

Stormwater Management Report

Project:

Suite Living Spring Lake Park
525 Osborne Road
Spring Lake Park, MN

Developer:

Hampton Companies
1824 Buerkle Road
White Bear Lake, MN 55110

All plans and supporting Documentation contained in this report have been reviewed and approved by the Registered Engineer listed below and it is hereby certified that the plans comply with the requirements of the ordinance.

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.



Matthew R. Pavsek P.E.

Registration Number: 44263

Date:

05/07/2020

Table of Contents:

Cover Sheet

Summary Narrative

Stormwater Calculations

Drainage Area Maps

Existing Drainage Area Map

Proposed Drainage Area Map

HydroCAD Calculations

Existing HydroCAD Calculations

Proposed HydroCAD Calculations

Summary Narrative:

This Stormwater Management Report accompanies the Civil Plans prepared for the Suite Living Spring Lake Park project dated 05/07/2020 and attached to this report.

Existing Site Conditions:

The existing site for this project is an existing vacant lot. The site does have an access agreement and existing driveway that is used by an adjacent property. The disturbed area for this project is approximately 2.3 acres. The existing amount of impervious surface area within the disturbed limits is 0.4 acres.

Soils:

Soil borings have been completed by NTI, Inc. dated June 6, 2014. Soils on site typically consist of sandy fill soils over native poorly graded sands. The soils at the surface have been classified to have a Hydrologic Soil Group "B" designation. The soils in the vicinity of the infiltration basin have been classified to have a Hydrologic Soil Group "B" designation which is conducive to infiltration. Due to high groundwater, filtration is proposed as an alternative in lieu of infiltrating on the site.

Groundwater:

Groundwater has been identified in the in the soil borings ranging from an elevation of 881.9 to 883.6.

Proposed Site:

This project will be to construct a new senior living building and parking lot area. Site, grading and landscape improvements will occur. The proposed amount of impervious surface area within the disturbed limits is 1.2 acres.

Wetland Impacts:

No wetlands exist onsite and no wetland impacts will occur as part of this project.

Requirements: Per City of Spring Lake Park

Since this project disturbs more than one acre, a Coon Creek Watershed District will be required. The City Spring Lake Park defers to the requirements of the watershed district when they are involved.

Requirements: Per Coon Creek Watershed District

Rate Control (CCWD):

Runoff rate may not exceed existing conditions for the 2, 10 and 100-YR storm events. Utilize Atlas-14 rainfall data.

Volume Reduction (CCWD):

Stormwater runoff volume must be reduced by 1.0" over all new impervious surfaces (includes all newly constructed impervious surfaces, i.e. all impervious disturbed and reconstructed as well as new impervious).

Water Quality (CCWD):

Stormwater BMPs shall remove 85% of total suspended solids from the runoff generated by a 2.5" rainfall event. (Assumed satisfied if volume control requirement is satisfied)

Proposed Stormwater Facilities:

This project is proposing to utilize an aboveground filtration basin to meet the requirements of the City of Spring Lake Park and the CCWD.

Rate Control practices proposed:

Rate control for the project is provided by the proposed infiltration basin. The runoff rates for the 2-YR, 10-YR and 100-YR rainfall events will be less than the existing rates (utilizing Atlas-14).

See the table below for the existing and proposed runoff rates for this project.

Stormwater Rate Summary			
Drainage Area	Existing Rate (cfs)		
	2-YR [2.94"]	10-YR [4.47"]	100-YR [7.81"]
EX1	0.78	1.53	3.24
EX2	0.50	0.90	1.77
EX3	0.81	3.68	12.46
TOTAL	2.09	6.11	17.47
Drainage Area	Proposed Conditions Rate (cfs)		
	2-YR [2.94"]	10-YR [4.47"]	100-YR [7.81"]
PR1	0.93	1.77	3.69
PR2	0.50	0.90	1.77
1P (PR3A)	0.27	2.76	7.97
PR3B	0.33	1.11	3.31
TOTAL	1.79	5.52	13.45

Rate Control Summary Table:

Overall Stormwater Rate Summary		
	Existing Conditions Rate (cfs)	Proposed Conditions Rate (cfs)
2-Year Event	2.09	1.79
10-Year Event	6.11	5.52
100-Year Event	17.47	13.45

As shown in the tables above, the proposed runoff rate is less than existing for all storm events.

REQUIREMENT SATISFIED

Volume/Water Quality Control Summary:

Water volume and water quality control requirements are met by providing infiltration onsite in the amount equal to 1.0 inches of runoff from the new or reconstructed impervious surfaces. Due to high groundwater, a filtration basin has been proposed in lieu of infiltrating on the site. The proposed filtration system will be utilized to meet these requirements.

The calculations are shown below:

Stormwater Water Quality and Volume Summary			
Drainage Area	Required Infiltration Vol. Summary		Filtration Volume = 1**Dist. Impv. Area
	New Impv. Area (sf)	Required Volume (cf)	
PR1	1615	135	
PR2	0	0	
PR3A	31897	2658	
PR3B	2772	231	
TOTAL	36284	3024	

Stormwater Quality Control Provided

Proposed BMP Area	Provided Vol (cf)
Filtration Basin 1	3431
TOTAL	3431

3431CF > 3024CF

REQUIREMENT SATISFIED

Conclusions:

This project is proposing to utilize an aboveground filtration basin to meet the requirements of the City of Spring Lake Park and the CCWD. The aboveground filtration basin will be designed to provide rate control to match existing discharge rates from the site and the required volume reduction and water quality control.

SUITE LIVING SPRING LAKE PARK
Civil Site Group - Stormwater Calculations

Existing Conditions

Drainage Area	Impervious Area		Pervious Area		Total Area	
	Area [SF]	CN Value	Area [SF]	CN Value	Area [SF]	CN Value
EX1	9310	98	7184	61	16494	82
EX2	6002	98	2384	61	8386	87
EX3	0	98	105933	61	105933	61

Proposed Conditions

Drainage Area	Impervious Area		Pervious Area		Total Area	
	Area [SF]	CN Value	Area [SF]	CN Value	Area [SF]	CN Value
PR1	10925	98	7590	61	18515	83
PR2	6002	98	2384	61	8386	87
PR3A	31897	98	47302	61	79199	76
PR3B	2772	98	21941	61	24713	65

Site Area Summary

	Impervious [SF]	Impervious [AC]	Pervious [SF]	Pervious [AC]	Total [SF]	Total [AC]
Existing Site	15312	0.35	115501	2.65	130813	3.00
Proposed Site	51596	1.18	79217	1.82	130813	3.00

Stormwater Rate Summary

Drainage Area	Existing Rate (cfs)		
	2-YR [2.94"]	10-YR [4.47"]	100-YR [7.81"]
EX1	0.78	1.53	3.24
EX2	0.50	0.90	1.77
EX3	0.81	3.68	12.46
TOTAL	2.09	6.11	17.47

Drainage Area	Proposed Conditions Rate (cfs)		
	2-YR [2.94"]	10-YR [4.47"]	100-YR [7.81"]
PR1	0.93	1.77	3.69
PR2	0.50	0.90	1.77
1P (PR3A)	0.27	2.76	7.97
PR3B	0.33	1.11	3.31
TOTAL	1.79	5.52	13.45

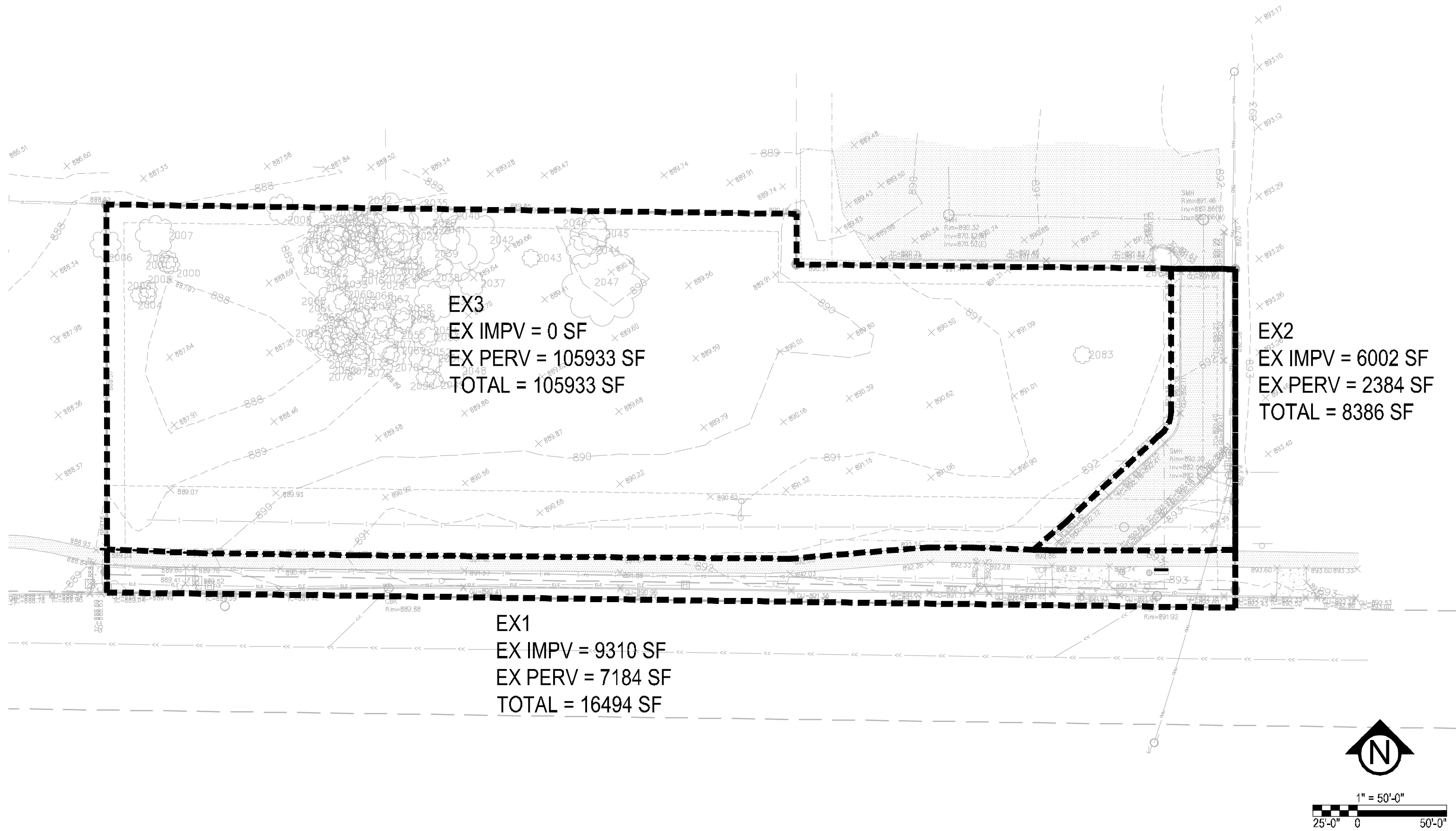
Overall Stormwater Rate Summary

	Existing Conditions Rate (cfs)	Proposed Conditions Rate (cfs)
2-Year Event	2.09	1.79
10-Year Event	6.11	5.52
100-Year Event	17.47	13.45

Stormwater Water Quality and Volume Summary

Drainage Area	Required Infiltration Vol. Summary		Filtration Volume = 1**Dist. Impv. Area
	New Impv. Area (sf)	Required Volume (cf)	
PR1	1615	135	
PR2	0	0	
PR3A	31897	2658	
PR3B	2772	231	
TOTAL	36284	3024	

Proposed BMP Area	Provided Vol (cf)
Filtration Basin 1	3431
TOTAL	3431

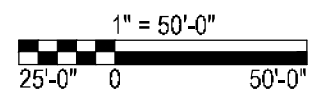
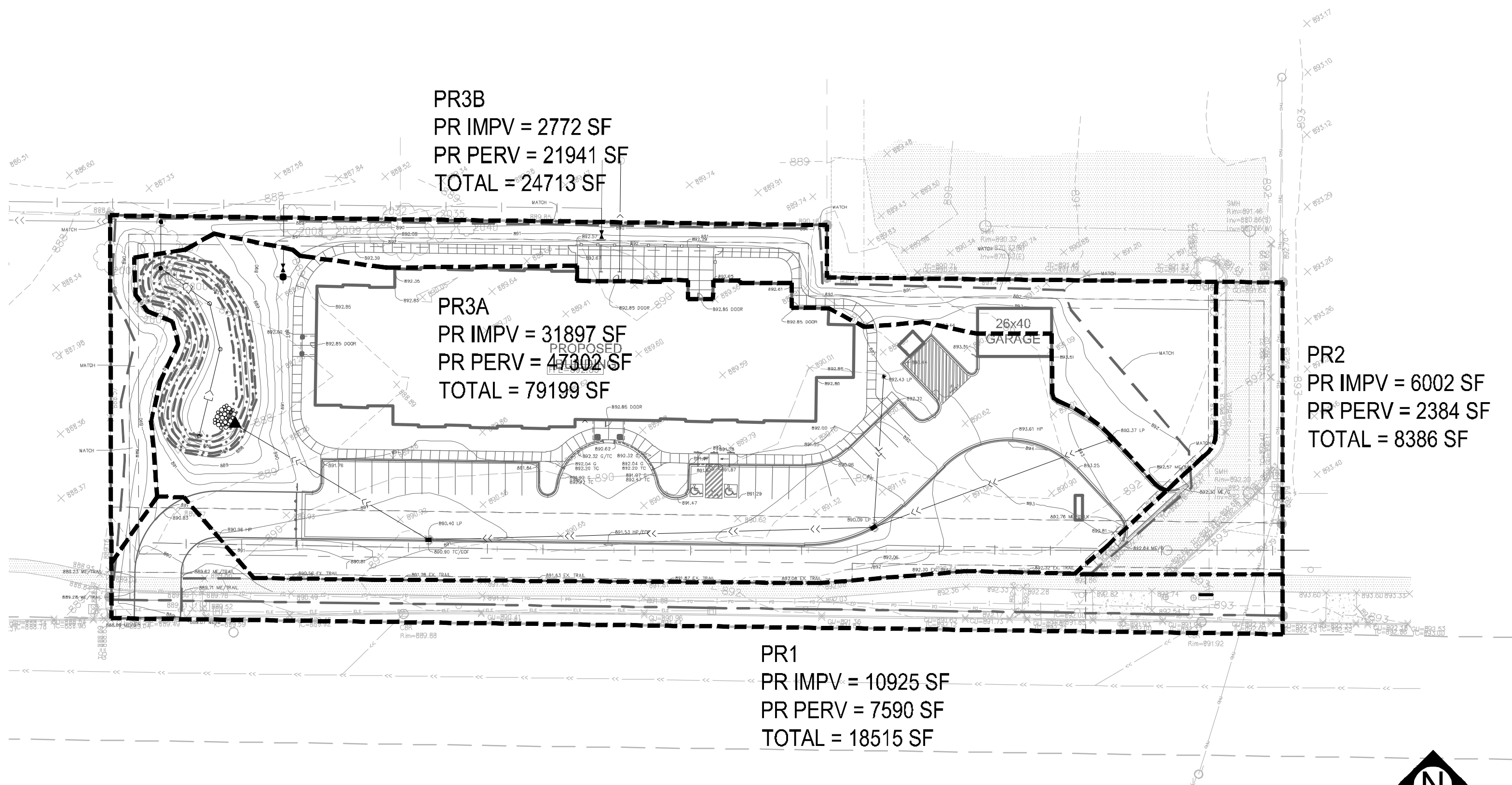


PR3B
 PR IMPV = 2772 SF
 PR PERV = 21941 SF
 TOTAL = 24713 SF

PR3A
 PR IMPV = 31897 SF
 PR PERV = 47302 SF
 TOTAL = 79199 SF

PR2
 PR IMPV = 6002 SF
 PR PERV = 2384 SF
 TOTAL = 8386 SF

PR1
 PR IMPV = 10925 SF
 PR PERV = 7590 SF
 TOTAL = 18515 SF



		SUITE LIVING - SPRING LAKE PARK, MN 4931 W. 35TH ST., #200 ST. LOUIS PARK, MN 55416 952.250.2003 / 763.213.394 www.CivilSiteGroup.com		PROPOSED DRAINAGE MAP Project Number: 19441 Revision Number: . Issue Date: 05/07/2020 Revision Date: .		DA2
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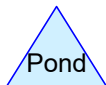
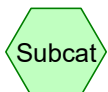
EXISTING DRAINAGE
AREA 1



EXISTING DRAINAGE
AREA 2



EXISTING DRAINAGE
AREA 3



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Page 2

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2y 24hr AT-14	MSE 24-hr	3	Default	24.00	1	2.94	2
2	10y 24hr AT-14	MSE 24-hr	3	Default	24.00	1	4.47	2
3	100y 24hr AT-14	MSE 24-hr	3	Default	24.00	1	7.81	2

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.652	61	>75% Grass cover, Good, HSG B (EX1, EX2, EX3)
0.352	98	Paved parking, HSG B (EX1, EX2)
3.003	65	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
3.003	HSG B	EX1, EX2, EX3
0.000	HSG C	
0.000	HSG D	
0.000	Other	
3.003		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	2.652	0.000	0.000	0.000	2.652	>75% Grass cover, Good	EX1, EX2, EX3
0.000	0.352	0.000	0.000	0.000	0.352	Paved parking	EX1, EX2
0.000	3.003	0.000	0.000	0.000	3.003	TOTAL AREA	

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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 6

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEX1: EXISTING DRAINAGE Runoff Area=16,494 sf 56.44% Impervious Runoff Depth=1.33"
Tc=10.0 min CN=82 Runoff=0.78 cfs 0.042 af

SubcatchmentEX2: EXISTING DRAINAGE Runoff Area=8,386 sf 71.57% Impervious Runoff Depth=1.69"
Tc=10.0 min CN=87 Runoff=0.50 cfs 0.027 af

SubcatchmentEX3: EXISTING DRAINAGE Runoff Area=105,933 sf 0.00% Impervious Runoff Depth=0.34"
Tc=10.0 min CN=61 Runoff=0.81 cfs 0.069 af

Total Runoff Area = 3.003 ac Runoff Volume = 0.139 af Average Runoff Depth = 0.55"
88.29% Pervious = 2.652 ac 11.71% Impervious = 0.352 ac

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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 7

Summary for Subcatchment EX1: EXISTING DRAINAGE AREA 1

Runoff = 0.78 cfs @ 12.18 hrs, Volume= 0.042 af, Depth= 1.33"

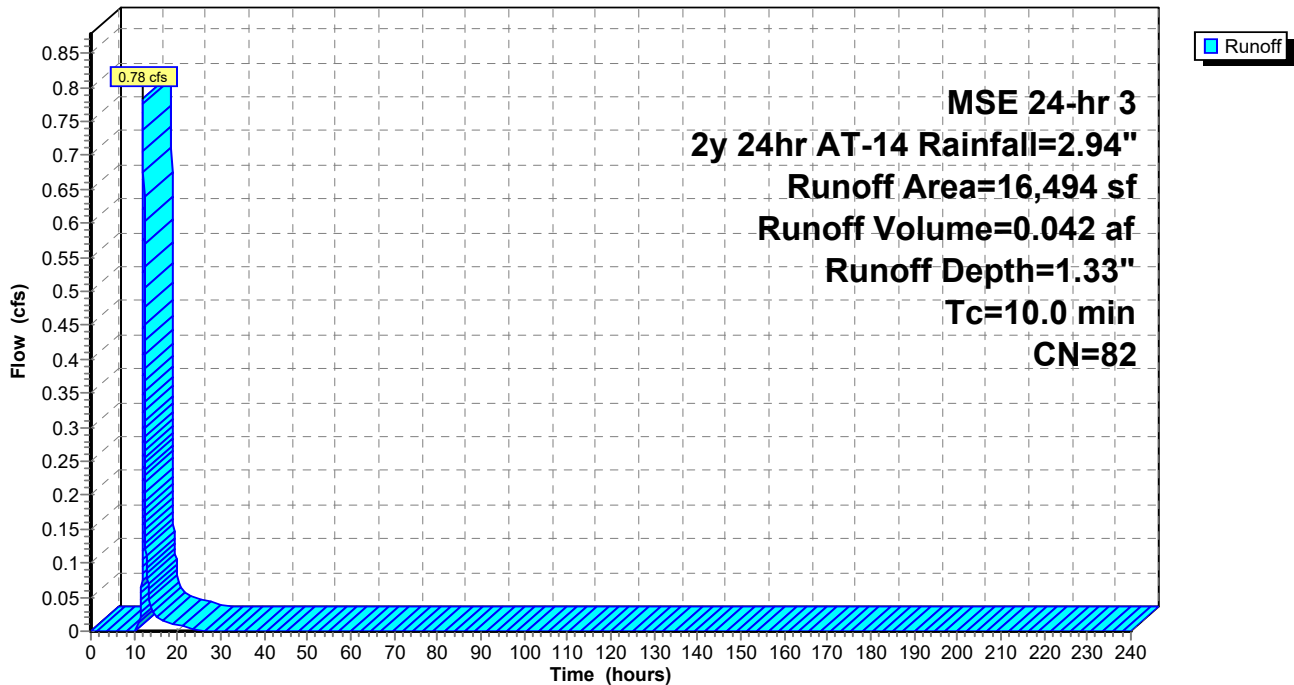
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
 MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

Area (sf)	CN	Description
9,310	98	Paved parking, HSG B
7,184	61	>75% Grass cover, Good, HSG B
16,494	82	Weighted Average
7,184		43.56% Pervious Area
9,310		56.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment EX1: EXISTING DRAINAGE AREA 1

Hydrograph



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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 8

Hydrograph for Subcatchment EX1: EXISTING DRAINAGE AREA 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.11	0.00	0.00
10.00	0.40	0.00	0.00
15.00	2.64	1.10	0.03
20.00	2.86	1.27	0.01
25.00	2.94	1.33	0.00
30.00	2.94	1.33	0.00
35.00	2.94	1.33	0.00
40.00	2.94	1.33	0.00
45.00	2.94	1.33	0.00
50.00	2.94	1.33	0.00
55.00	2.94	1.33	0.00
60.00	2.94	1.33	0.00
65.00	2.94	1.33	0.00
70.00	2.94	1.33	0.00
75.00	2.94	1.33	0.00
80.00	2.94	1.33	0.00
85.00	2.94	1.33	0.00
90.00	2.94	1.33	0.00
95.00	2.94	1.33	0.00
100.00	2.94	1.33	0.00
105.00	2.94	1.33	0.00
110.00	2.94	1.33	0.00
115.00	2.94	1.33	0.00
120.00	2.94	1.33	0.00
125.00	2.94	1.33	0.00
130.00	2.94	1.33	0.00
135.00	2.94	1.33	0.00
140.00	2.94	1.33	0.00
145.00	2.94	1.33	0.00
150.00	2.94	1.33	0.00
155.00	2.94	1.33	0.00
160.00	2.94	1.33	0.00
165.00	2.94	1.33	0.00
170.00	2.94	1.33	0.00
175.00	2.94	1.33	0.00
180.00	2.94	1.33	0.00
185.00	2.94	1.33	0.00
190.00	2.94	1.33	0.00
195.00	2.94	1.33	0.00
200.00	2.94	1.33	0.00
205.00	2.94	1.33	0.00
210.00	2.94	1.33	0.00
215.00	2.94	1.33	0.00
220.00	2.94	1.33	0.00
225.00	2.94	1.33	0.00
230.00	2.94	1.33	0.00
235.00	2.94	1.33	0.00
240.00	2.94	1.33	0.00

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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 9

Summary for Subcatchment EX2: EXISTING DRAINAGE AREA 2

Runoff = 0.50 cfs @ 12.18 hrs, Volume= 0.027 af, Depth= 1.69"

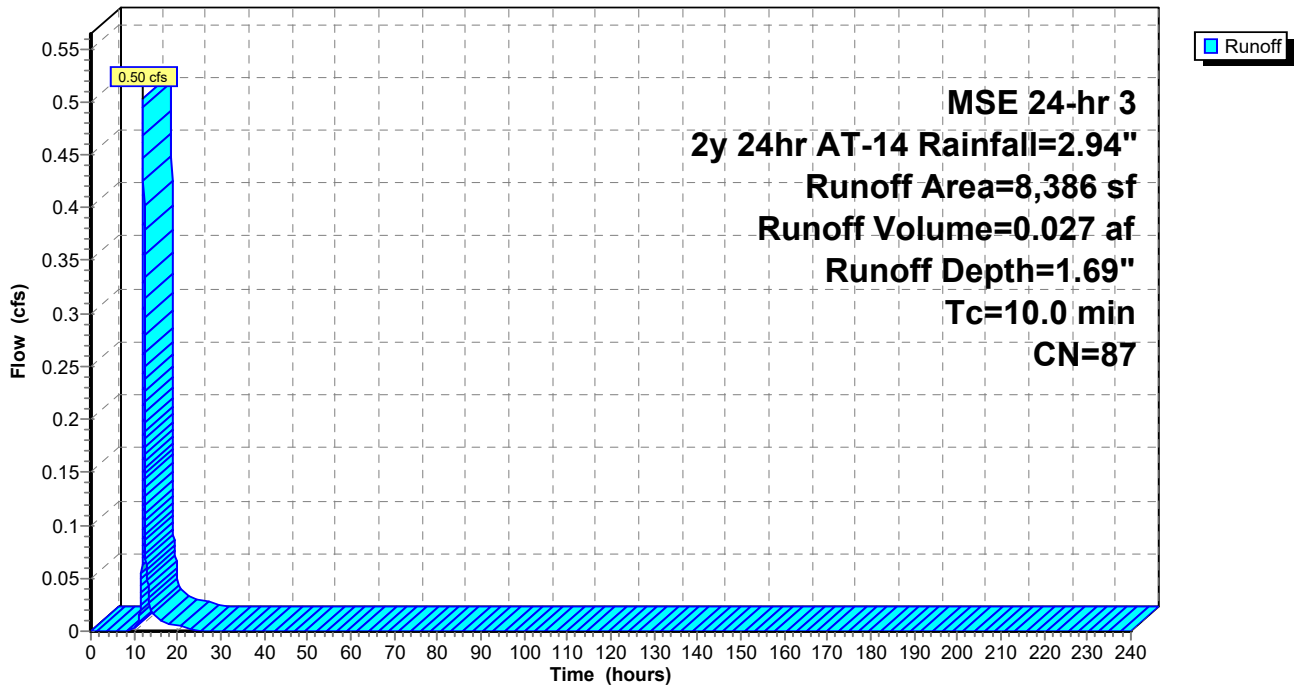
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
 MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

Area (sf)	CN	Description
6,002	98	Paved parking, HSG B
2,384	61	>75% Grass cover, Good, HSG B
8,386	87	Weighted Average
2,384		28.43% Pervious Area
6,002		71.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment EX2: EXISTING DRAINAGE AREA 2

Hydrograph



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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 10

Hydrograph for Subcatchment EX2: EXISTING DRAINAGE AREA 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.11	0.00	0.00
10.00	0.40	0.01	0.00
15.00	2.64	1.43	0.02
20.00	2.86	1.62	0.01
25.00	2.94	1.69	0.00
30.00	2.94	1.69	0.00
35.00	2.94	1.69	0.00
40.00	2.94	1.69	0.00
45.00	2.94	1.69	0.00
50.00	2.94	1.69	0.00
55.00	2.94	1.69	0.00
60.00	2.94	1.69	0.00
65.00	2.94	1.69	0.00
70.00	2.94	1.69	0.00
75.00	2.94	1.69	0.00
80.00	2.94	1.69	0.00
85.00	2.94	1.69	0.00
90.00	2.94	1.69	0.00
95.00	2.94	1.69	0.00
100.00	2.94	1.69	0.00
105.00	2.94	1.69	0.00
110.00	2.94	1.69	0.00
115.00	2.94	1.69	0.00
120.00	2.94	1.69	0.00
125.00	2.94	1.69	0.00
130.00	2.94	1.69	0.00
135.00	2.94	1.69	0.00
140.00	2.94	1.69	0.00
145.00	2.94	1.69	0.00
150.00	2.94	1.69	0.00
155.00	2.94	1.69	0.00
160.00	2.94	1.69	0.00
165.00	2.94	1.69	0.00
170.00	2.94	1.69	0.00
175.00	2.94	1.69	0.00
180.00	2.94	1.69	0.00
185.00	2.94	1.69	0.00
190.00	2.94	1.69	0.00
195.00	2.94	1.69	0.00
200.00	2.94	1.69	0.00
205.00	2.94	1.69	0.00
210.00	2.94	1.69	0.00
215.00	2.94	1.69	0.00
220.00	2.94	1.69	0.00
225.00	2.94	1.69	0.00
230.00	2.94	1.69	0.00
235.00	2.94	1.69	0.00
240.00	2.94	1.69	0.00

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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 11

Summary for Subcatchment EX3: EXISTING DRAINAGE AREA 3

Runoff = 0.81 cfs @ 12.21 hrs, Volume= 0.069 af, Depth= 0.34"

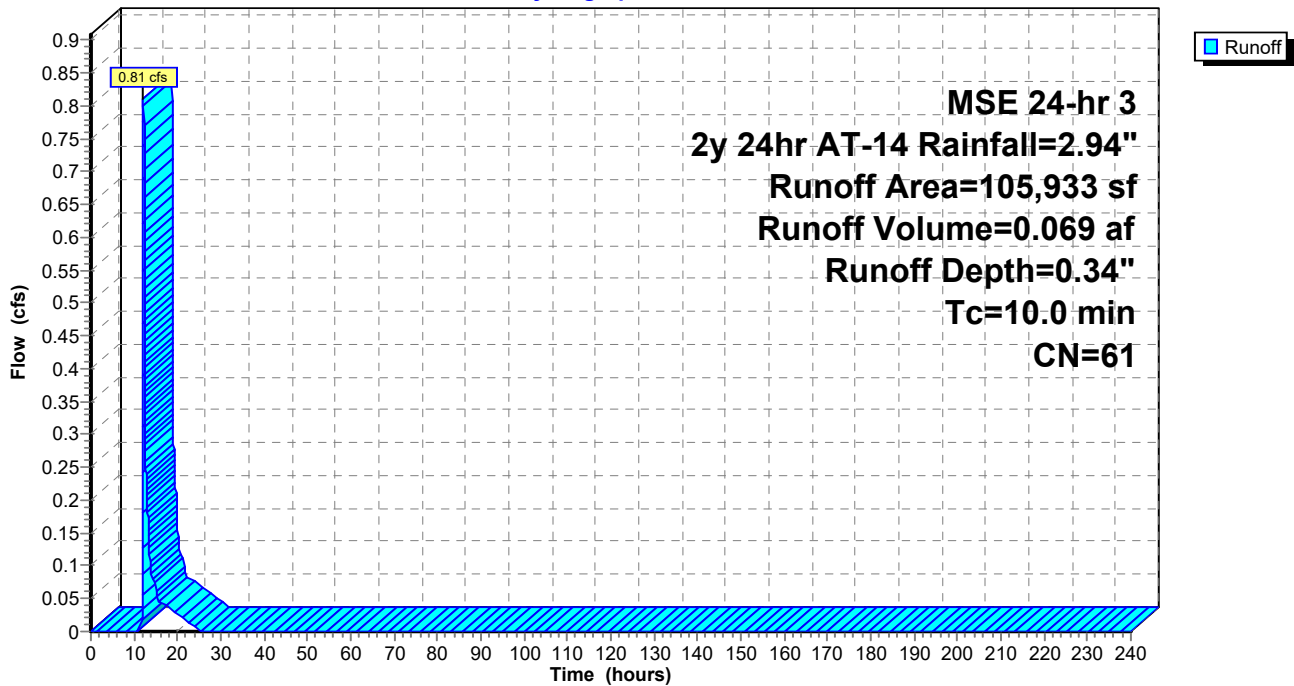
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

Area (sf)	CN	Description
0	98	Paved parking, HSG B
105,933	61	>75% Grass cover, Good, HSG B
105,933	61	Weighted Average
105,933		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment EX3: EXISTING DRAINAGE AREA 3

Hydrograph



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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 12

Hydrograph for Subcatchment EX3: EXISTING DRAINAGE AREA 3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.11	0.00	0.00
10.00	0.40	0.00	0.00
15.00	2.64	0.24	0.07
20.00	2.86	0.31	0.03
25.00	2.94	0.34	0.00
30.00	2.94	0.34	0.00
35.00	2.94	0.34	0.00
40.00	2.94	0.34	0.00
45.00	2.94	0.34	0.00
50.00	2.94	0.34	0.00
55.00	2.94	0.34	0.00
60.00	2.94	0.34	0.00
65.00	2.94	0.34	0.00
70.00	2.94	0.34	0.00
75.00	2.94	0.34	0.00
80.00	2.94	0.34	0.00
85.00	2.94	0.34	0.00
90.00	2.94	0.34	0.00
95.00	2.94	0.34	0.00
100.00	2.94	0.34	0.00
105.00	2.94	0.34	0.00
110.00	2.94	0.34	0.00
115.00	2.94	0.34	0.00
120.00	2.94	0.34	0.00
125.00	2.94	0.34	0.00
130.00	2.94	0.34	0.00
135.00	2.94	0.34	0.00
140.00	2.94	0.34	0.00
145.00	2.94	0.34	0.00
150.00	2.94	0.34	0.00
155.00	2.94	0.34	0.00
160.00	2.94	0.34	0.00
165.00	2.94	0.34	0.00
170.00	2.94	0.34	0.00
175.00	2.94	0.34	0.00
180.00	2.94	0.34	0.00
185.00	2.94	0.34	0.00
190.00	2.94	0.34	0.00
195.00	2.94	0.34	0.00
200.00	2.94	0.34	0.00
205.00	2.94	0.34	0.00
210.00	2.94	0.34	0.00
215.00	2.94	0.34	0.00
220.00	2.94	0.34	0.00
225.00	2.94	0.34	0.00
230.00	2.94	0.34	0.00
235.00	2.94	0.34	0.00
240.00	2.94	0.34	0.00

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MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 13

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEX1: EXISTING DRAINAGE Runoff Area=16,494 sf 56.44% Impervious Runoff Depth=2.61"
Tc=10.0 min CN=82 Runoff=1.53 cfs 0.082 af

SubcatchmentEX2: EXISTING DRAINAGE Runoff Area=8,386 sf 71.57% Impervious Runoff Depth=3.07"
Tc=10.0 min CN=87 Runoff=0.90 cfs 0.049 af

SubcatchmentEX3: EXISTING DRAINAGE Runoff Area=105,933 sf 0.00% Impervious Runoff Depth=1.06"
Tc=10.0 min CN=61 Runoff=3.68 cfs 0.215 af

Total Runoff Area = 3.003 ac Runoff Volume = 0.347 af Average Runoff Depth = 1.39"
88.29% Pervious = 2.652 ac 11.71% Impervious = 0.352 ac

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MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 14

Summary for Subcatchment EX1: EXISTING DRAINAGE AREA 1

Runoff = 1.53 cfs @ 12.18 hrs, Volume= 0.082 af, Depth= 2.61"

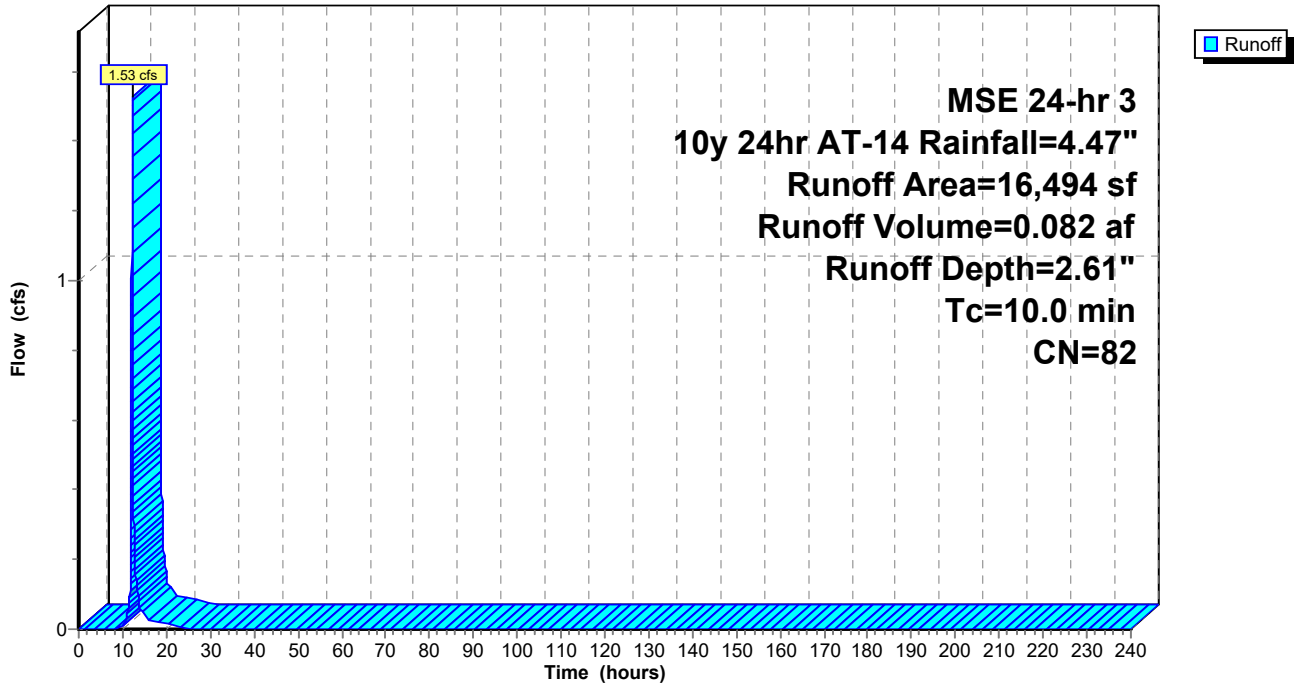
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
 MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

Area (sf)	CN	Description
9,310	98	Paved parking, HSG B
7,184	61	>75% Grass cover, Good, HSG B
16,494	82	Weighted Average
7,184		43.56% Pervious Area
9,310		56.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment EX1: EXISTING DRAINAGE AREA 1

Hydrograph



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MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 15

Hydrograph for Subcatchment EX1: EXISTING DRAINAGE AREA 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.17	0.00	0.00
10.00	0.61	0.01	0.01
15.00	4.01	2.21	0.05
20.00	4.35	2.51	0.02
25.00	4.47	2.61	0.00
30.00	4.47	2.61	0.00
35.00	4.47	2.61	0.00
40.00	4.47	2.61	0.00
45.00	4.47	2.61	0.00
50.00	4.47	2.61	0.00
55.00	4.47	2.61	0.00
60.00	4.47	2.61	0.00
65.00	4.47	2.61	0.00
70.00	4.47	2.61	0.00
75.00	4.47	2.61	0.00
80.00	4.47	2.61	0.00
85.00	4.47	2.61	0.00
90.00	4.47	2.61	0.00
95.00	4.47	2.61	0.00
100.00	4.47	2.61	0.00
105.00	4.47	2.61	0.00
110.00	4.47	2.61	0.00
115.00	4.47	2.61	0.00
120.00	4.47	2.61	0.00
125.00	4.47	2.61	0.00
130.00	4.47	2.61	0.00
135.00	4.47	2.61	0.00
140.00	4.47	2.61	0.00
145.00	4.47	2.61	0.00
150.00	4.47	2.61	0.00
155.00	4.47	2.61	0.00
160.00	4.47	2.61	0.00
165.00	4.47	2.61	0.00
170.00	4.47	2.61	0.00
175.00	4.47	2.61	0.00
180.00	4.47	2.61	0.00
185.00	4.47	2.61	0.00
190.00	4.47	2.61	0.00
195.00	4.47	2.61	0.00
200.00	4.47	2.61	0.00
205.00	4.47	2.61	0.00
210.00	4.47	2.61	0.00
215.00	4.47	2.61	0.00
220.00	4.47	2.61	0.00
225.00	4.47	2.61	0.00
230.00	4.47	2.61	0.00
235.00	4.47	2.61	0.00
240.00	4.47	2.61	0.00

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MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 16

Summary for Subcatchment EX2: EXISTING DRAINAGE AREA 2

Runoff = 0.90 cfs @ 12.17 hrs, Volume= 0.049 af, Depth= 3.07"

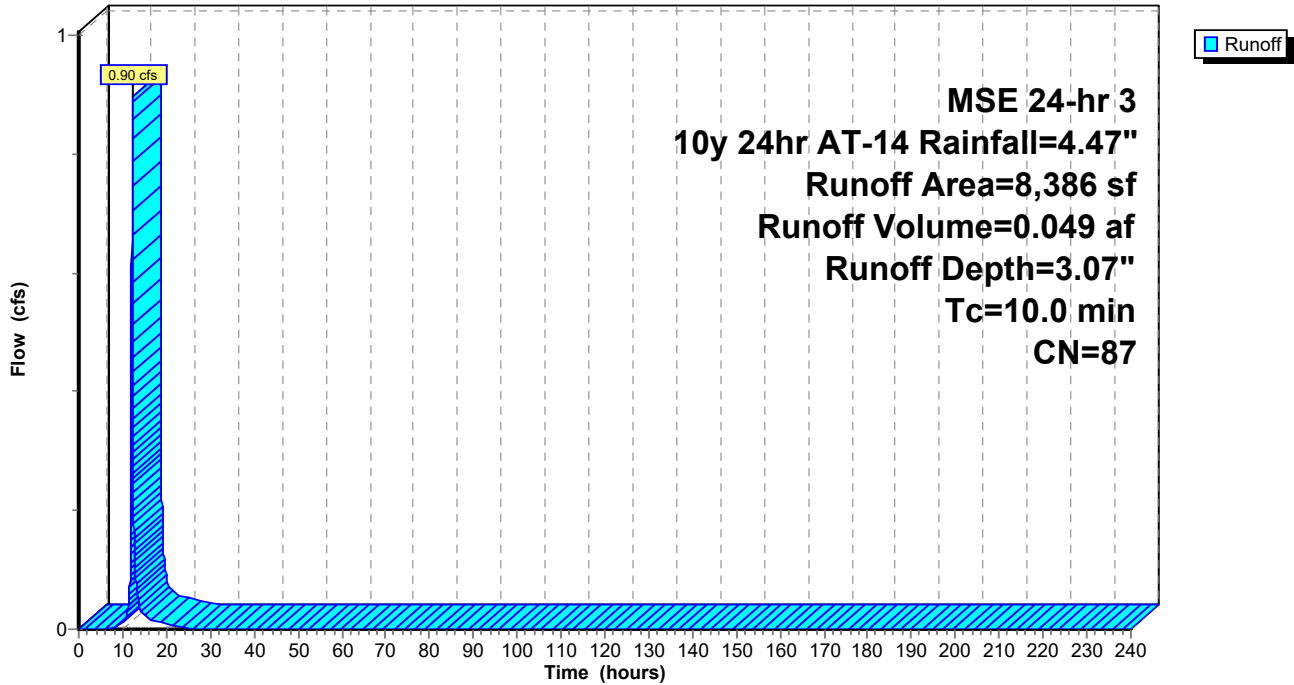
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
 MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

Area (sf)	CN	Description
6,002	98	Paved parking, HSG B
2,384	61	>75% Grass cover, Good, HSG B
8,386	87	Weighted Average
2,384		28.43% Pervious Area
6,002		71.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment EX2: EXISTING DRAINAGE AREA 2

Hydrograph



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MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 17

Hydrograph for Subcatchment EX2: EXISTING DRAINAGE AREA 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.17	0.00	0.00
10.00	0.61	0.06	0.01
15.00	4.01	2.65	0.03
20.00	4.35	2.96	0.01
25.00	4.47	3.07	0.00
30.00	4.47	3.07	0.00
35.00	4.47	3.07	0.00
40.00	4.47	3.07	0.00
45.00	4.47	3.07	0.00
50.00	4.47	3.07	0.00
55.00	4.47	3.07	0.00
60.00	4.47	3.07	0.00
65.00	4.47	3.07	0.00
70.00	4.47	3.07	0.00
75.00	4.47	3.07	0.00
80.00	4.47	3.07	0.00
85.00	4.47	3.07	0.00
90.00	4.47	3.07	0.00
95.00	4.47	3.07	0.00
100.00	4.47	3.07	0.00
105.00	4.47	3.07	0.00
110.00	4.47	3.07	0.00
115.00	4.47	3.07	0.00
120.00	4.47	3.07	0.00
125.00	4.47	3.07	0.00
130.00	4.47	3.07	0.00
135.00	4.47	3.07	0.00
140.00	4.47	3.07	0.00
145.00	4.47	3.07	0.00
150.00	4.47	3.07	0.00
155.00	4.47	3.07	0.00
160.00	4.47	3.07	0.00
165.00	4.47	3.07	0.00
170.00	4.47	3.07	0.00
175.00	4.47	3.07	0.00
180.00	4.47	3.07	0.00
185.00	4.47	3.07	0.00
190.00	4.47	3.07	0.00
195.00	4.47	3.07	0.00
200.00	4.47	3.07	0.00
205.00	4.47	3.07	0.00
210.00	4.47	3.07	0.00
215.00	4.47	3.07	0.00
220.00	4.47	3.07	0.00
225.00	4.47	3.07	0.00
230.00	4.47	3.07	0.00
235.00	4.47	3.07	0.00
240.00	4.47	3.07	0.00

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SUITE LIVING SLP - EXISTING

MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 18

Summary for Subcatchment EX3: EXISTING DRAINAGE AREA 3

Runoff = 3.68 cfs @ 12.19 hrs, Volume= 0.215 af, Depth= 1.06"

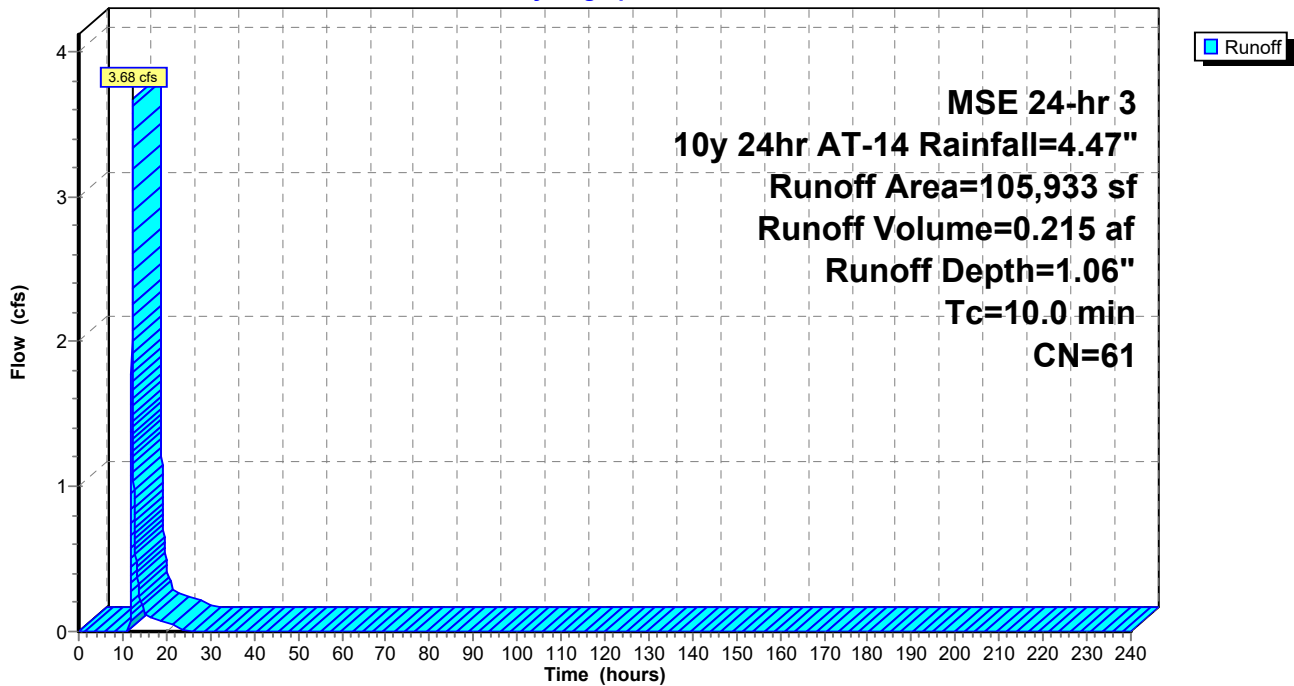
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

Area (sf)	CN	Description
0	98	Paved parking, HSG B
105,933	61	>75% Grass cover, Good, HSG B
105,933	61	Weighted Average
105,933		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment EX3: EXISTING DRAINAGE AREA 3

Hydrograph



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MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 19

Hydrograph for Subcatchment EX3: EXISTING DRAINAGE AREA 3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.17	0.00	0.00
10.00	0.61	0.00	0.00
15.00	4.01	0.82	0.18
20.00	4.35	1.00	0.06
25.00	4.47	1.06	0.00
30.00	4.47	1.06	0.00
35.00	4.47	1.06	0.00
40.00	4.47	1.06	0.00
45.00	4.47	1.06	0.00
50.00	4.47	1.06	0.00
55.00	4.47	1.06	0.00
60.00	4.47	1.06	0.00
65.00	4.47	1.06	0.00
70.00	4.47	1.06	0.00
75.00	4.47	1.06	0.00
80.00	4.47	1.06	0.00
85.00	4.47	1.06	0.00
90.00	4.47	1.06	0.00
95.00	4.47	1.06	0.00
100.00	4.47	1.06	0.00
105.00	4.47	1.06	0.00
110.00	4.47	1.06	0.00
115.00	4.47	1.06	0.00
120.00	4.47	1.06	0.00
125.00	4.47	1.06	0.00
130.00	4.47	1.06	0.00
135.00	4.47	1.06	0.00
140.00	4.47	1.06	0.00
145.00	4.47	1.06	0.00
150.00	4.47	1.06	0.00
155.00	4.47	1.06	0.00
160.00	4.47	1.06	0.00
165.00	4.47	1.06	0.00
170.00	4.47	1.06	0.00
175.00	4.47	1.06	0.00
180.00	4.47	1.06	0.00
185.00	4.47	1.06	0.00
190.00	4.47	1.06	0.00
195.00	4.47	1.06	0.00
200.00	4.47	1.06	0.00
205.00	4.47	1.06	0.00
210.00	4.47	1.06	0.00
215.00	4.47	1.06	0.00
220.00	4.47	1.06	0.00
225.00	4.47	1.06	0.00
230.00	4.47	1.06	0.00
235.00	4.47	1.06	0.00
240.00	4.47	1.06	0.00

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SUITE LIVING SLP - EXISTING
MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 20

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEX1: EXISTING DRAINAGE Runoff Area=16,494 sf 56.44% Impervious Runoff Depth=5.68"
Tc=10.0 min CN=82 Runoff=3.24 cfs 0.179 af

SubcatchmentEX2: EXISTING DRAINAGE Runoff Area=8,386 sf 71.57% Impervious Runoff Depth=6.26"
Tc=10.0 min CN=87 Runoff=1.77 cfs 0.101 af

SubcatchmentEX3: EXISTING DRAINAGE Runoff Area=105,933 sf 0.00% Impervious Runoff Depth=3.30"
Tc=10.0 min CN=61 Runoff=12.46 cfs 0.669 af

Total Runoff Area = 3.003 ac Runoff Volume = 0.949 af Average Runoff Depth = 3.79"
88.29% Pervious = 2.652 ac 11.71% Impervious = 0.352 ac

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SUITE LIVING SLP - EXISTING

MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 21

Summary for Subcatchment EX1: EXISTING DRAINAGE AREA 1

Runoff = 3.24 cfs @ 12.17 hrs, Volume= 0.179 af, Depth= 5.68"

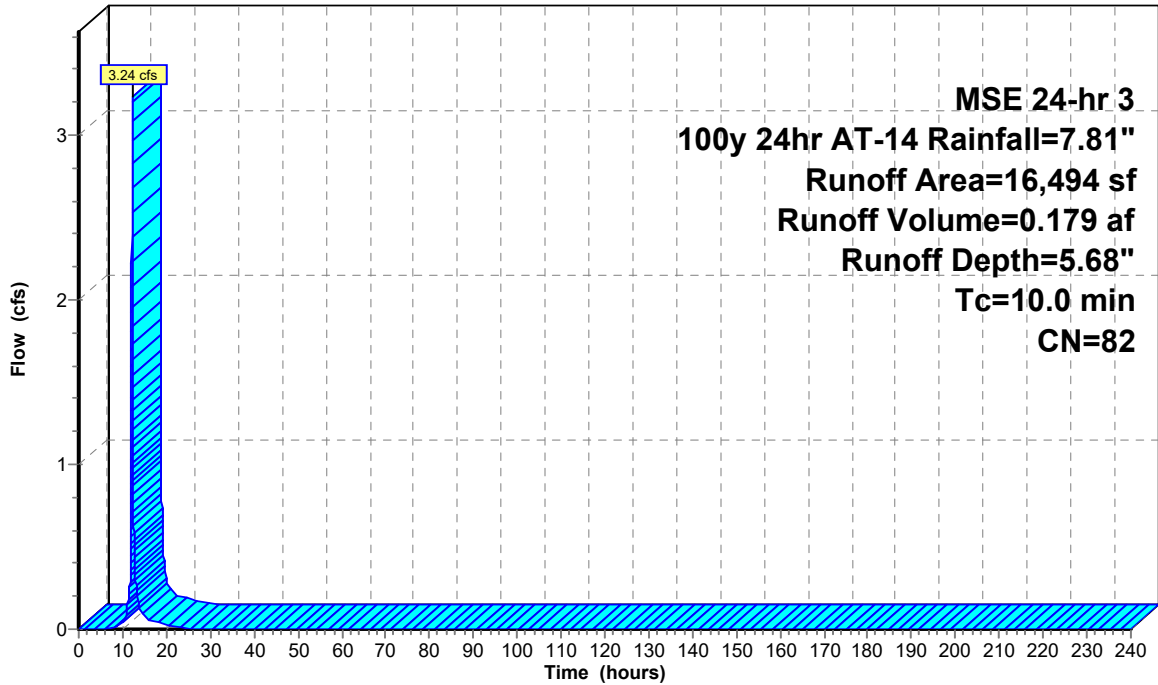
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
 MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

Area (sf)	CN	Description
9,310	98	Paved parking, HSG B
7,184	61	>75% Grass cover, Good, HSG B
16,494	82	Weighted Average
7,184		43.56% Pervious Area
9,310		56.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment EX1: EXISTING DRAINAGE AREA 1

Hydrograph



MSE 24-hr 3
100y 24hr AT-14 Rainfall=7.81"
Runoff Area=16,494 sf
Runoff Volume=0.179 af
Runoff Depth=5.68"
Tc=10.0 min
CN=82

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SUITE LIVING SLP - EXISTING

MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 22

Hydrograph for Subcatchment EX1: EXISTING DRAINAGE AREA 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.29	0.00	0.00
10.00	1.07	0.14	0.04
15.00	7.01	4.92	0.09
20.00	7.61	5.49	0.03
25.00	7.81	5.68	0.00
30.00	7.81	5.68	0.00
35.00	7.81	5.68	0.00
40.00	7.81	5.68	0.00
45.00	7.81	5.68	0.00
50.00	7.81	5.68	0.00
55.00	7.81	5.68	0.00
60.00	7.81	5.68	0.00
65.00	7.81	5.68	0.00
70.00	7.81	5.68	0.00
75.00	7.81	5.68	0.00
80.00	7.81	5.68	0.00
85.00	7.81	5.68	0.00
90.00	7.81	5.68	0.00
95.00	7.81	5.68	0.00
100.00	7.81	5.68	0.00
105.00	7.81	5.68	0.00
110.00	7.81	5.68	0.00
115.00	7.81	5.68	0.00
120.00	7.81	5.68	0.00
125.00	7.81	5.68	0.00
130.00	7.81	5.68	0.00
135.00	7.81	5.68	0.00
140.00	7.81	5.68	0.00
145.00	7.81	5.68	0.00
150.00	7.81	5.68	0.00
155.00	7.81	5.68	0.00
160.00	7.81	5.68	0.00
165.00	7.81	5.68	0.00
170.00	7.81	5.68	0.00
175.00	7.81	5.68	0.00
180.00	7.81	5.68	0.00
185.00	7.81	5.68	0.00
190.00	7.81	5.68	0.00
195.00	7.81	5.68	0.00
200.00	7.81	5.68	0.00
205.00	7.81	5.68	0.00
210.00	7.81	5.68	0.00
215.00	7.81	5.68	0.00
220.00	7.81	5.68	0.00
225.00	7.81	5.68	0.00
230.00	7.81	5.68	0.00
235.00	7.81	5.68	0.00
240.00	7.81	5.68	0.00

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MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 23

Summary for Subcatchment EX2: EXISTING DRAINAGE AREA 2

Runoff = 1.77 cfs @ 12.17 hrs, Volume= 0.101 af, Depth= 6.26"

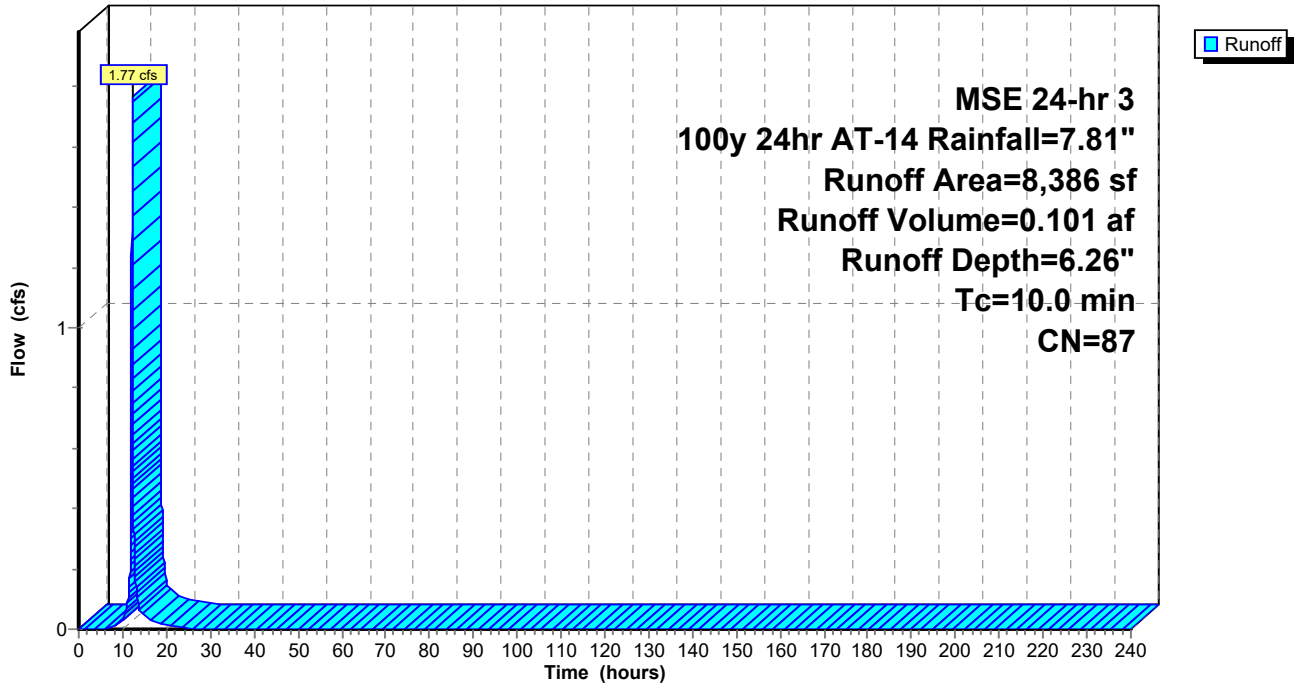
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

Area (sf)	CN	Description
6,002	98	Paved parking, HSG B
2,384	61	>75% Grass cover, Good, HSG B
8,386	87	Weighted Average
2,384		28.43% Pervious Area
6,002		71.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment EX2: EXISTING DRAINAGE AREA 2

Hydrograph



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MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 24

Hydrograph for Subcatchment EX2: EXISTING DRAINAGE AREA 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.29	0.00	0.00
10.00	1.07	0.26	0.03
15.00	7.01	5.48	0.05
20.00	7.61	6.07	0.02
25.00	7.81	6.26	0.00
30.00	7.81	6.26	0.00
35.00	7.81	6.26	0.00
40.00	7.81	6.26	0.00
45.00	7.81	6.26	0.00
50.00	7.81	6.26	0.00
55.00	7.81	6.26	0.00
60.00	7.81	6.26	0.00
65.00	7.81	6.26	0.00
70.00	7.81	6.26	0.00
75.00	7.81	6.26	0.00
80.00	7.81	6.26	0.00
85.00	7.81	6.26	0.00
90.00	7.81	6.26	0.00
95.00	7.81	6.26	0.00
100.00	7.81	6.26	0.00
105.00	7.81	6.26	0.00
110.00	7.81	6.26	0.00
115.00	7.81	6.26	0.00
120.00	7.81	6.26	0.00
125.00	7.81	6.26	0.00
130.00	7.81	6.26	0.00
135.00	7.81	6.26	0.00
140.00	7.81	6.26	0.00
145.00	7.81	6.26	0.00
150.00	7.81	6.26	0.00
155.00	7.81	6.26	0.00
160.00	7.81	6.26	0.00
165.00	7.81	6.26	0.00
170.00	7.81	6.26	0.00
175.00	7.81	6.26	0.00
180.00	7.81	6.26	0.00
185.00	7.81	6.26	0.00
190.00	7.81	6.26	0.00
195.00	7.81	6.26	0.00
200.00	7.81	6.26	0.00
205.00	7.81	6.26	0.00
210.00	7.81	6.26	0.00
215.00	7.81	6.26	0.00
220.00	7.81	6.26	0.00
225.00	7.81	6.26	0.00
230.00	7.81	6.26	0.00
235.00	7.81	6.26	0.00
240.00	7.81	6.26	0.00

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SUITE LIVING SLP - EXISTING

MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 25

Summary for Subcatchment EX3: EXISTING DRAINAGE AREA 3

Runoff = 12.46 cfs @ 12.18 hrs, Volume= 0.669 af, Depth= 3.30"

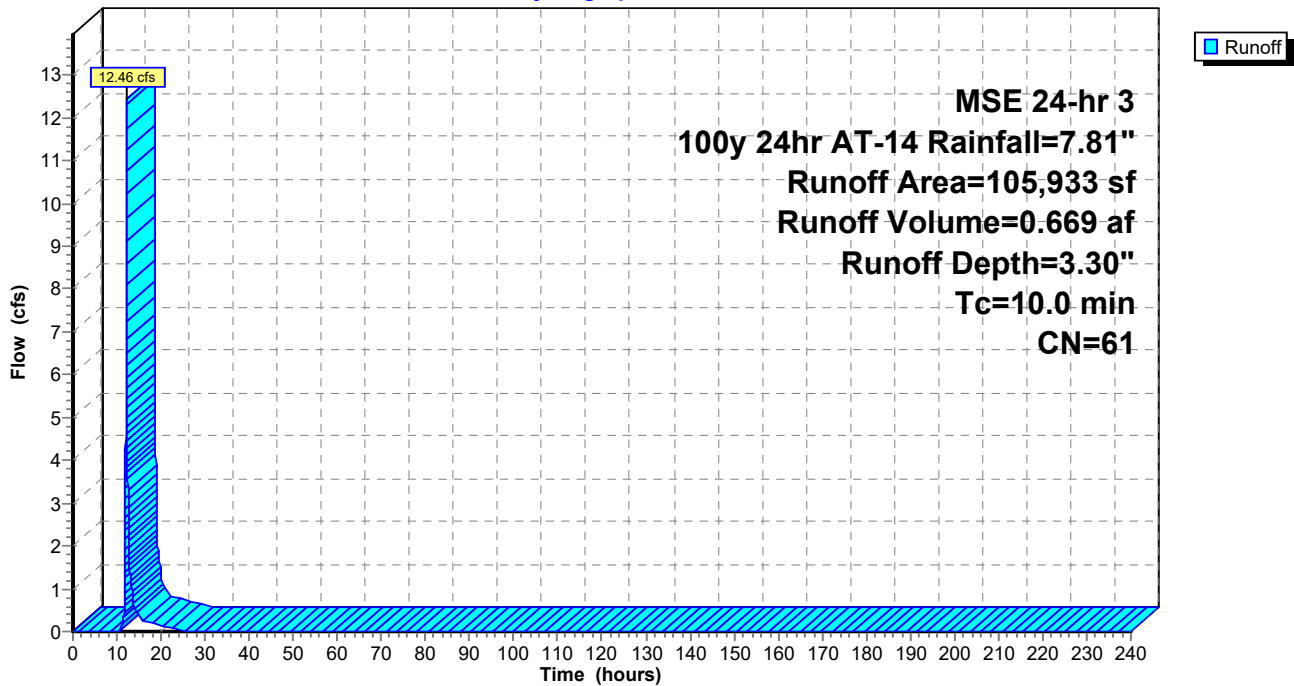
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

Area (sf)	CN	Description
0	98	Paved parking, HSG B
105,933	61	>75% Grass cover, Good, HSG B
105,933	61	Weighted Average
105,933		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment EX3: EXISTING DRAINAGE AREA 3

Hydrograph



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SUITE LIVING SLP - EXISTING

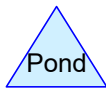
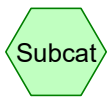
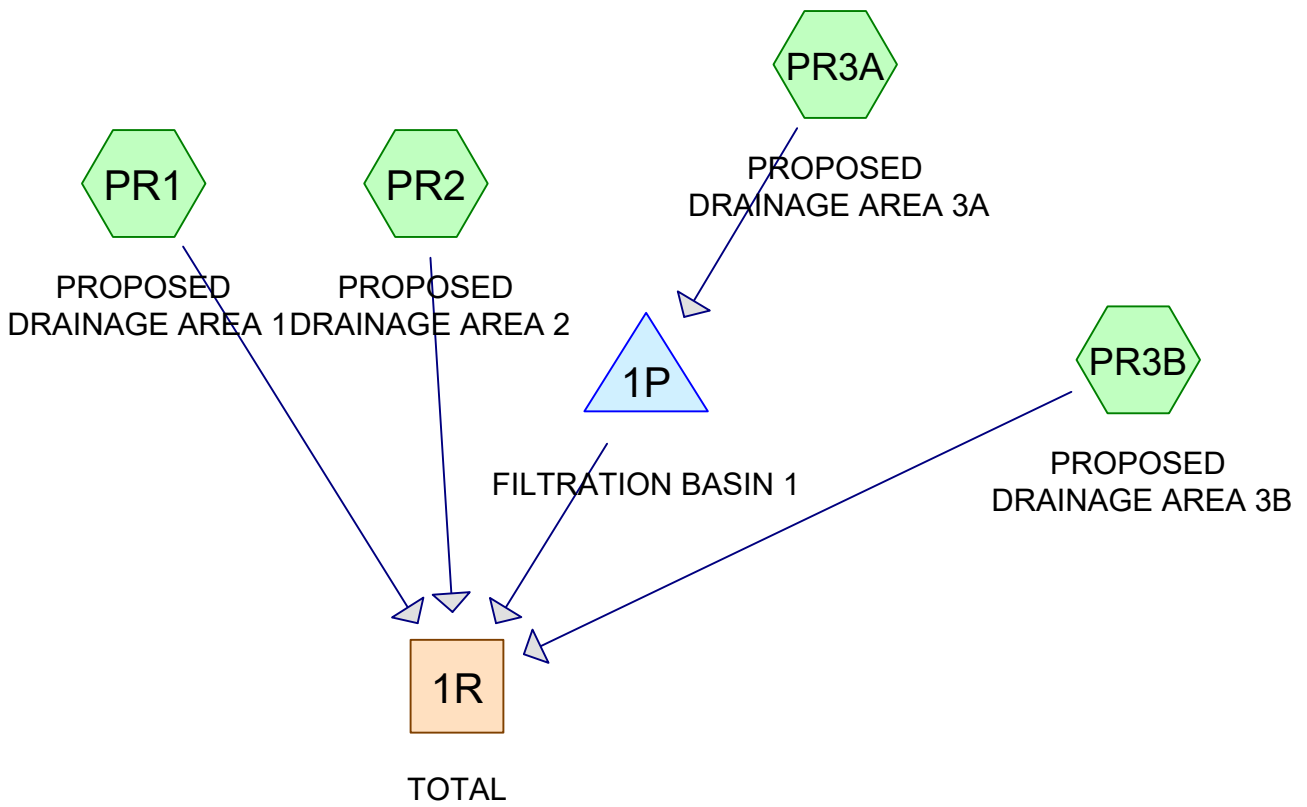
MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 26

Hydrograph for Subcatchment EX3: EXISTING DRAINAGE AREA 3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.29	0.00	0.00
10.00	1.07	0.00	0.00
15.00	7.01	2.71	0.45
20.00	7.61	3.15	0.15
25.00	7.81	3.30	0.00
30.00	7.81	3.30	0.00
35.00	7.81	3.30	0.00
40.00	7.81	3.30	0.00
45.00	7.81	3.30	0.00
50.00	7.81	3.30	0.00
55.00	7.81	3.30	0.00
60.00	7.81	3.30	0.00
65.00	7.81	3.30	0.00
70.00	7.81	3.30	0.00
75.00	7.81	3.30	0.00
80.00	7.81	3.30	0.00
85.00	7.81	3.30	0.00
90.00	7.81	3.30	0.00
95.00	7.81	3.30	0.00
100.00	7.81	3.30	0.00
105.00	7.81	3.30	0.00
110.00	7.81	3.30	0.00
115.00	7.81	3.30	0.00
120.00	7.81	3.30	0.00
125.00	7.81	3.30	0.00
130.00	7.81	3.30	0.00
135.00	7.81	3.30	0.00
140.00	7.81	3.30	0.00
145.00	7.81	3.30	0.00
150.00	7.81	3.30	0.00
155.00	7.81	3.30	0.00
160.00	7.81	3.30	0.00
165.00	7.81	3.30	0.00
170.00	7.81	3.30	0.00
175.00	7.81	3.30	0.00
180.00	7.81	3.30	0.00
185.00	7.81	3.30	0.00
190.00	7.81	3.30	0.00
195.00	7.81	3.30	0.00
200.00	7.81	3.30	0.00
205.00	7.81	3.30	0.00
210.00	7.81	3.30	0.00
215.00	7.81	3.30	0.00
220.00	7.81	3.30	0.00
225.00	7.81	3.30	0.00
230.00	7.81	3.30	0.00
235.00	7.81	3.30	0.00
240.00	7.81	3.30	0.00



Routing Diagram for 19441-SPRING LAKE PARK PROPOSED
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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2y 24hr AT-14	MSE 24-hr	3	Default	24.00	1	2.94	2
2	10y 24hr AT-14	MSE 24-hr	3	Default	24.00	1	4.47	2
3	100y 24hr AT-14	MSE 24-hr	3	Default	24.00	1	7.81	2

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.819	61	>75% Grass cover, Good, HSG B (PR1, PR2, PR3A, PR3B)
1.184	98	Paved parking, HSG B (PR1, PR2, PR3A, PR3B)
3.003	76	TOTAL AREA

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Page 4

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
3.003	HSG B	PR1, PR2, PR3A, PR3B
0.000	HSG C	
0.000	HSG D	
0.000	Other	
3.003		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	1.819	0.000	0.000	0.000	1.819	>75% Grass cover, Good	PR1, PR2, PR3A, PR3B
0.000	1.184	0.000	0.000	0.000	1.184	Paved parking	PR1, PR2, PR3A, PR3B
0.000	3.003	0.000	0.000	0.000	3.003	TOTAL AREA	

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Page 6

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1P	883.00	876.70	374.0	0.0168	0.013	12.0	0.0	0.0

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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 7

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentPR1: PROPOSED

Runoff Area=18,515 sf 59.01% Impervious Runoff Depth=1.40"
Tc=10.0 min CN=83 Runoff=0.93 cfs 0.050 af

SubcatchmentPR2: PROPOSED

Runoff Area=8,386 sf 71.57% Impervious Runoff Depth=1.69"
Tc=10.0 min CN=87 Runoff=0.50 cfs 0.027 af

SubcatchmentPR3A: PROPOSED

Runoff Area=79,199 sf 40.27% Impervious Runoff Depth=0.97"
Tc=10.0 min CN=76 Runoff=2.69 cfs 0.148 af

SubcatchmentPR3B: PROPOSED

Runoff Area=24,713 sf 11.22% Impervious Runoff Depth=0.48"
Tc=10.0 min CN=65 Runoff=0.33 cfs 0.023 af

Reach 1R: TOTAL

Inflow=1.79 cfs 0.247 af
Outflow=1.79 cfs 0.247 af

Pond 1P: FILTRATIONBASIN 1

Peak Elev=886.58' Storage=3,652 cf Inflow=2.69 cfs 0.148 af
Outflow=0.27 cfs 0.148 af

**Total Runoff Area = 3.003 ac Runoff Volume = 0.247 af Average Runoff Depth = 0.99"
60.56% Pervious = 1.819 ac 39.44% Impervious = 1.184 ac**

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SUITE LIVING SLP - PROPOSED

MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 8

Summary for Subcatchment PR1: PROPOSED DRAINAGE AREA 1

Runoff = 0.93 cfs @ 12.18 hrs, Volume= 0.050 af, Depth= 1.40"

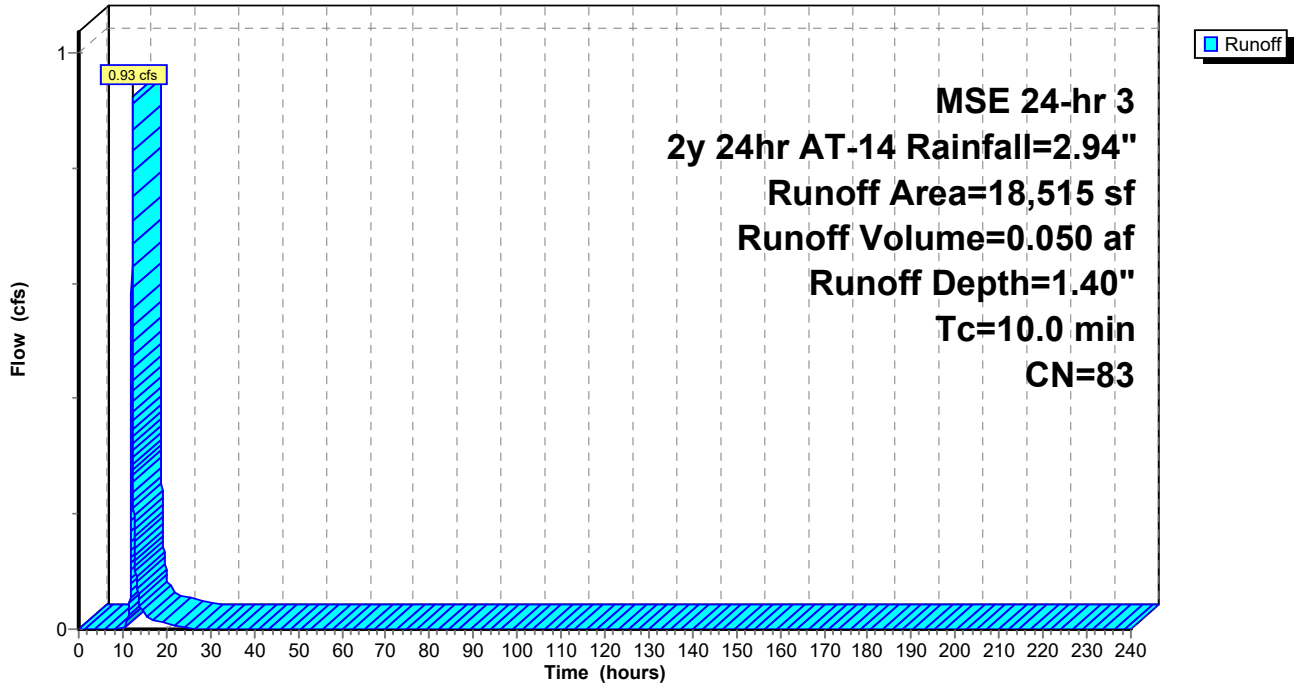
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
 MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

Area (sf)	CN	Description
10,925	98	Paved parking, HSG B
7,590	61	>75% Grass cover, Good, HSG B
18,515	83	Weighted Average
7,590		40.99% Pervious Area
10,925		59.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment PR1: PROPOSED DRAINAGE AREA 1

Hydrograph



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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 9

Hydrograph for Subcatchment PR1: PROPOSED DRAINAGE AREA 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.11	0.00	0.00
10.00	0.40	0.00	0.00
15.00	2.64	1.16	0.03
20.00	2.86	1.34	0.01
25.00	2.94	1.40	0.00
30.00	2.94	1.40	0.00
35.00	2.94	1.40	0.00
40.00	2.94	1.40	0.00
45.00	2.94	1.40	0.00
50.00	2.94	1.40	0.00
55.00	2.94	1.40	0.00
60.00	2.94	1.40	0.00
65.00	2.94	1.40	0.00
70.00	2.94	1.40	0.00
75.00	2.94	1.40	0.00
80.00	2.94	1.40	0.00
85.00	2.94	1.40	0.00
90.00	2.94	1.40	0.00
95.00	2.94	1.40	0.00
100.00	2.94	1.40	0.00
105.00	2.94	1.40	0.00
110.00	2.94	1.40	0.00
115.00	2.94	1.40	0.00
120.00	2.94	1.40	0.00
125.00	2.94	1.40	0.00
130.00	2.94	1.40	0.00
135.00	2.94	1.40	0.00
140.00	2.94	1.40	0.00
145.00	2.94	1.40	0.00
150.00	2.94	1.40	0.00
155.00	2.94	1.40	0.00
160.00	2.94	1.40	0.00
165.00	2.94	1.40	0.00
170.00	2.94	1.40	0.00
175.00	2.94	1.40	0.00
180.00	2.94	1.40	0.00
185.00	2.94	1.40	0.00
190.00	2.94	1.40	0.00
195.00	2.94	1.40	0.00
200.00	2.94	1.40	0.00
205.00	2.94	1.40	0.00
210.00	2.94	1.40	0.00
215.00	2.94	1.40	0.00
220.00	2.94	1.40	0.00
225.00	2.94	1.40	0.00
230.00	2.94	1.40	0.00
235.00	2.94	1.40	0.00
240.00	2.94	1.40	0.00

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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 10

Summary for Subcatchment PR2: PROPOSED DRAINAGE AREA 2

Runoff = 0.50 cfs @ 12.18 hrs, Volume= 0.027 af, Depth= 1.69"

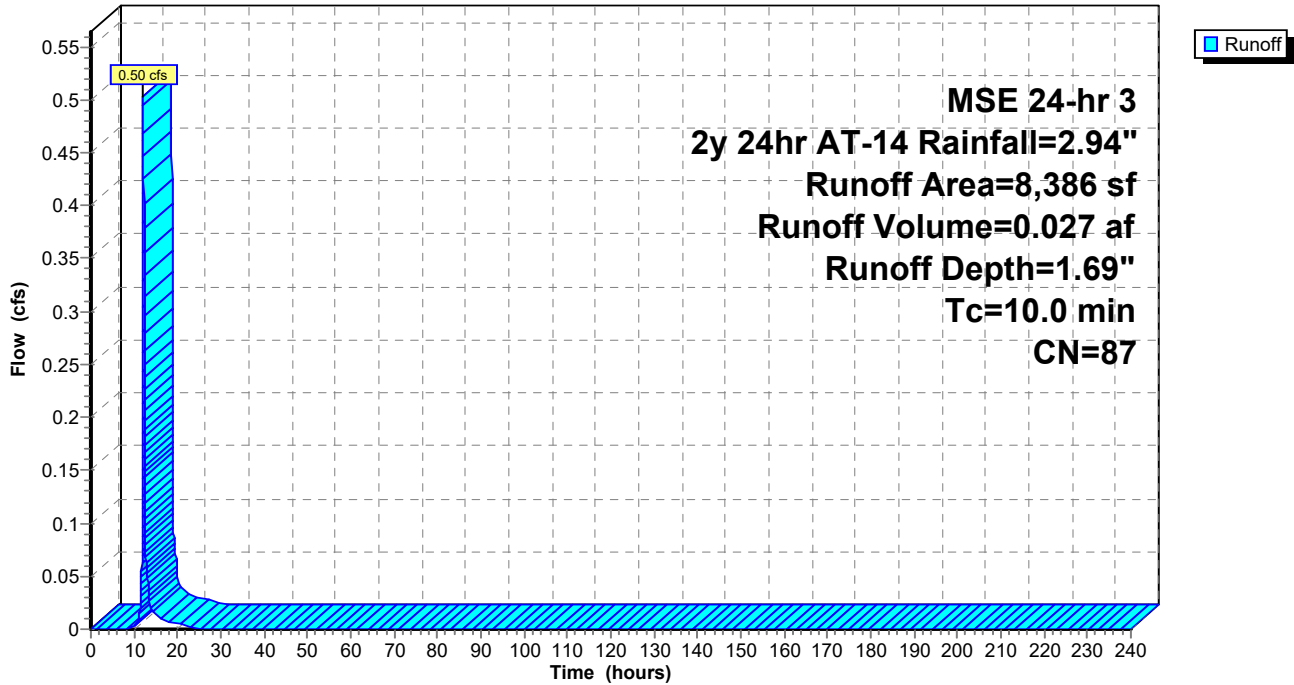
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
 MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

Area (sf)	CN	Description
6,002	98	Paved parking, HSG B
2,384	61	>75% Grass cover, Good, HSG B
8,386	87	Weighted Average
2,384		28.43% Pervious Area
6,002		71.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment PR2: PROPOSED DRAINAGE AREA 2

Hydrograph



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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 11

Hydrograph for Subcatchment PR2: PROPOSED DRAINAGE AREA 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.11	0.00	0.00
10.00	0.40	0.01	0.00
15.00	2.64	1.43	0.02
20.00	2.86	1.62	0.01
25.00	2.94	1.69	0.00
30.00	2.94	1.69	0.00
35.00	2.94	1.69	0.00
40.00	2.94	1.69	0.00
45.00	2.94	1.69	0.00
50.00	2.94	1.69	0.00
55.00	2.94	1.69	0.00
60.00	2.94	1.69	0.00
65.00	2.94	1.69	0.00
70.00	2.94	1.69	0.00
75.00	2.94	1.69	0.00
80.00	2.94	1.69	0.00
85.00	2.94	1.69	0.00
90.00	2.94	1.69	0.00
95.00	2.94	1.69	0.00
100.00	2.94	1.69	0.00
105.00	2.94	1.69	0.00
110.00	2.94	1.69	0.00
115.00	2.94	1.69	0.00
120.00	2.94	1.69	0.00
125.00	2.94	1.69	0.00
130.00	2.94	1.69	0.00
135.00	2.94	1.69	0.00
140.00	2.94	1.69	0.00
145.00	2.94	1.69	0.00
150.00	2.94	1.69	0.00
155.00	2.94	1.69	0.00
160.00	2.94	1.69	0.00
165.00	2.94	1.69	0.00
170.00	2.94	1.69	0.00
175.00	2.94	1.69	0.00
180.00	2.94	1.69	0.00
185.00	2.94	1.69	0.00
190.00	2.94	1.69	0.00
195.00	2.94	1.69	0.00
200.00	2.94	1.69	0.00
205.00	2.94	1.69	0.00
210.00	2.94	1.69	0.00
215.00	2.94	1.69	0.00
220.00	2.94	1.69	0.00
225.00	2.94	1.69	0.00
230.00	2.94	1.69	0.00
235.00	2.94	1.69	0.00
240.00	2.94	1.69	0.00

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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 12

Summary for Subcatchment PR3A: PROPOSED DRAINAGE AREA 3A

Runoff = 2.69 cfs @ 12.18 hrs, Volume= 0.148 af, Depth= 0.97"

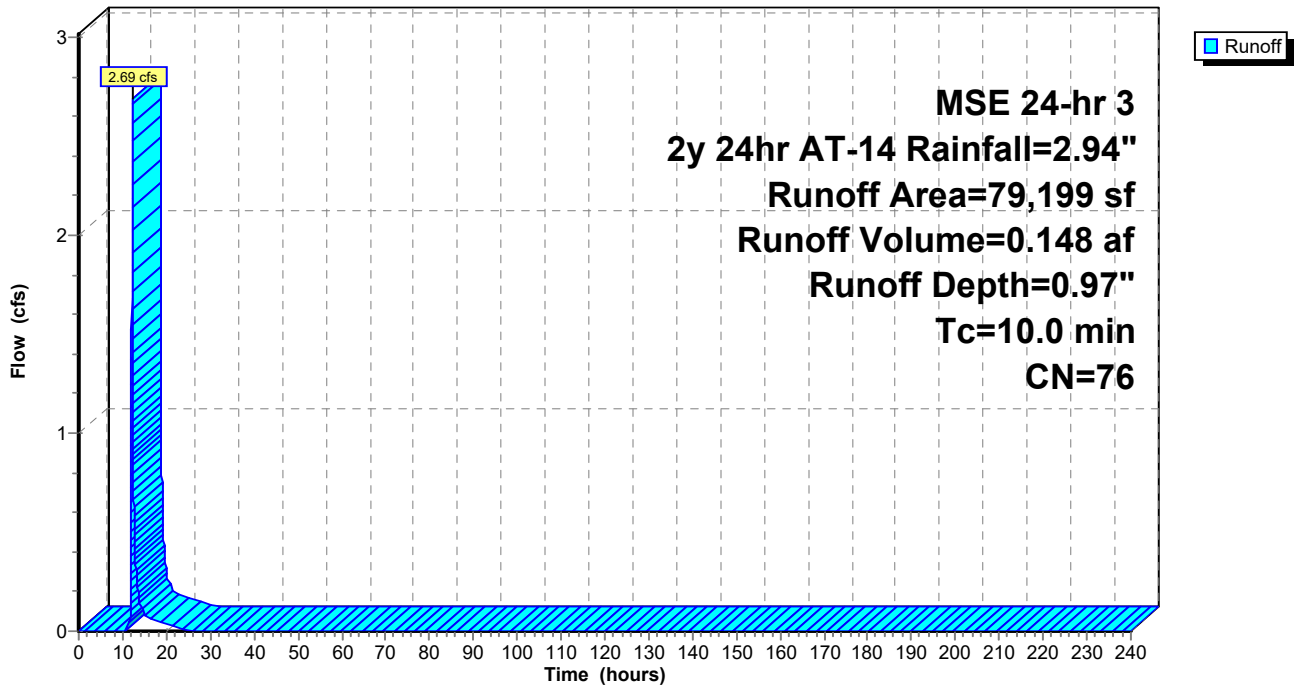
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

Area (sf)	CN	Description
31,897	98	Paved parking, HSG B
47,302	61	>75% Grass cover, Good, HSG B
79,199	76	Weighted Average
47,302		59.73% Pervious Area
31,897		40.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment PR3A: PROPOSED DRAINAGE AREA 3A

Hydrograph



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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 13

Hydrograph for Subcatchment PR3A: PROPOSED DRAINAGE AREA 3A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.11	0.00	0.00
10.00	0.40	0.00	0.00
15.00	2.64	0.78	0.11
20.00	2.86	0.92	0.04
25.00	2.94	0.97	0.00
30.00	2.94	0.97	0.00
35.00	2.94	0.97	0.00
40.00	2.94	0.97	0.00
45.00	2.94	0.97	0.00
50.00	2.94	0.97	0.00
55.00	2.94	0.97	0.00
60.00	2.94	0.97	0.00
65.00	2.94	0.97	0.00
70.00	2.94	0.97	0.00
75.00	2.94	0.97	0.00
80.00	2.94	0.97	0.00
85.00	2.94	0.97	0.00
90.00	2.94	0.97	0.00
95.00	2.94	0.97	0.00
100.00	2.94	0.97	0.00
105.00	2.94	0.97	0.00
110.00	2.94	0.97	0.00
115.00	2.94	0.97	0.00
120.00	2.94	0.97	0.00
125.00	2.94	0.97	0.00
130.00	2.94	0.97	0.00
135.00	2.94	0.97	0.00
140.00	2.94	0.97	0.00
145.00	2.94	0.97	0.00
150.00	2.94	0.97	0.00
155.00	2.94	0.97	0.00
160.00	2.94	0.97	0.00
165.00	2.94	0.97	0.00
170.00	2.94	0.97	0.00
175.00	2.94	0.97	0.00
180.00	2.94	0.97	0.00
185.00	2.94	0.97	0.00
190.00	2.94	0.97	0.00
195.00	2.94	0.97	0.00
200.00	2.94	0.97	0.00
205.00	2.94	0.97	0.00
210.00	2.94	0.97	0.00
215.00	2.94	0.97	0.00
220.00	2.94	0.97	0.00
225.00	2.94	0.97	0.00
230.00	2.94	0.97	0.00
235.00	2.94	0.97	0.00
240.00	2.94	0.97	0.00

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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 14

Summary for Subcatchment PR3B: PROPOSED DRAINAGE AREA 3B

Runoff = 0.33 cfs @ 12.20 hrs, Volume= 0.023 af, Depth= 0.48"

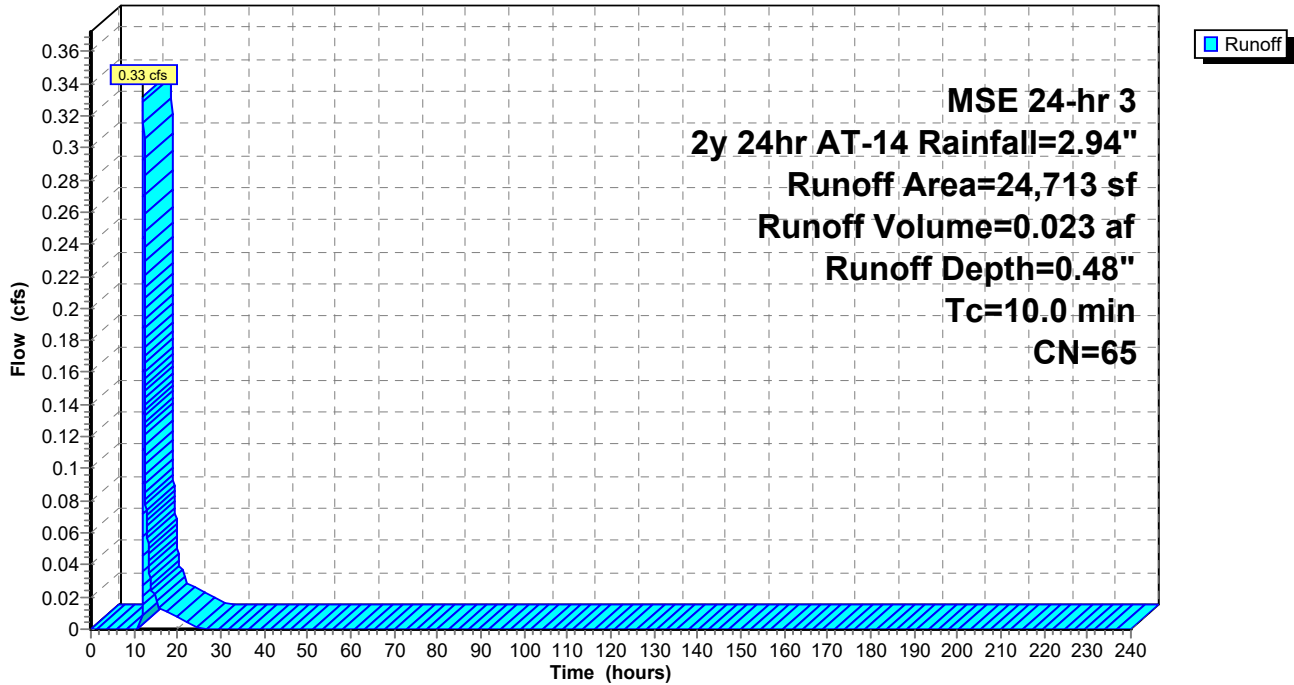
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
 MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

Area (sf)	CN	Description
2,772	98	Paved parking, HSG B
21,941	61	>75% Grass cover, Good, HSG B
24,713	65	Weighted Average
21,941		88.78% Pervious Area
2,772		11.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment PR3B: PROPOSED DRAINAGE AREA 3B

Hydrograph



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SUITE LIVING SLP - PROPOSED

MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 15

Hydrograph for Subcatchment PR3B: PROPOSED DRAINAGE AREA 3B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.11	0.00	0.00
10.00	0.40	0.00	0.00
15.00	2.64	0.35	0.02
20.00	2.86	0.45	0.01
25.00	2.94	0.48	0.00
30.00	2.94	0.48	0.00
35.00	2.94	0.48	0.00
40.00	2.94	0.48	0.00
45.00	2.94	0.48	0.00
50.00	2.94	0.48	0.00
55.00	2.94	0.48	0.00
60.00	2.94	0.48	0.00
65.00	2.94	0.48	0.00
70.00	2.94	0.48	0.00
75.00	2.94	0.48	0.00
80.00	2.94	0.48	0.00
85.00	2.94	0.48	0.00
90.00	2.94	0.48	0.00
95.00	2.94	0.48	0.00
100.00	2.94	0.48	0.00
105.00	2.94	0.48	0.00
110.00	2.94	0.48	0.00
115.00	2.94	0.48	0.00
120.00	2.94	0.48	0.00
125.00	2.94	0.48	0.00
130.00	2.94	0.48	0.00
135.00	2.94	0.48	0.00
140.00	2.94	0.48	0.00
145.00	2.94	0.48	0.00
150.00	2.94	0.48	0.00
155.00	2.94	0.48	0.00
160.00	2.94	0.48	0.00
165.00	2.94	0.48	0.00
170.00	2.94	0.48	0.00
175.00	2.94	0.48	0.00
180.00	2.94	0.48	0.00
185.00	2.94	0.48	0.00
190.00	2.94	0.48	0.00
195.00	2.94	0.48	0.00
200.00	2.94	0.48	0.00
205.00	2.94	0.48	0.00
210.00	2.94	0.48	0.00
215.00	2.94	0.48	0.00
220.00	2.94	0.48	0.00
225.00	2.94	0.48	0.00
230.00	2.94	0.48	0.00
235.00	2.94	0.48	0.00
240.00	2.94	0.48	0.00

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SUITE LIVING SLP - PROPOSED

MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 16

Summary for Reach 1R: TOTAL

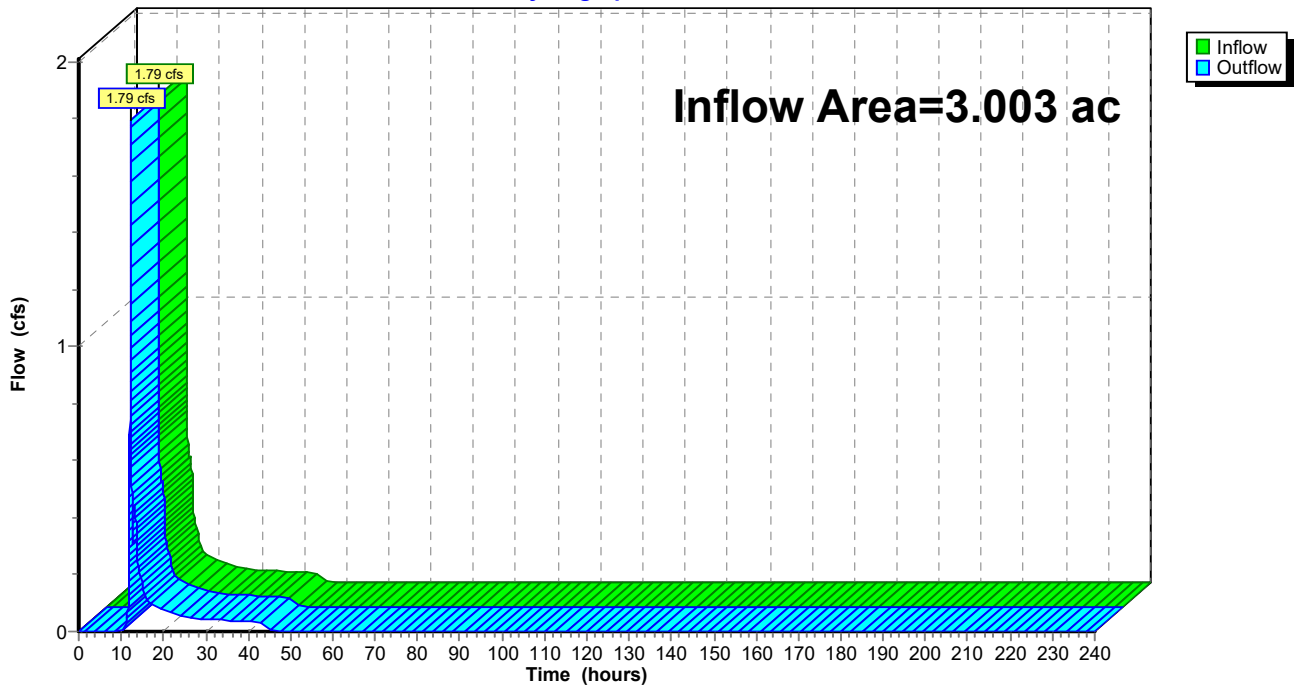
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.003 ac, 39.44% Impervious, Inflow Depth = 0.99" for 2y 24hr AT-14 event
Inflow = 1.79 cfs @ 12.18 hrs, Volume= 0.247 af
Outflow = 1.79 cfs @ 12.18 hrs, Volume= 0.247 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Reach 1R: TOTAL

Hydrograph



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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 17

Hydrograph for Reach 1R: TOTAL

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00
5.00	0.00		0.00
10.00	0.00		0.00
15.00	0.19		0.19
20.00	0.08		0.08
25.00	0.05		0.05
30.00	0.04		0.04
35.00	0.04		0.04
40.00	0.04		0.04
45.00	0.00		0.00
50.00	0.00		0.00
55.00	0.00		0.00
60.00	0.00		0.00
65.00	0.00		0.00
70.00	0.00		0.00
75.00	0.00		0.00
80.00	0.00		0.00
85.00	0.00		0.00
90.00	0.00		0.00
95.00	0.00		0.00
100.00	0.00		0.00
105.00	0.00		0.00
110.00	0.00		0.00
115.00	0.00		0.00
120.00	0.00		0.00
125.00	0.00		0.00
130.00	0.00		0.00
135.00	0.00		0.00
140.00	0.00		0.00
145.00	0.00		0.00
150.00	0.00		0.00
155.00	0.00		0.00
160.00	0.00		0.00
165.00	0.00		0.00
170.00	0.00		0.00
175.00	0.00		0.00
180.00	0.00		0.00
185.00	0.00		0.00
190.00	0.00		0.00
195.00	0.00		0.00
200.00	0.00		0.00
205.00	0.00		0.00
210.00	0.00		0.00
215.00	0.00		0.00
220.00	0.00		0.00
225.00	0.00		0.00
230.00	0.00		0.00
235.00	0.00		0.00
240.00	0.00		0.00

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SUITE LIVING SLP - PROPOSED

MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 18

Summary for Pond 1P: FILTRATION BASIN 1

Inflow Area = 1.818 ac, 40.27% Impervious, Inflow Depth = 0.97" for 2y 24hr AT-14 event
 Inflow = 2.69 cfs @ 12.18 hrs, Volume= 0.148 af
 Outflow = 0.27 cfs @ 13.23 hrs, Volume= 0.148 af, Atten= 90%, Lag= 63.0 min
 Primary = 0.27 cfs @ 13.23 hrs, Volume= 0.148 af

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
 Peak Elev= 886.58' @ 13.23 hrs Surf.Area= 2,919 sf Storage= 3,652 cf

Plug-Flow detention time= 631.2 min calculated for 0.148 af (100% of inflow)
 Center-of-Mass det. time= 631.3 min (1,462.3 - 831.1)

Volume	Invert	Avail.Storage	Storage Description
#1	885.00'	10,791 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
885.00	1,736	0	0
886.00	2,465	2,101	2,101
887.00	3,252	2,859	4,959
888.00	4,095	3,674	8,633
888.50	4,540	2,159	10,791

Device	Routing	Invert	Outlet Devices
#1	Primary	883.00'	12.0" Round Culvert L= 374.0' RCP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 883.00' / 876.70' S= 0.0168 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	886.50'	12.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	883.00'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 3	885.00'	0.800 in/hr Exfiltration over Surface area
#5	Primary	888.25'	5.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=0.27 cfs @ 13.23 hrs HW=886.58' (Free Discharge)

- 1=Culvert (Passes 0.27 cfs of 5.12 cfs potential flow)
- 2=Orifice/Grate (Weir Controls 0.22 cfs @ 0.90 fps)
- 3=Orifice/Grate (Passes 0.05 cfs of 1.72 cfs potential flow)
- 4=Exfiltration (Exfiltration Controls 0.05 cfs)
- 5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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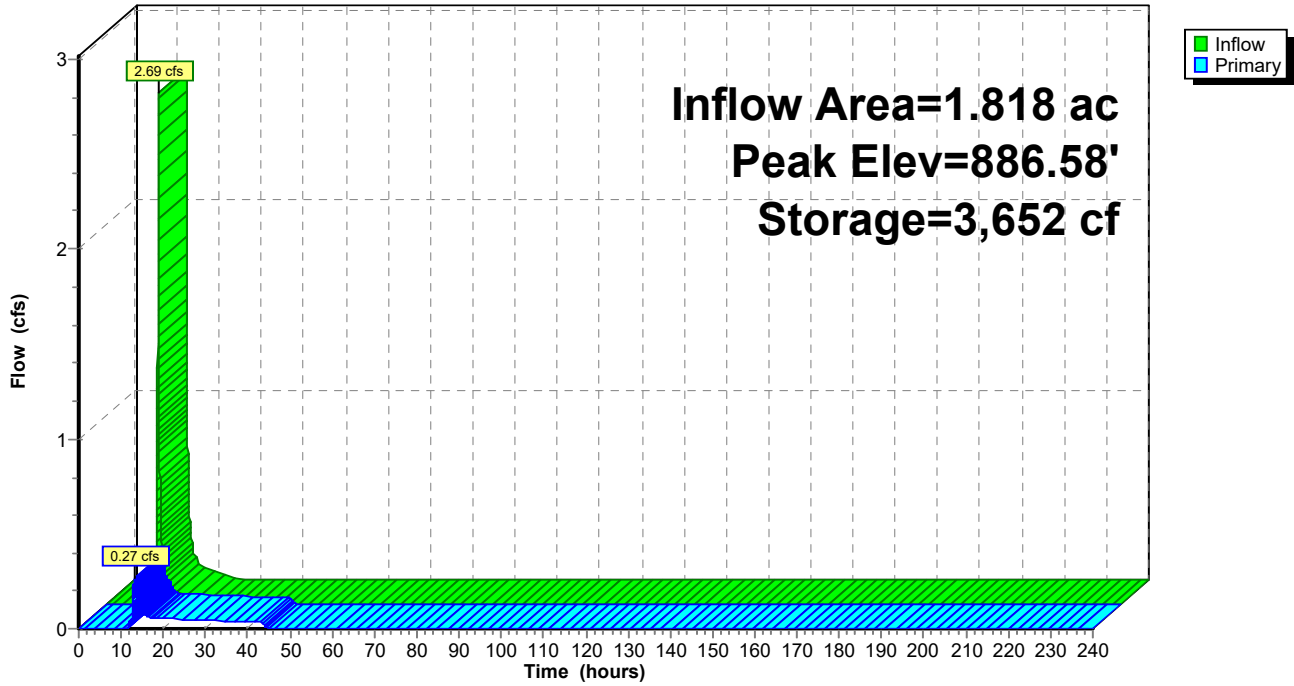
MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 19

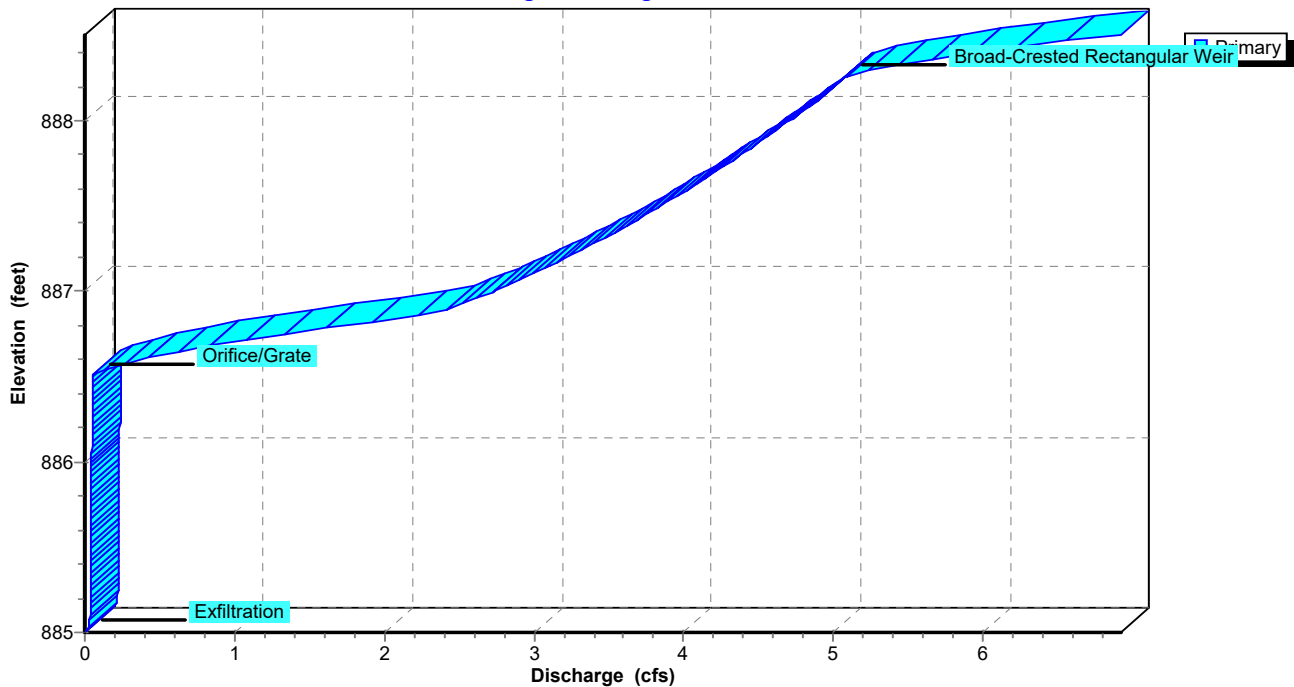
Pond 1P: FILTRATION BASIN 1

Hydrograph



Pond 1P: FILTRATION BASIN 1

Stage-Discharge



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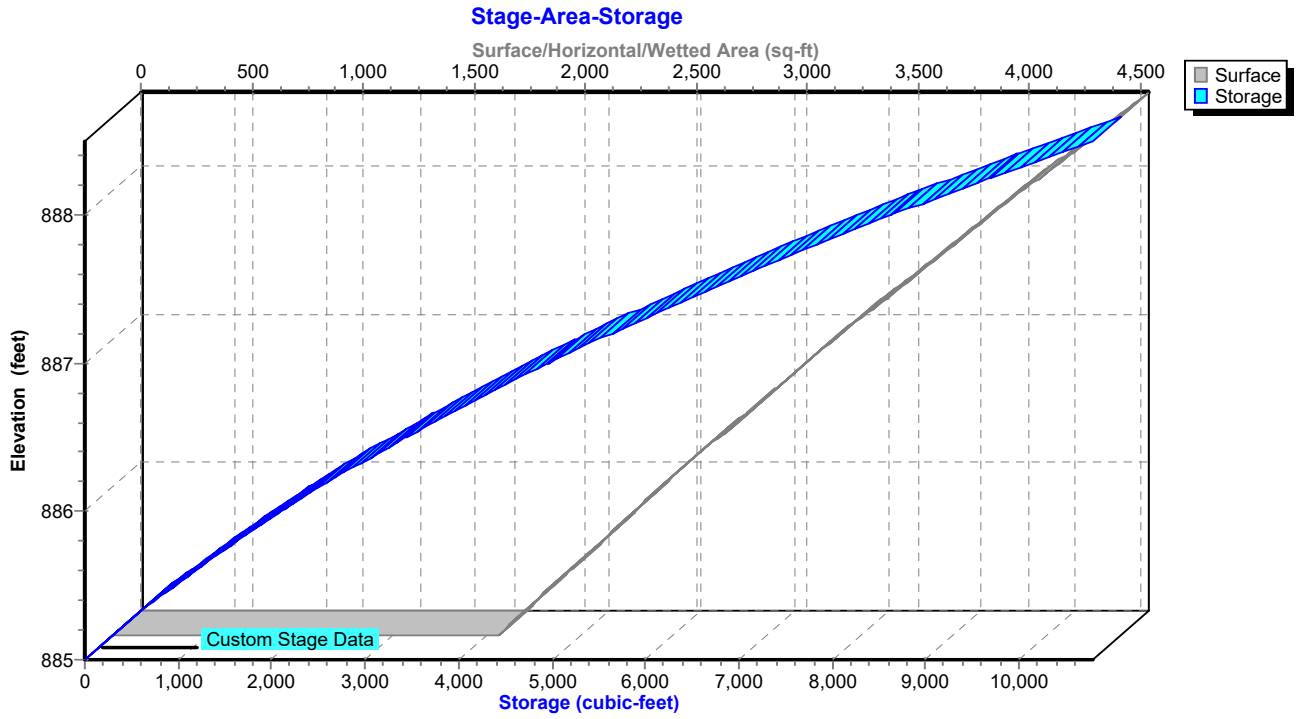
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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 20

Pond 1P: FILTRATION BASIN 1



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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 21

Hydrograph for Pond 1P: FILTRATION BASIN 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	885.00	0.00
5.00	0.00	0	885.00	0.00
10.00	0.00	0	885.00	0.00
15.00	0.11	3,521	886.53	0.12
20.00	0.04	3,379	886.48	0.05
25.00	0.00	2,809	886.28	0.05
30.00	0.00	1,958	885.94	0.04
35.00	0.00	1,191	885.61	0.04
40.00	0.00	505	885.28	0.04
45.00	0.00	4	885.00	0.00
50.00	0.00	0	885.00	0.00
55.00	0.00	0	885.00	0.00
60.00	0.00	0	885.00	0.00
65.00	0.00	0	885.00	0.00
70.00	0.00	0	885.00	0.00
75.00	0.00	0	885.00	0.00
80.00	0.00	0	885.00	0.00
85.00	0.00	0	885.00	0.00
90.00	0.00	0	885.00	0.00
95.00	0.00	0	885.00	0.00
100.00	0.00	0	885.00	0.00
105.00	0.00	0	885.00	0.00
110.00	0.00	0	885.00	0.00
115.00	0.00	0	885.00	0.00
120.00	0.00	0	885.00	0.00
125.00	0.00	0	885.00	0.00
130.00	0.00	0	885.00	0.00
135.00	0.00	0	885.00	0.00
140.00	0.00	0	885.00	0.00
145.00	0.00	0	885.00	0.00
150.00	0.00	0	885.00	0.00
155.00	0.00	0	885.00	0.00
160.00	0.00	0	885.00	0.00
165.00	0.00	0	885.00	0.00
170.00	0.00	0	885.00	0.00
175.00	0.00	0	885.00	0.00
180.00	0.00	0	885.00	0.00
185.00	0.00	0	885.00	0.00
190.00	0.00	0	885.00	0.00
195.00	0.00	0	885.00	0.00
200.00	0.00	0	885.00	0.00
205.00	0.00	0	885.00	0.00
210.00	0.00	0	885.00	0.00
215.00	0.00	0	885.00	0.00
220.00	0.00	0	885.00	0.00
225.00	0.00	0	885.00	0.00
230.00	0.00	0	885.00	0.00
235.00	0.00	0	885.00	0.00
240.00	0.00	0	885.00	0.00

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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 22

Stage-Discharge for Pond 1P: FILTRATION BASIN 1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
885.00	0.00	886.02	0.05	887.04	2.84	888.06	4.80
885.02	0.03	886.04	0.05	887.06	2.89	888.08	4.83
885.04	0.03	886.06	0.05	887.08	2.94	888.10	4.86
885.06	0.03	886.08	0.05	887.10	2.99	888.12	4.89
885.08	0.03	886.10	0.05	887.12	3.04	888.14	4.92
885.10	0.03	886.12	0.05	887.14	3.09	888.16	4.95
885.12	0.03	886.14	0.05	887.16	3.13	888.18	4.98
885.14	0.03	886.16	0.05	887.18	3.18	888.20	5.01
885.16	0.03	886.18	0.05	887.20	3.23	888.22	5.04
885.18	0.03	886.20	0.05	887.22	3.27	888.24	5.07
885.20	0.03	886.22	0.05	887.24	3.32	888.26	5.11
885.22	0.04	886.24	0.05	887.26	3.36	888.28	5.19
885.24	0.04	886.26	0.05	887.28	3.40	888.30	5.29
885.26	0.04	886.28	0.05	887.30	3.45	888.32	5.40
885.28	0.04	886.30	0.05	887.32	3.49	888.34	5.53
885.30	0.04	886.32	0.05	887.34	3.53	888.36	5.67
885.32	0.04	886.34	0.05	887.36	3.57	888.38	5.82
885.34	0.04	886.36	0.05	887.38	3.61	888.40	5.97
885.36	0.04	886.38	0.05	887.40	3.65	888.42	6.14
885.38	0.04	886.40	0.05	887.42	3.69	888.44	6.32
885.40	0.04	886.42	0.05	887.44	3.73	888.46	6.51
885.42	0.04	886.44	0.05	887.46	3.77	888.48	6.71
885.44	0.04	886.46	0.05	887.48	3.81	888.50	6.92
885.46	0.04	886.48	0.05	887.50	3.85		
885.48	0.04	886.50	0.05	887.52	3.89		
885.50	0.04	886.52	0.08	887.54	3.93		
885.52	0.04	886.54	0.14	887.56	3.96		
885.54	0.04	886.56	0.20	887.58	4.00		
885.56	0.04	886.58	0.29	887.60	4.04		
885.58	0.04	886.60	0.38	887.62	4.07		
885.60	0.04	886.62	0.48	887.64	4.11		
885.62	0.04	886.64	0.59	887.66	4.14		
885.64	0.04	886.66	0.71	887.68	4.18		
885.66	0.04	886.68	0.84	887.70	4.21		
885.68	0.04	886.70	0.97	887.72	4.25		
885.70	0.04	886.72	1.12	887.74	4.28		
885.72	0.04	886.74	1.26	887.76	4.32		
885.74	0.04	886.76	1.42	887.78	4.35		
885.76	0.04	886.78	1.58	887.80	4.38		
885.78	0.04	886.80	1.75	887.82	4.42		
885.80	0.04	886.82	1.92	887.84	4.45		
885.82	0.04	886.84	2.09	887.86	4.48		
885.84	0.04	886.86	2.28	887.88	4.52		
885.86	0.04	886.88	2.39	887.90	4.55		
885.88	0.04	886.90	2.45	887.92	4.58		
885.90	0.04	886.92	2.51	887.94	4.61		
885.92	0.04	886.94	2.57	887.96	4.64		
885.94	0.04	886.96	2.62	887.98	4.68		
885.96	0.05	886.98	2.68	888.00	4.71		
885.98	0.05	887.00	2.73	888.02	4.74		
886.00	0.05	887.02	2.79	888.04	4.77		

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MSE 24-hr 3 2y 24hr AT-14 Rainfall=2.94"

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Page 23

Stage-Area-Storage for Pond 1P: FILTRATION BASIN 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
885.00	1,736	0	887.55	3,716	6,875
885.05	1,772	88	887.60	3,758	7,062
885.10	1,809	177	887.65	3,800	7,251
885.15	1,845	269	887.70	3,842	7,442
885.20	1,882	362	887.75	3,884	7,635
885.25	1,918	457	887.80	3,926	7,830
885.30	1,955	554	887.85	3,969	8,028
885.35	1,991	652	887.90	4,011	8,227
885.40	2,028	753	887.95	4,053	8,429
885.45	2,064	855	888.00	4,095	8,633
885.50	2,101	959	888.05	4,139	8,838
885.55	2,137	1,065	888.10	4,184	9,046
885.60	2,173	1,173	888.15	4,228	9,257
885.65	2,210	1,282	888.20	4,273	9,469
885.70	2,246	1,394	888.25	4,318	9,684
885.75	2,283	1,507	888.30	4,362	9,901
885.80	2,319	1,622	888.35	4,407	10,120
885.85	2,356	1,739	888.40	4,451	10,342
885.90	2,392	1,858	888.45	4,496	10,565
885.95	2,429	1,978	888.50	4,540	10,791
886.00	2,465	2,101			
886.05	2,504	2,225			
886.10	2,544	2,351			
886.15	2,583	2,479			
886.20	2,622	2,609			
886.25	2,662	2,741			
886.30	2,701	2,875			
886.35	2,740	3,011			
886.40	2,780	3,149			
886.45	2,819	3,289			
886.50	2,859	3,431			
886.55	2,898	3,575			
886.60	2,937	3,721			
886.65	2,977	3,869			
886.70	3,016	4,019			
886.75	3,055	4,171			
886.80	3,095	4,324			
886.85	3,134	4,480			
886.90	3,173	4,638			
886.95	3,213	4,797			
887.00	3,252	4,959			
887.05	3,294	5,123			
887.10	3,336	5,288			
887.15	3,378	5,456			
887.20	3,421	5,626			
887.25	3,463	5,798			
887.30	3,505	5,973			
887.35	3,547	6,149			
887.40	3,589	6,327			
887.45	3,631	6,508			
887.50	3,674	6,690			

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MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 24

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentPR1: PROPOSED

Runoff Area=18,515 sf 59.01% Impervious Runoff Depth=2.70"
Tc=10.0 min CN=83 Runoff=1.77 cfs 0.096 af

SubcatchmentPR2: PROPOSED

Runoff Area=8,386 sf 71.57% Impervious Runoff Depth=3.07"
Tc=10.0 min CN=87 Runoff=0.90 cfs 0.049 af

SubcatchmentPR3A: PROPOSED

Runoff Area=79,199 sf 40.27% Impervious Runoff Depth=2.11"
Tc=10.0 min CN=76 Runoff=5.96 cfs 0.319 af

SubcatchmentPR3B: PROPOSED

Runoff Area=24,713 sf 11.22% Impervious Runoff Depth=1.31"
Tc=10.0 min CN=65 Runoff=1.11 cfs 0.062 af

Reach 1R: TOTAL

Inflow=5.52 cfs 0.526 af
Outflow=5.52 cfs 0.526 af

Pond 1P: FILTRATIONBASIN 1

Peak Elev=887.01' Storage=4,988 cf Inflow=5.96 cfs 0.319 af
Outflow=2.76 cfs 0.319 af

Total Runoff Area = 3.003 ac Runoff Volume = 0.526 af Average Runoff Depth = 2.10"
60.56% Pervious = 1.819 ac 39.44% Impervious = 1.184 ac

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SUITE LIVING SLP - PROPOSED

MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 25

Summary for Subcatchment PR1: PROPOSED DRAINAGE AREA 1

Runoff = 1.77 cfs @ 12.18 hrs, Volume= 0.096 af, Depth= 2.70"

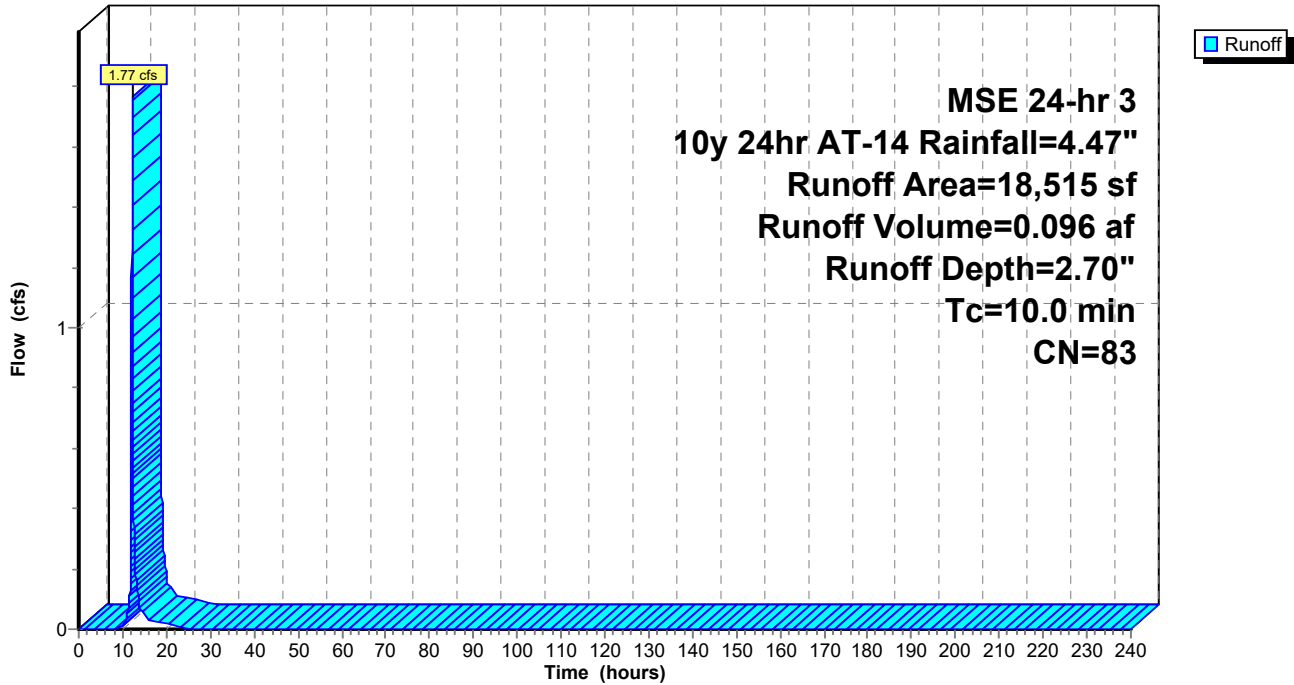
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
 MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

Area (sf)	CN	Description
10,925	98	Paved parking, HSG B
7,590	61	>75% Grass cover, Good, HSG B
18,515	83	Weighted Average
7,590		40.99% Pervious Area
10,925		59.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment PR1: PROPOSED DRAINAGE AREA 1

Hydrograph



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MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 26

Hydrograph for Subcatchment PR1: PROPOSED DRAINAGE AREA 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.17	0.00	0.00
10.00	0.61	0.02	0.01
15.00	4.01	2.29	0.05
20.00	4.35	2.60	0.02
25.00	4.47	2.70	0.00
30.00	4.47	2.70	0.00
35.00	4.47	2.70	0.00
40.00	4.47	2.70	0.00
45.00	4.47	2.70	0.00
50.00	4.47	2.70	0.00
55.00	4.47	2.70	0.00
60.00	4.47	2.70	0.00
65.00	4.47	2.70	0.00
70.00	4.47	2.70	0.00
75.00	4.47	2.70	0.00
80.00	4.47	2.70	0.00
85.00	4.47	2.70	0.00
90.00	4.47	2.70	0.00
95.00	4.47	2.70	0.00
100.00	4.47	2.70	0.00
105.00	4.47	2.70	0.00
110.00	4.47	2.70	0.00
115.00	4.47	2.70	0.00
120.00	4.47	2.70	0.00
125.00	4.47	2.70	0.00
130.00	4.47	2.70	0.00
135.00	4.47	2.70	0.00
140.00	4.47	2.70	0.00
145.00	4.47	2.70	0.00
150.00	4.47	2.70	0.00
155.00	4.47	2.70	0.00
160.00	4.47	2.70	0.00
165.00	4.47	2.70	0.00
170.00	4.47	2.70	0.00
175.00	4.47	2.70	0.00
180.00	4.47	2.70	0.00
185.00	4.47	2.70	0.00
190.00	4.47	2.70	0.00
195.00	4.47	2.70	0.00
200.00	4.47	2.70	0.00
205.00	4.47	2.70	0.00
210.00	4.47	2.70	0.00
215.00	4.47	2.70	0.00
220.00	4.47	2.70	0.00
225.00	4.47	2.70	0.00
230.00	4.47	2.70	0.00
235.00	4.47	2.70	0.00
240.00	4.47	2.70	0.00

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MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 27

Summary for Subcatchment PR2: PROPOSED DRAINAGE AREA 2

Runoff = 0.90 cfs @ 12.17 hrs, Volume= 0.049 af, Depth= 3.07"

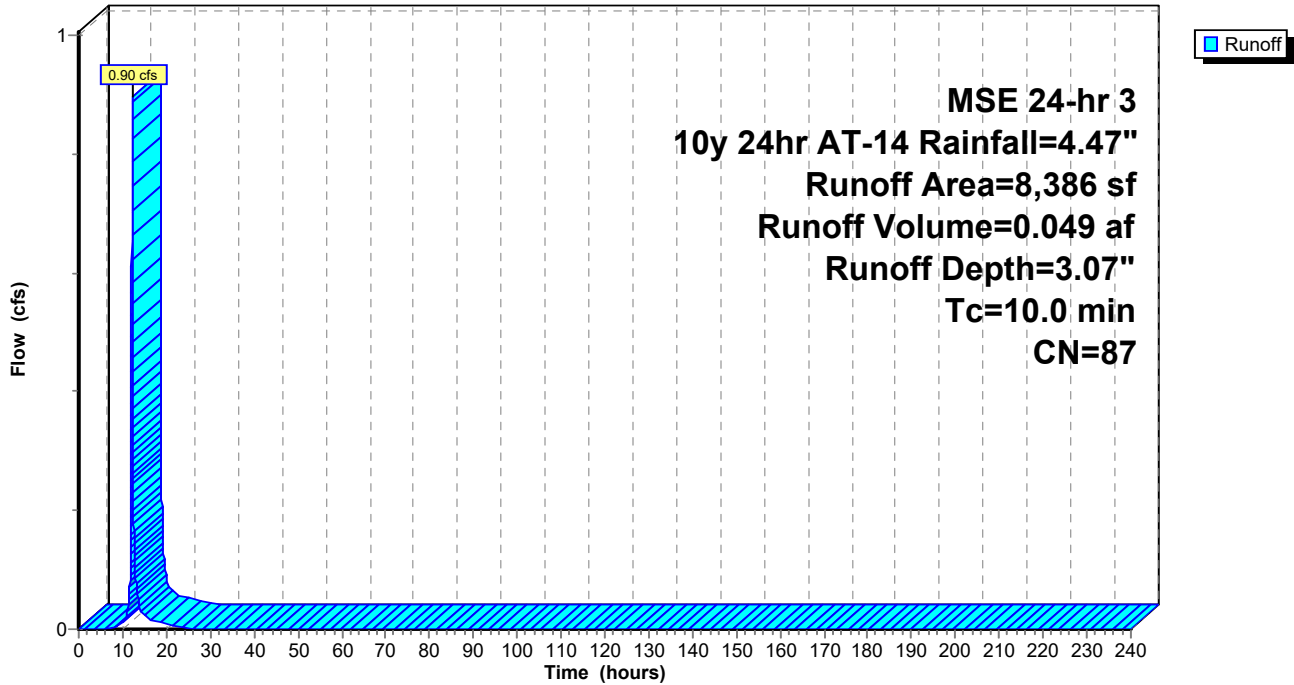
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
 MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

Area (sf)	CN	Description
6,002	98	Paved parking, HSG B
2,384	61	>75% Grass cover, Good, HSG B
8,386	87	Weighted Average
2,384		28.43% Pervious Area
6,002		71.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment PR2: PROPOSED DRAINAGE AREA 2

Hydrograph



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Page 28

Hydrograph for Subcatchment PR2: PROPOSED DRAINAGE AREA 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.17	0.00	0.00
10.00	0.61	0.06	0.01
15.00	4.01	2.65	0.03
20.00	4.35	2.96	0.01
25.00	4.47	3.07	0.00
30.00	4.47	3.07	0.00
35.00	4.47	3.07	0.00
40.00	4.47	3.07	0.00
45.00	4.47	3.07	0.00
50.00	4.47	3.07	0.00
55.00	4.47	3.07	0.00
60.00	4.47	3.07	0.00
65.00	4.47	3.07	0.00
70.00	4.47	3.07	0.00
75.00	4.47	3.07	0.00
80.00	4.47	3.07	0.00
85.00	4.47	3.07	0.00
90.00	4.47	3.07	0.00
95.00	4.47	3.07	0.00
100.00	4.47	3.07	0.00
105.00	4.47	3.07	0.00
110.00	4.47	3.07	0.00
115.00	4.47	3.07	0.00
120.00	4.47	3.07	0.00
125.00	4.47	3.07	0.00
130.00	4.47	3.07	0.00
135.00	4.47	3.07	0.00
140.00	4.47	3.07	0.00
145.00	4.47	3.07	0.00
150.00	4.47	3.07	0.00
155.00	4.47	3.07	0.00
160.00	4.47	3.07	0.00
165.00	4.47	3.07	0.00
170.00	4.47	3.07	0.00
175.00	4.47	3.07	0.00
180.00	4.47	3.07	0.00
185.00	4.47	3.07	0.00
190.00	4.47	3.07	0.00
195.00	4.47	3.07	0.00
200.00	4.47	3.07	0.00
205.00	4.47	3.07	0.00
210.00	4.47	3.07	0.00
215.00	4.47	3.07	0.00
220.00	4.47	3.07	0.00
225.00	4.47	3.07	0.00
230.00	4.47	3.07	0.00
235.00	4.47	3.07	0.00
240.00	4.47	3.07	0.00

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MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 29

Summary for Subcatchment PR3A: PROPOSED DRAINAGE AREA 3A

Runoff = 5.96 cfs @ 12.18 hrs, Volume= 0.319 af, Depth= 2.11"

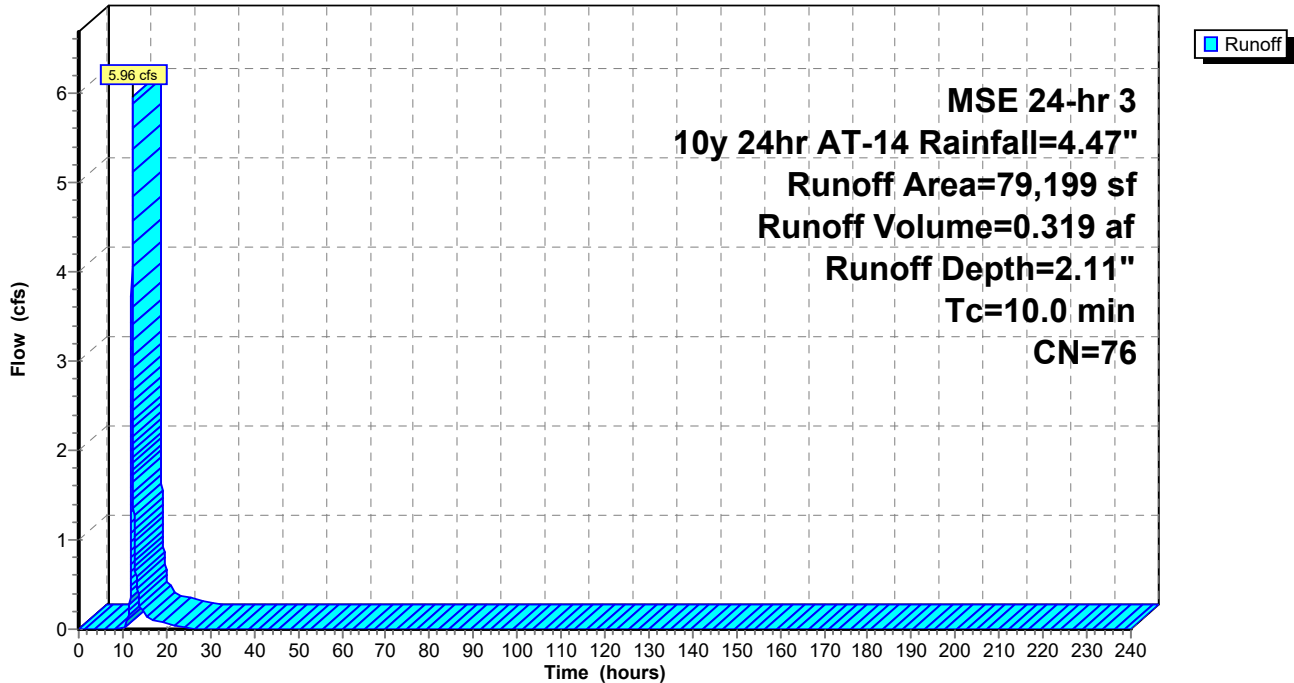
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

Area (sf)	CN	Description
31,897	98	Paved parking, HSG B
47,302	61	>75% Grass cover, Good, HSG B
79,199	76	Weighted Average
47,302		59.73% Pervious Area
31,897		40.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment PR3A: PROPOSED DRAINAGE AREA 3A

Hydrograph



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MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 30

Hydrograph for Subcatchment PR3A: PROPOSED DRAINAGE AREA 3A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.17	0.00	0.00
10.00	0.61	0.00	0.00
15.00	4.01	1.75	0.21
20.00	4.35	2.01	0.07
25.00	4.47	2.11	0.00
30.00	4.47	2.11	0.00
35.00	4.47	2.11	0.00
40.00	4.47	2.11	0.00
45.00	4.47	2.11	0.00
50.00	4.47	2.11	0.00
55.00	4.47	2.11	0.00
60.00	4.47	2.11	0.00
65.00	4.47	2.11	0.00
70.00	4.47	2.11	0.00
75.00	4.47	2.11	0.00
80.00	4.47	2.11	0.00
85.00	4.47	2.11	0.00
90.00	4.47	2.11	0.00
95.00	4.47	2.11	0.00
100.00	4.47	2.11	0.00
105.00	4.47	2.11	0.00
110.00	4.47	2.11	0.00
115.00	4.47	2.11	0.00
120.00	4.47	2.11	0.00
125.00	4.47	2.11	0.00
130.00	4.47	2.11	0.00
135.00	4.47	2.11	0.00
140.00	4.47	2.11	0.00
145.00	4.47	2.11	0.00
150.00	4.47	2.11	0.00
155.00	4.47	2.11	0.00
160.00	4.47	2.11	0.00
165.00	4.47	2.11	0.00
170.00	4.47	2.11	0.00
175.00	4.47	2.11	0.00
180.00	4.47	2.11	0.00
185.00	4.47	2.11	0.00
190.00	4.47	2.11	0.00
195.00	4.47	2.11	0.00
200.00	4.47	2.11	0.00
205.00	4.47	2.11	0.00
210.00	4.47	2.11	0.00
215.00	4.47	2.11	0.00
220.00	4.47	2.11	0.00
225.00	4.47	2.11	0.00
230.00	4.47	2.11	0.00
235.00	4.47	2.11	0.00
240.00	4.47	2.11	0.00

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MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 31

Summary for Subcatchment PR3B: PROPOSED DRAINAGE AREA 3B

Runoff = 1.11 cfs @ 12.19 hrs, Volume= 0.062 af, Depth= 1.31"

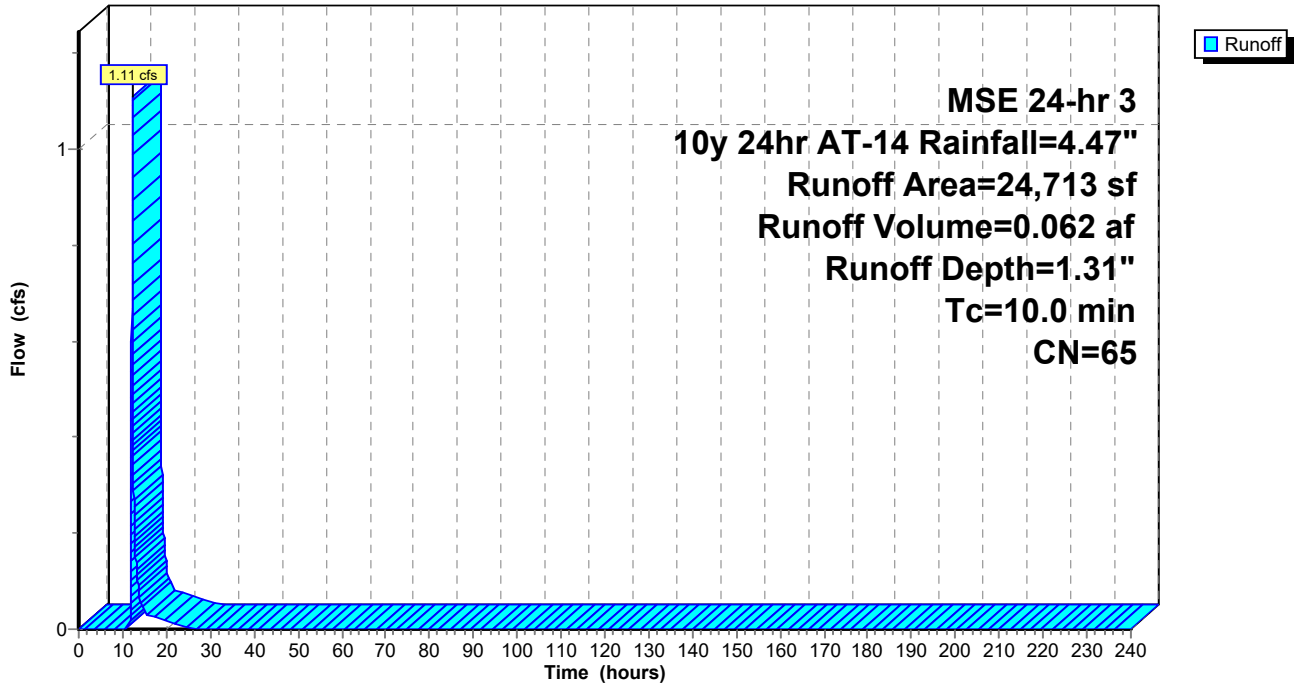
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
 MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

Area (sf)	CN	Description
2,772	98	Paved parking, HSG B
21,941	61	>75% Grass cover, Good, HSG B
24,713	65	Weighted Average
21,941		88.78% Pervious Area
2,772		11.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment PR3B: PROPOSED DRAINAGE AREA 3B

Hydrograph



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MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 32

Hydrograph for Subcatchment PR3B: PROPOSED DRAINAGE AREA 3B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.17	0.00	0.00
10.00	0.61	0.00	0.00
15.00	4.01	1.03	0.05
20.00	4.35	1.24	0.02
25.00	4.47	1.31	0.00
30.00	4.47	1.31	0.00
35.00	4.47	1.31	0.00
40.00	4.47	1.31	0.00
45.00	4.47	1.31	0.00
50.00	4.47	1.31	0.00
55.00	4.47	1.31	0.00
60.00	4.47	1.31	0.00
65.00	4.47	1.31	0.00
70.00	4.47	1.31	0.00
75.00	4.47	1.31	0.00
80.00	4.47	1.31	0.00
85.00	4.47	1.31	0.00
90.00	4.47	1.31	0.00
95.00	4.47	1.31	0.00
100.00	4.47	1.31	0.00
105.00	4.47	1.31	0.00
110.00	4.47	1.31	0.00
115.00	4.47	1.31	0.00
120.00	4.47	1.31	0.00
125.00	4.47	1.31	0.00
130.00	4.47	1.31	0.00
135.00	4.47	1.31	0.00
140.00	4.47	1.31	0.00
145.00	4.47	1.31	0.00
150.00	4.47	1.31	0.00
155.00	4.47	1.31	0.00
160.00	4.47	1.31	0.00
165.00	4.47	1.31	0.00
170.00	4.47	1.31	0.00
175.00	4.47	1.31	0.00
180.00	4.47	1.31	0.00
185.00	4.47	1.31	0.00
190.00	4.47	1.31	0.00
195.00	4.47	1.31	0.00
200.00	4.47	1.31	0.00
205.00	4.47	1.31	0.00
210.00	4.47	1.31	0.00
215.00	4.47	1.31	0.00
220.00	4.47	1.31	0.00
225.00	4.47	1.31	0.00
230.00	4.47	1.31	0.00
235.00	4.47	1.31	0.00
240.00	4.47	1.31	0.00

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Page 33

Summary for Reach 1R: TOTAL

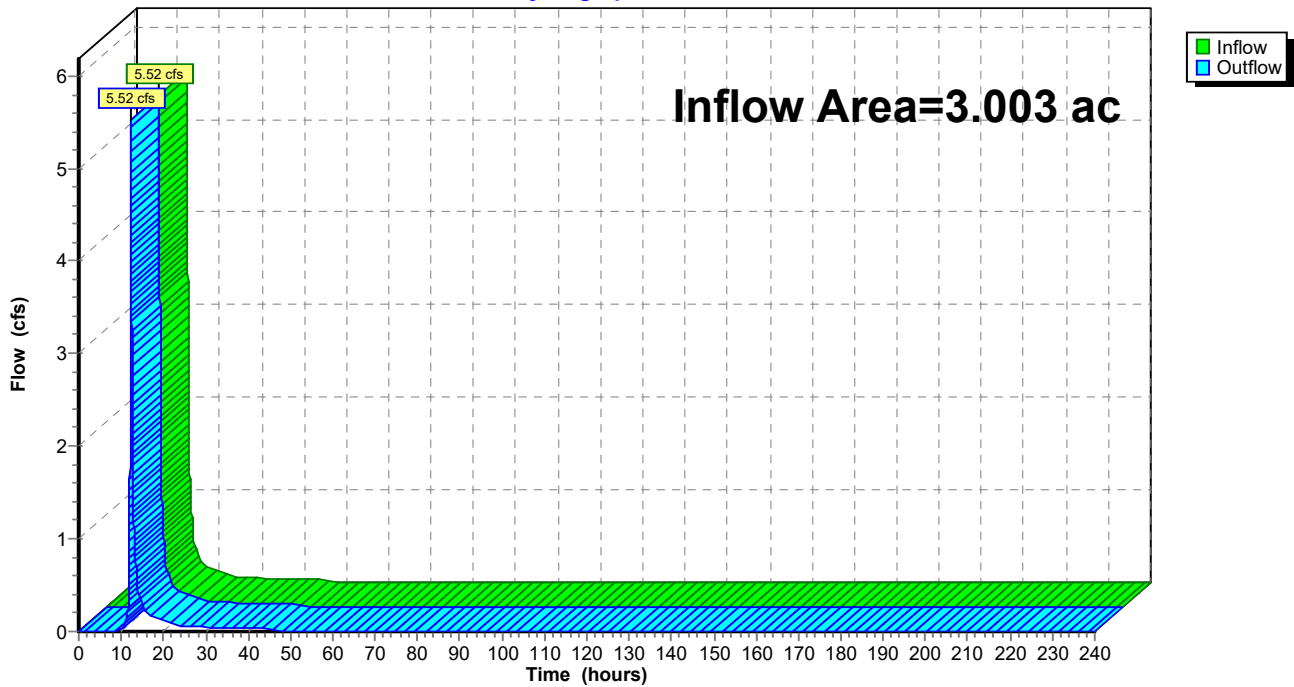
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.003 ac, 39.44% Impervious, Inflow Depth = 2.10" for 10y 24hr AT-14 event
Inflow = 5.52 cfs @ 12.23 hrs, Volume= 0.526 af
Outflow = 5.52 cfs @ 12.23 hrs, Volume= 0.526 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Reach 1R: TOTAL

Hydrograph



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Page 34

Hydrograph for Reach 1R: TOTAL

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00
5.00	0.00		0.00
10.00	0.02		0.02
15.00	0.34		0.34
20.00	0.12		0.12
25.00	0.05		0.05
30.00	0.05		0.05
35.00	0.04		0.04
40.00	0.04		0.04
45.00	0.03		0.03
50.00	0.00		0.00
55.00	0.00		0.00
60.00	0.00		0.00
65.00	0.00		0.00
70.00	0.00		0.00
75.00	0.00		0.00
80.00	0.00		0.00
85.00	0.00		0.00
90.00	0.00		0.00
95.00	0.00		0.00
100.00	0.00		0.00
105.00	0.00		0.00
110.00	0.00		0.00
115.00	0.00		0.00
120.00	0.00		0.00
125.00	0.00		0.00
130.00	0.00		0.00
135.00	0.00		0.00
140.00	0.00		0.00
145.00	0.00		0.00
150.00	0.00		0.00
155.00	0.00		0.00
160.00	0.00		0.00
165.00	0.00		0.00
170.00	0.00		0.00
175.00	0.00		0.00
180.00	0.00		0.00
185.00	0.00		0.00
190.00	0.00		0.00
195.00	0.00		0.00
200.00	0.00		0.00
205.00	0.00		0.00
210.00	0.00		0.00
215.00	0.00		0.00
220.00	0.00		0.00
225.00	0.00		0.00
230.00	0.00		0.00
235.00	0.00		0.00
240.00	0.00		0.00

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Page 35

Summary for Pond 1P: FILTRATION BASIN 1

Inflow Area = 1.818 ac, 40.27% Impervious, Inflow Depth = 2.11" for 10y 24hr AT-14 event
Inflow = 5.96 cfs @ 12.18 hrs, Volume= 0.319 af
Outflow = 2.76 cfs @ 12.34 hrs, Volume= 0.319 af, Atten= 54%, Lag= 9.8 min
Primary = 2.76 cfs @ 12.34 hrs, Volume= 0.319 af

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
Peak Elev= 887.01' @ 12.34 hrs Surf.Area= 3,259 sf Storage= 4,988 cf

Plug-Flow detention time= 327.6 min calculated for 0.319 af (100% of inflow)
Center-of-Mass det. time= 327.6 min (1,142.0 - 814.4)

Volume	Invert	Avail.Storage	Storage Description
#1	885.00'	10,791 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
885.00	1,736	0	0
886.00	2,465	2,101	2,101
887.00	3,252	2,859	4,959
888.00	4,095	3,674	8,633
888.50	4,540	2,159	10,791

Device	Routing	Invert	Outlet Devices
#1	Primary	883.00'	12.0" Round Culvert L= 374.0' RCP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 883.00' / 876.70' S= 0.0168 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	886.50'	12.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	883.00'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 3	885.00'	0.800 in/hr Exfiltration over Surface area
#5	Primary	888.25'	5.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=2.76 cfs @ 12.34 hrs HW=887.01' (Free Discharge)

- 1=Culvert (Passes 2.76 cfs of 5.24 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 2.70 cfs @ 3.43 fps)
- 3=Orifice/Grate (Passes 0.06 cfs of 1.83 cfs potential flow)
- 4=Exfiltration (Exfiltration Controls 0.06 cfs)
- 5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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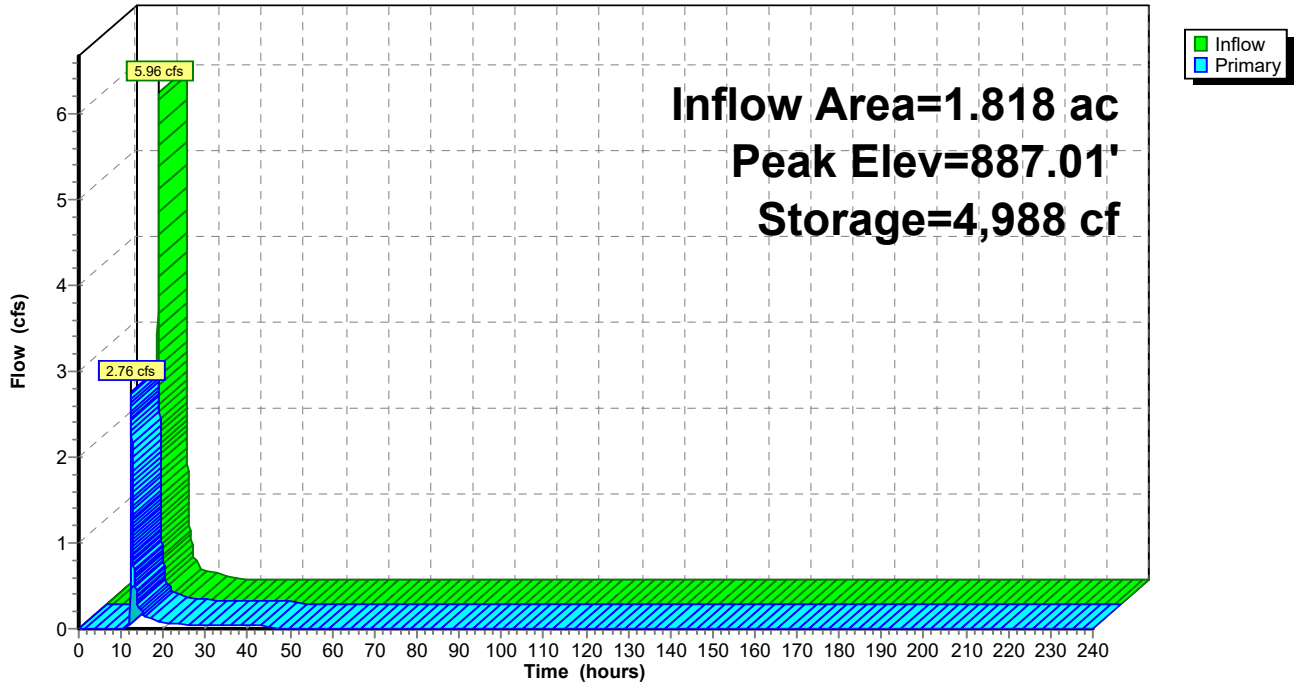
MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 36

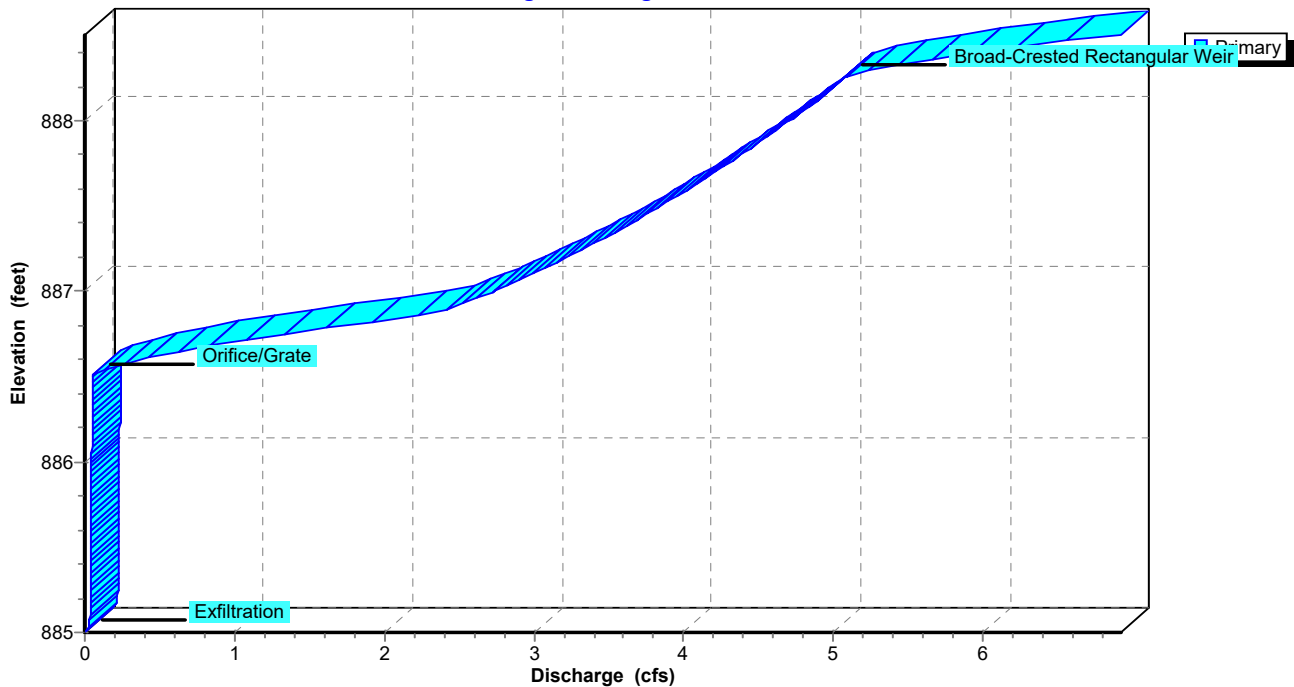
Pond 1P: FILTRATION BASIN 1

Hydrograph



Pond 1P: FILTRATION BASIN 1

Stage-Discharge



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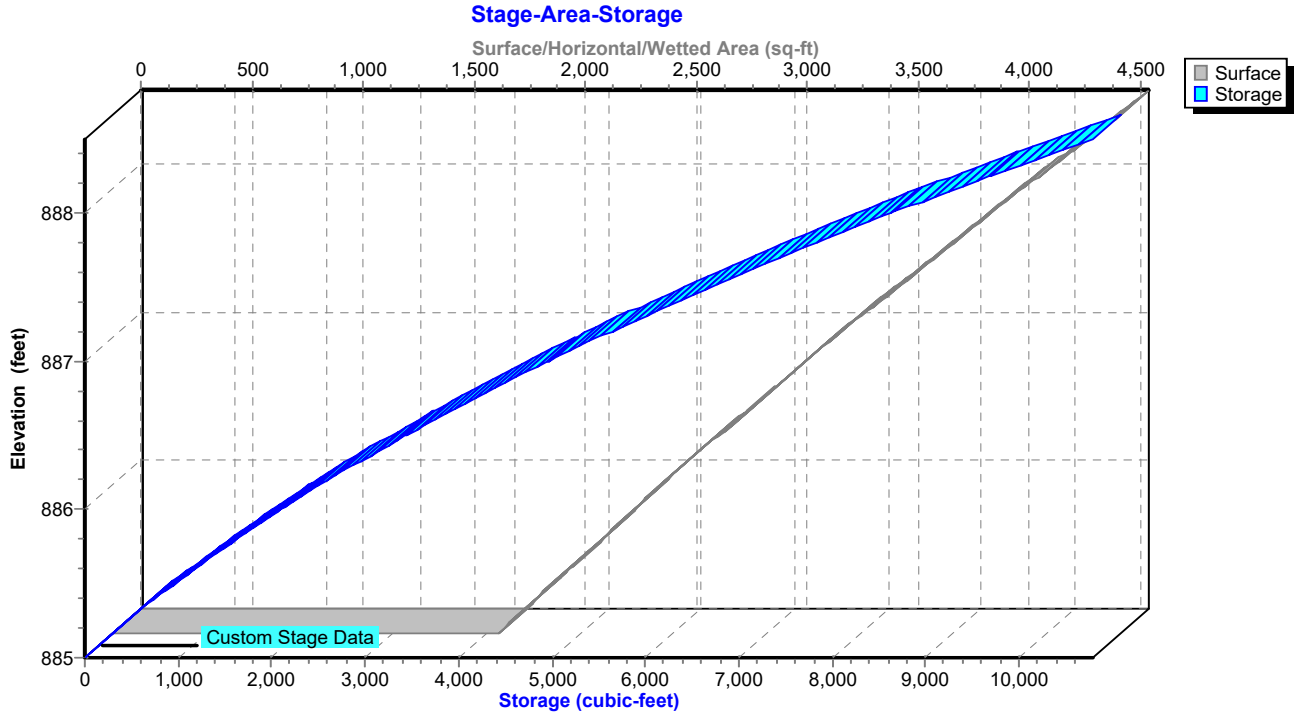
SUITE LIVING SLP - PROPOSED

MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 37

Pond 1P: FILTRATION BASIN 1



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SUITE LIVING SLP - PROPOSED

MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 38

Hydrograph for Pond 1P: FILTRATION BASIN 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	885.00	0.00
5.00	0.00	0	885.00	0.00
10.00	0.00	0	885.00	0.00
15.00	0.21	3,606	886.56	0.21
20.00	0.07	3,468	886.51	0.07
25.00	0.00	3,104	886.38	0.05
30.00	0.00	2,225	886.05	0.05
35.00	0.00	1,432	885.72	0.04
40.00	0.00	719	885.38	0.04
45.00	0.00	88	885.05	0.03
50.00	0.00	0	885.00	0.00
55.00	0.00	0	885.00	0.00
60.00	0.00	0	885.00	0.00
65.00	0.00	0	885.00	0.00
70.00	0.00	0	885.00	0.00
75.00	0.00	0	885.00	0.00
80.00	0.00	0	885.00	0.00
85.00	0.00	0	885.00	0.00
90.00	0.00	0	885.00	0.00
95.00	0.00	0	885.00	0.00
100.00	0.00	0	885.00	0.00
105.00	0.00	0	885.00	0.00
110.00	0.00	0	885.00	0.00
115.00	0.00	0	885.00	0.00
120.00	0.00	0	885.00	0.00
125.00	0.00	0	885.00	0.00
130.00	0.00	0	885.00	0.00
135.00	0.00	0	885.00	0.00
140.00	0.00	0	885.00	0.00
145.00	0.00	0	885.00	0.00
150.00	0.00	0	885.00	0.00
155.00	0.00	0	885.00	0.00
160.00	0.00	0	885.00	0.00
165.00	0.00	0	885.00	0.00
170.00	0.00	0	885.00	0.00
175.00	0.00	0	885.00	0.00
180.00	0.00	0	885.00	0.00
185.00	0.00	0	885.00	0.00
190.00	0.00	0	885.00	0.00
195.00	0.00	0	885.00	0.00
200.00	0.00	0	885.00	0.00
205.00	0.00	0	885.00	0.00
210.00	0.00	0	885.00	0.00
215.00	0.00	0	885.00	0.00
220.00	0.00	0	885.00	0.00
225.00	0.00	0	885.00	0.00
230.00	0.00	0	885.00	0.00
235.00	0.00	0	885.00	0.00
240.00	0.00	0	885.00	0.00

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MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 39

Stage-Discharge for Pond 1P: FILTRATION BASIN 1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
885.00	0.00	886.02	0.05	887.04	2.84	888.06	4.80
885.02	0.03	886.04	0.05	887.06	2.89	888.08	4.83
885.04	0.03	886.06	0.05	887.08	2.94	888.10	4.86
885.06	0.03	886.08	0.05	887.10	2.99	888.12	4.89
885.08	0.03	886.10	0.05	887.12	3.04	888.14	4.92
885.10	0.03	886.12	0.05	887.14	3.09	888.16	4.95
885.12	0.03	886.14	0.05	887.16	3.13	888.18	4.98
885.14	0.03	886.16	0.05	887.18	3.18	888.20	5.01
885.16	0.03	886.18	0.05	887.20	3.23	888.22	5.04
885.18	0.03	886.20	0.05	887.22	3.27	888.24	5.07
885.20	0.03	886.22	0.05	887.24	3.32	888.26	5.11
885.22	0.04	886.24	0.05	887.26	3.36	888.28	5.19
885.24	0.04	886.26	0.05	887.28	3.40	888.30	5.29
885.26	0.04	886.28	0.05	887.30	3.45	888.32	5.40
885.28	0.04	886.30	0.05	887.32	3.49	888.34	5.53
885.30	0.04	886.32	0.05	887.34	3.53	888.36	5.67
885.32	0.04	886.34	0.05	887.36	3.57	888.38	5.82
885.34	0.04	886.36	0.05	887.38	3.61	888.40	5.97
885.36	0.04	886.38	0.05	887.40	3.65	888.42	6.14
885.38	0.04	886.40	0.05	887.42	3.69	888.44	6.32
885.40	0.04	886.42	0.05	887.44	3.73	888.46	6.51
885.42	0.04	886.44	0.05	887.46	3.77	888.48	6.71
885.44	0.04	886.46	0.05	887.48	3.81	888.50	6.92
885.46	0.04	886.48	0.05	887.50	3.85		
885.48	0.04	886.50	0.05	887.52	3.89		
885.50	0.04	886.52	0.08	887.54	3.93		
885.52	0.04	886.54	0.14	887.56	3.96		
885.54	0.04	886.56	0.20	887.58	4.00		
885.56	0.04	886.58	0.29	887.60	4.04		
885.58	0.04	886.60	0.38	887.62	4.07		
885.60	0.04	886.62	0.48	887.64	4.11		
885.62	0.04	886.64	0.59	887.66	4.14		
885.64	0.04	886.66	0.71	887.68	4.18		
885.66	0.04	886.68	0.84	887.70	4.21		
885.68	0.04	886.70	0.97	887.72	4.25		
885.70	0.04	886.72	1.12	887.74	4.28		
885.72	0.04	886.74	1.26	887.76	4.32		
885.74	0.04	886.76	1.42	887.78	4.35		
885.76	0.04	886.78	1.58	887.80	4.38		
885.78	0.04	886.80	1.75	887.82	4.42		
885.80	0.04	886.82	1.92	887.84	4.45		
885.82	0.04	886.84	2.09	887.86	4.48		
885.84	0.04	886.86	2.28	887.88	4.52		
885.86	0.04	886.88	2.39	887.90	4.55		
885.88	0.04	886.90	2.45	887.92	4.58		
885.90	0.04	886.92	2.51	887.94	4.61		
885.92	0.04	886.94	2.57	887.96	4.64		
885.94	0.04	886.96	2.62	887.98	4.68		
885.96	0.05	886.98	2.68	888.00	4.71		
885.98	0.05	887.00	2.73	888.02	4.74		
886.00	0.05	887.02	2.79	888.04	4.77		

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MSE 24-hr 3 10y 24hr AT-14 Rainfall=4.47"

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Page 40

Stage-Area-Storage for Pond 1P: FILTRATION BASIN 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
885.00	1,736	0	887.55	3,716	6,875
885.05	1,772	88	887.60	3,758	7,062
885.10	1,809	177	887.65	3,800	7,251
885.15	1,845	269	887.70	3,842	7,442
885.20	1,882	362	887.75	3,884	7,635
885.25	1,918	457	887.80	3,926	7,830
885.30	1,955	554	887.85	3,969	8,028
885.35	1,991	652	887.90	4,011	8,227
885.40	2,028	753	887.95	4,053	8,429
885.45	2,064	855	888.00	4,095	8,633
885.50	2,101	959	888.05	4,139	8,838
885.55	2,137	1,065	888.10	4,184	9,046
885.60	2,173	1,173	888.15	4,228	9,257
885.65	2,210	1,282	888.20	4,273	9,469
885.70	2,246	1,394	888.25	4,318	9,684
885.75	2,283	1,507	888.30	4,362	9,901
885.80	2,319	1,622	888.35	4,407	10,120
885.85	2,356	1,739	888.40	4,451	10,342
885.90	2,392	1,858	888.45	4,496	10,565
885.95	2,429	1,978	888.50	4,540	10,791
886.00	2,465	2,101			
886.05	2,504	2,225			
886.10	2,544	2,351			
886.15	2,583	2,479			
886.20	2,622	2,609			
886.25	2,662	2,741			
886.30	2,701	2,875			
886.35	2,740	3,011			
886.40	2,780	3,149			
886.45	2,819	3,289			
886.50	2,859	3,431			
886.55	2,898	3,575			
886.60	2,937	3,721			
886.65	2,977	3,869			
886.70	3,016	4,019			
886.75	3,055	4,171			
886.80	3,095	4,324			
886.85	3,134	4,480			
886.90	3,173	4,638			
886.95	3,213	4,797			
887.00	3,252	4,959			
887.05	3,294	5,123			
887.10	3,336	5,288			
887.15	3,378	5,456			
887.20	3,421	5,626			
887.25	3,463	5,798			
887.30	3,505	5,973			
887.35	3,547	6,149			
887.40	3,589	6,327			
887.45	3,631	6,508			
887.50	3,674	6,690			

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SUITE LIVING SLP - PROPOSED

MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 41

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentPR1: PROPOSED

Runoff Area=18,515 sf 59.01% Impervious Runoff Depth=5.80"
Tc=10.0 min CN=83 Runoff=3.69 cfs 0.205 af

SubcatchmentPR2: PROPOSED

Runoff Area=8,386 sf 71.57% Impervious Runoff Depth=6.26"
Tc=10.0 min CN=87 Runoff=1.77 cfs 0.101 af

SubcatchmentPR3A: PROPOSED

Runoff Area=79,199 sf 40.27% Impervious Runoff Depth=4.99"
Tc=10.0 min CN=76 Runoff=13.93 cfs 0.755 af

SubcatchmentPR3B: PROPOSED

Runoff Area=24,713 sf 11.22% Impervious Runoff Depth=3.74"
Tc=10.0 min CN=65 Runoff=3.31 cfs 0.177 af

Reach 1R: TOTAL

Inflow=13.45 cfs 1.238 af
Outflow=13.45 cfs 1.238 af

Pond 1P: FILTRATIONBASIN 1

Peak Elev=888.59' Storage=10,791 cf Inflow=13.93 cfs 0.755 af
Outflow=7.97 cfs 0.755 af

**Total Runoff Area = 3.003 ac Runoff Volume = 1.238 af Average Runoff Depth = 4.95"
60.56% Pervious = 1.819 ac 39.44% Impervious = 1.184 ac**

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SUITE LIVING SLP - PROPOSED

MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 42

Summary for Subcatchment PR1: PROPOSED DRAINAGE AREA 1

Runoff = 3.69 cfs @ 12.17 hrs, Volume= 0.205 af, Depth= 5.80"

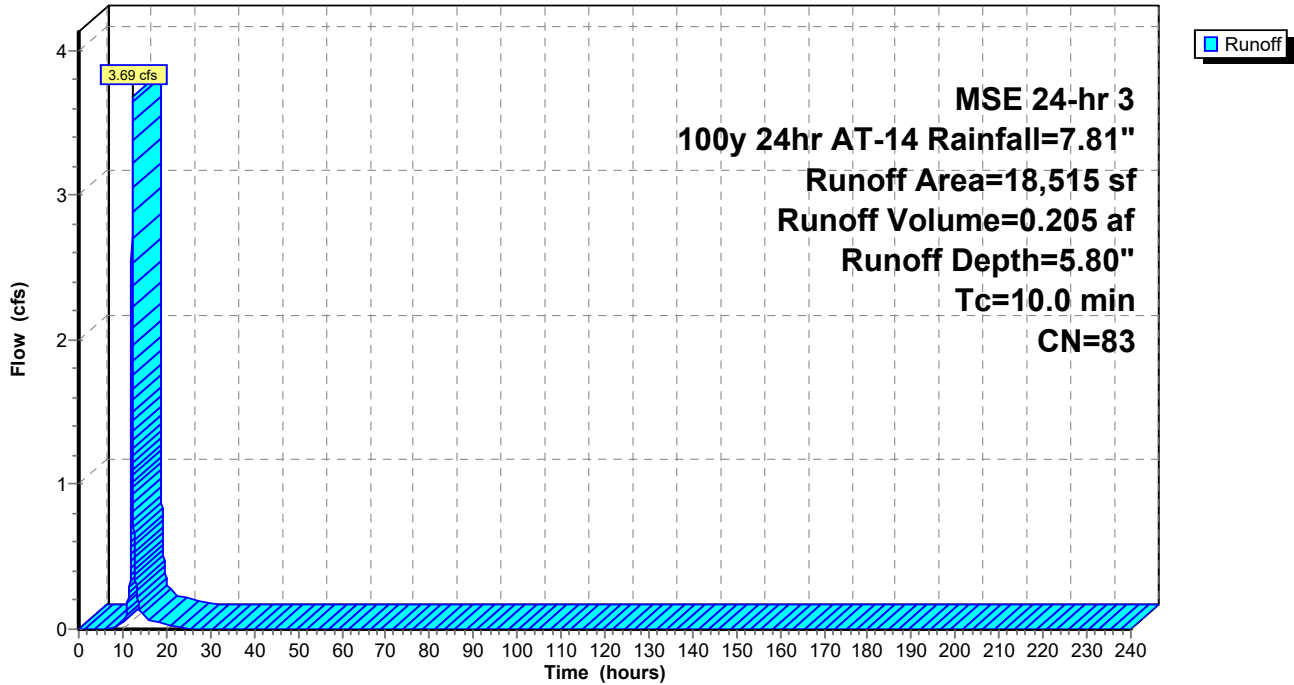
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
 MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

Area (sf)	CN	Description
10,925	98	Paved parking, HSG B
7,590	61	>75% Grass cover, Good, HSG B
18,515	83	Weighted Average
7,590		40.99% Pervious Area
10,925		59.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment PR1: PROPOSED DRAINAGE AREA 1

Hydrograph



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MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 43

Hydrograph for Subcatchment PR1: PROPOSED DRAINAGE AREA 1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.29	0.00	0.00
10.00	1.07	0.16	0.05
15.00	7.01	5.03	0.10
20.00	7.61	5.60	0.03
25.00	7.81	5.80	0.00
30.00	7.81	5.80	0.00
35.00	7.81	5.80	0.00
40.00	7.81	5.80	0.00
45.00	7.81	5.80	0.00
50.00	7.81	5.80	0.00
55.00	7.81	5.80	0.00
60.00	7.81	5.80	0.00
65.00	7.81	5.80	0.00
70.00	7.81	5.80	0.00
75.00	7.81	5.80	0.00
80.00	7.81	5.80	0.00
85.00	7.81	5.80	0.00
90.00	7.81	5.80	0.00
95.00	7.81	5.80	0.00
100.00	7.81	5.80	0.00
105.00	7.81	5.80	0.00
110.00	7.81	5.80	0.00
115.00	7.81	5.80	0.00
120.00	7.81	5.80	0.00
125.00	7.81	5.80	0.00
130.00	7.81	5.80	0.00
135.00	7.81	5.80	0.00
140.00	7.81	5.80	0.00
145.00	7.81	5.80	0.00
150.00	7.81	5.80	0.00
155.00	7.81	5.80	0.00
160.00	7.81	5.80	0.00
165.00	7.81	5.80	0.00
170.00	7.81	5.80	0.00
175.00	7.81	5.80	0.00
180.00	7.81	5.80	0.00
185.00	7.81	5.80	0.00
190.00	7.81	5.80	0.00
195.00	7.81	5.80	0.00
200.00	7.81	5.80	0.00
205.00	7.81	5.80	0.00
210.00	7.81	5.80	0.00
215.00	7.81	5.80	0.00
220.00	7.81	5.80	0.00
225.00	7.81	5.80	0.00
230.00	7.81	5.80	0.00
235.00	7.81	5.80	0.00
240.00	7.81	5.80	0.00

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MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 44

Summary for Subcatchment PR2: PROPOSED DRAINAGE AREA 2

Runoff = 1.77 cfs @ 12.17 hrs, Volume= 0.101 af, Depth= 6.26"

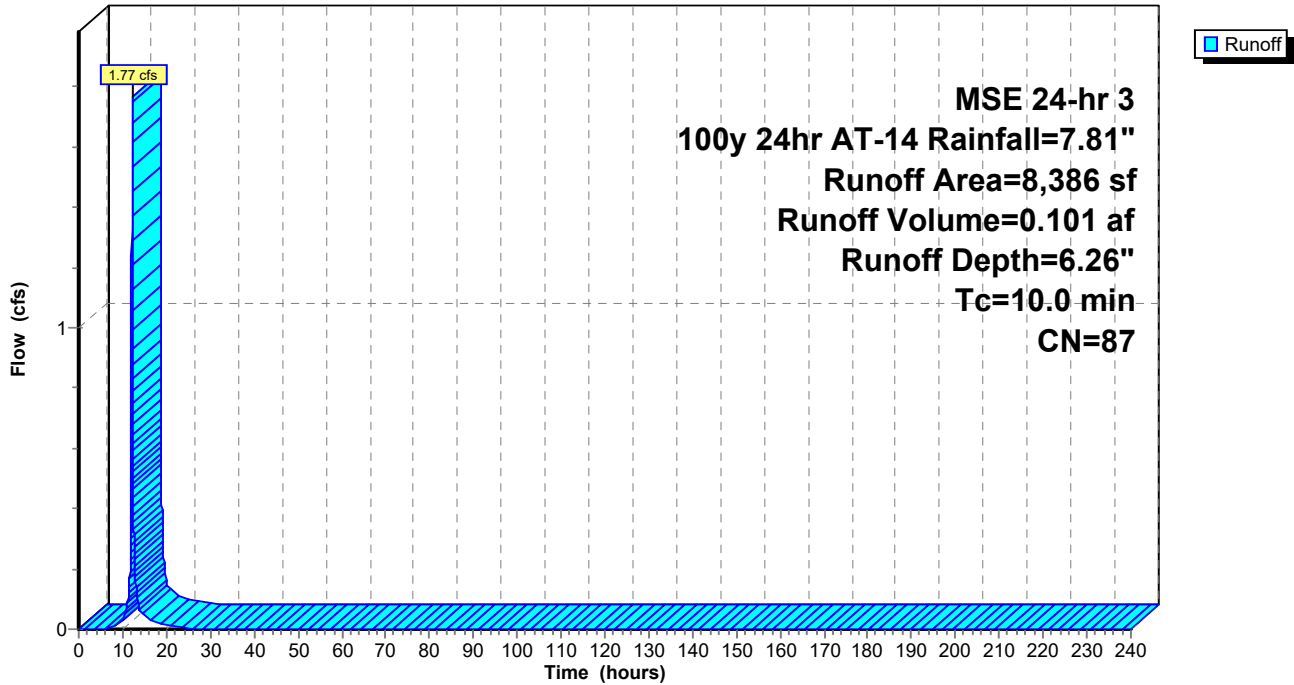
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
 MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

Area (sf)	CN	Description
6,002	98	Paved parking, HSG B
2,384	61	>75% Grass cover, Good, HSG B
8,386	87	Weighted Average
2,384		28.43% Pervious Area
6,002		71.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment PR2: PROPOSED DRAINAGE AREA 2

Hydrograph



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MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 45

Hydrograph for Subcatchment PR2: PROPOSED DRAINAGE AREA 2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.29	0.00	0.00
10.00	1.07	0.26	0.03
15.00	7.01	5.48	0.05
20.00	7.61	6.07	0.02
25.00	7.81	6.26	0.00
30.00	7.81	6.26	0.00
35.00	7.81	6.26	0.00
40.00	7.81	6.26	0.00
45.00	7.81	6.26	0.00
50.00	7.81	6.26	0.00
55.00	7.81	6.26	0.00
60.00	7.81	6.26	0.00
65.00	7.81	6.26	0.00
70.00	7.81	6.26	0.00
75.00	7.81	6.26	0.00
80.00	7.81	6.26	0.00
85.00	7.81	6.26	0.00
90.00	7.81	6.26	0.00
95.00	7.81	6.26	0.00
100.00	7.81	6.26	0.00
105.00	7.81	6.26	0.00
110.00	7.81	6.26	0.00
115.00	7.81	6.26	0.00
120.00	7.81	6.26	0.00
125.00	7.81	6.26	0.00
130.00	7.81	6.26	0.00
135.00	7.81	6.26	0.00
140.00	7.81	6.26	0.00
145.00	7.81	6.26	0.00
150.00	7.81	6.26	0.00
155.00	7.81	6.26	0.00
160.00	7.81	6.26	0.00
165.00	7.81	6.26	0.00
170.00	7.81	6.26	0.00
175.00	7.81	6.26	0.00
180.00	7.81	6.26	0.00
185.00	7.81	6.26	0.00
190.00	7.81	6.26	0.00
195.00	7.81	6.26	0.00
200.00	7.81	6.26	0.00
205.00	7.81	6.26	0.00
210.00	7.81	6.26	0.00
215.00	7.81	6.26	0.00
220.00	7.81	6.26	0.00
225.00	7.81	6.26	0.00
230.00	7.81	6.26	0.00
235.00	7.81	6.26	0.00
240.00	7.81	6.26	0.00

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MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 46

Summary for Subcatchment PR3A: PROPOSED DRAINAGE AREA 3A

Runoff = 13.93 cfs @ 12.17 hrs, Volume= 0.755 af, Depth= 4.99"

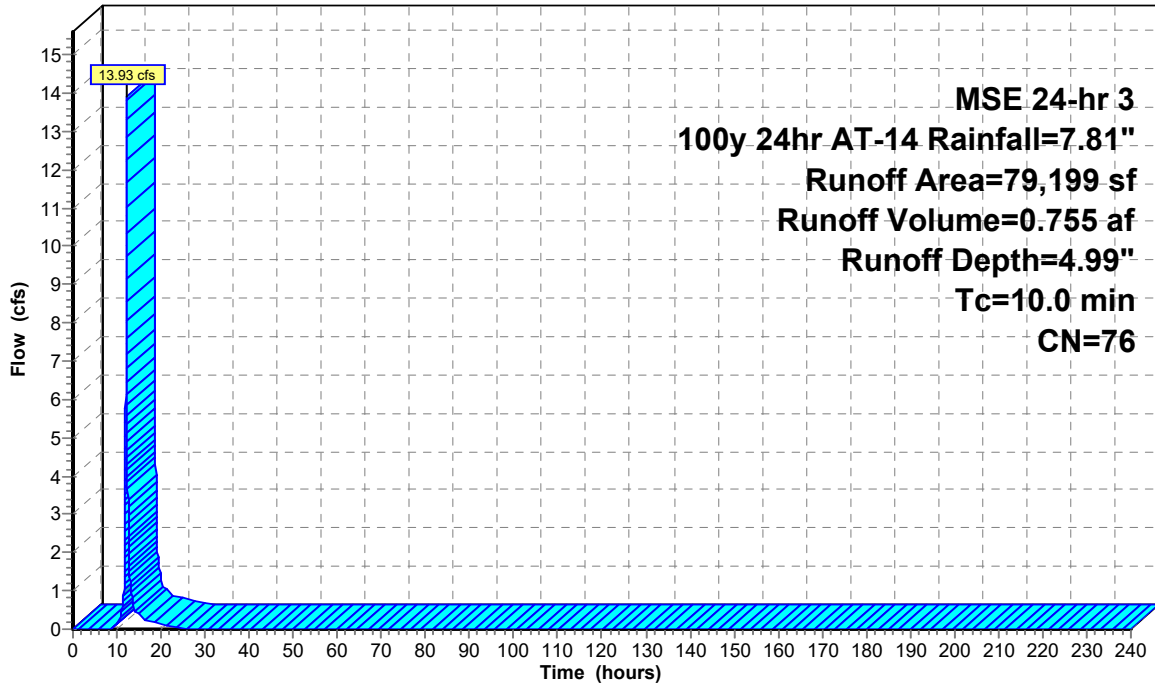
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
 MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

Area (sf)	CN	Description
31,897	98	Paved parking, HSG B
47,302	61	>75% Grass cover, Good, HSG B
79,199	76	Weighted Average
47,302		59.73% Pervious Area
31,897		40.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment PR3A: PROPOSED DRAINAGE AREA 3A

Hydrograph



Runoff

MSE 24-hr 3
 100y 24hr AT-14 Rainfall=7.81"
 Runoff Area=79,199 sf
 Runoff Volume=0.755 af
 Runoff Depth=4.99"
 Tc=10.0 min
 CN=76

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MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 47

Hydrograph for Subcatchment PR3A: PROPOSED DRAINAGE AREA 3A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.29	0.00	0.00
10.00	1.07	0.05	0.11
15.00	7.01	4.26	0.42
20.00	7.61	4.80	0.14
25.00	7.81	4.99	0.00
30.00	7.81	4.99	0.00
35.00	7.81	4.99	0.00
40.00	7.81	4.99	0.00
45.00	7.81	4.99	0.00
50.00	7.81	4.99	0.00
55.00	7.81	4.99	0.00
60.00	7.81	4.99	0.00
65.00	7.81	4.99	0.00
70.00	7.81	4.99	0.00
75.00	7.81	4.99	0.00
80.00	7.81	4.99	0.00
85.00	7.81	4.99	0.00
90.00	7.81	4.99	0.00
95.00	7.81	4.99	0.00
100.00	7.81	4.99	0.00
105.00	7.81	4.99	0.00
110.00	7.81	4.99	0.00
115.00	7.81	4.99	0.00
120.00	7.81	4.99	0.00
125.00	7.81	4.99	0.00
130.00	7.81	4.99	0.00
135.00	7.81	4.99	0.00
140.00	7.81	4.99	0.00
145.00	7.81	4.99	0.00
150.00	7.81	4.99	0.00
155.00	7.81	4.99	0.00
160.00	7.81	4.99	0.00
165.00	7.81	4.99	0.00
170.00	7.81	4.99	0.00
175.00	7.81	4.99	0.00
180.00	7.81	4.99	0.00
185.00	7.81	4.99	0.00
190.00	7.81	4.99	0.00
195.00	7.81	4.99	0.00
200.00	7.81	4.99	0.00
205.00	7.81	4.99	0.00
210.00	7.81	4.99	0.00
215.00	7.81	4.99	0.00
220.00	7.81	4.99	0.00
225.00	7.81	4.99	0.00
230.00	7.81	4.99	0.00
235.00	7.81	4.99	0.00
240.00	7.81	4.99	0.00

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MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 48

Summary for Subcatchment PR3B: PROPOSED DRAINAGE AREA 3B

Runoff = 3.31 cfs @ 12.18 hrs, Volume= 0.177 af, Depth= 3.74"

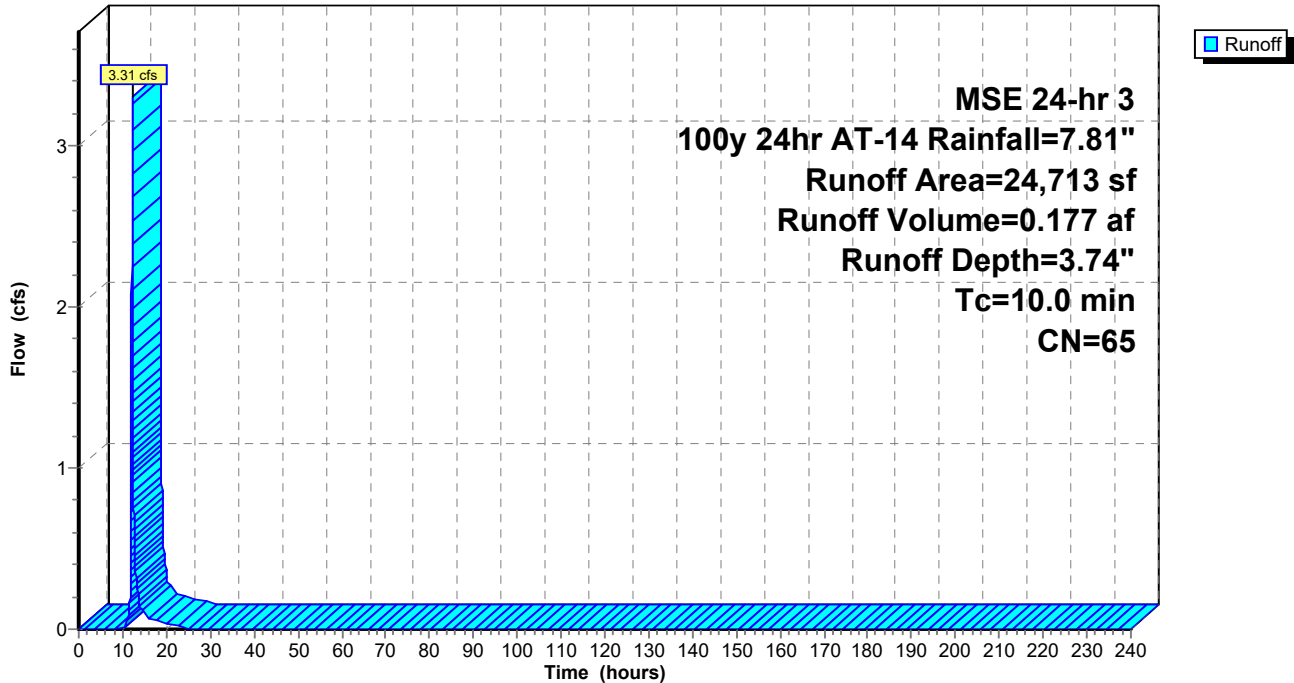
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

Area (sf)	CN	Description
2,772	98	Paved parking, HSG B
21,941	61	>75% Grass cover, Good, HSG B
24,713	65	Weighted Average
21,941		88.78% Pervious Area
2,772		11.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment PR3B: PROPOSED DRAINAGE AREA 3B

Hydrograph



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MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 49

Hydrograph for Subcatchment PR3B: PROPOSED DRAINAGE AREA 3B

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
5.00	0.29	0.00	0.00
10.00	1.07	0.00	0.00
15.00	7.01	3.11	0.11
20.00	7.61	3.58	0.04
25.00	7.81	3.74	0.00
30.00	7.81	3.74	0.00
35.00	7.81	3.74	0.00
40.00	7.81	3.74	0.00
45.00	7.81	3.74	0.00
50.00	7.81	3.74	0.00
55.00	7.81	3.74	0.00
60.00	7.81	3.74	0.00
65.00	7.81	3.74	0.00
70.00	7.81	3.74	0.00
75.00	7.81	3.74	0.00
80.00	7.81	3.74	0.00
85.00	7.81	3.74	0.00
90.00	7.81	3.74	0.00
95.00	7.81	3.74	0.00
100.00	7.81	3.74	0.00
105.00	7.81	3.74	0.00
110.00	7.81	3.74	0.00
115.00	7.81	3.74	0.00
120.00	7.81	3.74	0.00
125.00	7.81	3.74	0.00
130.00	7.81	3.74	0.00
135.00	7.81	3.74	0.00
140.00	7.81	3.74	0.00
145.00	7.81	3.74	0.00
150.00	7.81	3.74	0.00
155.00	7.81	3.74	0.00
160.00	7.81	3.74	0.00
165.00	7.81	3.74	0.00
170.00	7.81	3.74	0.00
175.00	7.81	3.74	0.00
180.00	7.81	3.74	0.00
185.00	7.81	3.74	0.00
190.00	7.81	3.74	0.00
195.00	7.81	3.74	0.00
200.00	7.81	3.74	0.00
205.00	7.81	3.74	0.00
210.00	7.81	3.74	0.00
215.00	7.81	3.74	0.00
220.00	7.81	3.74	0.00
225.00	7.81	3.74	0.00
230.00	7.81	3.74	0.00
235.00	7.81	3.74	0.00
240.00	7.81	3.74	0.00

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MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 50

Summary for Reach 1R: TOTAL

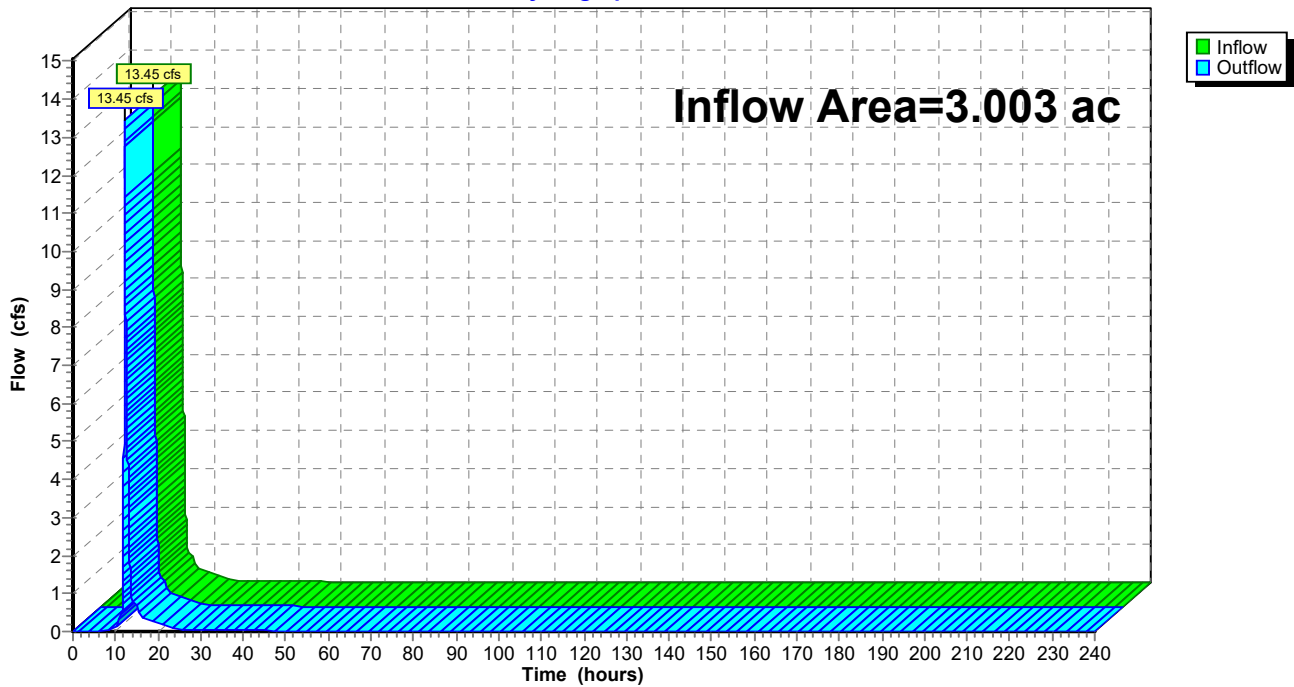
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 3.003 ac, 39.44% Impervious, Inflow Depth = 4.95" for 100y 24hr AT-14 event
Inflow = 13.45 cfs @ 12.19 hrs, Volume= 1.238 af
Outflow = 13.45 cfs @ 12.19 hrs, Volume= 1.238 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Reach 1R: TOTAL

Hydrograph



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Page 51

Hydrograph for Reach 1R: TOTAL

Time (hours)	Inflow (cfs)	Elevation (feet)	Outflow (cfs)
0.00	0.00		0.00
5.00	0.00		0.00
10.00	0.11		0.11
15.00	0.69		0.69
20.00	0.23		0.23
25.00	0.05		0.05
30.00	0.05		0.05
35.00	0.04		0.04
40.00	0.04		0.04
45.00	0.03		0.03
50.00	0.00		0.00
55.00	0.00		0.00
60.00	0.00		0.00
65.00	0.00		0.00
70.00	0.00		0.00
75.00	0.00		0.00
80.00	0.00		0.00
85.00	0.00		0.00
90.00	0.00		0.00
95.00	0.00		0.00
100.00	0.00		0.00
105.00	0.00		0.00
110.00	0.00		0.00
115.00	0.00		0.00
120.00	0.00		0.00
125.00	0.00		0.00
130.00	0.00		0.00
135.00	0.00		0.00
140.00	0.00		0.00
145.00	0.00		0.00
150.00	0.00		0.00
155.00	0.00		0.00
160.00	0.00		0.00
165.00	0.00		0.00
170.00	0.00		0.00
175.00	0.00		0.00
180.00	0.00		0.00
185.00	0.00		0.00
190.00	0.00		0.00
195.00	0.00		0.00
200.00	0.00		0.00
205.00	0.00		0.00
210.00	0.00		0.00
215.00	0.00		0.00
220.00	0.00		0.00
225.00	0.00		0.00
230.00	0.00		0.00
235.00	0.00		0.00
240.00	0.00		0.00

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SUITE LIVING SLP - PROPOSED

MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 52

Summary for Pond 1P: FILTRATION BASIN 1

[93] Warning: Storage range exceeded by 0.09'

Inflow Area = 1.818 ac, 40.27% Impervious, Inflow Depth = 4.99" for 100y 24hr AT-14 event
 Inflow = 13.93 cfs @ 12.17 hrs, Volume= 0.755 af
 Outflow = 7.97 cfs @ 12.30 hrs, Volume= 0.755 af, Atten= 43%, Lag= 7.5 min
 Primary = 7.97 cfs @ 12.30 hrs, Volume= 0.755 af

Routing by Stor-Ind method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs
 Peak Elev= 888.59' @ 12.30 hrs Surf.Area= 4,540 sf Storage= 10,791 cf

Plug-Flow detention time= 157.7 min calculated for 0.755 af (100% of inflow)
 Center-of-Mass det. time= 157.7 min (954.7 - 797.0)

Volume	Invert	Avail.Storage	Storage Description
#1	885.00'	10,791 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
885.00	1,736	0	0
886.00	2,465	2,101	2,101
887.00	3,252	2,859	4,959
888.00	4,095	3,674	8,633
888.50	4,540	2,159	10,791

Device	Routing	Invert	Outlet Devices
#1	Primary	883.00'	12.0" Round Culvert L= 374.0' RCP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 883.00' / 876.70' S= 0.0168 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	886.50'	12.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	883.00'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 3	885.00'	0.800 in/hr Exfiltration over Surface area
#5	Primary	888.25'	5.0' long x 5.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Primary OutFlow Max=7.96 cfs @ 12.30 hrs HW=888.59' (Free Discharge)

- 1=Culvert (Passes 5.55 cfs of 5.67 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 5.47 cfs @ 6.96 fps)
- 3=Orifice/Grate (Passes 0.08 cfs of 2.18 cfs potential flow)
- 4=Exfiltration (Exfiltration Controls 0.08 cfs)
- 5=Broad-Crested Rectangular Weir (Weir Controls 2.41 cfs @ 1.43 fps)

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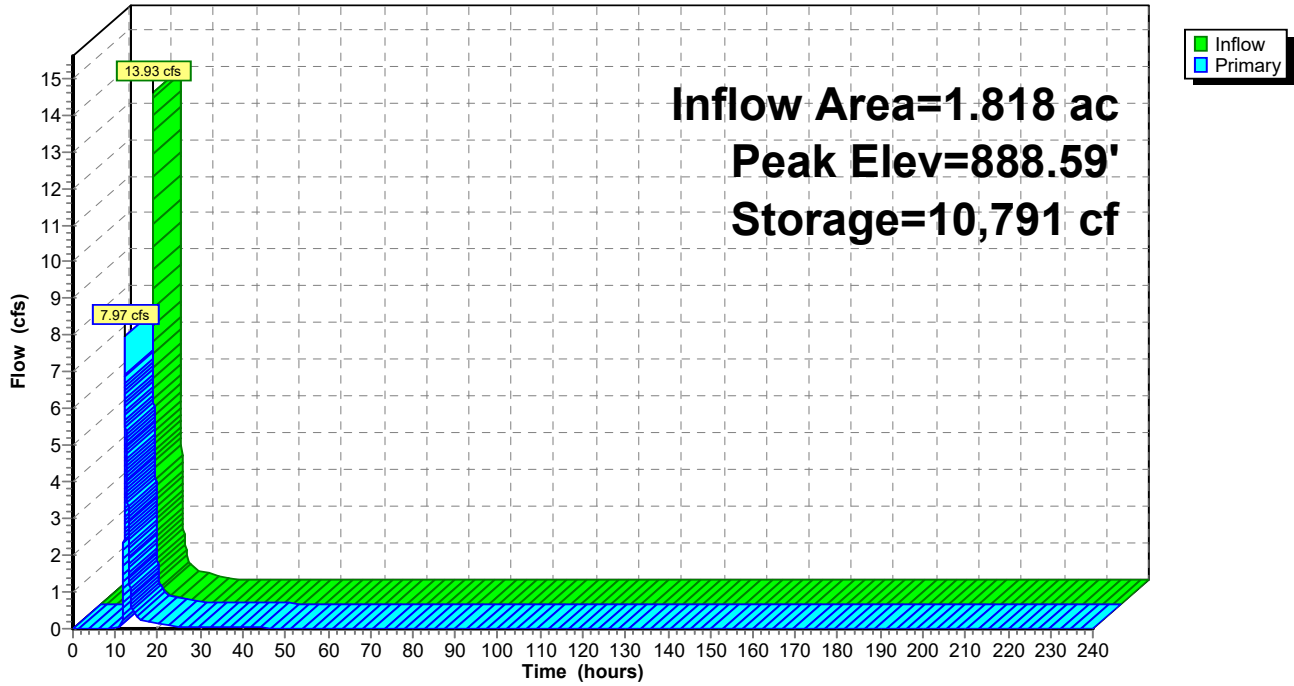
MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 53

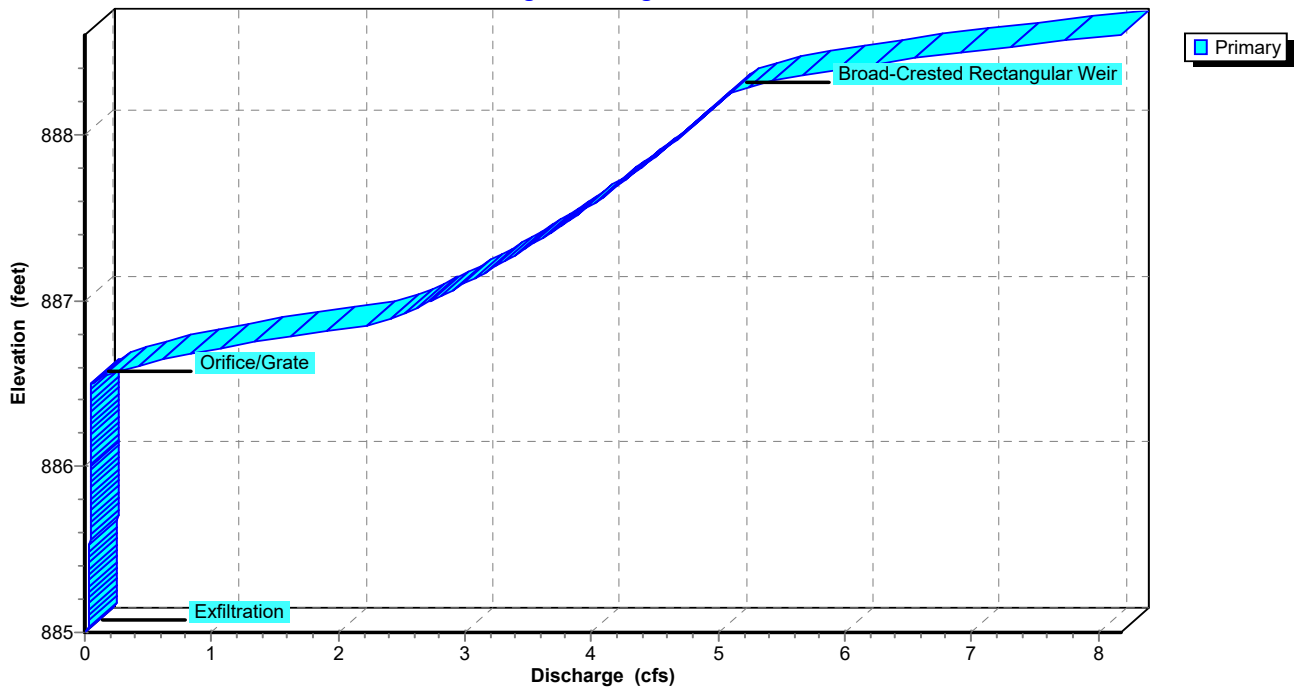
Pond 1P: FILTRATION BASIN 1

Hydrograph



Pond 1P: FILTRATION BASIN 1

Stage-Discharge



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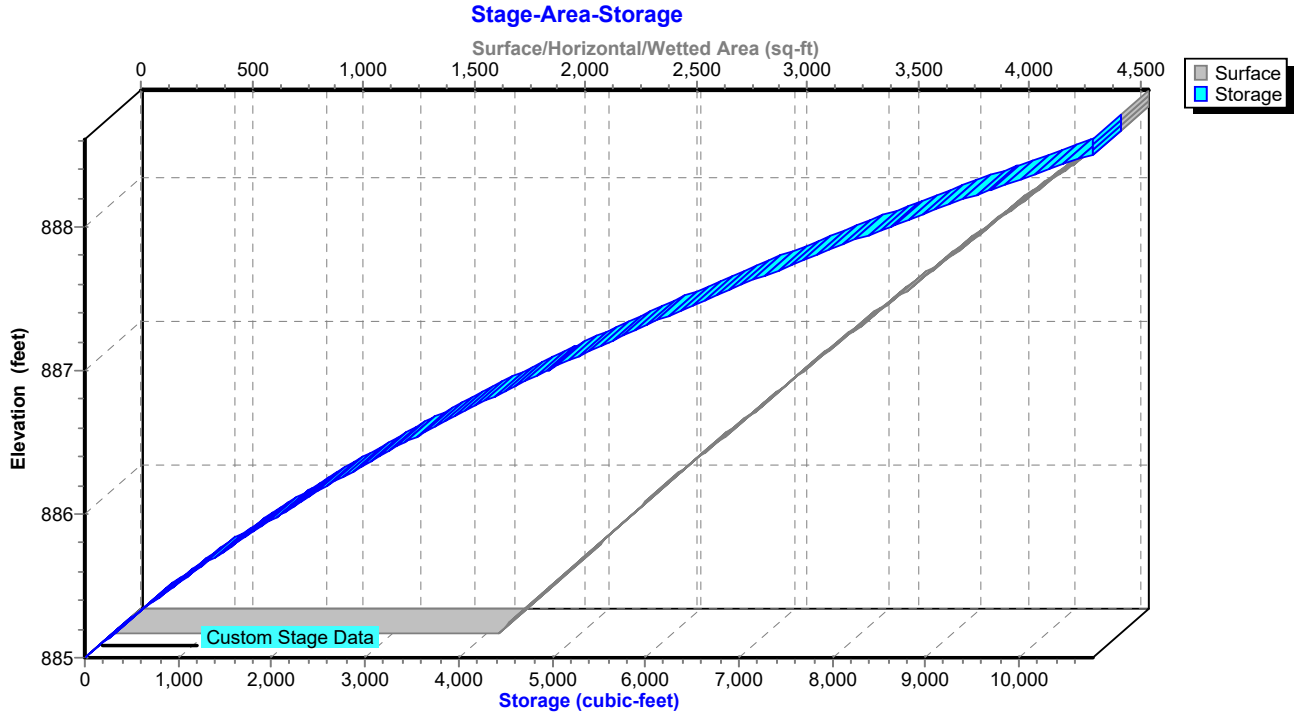
SUITE LIVING SLP - PROPOSED

MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 54

Pond 1P: FILTRATION BASIN 1



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MSE 24-hr 3 100y 24hr AT-14 Rainfall=7.81"

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Page 55

Hydrograph for Pond 1P: FILTRATION BASIN 1

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	885.00	0.00
5.00	0.00	0	885.00	0.00
10.00	0.11	174	885.10	0.03
15.00	0.42	3,749	886.61	0.43
20.00	0.14	3,553	886.54	0.14
25.00	0.00	3,259	886.44	0.05
30.00	0.00	2,366	886.11	0.05
35.00	0.00	1,559	885.77	0.04
40.00	0.00	833	885.44	0.04
45.00	0.00	188	885.11	0.03
50.00	0.00	0	885.00	0.00
55.00	0.00	0	885.00	0.00
60.00	0.00	0	885.00	0.00
65.00	0.00	0	885.00	0.00
70.00	0.00	0	885.00	0.00
75.00	0.00	0	885.00	0.00
80.00	0.00	0	885.00	0.00
85.00	0.00	0	885.00	0.00
90.00	0.00	0	885.00	0.00
95.00	0.00	0	885.00	0.00
100.00	0.00	0	885.00	0.00
105.00	0.00	0	885.00	0.00
110.00	0.00	0	885.00	0.00
115.00	0.00	0	885.00	0.00
120.00	0.00	0	885.00	0.00
125.00	0.00	0	885.00	0.00
130.00	0.00	0	885.00	0.00
135.00	0.00	0	885.00	0.00
140.00	0.00	0	885.00	0.00
145.00	0.00	0	885.00	0.00
150.00	0.00	0	885.00	0.00
155.00	0.00	0	885.00	0.00
160.00	0.00	0	885.00	0.00
165.00	0.00	0	885.00	0.00
170.00	0.00	0	885.00	0.00
175.00	0.00	0	885.00	0.00
180.00	0.00	0	885.00	0.00
185.00	0.00	0	885.00	0.00
190.00	0.00	0	885.00	0.00
195.00	0.00	0	885.00	0.00
200.00	0.00	0	885.00	0.00
205.00	0.00	0	885.00	0.00
210.00	0.00	0	885.00	0.00
215.00	0.00	0	885.00	0.00
220.00	0.00	0	885.00	0.00
225.00	0.00	0	885.00	0.00
230.00	0.00	0	885.00	0.00
235.00	0.00	0	885.00	0.00
240.00	0.00	0	885.00	0.00

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Page 56

Stage-Discharge for Pond 1P: FILTRATION BASIN 1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
885.00	0.00	886.02	0.05	887.04	2.84	888.06	4.80
885.02	0.03	886.04	0.05	887.06	2.89	888.08	4.83
885.04	0.03	886.06	0.05	887.08	2.94	888.10	4.86
885.06	0.03	886.08	0.05	887.10	2.99	888.12	4.89
885.08	0.03	886.10	0.05	887.12	3.04	888.14	4.92
885.10	0.03	886.12	0.05	887.14	3.09	888.16	4.95
885.12	0.03	886.14	0.05	887.16	3.13	888.18	4.98
885.14	0.03	886.16	0.05	887.18	3.18	888.20	5.01
885.16	0.03	886.18	0.05	887.20	3.23	888.22	5.04
885.18	0.03	886.20	0.05	887.22	3.27	888.24	5.07
885.20	0.03	886.22	0.05	887.24	3.32	888.26	5.11
885.22	0.04	886.24	0.05	887.26	3.36	888.28	5.19
885.24	0.04	886.26	0.05	887.28	3.40	888.30	5.29
885.26	0.04	886.28	0.05	887.30	3.45	888.32	5.40
885.28	0.04	886.30	0.05	887.32	3.49	888.34	5.53
885.30	0.04	886.32	0.05	887.34	3.53	888.36	5.67
885.32	0.04	886.34	0.05	887.36	3.57	888.38	5.82
885.34	0.04	886.36	0.05	887.38	3.61	888.40	5.97
885.36	0.04	886.38	0.05	887.40	3.65	888.42	6.14
885.38	0.04	886.40	0.05	887.42	3.69	888.44	6.32
885.40	0.04	886.42	0.05	887.44	3.73	888.46	6.51
885.42	0.04	886.44	0.05	887.46	3.77	888.48	6.71
885.44	0.04	886.46	0.05	887.48	3.81	888.50	6.92
885.46	0.04	886.48	0.05	887.50	3.85	888.52	7.14
885.48	0.04	886.50	0.05	887.52	3.89	888.54	7.37
885.50	0.04	886.52	0.08	887.54	3.93	888.56	7.61
885.52	0.04	886.54	0.14	887.56	3.96	888.58	7.85
885.54	0.04	886.56	0.20	887.58	4.00	888.60	8.11
885.56	0.04	886.58	0.29	887.60	4.04		
885.58	0.04	886.60	0.38	887.62	4.07		
885.60	0.04	886.62	0.48	887.64	4.11		
885.62	0.04	886.64	0.59	887.66	4.14		
885.64	0.04	886.66	0.71	887.68	4.18		
885.66	0.04	886.68	0.84	887.70	4.21		
885.68	0.04	886.70	0.97	887.72	4.25		
885.70	0.04	886.72	1.12	887.74	4.28		
885.72	0.04	886.74	1.26	887.76	4.32		
885.74	0.04	886.76	1.42	887.78	4.35		
885.76	0.04	886.78	1.58	887.80	4.38		
885.78	0.04	886.80	1.75	887.82	4.42		
885.80	0.04	886.82	1.92	887.84	4.45		
885.82	0.04	886.84	2.09	887.86	4.48		
885.84	0.04	886.86	2.28	887.88	4.52		
885.86	0.04	886.88	2.39	887.90	4.55		
885.88	0.04	886.90	2.45	887.92	4.58		
885.90	0.04	886.92	2.51	887.94	4.61		
885.92	0.04	886.94	2.57	887.96	4.64		
885.94	0.04	886.96	2.62	887.98	4.68		
885.96	0.05	886.98	2.68	888.00	4.71		
885.98	0.05	887.00	2.73	888.02	4.74		
886.00	0.05	887.02	2.79	888.04	4.77		

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Page 57

Stage-Area-Storage for Pond 1P: FILTRATION BASIN 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
885.00	1,736	0	887.55	3,716	6,875
885.05	1,772	88	887.60	3,758	7,062
885.10	1,809	177	887.65	3,800	7,251
885.15	1,845	269	887.70	3,842	7,442
885.20	1,882	362	887.75	3,884	7,635
885.25	1,918	457	887.80	3,926	7,830
885.30	1,955	554	887.85	3,969	8,028
885.35	1,991	652	887.90	4,011	8,227
885.40	2,028	753	887.95	4,053	8,429
885.45	2,064	855	888.00	4,095	8,633
885.50	2,101	959	888.05	4,139	8,838
885.55	2,137	1,065	888.10	4,184	9,046
885.60	2,173	1,173	888.15	4,228	9,257
885.65	2,210	1,282	888.20	4,273	9,469
885.70	2,246	1,394	888.25	4,318	9,684
885.75	2,283	1,507	888.30	4,362	9,901
885.80	2,319	1,622	888.35	4,407	10,120
885.85	2,356	1,739	888.40	4,451	10,342
885.90	2,392	1,858	888.45	4,496	10,565
885.95	2,429	1,978	888.50	4,540	10,791
886.00	2,465	2,101	888.55	4,540	10,791
886.05	2,504	2,225	888.60	4,540	10,791
886.10	2,544	2,351			
886.15	2,583	2,479			
886.20	2,622	2,609			
886.25	2,662	2,741			
886.30	2,701	2,875			
886.35	2,740	3,011			
886.40	2,780	3,149			
886.45	2,819	3,289			
886.50	2,859	3,431			
886.55	2,898	3,575			
886.60	2,937	3,721			
886.65	2,977	3,869			
886.70	3,016	4,019			
886.75	3,055	4,171			
886.80	3,095	4,324			
886.85	3,134	4,480			
886.90	3,173	4,638			
886.95	3,213	4,797			
887.00	3,252	4,959			
887.05	3,294	5,123			
887.10	3,336	5,288			
887.15	3,378	5,456			
887.20	3,421	5,626			
887.25	3,463	5,798			
887.30	3,505	5,973			
887.35	3,547	6,149			
887.40	3,589	6,327			
887.45	3,631	6,508			
887.50	3,674	6,690			