | 8.500     3.45 |14.583    3.98 | 20.67    1.59
                  2.500    1.73 | 8.583     3.45 |14.667    3.98 | 20.75    1.59
                  2.583    1.73 | 8.667     3.45 |14.750    3.98 | 20.83    1.59
                  2.667    1.73 | 8.750     3.45 |14.833    3.98 | 20.92    1.59
                  2.750    1.73 | 8.833     3.72 |14.917    3.98 | 21.00    1.59
                  2.833    1.73 | 8.917     3.72 |15.000    3.98 | 21.08    1.59
                  2.917    1.73 | 9.000     3.72 |15.083    3.98 | 21.17    1.59
                  3.000    1.73 | 9.083     3.72 |15.167    3.98 | 21.25    1.59
                  3.083    1.73 | 9.167     3.72 |15.250    3.98 | 21.33    1.59
                  3.167    1.73 | 9.250     3.72 |15.333    3.98 | 21.42    1.59
                  3.250    1.73 | 9.333     4.25 |15.417    3.98 | 21.50    1.59
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                3.333    1.73 | 9.417    4.25 |15.500    3.98 | 21.58    1.59
                3.417    1.73 | 9.500    4.25 |15.583    3.98 | 21.67    1.59
                3.500    1.73 | 9.583    4.25 |15.667    3.98 | 21.75    1.59
                3.583    1.73 | 9.667    4.25 |15.750    3.98 | 21.83    1.59
                3.667    1.73 | 9.750    4.25 |15.833    3.98 | 21.92    1.59
                3.750    1.73 | 9.833    4.78 |15.917    3.98 | 22.00    1.59
                3.833    1.73 | 9.917    4.78 |16.000    3.98 | 22.08    1.59
                3.917    1.73 |10.000    4.78 |16.083    3.98 | 22.17    1.59
                4.000    1.73 |10.083    4.78 |16.167    3.98 | 22.25    1.59
                4.083    1.73 |10.167    4.78 |16.250    3.98 | 22.33    1.59
                4.167    1.73 |10.250    4.78 |16.333    2.39 | 22.42    1.59
                4.250    1.73 |10.333    6.11 |16.417    2.39 | 22.50    1.59
                4.333    2.12 |10.417    6.11 |16.500    2.39 | 22.58    1.59
                4.417    2.12 |10.500    6.11 |16.583    2.39 | 22.67    1.59
                4.500    2.12 |10.583    6.11 |16.667    2.39 | 22.75    1.59
                4.583    2.12 |10.667    6.11 |16.750    2.39 | 22.83    1.59
                4.667    2.12 |10.750    6.11 |16.833    2.39 | 22.92    1.59
                4.750    2.12 |10.833    8.23 |16.917    2.39 | 23.00    1.59
                4.833    2.12 |10.917    8.23 |17.000    2.39 | 23.08    1.59
                4.917    2.12 |11.000    8.23 |17.083    2.39 | 23.17    1.59
                5.000    2.12 |11.083    8.23 |17.167    2.39 | 23.25    1.59
                5.083    2.12 |11.167    8.23 |17.250    2.39 | 23.33    1.59
                5.167    2.12 |11.250    8.23 |17.333    2.39 | 23.42    1.59
                5.250    2.12 |11.333   12.74 |17.417    2.39 | 23.50    1.59
                5.333    2.12 |11.417   12.74 |17.500    2.39 | 23.58    1.59
                5.417    2.12 |11.500   12.74 |17.583    2.39 | 23.67    1.59
                5.500    2.12 |11.583   12.74 |17.667    2.39 | 23.75    1.59
                5.583    2.12 |11.667   12.74 |17.750    2.39 | 23.83    1.59
                5.667    2.12 |11.750   12.74 |17.833    2.39 | 23.92    1.59
                5.750    2.12 |11.833   39.29 |17.917    2.39 | 24.00    1.59
                5.833    2.12 |11.917   39.29 |18.000    2.39 | 24.08    1.59
                5.917    2.12 |12.000   39.29 |18.083    2.39 | 24.17    1.59
                6.000    2.12 |12.083  162.46 |18.167    2.39 | 24.25    1.59
                6.083    2.12 |12.167  162.47 |18.250    2.39 |

     Max.Eff.Inten.(mm/hr)=    162.47       256.62
                over (min)       5.00        10.00
     Storage Coeff.  (min)=      1.61 (ii)    6.45 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.32         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.04         0.19         0.228 (iii)
     TIME TO PEAK    (hrs)=     12.25        12.25         12.25
     RUNOFF VOLUME    (mm)=    131.74       109.89        113.16
     TOTAL RAINFALL   (mm)=    132.74       132.74        132.74
     RUNOFF COEFFICIENT   =      0.99         0.83          0.85

***** 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*  =  85.0    Ia = Dep. 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 (  0025)|   Area    (ha)=   0.83
|ID= 1 DT= 5.0 min |   Total Imp(%)=  50.00   Dir. Conn.(%)=  15.00
--------------------
                              IMPERVIOUS    PERVIOUS (i)
     Surface Area     (ha)=      0.42          0.42
     Dep. Storage     (mm)=      1.00          1.50
     Average Slope     (%)=      1.00          2.00
     Length            (m)=     74.39         40.00
     Mannings n          =      0.013         0.250

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


                               ---- TRANSFORMED HYETOGRAPH ----
                 TIME    RAIN |  TIME    RAIN |'  TIME    RAIN |  TIME    RAIN
                  hrs   mm/hr |   hrs   mm/hr |'   hrs   mm/hr |   hrs   mm/hr
                0.083    0.00 | 6.167    2.12 |12.250  162.47 | 18.33    2.39
                0.167    0.00 | 6.250    2.12 |12.333   19.13 | 18.42    2.39
                0.250    0.00 | 6.333    2.39 |12.417   19.11 | 18.50    2.39
                0.333    1.46 | 6.417    2.39 |12.500   19.11 | 18.58    2.39
                0.417    1.46 | 6.500    2.39 |12.583   19.11 | 18.67    2.39
                0.500    1.46 | 6.583    2.39 |12.667   19.11 | 18.75    2.39
                0.583    1.46 | 6.667    2.39 |12.750   19.11 | 18.83    2.39
                0.667    1.46 | 6.750    2.39 |12.833    9.82 | 18.92    2.39
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                0.750    1.46 | 6.833    2.39 |12.917    9.82 | 19.00    2.39
                0.833    1.46 | 6.917    2.39 |13.000    9.82 | 19.08    2.39
                0.917    1.46 | 7.000    2.39 |13.083    9.82 | 19.17    2.39
                1.000    1.46 | 7.083    2.39 |13.167    9.82 | 19.25    2.39
                1.083    1.46 | 7.167    2.39 |13.250    9.82 | 19.33    2.39
                1.167    1.46 | 7.250    2.39 |13.333    7.17 | 19.42    2.39
                1.250    1.46 | 7.333    2.92 |13.417    7.17 | 19.50    2.39
                1.333    1.46 | 7.417    2.92 |13.500    7.17 | 19.58    2.39
                1.417    1.46 | 7.500    2.92 |13.583    7.17 | 19.67    2.39
                1.500    1.46 | 7.583    2.92 |13.667    7.17 | 19.75    2.39
                1.583    1.46 | 7.667    2.92 |13.750    7.17 | 19.83    2.39
                1.667    1.46 | 7.750    2.92 |13.833    5.58 | 19.92    2.39
                1.750    1.46 | 7.833    2.92 |13.917    5.58 | 20.00    2.39
                1.833    1.46 | 7.917    2.92 |14.000    5.58 | 20.08    2.39
                1.917    1.46 | 8.000    2.92 |14.083    5.58 | 20.17    2.39
                2.000    1.46 | 8.083    2.92 |14.167    5.58 | 20.25    2.39
                2.083    1.46 | 8.167    2.92 |14.250    5.58 | 20.33    1.59
                2.167    1.46 | 8.250    2.92 |14.333    3.98 | 20.42    1.59
                2.250    1.46 | 8.333    3.45 |14.417    3.98 | 20.50    1.59
                2.333    1.73 | 8.417    3.45 |14.500    3.98 | 20.58    1.59
                2.417    1.73 | 8.500    3.45 |14.583    3.98 | 20.67    1.59
                2.500    1.73 | 8.583    3.45 |14.667    3.98 | 20.75    1.59
                2.583    1.73 | 8.667    3.45 |14.750    3.98 | 20.83    1.59
                2.667    1.73 | 8.750    3.45 |14.833    3.98 | 20.92    1.59
                2.750    1.73 | 8.833    3.72 |14.917    3.98 | 21.00    1.59
                2.833    1.73 | 8.917    3.72 |15.000    3.98 | 21.08    1.59
                2.917    1.73 | 9.000    3.72 |15.083    3.98 | 21.17    1.59
                3.000    1.73 | 9.083    3.72 |15.167    3.98 | 21.25    1.59
                3.083    1.73 | 9.167    3.72 |15.250    3.98 | 21.33    1.59
                3.167    1.73 | 9.250    3.72 |15.333    3.98 | 21.42    1.59
                3.250    1.73 | 9.333    4.25 |15.417    3.98 | 21.50    1.59
                3.333    1.73 | 9.417    4.25 |15.500    3.98 | 21.58    1.59
                3.417    1.73 | 9.500    4.25 |15.583    3.98 | 21.67    1.59
                3.500    1.73 | 9.583    4.25 |15.667    3.98 | 21.75    1.59
                3.583    1.73 | 9.667    4.25 |15.750    3.98 | 21.83    1.59
                3.667    1.73 | 9.750    4.25 |15.833    3.98 | 21.92    1.59
                3.750    1.73 | 9.833    4.78 |15.917    3.98 | 22.00    1.59
                3.833    1.73 | 9.917    4.78 |16.000    3.98 | 22.08    1.59
                3.917    1.73 |10.000    4.78 |16.083    3.98 | 22.17    1.59
                4.000    1.73 |10.083    4.78 |16.167    3.98 | 22.25    1.59
                4.083    1.73 |10.167    4.78 |16.250    3.98 | 22.33    1.59
                4.167    1.73 |10.250    4.78 |16.333    2.39 | 22.42    1.59
                4.250    1.73 |10.333    6.11 |16.417    2.39 | 22.50    1.59
                4.333    2.12 |10.417    6.11 |16.500    2.39 | 22.58    1.59
                4.417    2.12 |10.500    6.11 |16.583    2.39 | 22.67    1.59
                4.500    2.12 |10.583    6.11 |16.667    2.39 | 22.75    1.59
                4.583    2.12 |10.667    6.11 |16.750    2.39 | 22.83    1.59
                4.667    2.12 |10.750    6.11 |16.833    2.39 | 22.92    1.59
                4.750    2.12 |10.833    8.23 |16.917    2.39 | 23.00    1.59
                4.833    2.12 |10.917    8.23 |17.000    2.39 | 23.08    1.59
                4.917    2.12 |11.000    8.23 |17.083    2.39 | 23.17    1.59
                5.000    2.12 |11.083    8.23 |17.167    2.39 | 23.25    1.59
                5.083    2.12 |11.167    8.23 |17.250    2.39 | 23.33    1.59
                5.167    2.12 |11.250    8.23 |17.333    2.39 | 23.42    1.59
                5.250    2.12 |11.333   12.74 |17.417    2.39 | 23.50    1.59
                5.333    2.12 |11.417   12.74 |17.500    2.39 | 23.58    1.59
                5.417    2.12 |11.500   12.74 |17.583    2.39 | 23.67    1.59
                5.500    2.12 |11.583   12.74 |17.667    2.39 | 23.75    1.59
                5.583    2.12 |11.667   12.74 |17.750    2.39 | 23.83    1.59
                5.667    2.12 |11.750   12.74 |17.833    2.39 | 23.92    1.59
                5.750    2.12 |11.833   39.29 |17.917    2.39 | 24.00    1.59
                5.833    2.12 |11.917   39.29 |18.000    2.39 | 24.08    1.59
                5.917    2.12 |12.000   39.29 |18.083    2.39 | 24.17    1.59
                6.000    2.12 |12.083  162.46 |18.167    2.39 | 24.25    1.59
                6.083    2.12 |12.167  162.47 |18.250    2.39 |

     Max.Eff.Inten.(mm/hr)=    162.47       256.62
                over (min)       5.00        10.00
     Storage Coeff.  (min)=      1.76 (ii)    6.60 (ii)
     Unit Hyd. Tpeak (min)=      5.00        10.00
     Unit Hyd. peak  (cms)=      0.32         0.14
                                                        *TOTALS*
     PEAK FLOW       (cms)=      0.06         0.25         0.308 (iii)
     TIME TO PEAK    (hrs)=     12.25        12.25         12.25
     RUNOFF VOLUME    (mm)=    131.74       109.89        113.16
     TOTAL RAINFALL   (mm)=    132.74       132.74        132.74
     RUNOFF COEFFICIENT   =      0.99         0.83          0.85

***** 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*  =  85.0    Ia = Dep. 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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APPENDIX F

SWM Facility Calculations

CROZIER
CONSULTING ENGINEERS

Project: Ida Street
Project No.: 1060-5590
Design by: AM
Date: 5/15/2024

Water Quality Requirements for SWMF-SV

Areas Contributing	Area (ha)	% Imp	25mm RV (mm)	25mm RV (m^3)
POST-S1	9.81	58.0	14.07	1380
SWMF-SV	1.28	50.0	13.39	171
WEIGHTED IMP	**11.09**	**57.1**		**1552**

MOE Total WQ Volume (m^3/ha)	195
MOE ED Volume (m^3/ha)	40
MOE ED Volume (m^3)	444
MOE PP Volume (m^3/ha)	155
MOE PP Volume (m^3)	1717
Pond Required ED Volume (m^3)	1552
Pond Required PP Volume (m^3)	1717
Available ED Volume (m^3)	2946
Provided PP Volume (m^3)	4338

CROZIER
CONSULTING ENGINEERS

Project: Ida Street
Project No.: 1060-5590
Design by: AM
Date: May 15, 2024

EXTENDED DETENTION SPECIFICATIONS - SWMF-SV (PER MECP)

Extended Detention Volume (Area x runoff from 25 mm storm event)		1552
t (drawdown time - seconds, *hours in italics*)	*24.0*	86400
Ao (cross section area of orifice - sqm)		0.0299
h (maximum water elevation above orifice for extended detention- m)		0.60
C (discharge coefficient)		0.64
Ap (average surface area for extended detention - sqm)		4917

t = 2*Ap*(h^0.5)/(C*Ao*(g*2)^0.5)

Ao = 0.03110016 sqm d = 199 mm

Extended Detention Orifice Diameter (as designed) d = **195** mm

CROZIER
CONSULTING ENGINEERS

Project: Ida Street
Project No.: 1060-5590
Design by: AM
Date: May 15, 2024

SWMF-SV Pond Stage Storage Outflow Calculations

Outlet Structure Dimensions

E.D. Orifice Diameter: 0.195 m
E.D. Orifice Invert Elevation: 513.2 m

GRCA Outlet Dimensions

Orifice Diameter:
E.D. Orifice Invert Elevation:

Rectangular Weir width	0.90 m
Rectanular Weir Invert	513.80 m
Spillway Elev.	514.70 m
Spillway Bot. Width	10 m
Trap Side Slopes	3:1

Pond Dimensions				**Outlet Structure Discharge**						**To Wetland Discharge**		
Elev. (m)	Depth Above PP (m)	Area (sqm)	Storage Volume (cu.m)	ED Orifice Discharge (cu.m/s)	V-Notch Weir Discharge (cu.m/s)	Rectangular Weir Discharge (m)	Spillway Width (m)	Spillway Discharge (cu.m/s)	Total Discharge (cu.m/s)	Wetland Orifice Discharge (cu.m/s)	Storage (ha-m)	Total Discharge (cu.m/s)
513.20	0.00	4291.00	0.00	0.000	0.00	0.00	0.00	0.00	**0.000**	0.00	**0.000**	**0.000**
513.30	0.10	4499.67	439.53	0.004	0.00	0.00	0.00	0.00	**0.004**	0.00	0.044	0.004
513.40	0.20	4708.33	899.93	0.027	0.00	0.00	0.00	0.00	**0.027**	0.00	**0.090**	**0.027**
513.50	0.30	4917.00	1381.20	0.038	0.00	0.00	0.00	0.00	**0.038**	0.00	0.138	0.038
513.60	0.40	5125.67	1883.33	0.047	0.00	0.00	0.00	0.00	**0.047**	0.00	**0.188**	**0.047**
513.70	0.50	5334.33	2406.33	0.054	0.00	0.00	0.00	0.00	**0.054**	0.00	0.241	0.054
513.80	0.60	5543.00	2950.20	0.060	0.00	0.00	0.00	0.00	**0.060**	0.00	**0.295**	**0.060**
513.90	0.70	5703.78	3512.54	0.066	0.00	0.05	0.00	0.00	**0.118**	0.00	0.351	0.118
514.00	0.80	5864.56	4090.96	0.071	0.00	0.15	0.00	0.00	**0.219**	0.00	0.409	0.219
514.10	0.90	6025.33	4685.45	0.076	0.00	0.27	0.00	0.00	**0.348**	0.00	**0.469**	**0.348**
514.20	1.00	6186.11	5296.02	0.080	0.00	0.42	0.00	0.00	**0.499**	0.00	0.530	0.499
514.30	1.10	6346.89	5922.67	0.085	0.00	0.59	0.00	0.00	**0.670**	0.00	0.592	0.670
514.40	1.20	6507.67	6565.40	0.089	0.00	0.77	0.00	0.00	**0.859**	0.00	**0.657**	**0.859**
514.50	1.30	6668.44	7224.21	0.093	0.00	0.97	0.00	0.00	**1.063**	0.00	0.722	1.063
514.60	1.40	6829.22	7899.09	0.097	0.00	1.18	0.00	0.00	**1.282**	0.00	0.790	1.282
514.70	1.50	6990.00	8590.05	0.100	0.00	1.41	10.00	0.00	**1.514**	0.00	**0.859**	**1.514**
514.80	1.60	7152.67	9297.18	0.104	0.00	1.66	10.03	0.58	**2.343**	0.00	0.930	2.343
514.90	1.70	7315.33	10020.58	0.107	0.00	1.91	10.05	1.65	**3.672**	0.00	1.002	3.672
515.00	1.80	7478.00	10760.25	0.110	0.00	2.18	10.08	3.05	**5.334**	0.00	1.076	5.334

Project: Ida Street
Project No.: 1060-5590
Design by: AM
Date: 5/15/2024

Water Quality Requirements for SWMF-GR

Areas Contributing	Area (ha)	% Imp	25mm RV (mm)	25mm RV (m^3)
POST-G2	9.66	67.0	14.62	1412
SWMF-GR	1.28	50.0	13.39	171
EXT-1	14.50	0.7	3.40	493
WEIGHTED IMP	**25.44**	**28.4**		**2077**

MOE Total WQ Volume (m^3/ha)	123
MOE ED Volume (m^3/ha)	40
MOE ED Volume (m^3)	1018
MOE PP Volume (m^3/ha)	83
MOE PP Volume (m^3)	2121
Pond Required ED Volume (m^3)	2077
Pond Required PP Volume (m^3)	2121
Available ED Volume (m^3)	2743
Provided PP Volume (m^3)	7589

CROZIER
CONSULTING ENGINEERS

Project: Ida Street
Project No.: 1060-5590
Design by: AM
Date: May 15, 2024

EXTENDED DETENTION SPECIFICATIONS - SWMF-GR (PER MECP)

Extended Detention Volume (Area x runoff from 25 mm storm event)		2077
t (drawdown time - seconds, *hours in italics*)	*48.0*	172800
Ao (cross section area of orifice - sqm)		0.0154
h (maximum water elevation above orifice for extended detention- m)		0.50
C (discharge coefficient)		0.64
Ap (average surface area for extended detention - sqm)		6056

t = 2*Ap*(h^0.5)/(C*Ao*(g*2)^0.5)

Ao = 0.01748222 sqm d = 149 mm

Extended Detention Orifice Diameter (as designed) d = **140** mm

CROZIER
CONSULTING ENGINEERS

Project: Ida Street
Project No.: 1060-5590
Design by: AM
Date: May 15, 2024

SWMF-GR Pond Stage Storage Outflow Calculations

Outlet Structure Dimensions

E.D. Orifice Diameter:	0.14 m
E.D. Orifice Invert Elevation:	511.8 m
Rectangular Weir width	0.16 m
Rectanular Weir Invert	512.30 m
Spillway Elev.	513.80 m
Spillway Bot. Width	10 m
Trap Side Slopes	3:1

Pond Dimensions				**Outlet Structure Discharge**						
Elev. (m)	Depth Above PP (m)	Area (sqm)	Storage Volume (cu.m)	ED Orifice Discharge (cu.m/s)	V-Notch Weir Discharge (cu.m/s)	Rectangular Weir Discharge (m)	Spillway Width (m)	Spillway Discharge (cu.m/s)	Storage (ha-m)	Total Discharge (cu.m/s)
511.80	0.00	5534.00	0.00	0.000	0.00	0.00	0.00	0.00	**0.000**	**0.000**
511.90	0.10	5750.00	564.20	0.008	0.00	0.00	0.00	0.00	0.056	0.008
512.00	0.20	5941.42	1148.77	0.016	0.00	0.00	0.00	0.00	**0.115**	**0.016**
512.10	0.30	6145.13	1753.10	0.021	0.00	0.00	0.00	0.00	0.175	0.021
512.20	0.40	6348.84	2377.80	0.025	0.00	0.00	0.00	0.00	**0.238**	**0.025**
512.30	0.50	6614.00	3025.94	0.029	0.00	0.00	0.00	0.00	0.303	0.029
512.40	0.60	6756.27	3694.45	0.032	0.00	0.01	0.00	0.00	**0.369**	**0.041**
512.50	0.70	6898.53	4377.19	0.035	0.00	0.03	0.00	0.00	0.438	0.061
512.60	0.80	7040.80	5074.16	0.037	0.00	0.05	0.00	0.00	0.507	0.086
512.70	0.90	7183.07	5785.35	0.040	0.00	0.07	0.00	0.00	0.579	0.114
512.80	1.00	7325.33	6510.77	0.042	0.00	0.10	0.00	0.00	**0.651**	**0.146**
512.90	1.10	7467.60	7250.42	0.044	0.00	0.14	0.00	0.00	0.725	0.181
513.00	1.20	7609.87	8004.29	0.046	0.00	0.17	0.00	0.00	0.800	0.219
513.10	1.30	7752.13	8772.39	0.048	0.00	0.21	0.00	0.00	0.877	0.259
513.20	1.40	7894.40	9554.72	0.050	0.00	0.25	0.00	0.00	**0.955**	**0.302**
513.30	1.50	8036.67	10351.27	0.052	0.00	0.29	0.00	0.00	1.035	0.347
513.40	1.60	8178.93	11162.05	0.054	0.00	0.34	0.00	0.00	1.116	0.394
513.50	1.70	8321.20	11987.06	0.056	0.00	0.39	0.00	0.00	**1.199**	**0.443**
513.60	1.80	8463.47	12826.29	0.057	0.00	0.44	0.00	0.00	1.283	0.494
513.70	1.90	8605.73	13679.75	0.059	0.00	0.49	0.00	0.00	1.368	0.547
513.80	2.00	8748.00	14547.44	0.061	0.00	0.54	10.00	0.00	**1.455**	**0.601**
513.90	2.10	8924.33	15431.06	0.062	0.00	0.60	10.03	0.58	1.543	1.241
514.00	2.20	9100.67	16332.31	0.064	0.00	0.65	10.05	1.65	1.633	2.370
514.10	2.30	9277.00	17251.19	0.065	0.00	0.71	10.08	3.05	1.725	3.822

APPENDIX G

Water Balance Calculations

CROZIER
CONSULTING ENGINEERS

Water Balance Parameters

Thornthwaite & Mather Method

Project Name: Ida Street
Project Number: 1060-5590
Created By: HR
Checked By: NCO
Date: 5/15/2024

Project Name: **Ida Street**
Location: **Dundalk**

	DEGREES
LATITUDE	**44**

Climate Station:	*EGBERT STATION*
Longitude:	*79°47'00.000" W*
Latitude:	*44°14'00.000" N*
Elevation:	*251 m*
Station ID:	*6110*

Month	**Mean Temperature** (C°)[1]	**Heat Index** $[i = (t/5)^{1.514}]$	**α**	**Potential Evapotranspiration (PET)** (mm)	**Correction Factor**[2]	**Adjusted Potential Evapotranspiration (APET)** (mm)	**Total Precipitation (P)** (mm)[1]	**P - APET** (mm)	**APET- P** (mm)
January	-7.2	0.0	0.4924	0.0	0.81	0	54.7	54.7	0.0
February	-6.4	0.0	0.4924	0.0	0.82	0	44.7	44.7	0.0
March	-1.3	0.0	0.4924	0.0	1.02	0	47.9	47.9	0.0
April	5.6	1.2	0.5136	25.7	1.13	29	61.6	32.5	0.0
May	12.3	3.9	0.5613	59.6	1.27	76	73.9	0.0	1.8
June	17.5	6.7	0.6086	86.8	1.29	112	83	0.0	29.0
July	20.1	8.2	0.6348	100.7	1.3	131	77.9	0.0	53.0
August	19.2	7.7	0.6256	95.9	1.2	115	82.6	0.0	32.4
September	15.3	5.4	0.5877	75.2	1.04	78	72.3	0.0	5.9
October	8.9	2.4	0.5349	42.2	0.95	40	65.4	25.3	0.0
November	2.7	0.4	0.4994	11.8	0.8	9	71.8	62.3	0.0
December	-3.2	0.0	0.4924	0.0	0.76	0	57.6	57.6	0.0
TOTAL		**35.9**	**1.07**			**590.4**	**793.4**	**325.08**	**122.10**

TOTAL WATER DEFICIT = 122.10 mm
TOTAL WATER SURPLUS (SURPLUS - DEFICIT) = 202.98 mm

NOTES: 1. Precipitation and Temperature data from the EGBERT STATION (Station No.6110) Environment Canada Station Data
2. Latitude adjustment factors determined based on site latitude assuming 12 hours of sunlight per day for 30 days

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Pre-Development Water Balance - Wetland 1

Thornthwaite & Mather Method

Project Name: Ida Street
Project Number: 1060-5590
Created By: HR
Checked By: NCO
Date: 5/15/2024

Project Name: **Ida Street**
Location: **Dundalk**

Catchment Summary

TOTAL SITE AREA (m^2)	121,100	
Land Description Factors	**Pre-S1**	**Pre-G2**
Parcels Description (Landuse, Soil Type)	Fields	Meadow
Topography - flat/rolling/hilly	0.2	0.2
Topography - forested	0.0	0.0
Soils	0.4	0.4
Cover - cultivated/woodland	0.1	0.1
Sum (Infiltration Factor)	0.7	0.7
Soil Moisture Capacity (mm)	175	200
Catchment Area (m^2)	105,400	15,700
Impervious Coefficent	0	0
Land Use	**Pre-S1**	**Pre-G2**
Total Impervious Area (m^2)	0	0
Percentage of Impervious Area (%)	0%	0%
Total Pervious Area (m^2)	105,400	15,700
Percentage of Pervious Area (%)	100%	100%

Catchment ID	**Pre-S1**												
Evapotranspiration/Evaporation Analysis													
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Precipitation (P)	55	45	48	62	74	83	78	83	72	65	72	58	**793**
Adjusted Potential Evapotranspiration (APET)	0	0	0	29	76	112	131	115	78	40	9	0	590
P-APET	55	45	48	33	-2	-29	-53	-32	-6	25	62	58	203
Change in Storage	0	0	0	0	-2	-29	-53	-32	-6	25	62	34	122
Storage (S) (mm)	175	175	175	175	173	144	91	59	53	78	141	175	
Pervious Area Infiltration/Runoff Analysis													
Water Surplus (mm)	55	45	48	33	0	0	0	0	0	0	0	23	203
Potential Infiltration (I) (mm)	38	31	34	23	0	0	0	0	0	0	0	16	142
Potential Direct Surface Water Runoff (R) (mm)	16	13	14	10	0	0	0	0	0	0	0	7	61
Impervious Area Evapotranspiration/Evaporation/Runoff Analysis													
Impervious Evapotranspiration/Evaporation (mm)	0	0	0	9	11	12	12	12	11	10	11	0	88
Impervious Runoff (mm)	55	45	48	52	63	71	66	70	61	56	61	58	**705**
Combined Water Balance													
Pervious ET (m^3)	0	0	0	3065	7978	11805	13792	12123	8246	4225	996	0	**62230**
Impervious ET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Runoff (m^3)	1730	1413	1515	1028	0	0	0	0	0	0	0	732	**6418**
Impervious Runoff (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Infiltration (m^3)	4036	3298	3534	2399	0	0	0	0	0	0	0	1709	**14976**
Impervious Infiltration (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**

Catchment ID	**Pre-G2**												
Evapotranspiration/Evaporation Analysis													
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Precipitation (P)	55	45	48	62	74	83	78	83	72	65	72	58	**793**
Adjusted Potential Evapotranspiration (APET)	0	0	0	29	76	112	131	115	78	40	9	0	590
P-APET	55	45	48	33	-2	-29	-53	-32	-6	25	62	58	203
Change in Storage	0	0	0	0	-2	-29	-53	-32	-6	25	62	34	122
Storage (S) (mm)	175	175	175	175	173	144	91	59	53	78	141	175	
Pervious Area Infiltration/Runoff Analysis													
Water Surplus (mm)	55	45	48	33	0	0	0	0	0	0	0	23	203
Potential Infiltration (I) (mm)	38	31	34	23	0	0	0	0	0	0	0	16	142
Potential Direct Surface Water Runoff (R) (mm)	16	13	14	10	0	0	0	0	0	0	0	7	61
Impervious Area Evapotranspiration/Evaporation/Runoff Analysis													
Impervious Evapotranspiration/Evaporation (mm)	0	0	0	9	11	12	12	12	11	10	11	0	88
Impervious Runoff (mm)	55	45	48	52	63	71	66	70	61	56	61	58	**705**
Combined Water Balance													
Pervious ET (m^3)	0	0	0	457	1188	1758	2054	1806	1228	629	148	0	**9270**
Impervious ET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Runoff (m^3)	258	211	226	153	0	0	0	0	0	0	0	109	**956**
Impervious Runoff (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Infiltration (m^3)	601	491	526	357	0	0	0	0	0	0	0	255	**2231**
Impervious Infiltration (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**

Pre-Development Water Balance Summary

Pre-Development Evapotranspiration	71500	m^3/yr	590.4	mm/yr
Pre-Development Infiltration	17206	m^3/yr	142.1	mm/yr
Pre-Development Runoff	7374	m^3/yr	60.9	mm/yr

NOTES:

1. According to Existing Wetland Drainage Plan.
2. The infiltration factor is determined using the MECP Methodology outlined in Stormwater Drainage Manual 2003.
3. Additional assumptions:
   > Surplus water is unavailable for runoff and recharge in months where water losses from AET exceed precipitation inputs.
   > Soil Moisture Capacity is at a maximum in April.

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Post-Development Water Balance - Wetland 1

Thornthwaite & Mather Method

Project Name: Ida Street
Project Number: 1060-5590
Created By: HR
Checked By: NCO
Date: 5/15/2024

Project Name: **Ida Street**
Location: **Dundalk**

Catchment Summary

TOTAL SITE AREA (m^2)	115,000		
Land Description Factors	**UCTL-SV2**	**POST-S1**	**SWMF-SV**
Parcels Description (Landuse, Soil Type)	Rear Lots	Single Family homes, park block	SWMF
Topography - flat/rolling/hilly	0.2	0.2	0.2
Topography - forested	0	0	0
Soils	0.4	0.4	0.4
Cover - cultivated/woodland	0	0	0
Sum (Infiltration Factor)	0.6	0.6	0.6
Soil Moisture Capacity (mm)	100	100	100
Catchment Area (m^2)	4,100	98,100	12,800
Impervious Coefficent	50%	58%	50%
Land Use	**UCTL-SV2**	**POST-S1**	**SWMF-SV**
Total Impervious Area (m^2)	2050	56898	6400
Percentage of Impervious Area (%)	50%	58%	50%
Total Pervious Area (m^2)	2,050	41,202	6,400
Percentage of Pervious Area (%)	50%	42%	50%

Catchment ID	**UCTL-SV2**												
Evapotranspiration/Evaporation Analysis													
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Precipitation (P)	55	45	48	62	74	83	78	83	72	65	72	58	**793**
Adjusted Potential Evapotranspiration (APET)	0	0	0	29	76	112	131	115	78	40	9	0	590
P-APET	55	45	48	33	-2	-29	-53	-32	-6	25	62	58	203
Change in Storage	0	0	0	0	-2	-29	-53	-32	-6	25	62	34	122
Storage (S) (mm)	100	100	100	100	98	69	16	-16	-22	3	66	100	
Pervious Area Infiltration/Runoff Analysis													
Water Surplus (mm)	55	45	48	33	0	0	0	0	0	0	0	23	203
Potential Infiltration (I) (mm)	33	27	29	20	0	0	0	0	0	0	0	14	122
Potential Direct Surface Water Runoff (R) (mm)	22	18	19	13	0	0	0	0	0	0	0	9	81
Impervious Area Evapotranspiration/Evaporation/Runoff Analysis													
Impervious Evapotranspiration/Evaporation (mm)	0	0	0	9	11	12	12	12	11	10	11	0	88
Impervious Runoff (mm)	55	45	48	52	63	71	66	70	61	56	61	58	**705**
Combined Water Balance													
Pervious ET (m^3)	0	0	0	60	155	230	268	236	160	82	19	0	**1210**
Impervious ET (m^3)	0	0	0	19	23	26	24	25	22	20	22	0	**181**
Pervious Runoff (m^3)	45	37	39	27	0	0	0	0	0	0	0	19	**166**
Impervious Runoff (m^3)	112	92	98	107	129	145	136	144	126	114	125	118	**1446**
Pervious Infiltration (m^3)	67	55	59	40	0	0	0	0	0	0	0	28	**250**
Impervious Infiltration (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**

Catchment ID	**POST-S1**												
Evapotranspiration/Evaporation Analysis													
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Precipitation (P)	55	45	48	62	74	83	78	83	72	65	72	58	**793**
Adjusted Potential Evapotranspiration (APET)	0	0	0	29	76	112	131	115	78	40	9	0	590
P-APET	55	45	48	33	-2	-29	-53	-32	-6	25	62	58	203
Change in Storage	0	0	0	0	-2	-29	-53	-32	-6	25	62	34	122
Storage (S) (mm)	100	100	100	100	98	69	16	-16	-22	3	66	100	
Pervious Area Infiltration/Runoff Analysis													
Water Surplus (mm)	55	45	48	33	0	0	0	0	0	0	0	23	203
Potential Infiltration (I) (mm)	33	27	29	20	0	0	0	0	0	0	0	14	122
Potential Direct Surface Water Runoff (R) (mm)	22	18	19	13	0	0	0	0	0	0	0	9	81
Impervious Area Evapotranspiration/Evaporation/Runoff Analysis													
Impervious Evapotranspiration/Evaporation (mm)	0	0	0	9	11	12	12	12	11	10	11	0	88
Impervious Runoff (mm)	55	45	48	52	63	71	66	70	61	56	61	58	**705**
Combined Water Balance													
Pervious ET (m^3)	0	0	0	1198	3118	4615	5391	4739	3223	1652	389	0	**24327**
Impervious ET (m^3)	0	0	0	526	631	708	665	705	617	558	613	0	**5023**
Pervious Runoff (m^3)	901	737	789	536	0	0	0	0	0	0	0	382	**3345**
Impervious Runoff (m^3)	3112	2543	2725	2979	3574	4014	3768	3995	3497	3163	3472	3277	**40120**
Pervious Infiltration (m^3)	1352	1105	1184	804	0	0	0	0	0	0	0	573	**5018**
Impervious Infiltration (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**

Catchment ID	**SWMF-SV**												
Evapotranspiration/Evaporation Analysis													
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Precipitation (P)	55	45	48	62	74	83	78	83	72	65	72	58	**793**
Adjusted Potential Evapotranspiration (APET)	0	0	0	29	76	112	131	115	78	40	9	0	590
P-APET	55	45	48	33	-2	-29	-53	-32	-6	25	62	58	203
Change in Storage	0	0	0	0	-2	-29	-53	-32	-6	25	62	34	122
Storage (S) (mm)	100	100	100	100	98	69	16	-16	-22	3	66	100	
Pervious Area Infiltration/Runoff Analysis													
Water Surplus (mm)	55	45	48	33	0	0	0	0	0	0	0	23	203
Potential Infiltration (I) (mm)	33	27	29	20	0	0	0	0	0	0	0	14	122
Potential Direct Surface Water Runoff (R) (mm)	22	18	19	13	0	0	0	0	0	0	0	9	81
Impervious Area Evapotranspiration/Evaporation/Runoff Analysis													
Impervious Evapotranspiration/Evaporation (mm)	0	0	0	9	11	12	12	12	11	10	11	0	88
Impervious Runoff (mm)	55	45	48	52	63	71	66	70	61	56	61	58	**705**
Combined Water Balance													
Pervious ET (m^3)	0	0	0	186	484	717	837	736	501	257	60	0	**3779**
Impervious ET (m^3)	0	0	0	59	71	80	75	79	69	63	69	0	**565**
Pervious Runoff (m^3)	140	114	123	83	0	0	0	0	0	0	0	59	**520**
Impervious Runoff (m^3)	350	286	307	335	402	452	424	449	393	356	391	369	**4513**
Pervious Infiltration (m^3)	210	172	184	125	0	0	0	0	0	0	0	89	**779**
Impervious Infiltration (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**

Post-Development Water Balance Summary

Post-Development Evapotranspiration	35084	m^3/yr	305.1	mm/yr	0.0097	L/s
Post-Development Infiltration	6047	m^3/yr	52.6	mm/yr	0.0017	L/s
Post-Development Runoff	1612	m^3/yr	14.0	mm/yr	0.0004	L/s

NOTES:

1. According to the Proposed Wetland Drainage Plan.
2. The infiltration factor is determined using the MECP Methodology outlined in SWM 2003 Manual.
3. Additional assumptions:
    - > Surplus water is unavailable for runoff and recharge in months where water losses from AET exceed precipitation inputs.
    - > Soil Moisture Capacity is at a maximum in April.

Water Balance Summary - Wetland 1

Thornthwaite & Mather Method

Project Name: Ida Street
Project Number: 1060-5590
Created By: HR
Checked By: NCO
Date: 5/15/2024

Project Name: **Ida Street**
Location: **Dundalk**

Characteristic	Pre-Development	Post-Development	% Change (Pre to Post)
Precipitation (mm/yr)	793.40	793.40	0%
Water Surplus (mm/yr)	202.98	202.98	0%
Evapotranspiration (mm/yr)	590.42	305.08	-48%
Natural Infiltration (mm/yr)	142.08	52.58	-63%
Total Infiltration (mm/yr)	142.08	52.58	-63%
Total Runoff (mm/yr)	60.89	14.02	-77%

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Water Balance Summary - Wetland 1

Thornthwaite & Mather Method

Project Name: Ida Street
Project Number: 1060-5590
Created By: HR
Checked By: NCO
Date: 5/15/2024

Project Name: **Ida Street**
Location: **Dundalk**

Characteristic	Pre-Development	Post-Development	Change (Pre to Post)	% Change (Pre to Post)
Precipitation (m^3/yr)	96081	91241		-5%
Evapotranspiration (m^3/yr)	71500	35084		-51%
Total Infiltration (m^3/yr)	17206	6047	11160	-65%
Total Runoff (m^3/yr)	7374	1612	5762	-78%
Total Runoff + Infiltration (m^3/yr)	24581	7659	16922	-69%

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Project: Ida Street
Project No: 1060-5590
Modelled By: HR/NCO
Date Created: 2024.05.10

Design Storm Determination
Project Name: Ida Street
Water Balance/Water Budget Assessment

Internal Area	11.09	ha
Internal Infiltration Deficit	16,922	m^3/yr
Internal Infiltration Target	153	mm/yr

Days with Precipitation (From Climate Data)

	Apr	May	Jun	Jul	Aug	Sep	Oct	**Total**
>= 0.2 mm	12.5	13.5	12.4	12.8	12.9	13.3	14.8	**92**
>= 5 mm	8.8	9.1	8.7	8.8	8.4	9.2	9.8	**63**
>= 10 mm	3.7	5.1	4.5	4.5	4.5	4.8	4.2	**31**
>= 25 mm	1.8	2.3	3	2.7	2.9	2.3	1.8	**17**

Available Precipitation

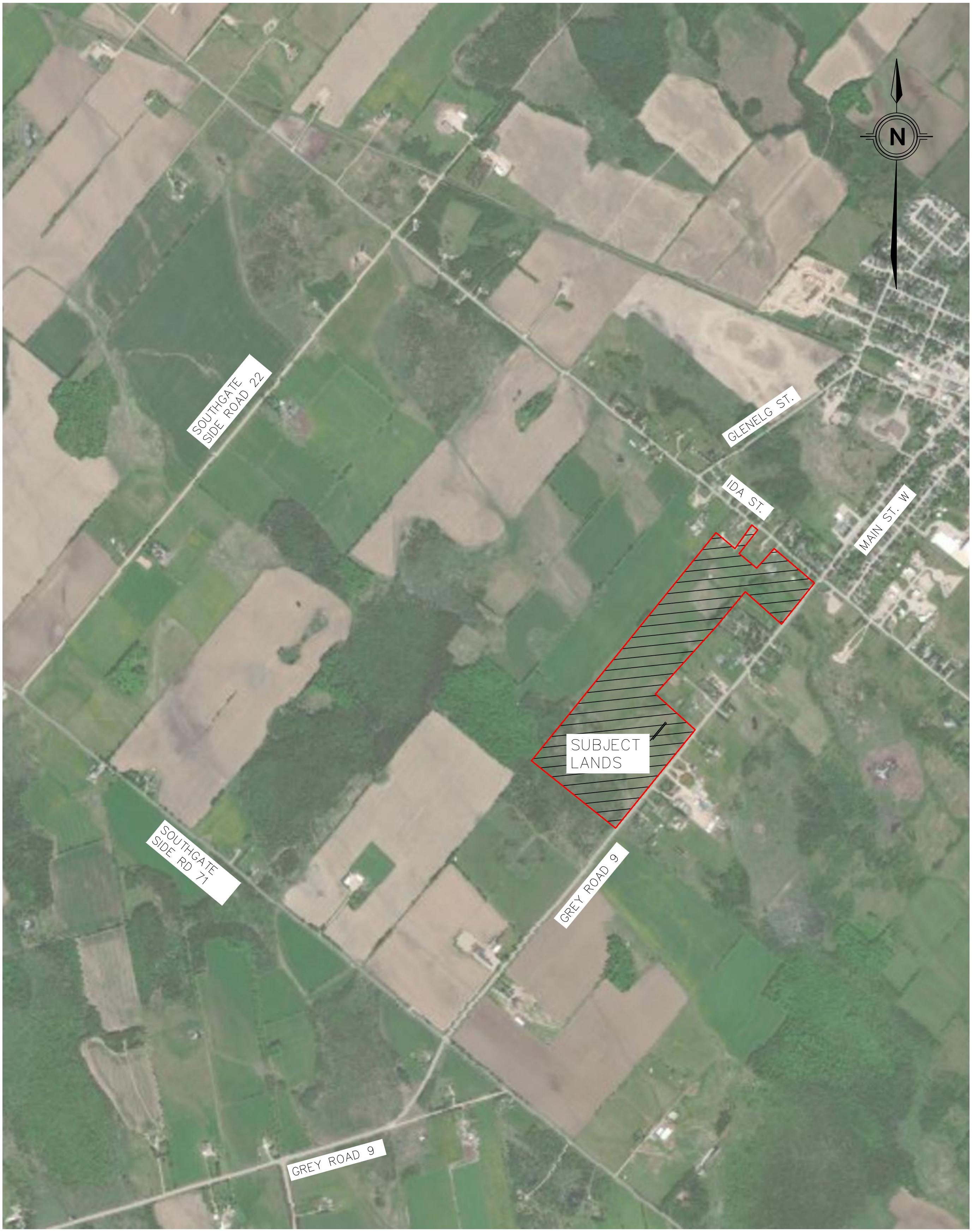
Storm Event (mm)	Total Days Per Year	Incremental Precipitation (mm/yr)	Cumulative Precipitation (mm/yr)
0.2	92	18.4	18.4
5	63	314.0	332.4
10	31	313.0	645.4
25	17	420.0	1065.4
Total	**203**	**1065.4**	

Annual Mitigation Provided by SWM Pond Outlet to Wetland

Area of Contributing to SWMFSV	110900	m²	
Depth of Rainfall Directed to Wetland	2.20	mm/event	Approx. runoff from 3mm event
Equivalent Annual Cumulative Precipitation:	149	mm/yr	
Total Proposed Volume Directed to Wetland from SWMF-SV	**16,554**	**m^3/yr**	
Total Proposed Volume Directed to Wetland (SWMF-SV + POST-S1 + UCTL-SV2)	**24,213**	**m^3/yr**	(16,554 +7,659 m^3/yr)

Characteristic	**Pre-Development**	**Post-Development**	**Post-Development with Mitigation Measures**	**% Change (Pre to Post) with Mitigation**
Total Runoff + Infiltration (m^3/yr)	24581	7659	24213	-1%

LIST OF FIGURES



Legend

▨ = SUBJECT LANDS

Project

IDA STREET DEVELOPMENT
TOWN OF DUNDALK

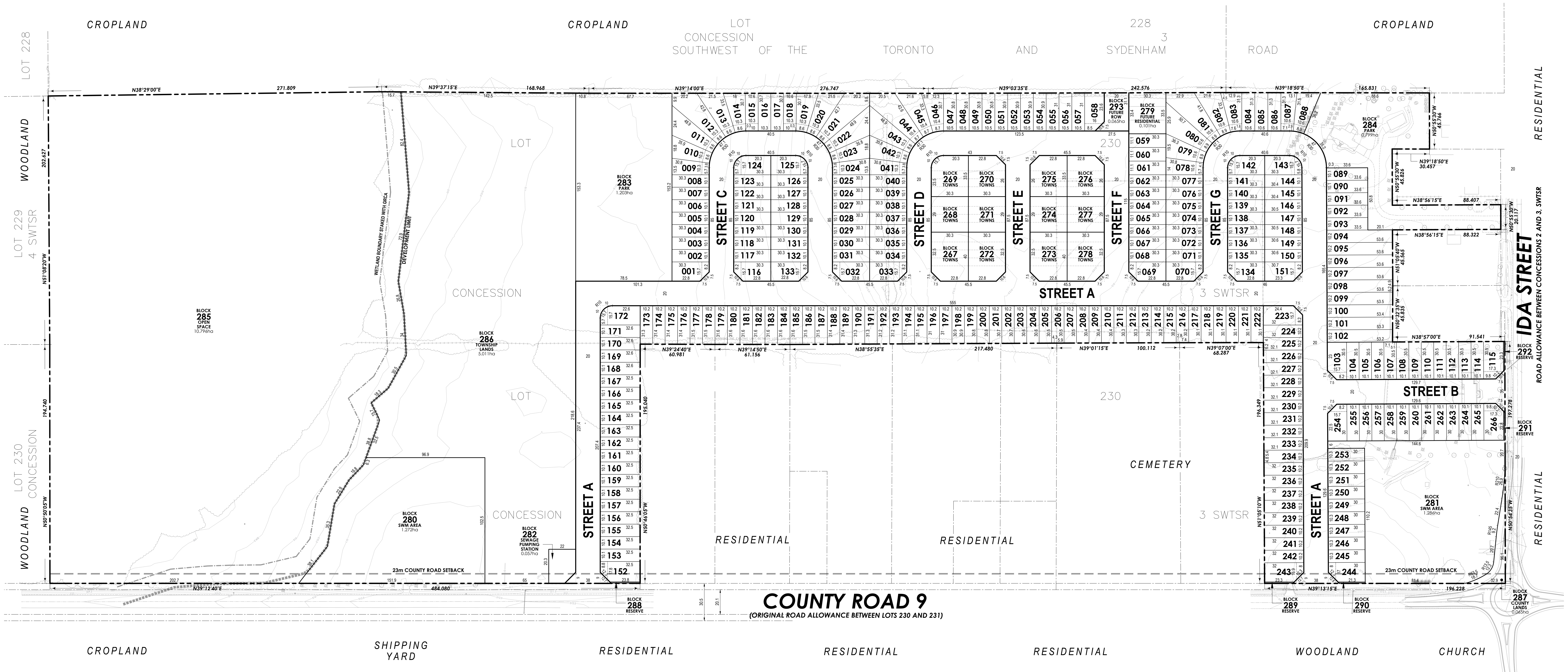
Drawing

SITE LOCATION PLAN

CROZIER
CONSULTING ENGINEERS

70 Huron Street, Suite 100
Collingwood, ON, L9Y 4L4
705-446-3510
www.cfcrozier.ca

Drawn By	R.D.M	Design By	J.L.A/A.M.	Project	1060–5590
Scale	NTS	Date	2024/05/10	Check By	
				Drawing	FIG. 1



LEGAL DESCRIPTION

PART OF LOTS 229 AND 230
CONCESSION 3, SOUTHWEST OF THE TORONTO AND SYDENHAM ROAD
GEOGRAPHIC TOWNSHIP OF PROTON
TOWNSHIP OF SOUTHGATE
COUNTY OF GREY

OWNER'S CERTIFICATE

I HEREBY AUTHORIZE MACNAUGHTON HERMSEN BRITTON CLARKSON PLANNING LIMITED TO SUBMIT THIS PLAN FOR APPROVAL.

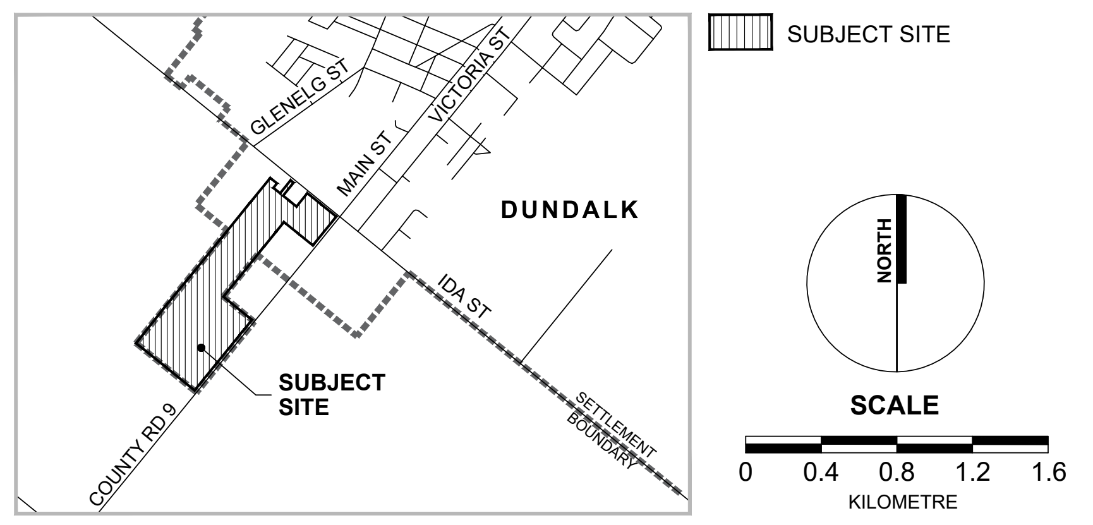
DATE: ____________________ ____________________

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED ON THIS PLAN AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN.

DATE: ____________________ ____________________

KEY PLAN



LEGEND

- PROJECT BOUNDARY LINE
- RIGHT OF WAY LINE
- BLOCK LINE
- LOT LINE
- PARCEL FABRIC

REVISION No.	DATE	ISSUED / REVISION	BY

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT R.S.O. 1990 C.P.13 AS AMENDED

A. AS SHOWN
B. AS SHOWN
C. AS SHOWN
D. 321 SINGLE RESIDENTIAL LOTS
E. AS SHOWN
F. AS SHOWN
G. AS SHOWN
H. MUNICIPAL WATER SUPPLY
I. SANDY SILT/SILTY SAND DEPOSITS WITH LOCALIZED SAND LAYERS
J. AS SHOWN
K. ALL SERVICES AS REQUIRED (WATER, SANITARY, STORMWATER, HYDRO)
L. AS SHOWN

MHBC | PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
113 COLLIER STREET, BARRIE, ON, L4M 1H2 | P: 705.728.0045 | WWW.MHBCPLAN.COM

STAMP

DATE	APR. 30, 2024
FILE No.	15184AC
SCALE	1:1,800 (ARCH D)
DRAWN BY	M.M.
CHECKED BY	K.C.
OTHER	

PROJECT

FLATO IDA
FLATO IDA DUNDALK INC.
3621 HIGHWAY 7 EAST, SUITE 503
MARKHAM, ON L3R 0G6
P:(905) 479-9292 F:(905) 429-9165
WWW.FLATOGROUP.COM

NORTH

FILE NAME **DRAFT PLAN OF SUBDIVISION**

DWG No. **1 of 1**

SCALE BAR
0 9 18 27 36 45 60 90 135 180m
MEASUREMENTS SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

N:\Southgate\752212 Ida Street, Dundalk – 15184AC\Drawings\Draft Plan\CAD\15184AC – Draft Plan – 2024–04–30.dwg

LAND USE SUMMARY

LAND USE	LOT / BLOCK #	UNITS	AREA
SINGLE DETACHED - 10.1m LOTS	001-266	266	9.454ha
TOWNHOUSE - 6.5m UNITS	267-278	52	1.218ha
FUTURE RESIDENTIAL	279	3	0.101ha
STORMWATER MANAGEMENT AREA	280, 281		2.558ha
SEWAGE PUMPING STATION	282		0.057ha
PARK	283, 284		2.002ha
OPEN SPACE	285		10.796ha
TOWNSHIP LANDS	286		5.011ha
COUNTY LANDS	287		0.065ha
0.3m RESERVE	288-292		0.003ha
FUTURE RIGHT OF WAY	293		0.065ha
RIGHT OF WAY	A, B, C, D, E, F, G		4.610ha
TOTALS		321	35.940ha

P/L
3:1
WALL
SWALE
HEIGHT OF WALL VARIES
MAX HEIGHT = 2.2m
RETAINING WALL GRADING DETAIL NTS.
WETLAND BOUNDARY
15m WETLAND BUFFER
SEE RETAINING WALL - SWALE DETAIL ON THIS FIGURE
PROPOSED RETAINING WALL TW: 513.46 BW: 512.54 HEIGHT: 0.92m
PROPOSED RETAINING WALL TW: 515.92 BW: 514.74 HEIGHT: 1.2m
PROPOSED RETAINING WALL TW: 516.18 BW: 513.99 HEIGHT: 2.2m
PROPOSED 20m ROW FOR EXTERNAL AREA CONVEYANCE
PROPOSED RETAINING WALL TW: 515.74 BW: 514.34 HEIGHT: 1.4m
PROPOSED RETAINING WALL TW: 512.77 BW: 512.55 HEIGHT: 0.22m
PROPOSED RETAINING WALL TW: 513.61 BW: 513.01 HEIGHT: 0.60m
POTENTIAL PUMPING STATION (LOCATION TO BE CONFIRMED)
EX. 700mm DIA. CSP CULVERT W INV. 510.94 E INV. 510.77
COUNTY ROAD 9
MAIN STREET W.
VICTORIA STREET
N
DUNDALK
IDA RD
SUBJECT PROPERTY
COUNTY RD 9
KEY PLAN
SCALE: N.T.S.
50 0m 50 100 150
SCALE: 1:2000

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BENCHMARKS

SURVEY COMPLETED BY SCHAEFFER DZALDOV BENNETT LTD. ONTARIO LAND SURVEYORS JUNE 24,2020 AND AUGUST 30,2022.

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE REFERRED TO ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY MONUMENT No. 00820048005 HAVING A PUBLISHED ELEVATION OF 525.577 METRES.

EXTERNAL SITE CONTOURS NORTH OF THE SITE RETRIEVED FROM SOUTH WESTERN ONTARIO ORTHOPHOTOGRAPHY PROJECT (SWOOP, 2015).

Town

Township of Southgate

No.	ISSUE	DATE: MMM/DD/YYYY
0	ISSUED FOR DRAFT PLAN APPROVAL	MAY/10/2024

Engineer

Engineer

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

Project

IDA STREET DEVELOPMENT
TOWNSHIP OF SOUTHGATE

Drawing

PRELIMINARY GRADING PLAN

CROZIER
CONSULTING ENGINEERS

Drawn By R.D.M.	Design By J.L.A./A.M.	Project 1060–5590	
Check By B.H.	Check By J.L.A.	Scale	Drawing FIG 3

LEGEND

- 242.50 / 242 EXISTING CONTOUR
- PROPOSED WATERMAIN
- PROPOSED SANITARY FORCEMAIN
- PROPOSED SANITARY SEWER
- PROPOSED EXTERNAL SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED STORM SEWER
- EXISTING WATERMAIN
- PROPERTY BOUNDARY

DUNDALK
IDA RD
SUBJECT PROPERTY
COUNTY RD 9
KEY PLAN
SCALE: N.T.S.
N
GLENELG STREET
IDA STREET
WETLAND BOUNDARY
15m WETLAND BUFFER
ENVIRONMENTAL PROTECTION
TOWNSHIP DEVELOPMENT LANDS
PARK
PARK
STM STUBS FOR FUTURE CONNECTION
SAN STUBS FOR FUTURE CONNECTION
WATERMAIN STUB FOR FUTURE CONNECTION
CONNECT TO GRAVITY SEWER
CONNECT TO 300mmø SANITARY STUB 27m NORTH OF VICTORIA STREET.
CONNECT TO EXISTING WATERMAIN ON IDA STREET.
PROPOSED WATERMAIN LOOP TO IDA STREET
PROPOSED PUMPING STATION (LOCATION TO BE CONFIRMED)
COUNTY ROAD 9
EX. 700mm DIA. CSP CULVERT W INV. 510.94 E INV. 510.77
MAIN STREET W.
CONNECT TO EXISTING WATERMAIN ON IDA STREET
PROPOSED 300mm DIA. SANITARY SEWER EXTENSION
EX. 300mm DIA. SANITARY STUB
VICTORIA STREET
50 0m 50 100 150
SCALE: 1:2000

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Town
Township of Southgate

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Engineer

Engineer

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

Project
IDA STREET DEVELOPMENT
TOWNSHIP OF SOUTHGATE

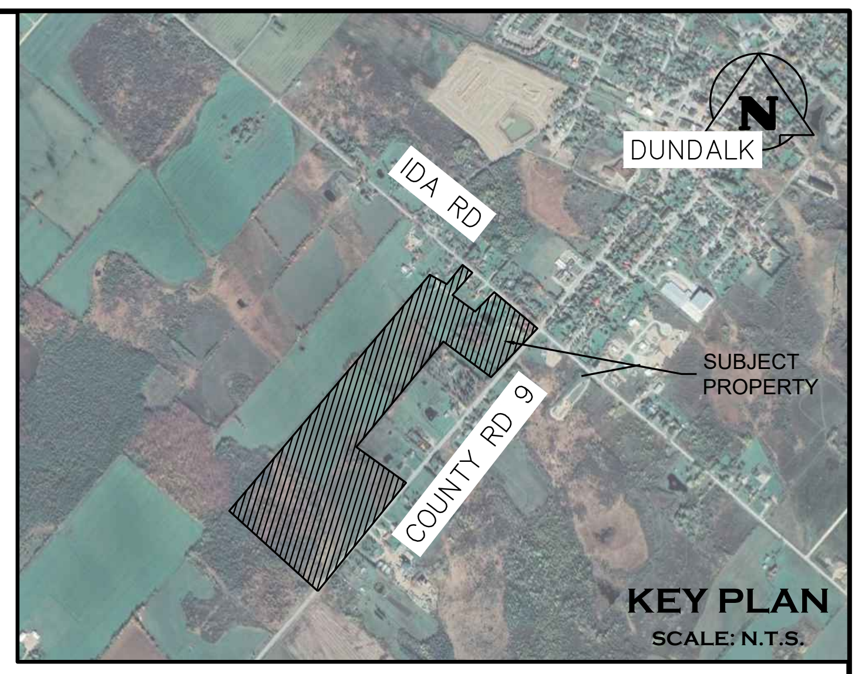
Drawing
PRELIMINARY GENERAL SERVICING PLAN

CROZIER
CONSULTING ENGINEERS

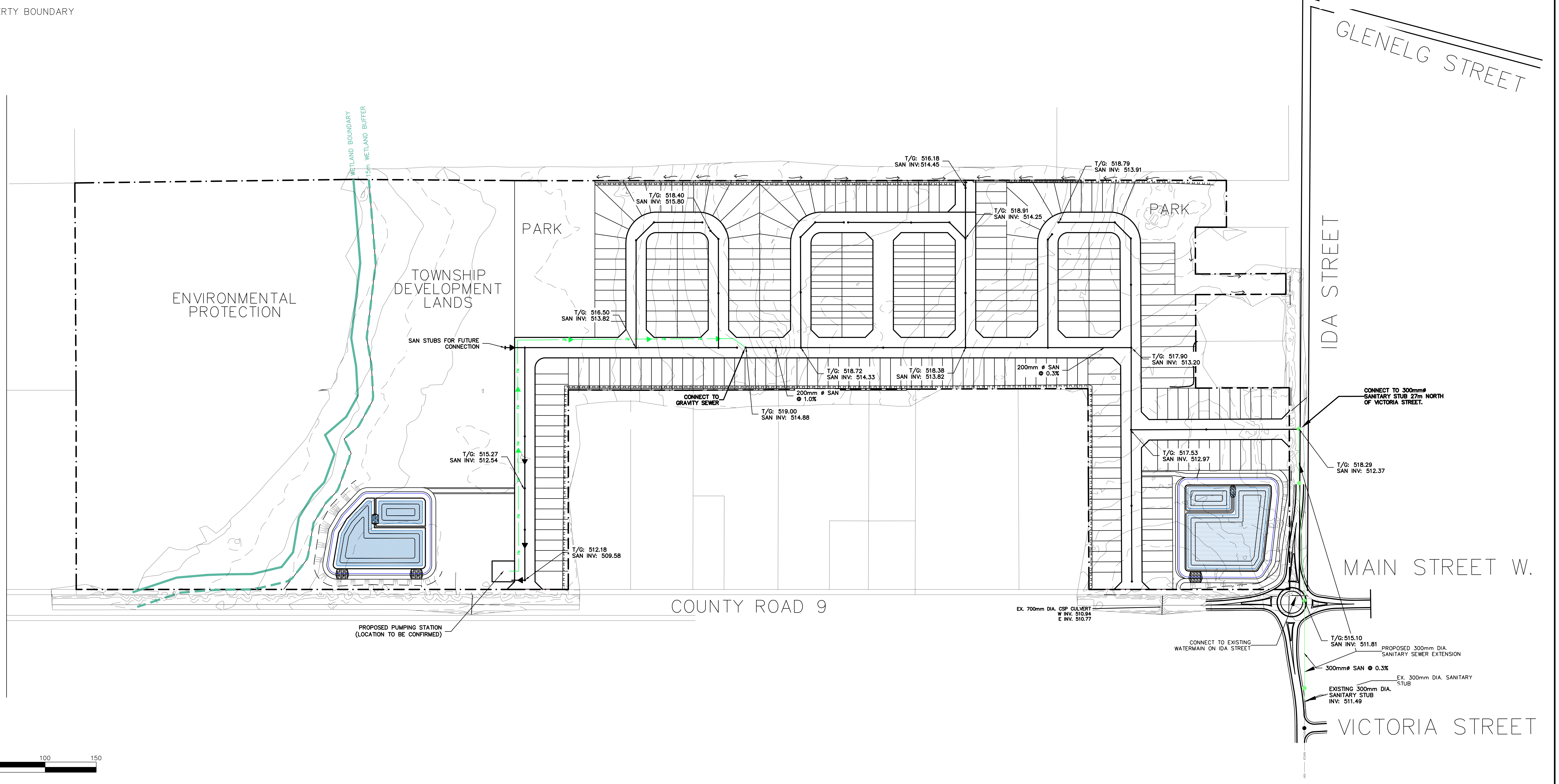
Drawn By R.D.M.	Design By J.L.A./A.M.	Project 1060–5590	
Check By B.H.	Check By J.L.A.	Scale 1:2000	Drawing FIG 4

LEGEND

- 242.50 / 242 EXISTING CONTOUR
- PROPOSED WATERMAIN
- PROPOSED SANITARY FORCEMAIN
- PROPOSED SANITARY SEWER
- PROPOSED EXTERNAL SANITARY SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- PROPERTY BOUNDARY



KEY PLAN
SCALE: N.T.S.



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Town

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Engineer

Engineer

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

Project
IDA STREET DEVELOPMENT
TOWNSHIP OF SOUTHGATE

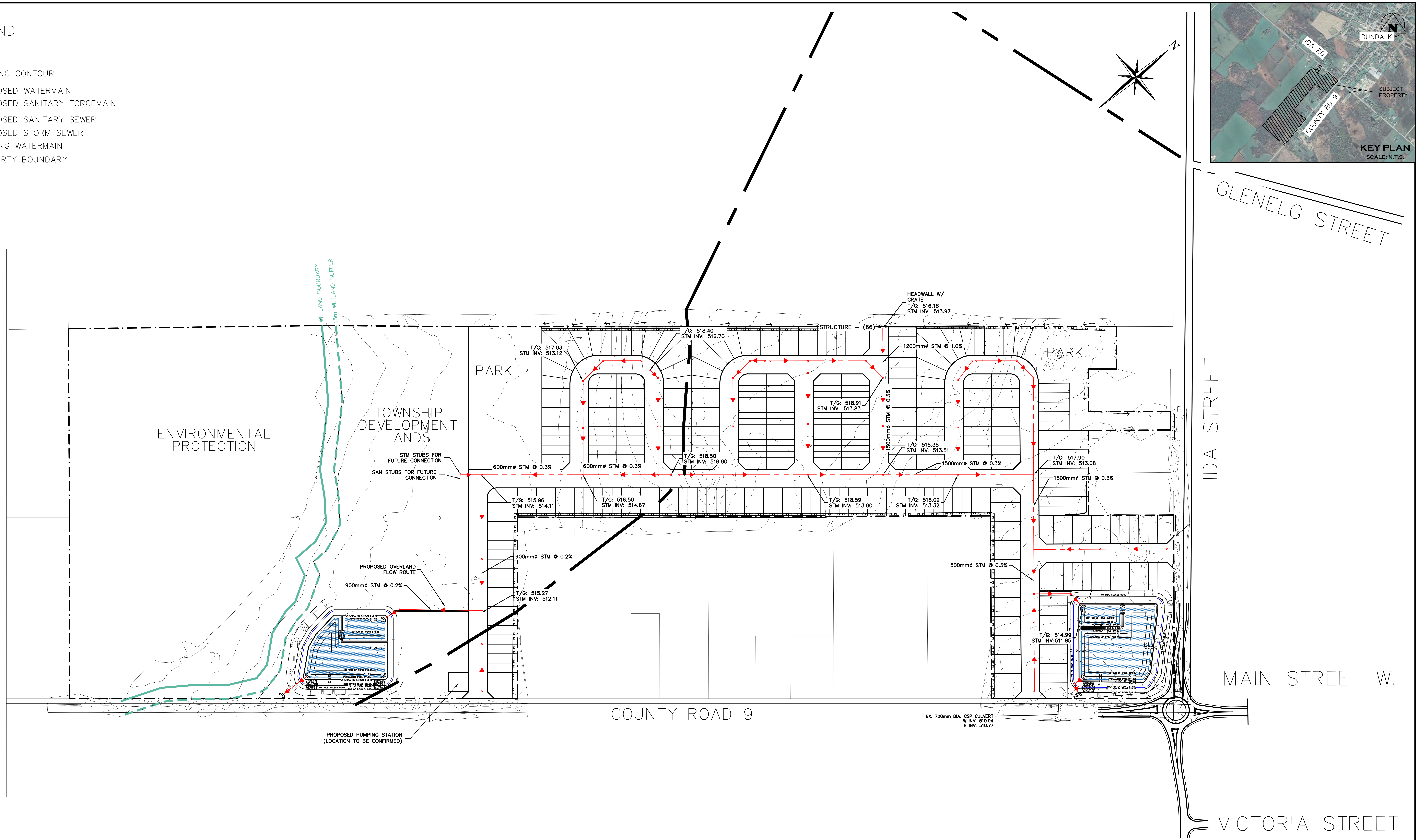
Drawing
PRELIMINARY SANITARY SEWER PLAN
LAYOUT & INVERTS

CROZIER
CONSULTING ENGINEERS

Drawn By R.D.M.	Design By J.L.A./A.M.	Project 1060–5590	
Check By B.H.	Check By J.L.A.	Scale 1:2000	Drawing FIG 4A

LEGEND

242.50 / 242 — EXISTING CONTOUR
PROPOSED WATERMAIN
PROPOSED SANITARY FORCEMAIN
PROPOSED SANITARY SEWER
PROPOSED STORM SEWER
EXISTING WATERMAIN
PROPERTY BOUNDARY



50 0m 50 100 150
SCALE: 1:2000

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Engineer
Engineer

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

Project
IDA STREET DEVELOPMENT
TOWNSHIP OF SOUTHGATE

Drawing
PRELIMINARY STORM SEWER PLAN
LAYOUT & INVERTS

CROZIER
CONSULTING ENGINEERS

Drawn By R.D.M.
Design By J.L.A./A.M.
Project 1060–5590
Check By B.H.
Check By J.L.A.
Scale 1:2000
Drawing FIG 4B

ENVIRONMENTAL PROTECTION
WETLAND BOUNDARY
15m WETLAND BUFFER
EXT-1 14.5 | 77
PRE-S1 10.54 | 77.4
PRE-G3 7.36 | 75.9
PRE-G4 5.75 | 74.2
PRE-G2 1.57 | 71.0
SVCA
GRCA
GLENELG STREET
IDA STREET
MAIN STREET W.
COUNTY ROAD 9
KEY PLAN
SCALE: N.T.S.
DUNDALK
IDA RD
COUNTY RD 9
SUBJECT PROPERTY
N
50 0m 50 100 150
SCALE: 1:2000

LEGEND

242.50 / 242 EXISTING CONTOUR

➡ OVERLAND FLOW DIRECTION

DRAINAGE CATCHMENT AREAS

GRCA/SVCA AREA BOUNDARY

EXTERNAL CATCHMENT BOUNDARY

PROPERTY LINE

PRE-1 2.3 | 76.0 CATCHMENT I.D.
AREA (ha) | CURVE NUMBER (NASHYD)

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Engineer

Engineer

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Project
IDA STREET DEVELOPMENT
TOWNSHIP OF SOUTHGATE

Drawing
PREDEVELOPMENT DRAINAGE PLAN

CROZIER
CONSULTING ENGINEERS

Drawn By R.D.M.	Design By J.L.A./A.M.	Project 1060-5590	
Check By B.H.	Check By J.L.A.	Scale 1:2000	Drawing FIG 5

LEGEND

242.50 / 242	EXISTING CONTOUR
⇨	OVERLAND FLOW DIRECTION
▬ ▬ ▬	DRAINAGE CATCHMENT AREAS
▬ · ▬	GRCA/SVCA AREA BOUNDARY
▬ ▬ ▬	EXTERNAL CATCHMENT BOUNDARY
▬ · —	PROPERTY LINE
PRE-1 2.3 | 25.0% 76.0	CATCHMENT I.D. AREA (ha) | PERCENT IMPERVIOUS (STANDHYD) | CURVE NUMBER (NASHYD)

DUNDALK
IDA RD
COUNTY RD 9
SUBJECT PROPERTY
N
KEY PLAN
SCALE: N.T.S.
N
SVCA
GRCA
GLENELG STREET
EXT-1
14.50 | 77
UCTL-SV2
0.41 | 50%
UCTL-GR2
0.76 | 50%
PARK-GR
0.43 | 75.0
WETLAND BOUNDARY
5m WETLAND BUFFER
POST-S1
9.81 | 58%
POST-G2
9.66 | 68%
ENVIRONMENTAL PROTECTION
UCTL-GR
0.83 | 50%
UCTL-SV
0.61 | 50%
SWMF-SV
1.28 | 50%
SWMF-GR
1.28 | 50%
POTENTIAL PUMPING STATION
(LOCATION TO BE CONFIRMED)
MAIN STREET W.
SVCA
GRCA
50 0m 50 100 150
SCALE: 1:2000

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Township of Southgate

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Engineer

Engineer

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

Project
IDA STREET DEVELOPMENT
TOWNSHIP OF SOUTHGATE

Drawing
POST DEVELOPMENT DRAINAGE PLAN

CROZIER
CONSULTING ENGINEERS

Drawn By R.D.M.	Design By J.L.A./A.M.	Project 1060–5590	
Check By B.H.	Check By J.L.A.	Scale 1:2000	Drawing FIG 6

LEGEND
242.50 / 242 EXISTING CONTOUR
PROPOSED STORM SEWER
PROPERTY BOUNDARY
+XXX.XX PR. ELEVATION
+XXX.XX PR. ELEVATION (MATCH EX. ELEVATION)
517.53
518.29
514.99
516.62
514.99
515.94
4m WIDE ACCESS ROAD
516.63
515.26
BOTTOM OF POOL 509.80
511.20
PERMANENT POOL 511.80
EXT DET 512.30
PERMANENT POOL 511.80
511.20
BOTTOM OF POOL 509.80
514.78
3:1
TOP OF POND 514.10
4:1
5:1
5:1
3:1
3:1
5:1
5:1
4:1
4m WIDE ACCESS ROAD
IDA STREET
515.39
BOTTOM OF POOL 509.80
3:1
511.20
5:1
PERMANENT POOL 511.80
5:1
EXT DET 512.30
512.40
4:1
HIGH WATER LEVEL 513.80
TOP OF POND 514.10
EDGE OF ROAD 514.16
517.15
512.91
EX. 1000mm CSP
CULVERT W INV. =511.49
E INV. = 511.27
512.62
513.77
COUNTY ROAD 9
515.10
10 0m 10 20 30
SCALE: 1:400
N
DUNDALK
IDA RD
SUBJECT PROPERTY
COUNTY RD 9
KEY PLAN
SCALE: N.T.S.

POND CHARACTERISTICS	
CONTRIBUTING AREA	25.44
PERCENT IMPERVIOUS	28.40
NORMAL WATER LEVEL	511.80
PERMANENT POOL VOLUME	7589
REQ. PERMANENT POOL VOLUME	2121
EXTENDED DETENTION VOLUME	3035
EXTENDED DETENTION WATER LEVEL	512.30
ACTIVE STORAGE VOLUME	14584
REQ. ACTIVE STORAGE VOLUME	13974
100-YEAR WATER LEVEL	513.80
BLOCK AREA	1.28

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Engineer

Engineer

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

Project
IDA STREET DEVELOPMENT
TOWNSHIP OF SOUTHGATE

Drawing
PRELIMINARY SWMF-GR (NORTH POND)

CROZIER
CONSULTING ENGINEERS

Drawn By R.D.M.	Design By J.L.A./A.M.	Project	1060-5590
Check By B.H.	Check By J.L.A.	Scale 1:400	Drawing FIG 7

OVERLAND FLOW ROUTE
SVCA
GRCA
WETLAND BOUNDARY
15m WETLAND BUFFER
COUNTY ROAD 9
+510.27
+510.35
+510.73
+510.47
+510.92
+511.33
+511.84
+512.80
514.85
515.27
511.70
512.10
EXTENDED DETENTION 512.45
PERMANENT POOL 511.85
511.25
BOTTOM OF POND 510.35
5:1
HIGH WATER LEVEL 513.35
TOP OF POND 513.65
TOP OF POND 515.08
4m WIDE ACCESS ROAD
EX. 700mm DIA. CSP CULVERT
W INV. 510.94
E INV. 510.77
PROPOSED PUMPING STATION
DUNDALK
IDA RD
COUNTY RD 9
SUBJECT PROPERTY
KEY PLAN
SCALE: N.T.S.
N
10
0m
10
20
30
SCALE: 1:400

LEGEND

-242.50- 242 EXISTING CONTOUR
PROPOSED STORM SEWER
PROPERTY BOUNDARY
+xxx.xx PR. ELEVATION
+xxx.xx PR. ELEVATION (MATCH EX. ELEVATION)

POND CHARACTERISTICS	
CONTRIBUTING AREA	11
PERCENT IMPERVIOUS	57.10
NORMAL WATER LEVEL	513.20
PERMANENT POOL VOLUME	4338
REQ. PERMANENT POOL VOLUME	1717
EXTENDED DETENTION VOLUME	2946
EXTENDED DETENTION WATER LEVEL	513.80
ACTIVE STORAGE VOLUME	8587
REQ. ACTIVE STORAGE VOLUME	6026
100-YEAR WATER LEVEL	514.70
BLOCK AREA	1.28

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Town

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Engineer

Engineer

PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION

Project

IDA STREET DEVELOPMENT
TOWNSHIP OF SOUTHGATE

Drawing

PRELIMINARY SWMF-SV (SOUTH POND)

CROZIER
CONSULTING ENGINEERS

Drawn By R.D.M.	Design By J.L.A./A.M.	Project 1060-5590	
Check By B.H.	Check By J.L.A.	Scale 1:400	Drawing FIG 7