CONCEPTUAL STORMWATER MANAGEMENT PLAN

Proposed Photovoltaic Power Plant Development
St. Clair - Moore Solar Farm
Lambton County, Ontario

Prepared for:

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Prepared by:

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APPROVALS

Prepared by: Kevin Chen	April 27, 2010 Date
Checked by: Peter Nimmrichter, P.Eng.	April 27, 2010 Date
Approved by: J. Brian Fogg, P. Eng., Project Manager	April 27, 2010 Date

SECTION 1

INTRODUCTION

1.0 INTRODUCTION

This report summarizes the development of a conceptual Stormwater Management Plan for a proposed photovoltaic power plant development to be located in the Township of St. Clair, Ontario (see Figure 1-1). The proposed site, known as the St. Clair - Moore development (the "Site"), is a rectangular shaped parcel of land, approximately 122 hectares (ha) in area located on the north side of Rokeby Line, at the northwest corner of Rokeby Line and Highway 40 (see Figure 1-2).

The site is currently in agricultural use. A former residence and associated agricultural buildings are located in the southwest corner.

The site lies within the jurisdiction of the St. Clair Region Conservation Authority, in the St. Clair River Tributary watershed.

This report has been prepared for First Solar Development (Canada) Inc. ("First Solar").

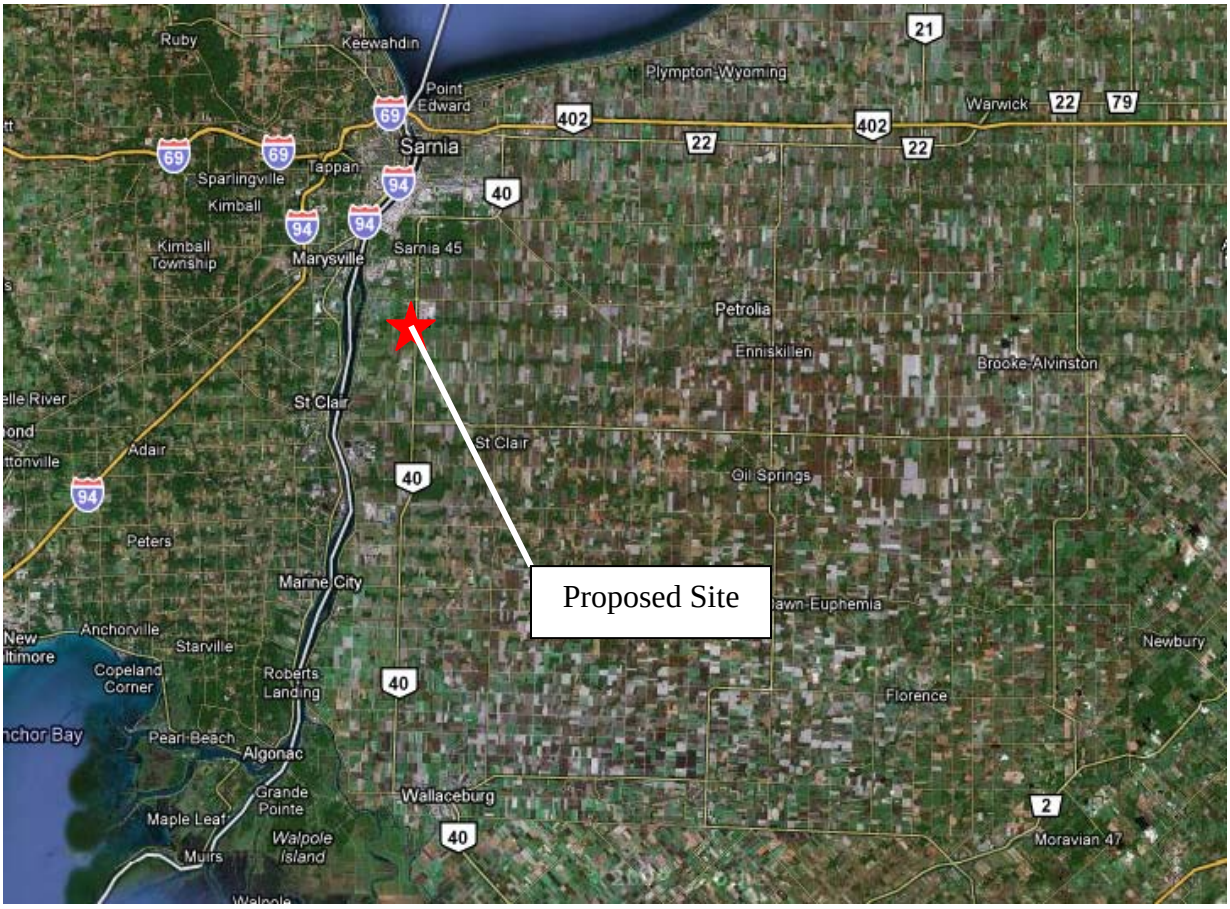


Figure 1-1: Site Location, Regional Context
(Source: Background image from Google Maps)

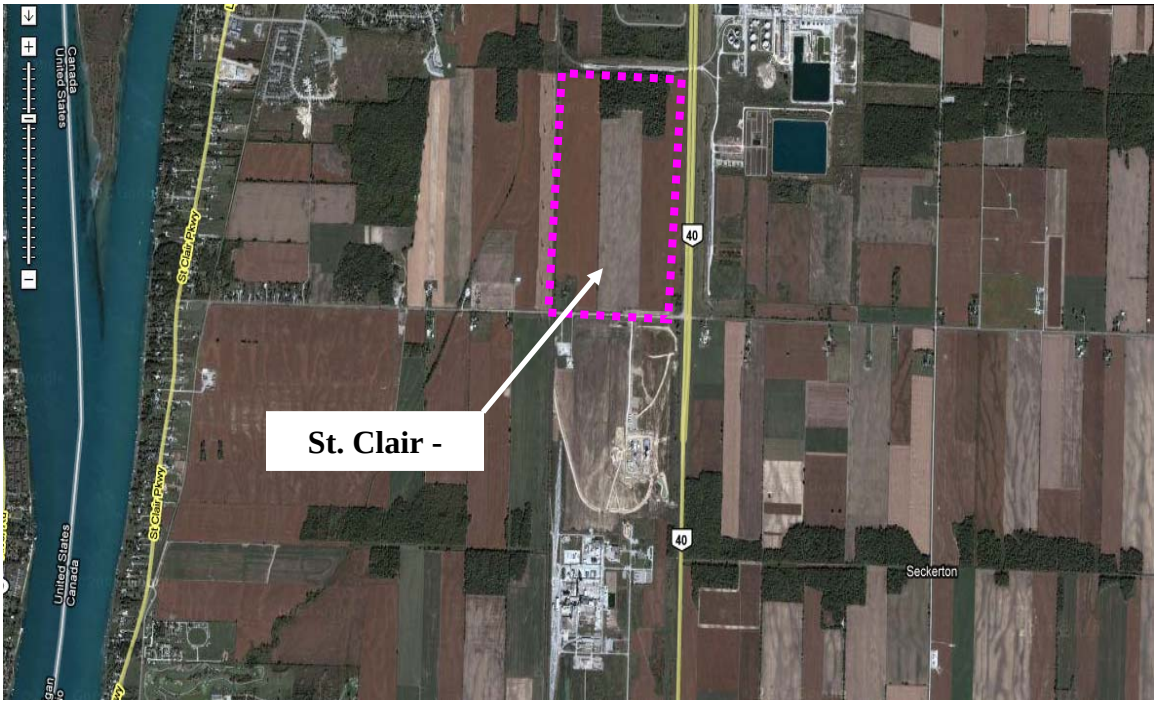


Figure 1-2: Site Location, Local Context
(Source: Background image from Google Maps)

1.1 Project Description
(sourced from First Solar, 2009)

The St. Clair - Moore Solar Farm development will collect the energy from the sun using thin film photovoltaic modules and convert it to electrical energy for distribution to the local electricity distribution system. The proposed solar farm will be capable of producing 20 MW of electricity and will be developed on a 122 ha parcel of land located east of Mooretown in the Township of St. Clair (north of Rokeby Line, west of Highway 40). The solar farm is designated as a “class 3” solar facility as defined by Section 4 of O. Reg. 359/09 regarding Renewable Energy Approvals. A class 3 solar facility is a renewable energy facility with a name plate power capacity greater than 10kW situated at any location other than being mounted on the roof or wall of a building.

Figure 1-3 illustrates the development proposal for the St. Clair - Moore site.

1.2 Existing Site Geology Conditions
(sourced from AMEC, 2008)

The proposed development site is a collection of flat-lying agricultural properties consisting of several separate parcels of land that have been assembled by First Solar for the purposes of the development of solar farms. Drainage ditches are present along the roads that bound the site.

Agricultural soils mapping indicates that the near surface soils at the site are “Brookston Clay” and “Clyde Clay.” The site lies within a sub-region called the Lambton Clay Plain which is a flat-lying area composed of beveled till, often with an overlying, shallow veneer of lacustrine clay. Geotechnical investigation shows the major deposits of soils within the sites are silty clay with trace sand and gravel. At this site the grey silty clay maintains a stiff consistency to the depth extent of the investigation.

The groundwater levels were recorded at depths between 5.3 m and 5.8 m below ground surface at two (2) of the twenty-two (22) boreholes that were drilled on-site. The remaining boreholes remained open and dry after withdrawal of the augers.

The following information is relevant for the St. Clair - Moore site:

- No wetlands are identified on the proposed development site (St. Clair River Tributaries Watershed Report Card, 2008)
- No Environmentally Significant Areas are identified on the proposed development site (St. Clair River Tributaries Watershed Report Card, 2008)
- Soils at the site generally described as silty and clay (St. Clair River Tributaries Watershed Report Card, 2008)
- The estimated Regional Flood Areas, made available from the St. Clair Region Conservation Authority (SCRCA), are illustrated in Figure 1-4. It is noteworthy that the St. Clair - Moore site is located outside of the Regional Flood Area.

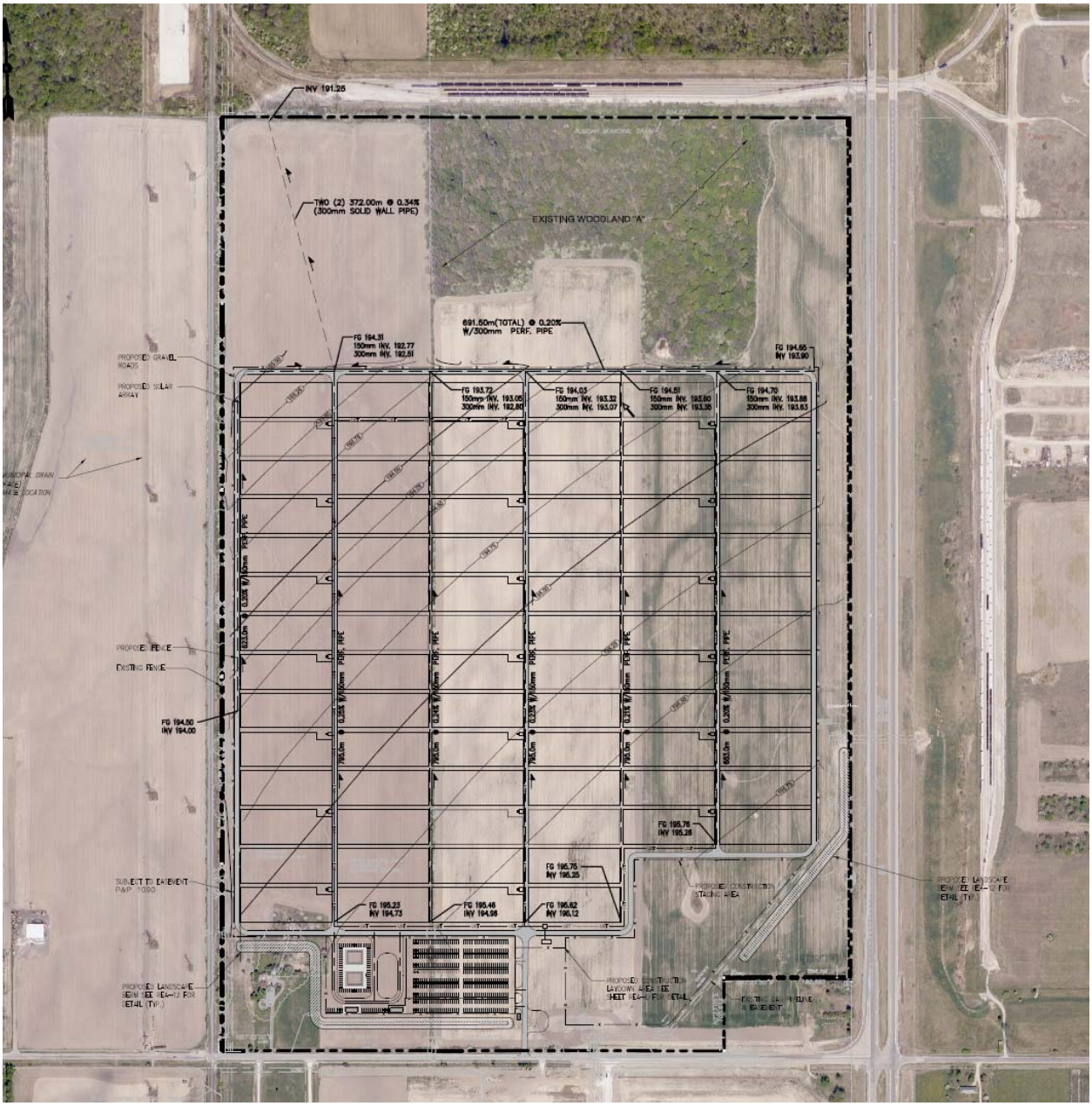


Figure 1-3: Post Development Site Layout

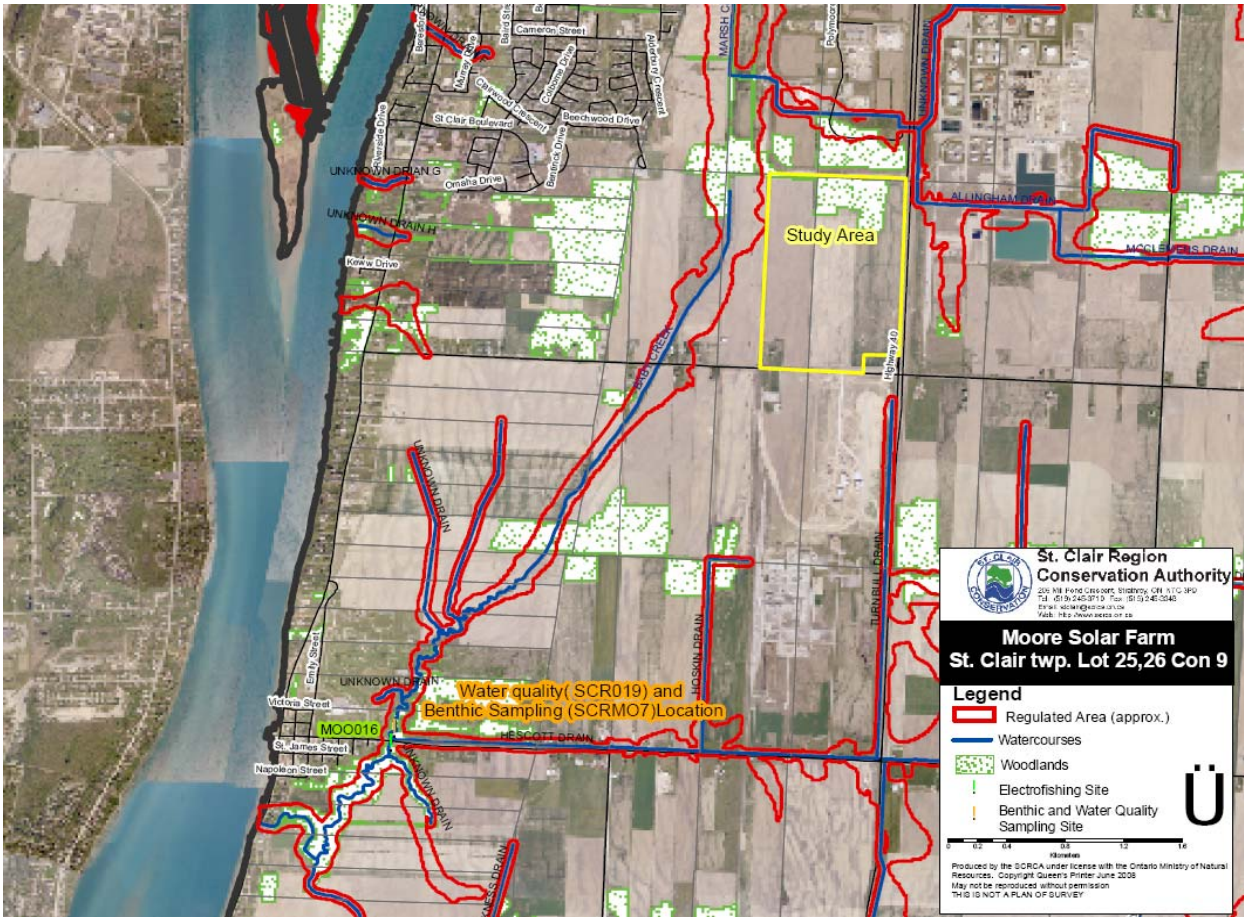


Figure 1-4: St. Clair - Moore Site Regulation Area
(source: St. Clair Region Conservation Authority)

1.3 Stormwater Management Plan Overview

The primary objective of a Stormwater Management (SWM) Plan is to control stormwater runoff from development. The plan is designed to improve the stormwater quality (i.e., sediment removal) and control runoff directly discharging from the site.

Some considerations regarding stormwater management planning for this site:

- the construction of the St. Clair - Moore site will be on existing ground (i.e., existing topography will be maintained) to the extent possible, particularly in areas designated for solar arrays/panels

- after construction, the site will be seeded and plantings will be encouraged under the solar panels

  As such, although the solar panels are an impervious surface, the underlying soils and topography will not have changed from pre-development conditions. Rain water flowing off the solar panels will fall to a pervious surface, runoff will travel an un-changed path therefore

maintaining the opportunity to infiltrate in a manner equaling pre-development. Therefore, areas to be covered by solar arrays are not considered to change between pre-development and post-development.

- only minimal hard surfaces (access roads) will be constructed for this development

The drainage information illustrated on Figure 1-3 was transcribed onto the OBM drawing as illustrated in Figure 1-5. The overall surface runoff drains two directions. The surface runoff from Catchments 101 and 102 drains to the Canadian National Railway (CNR) ditch on the west and the north of the site and eventually into Marsh Creek on the north of the site. The total drainage area is approximately 112 hectares. The surface runoff from catchment 103 drains to the Rockby Line ditch on the south of the site. From there, it is conveyed to the west of the site via the culvert under the CNR and eventually into Baby Creek. The total drainage area is approximately 10 hectares.

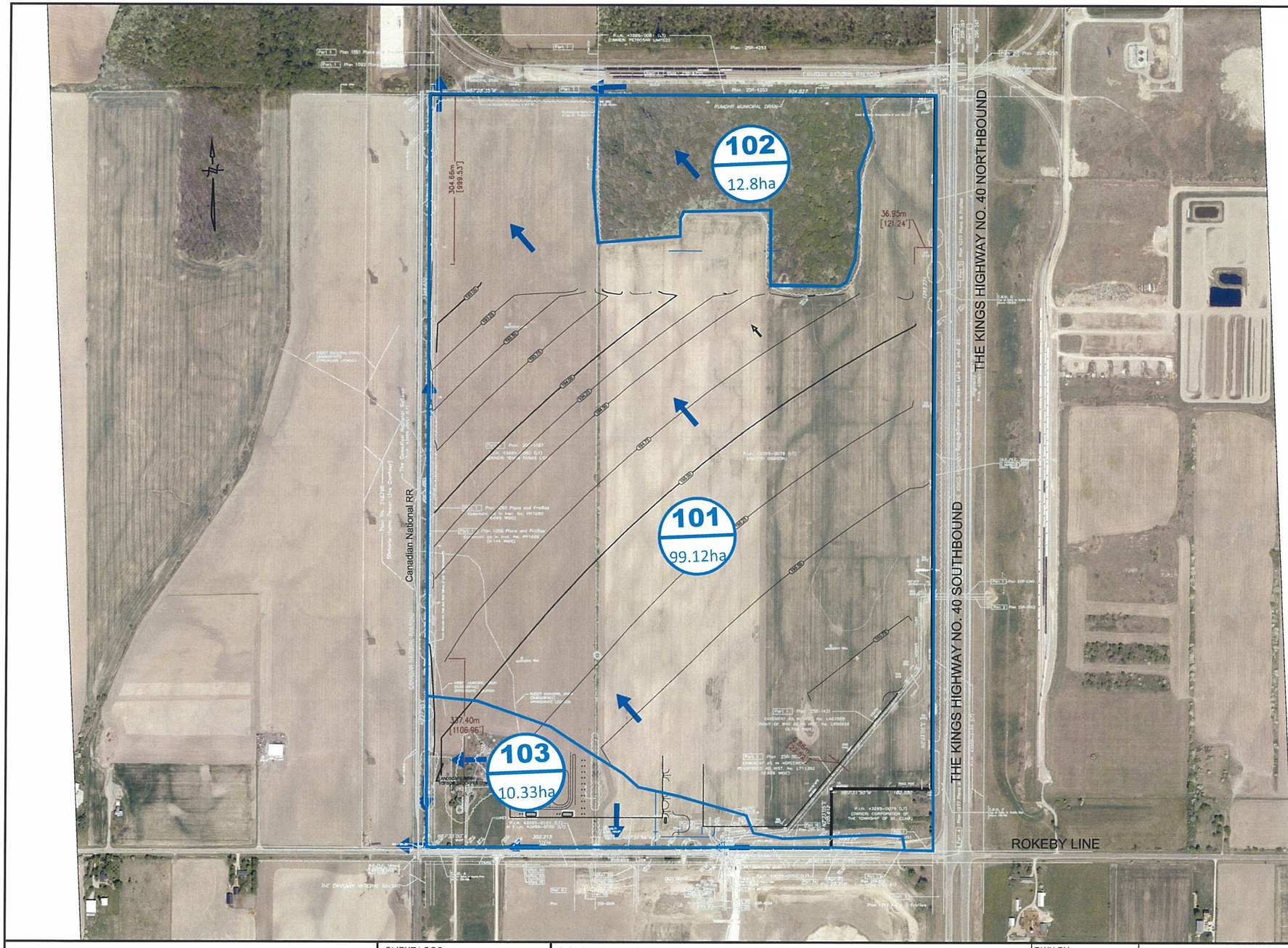
As noted previously, overall site grades for the post-development condition will not vary significantly from the existing grades. Therefore, the drainage areas of the post development condition are the same as the pre-development condition as shown in Figure 1-6. Based on the proposed access road layout, a comparison of the catchment condition between pre-development and post development is outlined in Table 1-1.

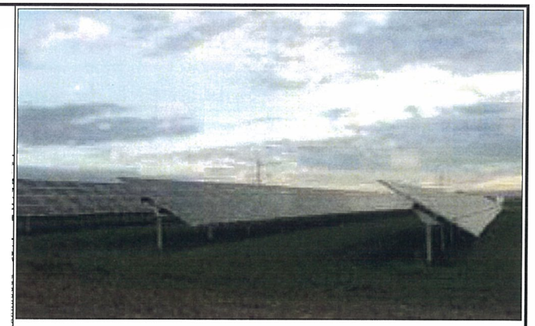
As indicated in Table 1-1, post development site imperviousness conditions do not change significantly from pre-development. The impervious areas represent hard surfaces introduced to the site through construction of gravel access roads.

Table 1-1: Catchment Condition Comparison

Site Location	Development Condition	Catchment Area IDs	Catchment Area (ha)	% Impervious Area
St. Clair - Moore	Pre-development	101	99.12	0
		102	12.80	0
		103	10.33	0
		Total:	*122.25*	
	Post development	201	99.12	4.0
		202	12.80	0
		203	10.33	3.8
		Total:	*122.25*	

Given the minor increases in imperviousness and the flat surface under post-development condition, it is anticipated that the new development will not adversely affect downstream flood risk, negating the requirement for quantity control. Therefore, the primary theme of the conceptual stormwater management plan is the control for stormwater runoff quality from the site.





ARRAY PERSPECTIVE

LEGEND

CATCHMENT AREA BOUNDARY

FLOW DIRECTION

101 — CATCHMENT AREA ID

107.43ha — AREA

0 100 200 400m

1:7500 SCALE

CLIENT LOGO

CLIENT: FIRST SOLAR DEVELOPMENT (CANADA) INC

AMEC Earth & Environmental
160 Traders Boulevard East
Mississauga, Ontario, Canada L4Z 3K7

DWN BY:	KC
CHK'D BY:	PN
DATUM:	
PROJECTION:	
SCALE:	AS SHOWN

PROJECT: ST CLAIR MOORE SOLAR FARM DEVELOPMENT
CONCEPTUAL STORMWATER MANAGEMENT

TITLE: PRE-DEVELOPMENT CATCHMENT AREA

DATE:	APRIL 2010
PROJECT NO:	SW04090565
REV. NO.:	A
FIGURE No.	1-5

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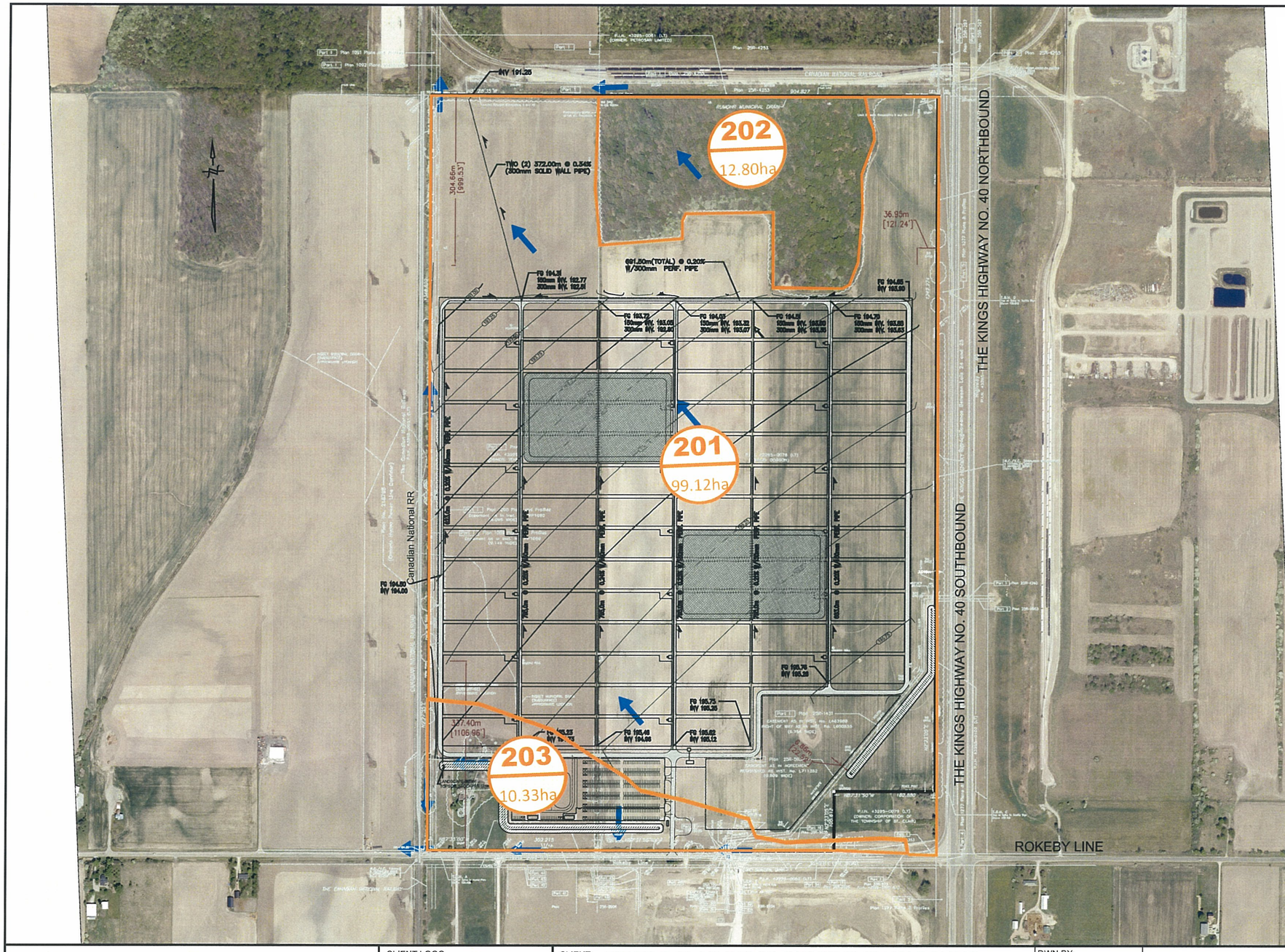

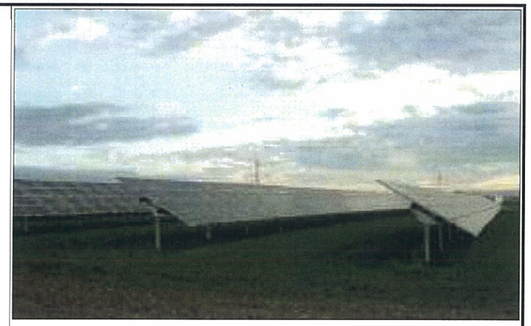

ARRAY PERSPECTIVE

LEGEND

CATCHMENT AREA BOUNDARY

FLOW DIRECTION

101 / 107.43ha — CATCHMENT AREA ID / AREA

0 100 200 400m

1:7500 SCALE

CLIENT LOGO: First Solar.	CLIENT: FIRST SOLAR DEVELOPMENT (CANADA) INC	DWN BY: KC CHK'D BY: PN DATUM: PROJECTION: SCALE: AS SHOWN	PROJECT: ST CLAIR MOORE SOLAR FARM DEVELOPMENT CONCEPTUAL STORMWATER MANAGEMENT	DATE: APRIL 2010 PROJECT NO: SW04090565
	AMEC Earth & Environmental 160 Traders Boulevard East Mississauga, Ontario, Canada L4Z 3K7	amec	TITLE: POST DEVELOPMENT CATCHMENT AREA	REV. NO.: A FIGURE No. 1-6

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SECTION 2

HYDROLOGIC MODELLING

2.0 HYDROLOGIC MODELLING

Single event hydrologic modelling has been used to obtain quantitative estimates of stormwater runoff rates and volumes for pre-development and post-development conditions for the Site.

2.1 Model Selection

The surface runoff has been calculated using the computer model Visual OTTHYMO v2.0. OTTHYMO is a successful hydrologic management model that has been used for: Watershed Studies, Sub-watershed Studies, Master Drainage Plans, Functional Stormwater Management Plans, Site Plans, and Stormwater Management Pond Design. Visual OTTHYMO v2.0 (VO2) is the second version of the INTERHYMO – OTTHYMO hydrologic model simulation software package designed for Microsoft Windows OS. VO2 has been accepted by the MOE, the Ministry of Natural Resources, the Ministry of Transportation, the Ministry of Municipal Affairs, the Association of Conservation Authorities of Ontario, and most municipal governments, as a valid hydrologic simulation model.

2.2 Design Storms

Precipitation data from the Atmospheric Environment Services' IDF90 publication for the Sarnia Airport (Ontario) weather station were used to develop the design storms used in this assessment. Design storms with return periods of 2, 5, 10, 25, 50, and 100-years were developed to determine design hydrographs to enable evaluation of the flow capacity/conveyance requirements for the grass swales and culverts. The Soil Conservation Service (SCS) Type II storm distribution was selected for the design storms due to its applicability in rural and urban settings and to maintain consistency with other hydrologic calculations, such as the effective rainfall and overland routing calculations. A time increment of 5 minutes was selected for all design storms. A 24-hour duration was selected since this provides a more conservative estimate of volume storage and flow capacity requirements. Table 2-1 is the summary of total rainfall depth for the SCS 24-hour 2, 5, 10, 25, 50, and 100 year storm events.

Table 2-1: Total Rainfall Depth

Return Period	Depth (mm)
2 year	52.5
5 year	67.6
10 year	77.6
25 year	90.2
50 year	99.6
100 year	108.9

The MNR Flood Plain Management in Ontario, Technical Guidelines indicate the site is located within Regulatory Flood Zone 1. As such, The Hurricane Hazel design storm was used as the

Regional (extreme) design rainfall event for this site. The Regional design rainfall event has a total depth of 211mm.

2.3 Hydrologic Modelling Results

Modeling notes:

- Based on the geotechnical report (AMEC, 2008), the native soil at the site generally consists of silty clay till material, which are classified as Hydrologic Soil Groups D. A base CN number of 85 was used to describe pervious areas for modeling purposes.
- For post development modeling, the rainfall on the solar panels will fall onto pervious ground and travel overland to the existing drainage ditches around the site. As a result, the stormwater runoff from the solar panel arrays is considered to be clean.

The result of the modeling is summarized in Table 2-2 and Table 2-3.

Table 2-2: Peak Flow to Marsh Creek Summary

Rainfall Event	Pre-development (m^3/s)	Post development (m^3/s)	Change (%)
2 year	2.61	2.68	2.7
5 year	4.01	4.13	3.0
10 year	4.99	5.15	3.2
25 year	6.27	6.46	3.0
50 year	7.24	7.47	3.2
100 year	8.22	8.47	3.0
Regional	12.53	12.66	1.0

Table 2-3: Peak Flow to Baby Creek Summary

Rainfall Event	Pre-development (m^3/s)	Post development (m^3/s)	Change (%)
2 year	0.38	0.38	0.0
5 year	0.58	0.59	1.7
10 year	0.72	0.74	2.8
25 year	0.91	0.92	1.1
50 year	1.05	1.07	1.9
100 year	1.19	1.21	1.7
Regional	1.30	1.31	0.8

As indicated in the Table above, in comparison to the pre-development condition, the overall post- development peak flows do not change significantly. Therefore, no negative impact to the downstream are anticipated as a result of this proposed development. As such, stormwater 'quantity' control features are not considered necessary for this SWM Plan.

2.4 Stormwater Management Plan

As noted previously, 'quantity' control is not considered necessary for this SWM Plan. Therefore, the focus of the SWM Plan becomes stormwater 'quality' control.

Grassed filter strips are a low-cost Best Management Practice (BMP) designed to improve the quality of stormwater runoff by using biological and chemical processes in soils and vegetation to filter out constituents. They function by slowing runoff velocities and filtering out sediment and other pollutants, and providing some infiltration into underlying soils. Filter strips were originally used as an agricultural treatment practice, and have more recently evolved into an urban practice.

As noted previously, after construction, the site, for areas under and within approximately 30m of the array blocks, will be seeded with 'pasture' grass varieties. The preferred grass species will be those that reach a moderately short height (under 18") at maturity. These plantings will essentially act as grassed filter strips for the site. This will be true for the new access roads as well. A review of Figure 1-3 indicates that the closest access road to an existing Drain is approximately 37m. The proposed plantings over a 10m flow length will provide effective stormwater runoff quality control given the minimal contributing impervious area.

SECTION 3

MAINTENANCE AND MONITORING PROGRAM

3.0 MAINTENANCE AND MONITORING PROGRAM

The stormwater management works will be owned, maintained and monitored by the owner in accordance with any specified requirements of the St. Clair Region Conservation Authority.

3.1 Maintenance

Proper maintenance is required for maximum filter-strip effectiveness. The maintenance requirements for the grass filter strips within this development will be based on information provided in MOE (2003). The following minimal maintenance items are recommended:

- Inspect the filter strip frequently, especially after intense rainfall events and runoff events of long duration. Small breaks in the sod and small erosion channels quickly become large problems.
- Minimize the development of erosion channels within the filter. Even small channels may allow much of the runoff from the field to bypass the filter. These areas should be repaired and reseeded immediately to help ensure proper flow of runoff through the filter.
- Reseed or inter-seed bare areas of the filter. Since it may be difficult to re-establish vegetation in an established filter strip, the use of mulch or sod can help to reduce some problems.
- Mow and remove hay as required to maintain moderate vegetation height.
- Soil test periodically and apply soil amendments according to test results and recommendations.
- Control trees, brush, noxious weeds, and Canada thistle in the filter using either mechanical means or herbicides.

3.2 Monitoring

Monitoring will consist of visual inspections of the vegetated areas adjacent to drainage ditches. The monitoring program will include regular inspections of the erosion and sediment control features described in the following section.

SECTION 4

EROSION AND SEDIMENT CONTROL

4.0 EROSION AND SEDIMENT CONTROL

Erosion and sedimentation are naturally occurring processes that involve particle detachment, sediment transport and deposition of soil particles. Construction activities commonly alter the landscapes where they are located, exacerbating these natural processes.

The transport of sediment overland and deposition into surrounding natural areas, including watercourses (fish habitat), woodlots and wetlands as well as adjacent private lands, needs to be prevented. The erosion and sediment control measures described in this section are focused on the features of the Stormwater Management Plan only. The erosion and sediment control plan for the entire site, completed by others, should be compliant with the MOE design manual (2003).

To minimize the potential operation and environmental impacts, the grass filter areas should be inspected frequently to identify any erosion areas and make timely repairs to the grade. The build-up sediments should be removed when it has accumulated to 25% of the original capacity.

SECTION 5

SUMMARY

5.0 SUMMARY

This report summarizes the development of a conceptual stormwater management plan for the development site based on current site layout plans. This plan demonstrates that the post-development conditions for this proposed solar farm development satisfy the requirements for stormwater management established by the SCRCA and MOE (2003).

Site development is not within floodplain limits.

Hydrological modelling completed for this assessment indicates no significant changes between pre-development condition and post-development stormwater runoff peak flow conditions. Therefore, quantity control of stormwater runoff is not a requirement of this SWM Plan. Further, no impacts to downstream flood conditions are anticipated.

As no significant changes between pre-development condition and post-development stormwater runoff peak flow conditions are anticipated, the recommended conceptual stormwater management plan focuses on stormwater runoff quality control. Pasture grass varieties, which will substantially cover the Site after construction, will provide water quality control through filtering (in a similar manner to grassed filter strips) for stormwater runoff from the Site.

A preliminary Stormwater Management facilities maintenance and monitoring strategy, based on the conceptual stormwater management plan, has also been provided.

A preliminary Stormwater Management facilities erosion and sedimentation control strategy, based on the conceptual stormwater management plan, has also been provided.

SECTION 6

REFERENCES

6.0 REFERENCES

AMEC, 2008 **Final Report, Geotechnical Investigation, Optisolar Inc. St. Clair Solar Power Project, St. Clair Township, Ontario,** AMEC Earth & Environmental, November 2008.

First Solar, 2009 **Project Description Report, Twp. Of St. Clair – St. Clair - Moore Solar Farm**, First Solar Development (Canada), Inc., November 24, 2009.

MOE, 2003 **Stormwater Management Planning and Design Manual**, Ministry of the Environment, 2003.

MTO, 2008 Ontario Ministry of Transportation, **Highway Drainage Design Standards,** January 2008.

MTO, 1984 Ontario Ministry of Transportation, **Drainage Manual**, 1984.

MTO, 1980 Ontario Ministry of Transportation and Communications, **Directive B-100**

OMNR, 1988 **Flood Plain Management in Ontario Technical Guidelines**, Ontario Ministry of Natural Resources, 1988

SCRCA, 2008 **St. Clair River Tributaries Watershed Report Card, St. Clair Region Conservation Authority, 2008**

APPENDIX A

HYDROLOGY MODELING INPUT AND OUTPUT

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Mass curve time step = 15.00 min
New Storm time step = 5.00 min

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.17	.47	6.17	.91	12.17	26.46	18.17	.94
.25	.71	6.25	.95	12.25	7.56	18.25	.94
.33	.71	6.33	.95	12.33	7.56	18.33	.94
.42	.71	6.42	.95	12.42	7.56	18.42	.95
.50	.71	6.50	.95	12.50	7.56	18.50	.95
.58	.71	6.58	.95	12.58	6.34	18.58	.95
.67	.71	6.67	.95	12.67	5.11	18.67	.94
.75	.71	6.75	.95	12.75	3.88	18.75	.94
.83	.71	6.83	.94	12.83	3.88	18.83	.94
.92	.71	6.92	.94	12.92	3.89	18.92	.95
1.00	.71	7.00	.94	13.00	3.89	19.00	.95
1.08	.71	7.08	1.01	13.08	3.54	19.08	.95
1.17	.71	7.17	1.09	13.17	3.18	19.17	.94
1.25	.71	7.25	1.16	13.25	2.83	19.25	.94
1.33	.71	7.33	1.16	13.33	2.83	19.33	.94
1.42	.71	7.42	1.15	13.42	2.84	19.42	.95
1.50	.71	7.50	1.15	13.50	2.84	19.50	.95
1.58	.71	7.58	1.15	13.58	2.63	19.58	.95
1.67	.71	7.67	1.16	13.67	2.41	19.67	.94
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2.00	.71	8.00	1.15	14.00	2.21	20.00	.95
2.08	.66	8.08	1.22	14.08	2.00	20.08	.84
2.17	.60	8.17	1.29	14.17	1.79	20.17	.73
2.25	.55	8.25	1.36	14.25	1.57	20.25	.63
2.33	.55	8.33	1.37	14.33	1.57	20.33	.63
2.42	.55	8.42	1.37	14.42	1.57	20.42	.63
2.50	.55	8.50	1.37	14.50	1.57	20.50	.63
2.58	.55	8.58	1.40	14.58	1.57	20.58	.63
2.67	.55	8.67	1.44	14.67	1.57	20.67	.63
2.75	.55	8.75	1.47	14.75	1.57	20.75	.63
2.83	.55	8.83	1.47	14.83	1.58	20.83	.63
2.92	.55	8.92	1.47	14.92	1.58	20.92	.63
3.00	.55	9.00	1.47	15.00	1.58	21.00	.63

3.08	.55	9.08	1.54	15.08	1.58	21.08	.63
3.17	.55	9.17	1.61	15.17	1.58	21.17	.63
3.25	.55	9.25	1.68	15.25	1.57	21.25	.63
3.33	.55	9.33	1.68	15.33	1.57	21.33	.63
3.42	.55	9.42	1.68	15.42	1.57	21.42	.63
3.50	.55	9.50	1.68	15.50	1.57	21.50	.63
3.58	.55	9.58	1.75	15.58	1.57	21.58	.63
3.67	.55	9.67	1.82	15.67	1.57	21.67	.63
3.75	.55	9.75	1.89	15.75	1.57	21.75	.63
3.83	.55	9.83	1.89	15.83	1.57	21.83	.63
3.92	.55	9.92	1.89	15.92	1.57	21.92	.63
4.00	.55	10.00	1.89	16.00	1.57	22.00	.63
4.08	.65	10.08	2.06	16.08	1.36	22.08	.63
4.17	.74	10.17	2.24	16.17	1.16	22.17	.63
4.25	.84	10.25	2.41	16.25	.95	22.25	.63
4.33	.84	10.33	2.41	16.33	.95	22.33	.63
4.42	.84	10.42	2.41	16.42	.94	22.42	.63
4.50	.84	10.50	2.41	16.50	.94	22.50	.63
4.58	.84	10.58	2.69	16.58	.94	22.58	.63
4.67	.84	10.67	2.98	16.67	.94	22.67	.63
4.75	.84	10.75	3.26	16.75	.94	22.75	.63
4.83	.84	10.83	3.26	16.83	.94	22.83	.63
4.92	.84	10.92	3.25	16.92	.95	22.92	.63
5.00	.84	11.00	3.25	17.00	.95	23.00	.63
5.08	.84	11.08	3.85	17.08	.95	23.08	.63
5.17	.84	11.17	4.44	17.17	.94	23.17	.63
5.25	.84	11.25	5.04	17.25	.94	23.25	.63
5.33	.84	11.33	5.04	17.33	.94	23.33	.63
5.42	.84	11.42	5.04	17.42	.95	23.42	.63
5.50	.84	11.50	5.04	17.50	.95	23.50	.63
5.58	.84	11.58	8.54	17.58	.95	23.58	.63
5.67	.84	11.67	12.04	17.67	.94	23.67	.63
5.75	.84	11.75	15.54	17.75	.94	23.75	.63
5.83	.84	11.83	31.78	17.83	.94	23.83	.63
5.92	.84	11.92	48.02	17.92	.95	23.92	.63
6.00	.84	12.00	64.26	18.00	.95	24.00	.63

CALIB			
NASHYD (0102)	Area (ha)= 12.80	Curve Number (CN)= 85.0	
ID= 1 DT= 5.0 min	Ia (mm)= 6.70	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= .47		

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.24	6.083	.88	12.083	45.36	18.08	.95
.167	.47	6.167	.91	12.167	26.46	18.17	.94
.250	.71	6.250	.95	12.250	7.56	18.25	.94
.333	.71	6.333	.95	12.333	7.56	18.33	.94
.417	.71	6.417	.95	12.417	7.56	18.42	.95
.500	.71	6.500	.95	12.500	7.56	18.50	.95
.583	.71	6.583	.95	12.583	6.34	18.58	.95
.667	.71	6.667	.95	12.667	5.11	18.67	.94
.750	.71	6.750	.95	12.750	3.89	18.75	.94
.833	.71	6.833	.94	12.833	3.88	18.83	.94
.917	.71	6.917	.94	12.917	3.89	18.92	.95
1.000	.71	7.000	.94	13.000	3.89	19.00	.95
1.083	.71	7.083	1.02	13.083	3.54	19.08	.95
1.167	.71	7.167	1.09	13.167	3.19	19.17	.94
1.250	.71	7.250	1.16	13.250	2.84	19.25	.94
1.333	.71	7.333	1.16	13.333	2.83	19.33	.94
1.417	.71	7.417	1.15	13.417	2.84	19.42	.95
1.500	.71	7.500	1.15	13.500	2.84	19.50	.95
1.583	.71	7.583	1.15	13.583	2.63	19.58	.95
1.667	.71	7.667	1.16	13.667	2.42	19.67	.94
1.750	.71	7.750	1.16	13.750	2.21	19.75	.94
1.833	.71	7.833	1.16	13.833	2.20	19.83	.94
1.917	.71	7.917	1.15	13.917	2.20	19.92	.95
2.000	.71	8.000	1.15	14.000	2.21	20.00	.95
2.083	.66	8.083	1.23	14.083	2.00	20.08	.84
2.167	.60	8.167	1.30	14.167	1.79	20.17	.73
2.250	.55	8.250	1.37	14.250	1.58	20.25	.63
2.333	.55	8.333	1.37	14.333	1.57	20.33	.63
2.417	.55	8.417	1.37	14.417	1.57	20.42	.63
2.500	.55	8.500	1.37	14.500	1.57	20.50	.63
2.583	.55	8.583	1.40	14.583	1.57	20.58	.63
2.667	.55	8.667	1.44	14.667	1.57	20.67	.63
2.750	.55	8.750	1.47	14.750	1.57	20.75	.63
2.833	.55	8.833	1.47	14.833	1.58	20.83	.63
2.917	.55	8.917	1.47	14.917	1.58	20.92	.63
3.000	.55	9.000	1.47	15.000	1.58	21.00	.63
3.083	.55	9.083	1.54	15.083	1.58	21.08	.63
3.167	.55	9.167	1.61	15.167	1.58	21.17	.63

3.250	.55	9.250	1.68	15.250	1.57	21.25	.63
3.333	.55	9.333	1.68	15.333	1.57	21.33	.63
3.417	.55	9.417	1.68	15.417	1.57	21.42	.63
3.500	.55	9.500	1.68	15.500	1.57	21.50	.63
3.583	.55	9.583	1.75	15.583	1.57	21.58	.63
3.667	.55	9.667	1.82	15.667	1.57	21.67	.63
3.750	.55	9.750	1.89	15.750	1.57	21.75	.63
3.833	.55	9.833	1.89	15.833	1.57	21.83	.63
3.917	.55	9.917	1.89	15.917	1.57	21.92	.63
4.000	.55	10.000	1.89	16.000	1.57	22.00	.63
4.083	.65	10.083	2.06	16.083	1.37	22.08	.63
4.167	.74	10.167	2.24	16.167	1.16	22.17	.63
4.250	.84	10.250	2.41	16.250	.95	22.25	.63
4.333	.84	10.333	2.41	16.333	.95	22.33	.63
4.417	.84	10.417	2.41	16.417	.94	22.42	.63
4.500	.84	10.500	2.41	16.500	.94	22.50	.63
4.583	.84	10.583	2.69	16.583	.94	22.58	.63
4.667	.84	10.667	2.97	16.667	.94	22.67	.63
4.750	.84	10.750	3.25	16.750	.94	22.75	.63
4.833	.84	10.833	3.26	16.833	.94	22.83	.63
4.917	.84	10.917	3.25	16.917	.95	22.92	.63
5.000	.84	11.000	3.25	17.000	.95	23.00	.63
5.083	.84	11.083	3.85	17.083	.95	23.08	.63
5.167	.84	11.167	4.44	17.167	.94	23.17	.63
5.250	.84	11.250	5.04	17.250	.94	23.25	.63
5.333	.84	11.333	5.04	17.333	.94	23.33	.63
5.417	.84	11.417	5.04	17.417	.95	23.42	.63
5.500	.84	11.500	5.04	17.500	.95	23.50	.63
5.583	.84	11.583	8.54	17.583	.95	23.58	.63
5.667	.84	11.667	12.04	17.667	.94	23.67	.63
5.750	.84	11.750	15.54	17.750	.94	23.75	.63
5.833	.84	11.833	31.78	17.833	.94	23.83	.63
5.917	.84	11.917	48.02	17.917	.95	23.92	.63
6.000	.84	12.000	64.26	18.000	.95	24.00	.00

Unit Hyd Qpeak (cms)= 1.040

PEAK FLOW (cms)= .416 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 23.066
TOTAL RAINFALL (mm)= 52.395
RUNOFF COEFFICIENT = .440

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

CALIB					
NASHYD (0101)	Area	(ha)=	99.12	Curve Number	(CN)= 85.0
ID= 1 DT= 5.0 min	Ia	(mm)=	6.70	# of Linear Res.	(N)= 3.00
	U.H. Tp	(hrs)=	.77		

Unit Hyd Qpeak (cms)= 4.917

PEAK FLOW (cms)= 2.260 (i)
TIME TO PEAK (hrs)= 12.833
RUNOFF VOLUME (mm)= 23.067
TOTAL RAINFALL (mm)= 52.395
RUNOFF COEFFICIENT = .440

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

CALIB					
NASHYD (0103)	Area	(ha)=	10.33	Curve Number	(CN)= 85.0
ID= 1 DT= 5.0 min	Ia	(mm)=	6.70	# of Linear Res.	(N)= 3.00
	U.H. Tp	(hrs)=	.40		

Unit Hyd Qpeak (cms)= .986

PEAK FLOW (cms)= .376 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 23.065
TOTAL RAINFALL (mm)= 52.395
RUNOFF COEFFICIENT = .440

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

ADD HYD (0301)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0102):	12.80	.416	12.50	23.07
+ ID2= 2 (0101):	99.12	2.260	12.83	23.07

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         ID = 3 (0301):   111.92   2.605    12.75    23.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0302) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0301):   111.92   2.605    12.75    23.07
       + ID2= 2 (0103):    10.33    .376    12.42    23.06
         ================================================
         ID = 3 (0302):   122.25   2.890    12.67    23.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ** SIMULATION NUMBER:   2 **
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| MASS STORM       |    Filename: P:\W&W\Projects\SW0409~1\STA8EF~1
|                  |              .CLA\STBBEF~1.CLA\VO2\Scs24h.mst
| Ptotal= 67.60 mm |    Comments: SCS 24 HR MASS CURVE
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                       Duration of storm    = 24.00 hrs
                       Mass curve time step = 15.00 min
                       New Storm time step  =  5.00 min


                TIME    RAIN |  TIME    RAIN |  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr
                 .08     .30 |  6.08    1.13 | 12.08   58.41 | 18.08    1.22
                 .17     .61 |  6.17    1.17 | 12.17   34.07 | 18.17    1.22
                 .25     .91 |  6.25    1.22 | 12.25    9.73 | 18.25    1.22
                 .33     .91 |  6.33    1.22 | 12.33    9.73 | 18.33    1.22
                 .42     .91 |  6.42    1.22 | 12.42    9.73 | 18.42    1.22
                 .50     .91 |  6.50    1.22 | 12.50    9.73 | 18.50    1.22
                 .58     .91 |  6.58    1.22 | 12.58    8.16 | 18.58    1.22
                 .67     .91 |  6.67    1.22 | 12.67    6.58 | 18.67    1.22
                 .75     .91 |  6.75    1.22 | 12.75    5.00 | 18.75    1.22
                 .83     .91 |  6.83    1.22 | 12.83    5.00 | 18.83    1.22
                 .92     .91 |  6.92    1.22 | 12.92    5.00 | 18.92    1.22
                1.00     .91 |  7.00    1.22 | 13.00    5.00 | 19.00    1.22
                1.08     .91 |  7.08    1.31 | 13.08    4.55 | 19.08    1.22
                1.17     .91 |  7.17    1.40 | 13.17    4.10 | 19.17    1.22
                1.25     .91 |  7.25    1.49 | 13.25    3.65 | 19.25    1.22
                1.33     .91 |  7.33    1.49 | 13.33    3.65 | 19.33    1.22
                1.42     .91 |  7.42    1.49 | 13.42    3.65 | 19.42    1.22
                1.50     .91 |  7.50    1.49 | 13.50    3.65 | 19.50    1.22
                1.58     .91 |  7.58    1.49 | 13.58    3.38 | 19.58    1.22
                1.67     .91 |  7.67    1.49 | 13.67    3.11 | 19.67    1.22
                1.75     .91 |  7.75    1.49 | 13.75    2.84 | 19.75    1.22
                1.83     .91 |  7.83    1.49 | 13.83    2.84 | 19.83    1.22
                1.92     .91 |  7.92    1.49 | 13.92    2.84 | 19.92    1.22
                2.00     .91 |  8.00    1.49 | 14.00    2.84 | 20.00    1.22
                2.08     .84 |  8.08    1.58 | 14.08    2.57 | 20.08    1.08
                2.17     .78 |  8.17    1.67 | 14.17    2.30 | 20.17     .95
                2.25     .71 |  8.25    1.76 | 14.25    2.03 | 20.25     .81
                2.33     .71 |  8.33    1.76 | 14.33    2.03 | 20.33     .81
                2.42     .71 |  8.42    1.76 | 14.42    2.03 | 20.42     .81
                2.50     .71 |  8.50    1.76 | 14.50    2.03 | 20.50     .81
                2.58     .71 |  8.58    1.80 | 14.58    2.03 | 20.58     .81
                2.67     .71 |  8.67    1.85 | 14.67    2.03 | 20.67     .81
                2.75     .71 |  8.75    1.89 | 14.75    2.03 | 20.75     .81
                2.83     .71 |  8.83    1.89 | 14.83    2.03 | 20.83     .81
                2.92     .71 |  8.92    1.89 | 14.92    2.03 | 20.92     .81
                3.00     .71 |  9.00    1.89 | 15.00    2.03 | 21.00     .81
                3.08     .71 |  9.08    1.98 | 15.08    2.03 | 21.08     .81
                3.17     .71 |  9.17    2.07 | 15.17    2.03 | 21.17     .81
                3.25     .71 |  9.25    2.16 | 15.25    2.03 | 21.25     .81
                3.33     .71 |  9.33    2.16 | 15.33    2.03 | 21.33     .81
                3.42     .71 |  9.42    2.16 | 15.42    2.03 | 21.42     .81
                3.50     .71 |  9.50    2.16 | 15.50    2.03 | 21.50     .81
                3.58     .71 |  9.58    2.25 | 15.58    2.03 | 21.58     .81
                3.67     .71 |  9.67    2.34 | 15.67    2.03 | 21.67     .81
                3.75     .71 |  9.75    2.43 | 15.75    2.03 | 21.75     .81
                3.83     .71 |  9.83    2.43 | 15.83    2.03 | 21.83     .81
                3.92     .71 |  9.92    2.43 | 15.92    2.03 | 21.92     .81
                4.00     .71 | 10.00    2.43 | 16.00    2.03 | 22.00     .81
                4.08     .83 | 10.08    2.66 | 16.08    1.76 | 22.08     .81
                4.17     .96 | 10.17    2.88 | 16.17    1.49 | 22.17     .81
                4.25    1.08 | 10.25    3.11 | 16.25    1.22 | 22.25     .81
                4.33    1.08 | 10.33    3.11 | 16.33    1.22 | 22.33     .81
                4.42    1.08 | 10.42    3.11 | 16.42    1.22 | 22.42     .81
                4.50    1.08 | 10.50    3.11 | 16.50    1.22 | 22.50     .81
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4.58	1.08	10.58	3.47	16.58	1.22	22.58	.81
4.67	1.08	10.67	3.83	16.67	1.22	22.67	.81
4.75	1.08	10.75	4.19	16.75	1.22	22.75	.81
4.83	1.08	10.83	4.19	16.83	1.22	22.83	.81
4.92	1.08	10.92	4.19	16.92	1.22	22.92	.81
5.00	1.08	11.00	4.19	17.00	1.22	23.00	.81
5.08	1.08	11.08	4.96	17.08	1.22	23.08	.81
5.17	1.08	11.17	5.72	17.17	1.22	23.17	.81
5.25	1.08	11.25	6.49	17.25	1.22	23.25	.81
5.33	1.08	11.33	6.49	17.33	1.22	23.33	.81
5.42	1.08	11.42	6.49	17.42	1.22	23.42	.81
5.50	1.08	11.50	6.49	17.50	1.22	23.50	.81
5.58	1.08	11.58	11.00	17.58	1.22	23.58	.81
5.67	1.08	11.67	15.50	17.67	1.22	23.67	.81
5.75	1.08	11.75	20.01	17.75	1.22	23.75	.81
5.83	1.08	11.83	40.92	17.83	1.22	23.83	.81
5.92	1.08	11.92	61.83	17.92	1.22	23.92	.81
6.00	1.08	12.00	82.74	18.00	1.22	24.00	.81

CALIB			
NASHYD (0102)	Area (ha)= 12.80	Curve Number (CN)= 85.0	
ID= 1 DT= 5.0 min	Ia (mm)= 6.70	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= .47		

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.30	6.083	1.13	12.083	58.41	18.08	1.22
.167	.61	6.167	1.17	12.167	34.07	18.17	1.22
.250	.91	6.250	1.22	12.250	9.74	18.25	1.22
.333	.91	6.333	1.22	12.333	9.73	18.33	1.22
.417	.91	6.417	1.22	12.417	9.73	18.42	1.22
.500	.91	6.500	1.22	12.500	9.73	18.50	1.22
.583	.91	6.583	1.22	12.583	8.16	18.58	1.22
.667	.91	6.667	1.22	12.667	6.58	18.67	1.22
.750	.91	6.750	1.22	12.750	5.00	18.75	1.22
.833	.91	6.833	1.22	12.833	5.00	18.83	1.22
.917	.91	6.917	1.22	12.917	5.00	18.92	1.22
1.000	.91	7.000	1.22	13.000	5.00	19.00	1.22
1.083	.91	7.083	1.31	13.083	4.55	19.08	1.22
1.167	.91	7.167	1.40	13.167	4.10	19.17	1.22
1.250	.91	7.250	1.49	13.250	3.65	19.25	1.22
1.333	.91	7.333	1.49	13.333	3.65	19.33	1.22
1.417	.91	7.417	1.49	13.417	3.65	19.42	1.22
1.500	.91	7.500	1.49	13.500	3.65	19.50	1.22
1.583	.91	7.583	1.49	13.583	3.38	19.58	1.22
1.667	.91	7.667	1.49	13.667	3.11	19.67	1.22
1.750	.91	7.750	1.49	13.750	2.84	19.75	1.22
1.833	.91	7.833	1.49	13.833	2.84	19.83	1.22
1.917	.91	7.917	1.49	13.917	2.84	19.92	1.22
2.000	.91	8.000	1.49	14.000	2.84	20.00	1.22
2.083	.84	8.083	1.58	14.083	2.57	20.08	1.08
2.167	.78	8.167	1.67	14.167	2.30	20.17	.95
2.250	.71	8.250	1.76	14.250	2.03	20.25	.81
2.333	.71	8.333	1.76	14.333	2.03	20.33	.81
2.417	.71	8.417	1.76	14.417	2.03	20.42	.81
2.500	.71	8.500	1.76	14.500	2.03	20.50	.81
2.583	.71	8.583	1.80	14.583	2.03	20.58	.81
2.667	.71	8.667	1.85	14.667	2.03	20.67	.81
2.750	.71	8.750	1.89	14.750	2.03	20.75	.81
2.833	.71	8.833	1.89	14.833	2.03	20.83	.81
2.917	.71	8.917	1.89	14.917	2.03	20.92	.81
3.000	.71	9.000	1.89	15.000	2.03	21.00	.81
3.083	.71	9.083	1.98	15.083	2.03	21.08	.81
3.167	.71	9.167	2.07	15.167	2.03	21.17	.81
3.250	.71	9.250	2.16	15.250	2.03	21.25	.81
3.333	.71	9.333	2.16	15.333	2.03	21.33	.81
3.417	.71	9.417	2.16	15.417	2.03	21.42	.81
3.500	.71	9.500	2.16	15.500	2.03	21.50	.81
3.583	.71	9.583	2.25	15.583	2.03	21.58	.81
3.667	.71	9.667	2.34	15.667	2.03	21.67	.81
3.750	.71	9.750	2.43	15.750	2.03	21.75	.81
3.833	.71	9.833	2.43	15.833	2.03	21.83	.81
3.917	.71	9.917	2.43	15.917	2.03	21.92	.81
4.000	.71	10.000	2.43	16.000	2.03	22.00	.81
4.083	.83	10.083	2.66	16.083	1.76	22.08	.81
4.167	.96	10.167	2.88	16.167	1.49	22.17	.81
4.250	1.08	10.250	3.11	16.250	1.22	22.25	.81
4.333	1.08	10.333	3.11	16.333	1.22	22.33	.81
4.417	1.08	10.417	3.11	16.417	1.22	22.42	.81
4.500	1.08	10.500	3.11	16.500	1.22	22.50	.81
4.583	1.08	10.583	3.47	16.583	1.22	22.58	.81
4.667	1.08	10.667	3.83	16.667	1.22	22.67	.81

4.750	1.08	10.750	4.19	16.750	1.22	22.75	.81
4.833	1.08	10.833	4.19	16.833	1.22	22.83	.81
4.917	1.08	10.917	4.19	16.917	1.22	22.92	.81
5.000	1.08	11.000	4.19	17.000	1.22	23.00	.81
5.083	1.08	11.083	4.96	17.083	1.22	23.08	.81
5.167	1.08	11.167	5.72	17.167	1.22	23.17	.81
5.250	1.08	11.250	6.49	17.250	1.22	23.25	.81
5.333	1.08	11.333	6.49	17.333	1.22	23.33	.81
5.417	1.08	11.417	6.49	17.417	1.22	23.42	.81
5.500	1.08	11.500	6.49	17.500	1.22	23.50	.81
5.583	1.08	11.583	11.00	17.583	1.22	23.58	.81
5.667	1.08	11.667	15.50	17.667	1.22	23.67	.81
5.750	1.08	11.750	20.01	17.750	1.22	23.75	.81
5.833	1.08	11.833	40.92	17.833	1.22	23.83	.81
5.917	1.08	11.917	61.83	17.917	1.22	23.92	.81
6.000	1.08	12.000	82.74	18.000	1.22	24.00	.00

Unit Hyd Qpeak (cms)= 1.040

PEAK FLOW (cms)= .641 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 34.967
TOTAL RAINFALL (mm)= 67.465
RUNOFF COEFFICIENT = .518

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

CALIB					
NASHYD (0101)	Area (ha)=	99.12	Curve Number (CN)=	85.0
ID= 1 DT= 5.0 min	Ia (mm)=	6.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	.77		

Unit Hyd Qpeak (cms)= 4.917

PEAK FLOW (cms)= 3.479 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 34.969
TOTAL RAINFALL (mm)= 67.465
RUNOFF COEFFICIENT = .518

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

CALIB					
NASHYD (0103)	Area (ha)=	10.33	Curve Number (CN)=	85.0
ID= 1 DT= 5.0 min	Ia (mm)=	6.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	.40		

Unit Hyd Qpeak (cms)= .986

PEAK FLOW (cms)= .579 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 34.965
TOTAL RAINFALL (mm)= 67.465
RUNOFF COEFFICIENT = .518

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

ADD HYD (0301)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0102):	12.80	.641	12.42	34.97
+ ID2= 2 (0101):	99.12	3.479	12.75	34.97
ID = 3 (0301):	111.92	4.013	12.75	34.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0302)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0301):	111.92	4.013	12.75	34.97
+ ID2= 2 (0103):	10.33	.579	12.33	34.97
ID = 3 (0302):	122.25	4.458	12.67	34.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ****************************
  ** SIMULATION NUMBER:   3 **
  ****************************

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| MASS STORM       |    Filename: P:\W&W\Projects\SW0409~1\STA8EF~1
|                  |              .CLA\STBBEF~1.CLA\VO2\Scs24h.mst
| Ptotal= 77.60 mm |    Comments: SCS 24 HR MASS CURVE
--------------------

                       Duration of storm    = 24.00 hrs
                       Mass curve time step = 15.00 min
                       New Storm time step  =  5.00 min
```

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.08	.35	6.08	1.29	12.08	67.05	18.08	1.40
.17	.70	6.17	1.35	12.17	39.11	18.17	1.40
.25	1.05	6.25	1.40	12.25	11.17	18.25	1.40
.33	1.05	6.33	1.40	12.33	11.17	18.33	1.40
.42	1.05	6.42	1.40	12.42	11.17	18.42	1.40
.50	1.05	6.50	1.40	12.50	11.17	18.50	1.40
.58	1.05	6.58	1.40	12.58	9.36	18.58	1.40
.67	1.05	6.67	1.40	12.67	7.55	18.67	1.40
.75	1.05	6.75	1.40	12.75	5.74	18.75	1.40
.83	1.05	6.83	1.40	12.83	5.74	18.83	1.40
.92	1.05	6.92	1.40	12.92	5.74	18.92	1.40
1.00	1.05	7.00	1.40	13.00	5.74	19.00	1.40
1.08	1.05	7.08	1.50	13.08	5.23	19.08	1.40
1.17	1.05	7.17	1.60	13.17	4.71	19.17	1.40
1.25	1.05	7.25	1.71	13.25	4.19	19.25	1.40
1.33	1.05	7.33	1.71	13.33	4.19	19.33	1.40
1.42	1.05	7.42	1.71	13.42	4.19	19.42	1.40
1.50	1.05	7.50	1.71	13.50	4.19	19.50	1.40
1.58	1.05	7.58	1.71	13.58	3.88	19.58	1.40
1.67	1.05	7.67	1.71	13.67	3.57	19.67	1.40
1.75	1.05	7.75	1.71	13.75	3.26	19.75	1.40
1.83	1.05	7.83	1.71	13.83	3.26	19.83	1.40
1.92	1.05	7.92	1.71	13.92	3.26	19.92	1.40
2.00	1.05	8.00	1.71	14.00	3.26	20.00	1.40
2.08	.97	8.08	1.81	14.08	2.95	20.08	1.24
2.17	.89	8.17	1.91	14.17	2.64	20.17	1.09
2.25	.82	8.25	2.02	14.25	2.33	20.25	.93
2.33	.82	8.33	2.02	14.33	2.33	20.33	.93
2.42	.81	8.42	2.02	14.42	2.33	20.42	.93
2.50	.81	8.50	2.02	14.50	2.33	20.50	.93
2.58	.81	8.58	2.07	14.58	2.33	20.58	.93
2.67	.82	8.67	2.12	14.67	2.33	20.67	.93
2.75	.82	8.75	2.17	14.75	2.33	20.75	.93
2.83	.82	8.83	2.17	14.83	2.33	20.83	.93
2.92	.81	8.92	2.17	14.92	2.33	20.92	.93
3.00	.81	9.00	2.17	15.00	2.33	21.00	.93
3.08	.81	9.08	2.28	15.08	2.33	21.08	.93
3.17	.82	9.17	2.38	15.17	2.33	21.17	.93
3.25	.82	9.25	2.48	15.25	2.33	21.25	.93
3.33	.82	9.33	2.48	15.33	2.33	21.33	.93
3.42	.81	9.42	2.48	15.42	2.33	21.42	.93
3.50	.81	9.50	2.48	15.50	2.33	21.50	.93
3.58	.81	9.58	2.59	15.58	2.33	21.58	.93
3.67	.82	9.67	2.69	15.67	2.33	21.67	.93
3.75	.82	9.75	2.79	15.75	2.33	21.75	.93
3.83	.82	9.83	2.79	15.83	2.33	21.83	.93
3.92	.81	9.92	2.79	15.92	2.33	21.92	.93
4.00	.81	10.00	2.79	16.00	2.33	22.00	.93
4.08	.96	10.08	3.05	16.08	2.02	22.08	.93
4.17	1.10	10.17	3.31	16.17	1.71	22.17	.93
4.25	1.24	10.25	3.57	16.25	1.40	22.25	.93
4.33	1.24	10.33	3.57	16.33	1.40	22.33	.93
4.42	1.24	10.42	3.57	16.42	1.40	22.42	.93
4.50	1.24	10.50	3.57	16.50	1.40	22.50	.93
4.58	1.24	10.58	3.98	16.58	1.40	22.58	.93
4.67	1.24	10.67	4.40	16.67	1.40	22.67	.93
4.75	1.24	10.75	4.81	16.75	1.40	22.75	.93
4.83	1.24	10.83	4.81	16.83	1.40	22.83	.93
4.92	1.24	10.92	4.81	16.92	1.40	22.92	.93
5.00	1.24	11.00	4.81	17.00	1.40	23.00	.93
5.08	1.24	11.08	5.69	17.08	1.40	23.08	.93
5.17	1.24	11.17	6.57	17.17	1.40	23.17	.93
5.25	1.24	11.25	7.45	17.25	1.40	23.25	.93
5.33	1.24	11.33	7.45	17.33	1.40	23.33	.93
5.42	1.24	11.42	7.45	17.42	1.40	23.42	.93
5.50	1.24	11.50	7.45	17.50	1.40	23.50	.93
5.58	1.24	11.58	12.62	17.58	1.40	23.58	.93
5.67	1.24	11.67	17.80	17.67	1.40	23.67	.93
5.75	1.24	11.75	22.97	17.75	1.40	23.75	.93
5.83	1.24	11.83	46.97	17.83	1.40	23.83	.93
5.92	1.24	11.92	70.98	17.92	1.40	23.92	.93
6.00	1.24	12.00	94.98	18.00	1.40	24.00	.93

CALIB					
NASHYD (0102)	Area (ha)= 12.80	Curve Number (CN)= 85.0			
ID= 1 DT= 5.0 min	Ia (mm)= 6.70	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= .47				

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.35	6.083	1.29	12.083	67.05	18.08	1.40
.167	.70	6.167	1.35	12.167	39.11	18.17	1.40
.250	1.05	6.250	1.40	12.250	11.18	18.25	1.40
.333	1.05	6.333	1.40	12.333	11.17	18.33	1.40
.417	1.05	6.417	1.40	12.417	11.17	18.42	1.40
.500	1.05	6.500	1.40	12.500	11.17	18.50	1.40
.583	1.05	6.583	1.40	12.583	9.36	18.58	1.40
.667	1.05	6.667	1.40	12.667	7.55	18.67	1.40
.750	1.05	6.750	1.40	12.750	5.74	18.75	1.40
.833	1.05	6.833	1.40	12.833	5.74	18.83	1.40
.917	1.05	6.917	1.40	12.917	5.74	18.92	1.40
1.000	1.05	7.000	1.40	13.000	5.74	19.00	1.40
1.083	1.05	7.083	1.50	13.083	5.23	19.08	1.40
1.167	1.05	7.167	1.60	13.167	4.71	19.17	1.40
1.250	1.05	7.250	1.71	13.250	4.19	19.25	1.40
1.333	1.05	7.333	1.71	13.333	4.19	19.33	1.40
1.417	1.05	7.417	1.71	13.417	4.19	19.42	1.40
1.500	1.05	7.500	1.71	13.500	4.19	19.50	1.40
1.583	1.05	7.583	1.71	13.583	3.88	19.58	1.40
1.667	1.05	7.667	1.71	13.667	3.57	19.67	1.40
1.750	1.05	7.750	1.71	13.750	3.26	19.75	1.40
1.833	1.05	7.833	1.71	13.833	3.26	19.83	1.40
1.917	1.05	7.917	1.71	13.917	3.26	19.92	1.40
2.000	1.05	8.000	1.71	14.000	3.26	20.00	1.40
2.083	.97	8.083	1.81	14.083	2.95	20.08	1.24
2.167	.89	8.167	1.91	14.167	2.64	20.17	1.09
2.250	.82	8.250	2.02	14.250	2.33	20.25	.93
2.333	.82	8.333	2.02	14.333	2.33	20.33	.93
2.417	.81	8.417	2.02	14.417	2.33	20.42	.93
2.500	.81	8.500	2.02	14.500	2.33	20.50	.93
2.583	.81	8.583	2.07	14.583	2.33	20.58	.93
2.667	.82	8.667	2.12	14.667	2.33	20.67	.93
2.750	.82	8.750	2.17	14.750	2.33	20.75	.93
2.833	.82	8.833	2.17	14.833	2.33	20.83	.93
2.917	.81	8.917	2.17	14.917	2.33	20.92	.93
3.000	.81	9.000	2.17	15.000	2.33	21.00	.93
3.083	.81	9.083	2.28	15.083	2.33	21.08	.93
3.167	.82	9.167	2.38	15.167	2.33	21.17	.93
3.250	.82	9.250	2.48	15.250	2.33	21.25	.93
3.333	.82	9.333	2.48	15.333	2.33	21.33	.93
3.417	.81	9.417	2.48	15.417	2.33	21.42	.93
3.500	.81	9.500	2.48	15.500	2.33	21.50	.93
3.583	.81	9.583	2.59	15.583	2.33	21.58	.93
3.667	.82	9.667	2.69	15.667	2.33	21.67	.93
3.750	.82	9.750	2.79	15.750	2.33	21.75	.93
3.833	.82	9.833	2.79	15.833	2.33	21.83	.93
3.917	.81	9.917	2.79	15.917	2.33	21.92	.93
4.000	.81	10.000	2.79	16.000	2.33	22.00	.93
4.083	.96	10.083	3.05	16.083	2.02	22.08	.93
4.167	1.10	10.167	3.31	16.167	1.71	22.17	.93
4.250	1.24	10.250	3.57	16.250	1.40	22.25	.93
4.333	1.24	10.333	3.57	16.333	1.40	22.33	.93
4.417	1.24	10.417	3.57	16.417	1.40	22.42	.93
4.500	1.24	10.500	3.57	16.500	1.40	22.50	.93
4.583	1.24	10.583	3.98	16.583	1.40	22.58	.93
4.667	1.24	10.667	4.40	16.667	1.40	22.67	.93
4.750	1.24	10.750	4.81	16.750	1.40	22.75	.93
4.833	1.24	10.833	4.81	16.833	1.40	22.83	.93
4.917	1.24	10.917	4.81	16.917	1.40	22.92	.93
5.000	1.24	11.000	4.81	17.000	1.40	23.00	.93
5.083	1.24	11.083	5.69	17.083	1.40	23.08	.93
5.167	1.24	11.167	6.57	17.167	1.40	23.17	.93
5.250	1.24	11.250	7.45	17.250	1.40	23.25	.93
5.333	1.24	11.333	7.45	17.333	1.40	23.33	.93
5.417	1.24	11.417	7.45	17.417	1.40	23.42	.93
5.500	1.24	11.500	7.45	17.500	1.40	23.50	.93
5.583	1.24	11.583	12.62	17.583	1.40	23.58	.93
5.667	1.24	11.667	17.80	17.667	1.40	23.67	.93
5.750	1.24	11.750	22.97	17.750	1.40	23.75	.93
5.833	1.24	11.833	46.97	17.833	1.40	23.83	.93
5.917	1.24	11.917	70.98	17.917	1.40	23.92	.93
6.000	1.24	12.000	94.98	18.000	1.40	24.00	.00

Unit Hyd Qpeak (cms)= 1.040

```
     PEAK FLOW       (cms)=    .799 (i)
     TIME TO PEAK    (hrs)=  12.417
     RUNOFF VOLUME    (mm)=  43.303
     TOTAL RAINFALL   (mm)=  77.445
     RUNOFF COEFFICIENT   =    .559

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0101) |   Area    (ha)=  99.12   Curve Number   (CN)= 85.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .77

     Unit Hyd Qpeak  (cms)=   4.917

     PEAK FLOW       (cms)=   4.334 (i)
     TIME TO PEAK    (hrs)=  12.750
     RUNOFF VOLUME    (mm)=  43.306
     TOTAL RAINFALL   (mm)=  77.445
     RUNOFF COEFFICIENT   =    .559

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

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--------------------
| CALIB            |
| NASHYD    (0103) |   Area    (ha)=  10.33   Curve Number   (CN)= 85.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .40

     Unit Hyd Qpeak  (cms)=    .986

     PEAK FLOW       (cms)=    .721 (i)
     TIME TO PEAK    (hrs)=  12.333
     RUNOFF VOLUME    (mm)=  43.301
     TOTAL RAINFALL   (mm)=  77.445
     RUNOFF COEFFICIENT   =    .559

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

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--------------------
| ADD HYD   (0301) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
          ID1= 1 (0102):    12.80    .799    12.42    43.30
        + ID2= 2 (0101):    99.12   4.334    12.75    43.31
          ================================================
          ID = 3 (0301):   111.92   4.994    12.75    43.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0302) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)      (mm)
          ID1= 1 (0301):   111.92   4.994    12.75    43.31
        + ID2= 2 (0103):    10.33    .721    12.33    43.30
          ================================================
          ID = 3 (0302):   122.25   5.552    12.67    43.31

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ** SIMULATION NUMBER:   4 **
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| MASS STORM       |    Filename: P:\W&W\Projects\SW0409~1\STA8EF~1
|                  |              .CLA\STBBEF~1.CLA\VO2\Scs24h.mst
| Ptotal= 90.20 mm |    Comments: SCS 24 HR MASS CURVE
--------------------
                       Duration of storm    = 24.00 hrs
                       Mass curve time step = 15.00 min
                       New Storm time step  =  5.00 min


                TIME    RAIN |  TIME    RAIN |  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr
                 .08     .41 |  6.08    1.50 | 12.08   77.93 | 18.08    1.62
                 .17     .81 |  6.17    1.56 | 12.17   45.46 | 18.17    1.62
```

.25	1.22	6.25	1.62	12.25	12.99	18.25	1.62
.33	1.22	6.33	1.62	12.33	12.99	18.33	1.62
.42	1.22	6.42	1.62	12.42	12.99	18.42	1.62
.50	1.22	6.50	1.62	12.50	12.99	18.50	1.62
.58	1.22	6.58	1.62	12.58	10.88	18.58	1.62
.67	1.22	6.67	1.62	12.67	8.78	18.67	1.62
.75	1.22	6.75	1.62	12.75	6.67	18.75	1.62
.83	1.22	6.83	1.62	12.83	6.67	18.83	1.62
.92	1.22	6.92	1.62	12.92	6.67	18.92	1.62
1.00	1.22	7.00	1.62	13.00	6.67	19.00	1.62
1.08	1.22	7.08	1.74	13.08	6.07	19.08	1.62
1.17	1.22	7.17	1.86	13.17	5.47	19.17	1.62
1.25	1.22	7.25	1.98	13.25	4.87	19.25	1.62
1.33	1.22	7.33	1.98	13.33	4.87	19.33	1.62
1.42	1.22	7.42	1.98	13.42	4.87	19.42	1.62
1.50	1.22	7.50	1.98	13.50	4.87	19.50	1.62
1.58	1.22	7.58	1.98	13.58	4.51	19.58	1.62
1.67	1.22	7.67	1.98	13.67	4.15	19.67	1.62
1.75	1.22	7.75	1.98	13.75	3.79	19.75	1.62
1.83	1.22	7.83	1.98	13.83	3.79	19.83	1.62
1.92	1.22	7.92	1.98	13.92	3.79	19.92	1.62
2.00	1.22	8.00	1.98	14.00	3.79	20.00	1.62
2.08	1.13	8.08	2.10	14.08	3.43	20.08	1.44
2.17	1.04	8.17	2.22	14.17	3.07	20.17	1.26
2.25	.95	8.25	2.35	14.25	2.71	20.25	1.08
2.33	.95	8.33	2.35	14.33	2.71	20.33	1.08
2.42	.95	8.42	2.35	14.42	2.71	20.42	1.08
2.50	.95	8.50	2.35	14.50	2.71	20.50	1.08
2.58	.95	8.58	2.41	14.58	2.71	20.58	1.08
2.67	.95	8.67	2.47	14.67	2.71	20.67	1.08
2.75	.95	8.75	2.53	14.75	2.71	20.75	1.08
2.83	.95	8.83	2.53	14.83	2.71	20.83	1.08
2.92	.95	8.92	2.53	14.92	2.71	20.92	1.08
3.00	.95	9.00	2.53	15.00	2.71	21.00	1.08
3.08	.95	9.08	2.65	15.08	2.71	21.08	1.08
3.17	.95	9.17	2.77	15.17	2.71	21.17	1.08
3.25	.95	9.25	2.89	15.25	2.71	21.25	1.08
3.33	.95	9.33	2.89	15.33	2.71	21.33	1.08
3.42	.95	9.42	2.89	15.42	2.71	21.42	1.08
3.50	.95	9.50	2.89	15.50	2.71	21.50	1.08
3.58	.95	9.58	3.01	15.58	2.71	21.58	1.08
3.67	.95	9.67	3.13	15.67	2.71	21.67	1.08
3.75	.95	9.75	3.25	15.75	2.71	21.75	1.08
3.83	.95	9.83	3.25	15.83	2.71	21.83	1.08
3.92	.95	9.92	3.25	15.92	2.71	21.92	1.08
4.00	.95	10.00	3.25	16.00	2.71	22.00	1.08
4.08	1.11	10.08	3.55	16.08	2.35	22.08	1.08
4.17	1.28	10.17	3.85	16.17	1.98	22.17	1.08
4.25	1.44	10.25	4.15	16.25	1.62	22.25	1.08
4.33	1.44	10.33	4.15	16.33	1.62	22.33	1.08
4.42	1.44	10.42	4.15	16.42	1.62	22.42	1.08
4.50	1.44	10.50	4.15	16.50	1.62	22.50	1.08
4.58	1.44	10.58	4.63	16.58	1.62	22.58	1.08
4.67	1.44	10.67	5.11	16.67	1.62	22.67	1.08
4.75	1.44	10.75	5.59	16.75	1.62	22.75	1.08
4.83	1.44	10.83	5.59	16.83	1.62	22.83	1.08
4.92	1.44	10.92	5.59	16.92	1.62	22.92	1.08
5.00	1.44	11.00	5.59	17.00	1.62	23.00	1.08
5.08	1.44	11.08	6.61	17.08	1.62	23.08	1.08
5.17	1.44	11.17	7.64	17.17	1.62	23.17	1.08
5.25	1.44	11.25	8.66	17.25	1.62	23.25	1.08
5.33	1.44	11.33	8.66	17.33	1.62	23.33	1.08
5.42	1.44	11.42	8.66	17.42	1.62	23.42	1.08
5.50	1.44	11.50	8.66	17.50	1.62	23.50	1.08
5.58	1.44	11.58	14.67	17.58	1.62	23.58	1.08
5.67	1.44	11.67	20.69	17.67	1.62	23.67	1.08
5.75	1.44	11.75	26.70	17.75	1.62	23.75	1.08
5.83	1.44	11.83	54.60	17.83	1.62	23.83	1.08
5.92	1.44	11.92	82.50	17.92	1.62	23.92	1.08
6.00	1.44	12.00	110.40	18.00	1.62	24.00	1.08

CALIB			
NASHYD (0102)	Area (ha)= 12.80	Curve Number (CN)= 85.0	
ID= 1 DT= 5.0 min	Ia (mm)= 6.70	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= .47		

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.41	6.083	1.50	12.083	77.94	18.08	1.62
.167	.81	6.167	1.56	12.167	45.47	18.17	1.62
.250	1.22	6.250	1.62	12.250	12.99	18.25	1.62
.333	1.22	6.333	1.62	12.333	12.99	18.33	1.62

.417	1.22	6.417	1.62	12.417	12.99	18.42	1.62
.500	1.22	6.500	1.62	12.500	12.99	18.50	1.62
.583	1.22	6.583	1.62	12.583	10.88	18.58	1.62
.667	1.22	6.667	1.62	12.667	8.78	18.67	1.62
.750	1.22	6.750	1.62	12.750	6.68	18.75	1.62
.833	1.22	6.833	1.62	12.833	6.67	18.83	1.62
.917	1.22	6.917	1.62	12.917	6.67	18.92	1.62
1.000	1.22	7.000	1.62	13.000	6.67	19.00	1.62
1.083	1.22	7.083	1.74	13.083	6.07	19.08	1.62
1.167	1.22	7.167	1.86	13.167	5.47	19.17	1.62
1.250	1.22	7.250	1.98	13.250	4.87	19.25	1.62
1.333	1.22	7.333	1.98	13.333	4.87	19.33	1.62
1.417	1.22	7.417	1.98	13.417	4.87	19.42	1.62
1.500	1.22	7.500	1.98	13.500	4.87	19.50	1.62
1.583	1.22	7.583	1.98	13.583	4.51	19.58	1.62
1.667	1.22	7.667	1.98	13.667	4.15	19.67	1.62
1.750	1.22	7.750	1.98	13.750	3.79	19.75	1.62
1.833	1.22	7.833	1.98	13.833	3.79	19.83	1.62
1.917	1.22	7.917	1.98	13.917	3.79	19.92	1.62
2.000	1.22	8.000	1.98	14.000	3.79	20.00	1.62
2.083	1.13	8.083	2.10	14.083	3.43	20.08	1.44
2.167	1.04	8.167	2.22	14.167	3.07	20.17	1.26
2.250	.95	8.250	2.35	14.250	2.71	20.25	1.08
2.333	.95	8.333	2.35	14.333	2.71	20.33	1.08
2.417	.95	8.417	2.35	14.417	2.71	20.42	1.08
2.500	.95	8.500	2.35	14.500	2.71	20.50	1.08
2.583	.95	8.583	2.41	14.583	2.71	20.58	1.08
2.667	.95	8.667	2.47	14.667	2.71	20.67	1.08
2.750	.95	8.750	2.53	14.750	2.71	20.75	1.08
2.833	.95	8.833	2.53	14.833	2.71	20.83	1.08
2.917	.95	8.917	2.53	14.917	2.71	20.92	1.08
3.000	.95	9.000	2.53	15.000	2.71	21.00	1.08
3.083	.95	9.083	2.65	15.083	2.71	21.08	1.08
3.167	.95	9.167	2.77	15.167	2.71	21.17	1.08
3.250	.95	9.250	2.89	15.250	2.71	21.25	1.08
3.333	.95	9.333	2.89	15.333	2.71	21.33	1.08
3.417	.95	9.417	2.89	15.417	2.71	21.42	1.08
3.500	.95	9.500	2.89	15.500	2.71	21.50	1.08
3.583	.95	9.583	3.01	15.583	2.71	21.58	1.08
3.667	.95	9.667	3.13	15.667	2.71	21.67	1.08
3.750	.95	9.750	3.25	15.750	2.71	21.75	1.08
3.833	.95	9.833	3.25	15.833	2.71	21.83	1.08
3.917	.95	9.917	3.25	15.917	2.71	21.92	1.08
4.000	.95	10.000	3.25	16.000	2.71	22.00	1.08
4.083	1.11	10.083	3.55	16.083	2.35	22.08	1.08
4.167	1.28	10.167	3.85	16.167	1.98	22.17	1.08
4.250	1.44	10.250	4.15	16.250	1.62	22.25	1.08
4.333	1.44	10.333	4.15	16.333	1.62	22.33	1.08
4.417	1.44	10.417	4.15	16.417	1.62	22.42	1.08
4.500	1.44	10.500	4.15	16.500	1.62	22.50	1.08
4.583	1.44	10.583	4.63	16.583	1.62	22.58	1.08
4.667	1.44	10.667	5.11	16.667	1.62	22.67	1.08
4.750	1.44	10.750	5.59	16.750	1.62	22.75	1.08
4.833	1.44	10.833	5.59	16.833	1.62	22.83	1.08
4.917	1.44	10.917	5.59	16.917	1.62	22.92	1.08
5.000	1.44	11.000	5.59	17.000	1.62	23.00	1.08
5.083	1.44	11.083	6.61	17.083	1.62	23.08	1.08
5.167	1.44	11.167	7.64	17.167	1.62	23.17	1.08
5.250	1.44	11.250	8.66	17.250	1.62	23.25	1.08
5.333	1.44	11.333	8.66	17.333	1.62	23.33	1.08
5.417	1.44	11.417	8.66	17.417	1.62	23.42	1.08
5.500	1.44	11.500	8.66	17.500	1.62	23.50	1.08
5.583	1.44	11.583	14.67	17.583	1.62	23.58	1.08
5.667	1.44	11.667	20.69	17.667	1.62	23.67	1.08
5.750	1.44	11.750	26.70	17.750	1.62	23.75	1.08
5.833	1.44	11.833	54.60	17.833	1.62	23.83	1.08
5.917	1.44	11.917	82.50	17.917	1.62	23.92	1.08
6.000	1.44	12.000	110.40	18.000	1.62	24.00	.00

Unit Hyd Qpeak (cms)= 1.040

PEAK FLOW (cms)= 1.003 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 54.172
TOTAL RAINFALL (mm)= 90.020
RUNOFF COEFFICIENT = .602

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

CALIB					
NASHYD (0101)	Area (ha)=	99.12	Curve Number (CN)=	85.0	
ID= 1 DT= 5.0 min	Ia (mm)=	6.70	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	.77			

Unit Hyd Qpeak (cms)= 4.917

```
     PEAK FLOW       (cms)=   5.445 (i)
     TIME TO PEAK    (hrs)=  12.750
     RUNOFF VOLUME    (mm)=  54.175
     TOTAL RAINFALL   (mm)=  90.020
     RUNOFF COEFFICIENT   =    .602

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

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| CALIB            |
| NASHYD    (0103) |   Area    (ha)=  10.33   Curve Number   (CN)= 85.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .40

     Unit Hyd Qpeak  (cms)=    .986

     PEAK FLOW       (cms)=    .905 (i)
     TIME TO PEAK    (hrs)=  12.333
     RUNOFF VOLUME    (mm)=  54.168
     TOTAL RAINFALL   (mm)=  90.020
     RUNOFF COEFFICIENT   =    .602

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

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--------------------
| ADD HYD   (0301) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0102):    12.80   1.003    12.42    54.17
       + ID2= 2 (0101):    99.12   5.445    12.75    54.17
         ================================================
         ID = 3 (0301):   111.92   6.267    12.75    54.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0302) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0301):   111.92   6.267    12.75    54.17
       + ID2= 2 (0103):    10.33    .905    12.33    54.17
         ================================================
         ID = 3 (0302):   122.25   6.971    12.67    54.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ** SIMULATION NUMBER:   5 **
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| MASS STORM       |    Filename: P:\W&W\Projects\SW0409~1\STA8EF~1
|                  |              .CLA\STBBEF~1.CLA\VO2\Scs24h.mst
| Ptotal= 99.60 mm |    Comments: SCS 24 HR MASS CURVE
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                       Duration of storm    = 24.00 hrs
                       Mass curve time step = 15.00 min
                       New Storm time step  =  5.00 min


                TIME    RAIN |  TIME    RAIN |  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr
                 .08     .45 |  6.08    1.66 | 12.08   86.05 | 18.08    1.79
                 .17     .90 |  6.17    1.73 | 12.17   50.20 | 18.17    1.79
                 .25    1.35 |  6.25    1.79 | 12.25   14.34 | 18.25    1.79
                 .33    1.35 |  6.33    1.79 | 12.33   14.34 | 18.33    1.79
                 .42    1.34 |  6.42    1.79 | 12.42   14.34 | 18.42    1.79
                 .50    1.34 |  6.50    1.79 | 12.50   14.34 | 18.50    1.79
                 .58    1.34 |  6.58    1.79 | 12.58   12.02 | 18.58    1.79
                 .67    1.35 |  6.67    1.79 | 12.67    9.69 | 18.67    1.79
                 .75    1.35 |  6.75    1.79 | 12.75    7.37 | 18.75    1.79
                 .83    1.35 |  6.83    1.79 | 12.83    7.37 | 18.83    1.79
                 .92    1.34 |  6.92    1.79 | 12.92    7.37 | 18.92    1.79
                1.00    1.34 |  7.00    1.79 | 13.00    7.37 | 19.00    1.79
                1.08    1.34 |  7.08    1.93 | 13.08    6.71 | 19.08    1.79
                1.17    1.35 |  7.17    2.06 | 13.17    6.04 | 19.17    1.79
                1.25    1.35 |  7.25    2.19 | 13.25    5.38 | 19.25    1.79
                1.33    1.35 |  7.33    2.19 | 13.33    5.38 | 19.33    1.79
                1.42    1.34 |  7.42    2.19 | 13.42    5.38 | 19.42    1.79
                1.50    1.34 |  7.50    2.19 | 13.50    5.38 | 19.50    1.79
                1.58    1.34 |  7.58    2.19 | 13.58    4.98 | 19.58    1.79
                1.67    1.35 |  7.67    2.19 | 13.67    4.58 | 19.67    1.79
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1.75	1.35	7.75	2.19	13.75	4.18	19.75	1.79
1.83	1.35	7.83	2.19	13.83	4.18	19.83	1.79
1.92	1.34	7.92	2.19	13.92	4.18	19.92	1.79
2.00	1.34	8.00	2.19	14.00	4.18	20.00	1.79
2.08	1.24	8.08	2.32	14.08	3.78	20.08	1.59
2.17	1.15	8.17	2.46	14.17	3.39	20.17	1.39
2.25	1.05	8.25	2.59	14.25	2.99	20.25	1.20
2.33	1.05	8.33	2.59	14.33	2.99	20.33	1.20
2.42	1.05	8.42	2.59	14.42	2.99	20.42	1.20
2.50	1.04	8.50	2.59	14.50	2.99	20.50	1.20
2.58	1.05	8.58	2.66	14.58	2.99	20.58	1.20
2.67	1.05	8.67	2.72	14.67	2.99	20.67	1.20
2.75	1.05	8.75	2.79	14.75	2.99	20.75	1.20
2.83	1.05	8.83	2.79	14.83	2.99	20.83	1.20
2.92	1.05	8.92	2.79	14.92	2.99	20.92	1.20
3.00	1.04	9.00	2.79	15.00	2.99	21.00	1.20
3.08	1.05	9.08	2.92	15.08	2.99	21.08	1.20
3.17	1.05	9.17	3.05	15.17	2.99	21.17	1.20
3.25	1.05	9.25	3.19	15.25	2.99	21.25	1.20
3.33	1.05	9.33	3.19	15.33	2.99	21.33	1.20
3.42	1.05	9.42	3.19	15.42	2.99	21.42	1.20
3.50	1.04	9.50	3.19	15.50	2.99	21.50	1.20
3.58	1.05	9.58	3.32	15.58	2.99	21.58	1.20
3.67	1.05	9.67	3.45	15.67	2.99	21.67	1.20
3.75	1.05	9.75	3.59	15.75	2.99	21.75	1.20
3.83	1.05	9.83	3.59	15.83	2.99	21.83	1.20
3.92	1.05	9.92	3.59	15.92	2.99	21.92	1.20
4.00	1.04	10.00	3.59	16.00	2.99	22.00	1.20
4.08	1.23	10.08	3.92	16.08	2.59	22.08	1.20
4.17	1.41	10.17	4.25	16.17	2.19	22.17	1.20
4.25	1.59	10.25	4.58	16.25	1.79	22.25	1.20
4.33	1.59	10.33	4.58	16.33	1.79	22.33	1.20
4.42	1.59	10.42	4.58	16.42	1.79	22.42	1.20
4.50	1.59	10.50	4.58	16.50	1.79	22.50	1.20
4.58	1.59	10.58	5.11	16.58	1.79	22.58	1.20
4.67	1.59	10.67	5.64	16.67	1.79	22.67	1.20
4.75	1.59	10.75	6.18	16.75	1.79	22.75	1.20
4.83	1.59	10.83	6.18	16.83	1.79	22.83	1.20
4.92	1.59	10.92	6.18	16.92	1.79	22.92	1.20
5.00	1.59	11.00	6.18	17.00	1.79	23.00	1.20
5.08	1.59	11.08	7.30	17.08	1.79	23.08	1.20
5.17	1.59	11.17	8.43	17.17	1.79	23.17	1.20
5.25	1.59	11.25	9.56	17.25	1.79	23.25	1.20
5.33	1.59	11.33	9.56	17.33	1.79	23.33	1.20
5.42	1.59	11.42	9.56	17.42	1.79	23.42	1.20
5.50	1.59	11.50	9.56	17.50	1.79	23.50	1.20
5.58	1.59	11.58	16.20	17.58	1.79	23.58	1.20
5.67	1.59	11.67	22.84	17.67	1.79	23.67	1.20
5.75	1.59	11.75	29.48	17.75	1.79	23.75	1.20
5.83	1.59	11.83	60.29	17.83	1.79	23.83	1.20
5.92	1.59	11.92	91.10	17.92	1.79	23.92	1.20
6.00	1.59	12.00	121.91	18.00	1.79	24.00	1.20

CALIB			
NASHYD (0102)	Area (ha)= 12.80	Curve Number (CN)= 85.0	
ID= 1 DT= 5.0 min	Ia (mm)= 6.70	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= .47		

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.45	6.083	1.66	12.083	86.06	18.08	1.79
.167	.90	6.167	1.73	12.167	50.20	18.17	1.79
.250	1.35	6.250	1.79	12.250	14.35	18.25	1.79
.333	1.35	6.333	1.79	12.333	14.34	18.33	1.79
.417	1.34	6.417	1.79	12.417	14.34	18.42	1.79
.500	1.34	6.500	1.79	12.500	14.34	18.50	1.79
.583	1.34	6.583	1.79	12.583	12.02	18.58	1.79
.667	1.35	6.667	1.79	12.667	9.69	18.67	1.79
.750	1.35	6.750	1.79	12.750	7.37	18.75	1.79
.833	1.35	6.833	1.79	12.833	7.37	18.83	1.79
.917	1.34	6.917	1.79	12.917	7.37	18.92	1.79
1.000	1.34	7.000	1.79	13.000	7.37	19.00	1.79
1.083	1.34	7.083	1.93	13.083	6.71	19.08	1.79
1.167	1.35	7.167	2.06	13.167	6.04	19.17	1.79
1.250	1.35	7.250	2.19	13.250	5.38	19.25	1.79
1.333	1.35	7.333	2.19	13.333	5.38	19.33	1.79
1.417	1.34	7.417	2.19	13.417	5.38	19.42	1.79
1.500	1.34	7.500	2.19	13.500	5.38	19.50	1.79
1.583	1.34	7.583	2.19	13.583	4.98	19.58	1.79
1.667	1.35	7.667	2.19	13.667	4.58	19.67	1.79
1.750	1.35	7.750	2.19	13.750	4.18	19.75	1.79
1.833	1.35	7.833	2.19	13.833	4.18	19.83	1.79

1.917	1.34	7.917	2.19	13.917	4.18	19.92	1.79
2.000	1.34	8.000	2.19	14.000	4.18	20.00	1.79
2.083	1.24	8.083	2.32	14.083	3.78	20.08	1.59
2.167	1.15	8.167	2.46	14.167	3.39	20.17	1.39
2.250	1.05	8.250	2.59	14.250	2.99	20.25	1.20
2.333	1.05	8.333	2.59	14.333	2.99	20.33	1.20
2.417	1.05	8.417	2.59	14.417	2.99	20.42	1.20
2.500	1.04	8.500	2.59	14.500	2.99	20.50	1.20
2.583	1.05	8.583	2.66	14.583	2.99	20.58	1.20
2.667	1.05	8.667	2.72	14.667	2.99	20.67	1.20
2.750	1.05	8.750	2.79	14.750	2.99	20.75	1.20
2.833	1.05	8.833	2.79	14.833	2.99	20.83	1.20
2.917	1.05	8.917	2.79	14.917	2.99	20.92	1.20
3.000	1.04	9.000	2.79	15.000	2.99	21.00	1.20
3.083	1.05	9.083	2.92	15.083	2.99	21.08	1.20
3.167	1.05	9.167	3.05	15.167	2.99	21.17	1.20
3.250	1.05	9.250	3.19	15.250	2.99	21.25	1.20
3.333	1.05	9.333	3.19	15.333	2.99	21.33	1.20
3.417	1.05	9.417	3.19	15.417	2.99	21.42	1.20
3.500	1.04	9.500	3.19	15.500	2.99	21.50	1.20
3.583	1.05	9.583	3.32	15.583	2.99	21.58	1.20
3.667	1.05	9.667	3.45	15.667	2.99	21.67	1.20
3.750	1.05	9.750	3.59	15.750	2.99	21.75	1.20
3.833	1.05	9.833	3.59	15.833	2.99	21.83	1.20
3.917	1.05	9.917	3.59	15.917	2.99	21.92	1.20
4.000	1.04	10.000	3.59	16.000	2.99	22.00	1.20
4.083	1.23	10.083	3.92	16.083	2.59	22.08	1.20
4.167	1.41	10.167	4.25	16.167	2.19	22.17	1.20
4.250	1.59	10.250	4.58	16.250	1.79	22.25	1.20
4.333	1.59	10.333	4.58	16.333	1.79	22.33	1.20
4.417	1.59	10.417	4.58	16.417	1.79	22.42	1.20
4.500	1.59	10.500	4.58	16.500	1.79	22.50	1.20
4.583	1.59	10.583	5.11	16.583	1.79	22.58	1.20
4.667	1.59	10.667	5.64	16.667	1.79	22.67	1.20
4.750	1.59	10.750	6.18	16.750	1.79	22.75	1.20
4.833	1.59	10.833	6.18	16.833	1.79	22.83	1.20
4.917	1.59	10.917	6.18	16.917	1.79	22.92	1.20
5.000	1.59	11.000	6.18	17.000	1.79	23.00	1.20
5.083	1.59	11.083	7.30	17.083	1.79	23.08	1.20
5.167	1.59	11.167	8.43	17.167	1.79	23.17	1.20
5.250	1.59	11.250	9.56	17.250	1.79	23.25	1.20
5.333	1.59	11.333	9.56	17.333	1.79	23.33	1.20
5.417	1.59	11.417	9.56	17.417	1.79	23.42	1.20
5.500	1.59	11.500	9.56	17.500	1.79	23.50	1.20
5.583	1.59	11.583	16.20	17.583	1.79	23.58	1.20
5.667	1.59	11.667	22.84	17.667	1.79	23.67	1.20
5.750	1.59	11.750	29.48	17.750	1.79	23.75	1.20
5.833	1.59	11.833	60.29	17.833	1.79	23.83	1.20
5.917	1.59	11.917	91.10	17.917	1.79	23.92	1.20
6.000	1.59	12.000	121.91	18.000	1.79	24.00	.00

Unit Hyd Qpeak (cms)= 1.040

PEAK FLOW (cms)= 1.158 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 62.483
TOTAL RAINFALL (mm)= 99.401
RUNOFF COEFFICIENT = .629

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

CALIB					
NASHYD (0101)	Area (ha)=	99.12	Curve Number (CN)=	85.0
ID= 1 DT= 5.0 min	Ia (mm)=	6.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	.77		

Unit Hyd Qpeak (cms)= 4.917

PEAK FLOW (cms)= 6.290 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 62.486
TOTAL RAINFALL (mm)= 99.401
RUNOFF COEFFICIENT = .629

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

CALIB					
NASHYD (0103)	Area (ha)=	10.33	Curve Number (CN)=	85.0
ID= 1 DT= 5.0 min	Ia (mm)=	6.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	.40		

Unit Hyd Qpeak (cms)= .986

PEAK FLOW (cms)= 1.045 (i)

TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 62.479
TOTAL RAINFALL (mm)= 99.401
RUNOFF COEFFICIENT = .629

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

ADD HYD (0301)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0102):	12.80	1.158	12.42	62.48
	+ ID2= 2 (0101):	99.12	6.290	12.75	62.49
	ID = 3 (0301):	111.92	7.241	12.67	62.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0302)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0301):	111.92	7.241	12.67	62.49
	+ ID2= 2 (0103):	10.33	1.045	12.33	62.48
	ID = 3 (0302):	122.25	8.050	12.67	62.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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** SIMULATION NUMBER: 6 **
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MASS STORM	Filename: P:\W&W\Projects\SW0409~1\STA8EF~1 .CLA\STBBEF~1.CLA\VO2\Scs24h.mst
Ptotal=108.90 mm	Comments: SCS 24 HR MASS CURVE

Duration of storm = 24.00 hrs
Mass curve time step = 15.00 min
New Storm time step = 5.00 min

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.08	.49	6.08	1.82	12.08	94.09	18.08	1.96
.17	.98	6.17	1.89	12.17	54.89	18.17	1.96
.25	1.47	6.25	1.96	12.25	15.68	18.25	1.96
.33	1.47	6.33	1.96	12.33	15.68	18.33	1.96
.42	1.47	6.42	1.96	12.42	15.68	18.42	1.96
.50	1.47	6.50	1.96	12.50	15.68	18.50	1.96
.58	1.47	6.58	1.96	12.58	13.14	18.58	1.96
.67	1.47	6.67	1.96	12.67	10.60	18.67	1.96
.75	1.47	6.75	1.96	12.75	8.06	18.75	1.96
.83	1.47	6.83	1.96	12.83	8.06	18.83	1.96
.92	1.47	6.92	1.96	12.92	8.06	18.92	1.96
1.00	1.47	7.00	1.96	13.00	8.06	19.00	1.96
1.08	1.47	7.08	2.11	13.08	7.33	19.08	1.96
1.17	1.47	7.17	2.25	13.17	6.61	19.17	1.96
1.25	1.47	7.25	2.40	13.25	5.88	19.25	1.96
1.33	1.47	7.33	2.40	13.33	5.88	19.33	1.96
1.42	1.47	7.42	2.40	13.42	5.88	19.42	1.96
1.50	1.47	7.50	2.40	13.50	5.88	19.50	1.96
1.58	1.47	7.58	2.40	13.58	5.45	19.58	1.96
1.67	1.47	7.67	2.40	13.67	5.01	19.67	1.96
1.75	1.47	7.75	2.40	13.75	4.57	19.75	1.96
1.83	1.47	7.83	2.40	13.83	4.57	19.83	1.96
1.92	1.47	7.92	2.40	13.92	4.57	19.92	1.96
2.00	1.47	8.00	2.40	14.00	4.57	20.00	1.96
2.08	1.36	8.08	2.54	14.08	4.14	20.08	1.74
2.17	1.25	8.17	2.69	14.17	3.70	20.17	1.52
2.25	1.15	8.25	2.83	14.25	3.27	20.25	1.31
2.33	1.14	8.33	2.83	14.33	3.27	20.33	1.31
2.42	1.14	8.42	2.83	14.42	3.27	20.42	1.31
2.50	1.14	8.50	2.83	14.50	3.27	20.50	1.31
2.58	1.14	8.58	2.90	14.58	3.27	20.58	1.31
2.67	1.14	8.67	2.98	14.67	3.27	20.67	1.31
2.75	1.15	8.75	3.05	14.75	3.27	20.75	1.31
2.83	1.14	8.83	3.05	14.83	3.27	20.83	1.31
2.92	1.14	8.92	3.05	14.92	3.27	20.92	1.31
3.00	1.14	9.00	3.05	15.00	3.27	21.00	1.31
3.08	1.14	9.08	3.19	15.08	3.27	21.08	1.31
3.17	1.14	9.17	3.34	15.17	3.27	21.17	1.31

3.25	1.15	9.25	3.48	15.25	3.27	21.25	1.31
3.33	1.14	9.33	3.48	15.33	3.27	21.33	1.31
3.42	1.14	9.42	3.48	15.42	3.27	21.42	1.31
3.50	1.14	9.50	3.48	15.50	3.27	21.50	1.31
3.58	1.14	9.58	3.63	15.58	3.27	21.58	1.31
3.67	1.14	9.67	3.78	15.67	3.27	21.67	1.31
3.75	1.15	9.75	3.92	15.75	3.27	21.75	1.31
3.83	1.14	9.83	3.92	15.83	3.27	21.83	1.31
3.92	1.14	9.92	3.92	15.92	3.27	21.92	1.31
4.00	1.14	10.00	3.92	16.00	3.27	22.00	1.31
4.08	1.34	10.08	4.28	16.08	2.83	22.08	1.31
4.17	1.54	10.17	4.65	16.17	2.40	22.17	1.31
4.25	1.74	10.25	5.01	16.25	1.96	22.25	1.31
4.33	1.74	10.33	5.01	16.33	1.96	22.33	1.31
4.42	1.74	10.42	5.01	16.42	1.96	22.42	1.31
4.50	1.74	10.50	5.01	16.50	1.96	22.50	1.31
4.58	1.74	10.58	5.59	16.58	1.96	22.58	1.31
4.67	1.74	10.67	6.17	16.67	1.96	22.67	1.31
4.75	1.74	10.75	6.75	16.75	1.96	22.75	1.31
4.83	1.74	10.83	6.75	16.83	1.96	22.83	1.31
4.92	1.74	10.92	6.75	16.92	1.96	22.92	1.31
5.00	1.74	11.00	6.75	17.00	1.96	23.00	1.31
5.08	1.74	11.08	7.99	17.08	1.96	23.08	1.31
5.17	1.74	11.17	9.22	17.17	1.96	23.17	1.31
5.25	1.74	11.25	10.45	17.25	1.96	23.25	1.31
5.33	1.74	11.33	10.45	17.33	1.96	23.33	1.31
5.42	1.74	11.42	10.45	17.42	1.96	23.42	1.31
5.50	1.74	11.50	10.45	17.50	1.96	23.50	1.31
5.58	1.74	11.58	17.71	17.58	1.96	23.58	1.31
5.67	1.74	11.67	24.97	17.67	1.96	23.67	1.31
5.75	1.74	11.75	32.23	17.75	1.96	23.75	1.31
5.83	1.74	11.83	65.92	17.83	1.96	23.83	1.31
5.92	1.74	11.92	99.61	17.92	1.96	23.92	1.31
6.00	1.74	12.00	133.29	18.00	1.96	24.00	1.31

CALIB			
NASHYD (0102)	Area (ha)= 12.80	Curve Number (CN)= 85.0	
ID= 1 DT= 5.0 min	Ia (mm)= 6.70	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= .47		

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.49	6.083	1.82	12.083	94.09	18.08	1.96
.167	.98	6.167	1.89	12.167	54.89	18.17	1.96
.250	1.47	6.250	1.96	12.250	15.69	18.25	1.96
.333	1.47	6.333	1.96	12.333	15.68	18.33	1.96
.417	1.47	6.417	1.96	12.417	15.68	18.42	1.96
.500	1.47	6.500	1.96	12.500	15.68	18.50	1.96
.583	1.47	6.583	1.96	12.583	13.14	18.58	1.96
.667	1.47	6.667	1.96	12.667	10.60	18.67	1.96
.750	1.47	6.750	1.96	12.750	8.06	18.75	1.96
.833	1.47	6.833	1.96	12.833	8.06	18.83	1.96
.917	1.47	6.917	1.96	12.917	8.06	18.92	1.96
1.000	1.47	7.000	1.96	13.000	8.06	19.00	1.96
1.083	1.47	7.083	2.11	13.083	7.33	19.08	1.96
1.167	1.47	7.167	2.25	13.167	6.61	19.17	1.96
1.250	1.47	7.250	2.40	13.250	5.88	19.25	1.96
1.333	1.47	7.333	2.40	13.333	5.88	19.33	1.96
1.417	1.47	7.417	2.40	13.417	5.88	19.42	1.96
1.500	1.47	7.500	2.40	13.500	5.88	19.50	1.96
1.583	1.47	7.583	2.40	13.583	5.45	19.58	1.96
1.667	1.47	7.667	2.40	13.667	5.01	19.67	1.96
1.750	1.47	7.750	2.40	13.750	4.57	19.75	1.96
1.833	1.47	7.833	2.40	13.833	4.57	19.83	1.96
1.917	1.47	7.917	2.40	13.917	4.57	19.92	1.96
2.000	1.47	8.000	2.40	14.000	4.57	20.00	1.96
2.083	1.36	8.083	2.54	14.083	4.14	20.08	1.74
2.167	1.25	8.167	2.69	14.167	3.70	20.17	1.52
2.250	1.15	8.250	2.83	14.250	3.27	20.25	1.31
2.333	1.14	8.333	2.83	14.333	3.27	20.33	1.31
2.417	1.14	8.417	2.83	14.417	3.27	20.42	1.31
2.500	1.14	8.500	2.83	14.500	3.27	20.50	1.31
2.583	1.14	8.583	2.90	14.583	3.27	20.58	1.31
2.667	1.14	8.667	2.98	14.667	3.27	20.67	1.31
2.750	1.15	8.750	3.05	14.750	3.27	20.75	1.31
2.833	1.14	8.833	3.05	14.833	3.27	20.83	1.31
2.917	1.14	8.917	3.05	14.917	3.27	20.92	1.31
3.000	1.14	9.000	3.05	15.000	3.27	21.00	1.31
3.083	1.14	9.083	3.19	15.083	3.27	21.08	1.31
3.167	1.14	9.167	3.34	15.167	3.27	21.17	1.31
3.250	1.15	9.250	3.48	15.250	3.27	21.25	1.31
3.333	1.14	9.333	3.48	15.333	3.27	21.33	1.31

3.417	1.14	9.417	3.48	15.417	3.27	21.42	1.31
3.500	1.14	9.500	3.48	15.500	3.27	21.50	1.31
3.583	1.14	9.583	3.63	15.583	3.27	21.58	1.31
3.667	1.14	9.667	3.78	15.667	3.27	21.67	1.31
3.750	1.15	9.750	3.92	15.750	3.27	21.75	1.31
3.833	1.14	9.833	3.92	15.833	3.27	21.83	1.31
3.917	1.14	9.917	3.92	15.917	3.27	21.92	1.31
4.000	1.14	10.000	3.92	16.000	3.27	22.00	1.31
4.083	1.34	10.083	4.28	16.083	2.83	22.08	1.31
4.167	1.54	10.167	4.65	16.167	2.40	22.17	1.31
4.250	1.74	10.250	5.01	16.250	1.96	22.25	1.31
4.333	1.74	10.333	5.01	16.333	1.96	22.33	1.31
4.417	1.74	10.417	5.01	16.417	1.96	22.42	1.31
4.500	1.74	10.500	5.01	16.500	1.96	22.50	1.31
4.583	1.74	10.583	5.59	16.583	1.96	22.58	1.31
4.667	1.74	10.667	6.17	16.667	1.96	22.67	1.31
4.750	1.74	10.750	6.75	16.750	1.96	22.75	1.31
4.833	1.74	10.833	6.75	16.833	1.96	22.83	1.31
4.917	1.74	10.917	6.75	16.917	1.96	22.92	1.31
5.000	1.74	11.000	6.75	17.000	1.96	23.00	1.31
5.083	1.74	11.083	7.99	17.083	1.96	23.08	1.31
5.167	1.74	11.167	9.22	17.167	1.96	23.17	1.31
5.250	1.74	11.250	10.45	17.250	1.96	23.25	1.31
5.333	1.74	11.333	10.45	17.333	1.96	23.33	1.31
5.417	1.74	11.417	10.45	17.417	1.96	23.42	1.31
5.500	1.74	11.500	10.45	17.500	1.96	23.50	1.31
5.583	1.74	11.583	17.71	17.583	1.96	23.58	1.31
5.667	1.74	11.667	24.97	17.667	1.96	23.67	1.31
5.750	1.74	11.750	32.23	17.750	1.96	23.75	1.31
5.833	1.74	11.833	65.92	17.833	1.96	23.83	1.31
5.917	1.74	11.917	99.60	17.917	1.96	23.92	1.31
6.000	1.74	12.000	133.29	18.000	1.96	24.00	.00

Unit Hyd Qpeak (cms)= 1.040

PEAK FLOW (cms)= 1.313 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 70.840
TOTAL RAINFALL (mm)= 108.682
RUNOFF COEFFICIENT = .652

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

CALIB					
NASHYD (0101)	Area (ha)=	99.12	Curve Number (CN)=	85.0
ID= 1 DT= 5.0 min	Ia (mm)=	6.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	.77		

Unit Hyd Qpeak (cms)= 4.917

PEAK FLOW (cms)= 7.135 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 70.844
TOTAL RAINFALL (mm)= 108.682
RUNOFF COEFFICIENT = .652

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

CALIB					
NASHYD (0103)	Area (ha)=	10.33	Curve Number (CN)=	85.0
ID= 1 DT= 5.0 min	Ia (mm)=	6.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	.40		

Unit Hyd Qpeak (cms)= .986

PEAK FLOW (cms)= 1.185 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 70.836
TOTAL RAINFALL (mm)= 108.682
RUNOFF COEFFICIENT = .652

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

ADD HYD (0301)				
1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0102):	12.80	1.313	12.42	70.84
+ ID2= 2 (0101):	99.12	7.135	12.75	70.84
ID = 3 (0301):	111.92	8.216	12.67	70.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0302)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0301):	111.92	8.216	12.67	70.84
+	ID2= 2 (0103):	10.33	1.185	12.33	70.84
	ID = 3 (0302):	122.25	9.130	12.67	70.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

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

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


***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files\Visual OTTHYMO 2.2.4\voin.dat
Output filename: P:\W&W\Projects\SW0409~1\STA8EF~1.CLA\STBBEF~1.CLA\VO2\Pre-development-regional.out
Summary filename: P:\W&W\Projects\SW0409~1\STA8EF~1.CLA\STBBEF~1.CLA\VO2\Pre-development-regional.sum

DATE: 12/22/2009 TIME: 11:57:03 AM

USER:

COMMENTS: _____

****
** SIMULATION NUMBER: 7 **
****

| MASS STORM |
| Ptotal=211.00 mm |

Filename: P:\W&W\Projects\SW0409~1\STA8EF~1
.CLA\STBBEF~1.CLA\VO2\Hazel12.mst
Comments: Hurricane Hazel (last 12 h)

Duration of storm = 12.00 hrs
Mass curve time step = 60.00 min
New Storm time step = 5.00 min

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.08	.53	3.08	6.86	6.08	13.54	9.08	16.00
.17	1.06	3.17	7.38	6.17	14.42	9.17	19.34
.25	1.58	3.25	7.91	6.25	15.30	9.25	22.68
.33	2.11	3.33	8.44	6.33	16.18	9.33	26.02
.42	2.64	3.42	8.97	6.42	17.06	9.42	29.36
.50	3.16	3.50	9.49	6.50	17.94	9.50	32.70
.58	3.69	3.58	10.02	6.58	18.81	9.58	36.05
.67	4.22	3.67	10.55	6.67	19.69	9.67	39.39
.75	4.75	3.75	11.08	6.75	20.57	9.75	42.73
.83	5.28	3.83	11.61	6.83	21.45	9.83	46.07
.92	5.80	3.92	12.13	6.92	22.33	9.92	49.41
1.00	6.33	4.00	12.66	7.00	23.21	10.00	52.75
1.08	6.15	4.08	13.01	7.08	22.33	10.08	51.52
1.17	5.98	4.17	13.36	7.17	21.45	10.17	50.29
1.25	5.80	4.25	13.72	7.25	20.57	10.25	49.06
1.33	5.63	4.33	14.07	7.33	19.69	10.33	47.83
1.42	5.45	4.42	14.42	7.42	18.81	10.42	46.60
1.50	5.28	4.50	14.77	7.50	17.93	10.50	45.37
1.58	5.10	4.58	15.12	7.58	17.06	10.58	44.13
1.67	4.92	4.67	15.47	7.67	16.18	10.67	42.90
1.75	4.75	4.75	15.83	7.75	15.30	10.75	41.67
1.83	4.57	4.83	16.18	7.83	14.42	10.83	40.44
1.92	4.40	4.92	16.53	7.92	13.54	10.92	39.21
2.00	4.22	5.00	16.88	8.00	12.66	11.00	37.98
2.08	4.40	5.08	16.53	8.08	12.66	11.08	35.87
2.17	4.57	5.17	16.18	8.17	12.66	11.17	33.76
2.25	4.75	5.25	15.82	8.25	12.66	11.25	31.65
2.33	4.92	5.33	15.47	8.33	12.66	11.33	29.54
2.42	5.10	5.42	15.12	8.42	12.66	11.42	27.43
2.50	5.28	5.50	14.77	8.50	12.66	11.50	25.32
2.58	5.45	5.58	14.42	8.58	12.66	11.58	23.21
2.67	5.63	5.67	14.07	8.67	12.66	11.67	21.10
2.75	5.80	5.75	13.71	8.75	12.66	11.75	18.99
2.83	5.98	5.83	13.36	8.83	12.66	11.83	16.88
2.92	6.15	5.92	13.01	8.92	12.66	11.92	14.77
3.00	6.33	6.00	12.66	9.00	12.66	12.00	12.66

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| CALIB            |
| NASHYD    (0103) |   Area    (ha)=  10.33   Curve Number   (CN)= 93.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .40

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


                        ---- TRANSFORMED HYETOGRAPH ----
  TIME    RAIN |  TIME    RAIN |  TIME    RAIN |  TIME    RAIN
   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr
  .083     .53 | 3.083    6.86 | 6.083   13.54 |  9.08   16.00
  .167    1.06 | 3.167    7.38 | 6.167   14.42 |  9.17   19.34
  .250    1.58 | 3.250    7.91 | 6.250   15.30 |  9.25   22.68
  .333    2.11 | 3.333    8.44 | 6.333   16.18 |  9.33   26.02
  .417    2.64 | 3.417    8.97 | 6.417   17.06 |  9.42   29.36
  .500    3.16 | 3.500    9.49 | 6.500   17.94 |  9.50   32.70
  .583    3.69 | 3.583   10.02 | 6.583   18.81 |  9.58   36.05
  .667    4.22 | 3.667   10.55 | 6.667   19.69 |  9.67   39.39
  .750    4.75 | 3.750   11.08 | 6.750   20.57 |  9.75   42.73
  .833    5.27 | 3.833   11.60 | 6.833   21.45 |  9.83   46.07
  .917    5.80 | 3.917   12.13 | 6.917   22.33 |  9.92   49.41
 1.000    6.33 | 4.000   12.66 | 7.000   23.21 | 10.00   52.75
 1.083    6.15 | 4.083   13.01 | 7.083   22.33 | 10.08   51.52
 1.167    5.98 | 4.167   13.36 | 7.167   21.45 | 10.17   50.29
 1.250    5.80 | 4.250   13.71 | 7.250   20.57 | 10.25   49.06
 1.333    5.63 | 4.333   14.07 | 7.333   19.69 | 10.33   47.83
 1.417    5.45 | 4.417   14.42 | 7.417   18.81 | 10.42   46.60
 1.500    5.27 | 4.500   14.77 | 7.500   17.93 | 10.50   45.37
 1.583    5.10 | 4.583   15.12 | 7.583   17.06 | 10.58   44.13
 1.667    4.92 | 4.667   15.47 | 7.667   16.18 | 10.67   42.90
 1.750    4.75 | 4.750   15.82 | 7.750   15.30 | 10.75   41.67
 1.833    4.57 | 4.833   16.18 | 7.833   14.42 | 10.83   40.44
 1.917    4.40 | 4.917   16.53 | 7.917   13.54 | 10.92   39.21
 2.000    4.22 | 5.000   16.88 | 8.000   12.66 | 11.00   37.98
 2.083    4.40 | 5.083   16.53 | 8.083   12.66 | 11.08   35.87
 2.167    4.57 | 5.167   16.18 | 8.167   12.66 | 11.17   33.76
 2.250    4.75 | 5.250   15.82 | 8.250   12.66 | 11.25   31.65
 2.333    4.92 | 5.333   15.47 | 8.333   12.66 | 11.33   29.54
 2.417    5.10 | 5.417   15.12 | 8.417   12.66 | 11.42   27.43
 2.500    5.27 | 5.500   14.77 | 8.500   12.66 | 11.50   25.32
 2.583    5.45 | 5.583   14.42 | 8.583   12.66 | 11.58   23.21
 2.667    5.63 | 5.667   14.07 | 8.667   12.66 | 11.67   21.10
 2.750    5.80 | 5.750   13.71 | 8.750   12.66 | 11.75   18.99
 2.833    5.98 | 5.833   13.36 | 8.833   12.66 | 11.83   16.88
 2.917    6.15 | 5.917   13.01 | 8.917   12.66 | 11.92   14.77
 3.000    6.33 | 6.000   12.66 | 9.000   12.66 | 12.00   12.66

     Unit Hyd Qpeak  (cms)=    .986

     PEAK FLOW       (cms)=   1.302 (i)
     TIME TO PEAK    (hrs)=  10.667
     RUNOFF VOLUME    (mm)= 181.037
     TOTAL RAINFALL   (mm)= 205.198
     RUNOFF COEFFICIENT   =    .882

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

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--------------------
| CALIB            |
| NASHYD    (0102) |   Area    (ha)=  12.80   Curve Number   (CN)= 93.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .47

     Unit Hyd Qpeak  (cms)=   1.040

     PEAK FLOW       (cms)=   1.575 (i)
     TIME TO PEAK    (hrs)=  10.833
     RUNOFF VOLUME    (mm)= 181.047
     TOTAL RAINFALL   (mm)= 205.198
     RUNOFF COEFFICIENT   =    .882

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

--------------------------------------------------------------------------------
--------------------
| CALIB            |
| NASHYD    (0101) |   Area    (ha)=  99.12   Curve Number   (CN)= 93.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .77

     Unit Hyd Qpeak  (cms)=   4.917

     PEAK FLOW       (cms)=  11.057 (i)
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```
     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 181.057
     TOTAL RAINFALL   (mm)= 205.198
     RUNOFF COEFFICIENT   =    .882

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

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--------------------
| ADD HYD   (0301) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0102):    12.80   1.575    10.83   181.05
        + ID2= 2 (0101):    99.12  11.057    11.25   181.06
          ================================================
          ID = 3 (0301):   111.92  12.531    11.25   181.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0302) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0103):    10.33   1.302    10.67   181.04
        + ID2= 2 (0301):   111.92  12.531    11.25   181.06
          ================================================
          ID = 3 (0302):   122.25  13.729    11.17   181.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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

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


***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files\Visual OTTHYMO 2.2.4\voin.dat
Output filename: P:\W&W\Projects\SW0409~1\STA8EF~1.CLA\STBBEF~1.CLA\VO2\Post-development.out
Summary filename: P:\W&W\Projects\SW0409~1\STA8EF~1.CLA\STBBEF~1.CLA\VO2\Post-development.sum

DATE: 4/27/2010 TIME: 11:58:52 AM

USER:

COMMENTS: _____

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

MASS STORM	Filename: P:\W&W\Projects\SW0409~1\STA8EF~1.CLA\STBBEF~1.CLA\VO2\Scs24h.mst
Ptotal= 52.50 mm	Comments: SCS 24 HR MASS CURVE

Duration of storm = 24.00 hrs
Mass curve time step = 15.00 min
New Storm time step = 5.00 min

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.08	.24	6.08	.88	12.08	45.36	18.08	.95
.17	.47	6.17	.91	12.17	26.46	18.17	.94
.25	.71	6.25	.95	12.25	7.56	18.25	.94
.33	.71	6.33	.95	12.33	7.56	18.33	.94
.42	.71	6.42	.95	12.42	7.56	18.42	.95
.50	.71	6.50	.95	12.50	7.56	18.50	.95
.58	.71	6.58	.95	12.58	6.34	18.58	.95
.67	.71	6.67	.95	12.67	5.11	18.67	.94
.75	.71	6.75	.95	12.75	3.88	18.75	.94
.83	.71	6.83	.94	12.83	3.88	18.83	.94
.92	.71	6.92	.94	12.92	3.89	18.92	.95
1.00	.71	7.00	.94	13.00	3.89	19.00	.95
1.08	.71	7.08	1.01	13.08	3.54	19.08	.95
1.17	.71	7.17	1.09	13.17	3.18	19.17	.94
1.25	.71	7.25	1.16	13.25	2.83	19.25	.94
1.33	.71	7.33	1.16	13.33	2.83	19.33	.94
1.42	.71	7.42	1.15	13.42	2.84	19.42	.95
1.50	.71	7.50	1.15	13.50	2.84	19.50	.95
1.58	.71	7.58	1.15	13.58	2.63	19.58	.95
1.67	.71	7.67	1.16	13.67	2.41	19.67	.94
1.75	.71	7.75	1.16	13.75	2.20	19.75	.94
1.83	.71	7.83	1.16	13.83	2.20	19.83	.94
1.92	.71	7.92	1.15	13.92	2.20	19.92	.95
2.00	.71	8.00	1.15	14.00	2.21	20.00	.95
2.08	.66	8.08	1.22	14.08	2.00	20.08	.84
2.17	.60	8.17	1.29	14.17	1.79	20.17	.73
2.25	.55	8.25	1.36	14.25	1.57	20.25	.63
2.33	.55	8.33	1.37	14.33	1.57	20.33	.63
2.42	.55	8.42	1.37	14.42	1.57	20.42	.63
2.50	.55	8.50	1.37	14.50	1.57	20.50	.63
2.58	.55	8.58	1.40	14.58	1.57	20.58	.63
2.67	.55	8.67	1.44	14.67	1.57	20.67	.63
2.75	.55	8.75	1.47	14.75	1.57	20.75	.63
2.83	.55	8.83	1.47	14.83	1.58	20.83	.63
2.92	.55	8.92	1.47	14.92	1.58	20.92	.63
3.00	.55	9.00	1.47	15.00	1.58	21.00	.63

3.08	.55	9.08	1.54	15.08	1.58	21.08	.63
3.17	.55	9.17	1.61	15.17	1.58	21.17	.63
3.25	.55	9.25	1.68	15.25	1.57	21.25	.63
3.33	.55	9.33	1.68	15.33	1.57	21.33	.63
3.42	.55	9.42	1.68	15.42	1.57	21.42	.63
3.50	.55	9.50	1.68	15.50	1.57	21.50	.63
3.58	.55	9.58	1.75	15.58	1.57	21.58	.63
3.67	.55	9.67	1.82	15.67	1.57	21.67	.63
3.75	.55	9.75	1.89	15.75	1.57	21.75	.63
3.83	.55	9.83	1.89	15.83	1.57	21.83	.63
3.92	.55	9.92	1.89	15.92	1.57	21.92	.63
4.00	.55	10.00	1.89	16.00	1.57	22.00	.63
4.08	.65	10.08	2.06	16.08	1.36	22.08	.63
4.17	.74	10.17	2.24	16.17	1.16	22.17	.63
4.25	.84	10.25	2.41	16.25	.95	22.25	.63
4.33	.84	10.33	2.41	16.33	.95	22.33	.63
4.42	.84	10.42	2.41	16.42	.94	22.42	.63
4.50	.84	10.50	2.41	16.50	.94	22.50	.63
4.58	.84	10.58	2.69	16.58	.94	22.58	.63
4.67	.84	10.67	2.98	16.67	.94	22.67	.63
4.75	.84	10.75	3.26	16.75	.94	22.75	.63
4.83	.84	10.83	3.26	16.83	.94	22.83	.63
4.92	.84	10.92	3.25	16.92	.95	22.92	.63
5.00	.84	11.00	3.25	17.00	.95	23.00	.63
5.08	.84	11.08	3.85	17.08	.95	23.08	.63
5.17	.84	11.17	4.44	17.17	.94	23.17	.63
5.25	.84	11.25	5.04	17.25	.94	23.25	.63
5.33	.84	11.33	5.04	17.33	.94	23.33	.63
5.42	.84	11.42	5.04	17.42	.95	23.42	.63
5.50	.84	11.50	5.04	17.50	.95	23.50	.63
5.58	.84	11.58	8.54	17.58	.95	23.58	.63
5.67	.84	11.67	12.04	17.67	.94	23.67	.63
5.75	.84	11.75	15.54	17.75	.94	23.75	.63
5.83	.84	11.83	31.78	17.83	.94	23.83	.63
5.92	.84	11.92	48.02	17.92	.95	23.92	.63
6.00	.84	12.00	64.26	18.00	.95	24.00	.63

CALIB			
NASHYD (0202)	Area (ha)= 12.80	Curve Number (CN)= 85.0	
ID= 1 DT= 5.0 min	Ia (mm)= 6.70	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= .47		

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.24	6.083	.88	12.083	45.36	18.08	.95
.167	.47	6.167	.91	12.167	26.46	18.17	.94
.250	.71	6.250	.95	12.250	7.56	18.25	.94
.333	.71	6.333	.95	12.333	7.56	18.33	.94
.417	.71	6.417	.95	12.417	7.56	18.42	.95
.500	.71	6.500	.95	12.500	7.56	18.50	.95
.583	.71	6.583	.95	12.583	6.34	18.58	.95
.667	.71	6.667	.95	12.667	5.11	18.67	.94
.750	.71	6.750	.95	12.750	3.89	18.75	.94
.833	.71	6.833	.94	12.833	3.88	18.83	.94
.917	.71	6.917	.94	12.917	3.89	18.92	.95
1.000	.71	7.000	.94	13.000	3.89	19.00	.95
1.083	.71	7.083	1.02	13.083	3.54	19.08	.95
1.167	.71	7.167	1.09	13.167	3.19	19.17	.94
1.250	.71	7.250	1.16	13.250	2.84	19.25	.94
1.333	.71	7.333	1.16	13.333	2.83	19.33	.94
1.417	.71	7.417	1.15	13.417	2.84	19.42	.95
1.500	.71	7.500	1.15	13.500	2.84	19.50	.95
1.583	.71	7.583	1.15	13.583	2.63	19.58	.95
1.667	.71	7.667	1.16	13.667	2.42	19.67	.94
1.750	.71	7.750	1.16	13.750	2.21	19.75	.94
1.833	.71	7.833	1.16	13.833	2.20	19.83	.94
1.917	.71	7.917	1.15	13.917	2.20	19.92	.95
2.000	.71	8.000	1.15	14.000	2.21	20.00	.95
2.083	.66	8.083	1.23	14.083	2.00	20.08	.84
2.167	.60	8.167	1.30	14.167	1.79	20.17	.73
2.250	.55	8.250	1.37	14.250	1.58	20.25	.63
2.333	.55	8.333	1.37	14.333	1.57	20.33	.63
2.417	.55	8.417	1.37	14.417	1.57	20.42	.63
2.500	.55	8.500	1.37	14.500	1.57	20.50	.63
2.583	.55	8.583	1.40	14.583	1.57	20.58	.63
2.667	.55	8.667	1.44	14.667	1.57	20.67	.63
2.750	.55	8.750	1.47	14.750	1.57	20.75	.63
2.833	.55	8.833	1.47	14.833	1.58	20.83	.63
2.917	.55	8.917	1.47	14.917	1.58	20.92	.63
3.000	.55	9.000	1.47	15.000	1.58	21.00	.63
3.083	.55	9.083	1.54	15.083	1.58	21.08	.63
3.167	.55	9.167	1.61	15.167	1.58	21.17	.63

3.250	.55	9.250	1.68	15.250	1.57	21.25	.63
3.333	.55	9.333	1.68	15.333	1.57	21.33	.63
3.417	.55	9.417	1.68	15.417	1.57	21.42	.63
3.500	.55	9.500	1.68	15.500	1.57	21.50	.63
3.583	.55	9.583	1.75	15.583	1.57	21.58	.63
3.667	.55	9.667	1.82	15.667	1.57	21.67	.63
3.750	.55	9.750	1.89	15.750	1.57	21.75	.63
3.833	.55	9.833	1.89	15.833	1.57	21.83	.63
3.917	.55	9.917	1.89	15.917	1.57	21.92	.63
4.000	.55	10.000	1.89	16.000	1.57	22.00	.63
4.083	.65	10.083	2.06	16.083	1.37	22.08	.63
4.167	.74	10.167	2.24	16.167	1.16	22.17	.63
4.250	.84	10.250	2.41	16.250	.95	22.25	.63
4.333	.84	10.333	2.41	16.333	.95	22.33	.63
4.417	.84	10.417	2.41	16.417	.94	22.42	.63
4.500	.84	10.500	2.41	16.500	.94	22.50	.63
4.583	.84	10.583	2.69	16.583	.94	22.58	.63
4.667	.84	10.667	2.97	16.667	.94	22.67	.63
4.750	.84	10.750	3.25	16.750	.94	22.75	.63
4.833	.84	10.833	3.26	16.833	.94	22.83	.63
4.917	.84	10.917	3.25	16.917	.95	22.92	.63
5.000	.84	11.000	3.25	17.000	.95	23.00	.63
5.083	.84	11.083	3.85	17.083	.95	23.08	.63
5.167	.84	11.167	4.44	17.167	.94	23.17	.63
5.250	.84	11.250	5.04	17.250	.94	23.25	.63
5.333	.84	11.333	5.04	17.333	.94	23.33	.63
5.417	.84	11.417	5.04	17.417	.95	23.42	.63
5.500	.84	11.500	5.04	17.500	.95	23.50	.63
5.583	.84	11.583	8.54	17.583	.95	23.58	.63
5.667	.84	11.667	12.04	17.667	.94	23.67	.63
5.750	.84	11.750	15.54	17.750	.94	23.75	.63
5.833	.84	11.833	31.78	17.833	.94	23.83	.63
5.917	.84	11.917	48.02	17.917	.95	23.92	.63
6.000	.84	12.000	64.26	18.000	.95	24.00	.00

Unit Hyd Qpeak (cms)= 1.040

PEAK FLOW (cms)= .416 (i)
TIME TO PEAK (hrs)= 12.500
RUNOFF VOLUME (mm)= 23.066
TOTAL RAINFALL (mm)= 52.395
RUNOFF COEFFICIENT = .440

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

CALIB					
NASHYD (0201)	Area	(ha)=	99.12	Curve Number	(CN)= 85.0
ID= 1 DT= 5.0 min	Ia	(mm)=	6.70	# of Linear Res.	(N)= 3.00
	U.H. Tp	(hrs)=	.74		

Unit Hyd Qpeak (cms)= 5.116

PEAK FLOW (cms)= 2.328 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 23.067
TOTAL RAINFALL (mm)= 52.395
RUNOFF COEFFICIENT = .440

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

CALIB					
NASHYD (0203)	Area	(ha)=	10.33	Curve Number	(CN)= 85.0
ID= 1 DT= 5.0 min	Ia	(mm)=	6.70	# of Linear Res.	(N)= 3.00
	U.H. Tp	(hrs)=	.39		

Unit Hyd Qpeak (cms)= 1.012

PEAK FLOW (cms)= .383 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 23.064
TOTAL RAINFALL (mm)= 52.395
RUNOFF COEFFICIENT = .440

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

ADD HYD (0301)

1 + 2 = 3	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0202):	12.80	.416	12.50	23.07
+ ID2= 2 (0201):	99.12	2.328	12.75	23.07

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         ID = 3 (0301):   111.92   2.681    12.75    23.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0302) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0301):   111.92   2.681    12.75    23.07
       + ID2= 2 (0203):    10.33    .383    12.33    23.06
         ================================================
         ID = 3 (0302):   122.25   2.977    12.67    23.07

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ****************************
  ** SIMULATION NUMBER:   2 **
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| MASS STORM       |    Filename: P:\W&W\Projects\SW0409~1\STA8EF~1
|                  |              .CLA\STBBEF~1.CLA\VO2\Scs24h.mst
| Ptotal= 67.60 mm |    Comments: SCS 24 HR MASS CURVE
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                       Duration of storm    = 24.00 hrs
                       Mass curve time step = 15.00 min
                       New Storm time step  =  5.00 min


                TIME    RAIN |  TIME    RAIN |  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr
                 .08     .30 |  6.08    1.13 | 12.08   58.41 | 18.08    1.22
                 .17     .61 |  6.17    1.17 | 12.17   34.07 | 18.17    1.22
                 .25     .91 |  6.25    1.22 | 12.25    9.73 | 18.25    1.22
                 .33     .91 |  6.33    1.22 | 12.33    9.73 | 18.33    1.22
                 .42     .91 |  6.42    1.22 | 12.42    9.73 | 18.42    1.22
                 .50     .91 |  6.50    1.22 | 12.50    9.73 | 18.50    1.22
                 .58     .91 |  6.58    1.22 | 12.58    8.16 | 18.58    1.22
                 .67     .91 |  6.67    1.22 | 12.67    6.58 | 18.67    1.22
                 .75     .91 |  6.75    1.22 | 12.75    5.00 | 18.75    1.22
                 .83     .91 |  6.83    1.22 | 12.83    5.00 | 18.83    1.22
                 .92     .91 |  6.92    1.22 | 12.92    5.00 | 18.92    1.22
                1.00     .91 |  7.00    1.22 | 13.00    5.00 | 19.00    1.22
                1.08     .91 |  7.08    1.31 | 13.08    4.55 | 19.08    1.22
                1.17     .91 |  7.17    1.40 | 13.17    4.10 | 19.17    1.22
                1.25     .91 |  7.25    1.49 | 13.25    3.65 | 19.25    1.22
                1.33     .91 |  7.33    1.49 | 13.33    3.65 | 19.33    1.22
                1.42     .91 |  7.42    1.49 | 13.42    3.65 | 19.42    1.22
                1.50     .91 |  7.50    1.49 | 13.50    3.65 | 19.50    1.22
                1.58     .91 |  7.58    1.49 | 13.58    3.38 | 19.58    1.22
                1.67     .91 |  7.67    1.49 | 13.67    3.11 | 19.67    1.22
                1.75     .91 |  7.75    1.49 | 13.75    2.84 | 19.75    1.22
                1.83     .91 |  7.83    1.49 | 13.83    2.84 | 19.83    1.22
                1.92     .91 |  7.92    1.49 | 13.92    2.84 | 19.92    1.22
                2.00     .91 |  8.00    1.49 | 14.00    2.84 | 20.00    1.22
                2.08     .84 |  8.08    1.58 | 14.08    2.57 | 20.08    1.08
                2.17     .78 |  8.17    1.67 | 14.17    2.30 | 20.17     .95
                2.25     .71 |  8.25    1.76 | 14.25    2.03 | 20.25     .81
                2.33     .71 |  8.33    1.76 | 14.33    2.03 | 20.33     .81
                2.42     .71 |  8.42    1.76 | 14.42    2.03 | 20.42     .81
                2.50     .71 |  8.50    1.76 | 14.50    2.03 | 20.50     .81
                2.58     .71 |  8.58    1.80 | 14.58    2.03 | 20.58     .81
                2.67     .71 |  8.67    1.85 | 14.67    2.03 | 20.67     .81
                2.75     .71 |  8.75    1.89 | 14.75    2.03 | 20.75     .81
                2.83     .71 |  8.83    1.89 | 14.83    2.03 | 20.83     .81
                2.92     .71 |  8.92    1.89 | 14.92    2.03 | 20.92     .81
                3.00     .71 |  9.00    1.89 | 15.00    2.03 | 21.00     .81
                3.08     .71 |  9.08    1.98 | 15.08    2.03 | 21.08     .81
                3.17     .71 |  9.17    2.07 | 15.17    2.03 | 21.17     .81
                3.25     .71 |  9.25    2.16 | 15.25    2.03 | 21.25     .81
                3.33     .71 |  9.33    2.16 | 15.33    2.03 | 21.33     .81
                3.42     .71 |  9.42    2.16 | 15.42    2.03 | 21.42     .81
                3.50     .71 |  9.50    2.16 | 15.50    2.03 | 21.50     .81
                3.58     .71 |  9.58    2.25 | 15.58    2.03 | 21.58     .81
                3.67     .71 |  9.67    2.34 | 15.67    2.03 | 21.67     .81
                3.75     .71 |  9.75    2.43 | 15.75    2.03 | 21.75     .81
                3.83     .71 |  9.83    2.43 | 15.83    2.03 | 21.83     .81
                3.92     .71 |  9.92    2.43 | 15.92    2.03 | 21.92     .81
                4.00     .71 | 10.00    2.43 | 16.00    2.03 | 22.00     .81
                4.08     .83 | 10.08    2.66 | 16.08    1.76 | 22.08     .81
                4.17     .96 | 10.17    2.88 | 16.17    1.49 | 22.17     .81
                4.25    1.08 | 10.25    3.11 | 16.25    1.22 | 22.25     .81
                4.33    1.08 | 10.33    3.11 | 16.33    1.22 | 22.33     .81
                4.42    1.08 | 10.42    3.11 | 16.42    1.22 | 22.42     .81
                4.50    1.08 | 10.50    3.11 | 16.50    1.22 | 22.50     .81
```

4.58	1.08	10.58	3.47	16.58	1.22	22.58	.81
4.67	1.08	10.67	3.83	16.67	1.22	22.67	.81
4.75	1.08	10.75	4.19	16.75	1.22	22.75	.81
4.83	1.08	10.83	4.19	16.83	1.22	22.83	.81
4.92	1.08	10.92	4.19	16.92	1.22	22.92	.81
5.00	1.08	11.00	4.19	17.00	1.22	23.00	.81
5.08	1.08	11.08	4.96	17.08	1.22	23.08	.81
5.17	1.08	11.17	5.72	17.17	1.22	23.17	.81
5.25	1.08	11.25	6.49	17.25	1.22	23.25	.81
5.33	1.08	11.33	6.49	17.33	1.22	23.33	.81
5.42	1.08	11.42	6.49	17.42	1.22	23.42	.81
5.50	1.08	11.50	6.49	17.50	1.22	23.50	.81
5.58	1.08	11.58	11.00	17.58	1.22	23.58	.81
5.67	1.08	11.67	15.50	17.67	1.22	23.67	.81
5.75	1.08	11.75	20.01	17.75	1.22	23.75	.81
5.83	1.08	11.83	40.92	17.83	1.22	23.83	.81
5.92	1.08	11.92	61.83	17.92	1.22	23.92	.81
6.00	1.08	12.00	82.74	18.00	1.22	24.00	.81

CALIB			
NASHYD (0202)	Area (ha)= 12.80	Curve Number (CN)= 85.0	
ID= 1 DT= 5.0 min	Ia (mm)= 6.70	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= .47		

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.30	6.083	1.13	12.083	58.41	18.08	1.22
.167	.61	6.167	1.17	12.167	34.07	18.17	1.22
.250	.91	6.250	1.22	12.250	9.74	18.25	1.22
.333	.91	6.333	1.22	12.333	9.73	18.33	1.22
.417	.91	6.417	1.22	12.417	9.73	18.42	1.22
.500	.91	6.500	1.22	12.500	9.73	18.50	1.22
.583	.91	6.583	1.22	12.583	8.16	18.58	1.22
.667	.91	6.667	1.22	12.667	6.58	18.67	1.22
.750	.91	6.750	1.22	12.750	5.00	18.75	1.22
.833	.91	6.833	1.22	12.833	5.00	18.83	1.22
.917	.91	6.917	1.22	12.917	5.00	18.92	1.22
1.000	.91	7.000	1.22	13.000	5.00	19.00	1.22
1.083	.91	7.083	1.31	13.083	4.55	19.08	1.22
1.167	.91	7.167	1.40	13.167	4.10	19.17	1.22
1.250	.91	7.250	1.49	13.250	3.65	19.25	1.22
1.333	.91	7.333	1.49	13.333	3.65	19.33	1.22
1.417	.91	7.417	1.49	13.417	3.65	19.42	1.22
1.500	.91	7.500	1.49	13.500	3.65	19.50	1.22
1.583	.91	7.583	1.49	13.583	3.38	19.58	1.22
1.667	.91	7.667	1.49	13.667	3.11	19.67	1.22
1.750	.91	7.750	1.49	13.750	2.84	19.75	1.22
1.833	.91	7.833	1.49	13.833	2.84	19.83	1.22
1.917	.91	7.917	1.49	13.917	2.84	19.92	1.22
2.000	.91	8.000	1.49	14.000	2.84	20.00	1.22
2.083	.84	8.083	1.58	14.083	2.57	20.08	1.08
2.167	.78	8.167	1.67	14.167	2.30	20.17	.95
2.250	.71	8.250	1.76	14.250	2.03	20.25	.81
2.333	.71	8.333	1.76	14.333	2.03	20.33	.81
2.417	.71	8.417	1.76	14.417	2.03	20.42	.81
2.500	.71	8.500	1.76	14.500	2.03	20.50	.81
2.583	.71	8.583	1.80	14.583	2.03	20.58	.81
2.667	.71	8.667	1.85	14.667	2.03	20.67	.81
2.750	.71	8.750	1.89	14.750	2.03	20.75	.81
2.833	.71	8.833	1.89	14.833	2.03	20.83	.81
2.917	.71	8.917	1.89	14.917	2.03	20.92	.81
3.000	.71	9.000	1.89	15.000	2.03	21.00	.81
3.083	.71	9.083	1.98	15.083	2.03	21.08	.81
3.167	.71	9.167	2.07	15.167	2.03	21.17	.81
3.250	.71	9.250	2.16	15.250	2.03	21.25	.81
3.333	.71	9.333	2.16	15.333	2.03	21.33	.81
3.417	.71	9.417	2.16	15.417	2.03	21.42	.81
3.500	.71	9.500	2.16	15.500	2.03	21.50	.81
3.583	.71	9.583	2.25	15.583	2.03	21.58	.81
3.667	.71	9.667	2.34	15.667	2.03	21.67	.81
3.750	.71	9.750	2.43	15.750	2.03	21.75	.81
3.833	.71	9.833	2.43	15.833	2.03	21.83	.81
3.917	.71	9.917	2.43	15.917	2.03	21.92	.81
4.000	.71	10.000	2.43	16.000	2.03	22.00	.81
4.083	.83	10.083	2.66	16.083	1.76	22.08	.81
4.167	.96	10.167	2.88	16.167	1.49	22.17	.81
4.250	1.08	10.250	3.11	16.250	1.22	22.25	.81
4.333	1.08	10.333	3.11	16.333	1.22	22.33	.81
4.417	1.08	10.417	3.11	16.417	1.22	22.42	.81
4.500	1.08	10.500	3.11	16.500	1.22	22.50	.81
4.583	1.08	10.583	3.47	16.583	1.22	22.58	.81
4.667	1.08	10.667	3.83	16.667	1.22	22.67	.81

4.750	1.08	10.750	4.19	16.750	1.22	22.75	.81
4.833	1.08	10.833	4.19	16.833	1.22	22.83	.81
4.917	1.08	10.917	4.19	16.917	1.22	22.92	.81
5.000	1.08	11.000	4.19	17.000	1.22	23.00	.81
5.083	1.08	11.083	4.96	17.083	1.22	23.08	.81
5.167	1.08	11.167	5.72	17.167	1.22	23.17	.81
5.250	1.08	11.250	6.49	17.250	1.22	23.25	.81
5.333	1.08	11.333	6.49	17.333	1.22	23.33	.81
5.417	1.08	11.417	6.49	17.417	1.22	23.42	.81
5.500	1.08	11.500	6.49	17.500	1.22	23.50	.81
5.583	1.08	11.583	11.00	17.583	1.22	23.58	.81
5.667	1.08	11.667	15.50	17.667	1.22	23.67	.81
5.750	1.08	11.750	20.01	17.750	1.22	23.75	.81
5.833	1.08	11.833	40.92	17.833	1.22	23.83	.81
5.917	1.08	11.917	61.83	17.917	1.22	23.92	.81
6.000	1.08	12.000	82.74	18.000	1.22	24.00	.00

Unit Hyd Qpeak (cms)= 1.040

PEAK FLOW (cms)= .641 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 34.967
TOTAL RAINFALL (mm)= 67.465
RUNOFF COEFFICIENT = .518

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

CALIB					
NASHYD (0201)	Area (ha)=	99.12	Curve Number (CN)=	85.0
ID= 1 DT= 5.0 min	Ia (mm)=	6.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	.74		

Unit Hyd Qpeak (cms)= 5.116

PEAK FLOW (cms)= 3.589 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 34.969
TOTAL RAINFALL (mm)= 67.465
RUNOFF COEFFICIENT = .518

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

CALIB					
NASHYD (0203)	Area (ha)=	10.33	Curve Number (CN)=	85.0
ID= 1 DT= 5.0 min	Ia (mm)=	6.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	.39		

Unit Hyd Qpeak (cms)= 1.012

PEAK FLOW (cms)= .591 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 34.965
TOTAL RAINFALL (mm)= 67.465
RUNOFF COEFFICIENT = .518

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

ADD HYD (0301)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0202):	12.80	.641	12.42	34.97
+ ID2= 2 (0201):	99.12	3.589	12.75	34.97
ID = 3 (0301):	111.92	4.131	12.67	34.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0302)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0301):	111.92	4.131	12.67	34.97
+ ID2= 2 (0203):	10.33	.591	12.33	34.96
ID = 3 (0302):	122.25	4.586	12.67	34.97

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ****************************
  ** SIMULATION NUMBER:   3 **
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| MASS STORM       |    Filename: P:\W&W\Projects\SW0409~1\STA8EF~1
|                  |              .CLA\STBBEF~1.CLA\VO2\Scs24h.mst
| Ptotal= 77.60 mm |    Comments: SCS 24 HR MASS CURVE
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                       Duration of storm    = 24.00 hrs
                       Mass curve time step = 15.00 min
                       New Storm time step  =  5.00 min
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TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.08	.35	6.08	1.29	12.08	67.05	18.08	1.40
.17	.70	6.17	1.35	12.17	39.11	18.17	1.40
.25	1.05	6.25	1.40	12.25	11.17	18.25	1.40
.33	1.05	6.33	1.40	12.33	11.17	18.33	1.40
.42	1.05	6.42	1.40	12.42	11.17	18.42	1.40
.50	1.05	6.50	1.40	12.50	11.17	18.50	1.40
.58	1.05	6.58	1.40	12.58	9.36	18.58	1.40
.67	1.05	6.67	1.40	12.67	7.55	18.67	1.40
.75	1.05	6.75	1.40	12.75	5.74	18.75	1.40
.83	1.05	6.83	1.40	12.83	5.74	18.83	1.40
.92	1.05	6.92	1.40	12.92	5.74	18.92	1.40
1.00	1.05	7.00	1.40	13.00	5.74	19.00	1.40
1.08	1.05	7.08	1.50	13.08	5.23	19.08	1.40
1.17	1.05	7.17	1.60	13.17	4.71	19.17	1.40
1.25	1.05	7.25	1.71	13.25	4.19	19.25	1.40
1.33	1.05	7.33	1.71	13.33	4.19	19.33	1.40
1.42	1.05	7.42	1.71	13.42	4.19	19.42	1.40
1.50	1.05	7.50	1.71	13.50	4.19	19.50	1.40
1.58	1.05	7.58	1.71	13.58	3.88	19.58	1.40
1.67	1.05	7.67	1.71	13.67	3.57	19.67	1.40
1.75	1.05	7.75	1.71	13.75	3.26	19.75	1.40
1.83	1.05	7.83	1.71	13.83	3.26	19.83	1.40
1.92	1.05	7.92	1.71	13.92	3.26	19.92	1.40
2.00	1.05	8.00	1.71	14.00	3.26	20.00	1.40
2.08	.97	8.08	1.81	14.08	2.95	20.08	1.24
2.17	.89	8.17	1.91	14.17	2.64	20.17	1.09
2.25	.82	8.25	2.02	14.25	2.33	20.25	.93
2.33	.82	8.33	2.02	14.33	2.33	20.33	.93
2.42	.81	8.42	2.02	14.42	2.33	20.42	.93
2.50	.81	8.50	2.02	14.50	2.33	20.50	.93
2.58	.81	8.58	2.07	14.58	2.33	20.58	.93
2.67	.82	8.67	2.12	14.67	2.33	20.67	.93
2.75	.82	8.75	2.17	14.75	2.33	20.75	.93
2.83	.82	8.83	2.17	14.83	2.33	20.83	.93
2.92	.81	8.92	2.17	14.92	2.33	20.92	.93
3.00	.81	9.00	2.17	15.00	2.33	21.00	.93
3.08	.81	9.08	2.28	15.08	2.33	21.08	.93
3.17	.82	9.17	2.38	15.17	2.33	21.17	.93
3.25	.82	9.25	2.48	15.25	2.33	21.25	.93
3.33	.82	9.33	2.48	15.33	2.33	21.33	.93
3.42	.81	9.42	2.48	15.42	2.33	21.42	.93
3.50	.81	9.50	2.48	15.50	2.33	21.50	.93
3.58	.81	9.58	2.59	15.58	2.33	21.58	.93
3.67	.82	9.67	2.69	15.67	2.33	21.67	.93
3.75	.82	9.75	2.79	15.75	2.33	21.75	.93
3.83	.82	9.83	2.79	15.83	2.33	21.83	.93
3.92	.81	9.92	2.79	15.92	2.33	21.92	.93
4.00	.81	10.00	2.79	16.00	2.33	22.00	.93
4.08	.96	10.08	3.05	16.08	2.02	22.08	.93
4.17	1.10	10.17	3.31	16.17	1.71	22.17	.93
4.25	1.24	10.25	3.57	16.25	1.40	22.25	.93
4.33	1.24	10.33	3.57	16.33	1.40	22.33	.93
4.42	1.24	10.42	3.57	16.42	1.40	22.42	.93
4.50	1.24	10.50	3.57	16.50	1.40	22.50	.93
4.58	1.24	10.58	3.98	16.58	1.40	22.58	.93
4.67	1.24	10.67	4.40	16.67	1.40	22.67	.93
4.75	1.24	10.75	4.81	16.75	1.40	22.75	.93
4.83	1.24	10.83	4.81	16.83	1.40	22.83	.93
4.92	1.24	10.92	4.81	16.92	1.40	22.92	.93
5.00	1.24	11.00	4.81	17.00	1.40	23.00	.93
5.08	1.24	11.08	5.69	17.08	1.40	23.08	.93
5.17	1.24	11.17	6.57	17.17	1.40	23.17	.93
5.25	1.24	11.25	7.45	17.25	1.40	23.25	.93
5.33	1.24	11.33	7.45	17.33	1.40	23.33	.93
5.42	1.24	11.42	7.45	17.42	1.40	23.42	.93
5.50	1.24	11.50	7.45	17.50	1.40	23.50	.93
5.58	1.24	11.58	12.62	17.58	1.40	23.58	.93
5.67	1.24	11.67	17.80	17.67	1.40	23.67	.93
5.75	1.24	11.75	22.97	17.75	1.40	23.75	.93
5.83	1.24	11.83	46.97	17.83	1.40	23.83	.93
5.92	1.24	11.92	70.98	17.92	1.40	23.92	.93
6.00	1.24	12.00	94.98	18.00	1.40	24.00	.93

CALIB					
NASHYD (0202)	Area (ha)=	12.80	Curve Number (CN)=	85.0	
ID= 1 DT= 5.0 min	Ia (mm)=	6.70	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	.47			

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.35	6.083	1.29	12.083	67.05	18.08	1.40
.167	.70	6.167	1.35	12.167	39.11	18.17	1.40
.250	1.05	6.250	1.40	12.250	11.18	18.25	1.40
.333	1.05	6.333	1.40	12.333	11.17	18.33	1.40
.417	1.05	6.417	1.40	12.417	11.17	18.42	1.40
.500	1.05	6.500	1.40	12.500	11.17	18.50	1.40
.583	1.05	6.583	1.40	12.583	9.36	18.58	1.40
.667	1.05	6.667	1.40	12.667	7.55	18.67	1.40
.750	1.05	6.750	1.40	12.750	5.74	18.75	1.40
.833	1.05	6.833	1.40	12.833	5.74	18.83	1.40
.917	1.05	6.917	1.40	12.917	5.74	18.92	1.40
1.000	1.05	7.000	1.40	13.000	5.74	19.00	1.40
1.083	1.05	7.083	1.50	13.083	5.23	19.08	1.40
1.167	1.05	7.167	1.60	13.167	4.71	19.17	1.40
1.250	1.05	7.250	1.71	13.250	4.19	19.25	1.40
1.333	1.05	7.333	1.71	13.333	4.19	19.33	1.40
1.417	1.05	7.417	1.71	13.417	4.19	19.42	1.40
1.500	1.05	7.500	1.71	13.500	4.19	19.50	1.40
1.583	1.05	7.583	1.71	13.583	3.88	19.58	1.40
1.667	1.05	7.667	1.71	13.667	3.57	19.67	1.40
1.750	1.05	7.750	1.71	13.750	3.26	19.75	1.40
1.833	1.05	7.833	1.71	13.833	3.26	19.83	1.40
1.917	1.05	7.917	1.71	13.917	3.26	19.92	1.40
2.000	1.05	8.000	1.71	14.000	3.26	20.00	1.40
2.083	.97	8.083	1.81	14.083	2.95	20.08	1.24
2.167	.89	8.167	1.91	14.167	2.64	20.17	1.09
2.250	.82	8.250	2.02	14.250	2.33	20.25	.93
2.333	.82	8.333	2.02	14.333	2.33	20.33	.93
2.417	.81	8.417	2.02	14.417	2.33	20.42	.93
2.500	.81	8.500	2.02	14.500	2.33	20.50	.93
2.583	.81	8.583	2.07	14.583	2.33	20.58	.93
2.667	.82	8.667	2.12	14.667	2.33	20.67	.93
2.750	.82	8.750	2.17	14.750	2.33	20.75	.93
2.833	.82	8.833	2.17	14.833	2.33	20.83	.93
2.917	.81	8.917	2.17	14.917	2.33	20.92	.93
3.000	.81	9.000	2.17	15.000	2.33	21.00	.93
3.083	.81	9.083	2.28	15.083	2.33	21.08	.93
3.167	.82	9.167	2.38	15.167	2.33	21.17	.93
3.250	.82	9.250	2.48	15.250	2.33	21.25	.93
3.333	.82	9.333	2.48	15.333	2.33	21.33	.93
3.417	.81	9.417	2.48	15.417	2.33	21.42	.93
3.500	.81	9.500	2.48	15.500	2.33	21.50	.93
3.583	.81	9.583	2.59	15.583	2.33	21.58	.93
3.667	.82	9.667	2.69	15.667	2.33	21.67	.93
3.750	.82	9.750	2.79	15.750	2.33	21.75	.93
3.833	.82	9.833	2.79	15.833	2.33	21.83	.93
3.917	.81	9.917	2.79	15.917	2.33	21.92	.93
4.000	.81	10.000	2.79	16.000	2.33	22.00	.93
4.083	.96	10.083	3.05	16.083	2.02	22.08	.93
4.167	1.10	10.167	3.31	16.167	1.71	22.17	.93
4.250	1.24	10.250	3.57	16.250	1.40	22.25	.93
4.333	1.24	10.333	3.57	16.333	1.40	22.33	.93
4.417	1.24	10.417	3.57	16.417	1.40	22.42	.93
4.500	1.24	10.500	3.57	16.500	1.40	22.50	.93
4.583	1.24	10.583	3.98	16.583	1.40	22.58	.93
4.667	1.24	10.667	4.40	16.667	1.40	22.67	.93
4.750	1.24	10.750	4.81	16.750	1.40	22.75	.93
4.833	1.24	10.833	4.81	16.833	1.40	22.83	.93
4.917	1.24	10.917	4.81	16.917	1.40	22.92	.93
5.000	1.24	11.000	4.81	17.000	1.40	23.00	.93
5.083	1.24	11.083	5.69	17.083	1.40	23.08	.93
5.167	1.24	11.167	6.57	17.167	1.40	23.17	.93
5.250	1.24	11.250	7.45	17.250	1.40	23.25	.93
5.333	1.24	11.333	7.45	17.333	1.40	23.33	.93
5.417	1.24	11.417	7.45	17.417	1.40	23.42	.93
5.500	1.24	11.500	7.45	17.500	1.40	23.50	.93
5.583	1.24	11.583	12.62	17.583	1.40	23.58	.93
5.667	1.24	11.667	17.80	17.667	1.40	23.67	.93
5.750	1.24	11.750	22.97	17.750	1.40	23.75	.93
5.833	1.24	11.833	46.97	17.833	1.40	23.83	.93
5.917	1.24	11.917	70.98	17.917	1.40	23.92	.93
6.000	1.24	12.000	94.98	18.000	1.40	24.00	.00

Unit Hyd Qpeak (cms)= 1.040

PEAK FLOW (cms)= .799 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 43.303
TOTAL RAINFALL (mm)= 77.445
RUNOFF COEFFICIENT = .559

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

CALIB	
NASHYD (0201)	Area (ha)= 99.12 Curve Number (CN)= 85.0
ID= 1 DT= 5.0 min	Ia (mm)= 6.70 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= .74

Unit Hyd Qpeak (cms)= 5.116

PEAK FLOW (cms)= 4.469 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 43.306
TOTAL RAINFALL (mm)= 77.445
RUNOFF COEFFICIENT = .559

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

CALIB	
NASHYD (0203)	Area (ha)= 10.33 Curve Number (CN)= 85.0
ID= 1 DT= 5.0 min	Ia (mm)= 6.70 # of Linear Res.(N)= 3.00
	U.H. Tp(hrs)= .39

Unit Hyd Qpeak (cms)= 1.012

PEAK FLOW (cms)= .735 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 43.300
TOTAL RAINFALL (mm)= 77.445
RUNOFF COEFFICIENT = .559

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

ADD HYD (0301)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0202):	12.80	.799	12.42	43.30
	+ ID2= 2 (0201):	99.12	4.469	12.75	43.31
	ID = 3 (0301):	111.92	5.146	12.67	43.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0302)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0301):	111.92	5.146	12.67	43.31
	+ ID2= 2 (0203):	10.33	.735	12.33	43.30
	ID = 3 (0302):	122.25	5.708	12.67	43.31

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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** SIMULATION NUMBER: 4 **
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MASS STORM	Filename: P:\W&W\Projects\SW0409~1\STA8EF~1.CLA\STBBEF~1.CLA\VO2\Scs24h.mst
Ptotal= 90.20 mm	Comments: SCS 24 HR MASS CURVE

Duration of storm = 24.00 hrs
Mass curve time step = 15.00 min
New Storm time step = 5.00 min

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.08	.41	6.08	1.50	12.08	77.93	18.08	1.62
.17	.81	6.17	1.56	12.17	45.46	18.17	1.62

.25	1.22	6.25	1.62	12.25	12.99	18.25	1.62
.33	1.22	6.33	1.62	12.33	12.99	18.33	1.62
.42	1.22	6.42	1.62	12.42	12.99	18.42	1.62
.50	1.22	6.50	1.62	12.50	12.99	18.50	1.62
.58	1.22	6.58	1.62	12.58	10.88	18.58	1.62
.67	1.22	6.67	1.62	12.67	8.78	18.67	1.62
.75	1.22	6.75	1.62	12.75	6.67	18.75	1.62
.83	1.22	6.83	1.62	12.83	6.67	18.83	1.62
.92	1.22	6.92	1.62	12.92	6.67	18.92	1.62
1.00	1.22	7.00	1.62	13.00	6.67	19.00	1.62
1.08	1.22	7.08	1.74	13.08	6.07	19.08	1.62
1.17	1.22	7.17	1.86	13.17	5.47	19.17	1.62
1.25	1.22	7.25	1.98	13.25	4.87	19.25	1.62
1.33	1.22	7.33	1.98	13.33	4.87	19.33	1.62
1.42	1.22	7.42	1.98	13.42	4.87	19.42	1.62
1.50	1.22	7.50	1.98	13.50	4.87	19.50	1.62
1.58	1.22	7.58	1.98	13.58	4.51	19.58	1.62
1.67	1.22	7.67	1.98	13.67	4.15	19.67	1.62
1.75	1.22	7.75	1.98	13.75	3.79	19.75	1.62
1.83	1.22	7.83	1.98	13.83	3.79	19.83	1.62
1.92	1.22	7.92	1.98	13.92	3.79	19.92	1.62
2.00	1.22	8.00	1.98	14.00	3.79	20.00	1.62
2.08	1.13	8.08	2.10	14.08	3.43	20.08	1.44
2.17	1.04	8.17	2.22	14.17	3.07	20.17	1.26
2.25	.95	8.25	2.35	14.25	2.71	20.25	1.08
2.33	.95	8.33	2.35	14.33	2.71	20.33	1.08
2.42	.95	8.42	2.35	14.42	2.71	20.42	1.08
2.50	.95	8.50	2.35	14.50	2.71	20.50	1.08
2.58	.95	8.58	2.41	14.58	2.71	20.58	1.08
2.67	.95	8.67	2.47	14.67	2.71	20.67	1.08
2.75	.95	8.75	2.53	14.75	2.71	20.75	1.08
2.83	.95	8.83	2.53	14.83	2.71	20.83	1.08
2.92	.95	8.92	2.53	14.92	2.71	20.92	1.08
3.00	.95	9.00	2.53	15.00	2.71	21.00	1.08
3.08	.95	9.08	2.65	15.08	2.71	21.08	1.08
3.17	.95	9.17	2.77	15.17	2.71	21.17	1.08
3.25	.95	9.25	2.89	15.25	2.71	21.25	1.08
3.33	.95	9.33	2.89	15.33	2.71	21.33	1.08
3.42	.95	9.42	2.89	15.42	2.71	21.42	1.08
3.50	.95	9.50	2.89	15.50	2.71	21.50	1.08
3.58	.95	9.58	3.01	15.58	2.71	21.58	1.08
3.67	.95	9.67	3.13	15.67	2.71	21.67	1.08
3.75	.95	9.75	3.25	15.75	2.71	21.75	1.08
3.83	.95	9.83	3.25	15.83	2.71	21.83	1.08
3.92	.95	9.92	3.25	15.92	2.71	21.92	1.08
4.00	.95	10.00	3.25	16.00	2.71	22.00	1.08
4.08	1.11	10.08	3.55	16.08	2.35	22.08	1.08
4.17	1.28	10.17	3.85	16.17	1.98	22.17	1.08
4.25	1.44	10.25	4.15	16.25	1.62	22.25	1.08
4.33	1.44	10.33	4.15	16.33	1.62	22.33	1.08
4.42	1.44	10.42	4.15	16.42	1.62	22.42	1.08
4.50	1.44	10.50	4.15	16.50	1.62	22.50	1.08
4.58	1.44	10.58	4.63	16.58	1.62	22.58	1.08
4.67	1.44	10.67	5.11	16.67	1.62	22.67	1.08
4.75	1.44	10.75	5.59	16.75	1.62	22.75	1.08
4.83	1.44	10.83	5.59	16.83	1.62	22.83	1.08
4.92	1.44	10.92	5.59	16.92	1.62	22.92	1.08
5.00	1.44	11.00	5.59	17.00	1.62	23.00	1.08
5.08	1.44	11.08	6.61	17.08	1.62	23.08	1.08
5.17	1.44	11.17	7.64	17.17	1.62	23.17	1.08
5.25	1.44	11.25	8.66	17.25	1.62	23.25	1.08
5.33	1.44	11.33	8.66	17.33	1.62	23.33	1.08
5.42	1.44	11.42	8.66	17.42	1.62	23.42	1.08
5.50	1.44	11.50	8.66	17.50	1.62	23.50	1.08
5.58	1.44	11.58	14.67	17.58	1.62	23.58	1.08
5.67	1.44	11.67	20.69	17.67	1.62	23.67	1.08
5.75	1.44	11.75	26.70	17.75	1.62	23.75	1.08
5.83	1.44	11.83	54.60	17.83	1.62	23.83	1.08
5.92	1.44	11.92	82.50	17.92	1.62	23.92	1.08
6.00	1.44	12.00	110.40	18.00	1.62	24.00	1.08

CALIB			
NASHYD (0202)	Area (ha)= 12.80	Curve Number (CN)= 85.0	
ID= 1 DT= 5.0 min	Ia (mm)= 6.70	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= .47		

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.41	6.083	1.50	12.083	77.94	18.08	1.62
.167	.81	6.167	1.56	12.167	45.47	18.17	1.62
.250	1.22	6.250	1.62	12.250	12.99	18.25	1.62
.333	1.22	6.333	1.62	12.333	12.99	18.33	1.62

.417	1.22	6.417	1.62	12.417	12.99	18.42	1.62
.500	1.22	6.500	1.62	12.500	12.99	18.50	1.62
.583	1.22	6.583	1.62	12.583	10.88	18.58	1.62
.667	1.22	6.667	1.62	12.667	8.78	18.67	1.62
.750	1.22	6.750	1.62	12.750	6.68	18.75	1.62
.833	1.22	6.833	1.62	12.833	6.67	18.83	1.62
.917	1.22	6.917	1.62	12.917	6.67	18.92	1.62
1.000	1.22	7.000	1.62	13.000	6.67	19.00	1.62
1.083	1.22	7.083	1.74	13.083	6.07	19.08	1.62
1.167	1.22	7.167	1.86	13.167	5.47	19.17	1.62
1.250	1.22	7.250	1.98	13.250	4.87	19.25	1.62
1.333	1.22	7.333	1.98	13.333	4.87	19.33	1.62
1.417	1.22	7.417	1.98	13.417	4.87	19.42	1.62
1.500	1.22	7.500	1.98	13.500	4.87	19.50	1.62
1.583	1.22	7.583	1.98	13.583	4.51	19.58	1.62
1.667	1.22	7.667	1.98	13.667	4.15	19.67	1.62
1.750	1.22	7.750	1.98	13.750	3.79	19.75	1.62
1.833	1.22	7.833	1.98	13.833	3.79	19.83	1.62
1.917	1.22	7.917	1.98	13.917	3.79	19.92	1.62
2.000	1.22	8.000	1.98	14.000	3.79	20.00	1.62
2.083	1.13	8.083	2.10	14.083	3.43	20.08	1.44
2.167	1.04	8.167	2.22	14.167	3.07	20.17	1.26
2.250	.95	8.250	2.35	14.250	2.71	20.25	1.08
2.333	.95	8.333	2.35	14.333	2.71	20.33	1.08
2.417	.95	8.417	2.35	14.417	2.71	20.42	1.08
2.500	.95	8.500	2.35	14.500	2.71	20.50	1.08
2.583	.95	8.583	2.41	14.583	2.71	20.58	1.08
2.667	.95	8.667	2.47	14.667	2.71	20.67	1.08
2.750	.95	8.750	2.53	14.750	2.71	20.75	1.08
2.833	.95	8.833	2.53	14.833	2.71	20.83	1.08
2.917	.95	8.917	2.53	14.917	2.71	20.92	1.08
3.000	.95	9.000	2.53	15.000	2.71	21.00	1.08
3.083	.95	9.083	2.65	15.083	2.71	21.08	1.08
3.167	.95	9.167	2.77	15.167	2.71	21.17	1.08
3.250	.95	9.250	2.89	15.250	2.71	21.25	1.08
3.333	.95	9.333	2.89	15.333	2.71	21.33	1.08
3.417	.95	9.417	2.89	15.417	2.71	21.42	1.08
3.500	.95	9.500	2.89	15.500	2.71	21.50	1.08
3.583	.95	9.583	3.01	15.583	2.71	21.58	1.08
3.667	.95	9.667	3.13	15.667	2.71	21.67	1.08
3.750	.95	9.750	3.25	15.750	2.71	21.75	1.08
3.833	.95	9.833	3.25	15.833	2.71	21.83	1.08
3.917	.95	9.917	3.25	15.917	2.71	21.92	1.08
4.000	.95	10.000	3.25	16.000	2.71	22.00	1.08
4.083	1.11	10.083	3.55	16.083	2.35	22.08	1.08
4.167	1.28	10.167	3.85	16.167	1.98	22.17	1.08
4.250	1.44	10.250	4.15	16.250	1.62	22.25	1.08
4.333	1.44	10.333	4.15	16.333	1.62	22.33	1.08
4.417	1.44	10.417	4.15	16.417	1.62	22.42	1.08
4.500	1.44	10.500	4.15	16.500	1.62	22.50	1.08
4.583	1.44	10.583	4.63	16.583	1.62	22.58	1.08
4.667	1.44	10.667	5.11	16.667	1.62	22.67	1.08
4.750	1.44	10.750	5.59	16.750	1.62	22.75	1.08
4.833	1.44	10.833	5.59	16.833	1.62	22.83	1.08
4.917	1.44	10.917	5.59	16.917	1.62	22.92	1.08
5.000	1.44	11.000	5.59	17.000	1.62	23.00	1.08
5.083	1.44	11.083	6.61	17.083	1.62	23.08	1.08
5.167	1.44	11.167	7.64	17.167	1.62	23.17	1.08
5.250	1.44	11.250	8.66	17.250	1.62	23.25	1.08
5.333	1.44	11.333	8.66	17.333	1.62	23.33	1.08
5.417	1.44	11.417	8.66	17.417	1.62	23.42	1.08
5.500	1.44	11.500	8.66	17.500	1.62	23.50	1.08
5.583	1.44	11.583	14.67	17.583	1.62	23.58	1.08
5.667	1.44	11.667	20.69	17.667	1.62	23.67	1.08
5.750	1.44	11.750	26.70	17.750	1.62	23.75	1.08
5.833	1.44	11.833	54.60	17.833	1.62	23.83	1.08
5.917	1.44	11.917	82.50	17.917	1.62	23.92	1.08
6.000	1.44	12.000	110.40	18.000	1.62	24.00	.00

Unit Hyd Qpeak (cms)= 1.040

PEAK FLOW (cms)= 1.003 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 54.172
TOTAL RAINFALL (mm)= 90.020
RUNOFF COEFFICIENT = .602

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

CALIB					
NASHYD (0201)	Area (ha)=	99.12	Curve Number (CN)=	85.0	
ID= 1 DT= 5.0 min	Ia (mm)=	6.70	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	.74			

Unit Hyd Qpeak (cms)= 5.116

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     PEAK FLOW       (cms)=   5.610 (i)
     TIME TO PEAK    (hrs)=  12.750
     RUNOFF VOLUME    (mm)=  54.175
     TOTAL RAINFALL   (mm)=  90.020
     RUNOFF COEFFICIENT   =    .602

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

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| CALIB            |
| NASHYD    (0203) |   Area    (ha)=  10.33   Curve Number   (CN)= 85.0
|ID= 1 DT= 5.0 min |   Ia      (mm)=   6.70   # of Linear Res.(N)= 3.00
--------------------   U.H. Tp(hrs)=    .39

     Unit Hyd Qpeak  (cms)=   1.012

     PEAK FLOW       (cms)=    .923 (i)
     TIME TO PEAK    (hrs)=  12.333
     RUNOFF VOLUME    (mm)=  54.168
     TOTAL RAINFALL   (mm)=  90.020
     RUNOFF COEFFICIENT   =    .602

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

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| ADD HYD   (0301) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0202):    12.80   1.003    12.42    54.17
       + ID2= 2 (0201):    99.12   5.610    12.75    54.17
         ================================================
         ID = 3 (0301):   111.92   6.464    12.67    54.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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--------------------
| ADD HYD   (0302) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
         ID1= 1 (0301):   111.92   6.464    12.67    54.17
       + ID2= 2 (0203):    10.33    .923    12.33    54.17
         ================================================
         ID = 3 (0302):   122.25   7.163    12.67    54.17

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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  ** SIMULATION NUMBER:   5 **
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| MASS STORM       |    Filename: P:\W&W\Projects\SW0409~1\STA8EF~1
|                  |              .CLA\STBBEF~1.CLA\VO2\Scs24h.mst
| Ptotal= 99.60 mm |    Comments: SCS 24 HR MASS CURVE
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                       Duration of storm    = 24.00 hrs
                       Mass curve time step = 15.00 min
                       New Storm time step  =  5.00 min


                TIME    RAIN |  TIME    RAIN |  TIME    RAIN |  TIME    RAIN
                 hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr |   hrs   mm/hr
                 .08     .45 |  6.08    1.66 | 12.08   86.05 | 18.08    1.79
                 .17     .90 |  6.17    1.73 | 12.17   50.20 | 18.17    1.79
                 .25    1.35 |  6.25    1.79 | 12.25   14.34 | 18.25    1.79
                 .33    1.35 |  6.33    1.79 | 12.33   14.34 | 18.33    1.79
                 .42    1.34 |  6.42    1.79 | 12.42   14.34 | 18.42    1.79
                 .50    1.34 |  6.50    1.79 | 12.50   14.34 | 18.50    1.79
                 .58    1.34 |  6.58    1.79 | 12.58   12.02 | 18.58    1.79
                 .67    1.35 |  6.67    1.79 | 12.67    9.69 | 18.67    1.79
                 .75    1.35 |  6.75    1.79 | 12.75    7.37 | 18.75    1.79
                 .83    1.35 |  6.83    1.79 | 12.83    7.37 | 18.83    1.79
                 .92    1.34 |  6.92    1.79 | 12.92    7.37 | 18.92    1.79
                1.00    1.34 |  7.00    1.79 | 13.00    7.37 | 19.00    1.79
                1.08    1.34 |  7.08    1.93 | 13.08    6.71 | 19.08    1.79
                1.17    1.35 |  7.17    2.06 | 13.17    6.04 | 19.17    1.79
                1.25    1.35 |  7.25    2.19 | 13.25    5.38 | 19.25    1.79
                1.33    1.35 |  7.33    2.19 | 13.33    5.38 | 19.33    1.79
                1.42    1.34 |  7.42    2.19 | 13.42    5.38 | 19.42    1.79
                1.50    1.34 |  7.50    2.19 | 13.50    5.38 | 19.50    1.79
                1.58    1.34 |  7.58    2.19 | 13.58    4.98 | 19.58    1.79
                1.67    1.35 |  7.67    2.19 | 13.67    4.58 | 19.67    1.79
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1.75	1.35	7.75	2.19	13.75	4.18	19.75	1.79
1.83	1.35	7.83	2.19	13.83	4.18	19.83	1.79
1.92	1.34	7.92	2.19	13.92	4.18	19.92	1.79
2.00	1.34	8.00	2.19	14.00	4.18	20.00	1.79
2.08	1.24	8.08	2.32	14.08	3.78	20.08	1.59
2.17	1.15	8.17	2.46	14.17	3.39	20.17	1.39
2.25	1.05	8.25	2.59	14.25	2.99	20.25	1.20
2.33	1.05	8.33	2.59	14.33	2.99	20.33	1.20
2.42	1.05	8.42	2.59	14.42	2.99	20.42	1.20
2.50	1.04	8.50	2.59	14.50	2.99	20.50	1.20
2.58	1.05	8.58	2.66	14.58	2.99	20.58	1.20
2.67	1.05	8.67	2.72	14.67	2.99	20.67	1.20
2.75	1.05	8.75	2.79	14.75	2.99	20.75	1.20
2.83	1.05	8.83	2.79	14.83	2.99	20.83	1.20
2.92	1.05	8.92	2.79	14.92	2.99	20.92	1.20
3.00	1.04	9.00	2.79	15.00	2.99	21.00	1.20
3.08	1.05	9.08	2.92	15.08	2.99	21.08	1.20
3.17	1.05	9.17	3.05	15.17	2.99	21.17	1.20
3.25	1.05	9.25	3.19	15.25	2.99	21.25	1.20
3.33	1.05	9.33	3.19	15.33	2.99	21.33	1.20
3.42	1.05	9.42	3.19	15.42	2.99	21.42	1.20
3.50	1.04	9.50	3.19	15.50	2.99	21.50	1.20
3.58	1.05	9.58	3.32	15.58	2.99	21.58	1.20
3.67	1.05	9.67	3.45	15.67	2.99	21.67	1.20
3.75	1.05	9.75	3.59	15.75	2.99	21.75	1.20
3.83	1.05	9.83	3.59	15.83	2.99	21.83	1.20
3.92	1.05	9.92	3.59	15.92	2.99	21.92	1.20
4.00	1.04	10.00	3.59	16.00	2.99	22.00	1.20
4.08	1.23	10.08	3.92	16.08	2.59	22.08	1.20
4.17	1.41	10.17	4.25	16.17	2.19	22.17	1.20
4.25	1.59	10.25	4.58	16.25	1.79	22.25	1.20
4.33	1.59	10.33	4.58	16.33	1.79	22.33	1.20
4.42	1.59	10.42	4.58	16.42	1.79	22.42	1.20
4.50	1.59	10.50	4.58	16.50	1.79	22.50	1.20
4.58	1.59	10.58	5.11	16.58	1.79	22.58	1.20
4.67	1.59	10.67	5.64	16.67	1.79	22.67	1.20
4.75	1.59	10.75	6.18	16.75	1.79	22.75	1.20
4.83	1.59	10.83	6.18	16.83	1.79	22.83	1.20
4.92	1.59	10.92	6.18	16.92	1.79	22.92	1.20
5.00	1.59	11.00	6.18	17.00	1.79	23.00	1.20
5.08	1.59	11.08	7.30	17.08	1.79	23.08	1.20
5.17	1.59	11.17	8.43	17.17	1.79	23.17	1.20
5.25	1.59	11.25	9.56	17.25	1.79	23.25	1.20
5.33	1.59	11.33	9.56	17.33	1.79	23.33	1.20
5.42	1.59	11.42	9.56	17.42	1.79	23.42	1.20
5.50	1.59	11.50	9.56	17.50	1.79	23.50	1.20
5.58	1.59	11.58	16.20	17.58	1.79	23.58	1.20
5.67	1.59	11.67	22.84	17.67	1.79	23.67	1.20
5.75	1.59	11.75	29.48	17.75	1.79	23.75	1.20
5.83	1.59	11.83	60.29	17.83	1.79	23.83	1.20
5.92	1.59	11.92	91.10	17.92	1.79	23.92	1.20
6.00	1.59	12.00	121.91	18.00	1.79	24.00	1.20

CALIB			
NASHYD (0202)	Area (ha)= 12.80	Curve Number (CN)= 85.0	
ID= 1 DT= 5.0 min	Ia (mm)= 6.70	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= .47		

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.45	6.083	1.66	12.083	86.06	18.08	1.79
.167	.90	6.167	1.73	12.167	50.20	18.17	1.79
.250	1.35	6.250	1.79	12.250	14.35	18.25	1.79
.333	1.35	6.333	1.79	12.333	14.34	18.33	1.79
.417	1.34	6.417	1.79	12.417	14.34	18.42	1.79
.500	1.34	6.500	1.79	12.500	14.34	18.50	1.79
.583	1.34	6.583	1.79	12.583	12.02	18.58	1.79
.667	1.35	6.667	1.79	12.667	9.69	18.67	1.79
.750	1.35	6.750	1.79	12.750	7.37	18.75	1.79
.833	1.35	6.833	1.79	12.833	7.37	18.83	1.79
.917	1.34	6.917	1.79	12.917	7.37	18.92	1.79
1.000	1.34	7.000	1.79	13.000	7.37	19.00	1.79
1.083	1.34	7.083	1.93	13.083	6.71	19.08	1.79
1.167	1.35	7.167	2.06	13.167	6.04	19.17	1.79
1.250	1.35	7.250	2.19	13.250	5.38	19.25	1.79
1.333	1.35	7.333	2.19	13.333	5.38	19.33	1.79
1.417	1.34	7.417	2.19	13.417	5.38	19.42	1.79
1.500	1.34	7.500	2.19	13.500	5.38	19.50	1.79
1.583	1.34	7.583	2.19	13.583	4.98	19.58	1.79
1.667	1.35	7.667	2.19	13.667	4.58	19.67	1.79
1.750	1.35	7.750	2.19	13.750	4.18	19.75	1.79
1.833	1.35	7.833	2.19	13.833	4.18	19.83	1.79

1.917	1.34	7.917	2.19	13.917	4.18	19.92	1.79
2.000	1.34	8.000	2.19	14.000	4.18	20.00	1.79
2.083	1.24	8.083	2.32	14.083	3.78	20.08	1.59
2.167	1.15	8.167	2.46	14.167	3.39	20.17	1.39
2.250	1.05	8.250	2.59	14.250	2.99	20.25	1.20
2.333	1.05	8.333	2.59	14.333	2.99	20.33	1.20
2.417	1.05	8.417	2.59	14.417	2.99	20.42	1.20
2.500	1.04	8.500	2.59	14.500	2.99	20.50	1.20
2.583	1.05	8.583	2.66	14.583	2.99	20.58	1.20
2.667	1.05	8.667	2.72	14.667	2.99	20.67	1.20
2.750	1.05	8.750	2.79	14.750	2.99	20.75	1.20
2.833	1.05	8.833	2.79	14.833	2.99	20.83	1.20
2.917	1.05	8.917	2.79	14.917	2.99	20.92	1.20
3.000	1.04	9.000	2.79	15.000	2.99	21.00	1.20
3.083	1.05	9.083	2.92	15.083	2.99	21.08	1.20
3.167	1.05	9.167	3.05	15.167	2.99	21.17	1.20
3.250	1.05	9.250	3.19	15.250	2.99	21.25	1.20
3.333	1.05	9.333	3.19	15.333	2.99	21.33	1.20
3.417	1.05	9.417	3.19	15.417	2.99	21.42	1.20
3.500	1.04	9.500	3.19	15.500	2.99	21.50	1.20
3.583	1.05	9.583	3.32	15.583	2.99	21.58	1.20
3.667	1.05	9.667	3.45	15.667	2.99	21.67	1.20
3.750	1.05	9.750	3.59	15.750	2.99	21.75	1.20
3.833	1.05	9.833	3.59	15.833	2.99	21.83	1.20
3.917	1.05	9.917	3.59	15.917	2.99	21.92	1.20
4.000	1.04	10.000	3.59	16.000	2.99	22.00	1.20
4.083	1.23	10.083	3.92	16.083	2.59	22.08	1.20
4.167	1.41	10.167	4.25	16.167	2.19	22.17	1.20
4.250	1.59	10.250	4.58	16.250	1.79	22.25	1.20
4.333	1.59	10.333	4.58	16.333	1.79	22.33	1.20
4.417	1.59	10.417	4.58	16.417	1.79	22.42	1.20
4.500	1.59	10.500	4.58	16.500	1.79	22.50	1.20
4.583	1.59	10.583	5.11	16.583	1.79	22.58	1.20
4.667	1.59	10.667	5.64	16.667	1.79	22.67	1.20
4.750	1.59	10.750	6.18	16.750	1.79	22.75	1.20
4.833	1.59	10.833	6.18	16.833	1.79	22.83	1.20
4.917	1.59	10.917	6.18	16.917	1.79	22.92	1.20
5.000	1.59	11.000	6.18	17.000	1.79	23.00	1.20
5.083	1.59	11.083	7.30	17.083	1.79	23.08	1.20
5.167	1.59	11.167	8.43	17.167	1.79	23.17	1.20
5.250	1.59	11.250	9.56	17.250	1.79	23.25	1.20
5.333	1.59	11.333	9.56	17.333	1.79	23.33	1.20
5.417	1.59	11.417	9.56	17.417	1.79	23.42	1.20
5.500	1.59	11.500	9.56	17.500	1.79	23.50	1.20
5.583	1.59	11.583	16.20	17.583	1.79	23.58	1.20
5.667	1.59	11.667	22.84	17.667	1.79	23.67	1.20
5.750	1.59	11.750	29.48	17.750	1.79	23.75	1.20
5.833	1.59	11.833	60.29	17.833	1.79	23.83	1.20
5.917	1.59	11.917	91.10	17.917	1.79	23.92	1.20
6.000	1.59	12.000	121.91	18.000	1.79	24.00	.00

Unit Hyd Qpeak (cms)= 1.040

PEAK FLOW (cms)= 1.158 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 62.483
TOTAL RAINFALL (mm)= 99.401
RUNOFF COEFFICIENT = .629

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

CALIB					
NASHYD (0201)	Area (ha)=	99.12	Curve Number (CN)=	85.0	
ID= 1 DT= 5.0 min	Ia (mm)=	6.70	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	.74			

Unit Hyd Qpeak (cms)= 5.116

PEAK FLOW (cms)= 6.477 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 62.486
TOTAL RAINFALL (mm)= 99.401
RUNOFF COEFFICIENT = .629

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

CALIB					
NASHYD (0203)	Area (ha)=	10.33	Curve Number (CN)=	85.0	
ID= 1 DT= 5.0 min	Ia (mm)=	6.70	# of Linear Res.(N)=	3.00	
	U.H. Tp(hrs)=	.39			

Unit Hyd Qpeak (cms)= 1.012

PEAK FLOW (cms)= 1.065 (i)

TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 62.478
TOTAL RAINFALL (mm)= 99.401
RUNOFF COEFFICIENT = .629

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

ADD HYD (0301)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0202):	12.80	1.158	12.42	62.48
	+ ID2= 2 (0201):	99.12	6.477	12.75	62.49
	ID = 3 (0301):	111.92	7.467	12.67	62.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0302)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0301):	111.92	7.467	12.67	62.49
	+ ID2= 2 (0203):	10.33	1.065	12.33	62.48
	ID = 3 (0302):	122.25	8.270	12.58	62.49

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

****
** SIMULATION NUMBER: 6 **
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MASS STORM	Filename: P:\W&W\Projects\SW0409~1\STA8EF~1 .CLA\STBBEF~1.CLA\VO2\Scs24h.mst
Ptotal=108.90 mm	Comments: SCS 24 HR MASS CURVE

Duration of storm = 24.00 hrs
Mass curve time step = 15.00 min
New Storm time step = 5.00 min

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.08	.49	6.08	1.82	12.08	94.09	18.08	1.96
.17	.98	6.17	1.89	12.17	54.89	18.17	1.96
.25	1.47	6.25	1.96	12.25	15.68	18.25	1.96
.33	1.47	6.33	1.96	12.33	15.68	18.33	1.96
.42	1.47	6.42	1.96	12.42	15.68	18.42	1.96
.50	1.47	6.50	1.96	12.50	15.68	18.50	1.96
.58	1.47	6.58	1.96	12.58	13.14	18.58	1.96
.67	1.47	6.67	1.96	12.67	10.60	18.67	1.96
.75	1.47	6.75	1.96	12.75	8.06	18.75	1.96
.83	1.47	6.83	1.96	12.83	8.06	18.83	1.96
.92	1.47	6.92	1.96	12.92	8.06	18.92	1.96
1.00	1.47	7.00	1.96	13.00	8.06	19.00	1.96
1.08	1.47	7.08	2.11	13.08	7.33	19.08	1.96
1.17	1.47	7.17	2.25	13.17	6.61	19.17	1.96
1.25	1.47	7.25	2.40	13.25	5.88	19.25	1.96
1.33	1.47	7.33	2.40	13.33	5.88	19.33	1.96
1.42	1.47	7.42	2.40	13.42	5.88	19.42	1.96
1.50	1.47	7.50	2.40	13.50	5.88	19.50	1.96
1.58	1.47	7.58	2.40	13.58	5.45	19.58	1.96
1.67	1.47	7.67	2.40	13.67	5.01	19.67	1.96
1.75	1.47	7.75	2.40	13.75	4.57	19.75	1.96
1.83	1.47	7.83	2.40	13.83	4.57	19.83	1.96
1.92	1.47	7.92	2.40	13.92	4.57	19.92	1.96
2.00	1.47	8.00	2.40	14.00	4.57	20.00	1.96
2.08	1.36	8.08	2.54	14.08	4.14	20.08	1.74
2.17	1.25	8.17	2.69	14.17	3.70	20.17	1.52
2.25	1.15	8.25	2.83	14.25	3.27	20.25	1.31
2.33	1.14	8.33	2.83	14.33	3.27	20.33	1.31
2.42	1.14	8.42	2.83	14.42	3.27	20.42	1.31
2.50	1.14	8.50	2.83	14.50	3.27	20.50	1.31
2.58	1.14	8.58	2.90	14.58	3.27	20.58	1.31
2.67	1.14	8.67	2.98	14.67	3.27	20.67	1.31
2.75	1.15	8.75	3.05	14.75	3.27	20.75	1.31
2.83	1.14	8.83	3.05	14.83	3.27	20.83	1.31
2.92	1.14	8.92	3.05	14.92	3.27	20.92	1.31
3.00	1.14	9.00	3.05	15.00	3.27	21.00	1.31
3.08	1.14	9.08	3.19	15.08	3.27	21.08	1.31
3.17	1.14	9.17	3.34	15.17	3.27	21.17	1.31

3.25	1.15	9.25	3.48	15.25	3.27	21.25	1.31
3.33	1.14	9.33	3.48	15.33	3.27	21.33	1.31
3.42	1.14	9.42	3.48	15.42	3.27	21.42	1.31
3.50	1.14	9.50	3.48	15.50	3.27	21.50	1.31
3.58	1.14	9.58	3.63	15.58	3.27	21.58	1.31
3.67	1.14	9.67	3.78	15.67	3.27	21.67	1.31
3.75	1.15	9.75	3.92	15.75	3.27	21.75	1.31
3.83	1.14	9.83	3.92	15.83	3.27	21.83	1.31
3.92	1.14	9.92	3.92	15.92	3.27	21.92	1.31
4.00	1.14	10.00	3.92	16.00	3.27	22.00	1.31
4.08	1.34	10.08	4.28	16.08	2.83	22.08	1.31
4.17	1.54	10.17	4.65	16.17	2.40	22.17	1.31
4.25	1.74	10.25	5.01	16.25	1.96	22.25	1.31
4.33	1.74	10.33	5.01	16.33	1.96	22.33	1.31
4.42	1.74	10.42	5.01	16.42	1.96	22.42	1.31
4.50	1.74	10.50	5.01	16.50	1.96	22.50	1.31
4.58	1.74	10.58	5.59	16.58	1.96	22.58	1.31
4.67	1.74	10.67	6.17	16.67	1.96	22.67	1.31
4.75	1.74	10.75	6.75	16.75	1.96	22.75	1.31
4.83	1.74	10.83	6.75	16.83	1.96	22.83	1.31
4.92	1.74	10.92	6.75	16.92	1.96	22.92	1.31
5.00	1.74	11.00	6.75	17.00	1.96	23.00	1.31
5.08	1.74	11.08	7.99	17.08	1.96	23.08	1.31
5.17	1.74	11.17	9.22	17.17	1.96	23.17	1.31
5.25	1.74	11.25	10.45	17.25	1.96	23.25	1.31
5.33	1.74	11.33	10.45	17.33	1.96	23.33	1.31
5.42	1.74	11.42	10.45	17.42	1.96	23.42	1.31
5.50	1.74	11.50	10.45	17.50	1.96	23.50	1.31
5.58	1.74	11.58	17.71	17.58	1.96	23.58	1.31
5.67	1.74	11.67	24.97	17.67	1.96	23.67	1.31
5.75	1.74	11.75	32.23	17.75	1.96	23.75	1.31
5.83	1.74	11.83	65.92	17.83	1.96	23.83	1.31
5.92	1.74	11.92	99.61	17.92	1.96	23.92	1.31
6.00	1.74	12.00	133.29	18.00	1.96	24.00	1.31

CALIB			
NASHYD (0202)	Area (ha)= 12.80	Curve Number (CN)= 85.0	
ID= 1 DT= 5.0 min	Ia (mm)= 6.70	# of Linear Res.(N)= 3.00	
	U.H. Tp(hrs)= .47		

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.49	6.083	1.82	12.083	94.09	18.08	1.96
.167	.98	6.167	1.89	12.167	54.89	18.17	1.96
.250	1.47	6.250	1.96	12.250	15.69	18.25	1.96
.333	1.47	6.333	1.96	12.333	15.68	18.33	1.96
.417	1.47	6.417	1.96	12.417	15.68	18.42	1.96
.500	1.47	6.500	1.96	12.500	15.68	18.50	1.96
.583	1.47	6.583	1.96	12.583	13.14	18.58	1.96
.667	1.47	6.667	1.96	12.667	10.60	18.67	1.96
.750	1.47	6.750	1.96	12.750	8.06	18.75	1.96
.833	1.47	6.833	1.96	12.833	8.06	18.83	1.96
.917	1.47	6.917	1.96	12.917	8.06	18.92	1.96
1.000	1.47	7.000	1.96	13.000	8.06	19.00	1.96
1.083	1.47	7.083	2.11	13.083	7.33	19.08	1.96
1.167	1.47	7.167	2.25	13.167	6.61	19.17	1.96
1.250	1.47	7.250	2.40	13.250	5.88	19.25	1.96
1.333	1.47	7.333	2.40	13.333	5.88	19.33	1.96
1.417	1.47	7.417	2.40	13.417	5.88	19.42	1.96
1.500	1.47	7.500	2.40	13.500	5.88	19.50	1.96
1.583	1.47	7.583	2.40	13.583	5.45	19.58	1.96
1.667	1.47	7.667	2.40	13.667	5.01	19.67	1.96
1.750	1.47	7.750	2.40	13.750	4.57	19.75	1.96
1.833	1.47	7.833	2.40	13.833	4.57	19.83	1.96
1.917	1.47	7.917	2.40	13.917	4.57	19.92	1.96
2.000	1.47	8.000	2.40	14.000	4.57	20.00	1.96
2.083	1.36	8.083	2.54	14.083	4.14	20.08	1.74
2.167	1.25	8.167	2.69	14.167	3.70	20.17	1.52
2.250	1.15	8.250	2.83	14.250	3.27	20.25	1.31
2.333	1.14	8.333	2.83	14.333	3.27	20.33	1.31
2.417	1.14	8.417	2.83	14.417	3.27	20.42	1.31
2.500	1.14	8.500	2.83	14.500	3.27	20.50	1.31
2.583	1.14	8.583	2.90	14.583	3.27	20.58	1.31
2.667	1.14	8.667	2.98	14.667	3.27	20.67	1.31
2.750	1.15	8.750	3.05	14.750	3.27	20.75	1.31
2.833	1.14	8.833	3.05	14.833	3.27	20.83	1.31
2.917	1.14	8.917	3.05	14.917	3.27	20.92	1.31
3.000	1.14	9.000	3.05	15.000	3.27	21.00	1.31
3.083	1.14	9.083	3.19	15.083	3.27	21.08	1.31
3.167	1.14	9.167	3.34	15.167	3.27	21.17	1.31
3.250	1.15	9.250	3.48	15.250	3.27	21.25	1.31
3.333	1.14	9.333	3.48	15.333	3.27	21.33	1.31

3.417	1.14	9.417	3.48	15.417	3.27	21.42	1.31
3.500	1.14	9.500	3.48	15.500	3.27	21.50	1.31
3.583	1.14	9.583	3.63	15.583	3.27	21.58	1.31
3.667	1.14	9.667	3.78	15.667	3.27	21.67	1.31
3.750	1.15	9.750	3.92	15.750	3.27	21.75	1.31
3.833	1.14	9.833	3.92	15.833	3.27	21.83	1.31
3.917	1.14	9.917	3.92	15.917	3.27	21.92	1.31
4.000	1.14	10.000	3.92	16.000	3.27	22.00	1.31
4.083	1.34	10.083	4.28	16.083	2.83	22.08	1.31
4.167	1.54	10.167	4.65	16.167	2.40	22.17	1.31
4.250	1.74	10.250	5.01	16.250	1.96	22.25	1.31
4.333	1.74	10.333	5.01	16.333	1.96	22.33	1.31
4.417	1.74	10.417	5.01	16.417	1.96	22.42	1.31
4.500	1.74	10.500	5.01	16.500	1.96	22.50	1.31
4.583	1.74	10.583	5.59	16.583	1.96	22.58	1.31
4.667	1.74	10.667	6.17	16.667	1.96	22.67	1.31
4.750	1.74	10.750	6.75	16.750	1.96	22.75	1.31
4.833	1.74	10.833	6.75	16.833	1.96	22.83	1.31
4.917	1.74	10.917	6.75	16.917	1.96	22.92	1.31
5.000	1.74	11.000	6.75	17.000	1.96	23.00	1.31
5.083	1.74	11.083	7.99	17.083	1.96	23.08	1.31
5.167	1.74	11.167	9.22	17.167	1.96	23.17	1.31
5.250	1.74	11.250	10.45	17.250	1.96	23.25	1.31
5.333	1.74	11.333	10.45	17.333	1.96	23.33	1.31
5.417	1.74	11.417	10.45	17.417	1.96	23.42	1.31
5.500	1.74	11.500	10.45	17.500	1.96	23.50	1.31
5.583	1.74	11.583	17.71	17.583	1.96	23.58	1.31
5.667	1.74	11.667	24.97	17.667	1.96	23.67	1.31
5.750	1.74	11.750	32.23	17.750	1.96	23.75	1.31
5.833	1.74	11.833	65.92	17.833	1.96	23.83	1.31
5.917	1.74	11.917	99.60	17.917	1.96	23.92	1.31
6.000	1.74	12.000	133.29	18.000	1.96	24.00	.00

Unit Hyd Qpeak (cms)= 1.040

PEAK FLOW (cms)= 1.313 (i)
TIME TO PEAK (hrs)= 12.417
RUNOFF VOLUME (mm)= 70.840
TOTAL RAINFALL (mm)= 108.682
RUNOFF COEFFICIENT = .652

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

CALIB					
NASHYD (0201)	Area (ha)=	99.12	Curve Number (CN)=	85.0
ID= 1 DT= 5.0 min	Ia (mm)=	6.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	.74		

Unit Hyd Qpeak (cms)= 5.116

PEAK FLOW (cms)= 7.346 (i)
TIME TO PEAK (hrs)= 12.750
RUNOFF VOLUME (mm)= 70.844
TOTAL RAINFALL (mm)= 108.682
RUNOFF COEFFICIENT = .652

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

CALIB					
NASHYD (0203)	Area (ha)=	10.33	Curve Number (CN)=	85.0
ID= 1 DT= 5.0 min	Ia (mm)=	6.70	# of Linear Res.(N)=	3.00
	U.H. Tp(hrs)=	.39		

Unit Hyd Qpeak (cms)= 1.012

PEAK FLOW (cms)= 1.207 (i)
TIME TO PEAK (hrs)= 12.333
RUNOFF VOLUME (mm)= 70.835
TOTAL RAINFALL (mm)= 108.682
RUNOFF COEFFICIENT = .652

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

ADD HYD (0301)
1 + 2 = 3

	AREA (ha)	QPEAK (cms)	TPEAK (hrs)	R.V. (mm)
ID1= 1 (0202):	12.80	1.313	12.42	70.84
+ ID2= 2 (0201):	99.12	7.346	12.75	70.84
ID = 3 (0301):	111.92	8.471	12.67	70.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

ADD HYD (0302)		AREA	QPEAK	TPEAK	R.V.
1 + 2 = 3		(ha)	(cms)	(hrs)	(mm)
	ID1= 1 (0301):	111.92	8.471	12.67	70.84
	+ ID2= 2 (0203):	10.33	1.207	12.33	70.83
	ID = 3 (0302):	122.25	9.385	12.58	70.84

NOTE: PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

FINISH

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

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


***** D E T A I L E D O U T P U T *****

Input filename: C:\Program Files\Visual OTTHYMO 2.2.4\voin.dat
Output filename: P:\W&W\Projects\SW0409~1\STA8EF~1.CLA\STBBEF~1.CLA\VO2\Post-development-regional.out
Summary filename: P:\W&W\Projects\SW0409~1\STA8EF~1.CLA\STBBEF~1.CLA\VO2\Post-development-regional.sum

DATE: 4/27/2010 TIME: 11:59:43 AM

USER:

COMMENTS: _____

**** SIMULATION NUMBER: 7 ****

MASS STORM	Filename: P:\W&W\Projects\SW0409~1\STA8EF~1.CLA\STBBEF~1.CLA\VO2\Hazel12.mst
Ptotal=211.00 mm	Comments: Hurricane Hazel (last 12 h)

Duration of storm = 12.00 hrs
Mass curve time step = 60.00 min
New Storm time step = 5.00 min

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.08	.53	3.08	6.86	6.08	13.54	9.08	16.00
.17	1.06	3.17	7.38	6.17	14.42	9.17	19.34
.25	1.58	3.25	7.91	6.25	15.30	9.25	22.68
.33	2.11	3.33	8.44	6.33	16.18	9.33	26.02
.42	2.64	3.42	8.97	6.42	17.06	9.42	29.36
.50	3.16	3.50	9.49	6.50	17.94	9.50	32.70
.58	3.69	3.58	10.02	6.58	18.81	9.58	36.05
.67	4.22	3.67	10.55	6.67	19.69	9.67	39.39
.75	4.75	3.75	11.08	6.75	20.57	9.75	42.73
.83	5.28	3.83	11.61	6.83	21.45	9.83	46.07
.92	5.80	3.92	12.13	6.92	22.33	9.92	49.41
1.00	6.33	4.00	12.66	7.00	23.21	10.00	52.75
1.08	6.15	4.08	13.01	7.08	22.33	10.08	51.52
1.17	5.98	4.17	13.36	7.17	21.45	10.17	50.29
1.25	5.80	4.25	13.72	7.25	20.57	10.25	49.06
1.33	5.63	4.33	14.07	7.33	19.69	10.33	47.83
1.42	5.45	4.42	14.42	7.42	18.81	10.42	46.60
1.50	5.28	4.50	14.77	7.50	17.93	10.50	45.37
1.58	5.10	4.58	15.12	7.58	17.06	10.58	44.13
1.67	4.92	4.67	15.47	7.67	16.18	10.67	42.90
1.75	4.75	4.75	15.83	7.75	15.30	10.75	41.67
1.83	4.57	4.83	16.18	7.83	14.42	10.83	40.44
1.92	4.40	4.92	16.53	7.92	13.54	10.92	39.21
2.00	4.22	5.00	16.88	8.00	12.66	11.00	37.98
2.08	4.40	5.08	16.53	8.08	12.66	11.08	35.87
2.17	4.57	5.17	16.18	8.17	12.66	11.17	33.76
2.25	4.75	5.25	15.82	8.25	12.66	11.25	31.65
2.33	4.92	5.33	15.47	8.33	12.66	11.33	29.54
2.42	5.10	5.42	15.12	8.42	12.66	11.42	27.43
2.50	5.28	5.50	14.77	8.50	12.66	11.50	25.32
2.58	5.45	5.58	14.42	8.58	12.66	11.58	23.21
2.67	5.63	5.67	14.07	8.67	12.66	11.67	21.10
2.75	5.80	5.75	13.71	8.75	12.66	11.75	18.99
2.83	5.98	5.83	13.36	8.83	12.66	11.83	16.88
2.92	6.15	5.92	13.01	8.92	12.66	11.92	14.77
3.00	6.33	6.00	12.66	9.00	12.66	12.00	12.66

CALIB					
NASHYD (0203)	Area (ha)= 10.33	Curve Number (CN)= 93.0			
ID= 1 DT= 5.0 min	Ia (mm)= 6.70	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= .39				

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

---- TRANSFORMED HYETOGRAPH ----

TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr	TIME hrs	RAIN mm/hr
.083	.53	3.083	6.86	6.083	13.54	9.08	16.00
.167	1.06	3.167	7.38	6.167	14.42	9.17	19.34
.250	1.58	3.250	7.91	6.250	15.30	9.25	22.68
.333	2.11	3.333	8.44	6.333	16.18	9.33	26.02
.417	2.64	3.417	8.97	6.417	17.06	9.42	29.36
.500	3.16	3.500	9.49	6.500	17.94	9.50	32.70
.583	3.69	3.583	10.02	6.583	18.81	9.58	36.05
.667	4.22	3.667	10.55	6.667	19.69	9.67	39.39
.750	4.75	3.750	11.08	6.750	20.57	9.75	42.73
.833	5.27	3.833	11.60	6.833	21.45	9.83	46.07
.917	5.80	3.917	12.13	6.917	22.33	9.92	49.41
1.000	6.33	4.000	12.66	7.000	23.21	10.00	52.75
1.083	6.15	4.083	13.01	7.083	22.33	10.08	51.52
1.167	5.98	4.167	13.36	7.167	21.45	10.17	50.29
1.250	5.80	4.250	13.71	7.250	20.57	10.25	49.06
1.333	5.63	4.333	14.07	7.333	19.69	10.33	47.83
1.417	5.45	4.417	14.42	7.417	18.81	10.42	46.60
1.500	5.27	4.500	14.77	7.500	17.93	10.50	45.37
1.583	5.10	4.583	15.12	7.583	17.06	10.58	44.13
1.667	4.92	4.667	15.47	7.667	16.18	10.67	42.90
1.750	4.75	4.750	15.82	7.750	15.30	10.75	41.67
1.833	4.57	4.833	16.18	7.833	14.42	10.83	40.44
1.917	4.40	4.917	16.53	7.917	13.54	10.92	39.21
2.000	4.22	5.000	16.88	8.000	12.66	11.00	37.98
2.083	4.40	5.083	16.53	8.083	12.66	11.08	35.87
2.167	4.57	5.167	16.18	8.167	12.66	11.17	33.76
2.250	4.75	5.250	15.82	8.250	12.66	11.25	31.65
2.333	4.92	5.333	15.47	8.333	12.66	11.33	29.54
2.417	5.10	5.417	15.12	8.417	12.66	11.42	27.43
2.500	5.27	5.500	14.77	8.500	12.66	11.50	25.32
2.583	5.45	5.583	14.42	8.583	12.66	11.58	23.21
2.667	5.63	5.667	14.07	8.667	12.66	11.67	21.10
2.750	5.80	5.750	13.71	8.750	12.66	11.75	18.99
2.833	5.98	5.833	13.36	8.833	12.66	11.83	16.88
2.917	6.15	5.917	13.01	8.917	12.66	11.92	14.77
3.000	6.33	6.000	12.66	9.000	12.66	12.00	12.66

Unit Hyd Qpeak (cms)= 1.012

PEAK FLOW (cms)= 1.307 (i)
TIME TO PEAK (hrs)= 10.667
RUNOFF VOLUME (mm)= 181.034
TOTAL RAINFALL (mm)= 205.198
RUNOFF COEFFICIENT = .882

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

CALIB					
NASHYD (0202)	Area (ha)= 12.80	Curve Number (CN)= 93.0			
ID= 1 DT= 5.0 min	Ia (mm)= 6.70	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= .47				

Unit Hyd Qpeak (cms)= 1.040

PEAK FLOW (cms)= 1.575 (i)
TIME TO PEAK (hrs)= 10.833
RUNOFF VOLUME (mm)= 181.047
TOTAL RAINFALL (mm)= 205.198
RUNOFF COEFFICIENT = .882

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

CALIB					
NASHYD (0201)	Area (ha)= 99.12	Curve Number (CN)= 93.0			
ID= 1 DT= 5.0 min	Ia (mm)= 6.70	# of Linear Res.(N)= 3.00			
	U.H. Tp(hrs)= .74				

Unit Hyd Qpeak (cms)= 5.116

PEAK FLOW (cms)= 11.164 (i)

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     TIME TO PEAK    (hrs)=  11.250
     RUNOFF VOLUME    (mm)= 181.057
     TOTAL RAINFALL   (mm)= 205.198
     RUNOFF COEFFICIENT   =    .882

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

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| ADD HYD   (0301) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0202):    12.80   1.575    10.83   181.05
        + ID2= 2 (0201):    99.12  11.164    11.25   181.06
          ================================================
          ID = 3 (0301):   111.92  12.660    11.17   181.06

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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| ADD HYD   (0303) |
|   1 +  2 =  3    |          AREA    QPEAK    TPEAK     R.V.
--------------------          (ha)    (cms)    (hrs)     (mm)
          ID1= 1 (0203):    10.33   1.307    10.67   181.03
        + ID2= 2 (0301):   111.92  12.660    11.17   181.06
          ================================================
          ID = 3 (0303):   122.25  13.856    11.17   181.05

     NOTE:  PEAK FLOWS DO NOT INCLUDE BASEFLOWS IF ANY.

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 FINISH
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