

MASTER AUTO PARKING LOT

STORMWATER MANAGEMENT FACILITIES REPORT

Prepared for:

Master Auto Repair
206 Vandalia Street,
Collinsville, IL, 62234

Project information:

Oates Project Number: 225073

December
FINAL REPORT

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1. Executive Summary / Introduction

This report summarizes the stormwater management facilities associated with the construction of the new parking lot located at 206 Vandalia Street, Collinsville, IL, 62234.

The proposed site improvements include pavement and utility service construction to include additional parking on the North side of the Master Auto Repair building. The project site includes 3 lot totaling ± 1.34 Acres (Parcel ID's: 13-2-21-34-05-101-001, 13-2-21-34-05-101-002, 13-2-21-27-17-301-020). The project will also include lot entrances, access aisles and underground stormwater detention. This report summarizes pre- and post-developed conditions and improvements for stormwater infrastructure associated with this project.

2. Existing Conditions

The proposed site is located on the east side of IL-159/ Vandalia Street, on the north side of East Clay Street, on the south side of East Johnson Street, and on the west side of a residential house and apartment complex. A location map is provided in **Attachment A**. The ± 1.34 -acre existing site consists of several parcels. The existing impacted watershed totals 0.53 acres of impervious and 0.81 acres of greenspace. **Figure 1** shows the current existing condition. Existing drainage area maps have been included in **Attachment B**.

The site is listed as Zone C – Area of Minimal Flooding due to Levee based on the Preliminary FEMA Panel 1704390005B included in **Attachment D**.

The soils on the site are of soils type "C" per the Natural Resources Conservation Series (NCRS). A soils Map and related definitions are included in **Attachment E**.



Figure 1 – Existing Conditions

3. Proposed Conditions

The development will include 2 lots in the proposed condition. The impacted watershed will consist of 0.64 acres of impervious roof/pavement area and approximately 0.70 acres of green space. One grass swale will be constructed in Area C.

The overall increase in impervious area is approximately 0.14 acres. The increase in runoff from the additional impervious area will be controlled by the proposed detention pond.

Table 1 summarizes the existing and proposed drainage areas, as well as the existing and proposed runoff calculation and the differential before new detention.

Table 1 – Existing and Proposed Areas, Runoffs, and Differentials for 10-year storm event.

10 Year Storm Event						
Drainage Area	EX Area (acres)	EX Runoff (cfs)	PR Area (acres)	PR Runoff (cfs)	Differential	
A	0.38	2.73	0.38	2.73	0.00	
B	0.07	0.16	0.01	0.02	-0.14	
C	0.77	2.27	0.83	4.10	1.83	
D	0.12	0.27	0.12	0.27	0.00	
Total	1.34	5.43	1.34	7.12	1.69	

4. Water Quality

Per the Collinsville Infrastructure code, the first inch of rainfall on new impervious surfaces must be caught and directed into a water quality device. For this project, it was decided to use a rock garden at the bottom of the proposed detention basin for that purpose. Water Quality Calculation can be found in **Attachment I**. The first inch of rainfall will be stored in the rock rain garden in the available volume below the perforated underdrain.

5. Detention Design

All hydrologic models were created using HydroCAD 10.20, Huff Rainfall Distributions, and rainfall depths from the ISWS Bulletin 75 "Frequency Distributions and Hydroclimatic Characteristics of Heavy Rainstorms in Illinois". The existing site was modeled to determine the existing flow rates for a range of storm events. These flow rates were used as the allowable outflow rates offsite.

The proposed Detention Basin is a dry basin located at the north side of the site extending along the northern property line. The detention outlet structure is located at a low point within the basin and discharges to the east as in the existing condition. This outlet structure includes an opening for the 4" perforated pipe embedded in the water quality rock layer for the low-flow condition and a 4-foot open weir. This configuration allows for the orifice to control smaller storm events and the weir to control larger storm events, including the 100-year storms. Table 3 summarizes the pre- and post-development flow rate at the existing outlet point for the Detention Basin. High water elevations and total storage requirements for each storm are detailed in Table 4. HydroCAD modeling results are included in **Attachments F, G, and H.**

Table 3 - Summary of Site Flow Rates - Detention Basin						
Event	Duration	Existing Condition (cfs)	Proposed Condition			
			Detention		Bypass (cfs)	Total Leaving Site
			Qin (cfs)	Qout (cfs)		
2 - year	0.5-hr	2.37	1.13	0.30	2.16	2.16
	1-hr	1.88	0.83	0.32	1.50	1.50
	2-hr	1.38	0.58	0.35	0.96	1.11
	3-hr	1.09	0.44	0.33	0.72	0.93
	24-hr	0.33	0.10	0.10	0.16	0.26
5 - year	0.5-hr	3.45	1.60	0.40	2.77	2.77
	24-hr	0.44	0.13	0.13	0.20	0.33
10 - year	0.5-hr	4.51	2.00	0.44	3.30	3.29
	24-hr	0.52	0.15	0.15	0.24	0.39
25 - year	0.5-hr	6.23	2.59	0.49	4.11	4.11
	24-hr	0.65	0.19	0.19	0.29	0.48
50 - year	0.5-hr	7.75	3.08	0.53	4.81	5.03
	24-hr	0.76	0.21	0.21	0.33	0.55
100 - year	0.5-hr	9.33	3.58	0.56	5.52	5.86
	1-hr	6.86	2.47	0.58	3.82	4.16
	2-hr	4.71	1.64	0.58	2.49	2.93
	3-hr	3.62	1.24	0.56	1.87	2.32
	24-hr	0.86	0.24	0.24	0.38	0.61

Table 4 - Detention Basin Flow Rates and Storage					
Event	Duration	Qin (cfs)	Qout (cfs)	HWE	Storage (CF)
2 - year	0.5-hr	1.13	0.30	556.17	602
	1-hr	0.83	0.32	556.26	627
	2-hr	0.58	0.35	556.35	654
	3-hr	0.44	0.33	556.28	634
	24-hr	0.10	0.10	555.73	499
5 - year	0.5-hr	1.60	0.40	556.56	764
	24-hr	0.13	0.13	555.77	508
10 - year	0.5-hr	2.00	0.44	556.74	947
	24-hr	0.15	0.15	555.80	516
25 - year	0.5-hr	2.59	0.49	557.03	1,280
	24-hr	0.19	0.19	555.86	530
50 - year	0.5-hr	3.08	0.53	557.23	1,541
	24-hr	0.21	0.21	555.92	543
100 - year	0.5-hr	3.58	0.56	557.43	1,830
	1-hr	2.47	0.58	557.56	2,043
	2-hr	1.64	0.58	557.54	2,012
	3-hr	1.24	0.56	557.47	1,888
	24-hr	0.24	0.24	555.99	558
Maximum Available Storage				558.55	3,040

6. Curb Cut Design

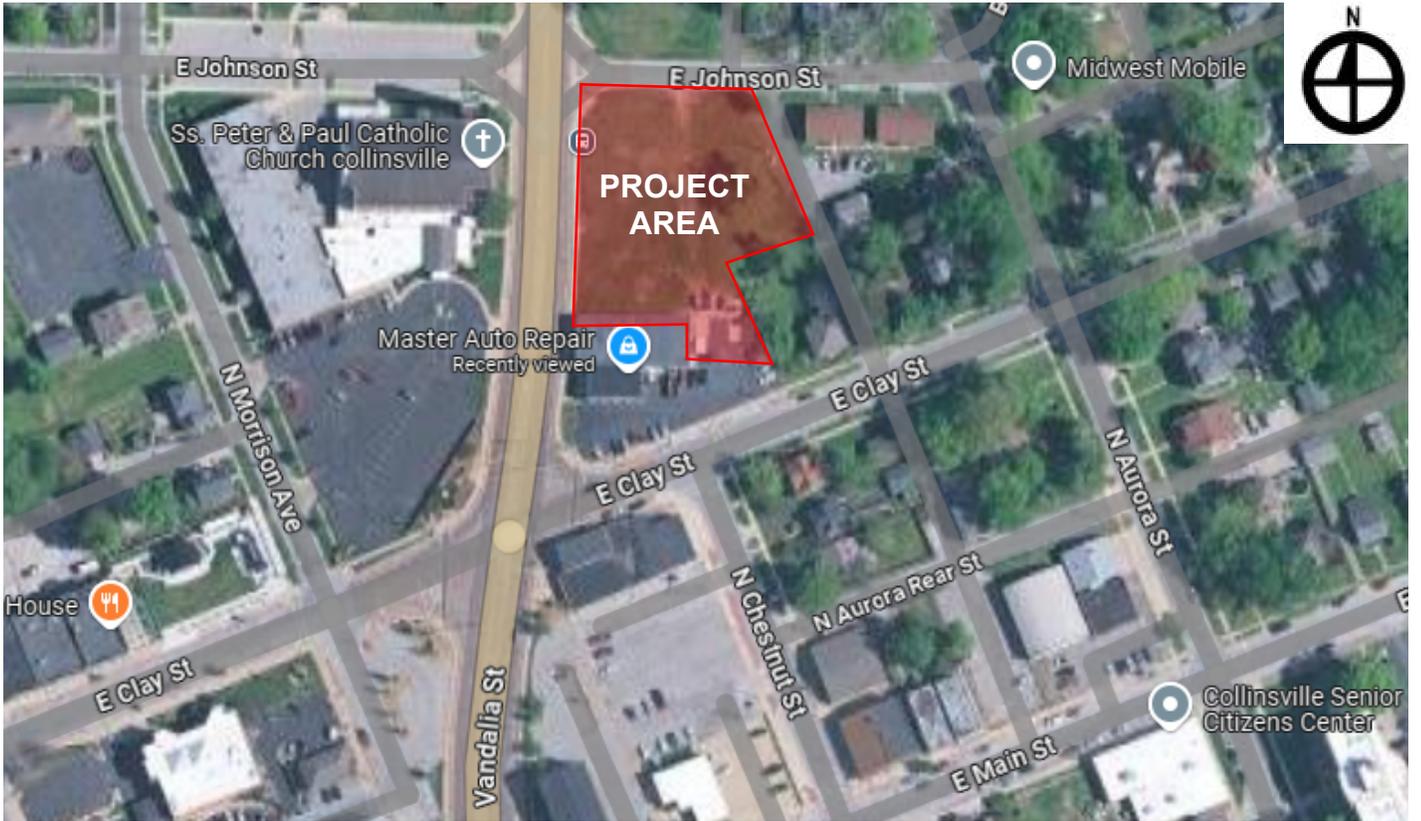
The proposed parking lot drainage flows to detention through 4 curb cuts which are 5 feet wide. Capacity for each curb cut draining to the detention basin was checked to verify that the 100-year storm could be effectively drained. Curb cut calculations are included in Table 5 below. Calculations were performed using the Hydraulic Toolbox Curb Opening Equation.

Table 5.1 – 5ft Curb Cut Spread (A and B)						
	A			B		
	Q (cfs)	Spread (ft)	Depth (in)	Q (cfs)	Spread (ft)	Depth (in)
2-Year	0.20	2.39	1.23	0.20	2.50	1.20
10-Year	0.30	2.78	1.43	0.30	2.91	1.39
100-Year	0.40	3.09	1.60	0.50	3.52	1.69

Table 5.2 – 5ft Curb Cut Spread (C and D)						
	C			D		
	Q (cfs)	Spread (ft)	Depth (in)	Q (cfs)	Spread (ft)	Depth (in)
2-Year	0.10	1.87	0.94	0.10	1.10	0.26
10-Year	0.20	2.42	1.22	0.10	1.10	0.26
100-Year	0.30	2.82	1.42	0.20	1.43	0.34

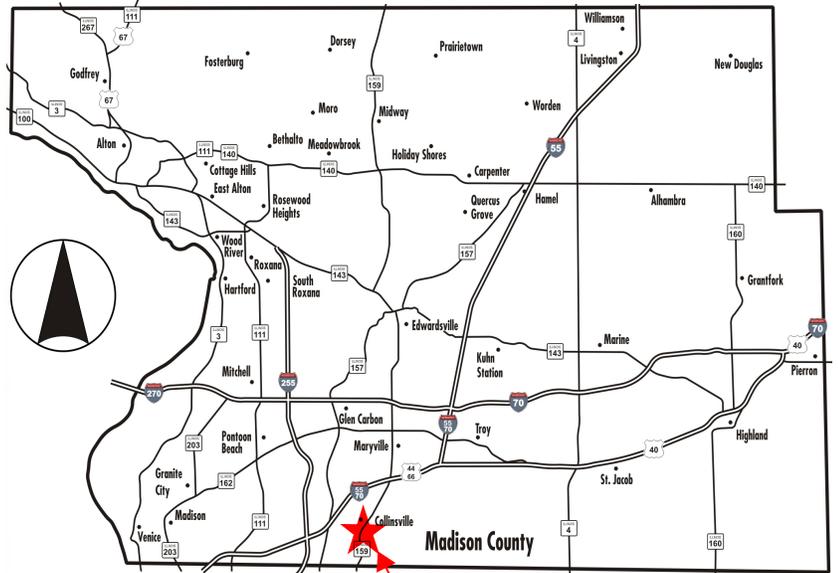
Appendix A

Project Location Map



PARCEL INFORMATION

Parcel #'s
 13-2-21-34-05-101-002,
 13-2-21-34-05-101-001,
 13-2-21-27-17-301-020



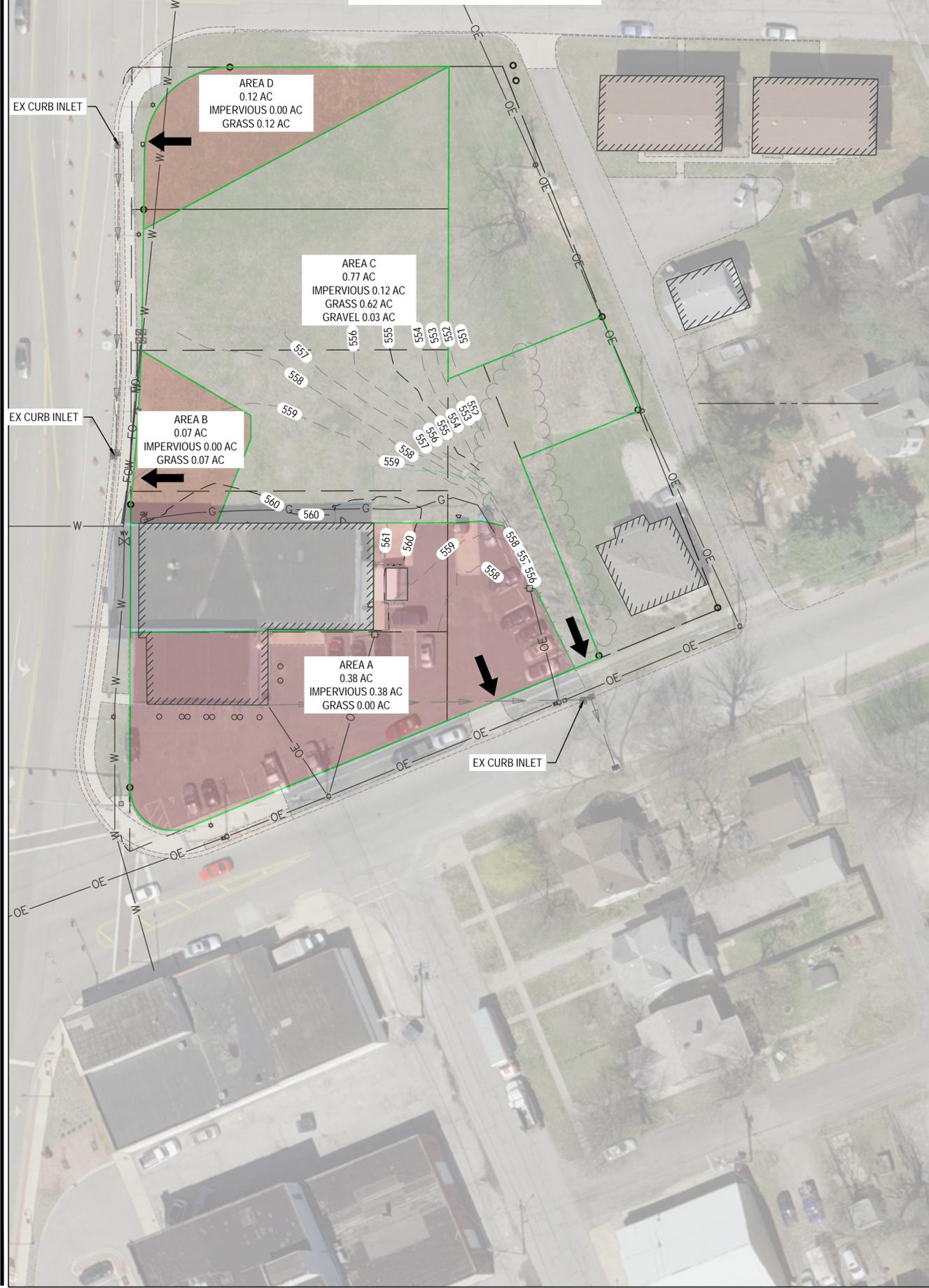
Project Location Map

PROJECT LOCATION

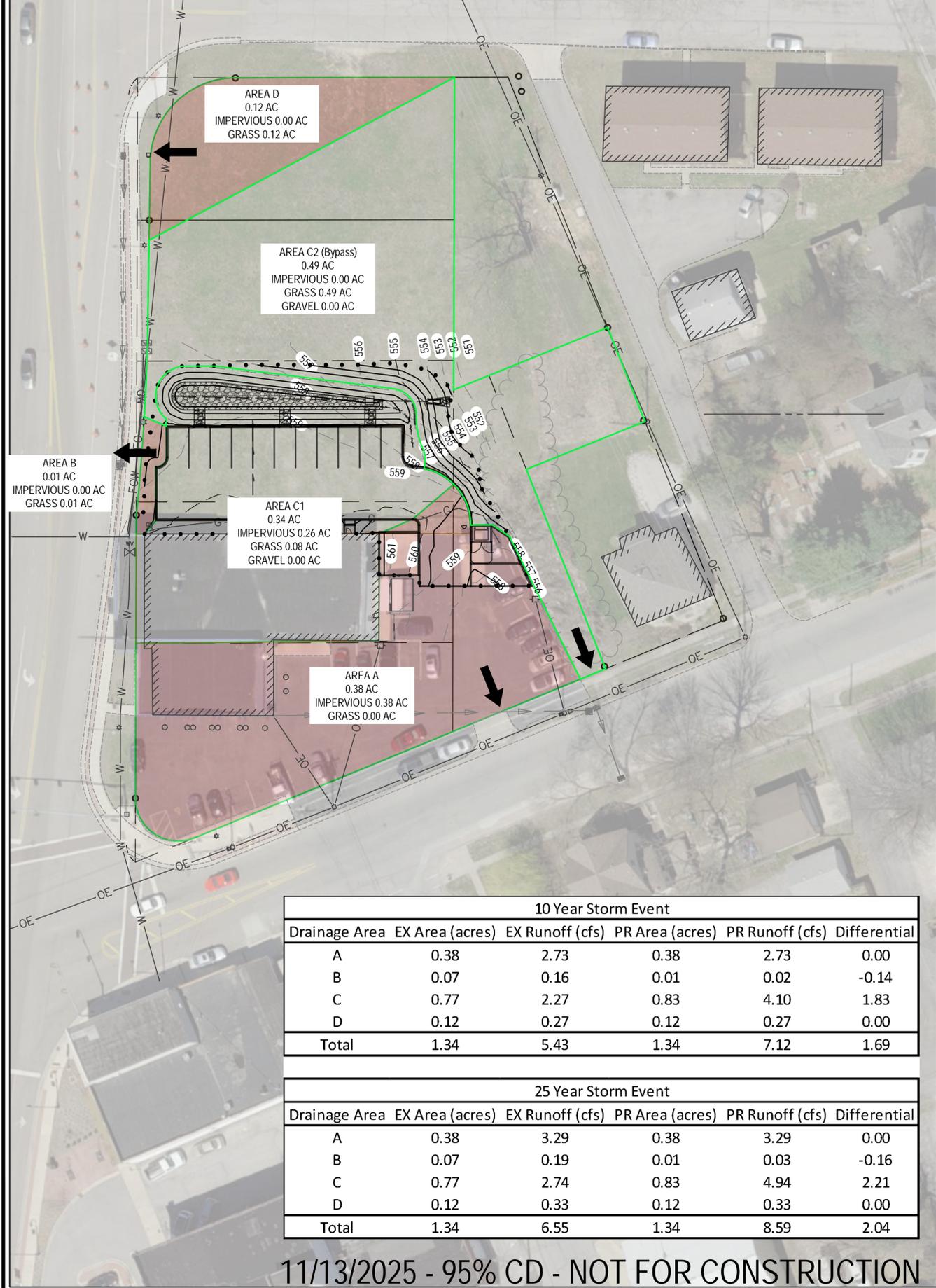
Appendix B

Drainage Maps

EXISTING CONDITIONS



PROPOSED CONDITIONS



10 Year Storm Event					
Drainage Area	EX Area (acres)	EX Runoff (cfs)	PR Area (acres)	PR Runoff (cfs)	Differential
A	0.38	2.73	0.38	2.73	0.00
B	0.07	0.16	0.01	0.02	-0.14
C	0.77	2.27	0.83	4.10	1.83
D	0.12	0.27	0.12	0.27	0.00
Total	1.34	5.43	1.34	7.12	1.69

25 Year Storm Event					
Drainage Area	EX Area (acres)	EX Runoff (cfs)	PR Area (acres)	PR Runoff (cfs)	Differential
A	0.38	3.29	0.38	3.29	0.00
B	0.07	0.19	0.01	0.03	-0.16
C	0.77	2.74	0.83	4.94	2.21
D	0.12	0.33	0.12	0.33	0.00
Total	1.34	6.55	1.34	8.59	2.04

11/13/2025 - 95% CD - NOT FOR CONSTRUCTION

H:\P225073 - MASTER AUTO PARKING LOT\SITE\DWG\225073 - DRAINAGE MAPS.DWG - 11/13/2025

REVISIONS:	NO.:	DATE:	REMARKS:

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 Collinsville St. Louis Belleville St. Charles
 ILLINOIS DESIGN FIRM LICENSE NO. 184.001115



MASTER AUTO
 PARKING LOT DESIGN

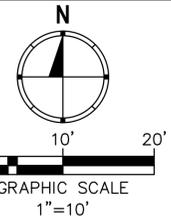
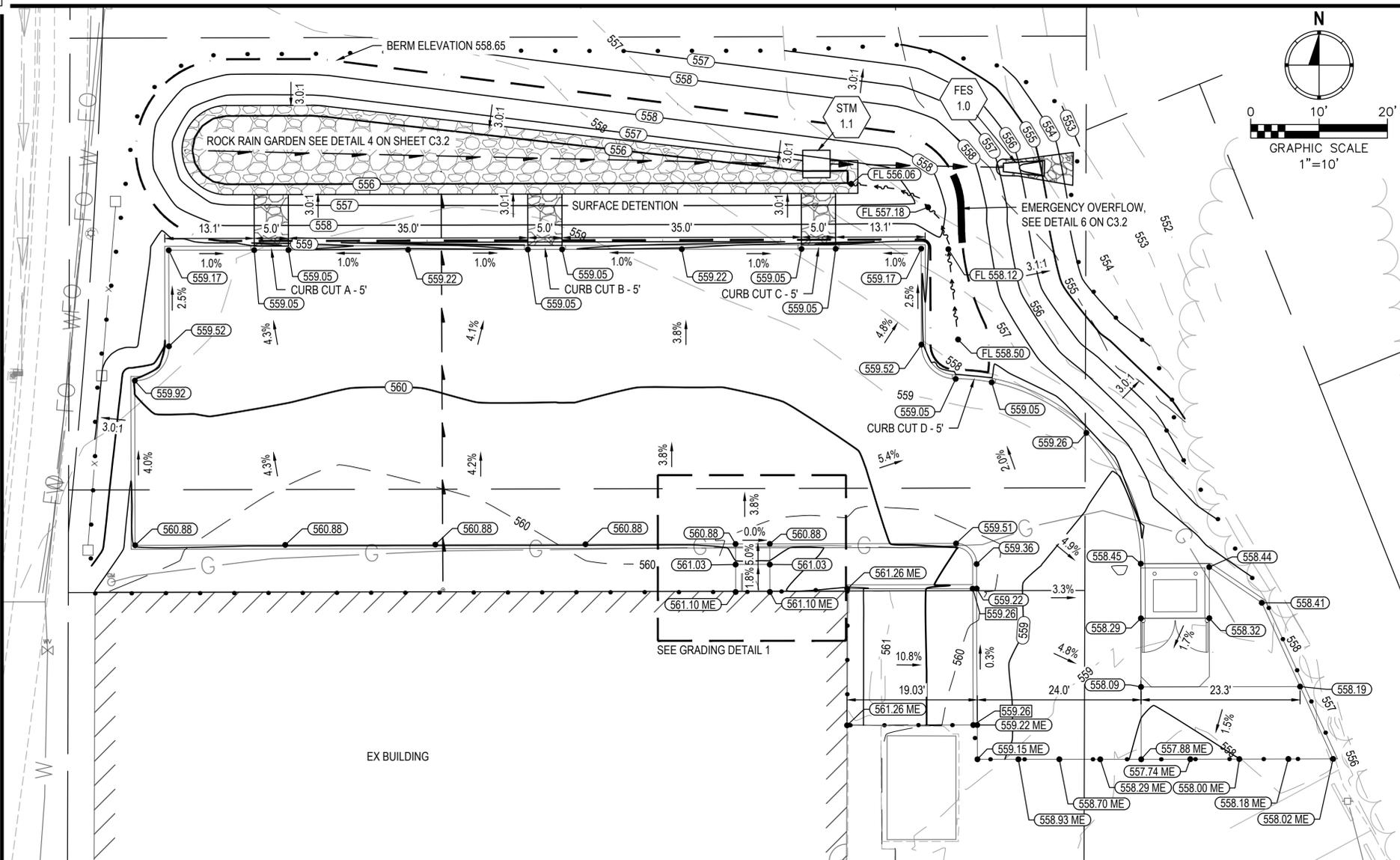
PROJECT NO.:
 225073
 DATE:
 11/13/25
 SHEET NO.:

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Appendix C

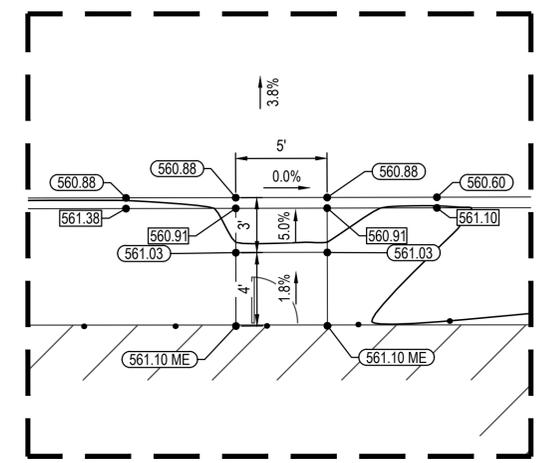
Drainage Plans

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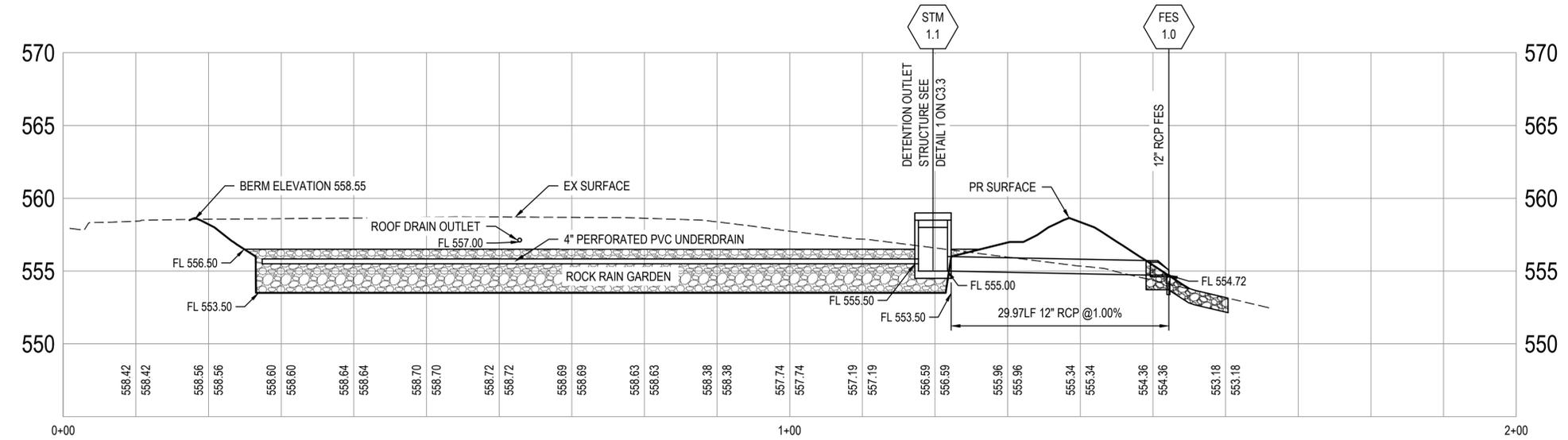


GRADING PLAN LEGEND

- $X.X\%$ SLOPE, % (POINTS DOWNHILL)
- CONSTRUCTION LIMITS
- xxx EXISTING CONTOUR ELEVATION
- xxx PROPOSED CONTOUR ELEVATION
- GRASS SWALE, SEE DETAIL 5 ON C3.2
- xxxx PR PAVEMENT ELEVATION, UNLESS OTHERWISE NOTED
- ME xxxxx PR PAVEMENT ELEVATION MATCH EXISTING, UNLESS OTHERWISE NOTED
- xxx PR BACK OF CURB ELEVATION, UNLESS OTHERWISE NOTED



1 GRADING DETAIL 1
SCALE: 1" = 5'



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**MASTER AUTO
PARKING LOT DESIGN
GRADING AND DRAINAGE PLAN**



PROJECT NO.:
225073

DATE:
12/23/25

SHEET NO.:

12/23/2025 - PERMIT SET

C3.1

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Appendix D

FEMA Map



100-Year Flood Boundary

Zone Designations* With Date of Identification e.g., 12/2/74

100-Year Flood Boundary

500-Year Flood Boundary

Base Flood Elevation Line With Elevation In Feet**

Base Flood Elevation In Feet Where Uniform Within Zone**

Elevation Reference Mark

River Mile

**Referenced to the National Geodetic Vertical Datum of 1929

***EXPLANATION OF ZONE DESIGNATIONS**

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

INITIAL IDENTIFICATION:
MAY 24, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS:
APRIL 2, 1976

FLOOD INSURANCE RATE MAP EFFECTIVE:
FEBRUARY 16, 1981

FLOOD INSURANCE RATE MAP REVISIONS:

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE data shown on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6620, or (800) 424-8872.

APPROXIMATE SCALE
0 400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM FLOOD INSURANCE RATE MAP

CITY OF COLLINSVILLE, ILLINOIS
MADISON AND ST CLAIR COUNTIES

PANEL 5 OF 5

COMMUNITY-PANEL NUMBER
170439 0005 B

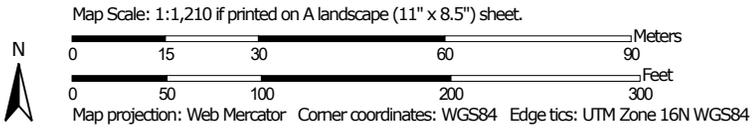
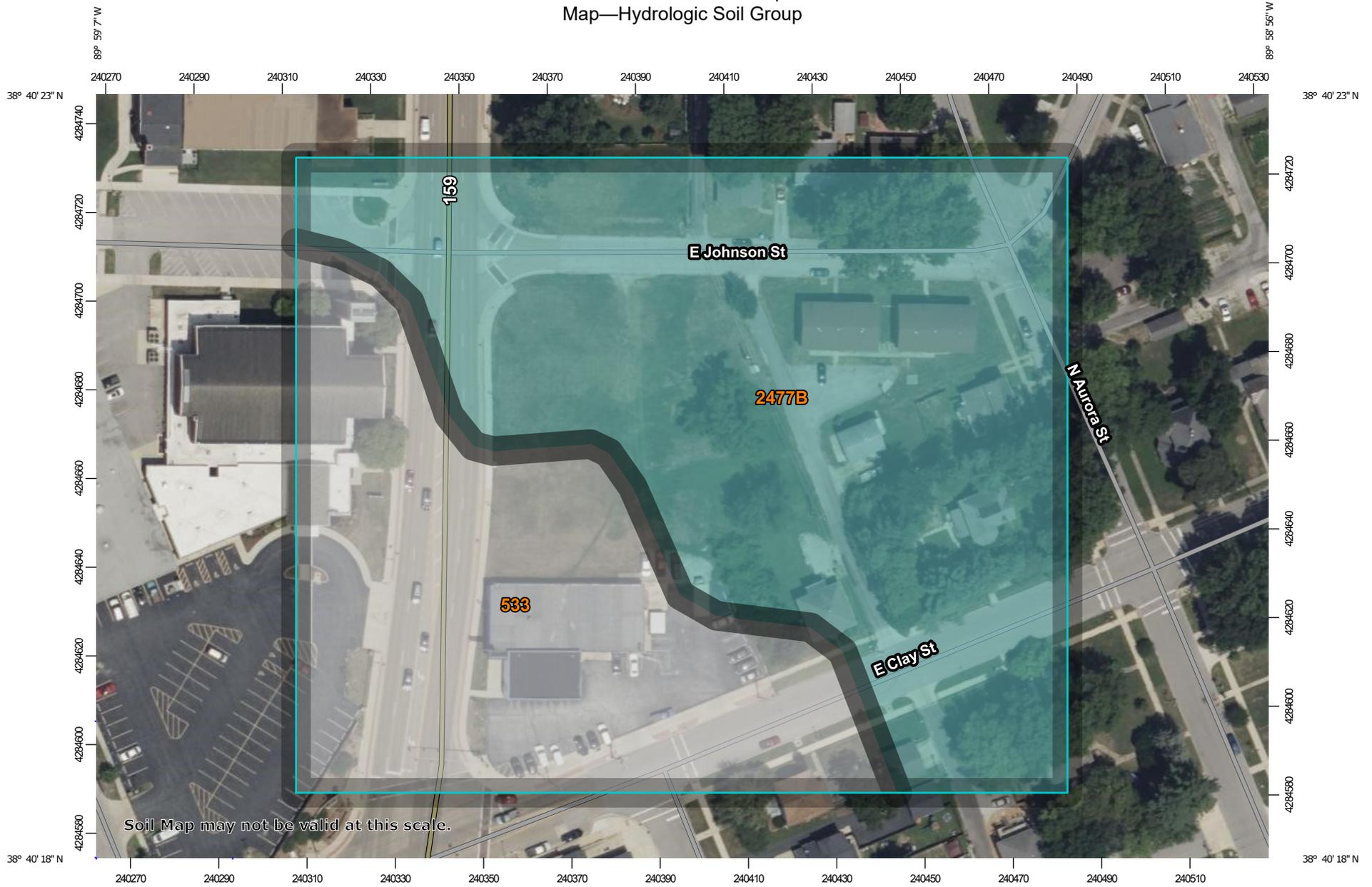
EFFECTIVE DATE:
FEBRUARY 16, 1981

REFERENCE MARKS	ELEVATION FEET (NGVD)	DESCRIPTION OF LOCATION
RM 5	482.62	Chiseled square on top of the concrete wingwall at the northwest corner of Mulberry Street bridge over Canteen Creek.

Appendix E

Soil Map

Custom Soil Resource Report
Map—Hydrologic Soil Group



MAP LEGEND

Area of Interest (AOI)
 Area of Interest (AOI)

Soils

Soil Rating Polygons

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Lines

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Points

-  A
-  A/D
-  B
-  B/D

Soils

-  C
-  C/D
-  D
-  Not rated or not available

Water Features

-  Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

-  Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Madison County, Illinois
 Survey Area Data: Version 19, Aug 21, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 22, 2022—Aug 25, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
533	Urban land		2.3	37.6%
2477B	Winfield-Orthents-Urban land complex, 2 to 8 percent slopes	C	3.9	62.4%
Totals for Area of Interest			6.2	100.0%

Rating Options—Hydrologic Soil Group

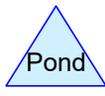
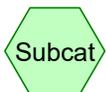
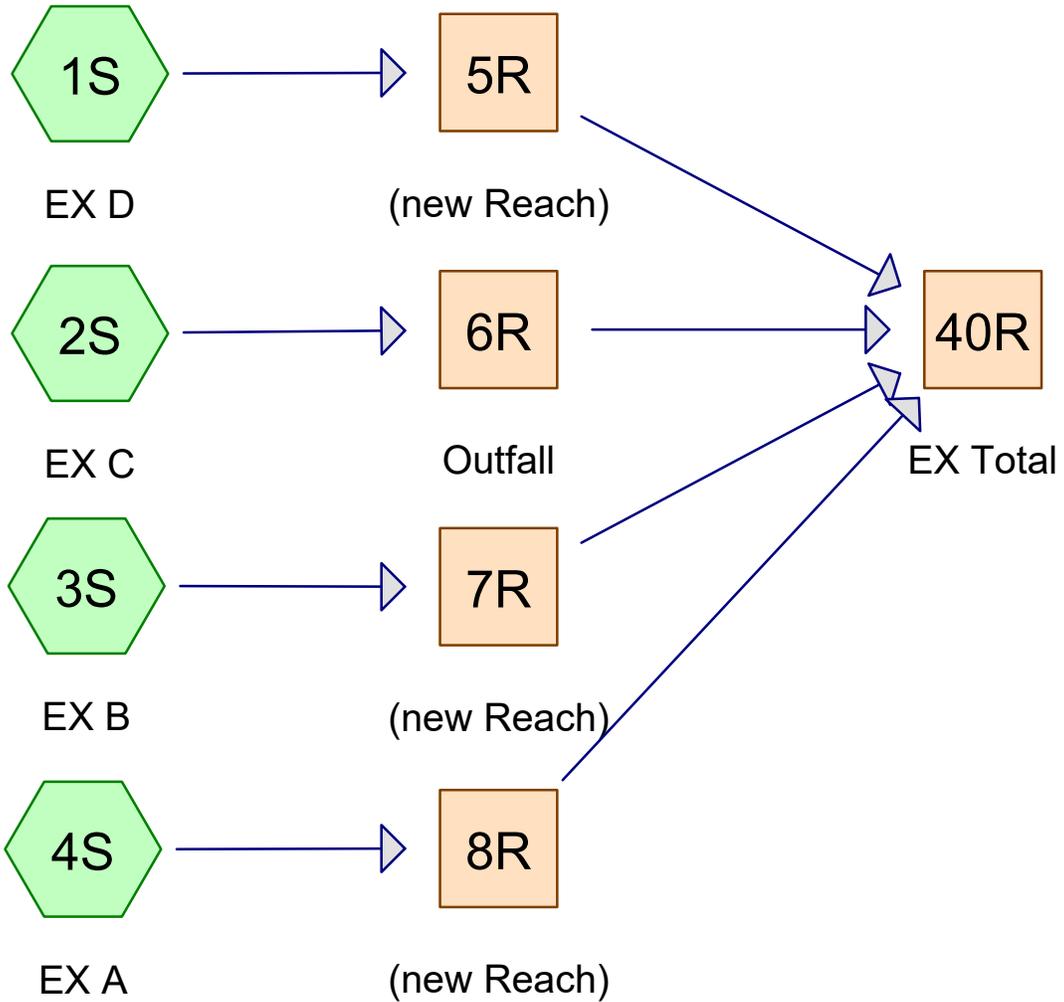
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix F

Existing HydroCAD



Bulletin 75_SW District_HydroCAD_Master Auto

Prepared by Oates Associates, Inc

Printed 10/29/2025

HydroCAD® 10.20-6a s/n 03470 © 2024 HydroCAD Software Solutions LLC

Page 2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.810	74	>75% Grass cover, Good, HSG C (1S, 2S, 3S)
0.030	96	Gravel surface, HSG C (2S)
0.500	98	Paved parking, HSG C (2S, 4S)
1.340	83	TOTAL AREA

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: EX D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=0.11" Tc=0.0 min CN=74 Runoff=0.04 cfs 0.001 af
Subcatchment2S: EX C	Runoff Area=0.770 ac 15.58% Impervious Runoff Depth=0.20" Tc=0.0 min CN=79 Runoff=0.61 cfs 0.013 af
Subcatchment3S: EX B	Runoff Area=0.070 ac 0.00% Impervious Runoff Depth=0.11" Tc=0.0 min CN=74 Runoff=0.03 cfs 0.001 af
Subcatchment4S: EX A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=1.15" Tc=0.0 min CN=98 Runoff=2.17 cfs 0.036 af
Reach 5R: (new Reach)	Inflow=0.04 cfs 0.001 af Outflow=0.04 cfs 0.001 af
Reach 6R: Outfall	Inflow=0.61 cfs 0.013 af Outflow=0.61 cfs 0.013 af
Reach 7R: (new Reach)	Inflow=0.03 cfs 0.001 af Outflow=0.03 cfs 0.001 af
Reach 8R: (new Reach)	Inflow=2.17 cfs 0.036 af Outflow=2.17 cfs 0.036 af
Reach 40R: EX Total	Inflow=2.37 cfs 0.051 af Outflow=2.37 cfs 0.051 af

Total Runoff Area = 1.340 ac Runoff Volume = 0.051 af Average Runoff Depth = 0.46"
62.69% Pervious = 0.840 ac 37.31% Impervious = 0.500 ac

Summary for Subcatchment 1S: EX D

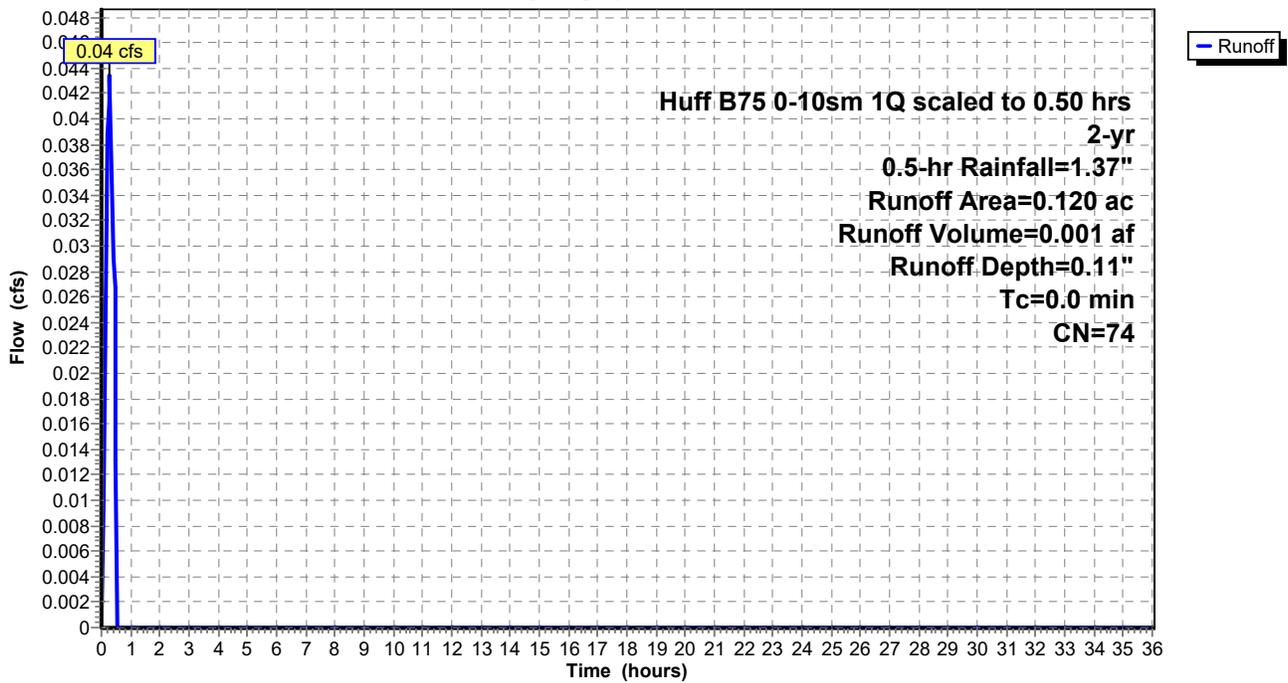
Runoff = 0.04 cfs @ 0.28 hrs, Volume= 0.001 af, Depth= 0.11"
 Routed to Reach 5R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 2-yr, 0.5-hr Rainfall=1.37"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 1S: EX D

Hydrograph



Summary for Subcatchment 2S: EX C

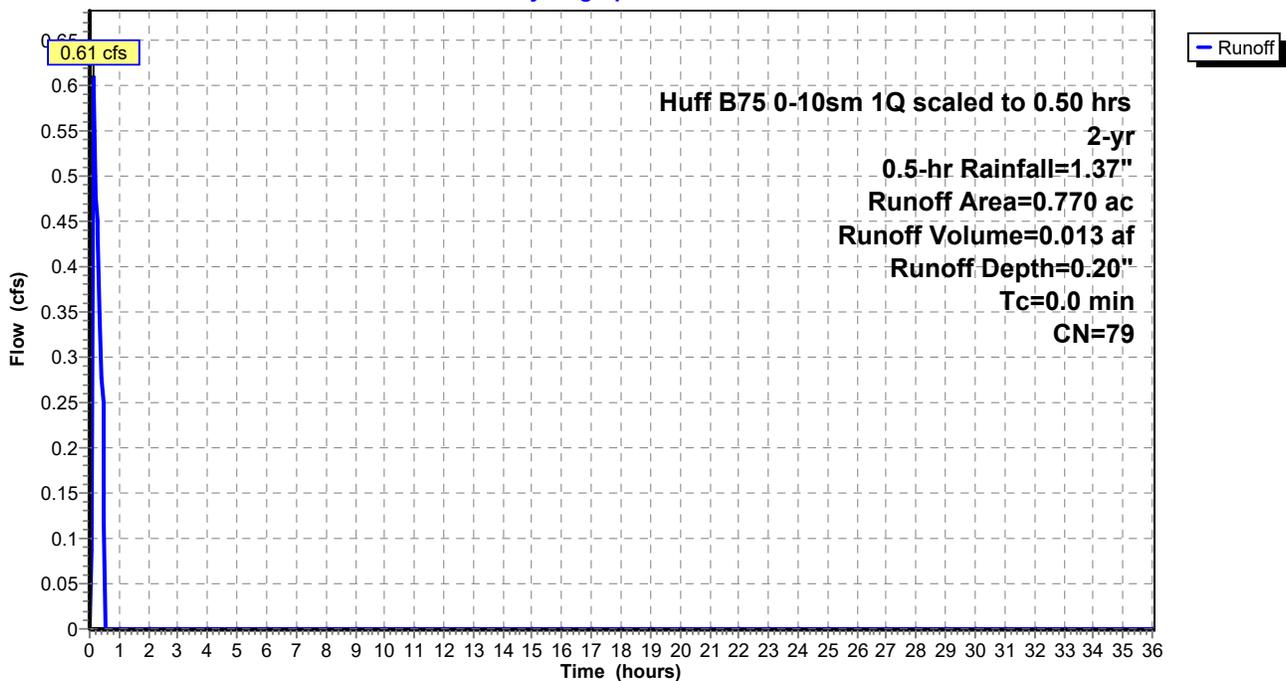
Runoff = 0.61 cfs @ 0.16 hrs, Volume= 0.013 af, Depth= 0.20"
 Routed to Reach 6R : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 2-yr, 0.5-hr Rainfall=1.37"

Area (ac)	CN	Description
0.120	98	Paved parking, HSG C
0.620	74	>75% Grass cover, Good, HSG C
0.030	96	Gravel surface, HSG C
0.770	79	Weighted Average
0.650		84.42% Pervious Area
0.120		15.58% Impervious Area

Subcatchment 2S: EX C

Hydrograph



Summary for Subcatchment 3S: EX B

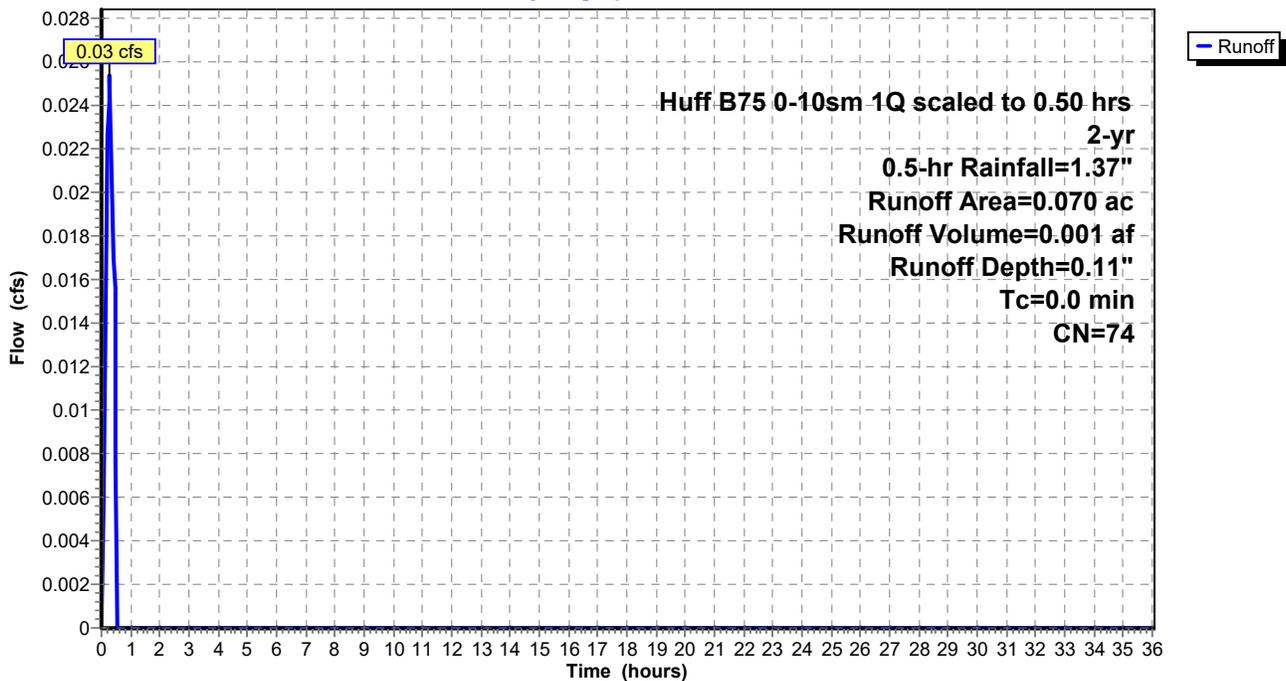
Runoff = 0.03 cfs @ 0.28 hrs, Volume= 0.001 af, Depth= 0.11"
 Routed to Reach 7R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 2-yr, 0.5-hr Rainfall=1.37"

Area (ac)	CN	Description
0.070	74	>75% Grass cover, Good, HSG C
0.070		100.00% Pervious Area

Subcatchment 3S: EX B

Hydrograph



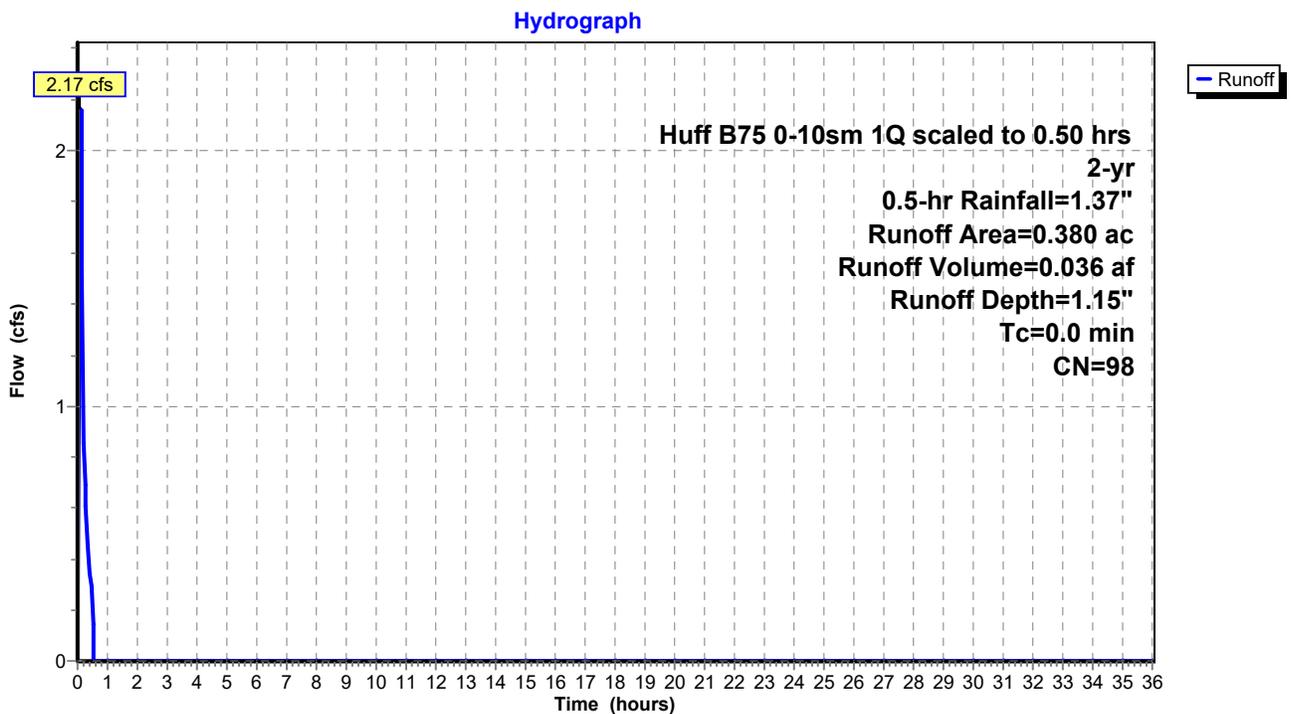
Summary for Subcatchment 4S: EX A

Runoff = 2.17 cfs @ 0.10 hrs, Volume= 0.036 af, Depth= 1.15"
 Routed to Reach 8R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 2-yr, 0.5-hr Rainfall=1.37"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 4S: EX A



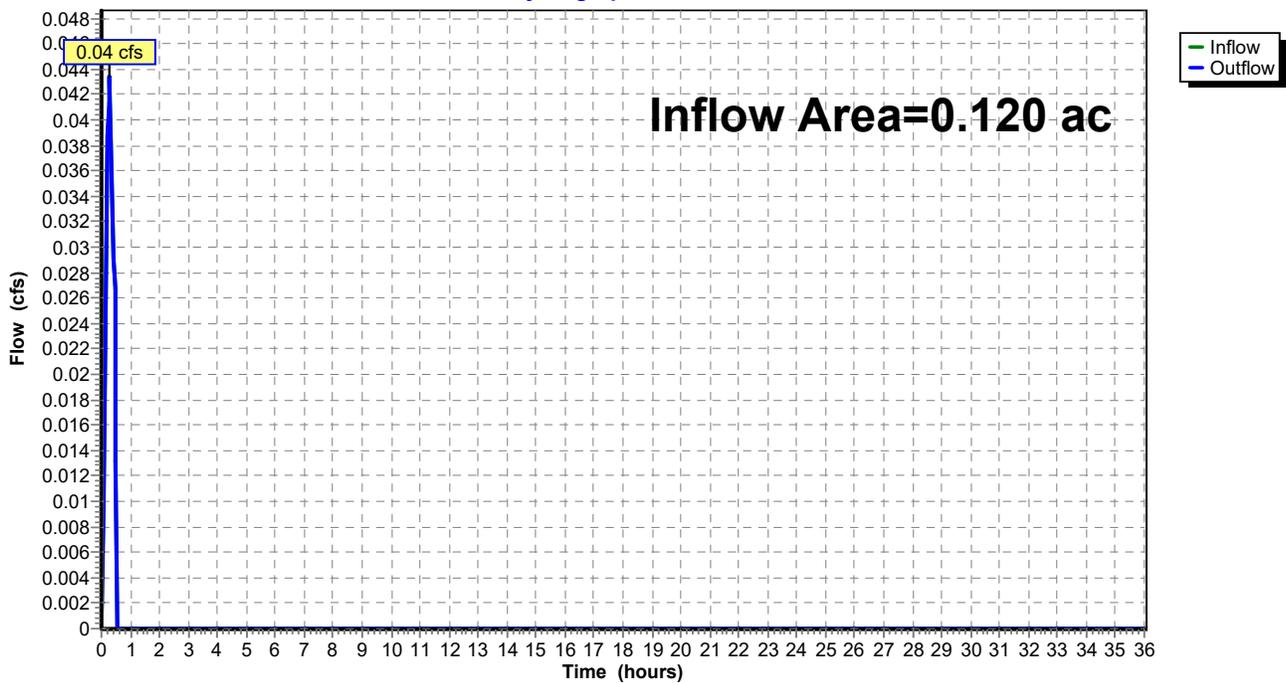
Summary for Reach 5R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 0.11" for 2-yr, 0.5-hr event
 Inflow = 0.04 cfs @ 0.28 hrs, Volume= 0.001 af
 Outflow = 0.04 cfs @ 0.28 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 5R: (new Reach)

Hydrograph



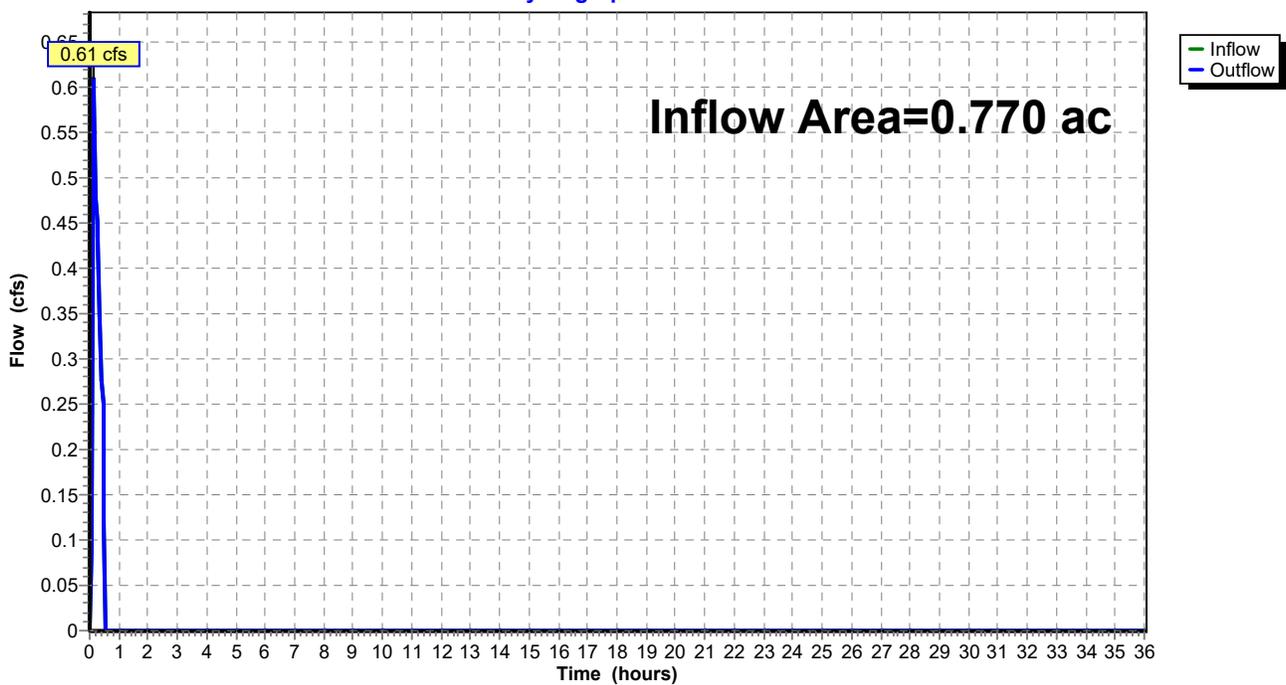
Summary for Reach 6R: Outfall

Inflow Area = 0.770 ac, 15.58% Impervious, Inflow Depth = 0.20" for 2-yr, 0.5-hr event
 Inflow = 0.61 cfs @ 0.16 hrs, Volume= 0.013 af
 Outflow = 0.61 cfs @ 0.16 hrs, Volume= 0.013 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 6R: Outfall

Hydrograph



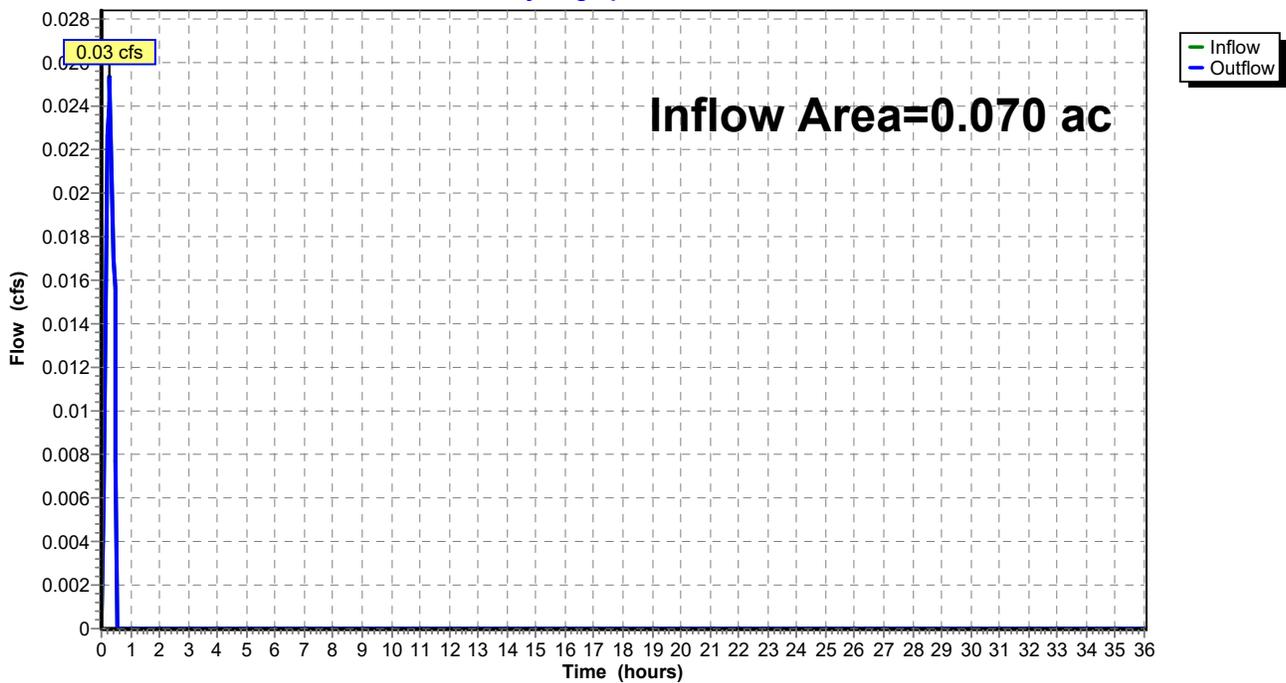
Summary for Reach 7R: (new Reach)

Inflow Area = 0.070 ac, 0.00% Impervious, Inflow Depth = 0.11" for 2-yr, 0.5-hr event
 Inflow = 0.03 cfs @ 0.28 hrs, Volume= 0.001 af
 Outflow = 0.03 cfs @ 0.28 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 7R: (new Reach)

Hydrograph



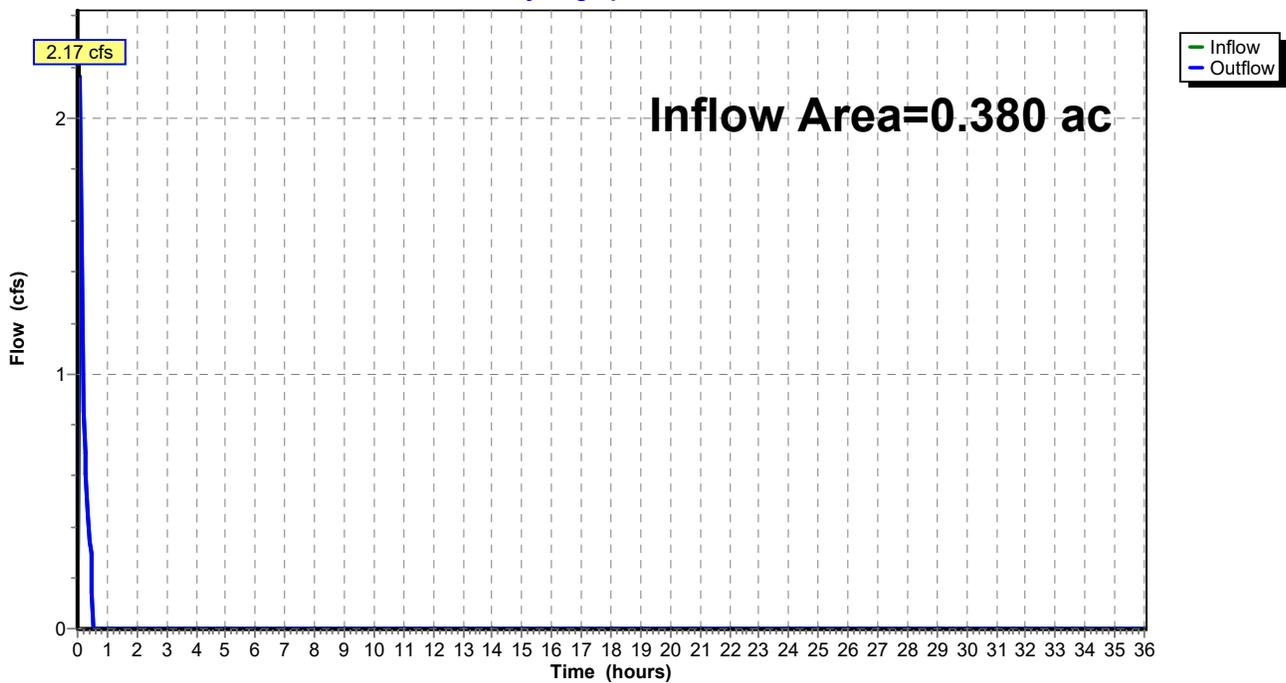
Summary for Reach 8R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 1.15" for 2-yr, 0.5-hr event
 Inflow = 2.17 cfs @ 0.10 hrs, Volume= 0.036 af
 Outflow = 2.17 cfs @ 0.10 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 8R: (new Reach)

Hydrograph



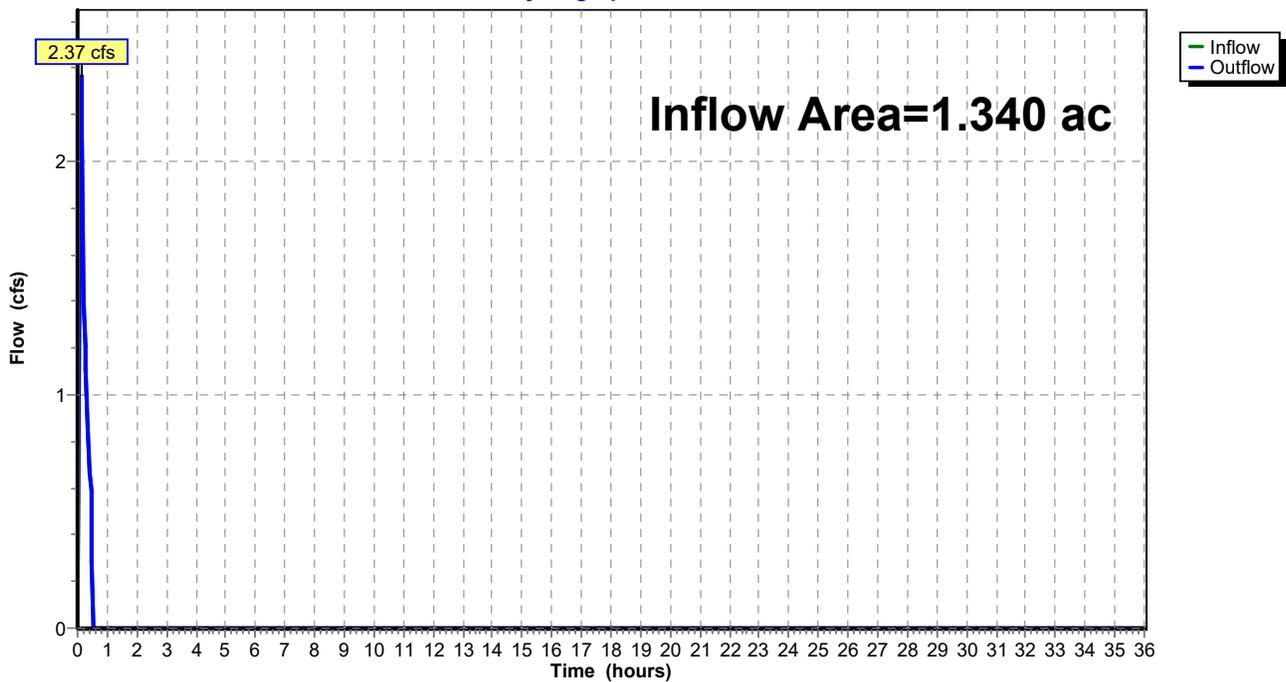
Summary for Reach 40R: EX Total

Inflow Area = 1.340 ac, 37.31% Impervious, Inflow Depth = 0.46" for 2-yr, 0.5-hr event
 Inflow = 2.37 cfs @ 0.11 hrs, Volume= 0.051 af
 Outflow = 2.37 cfs @ 0.11 hrs, Volume= 0.051 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 40R: EX Total

Hydrograph



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: EX D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=1.37" Tc=0.0 min CN=74 Runoff=0.02 cfs 0.014 af
Subcatchment2S: EX C	Runoff Area=0.770 ac 15.58% Impervious Runoff Depth=1.71" Tc=0.0 min CN=79 Runoff=0.17 cfs 0.110 af
Subcatchment3S: EX B	Runoff Area=0.070 ac 0.00% Impervious Runoff Depth=1.37" Tc=0.0 min CN=74 Runoff=0.01 cfs 0.008 af
Subcatchment4S: EX A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=3.46" Tc=0.0 min CN=98 Runoff=0.13 cfs 0.109 af
Reach 5R: (new Reach)	Inflow=0.02 cfs 0.014 af Outflow=0.02 cfs 0.014 af
Reach 6R: Outfall	Inflow=0.17 cfs 0.110 af Outflow=0.17 cfs 0.110 af
Reach 7R: (new Reach)	Inflow=0.01 cfs 0.008 af Outflow=0.01 cfs 0.008 af
Reach 8R: (new Reach)	Inflow=0.13 cfs 0.109 af Outflow=0.13 cfs 0.109 af
Reach 40R: EX Total	Inflow=0.33 cfs 0.241 af Outflow=0.33 cfs 0.241 af

Total Runoff Area = 1.340 ac Runoff Volume = 0.241 af Average Runoff Depth = 2.16"
62.69% Pervious = 0.840 ac 37.31% Impervious = 0.500 ac

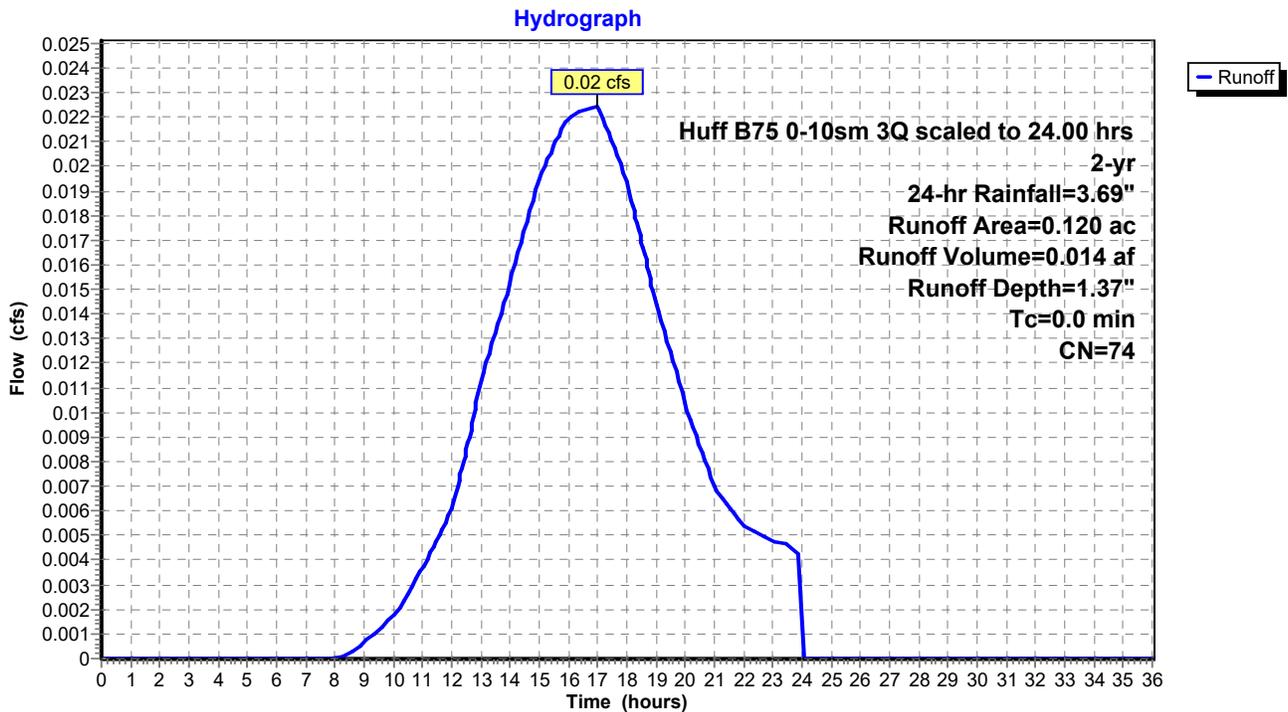
Summary for Subcatchment 1S: EX D

Runoff = 0.02 cfs @ 16.95 hrs, Volume= 0.014 af, Depth= 1.37"
 Routed to Reach 5R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 2-yr, 24-hr Rainfall=3.69"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 1S: EX D



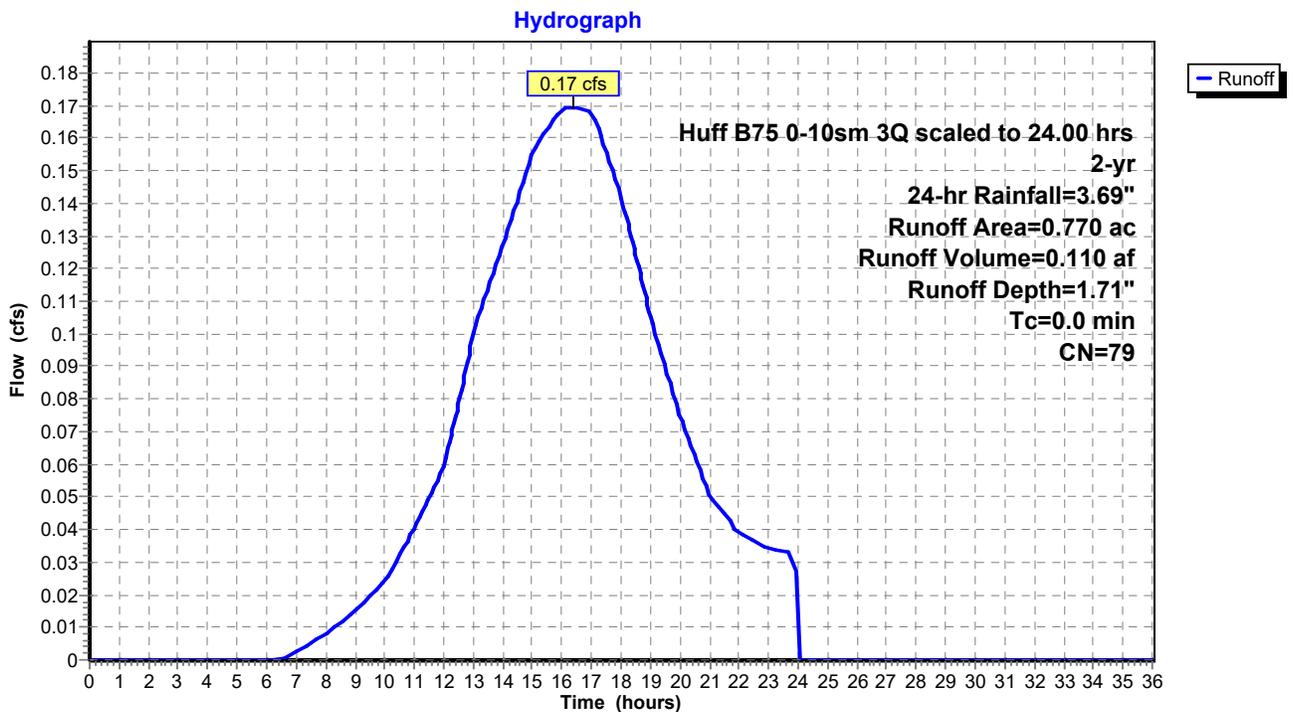
Summary for Subcatchment 2S: EX C

Runoff = 0.17 cfs @ 16.36 hrs, Volume= 0.110 af, Depth= 1.71"
 Routed to Reach 6R : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 2-yr, 24-hr Rainfall=3.69"

Area (ac)	CN	Description
0.120	98	Paved parking, HSG C
0.620	74	>75% Grass cover, Good, HSG C
0.030	96	Gravel surface, HSG C
0.770	79	Weighted Average
0.650		84.42% Pervious Area
0.120		15.58% Impervious Area

Subcatchment 2S: EX C



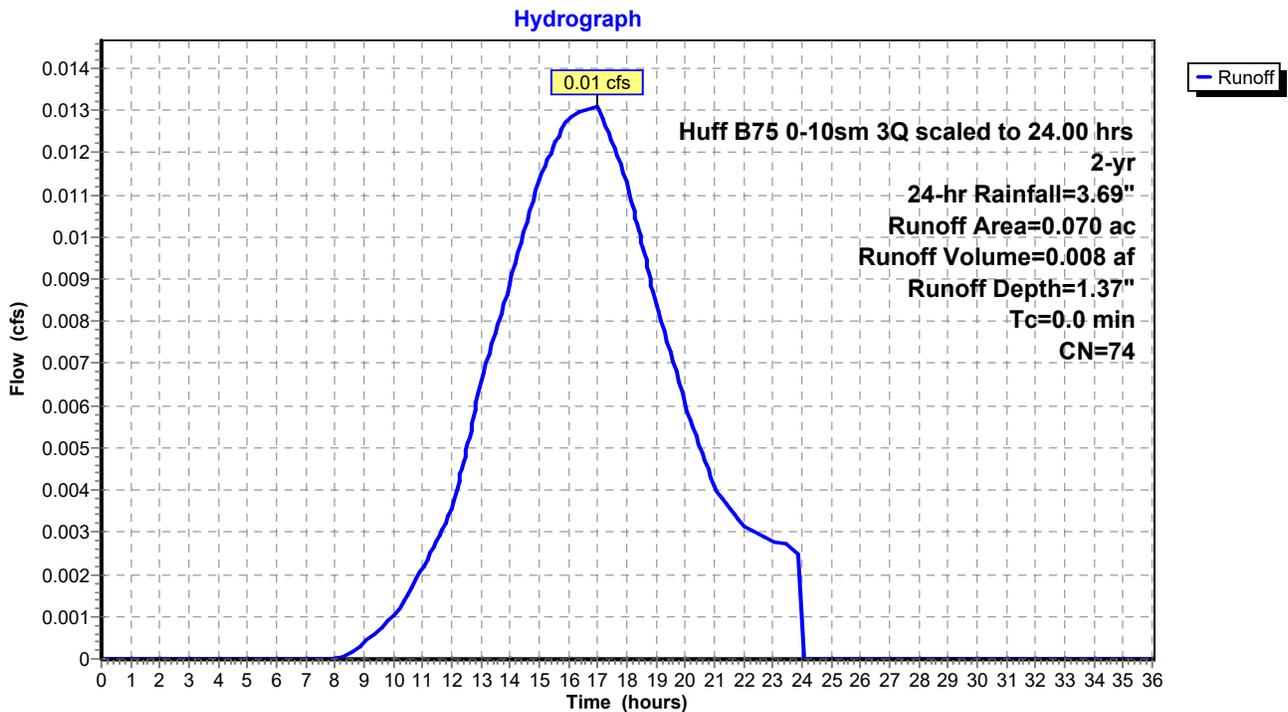
Summary for Subcatchment 3S: EX B

Runoff = 0.01 cfs @ 16.95 hrs, Volume= 0.008 af, Depth= 1.37"
 Routed to Reach 7R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 2-yr, 24-hr Rainfall=3.69"

Area (ac)	CN	Description
0.070	74	>75% Grass cover, Good, HSG C
0.070		100.00% Pervious Area

Subcatchment 3S: EX B



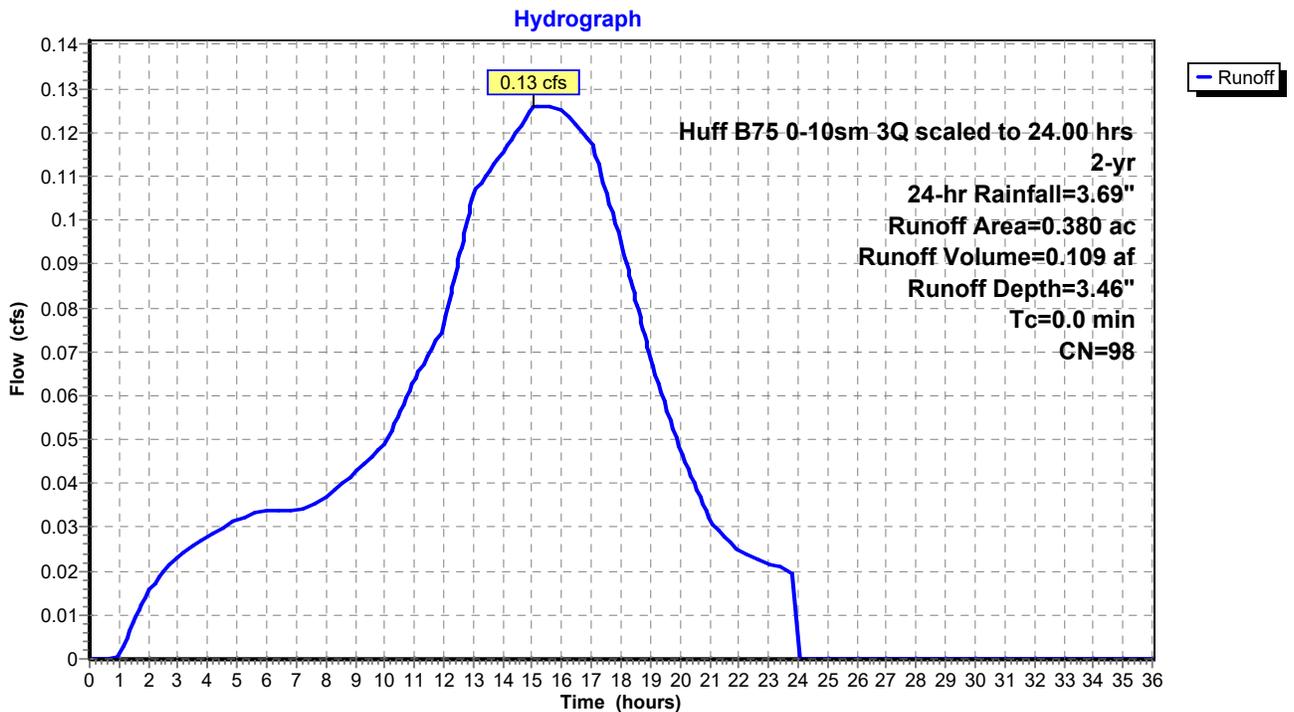
Summary for Subcatchment 4S: EX A

Runoff = 0.13 cfs @ 15.06 hrs, Volume= 0.109 af, Depth= 3.46"
 Routed to Reach 8R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 2-yr, 24-hr Rainfall=3.69"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 4S: EX A

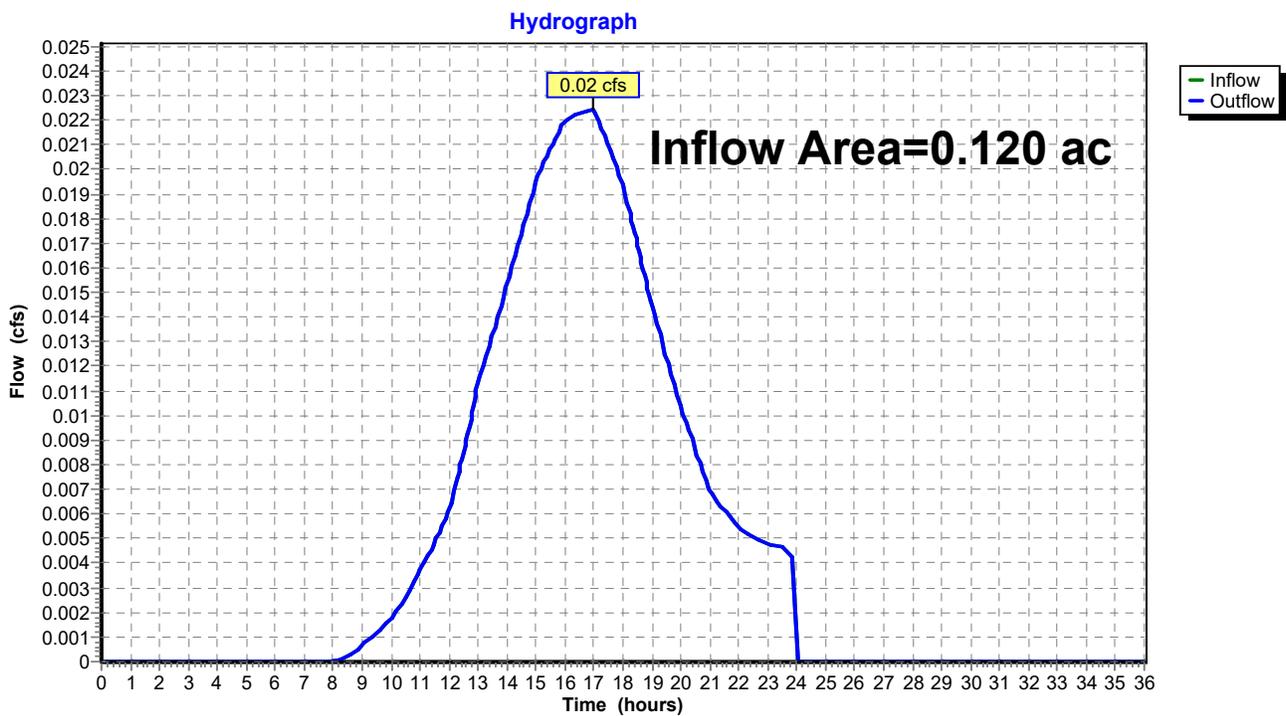


Summary for Reach 5R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 1.37" for 2-yr, 24-hr event
 Inflow = 0.02 cfs @ 16.95 hrs, Volume= 0.014 af
 Outflow = 0.02 cfs @ 16.95 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 5R: (new Reach)



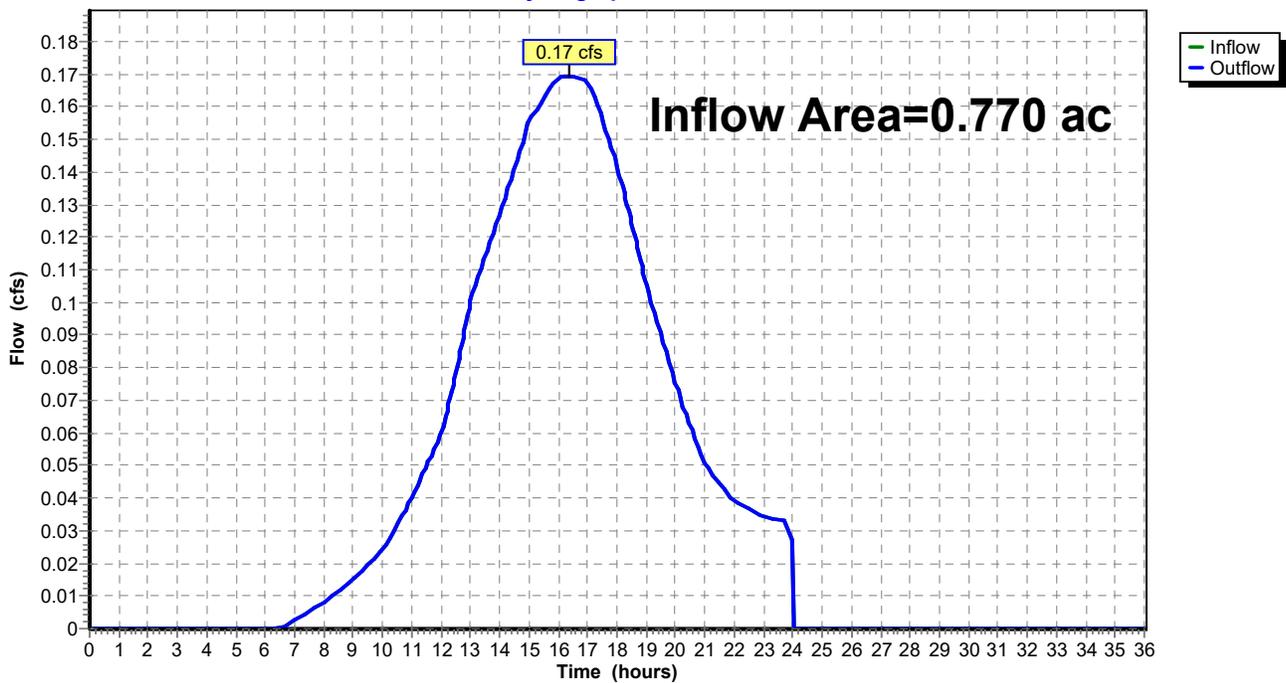
Summary for Reach 6R: Outfall

Inflow Area = 0.770 ac, 15.58% Impervious, Inflow Depth = 1.71" for 2-yr, 24-hr event
 Inflow = 0.17 cfs @ 16.36 hrs, Volume= 0.110 af
 Outflow = 0.17 cfs @ 16.36 hrs, Volume= 0.110 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 6R: Outfall

Hydrograph

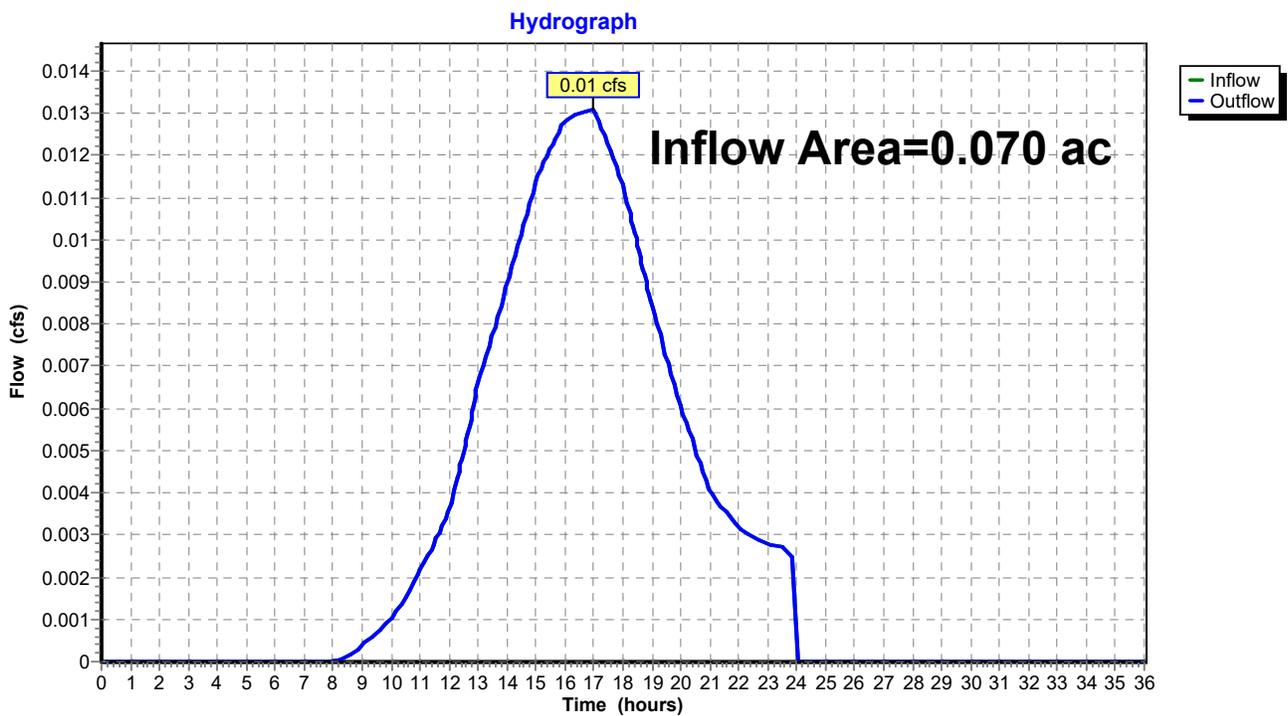


Summary for Reach 7R: (new Reach)

Inflow Area = 0.070 ac, 0.00% Impervious, Inflow Depth = 1.37" for 2-yr, 24-hr event
 Inflow = 0.01 cfs @ 16.95 hrs, Volume= 0.008 af
 Outflow = 0.01 cfs @ 16.95 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 7R: (new Reach)

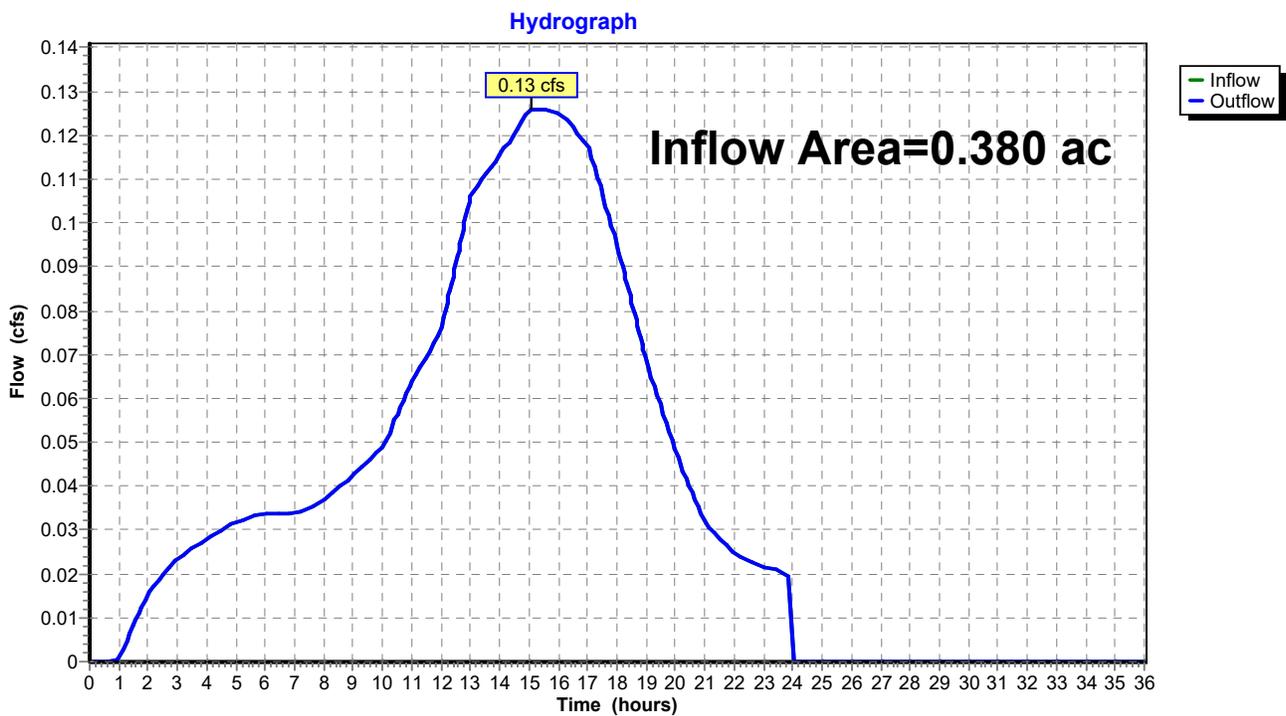


Summary for Reach 8R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 3.46" for 2-yr, 24-hr event
 Inflow = 0.13 cfs @ 15.06 hrs, Volume= 0.109 af
 Outflow = 0.13 cfs @ 15.06 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 8R: (new Reach)



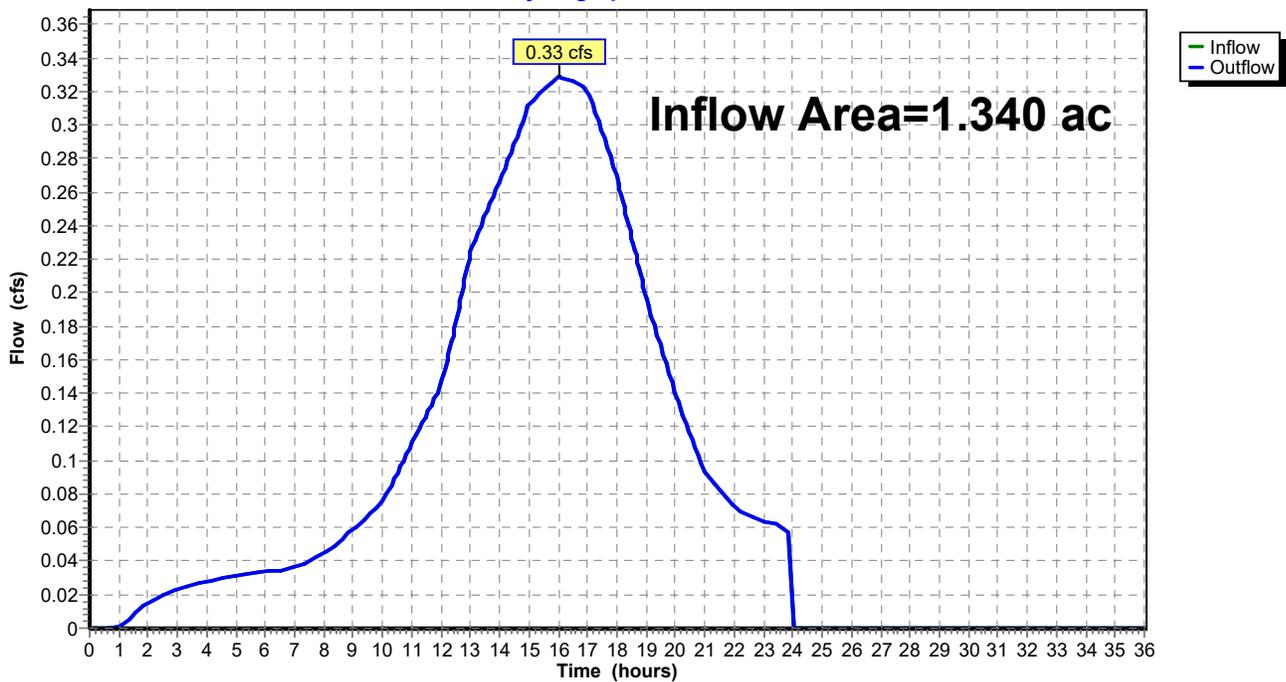
Summary for Reach 40R: EX Total

Inflow Area = 1.340 ac, 37.31% Impervious, Inflow Depth = 2.16" for 2-yr, 24-hr event
 Inflow = 0.33 cfs @ 16.02 hrs, Volume= 0.241 af
 Outflow = 0.33 cfs @ 16.02 hrs, Volume= 0.241 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 40R: EX Total

Hydrograph



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: EX D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=0.33" Tc=0.0 min CN=74 Runoff=0.16 cfs 0.003 af
Subcatchment2S: EX C	Runoff Area=0.770 ac 15.58% Impervious Runoff Depth=0.49" Tc=0.0 min CN=79 Runoff=1.58 cfs 0.032 af
Subcatchment3S: EX B	Runoff Area=0.070 ac 0.00% Impervious Runoff Depth=0.33" Tc=0.0 min CN=74 Runoff=0.09 cfs 0.002 af
Subcatchment4S: EX A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=1.72" Tc=0.0 min CN=98 Runoff=3.23 cfs 0.055 af
Reach 5R: (new Reach)	Inflow=0.16 cfs 0.003 af Outflow=0.16 cfs 0.003 af
Reach 6R: Outfall	Inflow=1.58 cfs 0.032 af Outflow=1.58 cfs 0.032 af
Reach 7R: (new Reach)	Inflow=0.09 cfs 0.002 af Outflow=0.09 cfs 0.002 af
Reach 8R: (new Reach)	Inflow=3.23 cfs 0.055 af Outflow=3.23 cfs 0.055 af
Reach 40R: EX Total	Inflow=4.51 cfs 0.091 af Outflow=4.51 cfs 0.091 af

Total Runoff Area = 1.340 ac Runoff Volume = 0.091 af Average Runoff Depth = 0.82"
62.69% Pervious = 0.840 ac 37.31% Impervious = 0.500 ac

Summary for Subcatchment 1S: EX D

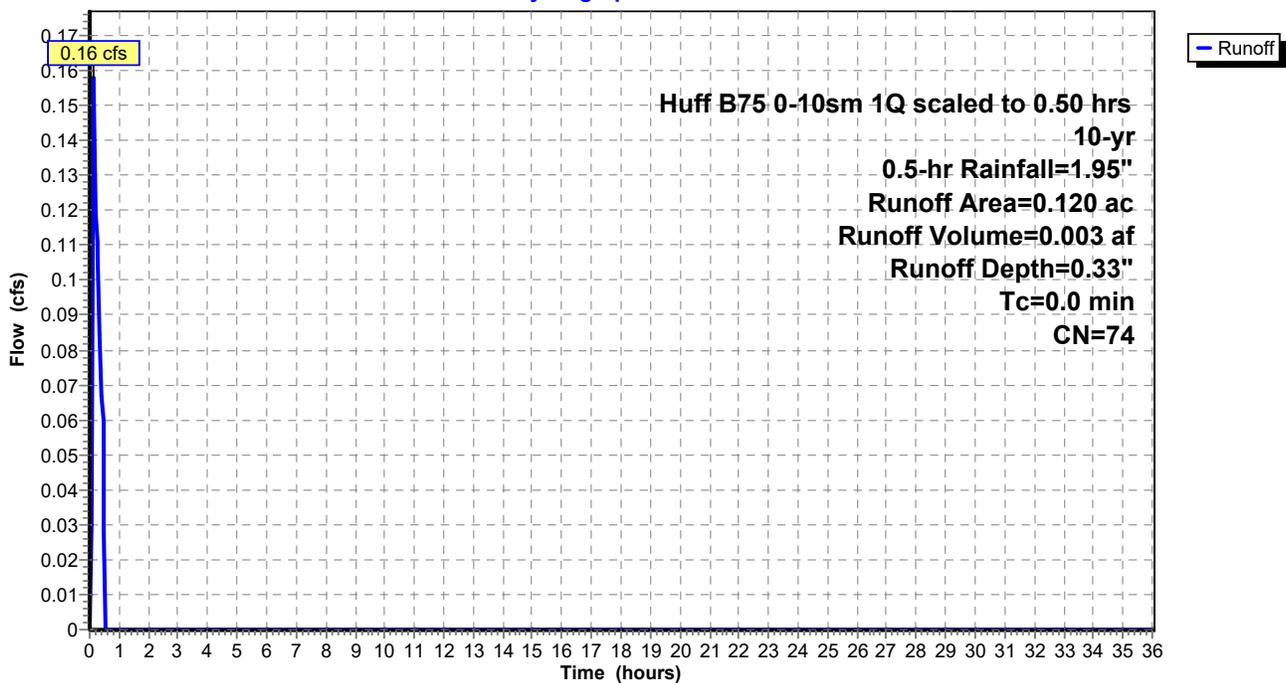
Runoff = 0.16 cfs @ 0.16 hrs, Volume= 0.003 af, Depth= 0.33"
 Routed to Reach 5R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 1S: EX D

Hydrograph



Summary for Subcatchment 2S: EX C

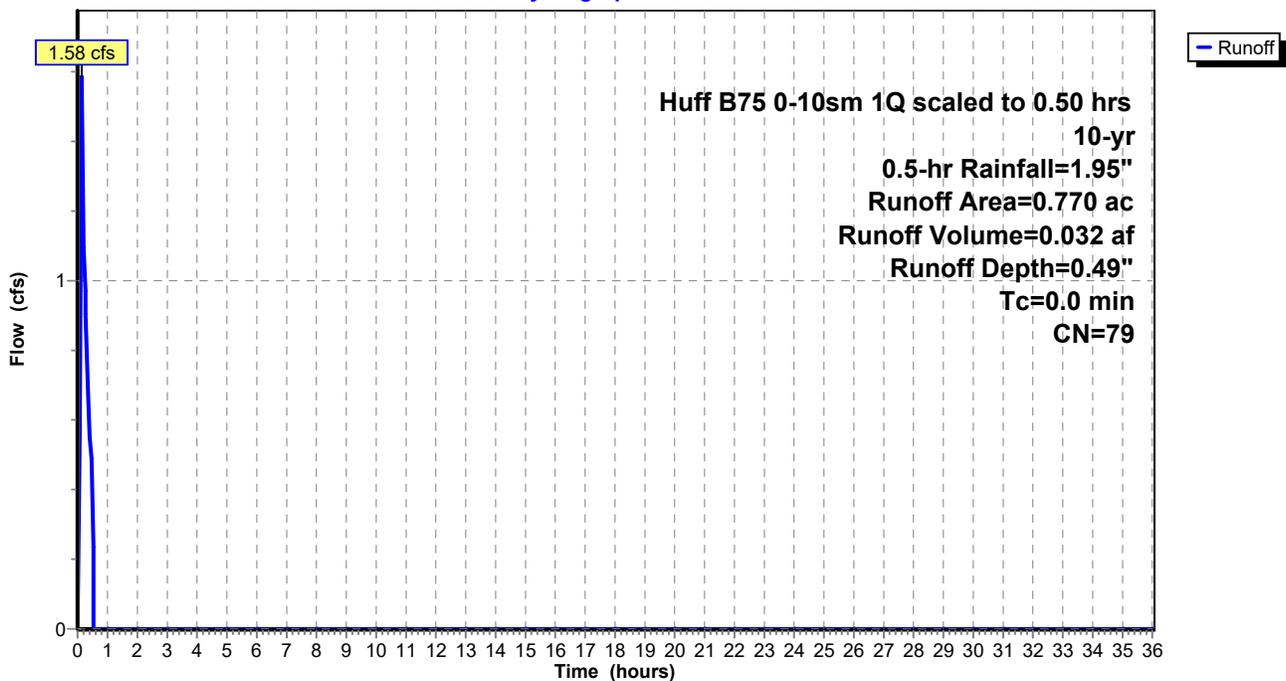
Runoff = 1.58 cfs @ 0.15 hrs, Volume= 0.032 af, Depth= 0.49"
 Routed to Reach 6R : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

Area (ac)	CN	Description
0.120	98	Paved parking, HSG C
0.620	74	>75% Grass cover, Good, HSG C
0.030	96	Gravel surface, HSG C
0.770	79	Weighted Average
0.650		84.42% Pervious Area
0.120		15.58% Impervious Area

Subcatchment 2S: EX C

Hydrograph



Summary for Subcatchment 3S: EX B

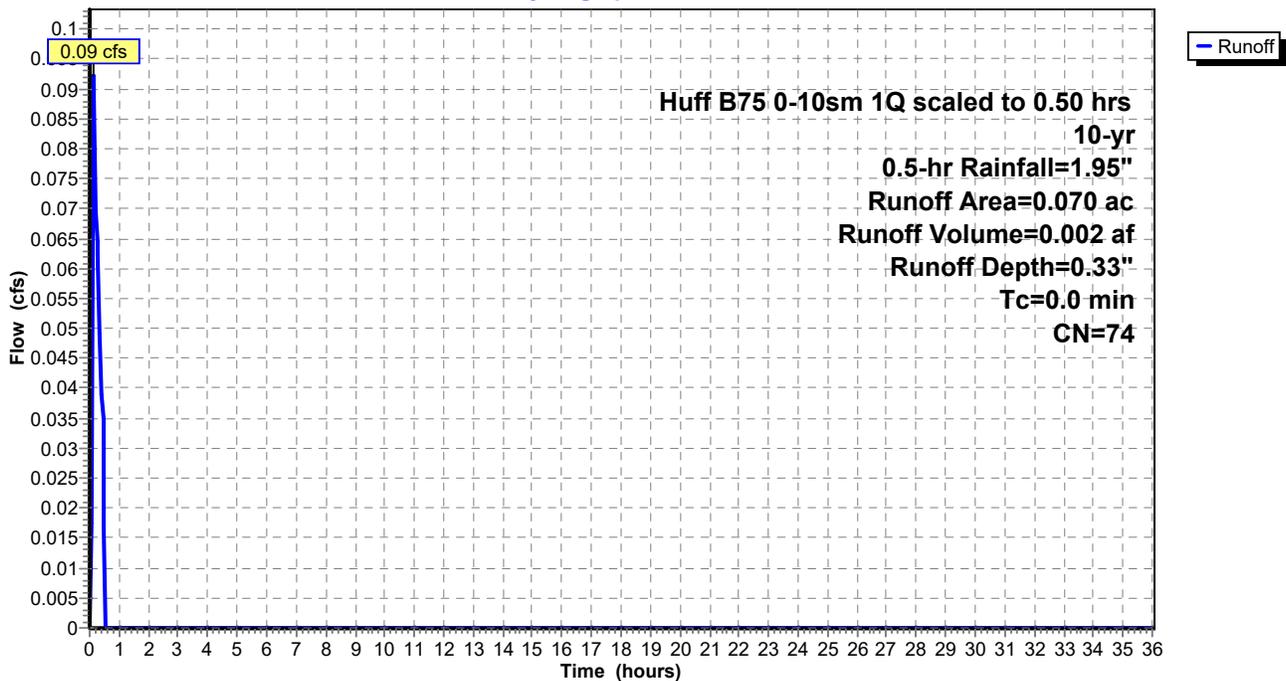
Runoff = 0.09 cfs @ 0.16 hrs, Volume= 0.002 af, Depth= 0.33"
 Routed to Reach 7R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

Area (ac)	CN	Description
0.070	74	>75% Grass cover, Good, HSG C
0.070		100.00% Pervious Area

Subcatchment 3S: EX B

Hydrograph



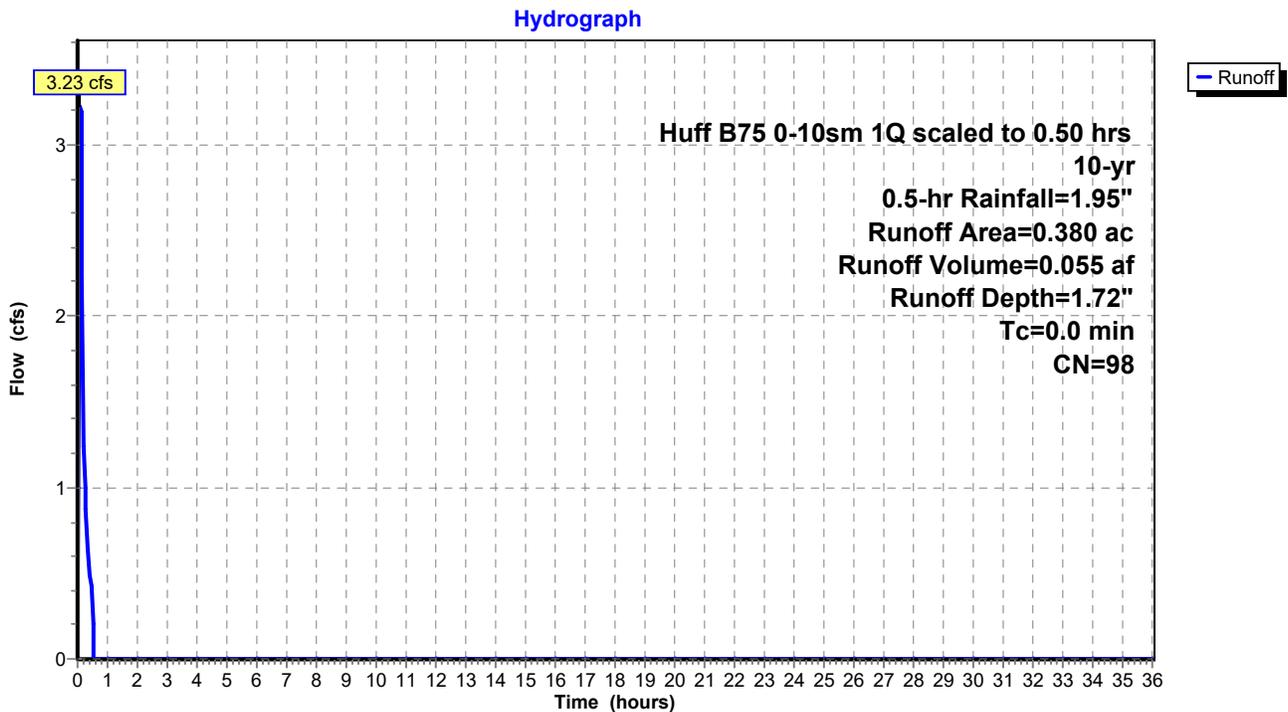
Summary for Subcatchment 4S: EX A

Runoff = 3.23 cfs @ 0.09 hrs, Volume= 0.055 af, Depth= 1.72"
 Routed to Reach 8R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 4S: EX A



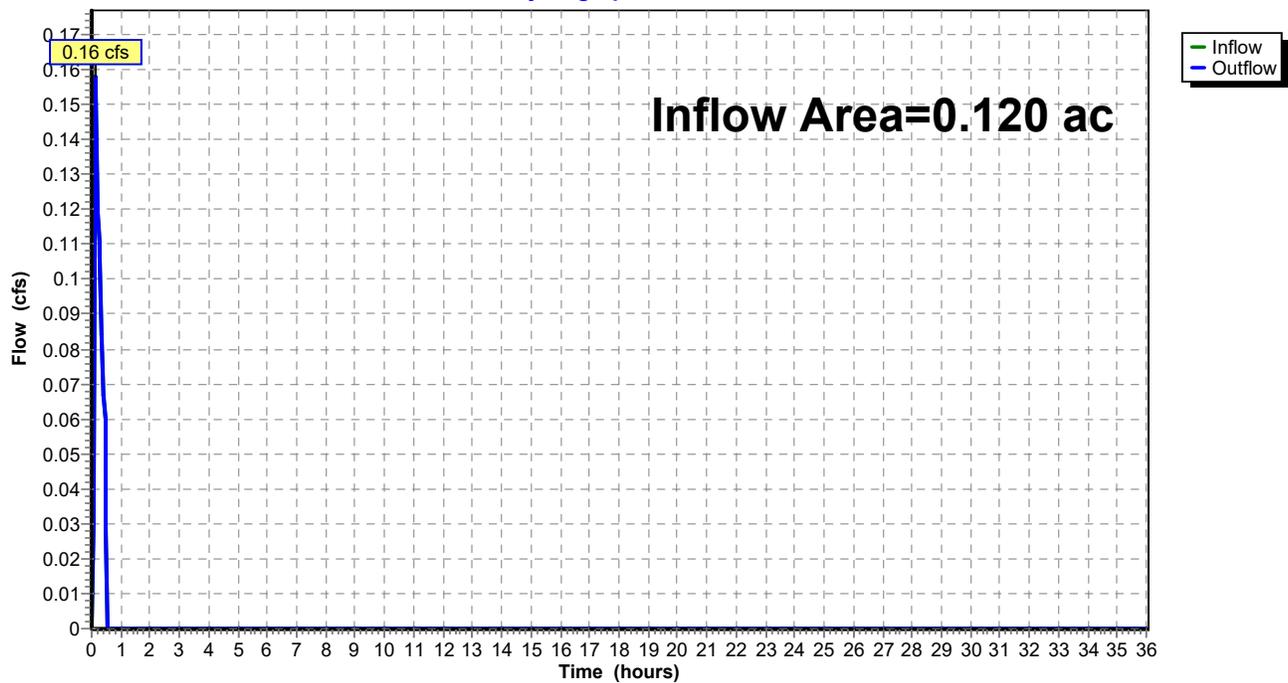
Summary for Reach 5R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 0.33" for 10-yr, 0.5-hr event
Inflow = 0.16 cfs @ 0.16 hrs, Volume= 0.003 af
Outflow = 0.16 cfs @ 0.16 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 5R: (new Reach)

Hydrograph



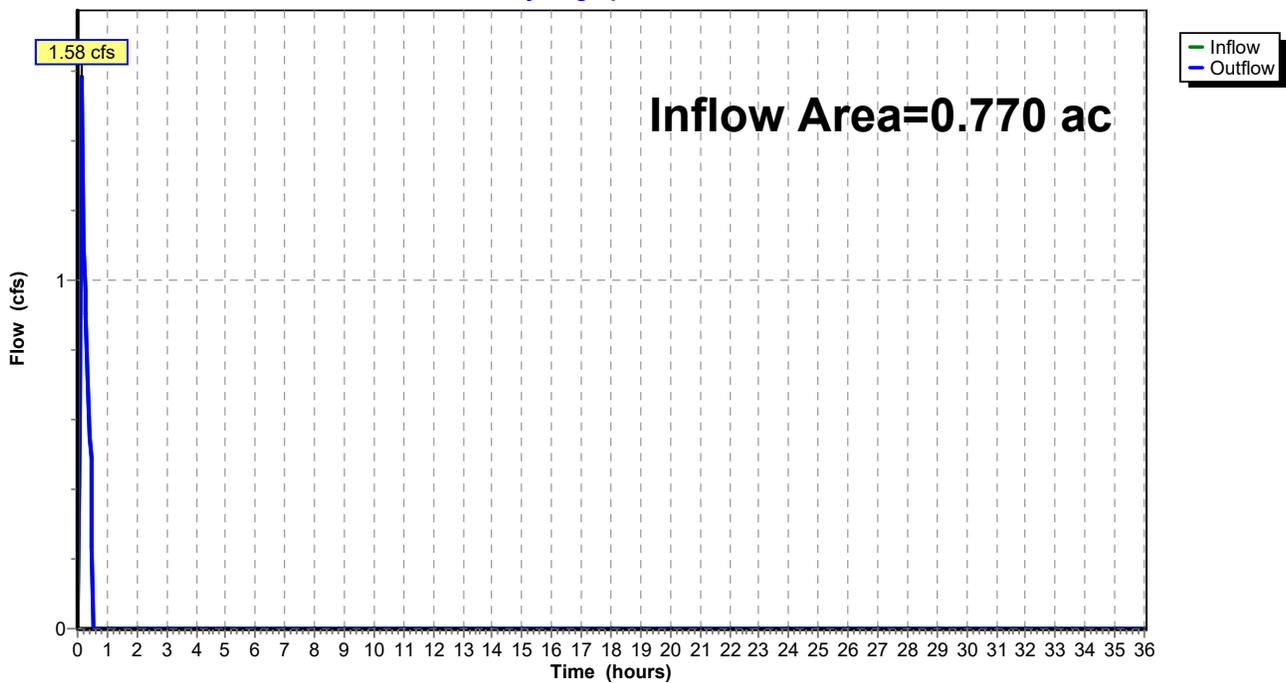
Summary for Reach 6R: Outfall

Inflow Area = 0.770 ac, 15.58% Impervious, Inflow Depth = 0.49" for 10-yr, 0.5-hr event
 Inflow = 1.58 cfs @ 0.15 hrs, Volume= 0.032 af
 Outflow = 1.58 cfs @ 0.15 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 6R: Outfall

Hydrograph



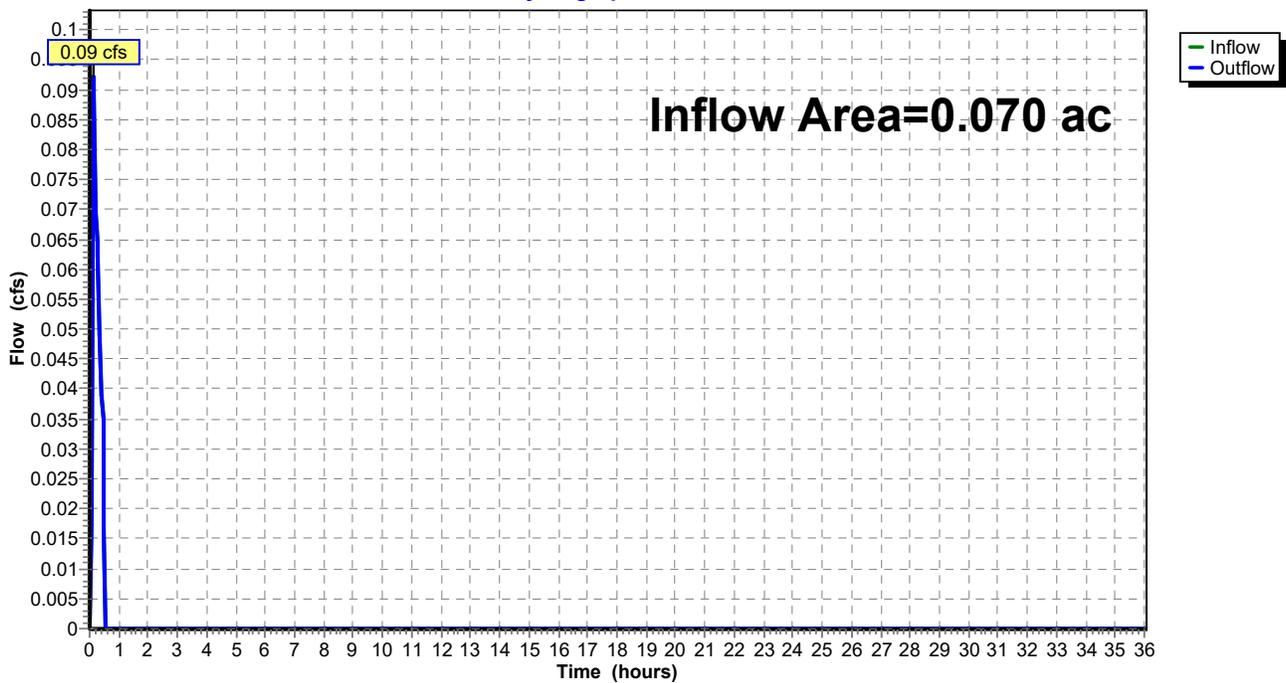
Summary for Reach 7R: (new Reach)

Inflow Area = 0.070 ac, 0.00% Impervious, Inflow Depth = 0.33" for 10-yr, 0.5-hr event
Inflow = 0.09 cfs @ 0.16 hrs, Volume= 0.002 af
Outflow = 0.09 cfs @ 0.16 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 7R: (new Reach)

Hydrograph



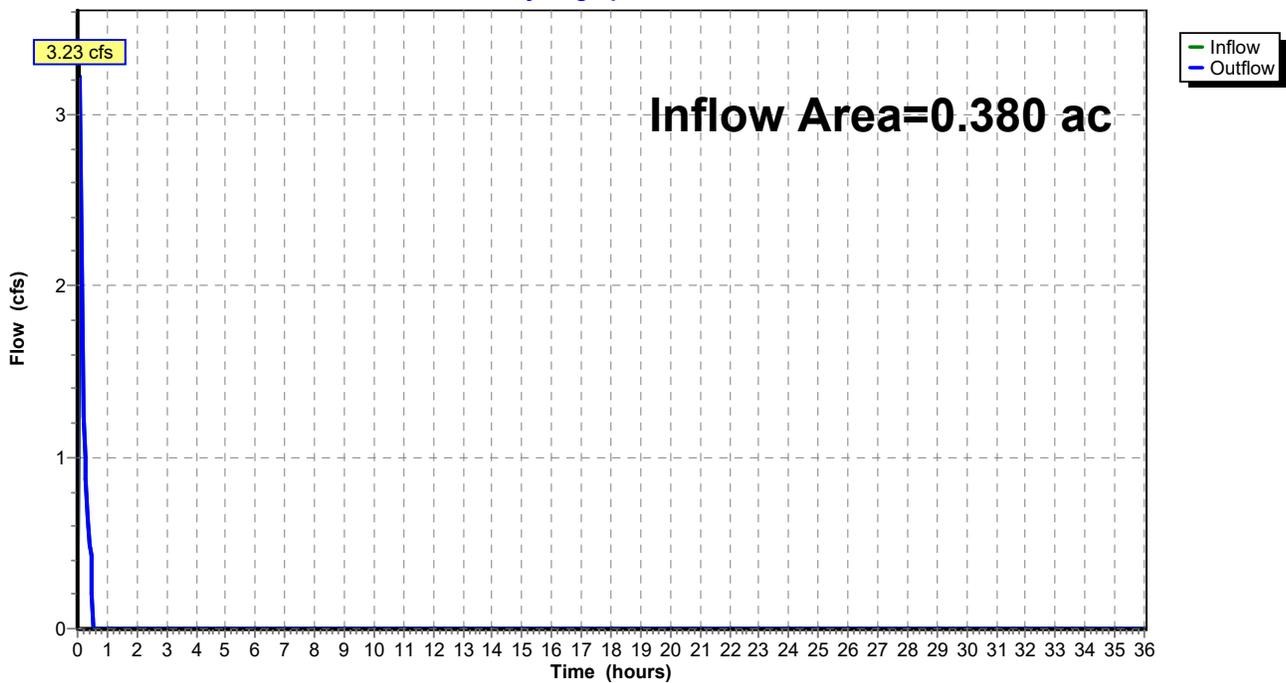
Summary for Reach 8R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 1.72" for 10-yr, 0.5-hr event
 Inflow = 3.23 cfs @ 0.09 hrs, Volume= 0.055 af
 Outflow = 3.23 cfs @ 0.09 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 8R: (new Reach)

Hydrograph



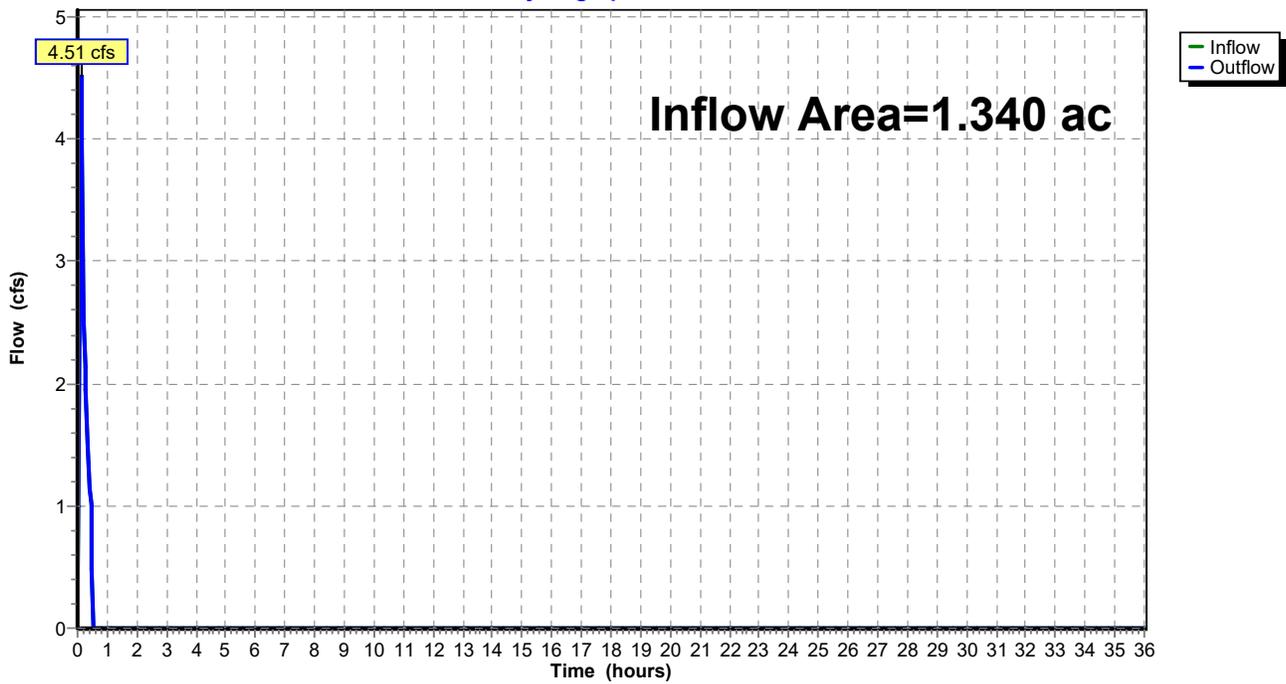
Summary for Reach 40R: EX Total

Inflow Area = 1.340 ac, 37.31% Impervious, Inflow Depth = 0.82" for 10-yr, 0.5-hr event
Inflow = 4.51 cfs @ 0.12 hrs, Volume= 0.091 af
Outflow = 4.51 cfs @ 0.12 hrs, Volume= 0.091 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 40R: EX Total

Hydrograph



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: EX D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=2.58" Tc=0.0 min CN=74 Runoff=0.04 cfs 0.026 af
Subcatchment2S: EX C	Runoff Area=0.770 ac 15.58% Impervious Runoff Depth=3.04" Tc=0.0 min CN=79 Runoff=0.28 cfs 0.195 af
Subcatchment3S: EX B	Runoff Area=0.070 ac 0.00% Impervious Runoff Depth=2.58" Tc=0.0 min CN=74 Runoff=0.02 cfs 0.015 af
Subcatchment4S: EX A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=5.03" Tc=0.0 min CN=98 Runoff=0.18 cfs 0.159 af
Reach 5R: (new Reach)	Inflow=0.04 cfs 0.026 af Outflow=0.04 cfs 0.026 af
Reach 6R: Outfall	Inflow=0.28 cfs 0.195 af Outflow=0.28 cfs 0.195 af
Reach 7R: (new Reach)	Inflow=0.02 cfs 0.015 af Outflow=0.02 cfs 0.015 af
Reach 8R: (new Reach)	Inflow=0.18 cfs 0.159 af Outflow=0.18 cfs 0.159 af
Reach 40R: EX Total	Inflow=0.52 cfs 0.395 af Outflow=0.52 cfs 0.395 af

Total Runoff Area = 1.340 ac Runoff Volume = 0.395 af Average Runoff Depth = 3.54"
62.69% Pervious = 0.840 ac 37.31% Impervious = 0.500 ac

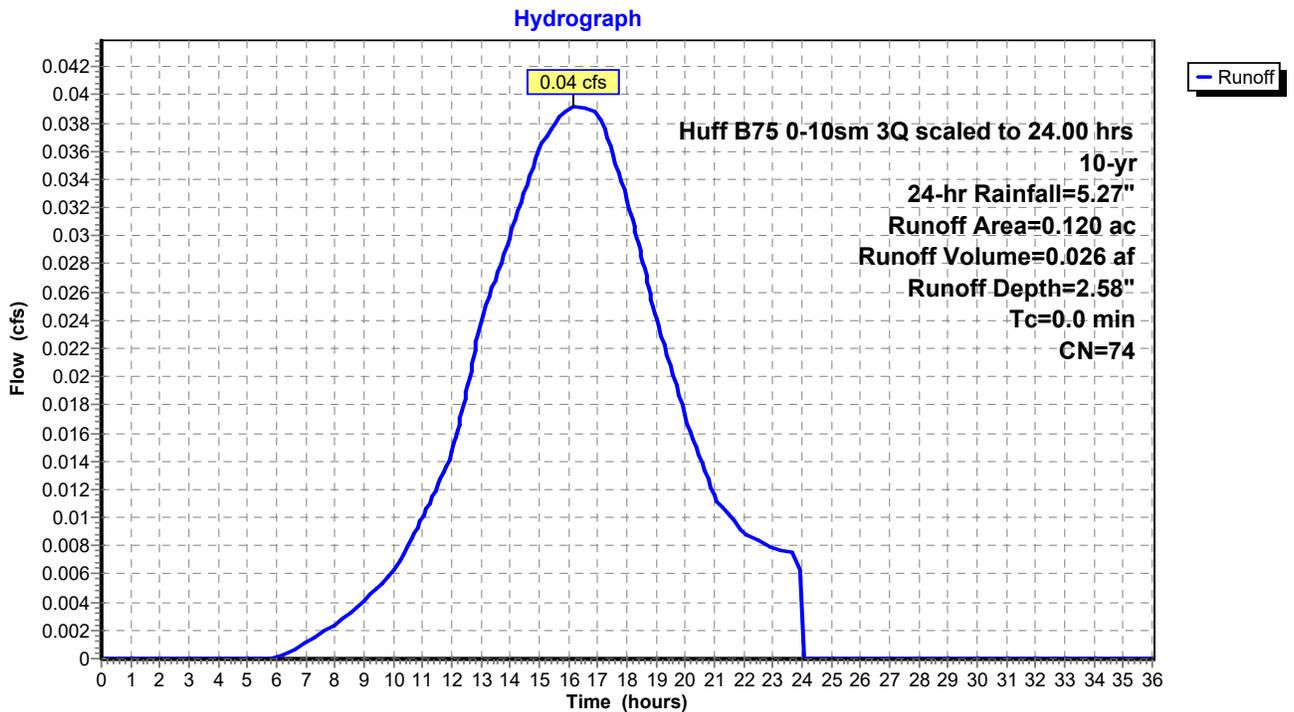
Summary for Subcatchment 1S: EX D

Runoff = 0.04 cfs @ 16.14 hrs, Volume= 0.026 af, Depth= 2.58"
 Routed to Reach 5R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 10-yr, 24-hr Rainfall=5.27"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 1S: EX D



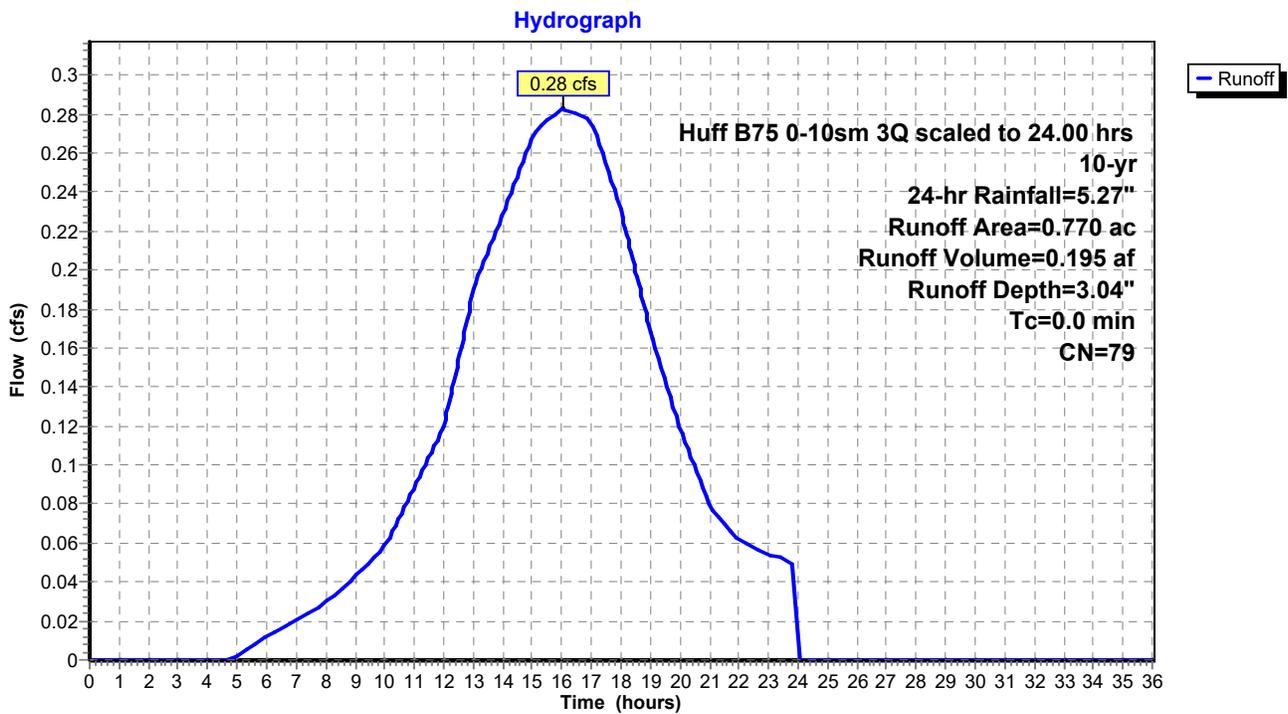
Summary for Subcatchment 2S: EX C

Runoff = 0.28 cfs @ 16.02 hrs, Volume= 0.195 af, Depth= 3.04"
 Routed to Reach 6R : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 10-yr, 24-hr Rainfall=5.27"

Area (ac)	CN	Description
0.120	98	Paved parking, HSG C
0.620	74	>75% Grass cover, Good, HSG C
0.030	96	Gravel surface, HSG C
0.770	79	Weighted Average
0.650		84.42% Pervious Area
0.120		15.58% Impervious Area

Subcatchment 2S: EX C



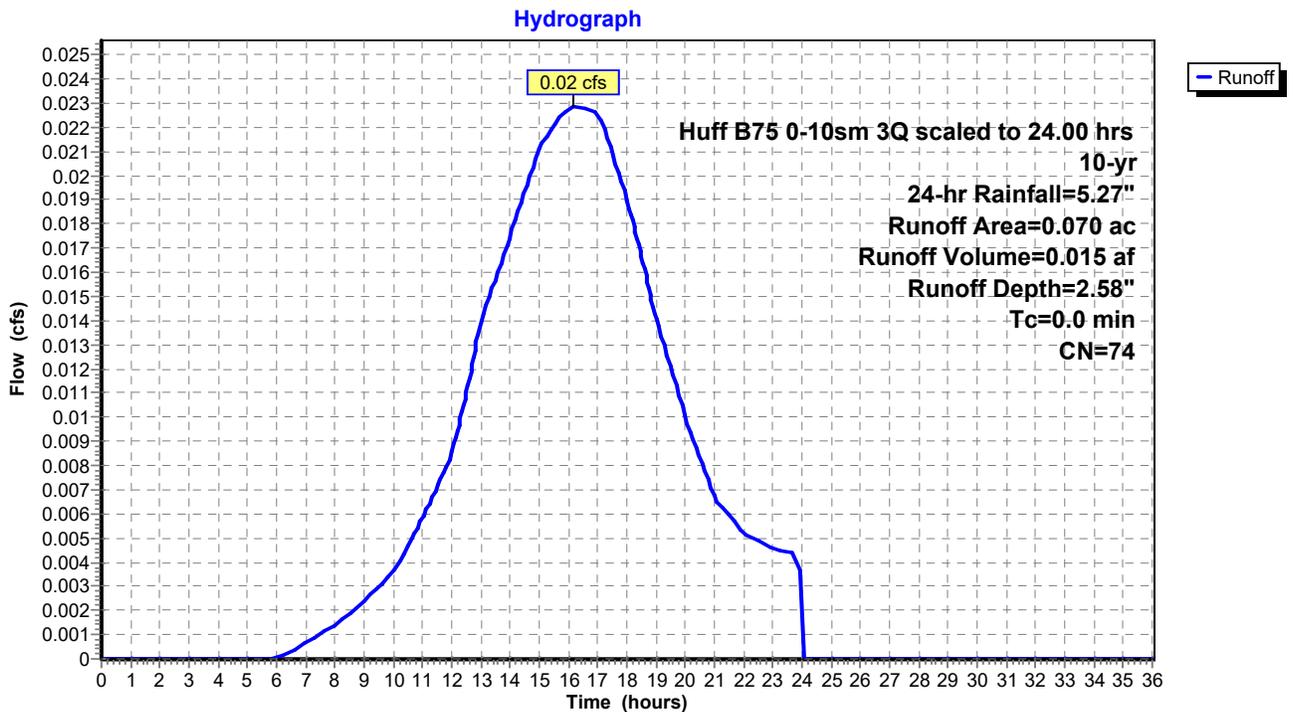
Summary for Subcatchment 3S: EX B

Runoff = 0.02 cfs @ 16.14 hrs, Volume= 0.015 af, Depth= 2.58"
 Routed to Reach 7R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 10-yr, 24-hr Rainfall=5.27"

Area (ac)	CN	Description
0.070	74	>75% Grass cover, Good, HSG C
0.070		100.00% Pervious Area

Subcatchment 3S: EX B



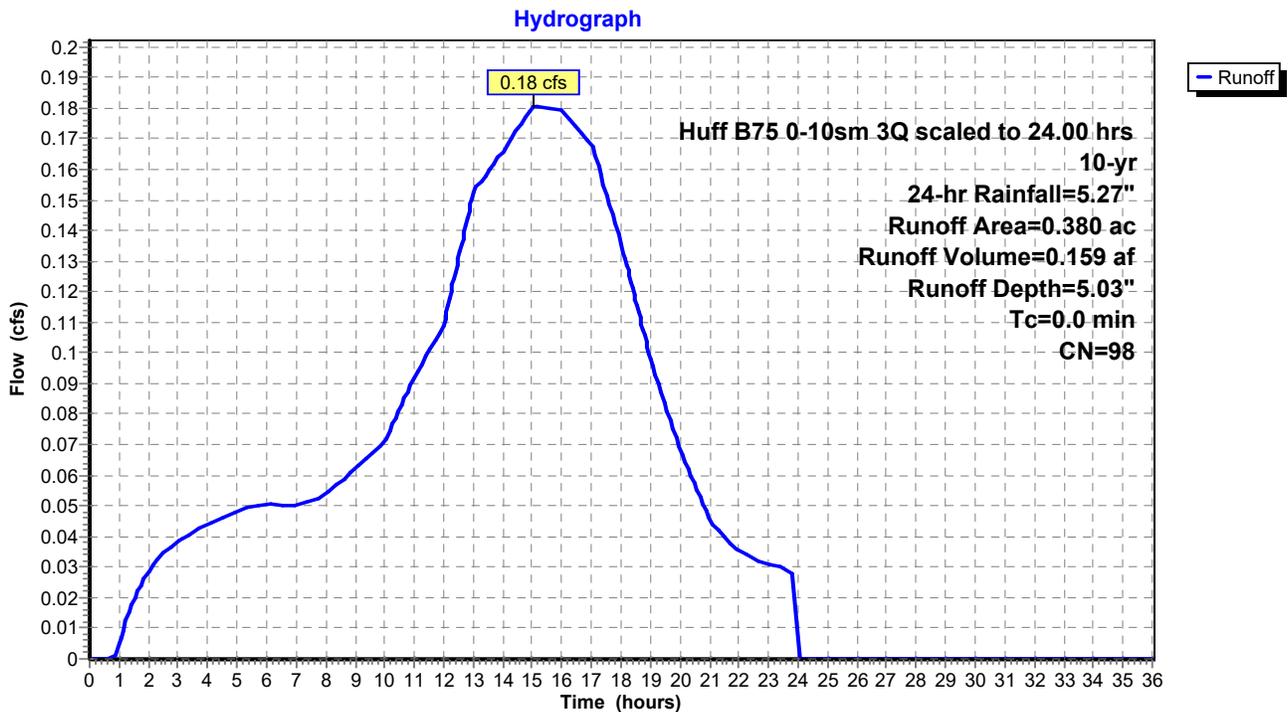
Summary for Subcatchment 4S: EX A

Runoff = 0.18 cfs @ 15.06 hrs, Volume= 0.159 af, Depth= 5.03"
 Routed to Reach 8R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 10-yr, 24-hr Rainfall=5.27"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 4S: EX A

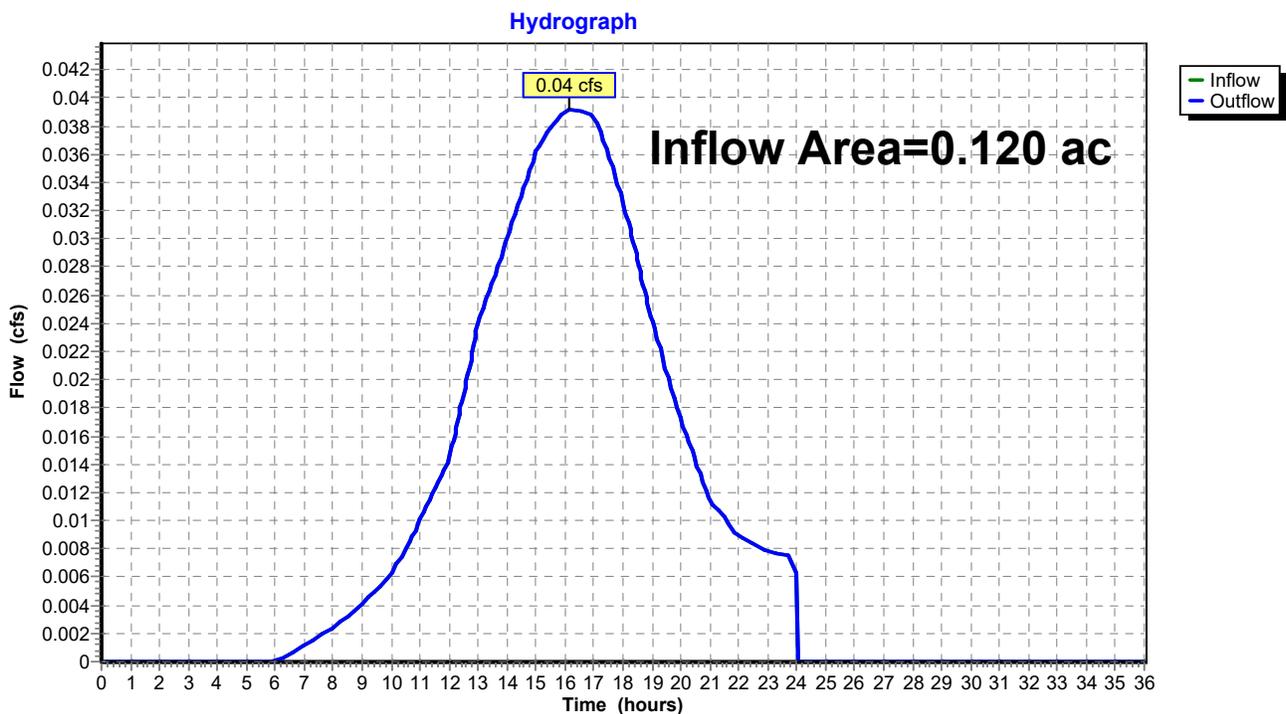


Summary for Reach 5R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 2.58" for 10-yr, 24-hr event
 Inflow = 0.04 cfs @ 16.14 hrs, Volume= 0.026 af
 Outflow = 0.04 cfs @ 16.14 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

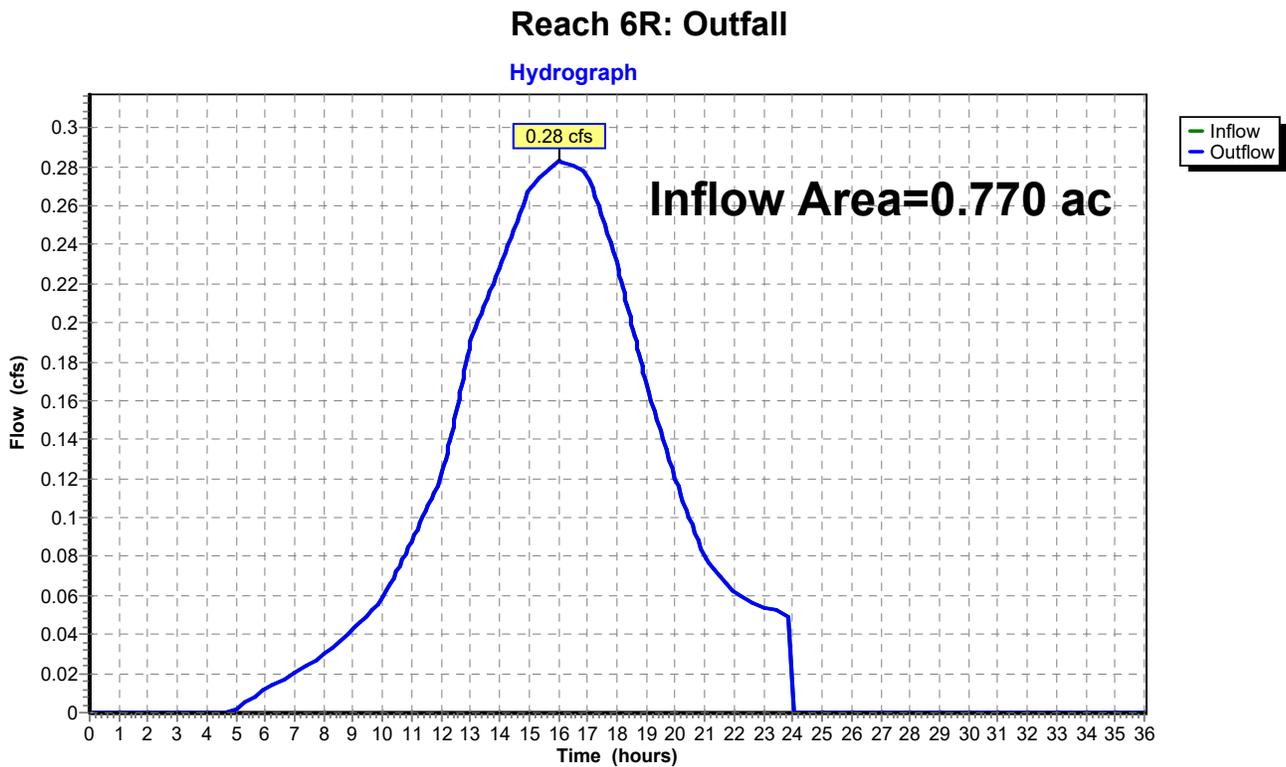
Reach 5R: (new Reach)



Summary for Reach 6R: Outfall

Inflow Area = 0.770 ac, 15.58% Impervious, Inflow Depth = 3.04" for 10-yr, 24-hr event
 Inflow = 0.28 cfs @ 16.02 hrs, Volume= 0.195 af
 Outflow = 0.28 cfs @ 16.02 hrs, Volume= 0.195 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

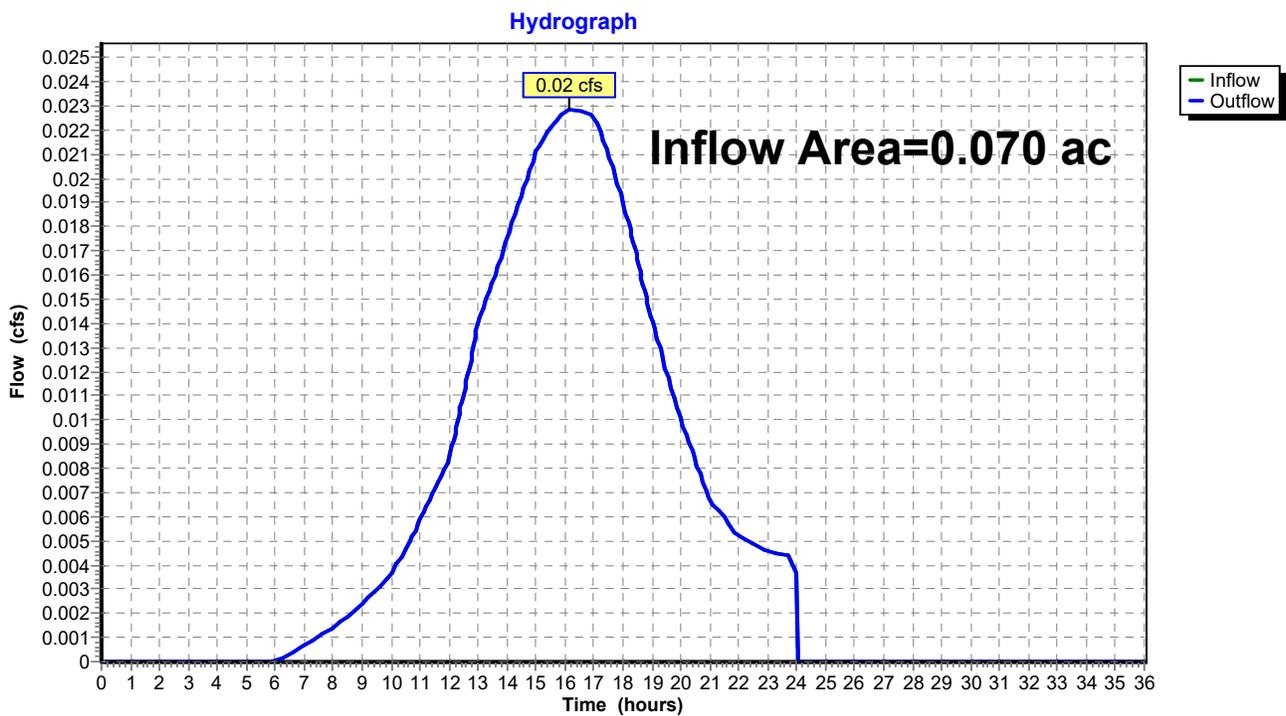


Summary for Reach 7R: (new Reach)

Inflow Area = 0.070 ac, 0.00% Impervious, Inflow Depth = 2.58" for 10-yr, 24-hr event
 Inflow = 0.02 cfs @ 16.14 hrs, Volume= 0.015 af
 Outflow = 0.02 cfs @ 16.14 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 7R: (new Reach)

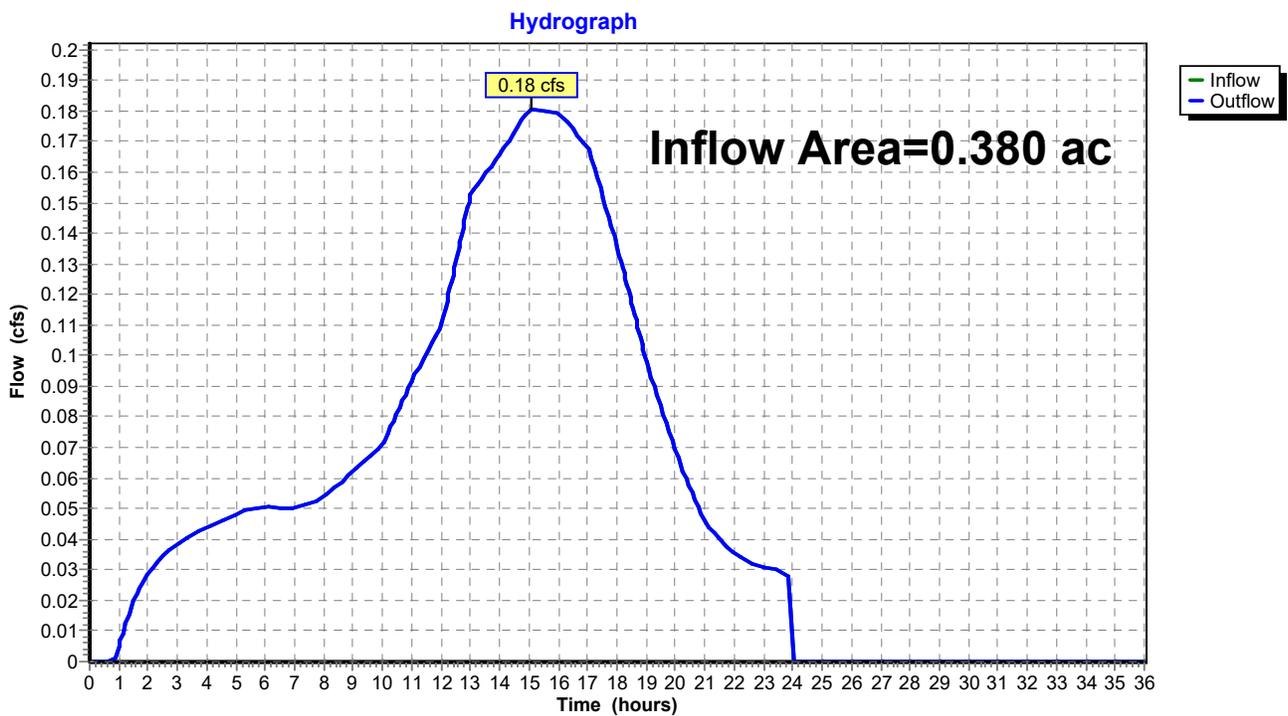


Summary for Reach 8R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 5.03" for 10-yr, 24-hr event
 Inflow = 0.18 cfs @ 15.06 hrs, Volume= 0.159 af
 Outflow = 0.18 cfs @ 15.06 hrs, Volume= 0.159 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 8R: (new Reach)

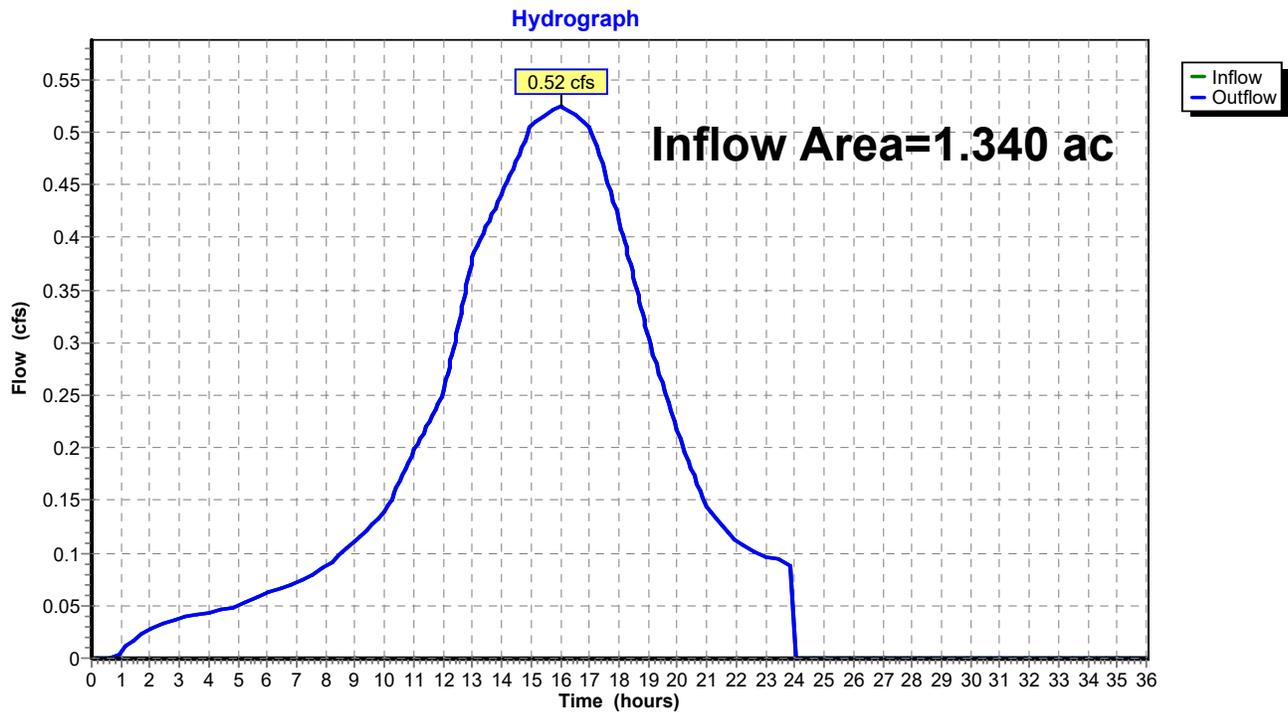


Summary for Reach 40R: EX Total

Inflow Area = 1.340 ac, 37.31% Impervious, Inflow Depth = 3.54" for 10-yr, 24-hr event
Inflow = 0.52 cfs @ 16.00 hrs, Volume= 0.395 af
Outflow = 0.52 cfs @ 16.00 hrs, Volume= 0.395 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 40R: EX Total



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: EX D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=0.88" Tc=0.0 min CN=74 Runoff=0.44 cfs 0.009 af
Subcatchment2S: EX C	Runoff Area=0.770 ac 15.58% Impervious Runoff Depth=1.15" Tc=0.0 min CN=79 Runoff=3.84 cfs 0.074 af
Subcatchment3S: EX B	Runoff Area=0.070 ac 0.00% Impervious Runoff Depth=0.88" Tc=0.0 min CN=74 Runoff=0.26 cfs 0.005 af
Subcatchment4S: EX A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=2.72" Tc=0.0 min CN=98 Runoff=5.07 cfs 0.086 af
Reach 5R: (new Reach)	Inflow=0.44 cfs 0.009 af Outflow=0.44 cfs 0.009 af
Reach 6R: Outfall	Inflow=3.84 cfs 0.074 af Outflow=3.84 cfs 0.074 af
Reach 7R: (new Reach)	Inflow=0.26 cfs 0.005 af Outflow=0.26 cfs 0.005 af
Reach 8R: (new Reach)	Inflow=5.07 cfs 0.086 af Outflow=5.07 cfs 0.086 af
Reach 40R: EX Total	Inflow=9.33 cfs 0.174 af Outflow=9.33 cfs 0.174 af

Total Runoff Area = 1.340 ac Runoff Volume = 0.174 af Average Runoff Depth = 1.56"
62.69% Pervious = 0.840 ac 37.31% Impervious = 0.500 ac

Summary for Subcatchment 1S: EX D

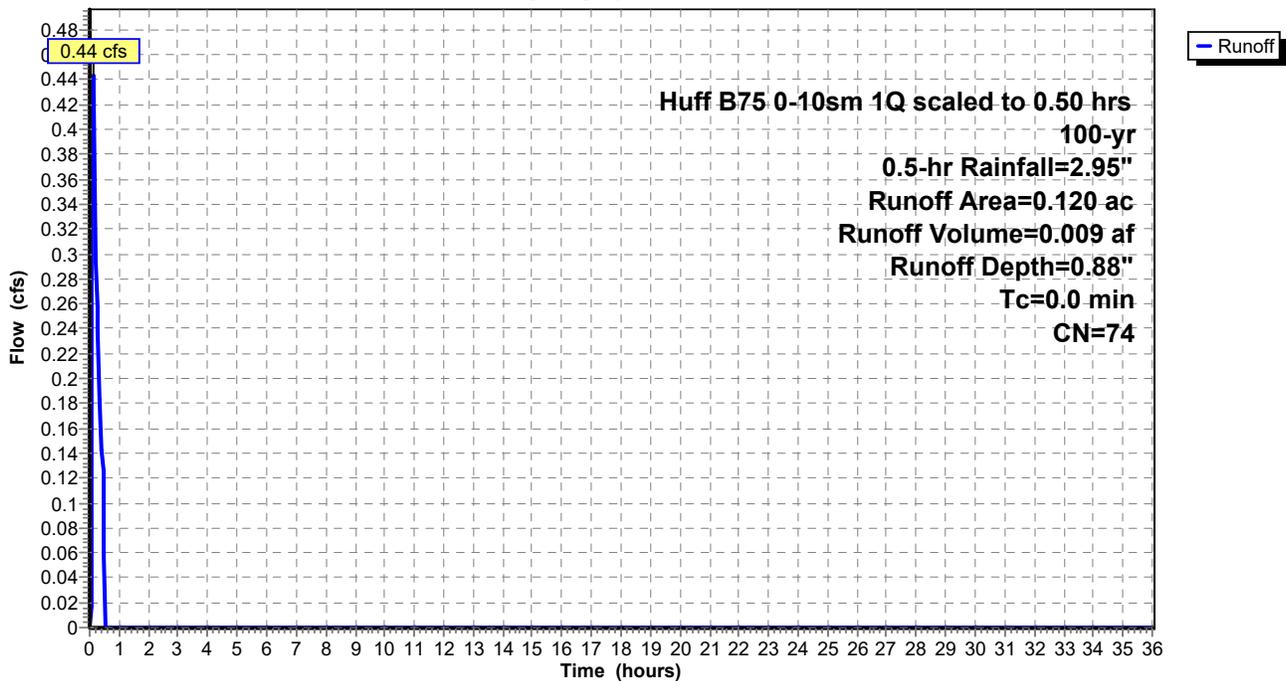
Runoff = 0.44 cfs @ 0.14 hrs, Volume= 0.009 af, Depth= 0.88"
 Routed to Reach 5R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 100-yr, 0.5-hr Rainfall=2.95"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 1S: EX D

Hydrograph



Summary for Subcatchment 2S: EX C

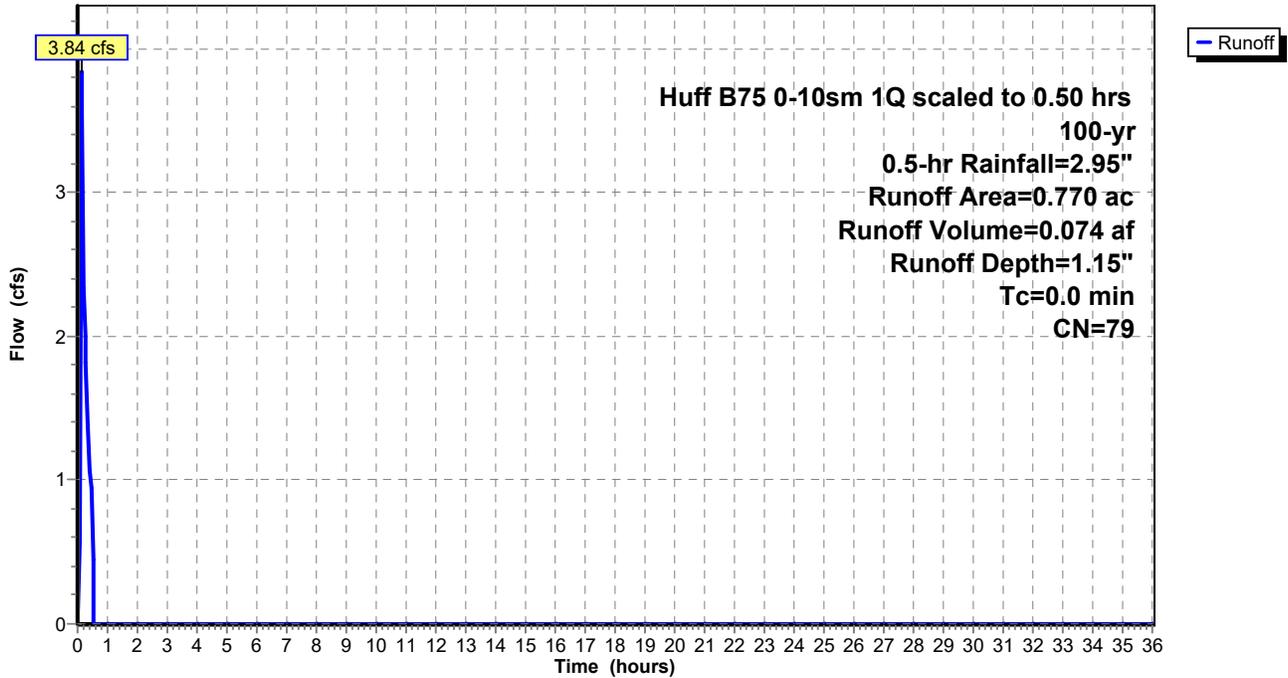
Runoff = 3.84 cfs @ 0.13 hrs, Volume= 0.074 af, Depth= 1.15"
 Routed to Reach 6R : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 100-yr, 0.5-hr Rainfall=2.95"

Area (ac)	CN	Description
0.120	98	Paved parking, HSG C
0.620	74	>75% Grass cover, Good, HSG C
0.030	96	Gravel surface, HSG C
0.770	79	Weighted Average
0.650		84.42% Pervious Area
0.120		15.58% Impervious Area

Subcatchment 2S: EX C

Hydrograph



Summary for Subcatchment 3S: EX B

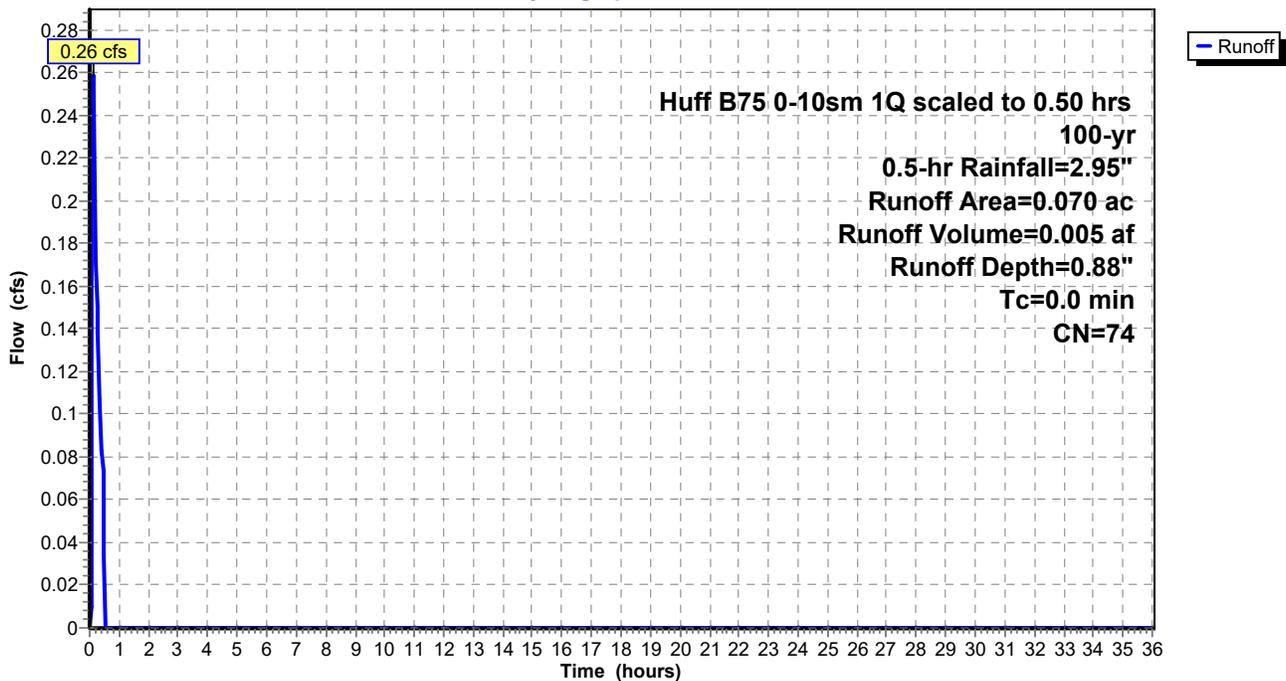
Runoff = 0.26 cfs @ 0.14 hrs, Volume= 0.005 af, Depth= 0.88"
 Routed to Reach 7R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 100-yr, 0.5-hr Rainfall=2.95"

Area (ac)	CN	Description
0.070	74	>75% Grass cover, Good, HSG C
0.070		100.00% Pervious Area

Subcatchment 3S: EX B

Hydrograph



Summary for Subcatchment 4S: EX A

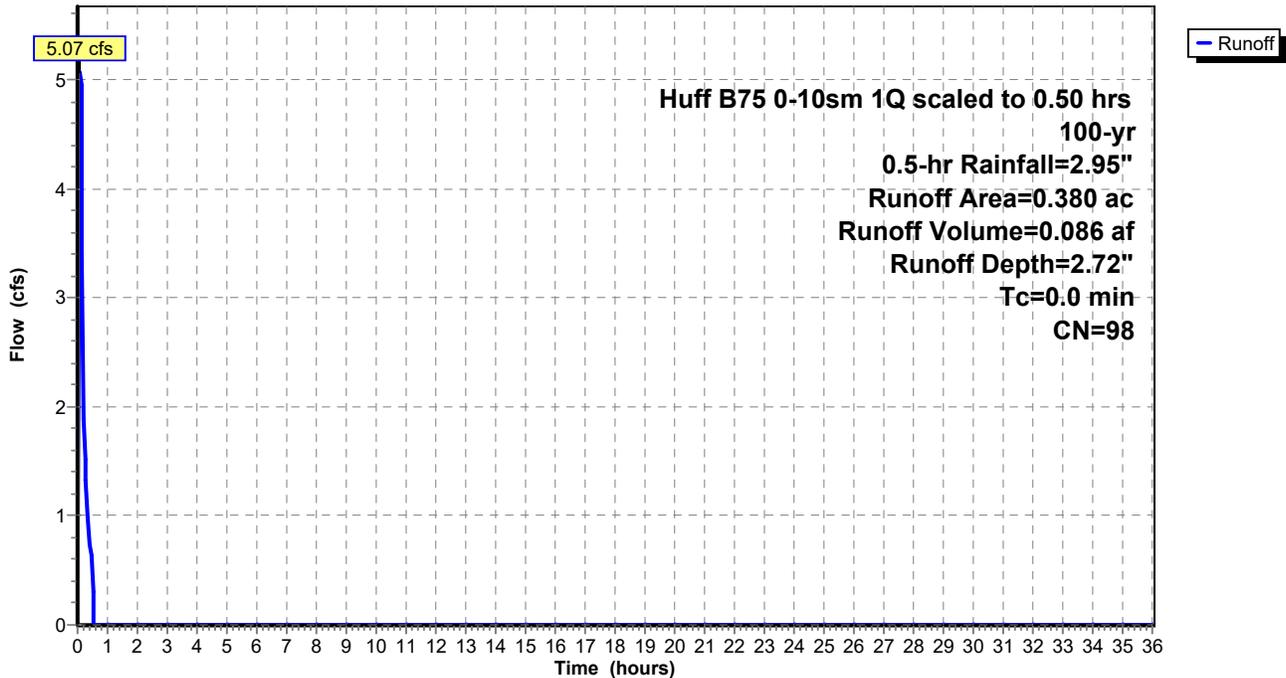
Runoff = 5.07 cfs @ 0.08 hrs, Volume= 0.086 af, Depth= 2.72"
 Routed to Reach 8R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 100-yr, 0.5-hr Rainfall=2.95"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 4S: EX A

Hydrograph



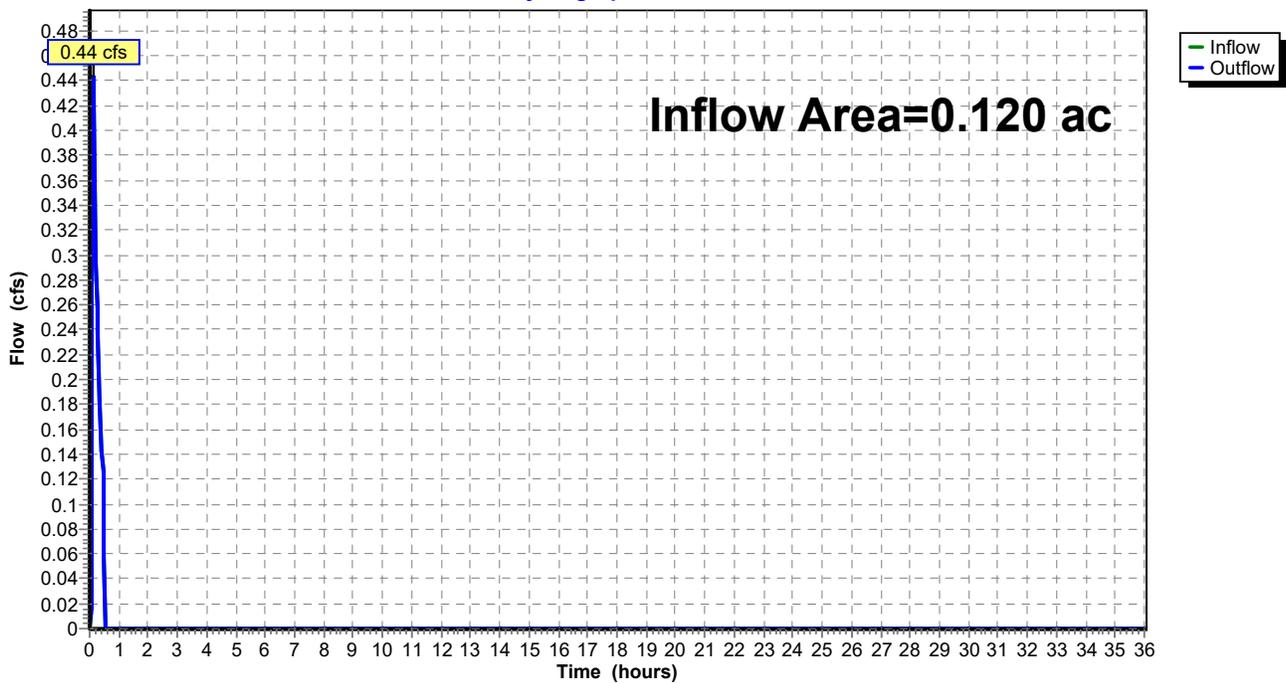
Summary for Reach 5R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 0.88" for 100-yr, 0.5-hr event
 Inflow = 0.44 cfs @ 0.14 hrs, Volume= 0.009 af
 Outflow = 0.44 cfs @ 0.14 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 5R: (new Reach)

Hydrograph



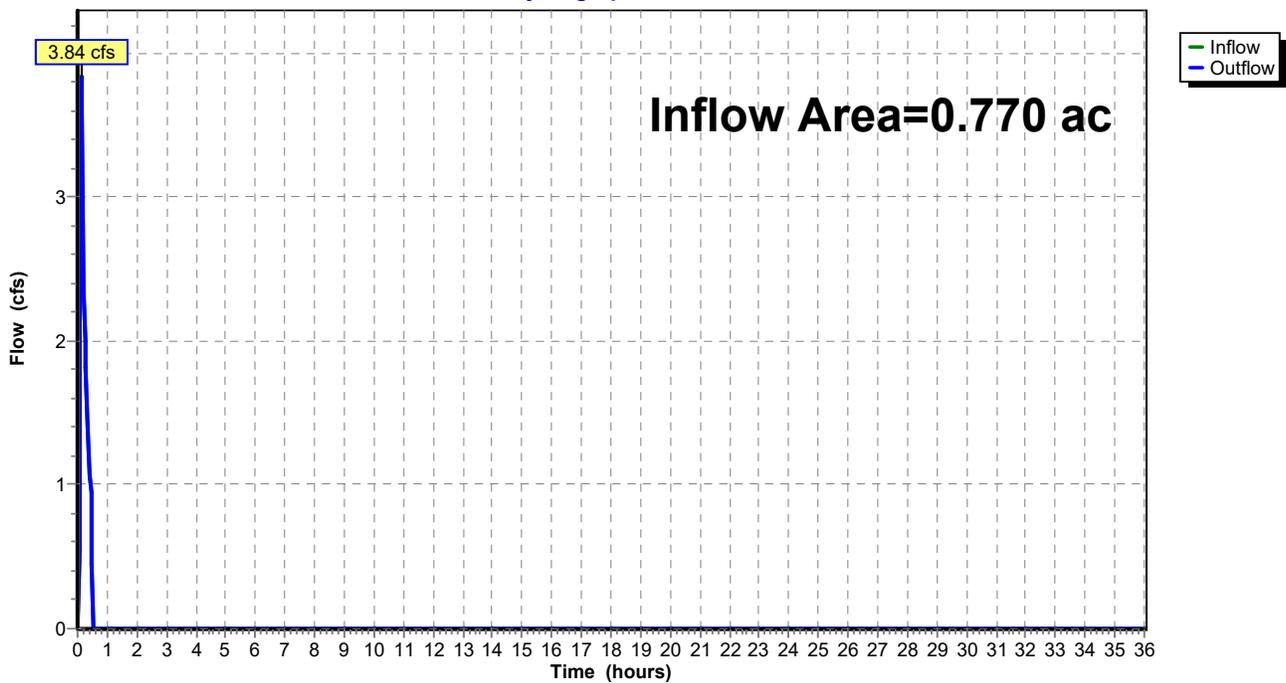
Summary for Reach 6R: Outfall

Inflow Area = 0.770 ac, 15.58% Impervious, Inflow Depth = 1.15" for 100-yr, 0.5-hr event
 Inflow = 3.84 cfs @ 0.13 hrs, Volume= 0.074 af
 Outflow = 3.84 cfs @ 0.13 hrs, Volume= 0.074 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 6R: Outfall

Hydrograph



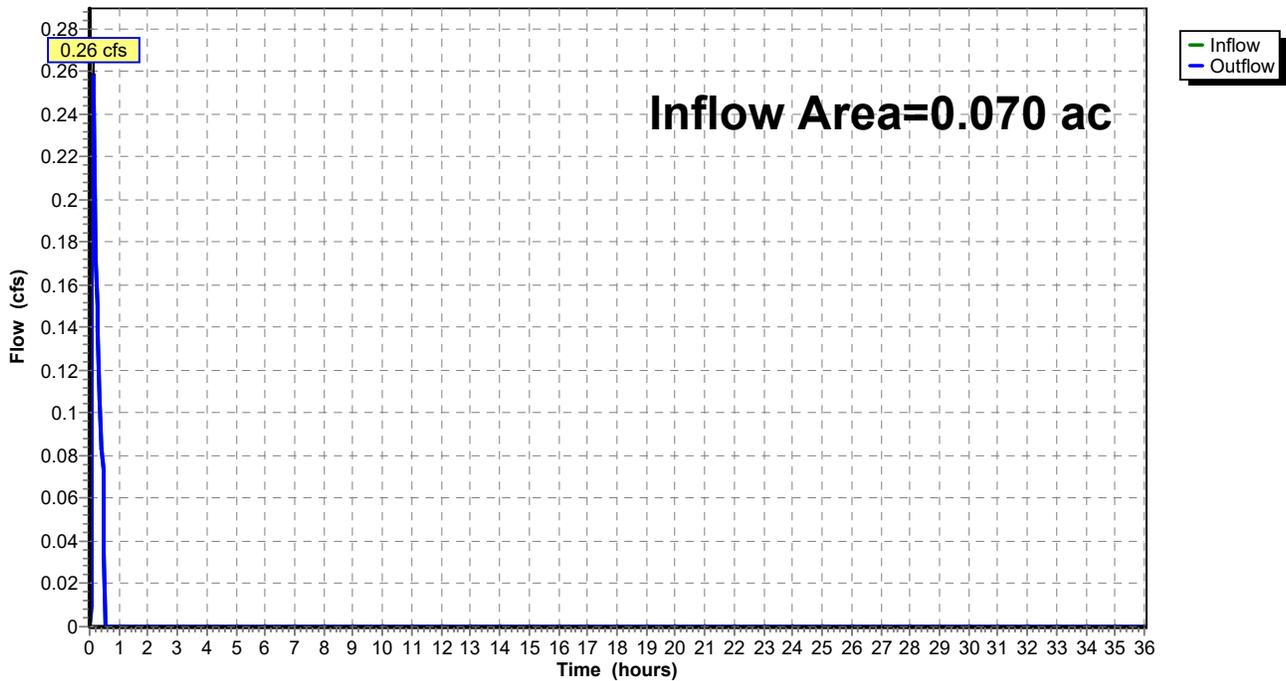
Summary for Reach 7R: (new Reach)

Inflow Area = 0.070 ac, 0.00% Impervious, Inflow Depth = 0.88" for 100-yr, 0.5-hr event
 Inflow = 0.26 cfs @ 0.14 hrs, Volume= 0.005 af
 Outflow = 0.26 cfs @ 0.14 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 7R: (new Reach)

Hydrograph



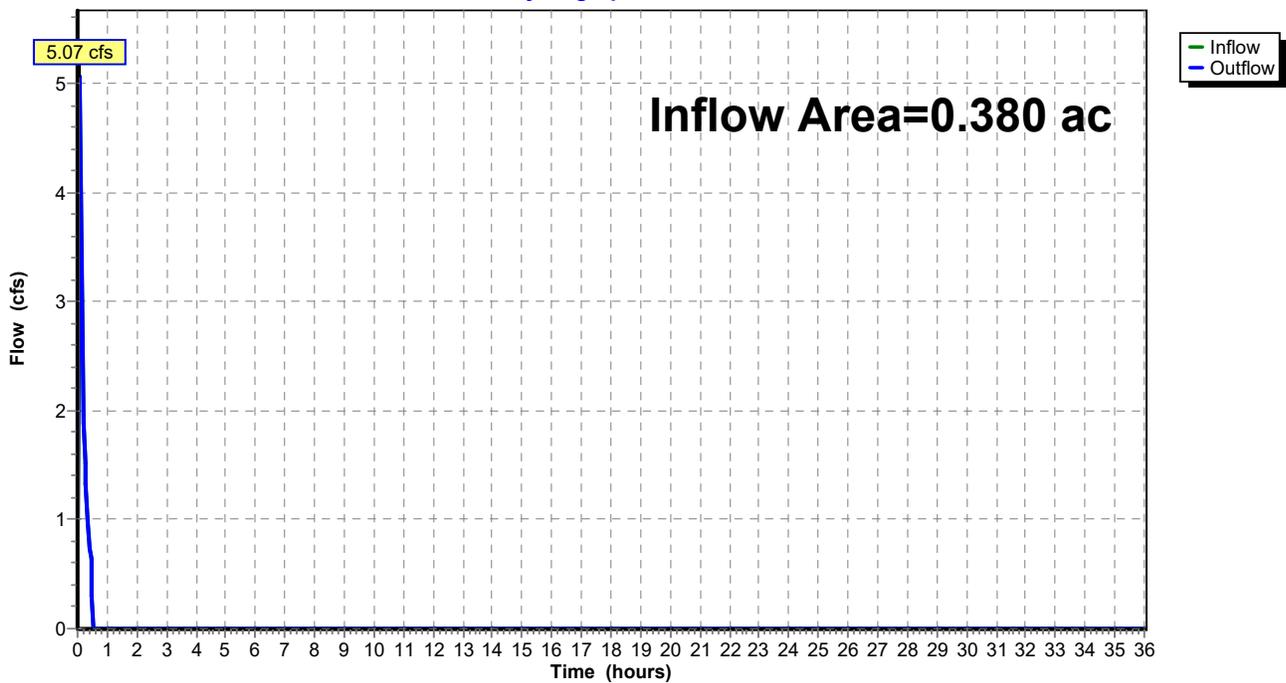
Summary for Reach 8R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 2.72" for 100-yr, 0.5-hr event
 Inflow = 5.07 cfs @ 0.08 hrs, Volume= 0.086 af
 Outflow = 5.07 cfs @ 0.08 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 8R: (new Reach)

Hydrograph



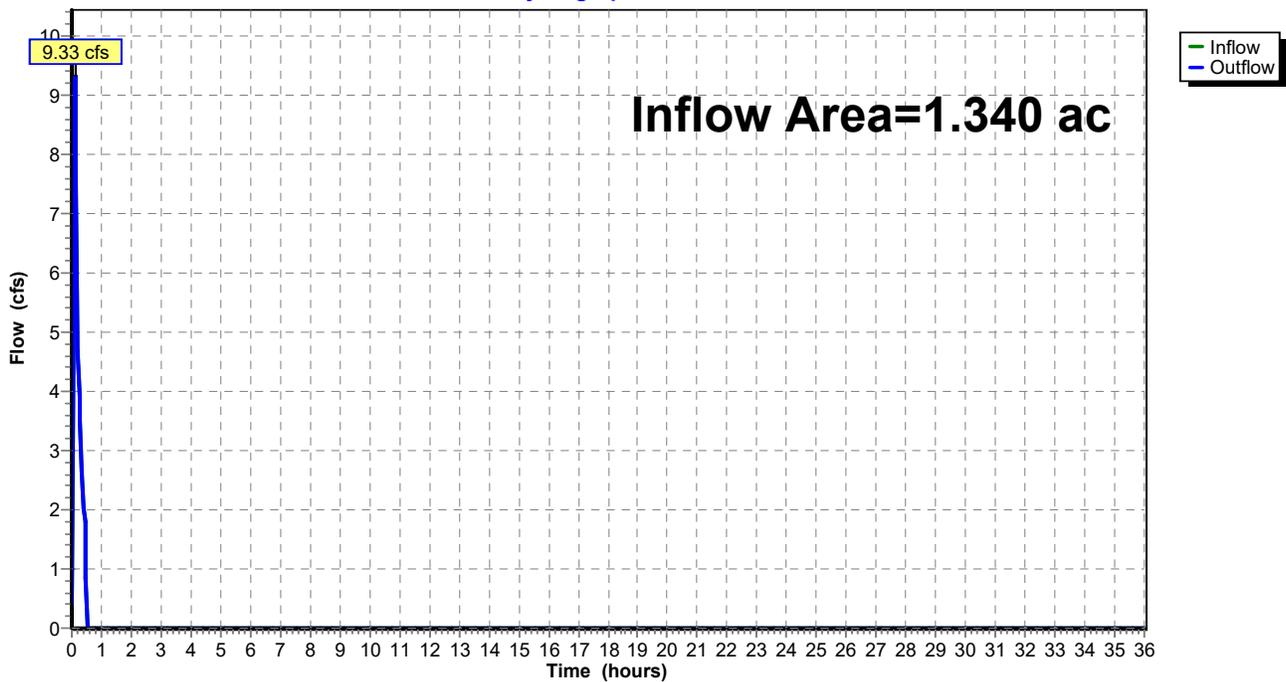
Summary for Reach 40R: EX Total

Inflow Area = 1.340 ac, 37.31% Impervious, Inflow Depth = 1.56" for 100-yr, 0.5-hr event
Inflow = 9.33 cfs @ 0.11 hrs, Volume= 0.174 af
Outflow = 9.33 cfs @ 0.11 hrs, Volume= 0.174 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 40R: EX Total

Hydrograph



Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: EX D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=4.89" Tc=0.0 min CN=74 Runoff=0.07 cfs 0.049 af
Subcatchment2S: EX C	Runoff Area=0.770 ac 15.58% Impervious Runoff Depth=5.47" Tc=0.0 min CN=79 Runoff=0.48 cfs 0.351 af
Subcatchment3S: EX B	Runoff Area=0.070 ac 0.00% Impervious Runoff Depth=4.89" Tc=0.0 min CN=74 Runoff=0.04 cfs 0.029 af
Subcatchment4S: EX A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=7.72" Tc=0.0 min CN=98 Runoff=0.27 cfs 0.244 af
Reach 5R: (new Reach)	Inflow=0.07 cfs 0.049 af Outflow=0.07 cfs 0.049 af
Reach 6R: Outfall	Inflow=0.48 cfs 0.351 af Outflow=0.48 cfs 0.351 af
Reach 7R: (new Reach)	Inflow=0.04 cfs 0.029 af Outflow=0.04 cfs 0.029 af
Reach 8R: (new Reach)	Inflow=0.27 cfs 0.244 af Outflow=0.27 cfs 0.244 af
Reach 40R: EX Total	Inflow=0.86 cfs 0.673 af Outflow=0.86 cfs 0.673 af

Total Runoff Area = 1.340 ac Runoff Volume = 0.673 af Average Runoff Depth = 6.03"
62.69% Pervious = 0.840 ac 37.31% Impervious = 0.500 ac

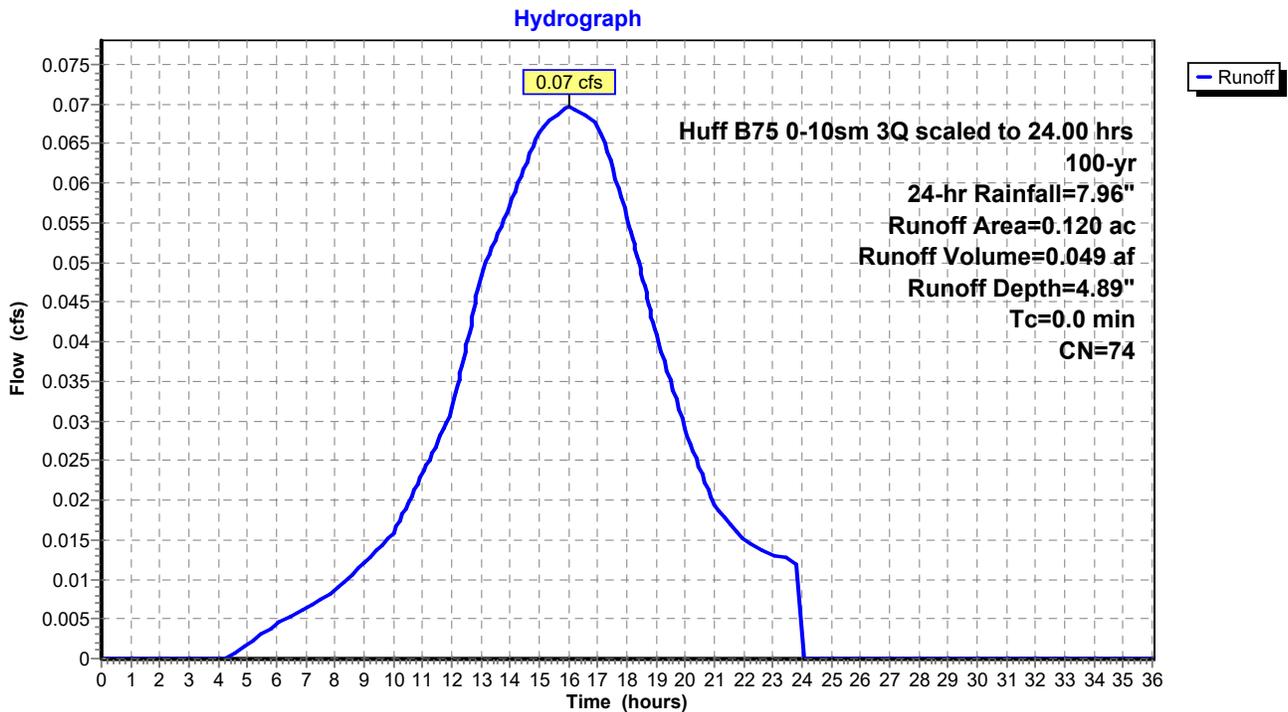
Summary for Subcatchment 1S: EX D

Runoff = 0.07 cfs @ 16.01 hrs, Volume= 0.049 af, Depth= 4.89"
 Routed to Reach 5R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 100-yr, 24-hr Rainfall=7.96"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 1S: EX D



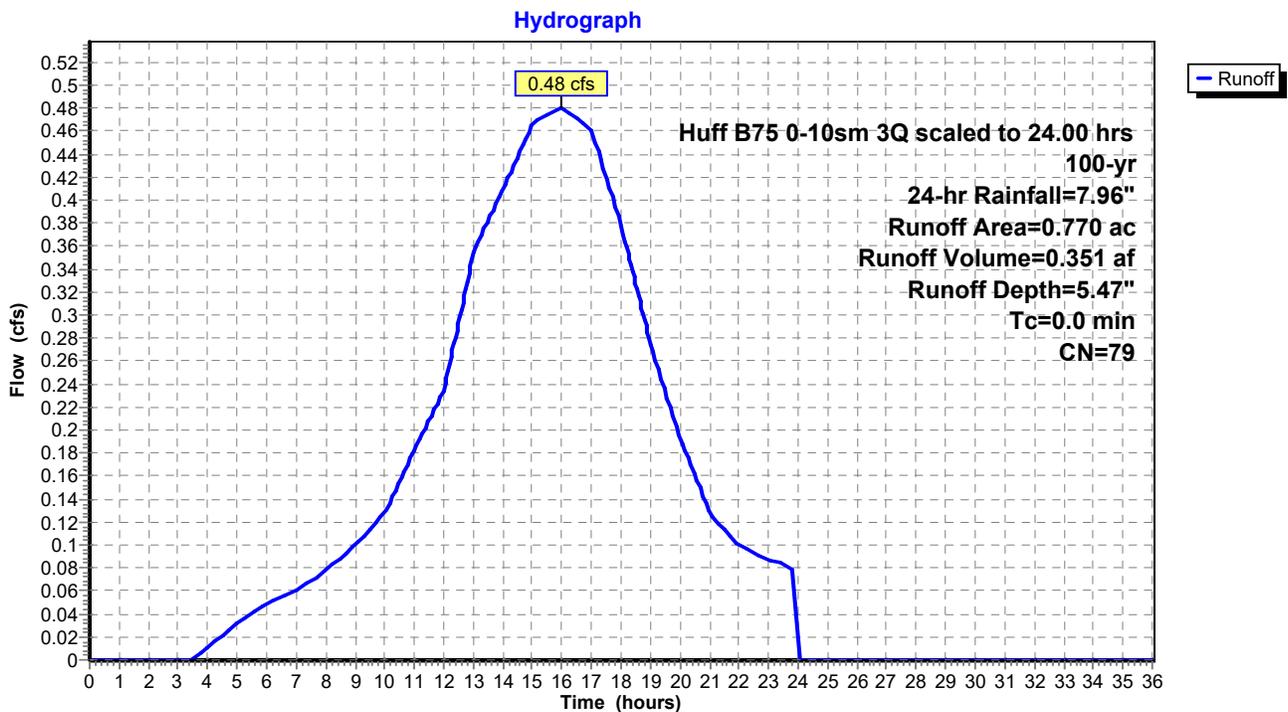
Summary for Subcatchment 2S: EX C

Runoff = 0.48 cfs @ 15.99 hrs, Volume= 0.351 af, Depth= 5.47"
 Routed to Reach 6R : Outfall

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 100-yr, 24-hr Rainfall=7.96"

Area (ac)	CN	Description
0.120	98	Paved parking, HSG C
0.620	74	>75% Grass cover, Good, HSG C
0.030	96	Gravel surface, HSG C
0.770	79	Weighted Average
0.650		84.42% Pervious Area
0.120		15.58% Impervious Area

Subcatchment 2S: EX C



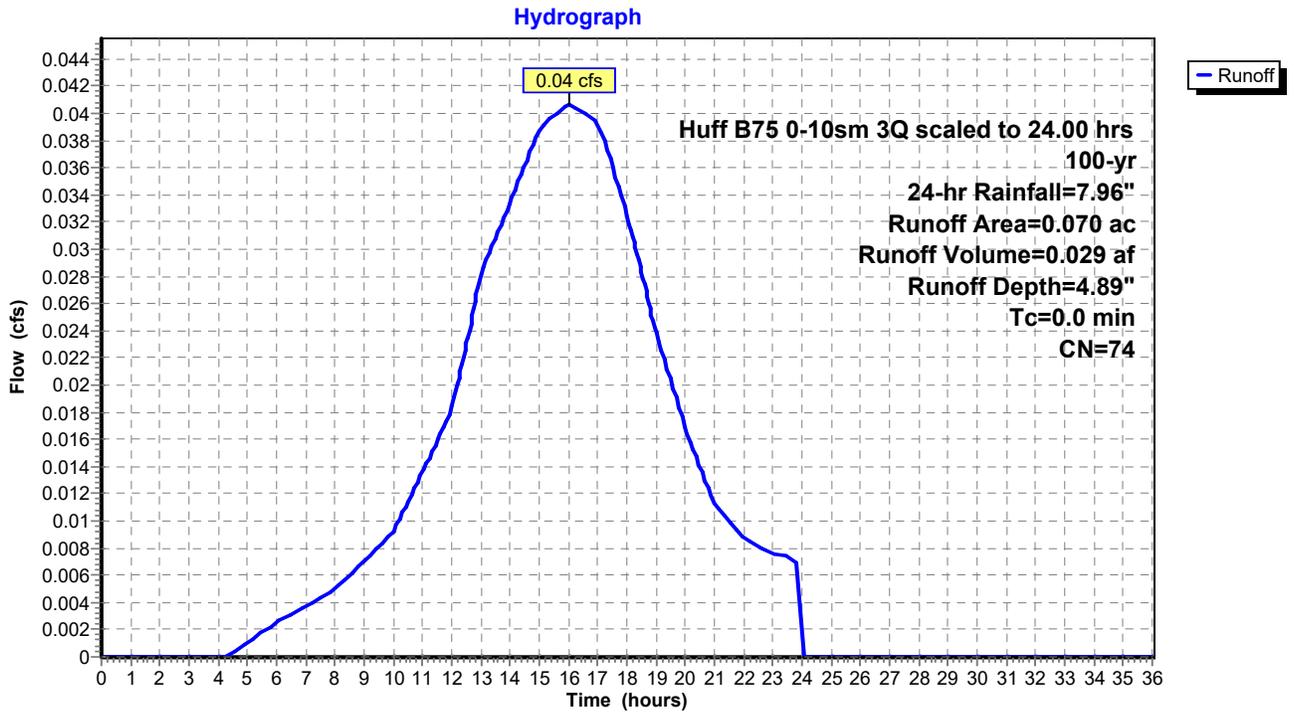
Summary for Subcatchment 3S: EX B

Runoff = 0.04 cfs @ 16.01 hrs, Volume= 0.029 af, Depth= 4.89"
 Routed to Reach 7R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 100-yr, 24-hr Rainfall=7.96"

Area (ac)	CN	Description
0.070	74	>75% Grass cover, Good, HSG C
0.070		100.00% Pervious Area

Subcatchment 3S: EX B



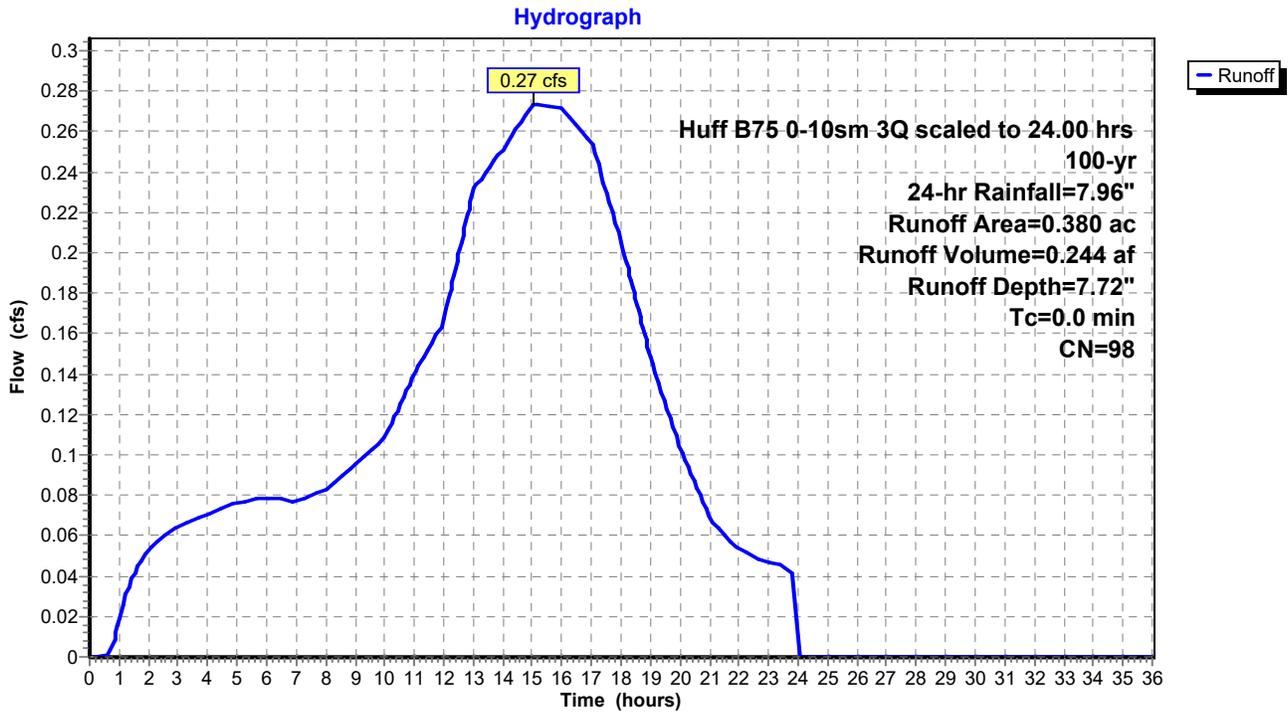
Summary for Subcatchment 4S: EX A

Runoff = 0.27 cfs @ 15.06 hrs, Volume= 0.244 af, Depth= 7.72"
 Routed to Reach 8R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 100-yr, 24-hr Rainfall=7.96"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 4S: EX A

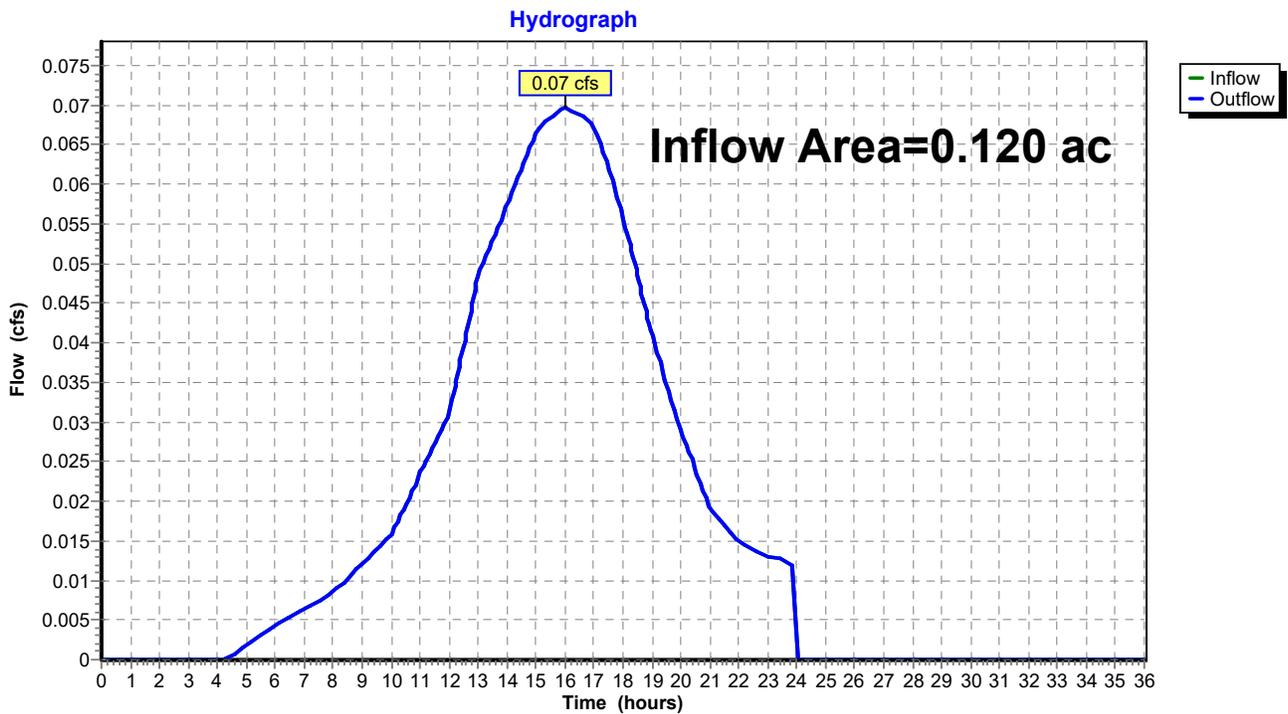


Summary for Reach 5R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 4.89" for 100-yr, 24-hr event
 Inflow = 0.07 cfs @ 16.01 hrs, Volume= 0.049 af
 Outflow = 0.07 cfs @ 16.01 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

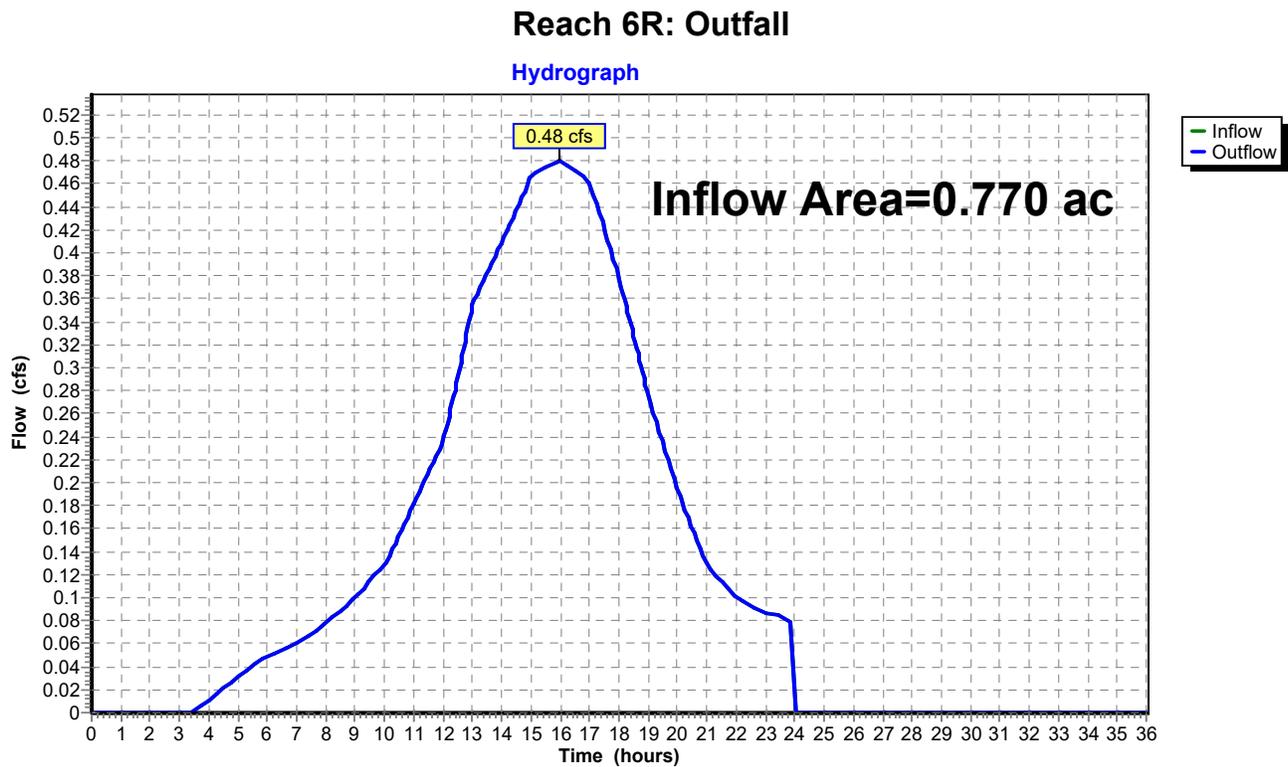
Reach 5R: (new Reach)



Summary for Reach 6R: Outfall

Inflow Area = 0.770 ac, 15.58% Impervious, Inflow Depth = 5.47" for 100-yr, 24-hr event
 Inflow = 0.48 cfs @ 15.99 hrs, Volume= 0.351 af
 Outflow = 0.48 cfs @ 15.99 hrs, Volume= 0.351 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

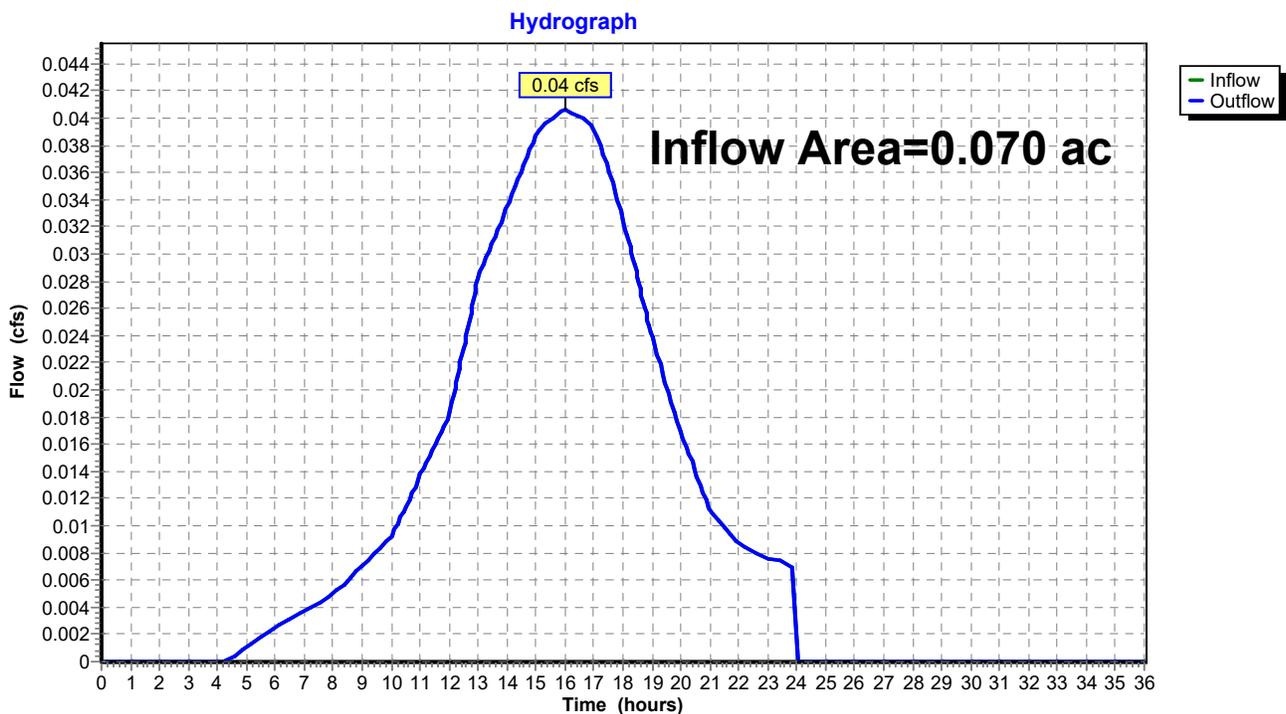


Summary for Reach 7R: (new Reach)

Inflow Area = 0.070 ac, 0.00% Impervious, Inflow Depth = 4.89" for 100-yr, 24-hr event
Inflow = 0.04 cfs @ 16.01 hrs, Volume= 0.029 af
Outflow = 0.04 cfs @ 16.01 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 7R: (new Reach)

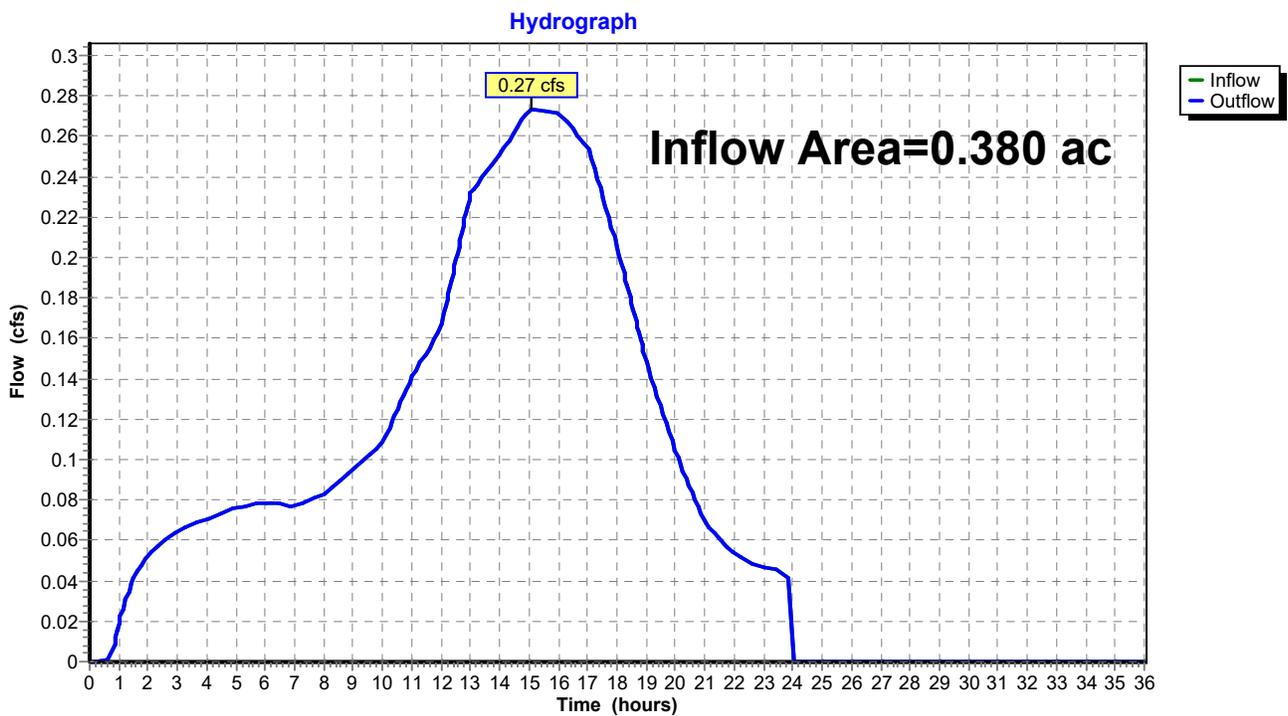


Summary for Reach 8R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 7.72" for 100-yr, 24-hr event
 Inflow = 0.27 cfs @ 15.06 hrs, Volume= 0.244 af
 Outflow = 0.27 cfs @ 15.06 hrs, Volume= 0.244 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 40R : EX Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 8R: (new Reach)



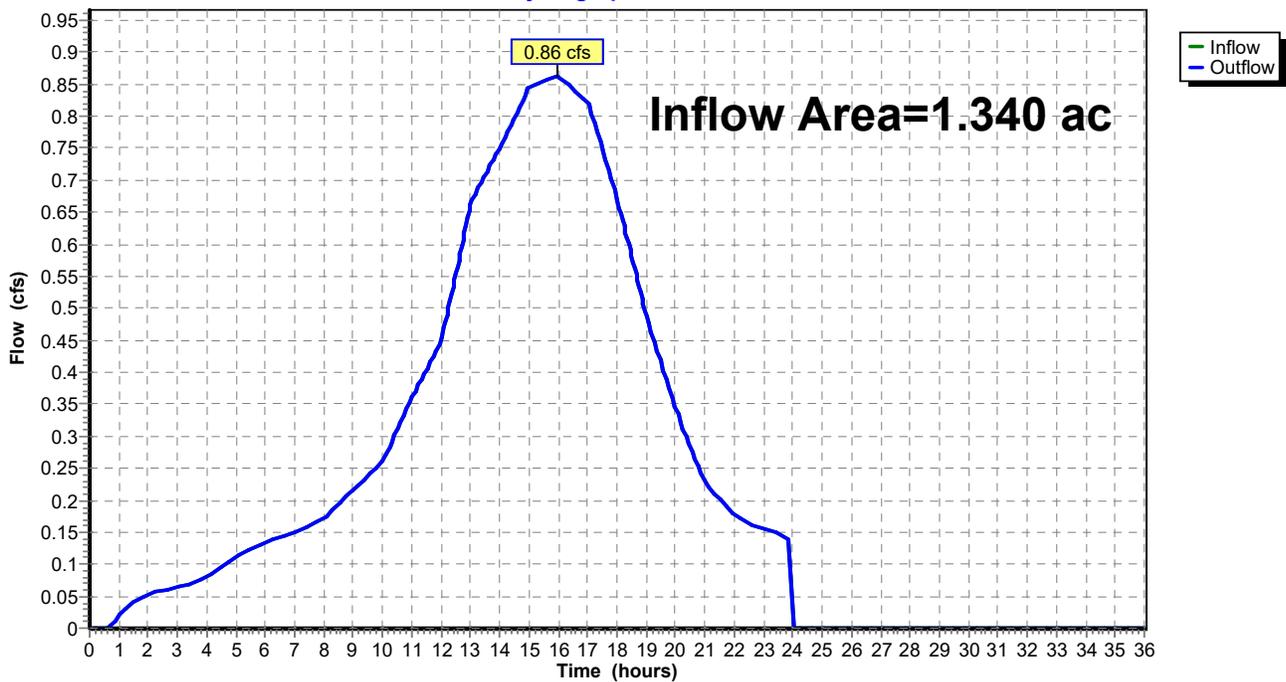
Summary for Reach 40R: EX Total

Inflow Area = 1.340 ac, 37.31% Impervious, Inflow Depth = 6.03" for 100-yr, 24-hr event
 Inflow = 0.86 cfs @ 15.99 hrs, Volume= 0.673 af
 Outflow = 0.86 cfs @ 15.99 hrs, Volume= 0.673 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

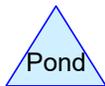
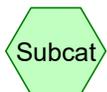
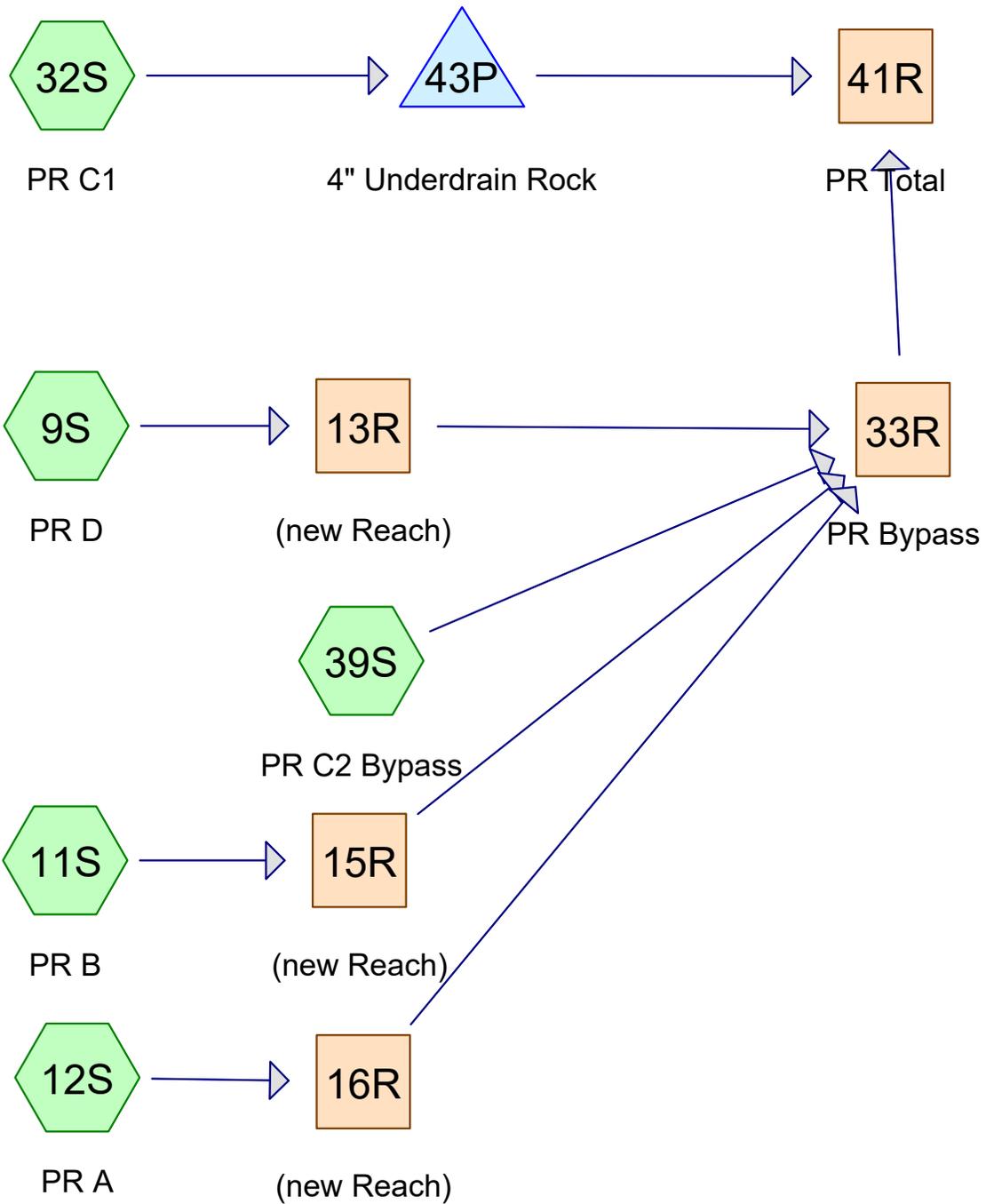
Reach 40R: EX Total

Hydrograph



Appendix G

Proposed HydroCAD



Bulletin 75_SW District_HydroCAD_Master Auto

Prepared by Oates Associates, Inc

Printed 11/13/2025

HydroCAD® 10.20-6a s/n 03470 © 2024 HydroCAD Software Solutions LLC

Page 2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.259	74	>75% Grass cover, Good, HSG C (9S, 11S, 32S, 39S)
0.640	98	Paved parking, HSG C (12S, 32S)
0.899	91	TOTAL AREA

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment9S: PR D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=0.11" Tc=0.0 min CN=74 Runoff=0.04 cfs 0.001 af
Subcatchment11S: PR B	Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=0.11" Tc=0.0 min CN=74 Runoff=0.00 cfs 0.000 af
Subcatchment12S: PR A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=1.15" Tc=0.0 min CN=98 Runoff=2.17 cfs 0.036 af
Subcatchment32S: PR C1	Runoff Area=0.340 ac 76.47% Impervious Runoff Depth=0.69" Tc=0.0 min CN=92 Runoff=1.13 cfs 0.020 af
Subcatchment39S: PR C2 Bypass	Runoff Area=0.049 ac 0.00% Impervious Runoff Depth=0.11" Tc=0.0 min CN=74 Runoff=0.02 cfs 0.000 af
Reach 13R: (new Reach)	Inflow=0.04 cfs 0.001 af Outflow=0.04 cfs 0.001 af
Reach 15R: (new Reach)	Inflow=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af
Reach 16R: (new Reach)	Inflow=2.17 cfs 0.036 af Outflow=2.17 cfs 0.036 af
Reach 33R: PR Bypass	Inflow=2.16 cfs 0.038 af Outflow=2.16 cfs 0.038 af
Reach 41R: PR Total	Inflow=2.16 cfs 0.047 af Outflow=2.16 cfs 0.047 af
Pond 43P: 4" Underdrain Rock	Peak Elev=556.17' Storage=602 cf Inflow=1.13 cfs 0.020 af Outflow=0.30 cfs 0.009 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.058 af Average Runoff Depth = 0.77"
28.81% Pervious = 0.259 ac 71.19% Impervious = 0.640 ac

Summary for Subcatchment 9S: PR D

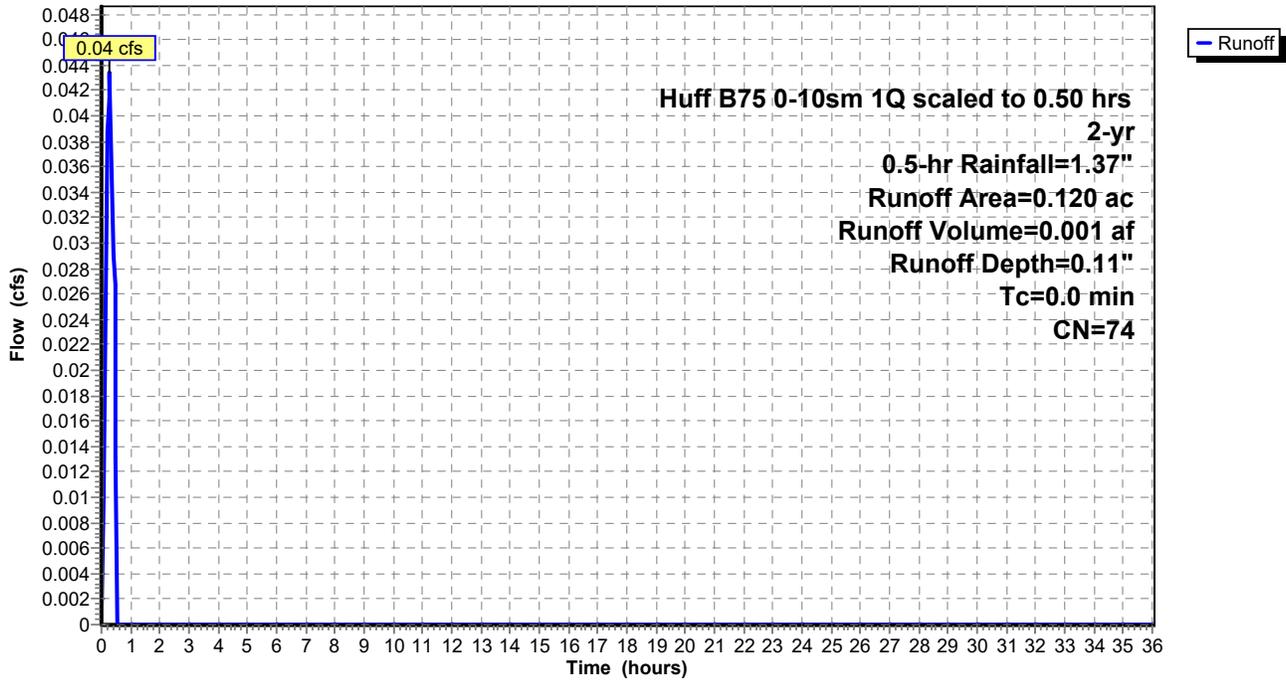
Runoff = 0.04 cfs @ 0.28 hrs, Volume= 0.001 af, Depth= 0.11"
 Routed to Reach 13R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 2-yr, 0.5-hr Rainfall=1.37"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 9S: PR D

Hydrograph



Summary for Subcatchment 11S: PR B

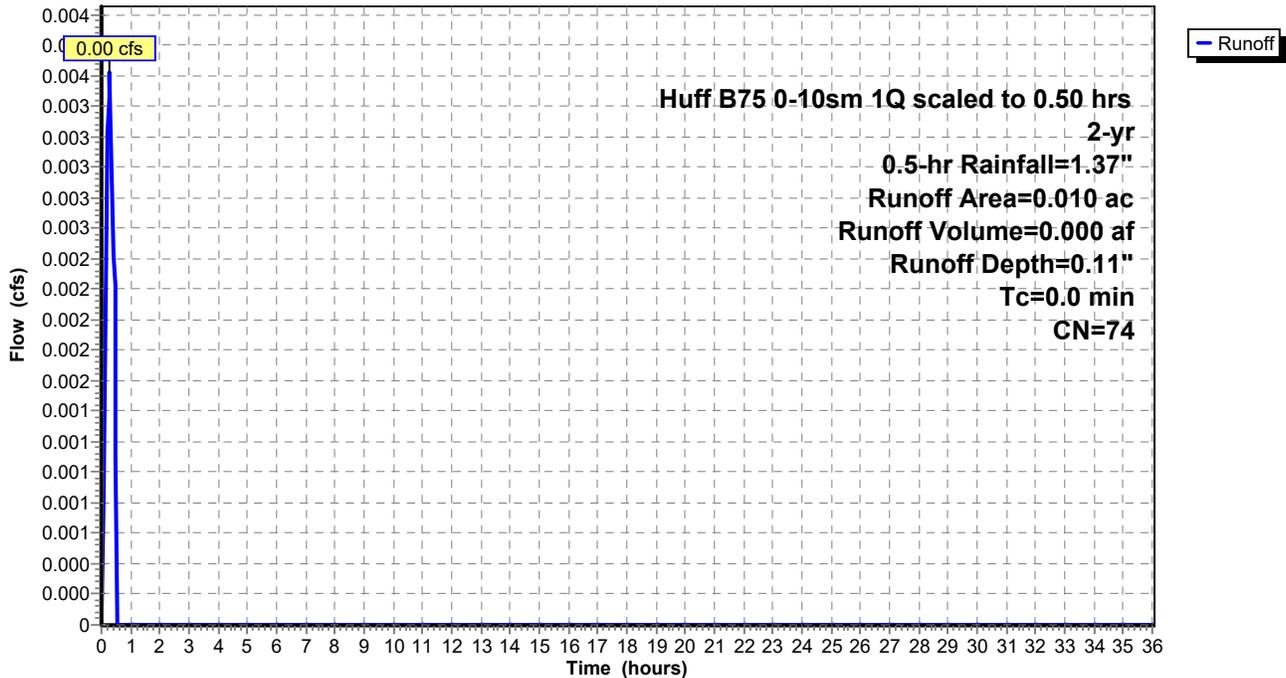
Runoff = 0.00 cfs @ 0.28 hrs, Volume= 0.000 af, Depth= 0.11"
 Routed to Reach 15R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 2-yr, 0.5-hr Rainfall=1.37"

Area (ac)	CN	Description
0.010	74	>75% Grass cover, Good, HSG C
0.010		100.00% Pervious Area

Subcatchment 11S: PR B

Hydrograph



Summary for Subcatchment 12S: PR A

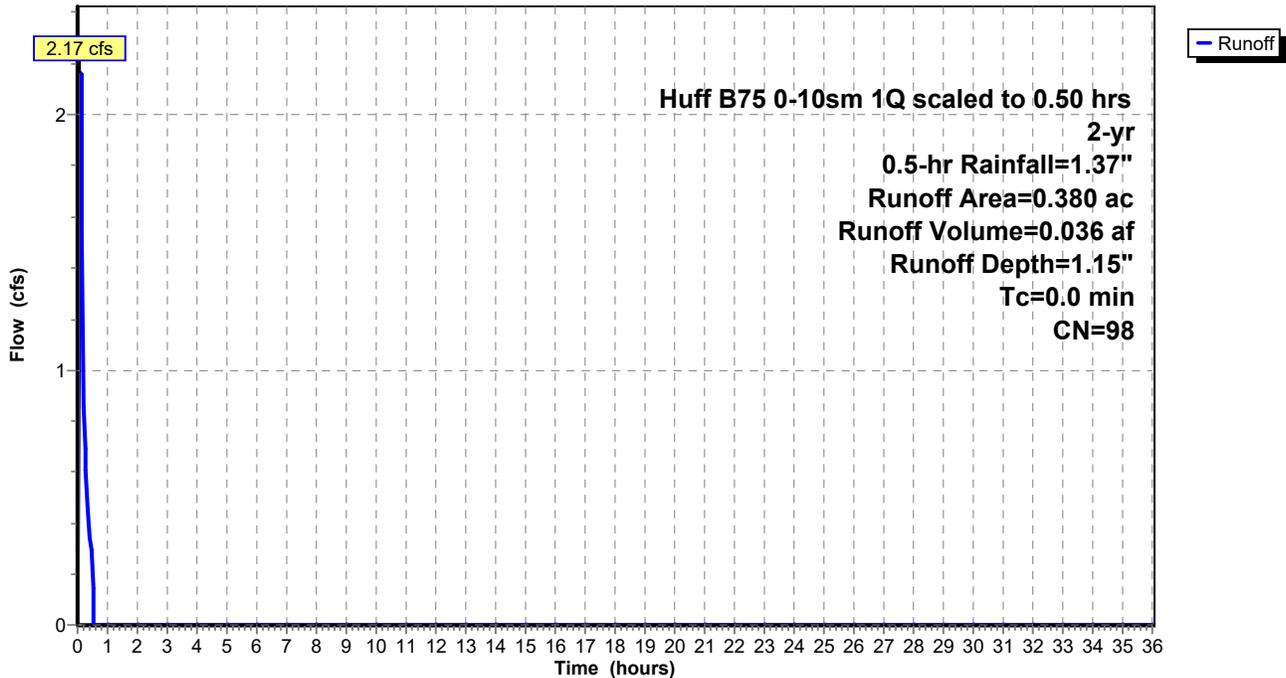
Runoff = 2.17 cfs @ 0.10 hrs, Volume= 0.036 af, Depth= 1.15"
 Routed to Reach 16R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 2-yr, 0.5-hr Rainfall=1.37"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 12S: PR A

Hydrograph



Summary for Subcatchment 32S: PR C1

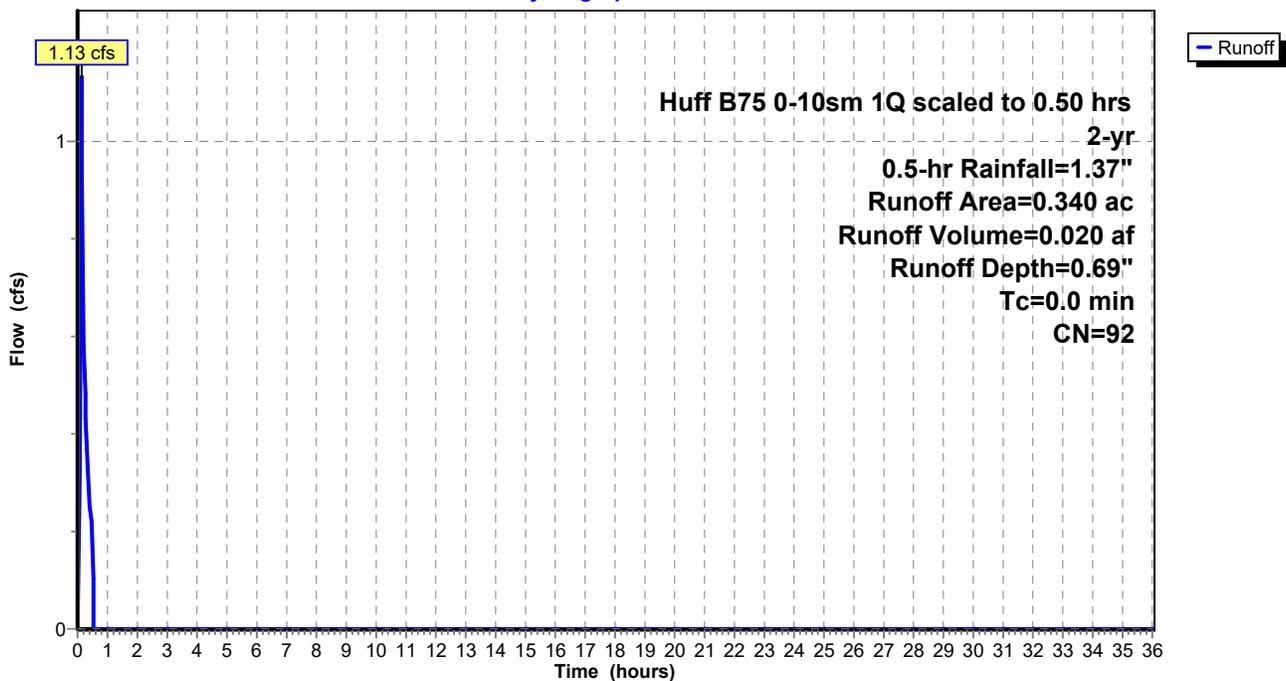
Runoff = 1.13 cfs @ 0.12 hrs, Volume= 0.020 af, Depth= 0.69"
 Routed to Pond 43P : 4" Underdrain Rock

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 2-yr, 0.5-hr Rainfall=1.37"

Area (ac)	CN	Description
0.260	98	Paved parking, HSG C
0.080	74	>75% Grass cover, Good, HSG C
0.000	96	Gravel surface, HSG C
0.340	92	Weighted Average
0.080		23.53% Pervious Area
0.260		76.47% Impervious Area

Subcatchment 32S: PR C1

Hydrograph



Summary for Subcatchment 39S: PR C2 Bypass

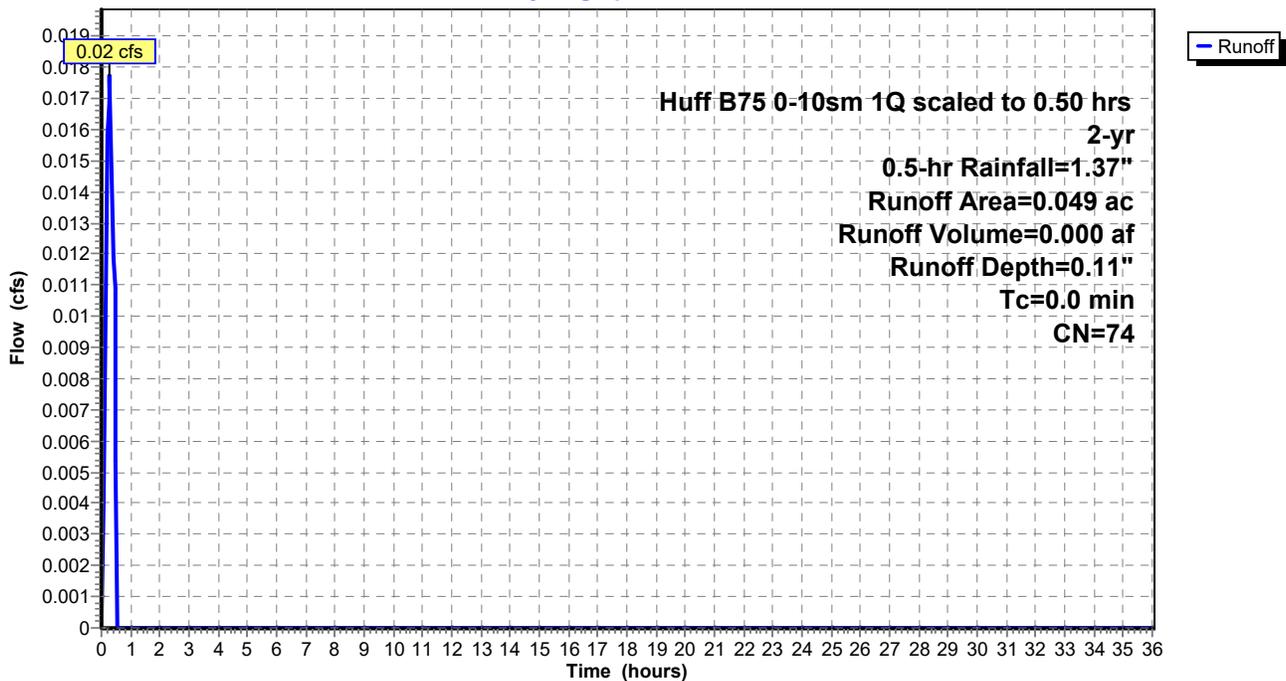
Runoff = 0.02 cfs @ 0.28 hrs, Volume= 0.000 af, Depth= 0.11"
 Routed to Reach 33R : PR Bypass

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 2-yr, 0.5-hr Rainfall=1.37"

Area (ac)	CN	Description
0.049	74	>75% Grass cover, Good, HSG C
0.049		100.00% Pervious Area

Subcatchment 39S: PR C2 Bypass

Hydrograph



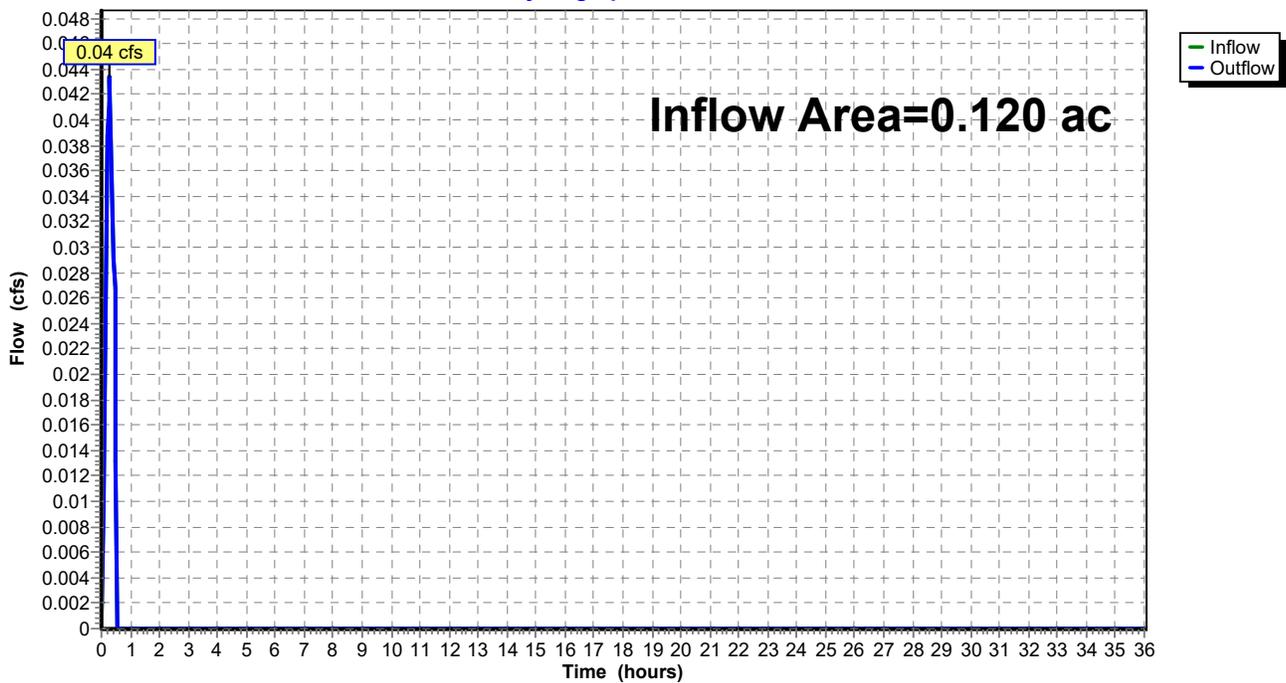
Summary for Reach 13R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 0.11" for 2-yr, 0.5-hr event
 Inflow = 0.04 cfs @ 0.28 hrs, Volume= 0.001 af
 Outflow = 0.04 cfs @ 0.28 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 13R: (new Reach)

Hydrograph



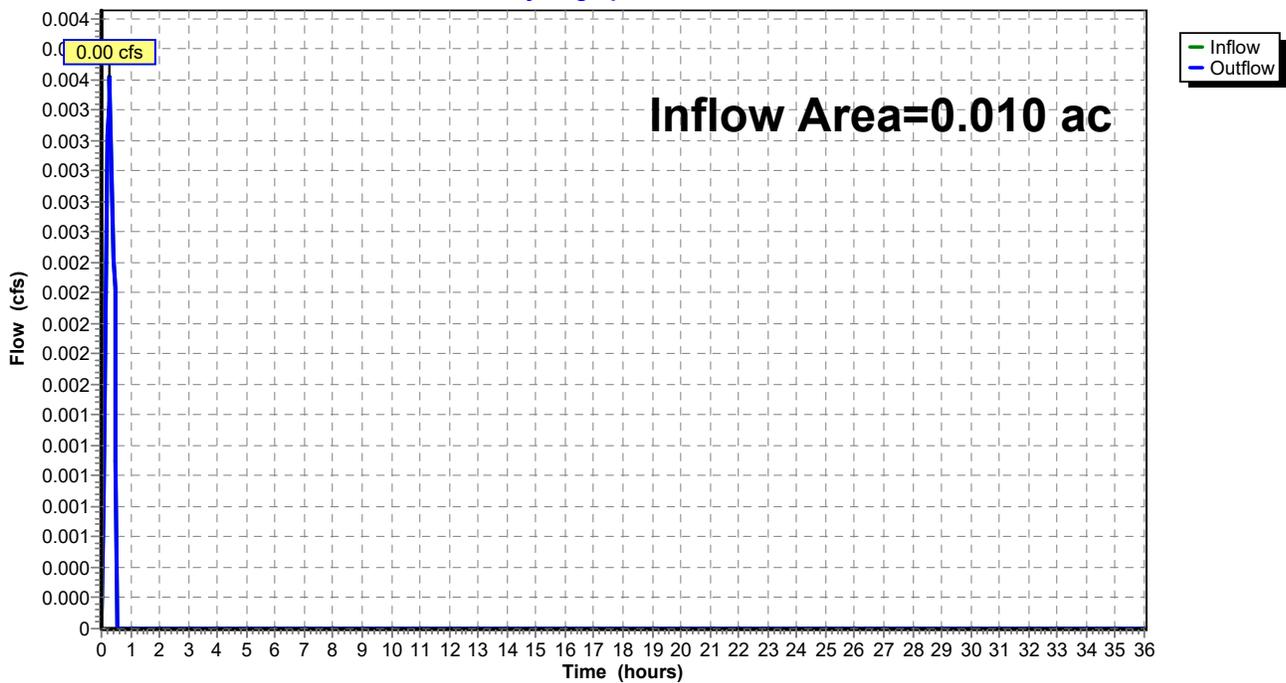
Summary for Reach 15R: (new Reach)

Inflow Area = 0.010 ac, 0.00% Impervious, Inflow Depth = 0.11" for 2-yr, 0.5-hr event
 Inflow = 0.00 cfs @ 0.28 hrs, Volume= 0.000 af
 Outflow = 0.00 cfs @ 0.28 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 15R: (new Reach)

Hydrograph



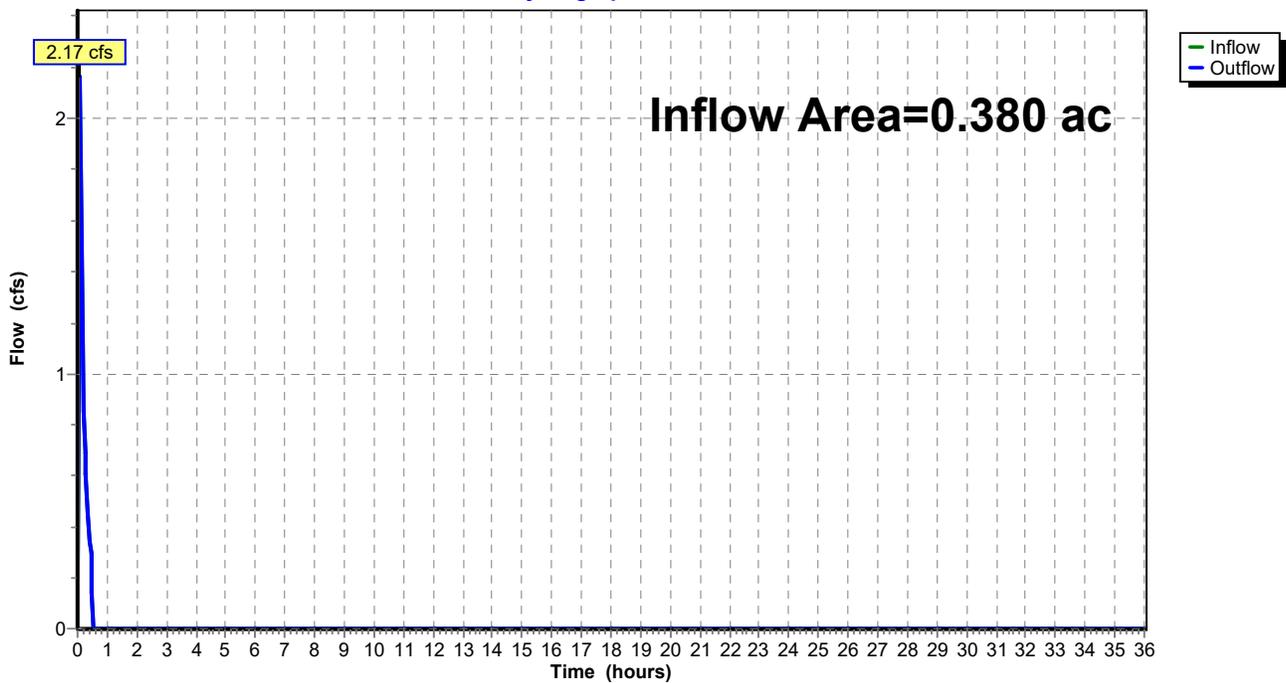
Summary for Reach 16R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 1.15" for 2-yr, 0.5-hr event
 Inflow = 2.17 cfs @ 0.10 hrs, Volume= 0.036 af
 Outflow = 2.17 cfs @ 0.10 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 16R: (new Reach)

Hydrograph

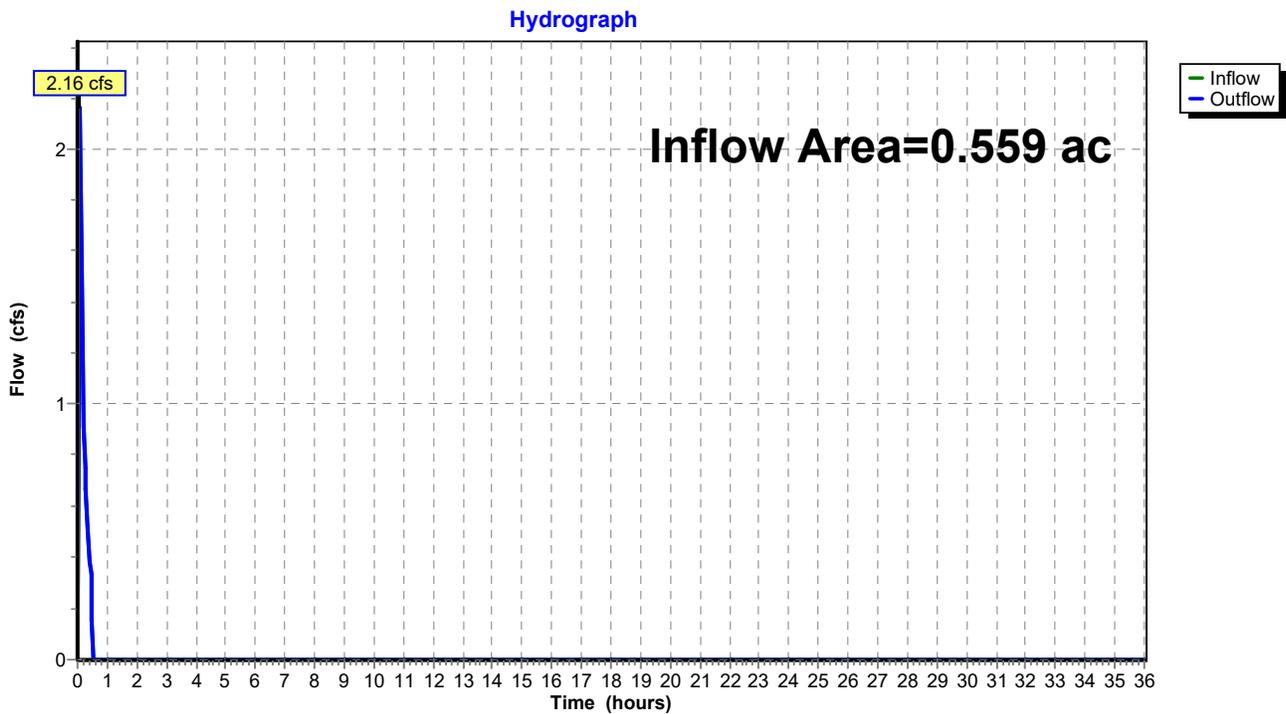


Summary for Reach 33R: PR Bypass

Inflow Area = 0.559 ac, 67.98% Impervious, Inflow Depth = 0.82" for 2-yr, 0.5-hr event
Inflow = 2.16 cfs @ 0.10 hrs, Volume= 0.038 af
Outflow = 2.16 cfs @ 0.10 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 41R : PR Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 33R: PR Bypass



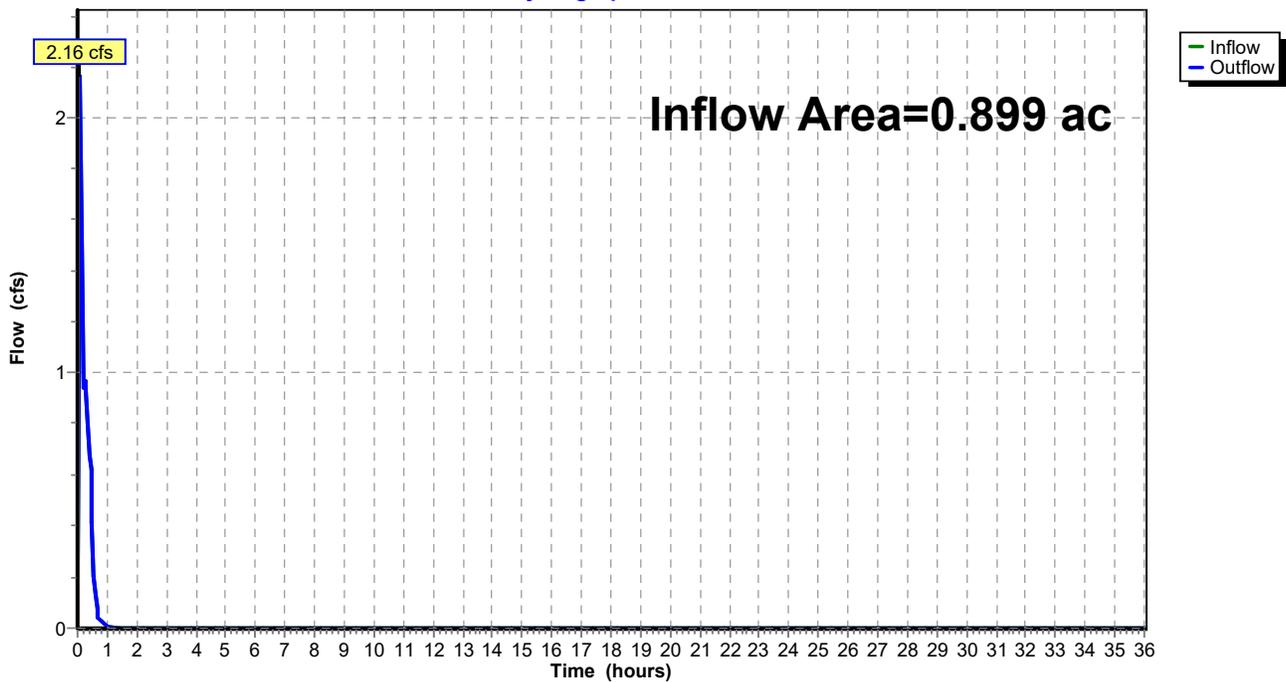
Summary for Reach 41R: PR Total

Inflow Area = 0.899 ac, 71.19% Impervious, Inflow Depth = 0.63" for 2-yr, 0.5-hr event
Inflow = 2.16 cfs @ 0.10 hrs, Volume= 0.047 af
Outflow = 2.16 cfs @ 0.10 hrs, Volume= 0.047 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 41R: PR Total

Hydrograph



Summary for Pond 43P: 4" Underdrain Rock

Inflow Area = 0.340 ac, 76.47% Impervious, Inflow Depth = 0.69" for 2-yr, 0.5-hr event
 Inflow = 1.13 cfs @ 0.12 hrs, Volume= 0.020 af
 Outflow = 0.30 cfs @ 0.37 hrs, Volume= 0.009 af, Atten= 74%, Lag= 15.2 min
 Primary = 0.30 cfs @ 0.37 hrs, Volume= 0.009 af
 Routed to Reach 41R : PR Total

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 556.17' @ 0.37 hrs Surf.Area= 679 sf Storage= 602 cf

Plug-Flow detention time= 23.2 min calculated for 0.009 af (48% of inflow)
 Center-of-Mass det. time= 16.0 min (28.6 - 12.6)

Volume	Invert	Avail.Storage	Storage Description	
#1	553.50'	4,098 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
553.50	560	0.0	0	0
556.00	560	40.0	560	560
556.50	908	40.0	147	707
557.00	1,222	100.0	533	1,239
558.00	1,955	100.0	1,589	2,828
558.55	2,663	100.0	1,270	4,098

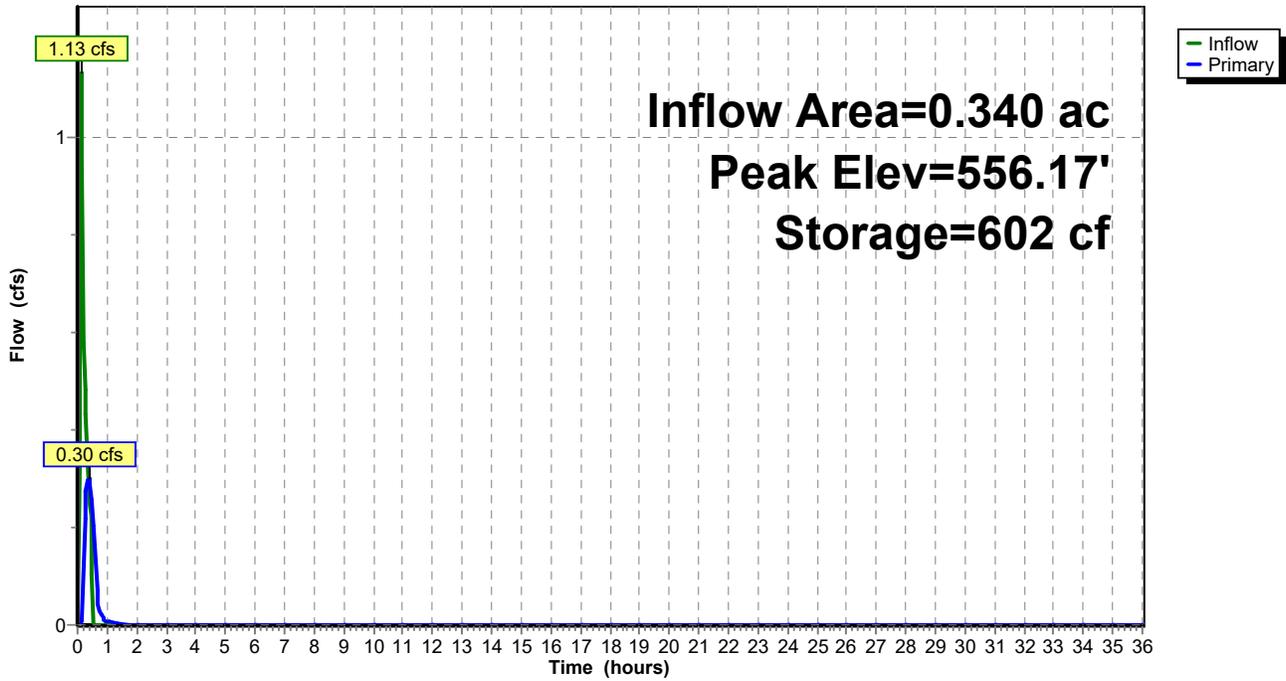
Device	Routing	Invert	Outlet Devices
#1	Primary	555.00'	12.0" Round Culvert L= 105.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 555.00' / 554.00' S= 0.0095 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	557.90'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.50 Width (feet) 4.00 4.00
#3	Primary	555.50'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.30 cfs @ 0.37 hrs HW=556.16' (Free Discharge)

- 1=Culvert (Passes 0.00 cfs of 3.80 cfs potential flow)
- 2=Custom Weir/Orifice (Controls 0.00 cfs)
- 3=Orifice/Grate (Orifice Controls 0.30 cfs @ 3.39 fps)

Pond 43P: 4" Underdrain Rock

Hydrograph



Stage-Area-Storage for Pond 43P: 4" Underdrain Rock

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
553.50	560	0	556.05	595	572
553.55	560	11	556.10	630	584
553.60	560	22	556.15	664	597
553.65	560	34	556.20	699	610
553.70	560	45	556.25	734	625
553.75	560	56	556.30	769	640
553.80	560	67	556.35	804	655
553.85	560	78	556.40	838	672
553.90	560	90	556.45	873	689
553.95	560	101	556.50	908	707
554.00	560	112	556.55	939	753
554.05	560	123	556.60	971	801
554.10	560	134	556.65	1,002	850
554.15	560	146	556.70	1,034	901
554.20	560	157	556.75	1,065	953
554.25	560	168	556.80	1,096	1,007
554.30	560	179	556.85	1,128	1,063
554.35	560	190	556.90	1,159	1,120
554.40	560	202	556.95	1,191	1,179
554.45	560	213	557.00	1,222	1,239
554.50	560	224	557.05	1,259	1,301
554.55	560	235	557.10	1,295	1,365
554.60	560	246	557.15	1,332	1,431
554.65	560	258	557.20	1,369	1,498
554.70	560	269	557.25	1,405	1,568
554.75	560	280	557.30	1,442	1,639
554.80	560	291	557.35	1,479	1,712
554.85	560	302	557.40	1,515	1,787
554.90	560	314	557.45	1,552	1,863
554.95	560	325	557.50	1,589	1,942
555.00	560	336	557.55	1,625	2,022
555.05	560	347	557.60	1,662	2,104
555.10	560	358	557.65	1,698	2,188
555.15	560	370	557.70	1,735	2,274
555.20	560	381	557.75	1,772	2,362
555.25	560	392	557.80	1,808	2,451
555.30	560	403	557.85	1,845	2,543
555.35	560	414	557.90	1,882	2,636
555.40	560	426	557.95	1,918	2,731
555.45	560	437	558.00	1,955	2,828
555.50	560	448	558.05	2,019	2,927
555.55	560	459	558.10	2,084	3,030
555.60	560	470	558.15	2,148	3,136
555.65	560	482	558.20	2,212	3,245
555.70	560	493	558.25	2,277	3,357
555.75	560	504	558.30	2,341	3,472
555.80	560	515	558.35	2,406	3,591
555.85	560	526	558.40	2,470	3,713
555.90	560	538	558.45	2,534	3,838
555.95	560	549	558.50	2,599	3,966
556.00	560	560	558.55	2,663	4,098

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment9S: PR D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=1.37" Tc=0.0 min CN=74 Runoff=0.02 cfs 0.014 af
Subcatchment11S: PR B	Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=1.37" Tc=0.0 min CN=74 Runoff=0.00 cfs 0.001 af
Subcatchment12S: PR A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=3.46" Tc=0.0 min CN=98 Runoff=0.13 cfs 0.109 af
Subcatchment32S: PR C1	Runoff Area=0.340 ac 76.47% Impervious Runoff Depth=2.82" Tc=0.0 min CN=92 Runoff=0.10 cfs 0.080 af
Subcatchment39S: PR C2 Bypass	Runoff Area=0.049 ac 0.00% Impervious Runoff Depth=1.37" Tc=0.0 min CN=74 Runoff=0.01 cfs 0.006 af
Reach 13R: (new Reach)	Inflow=0.02 cfs 0.014 af Outflow=0.02 cfs 0.014 af
Reach 15R: (new Reach)	Inflow=0.00 cfs 0.001 af Outflow=0.00 cfs 0.001 af
Reach 16R: (new Reach)	Inflow=0.13 cfs 0.109 af Outflow=0.13 cfs 0.109 af
Reach 33R: PR Bypass	Inflow=0.16 cfs 0.130 af Outflow=0.16 cfs 0.130 af
Reach 41R: PR Total	Inflow=0.26 cfs 0.199 af Outflow=0.26 cfs 0.199 af
Pond 43P: 4" Underdrain Rock	Peak Elev=555.73' Storage=499 cf Inflow=0.10 cfs 0.080 af Outflow=0.10 cfs 0.070 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.210 af Average Runoff Depth = 2.80"
28.81% Pervious = 0.259 ac 71.19% Impervious = 0.640 ac

Summary for Subcatchment 9S: PR D

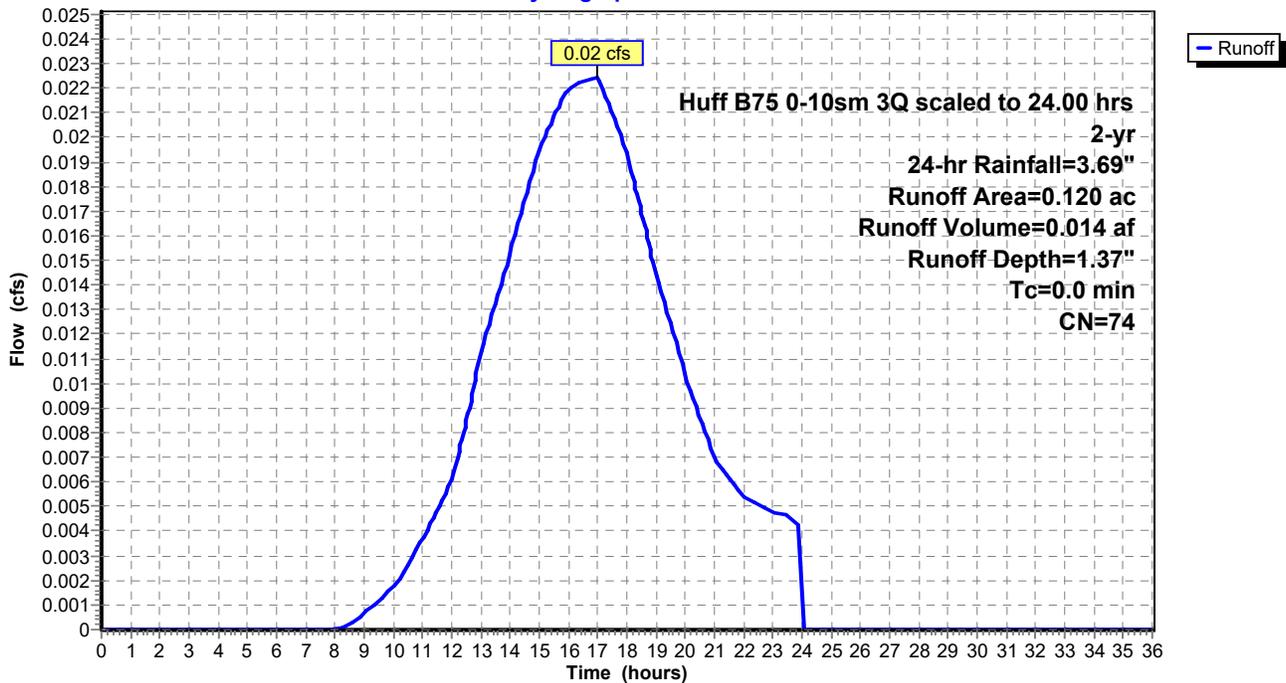
Runoff = 0.02 cfs @ 16.95 hrs, Volume= 0.014 af, Depth= 1.37"
 Routed to Reach 13R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 2-yr, 24-hr Rainfall=3.69"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 9S: PR D

Hydrograph



Summary for Subcatchment 11S: PR B

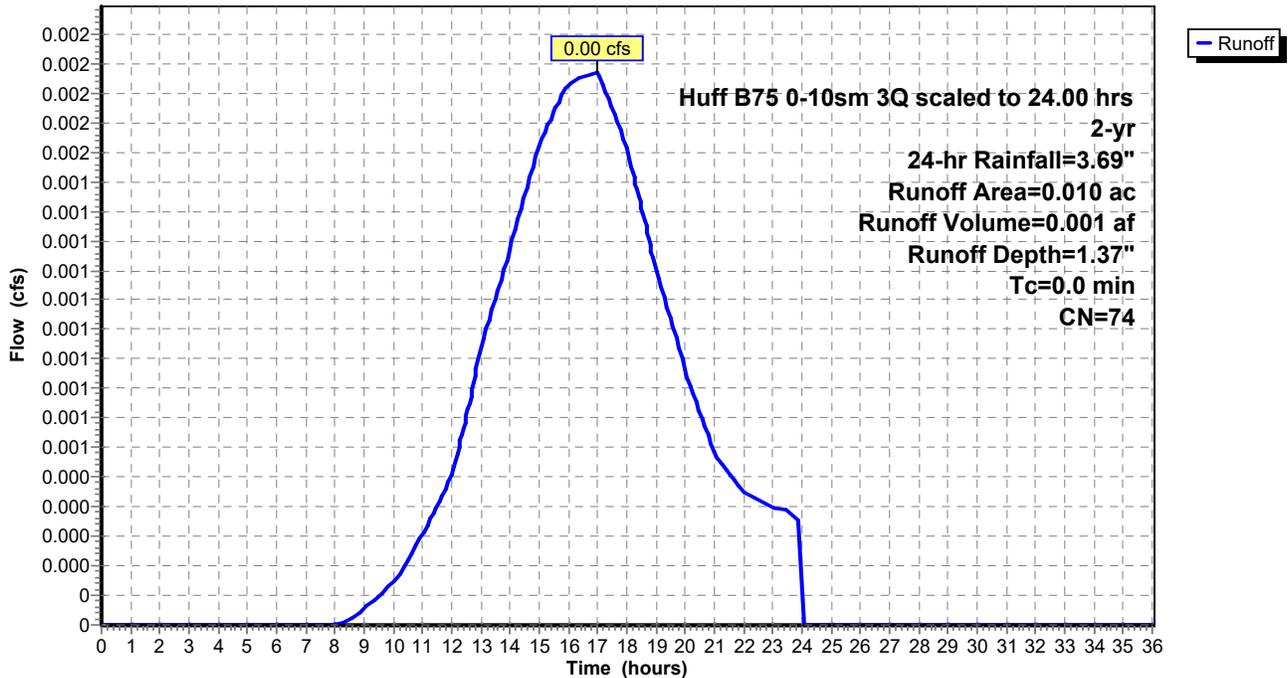
Runoff = 0.00 cfs @ 16.95 hrs, Volume= 0.001 af, Depth= 1.37"
 Routed to Reach 15R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 2-yr, 24-hr Rainfall=3.69"

Area (ac)	CN	Description
0.010	74	>75% Grass cover, Good, HSG C
0.010		100.00% Pervious Area

Subcatchment 11S: PR B

Hydrograph



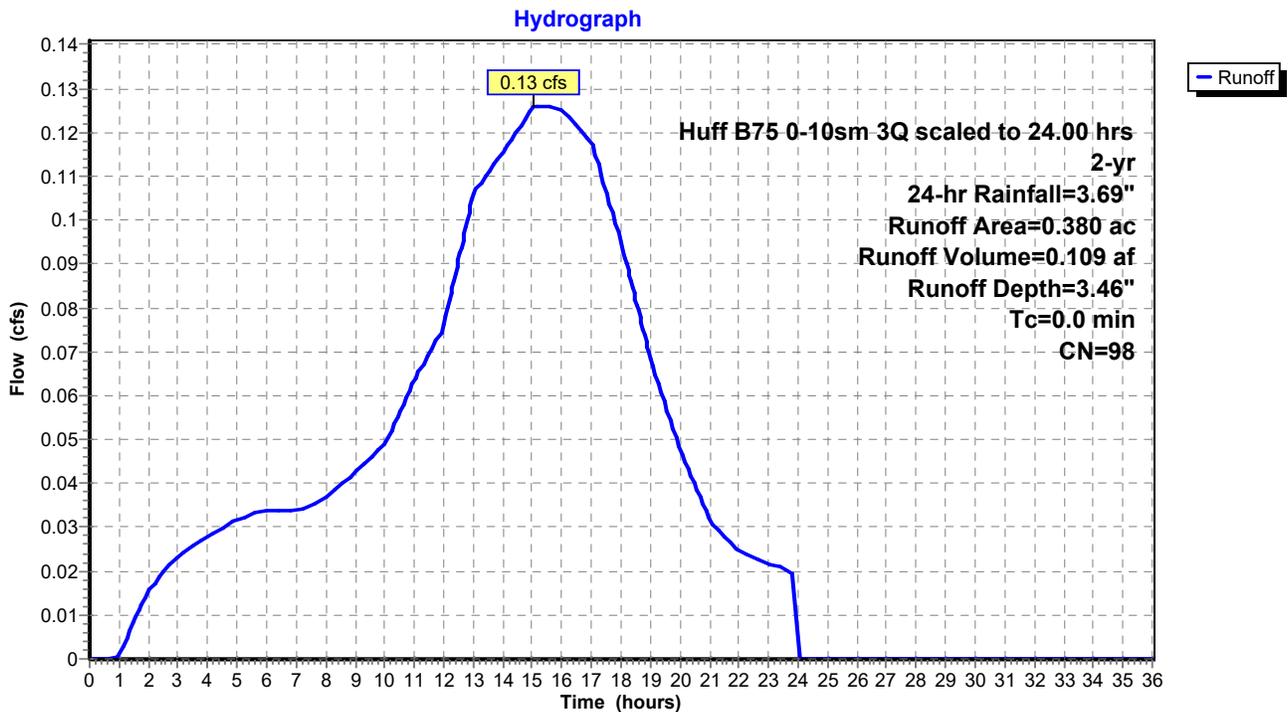
Summary for Subcatchment 12S: PR A

Runoff = 0.13 cfs @ 15.06 hrs, Volume= 0.109 af, Depth= 3.46"
 Routed to Reach 16R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 2-yr, 24-hr Rainfall=3.69"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 12S: PR A



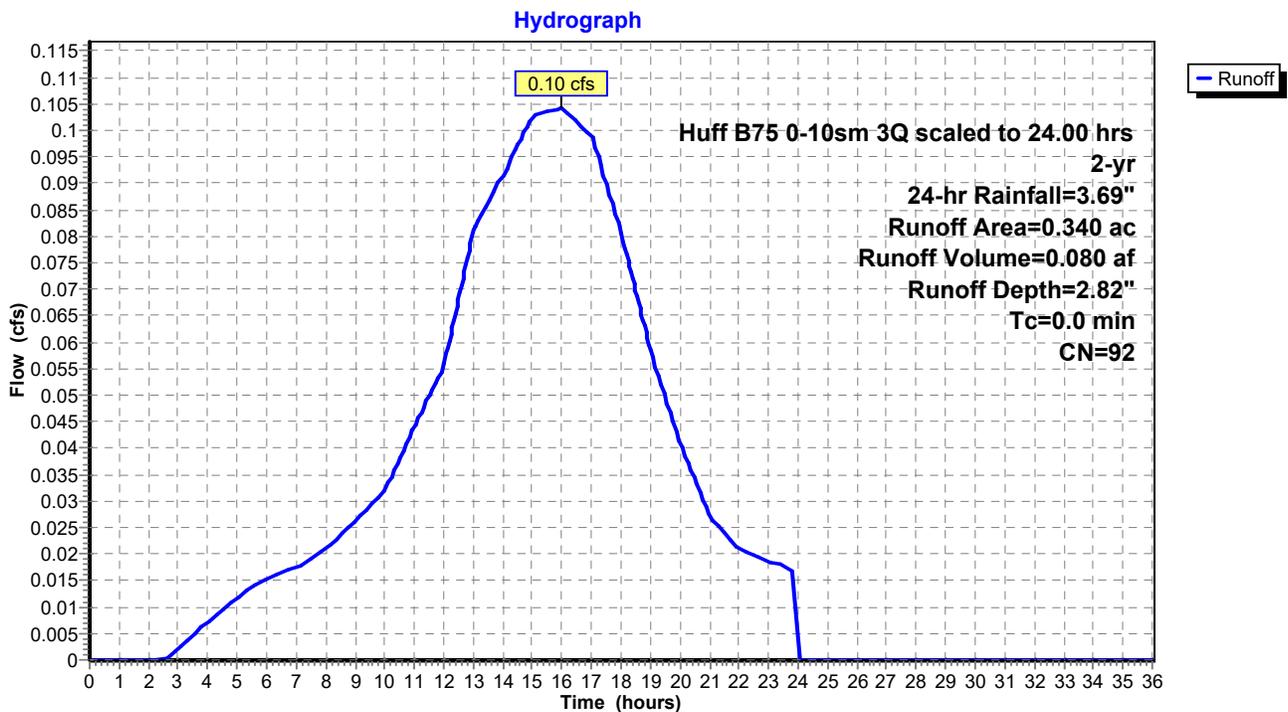
Summary for Subcatchment 32S: PR C1

Runoff = 0.10 cfs @ 15.98 hrs, Volume= 0.080 af, Depth= 2.82"
 Routed to Pond 43P : 4" Underdrain Rock

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 2-yr, 24-hr Rainfall=3.69"

Area (ac)	CN	Description
0.260	98	Paved parking, HSG C
0.080	74	>75% Grass cover, Good, HSG C
0.000	96	Gravel surface, HSG C
0.340	92	Weighted Average
0.080		23.53% Pervious Area
0.260		76.47% Impervious Area

Subcatchment 32S: PR C1



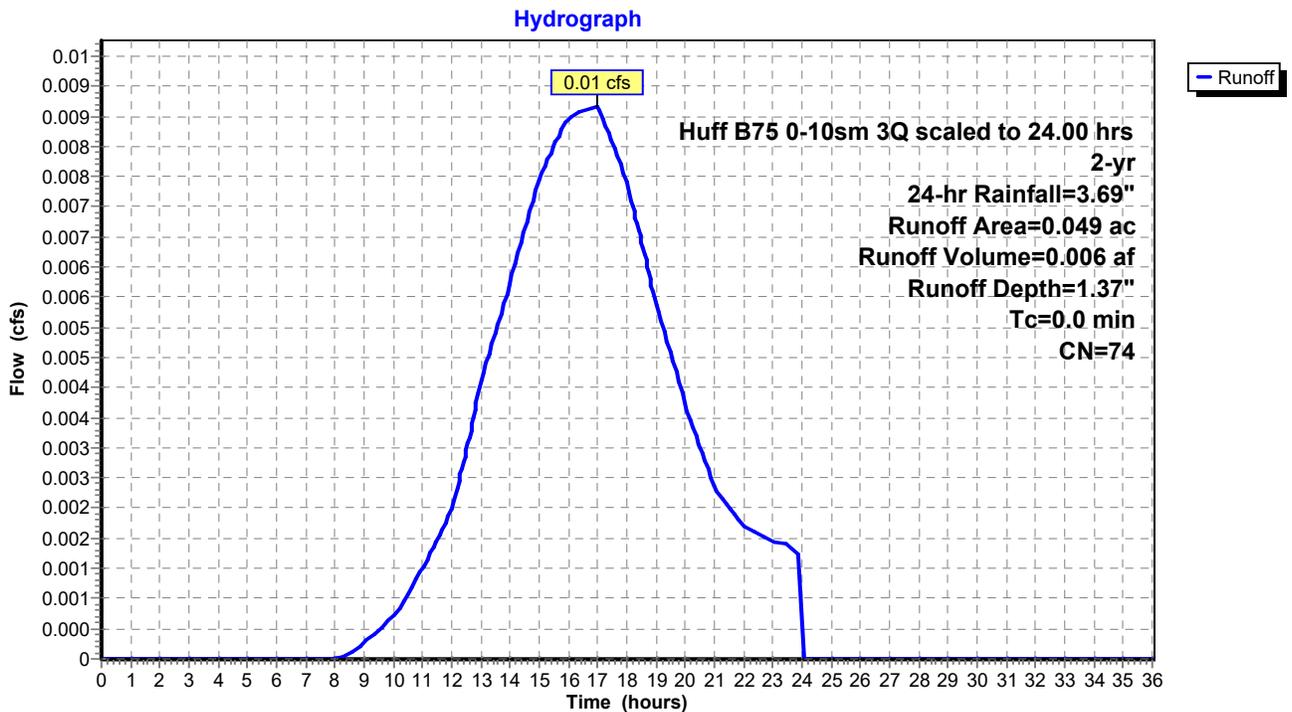
Summary for Subcatchment 39S: PR C2 Bypass

Runoff = 0.01 cfs @ 16.95 hrs, Volume= 0.006 af, Depth= 1.37"
 Routed to Reach 33R : PR Bypass

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 2-yr, 24-hr Rainfall=3.69"

Area (ac)	CN	Description
0.049	74	>75% Grass cover, Good, HSG C
0.049		100.00% Pervious Area

Subcatchment 39S: PR C2 Bypass

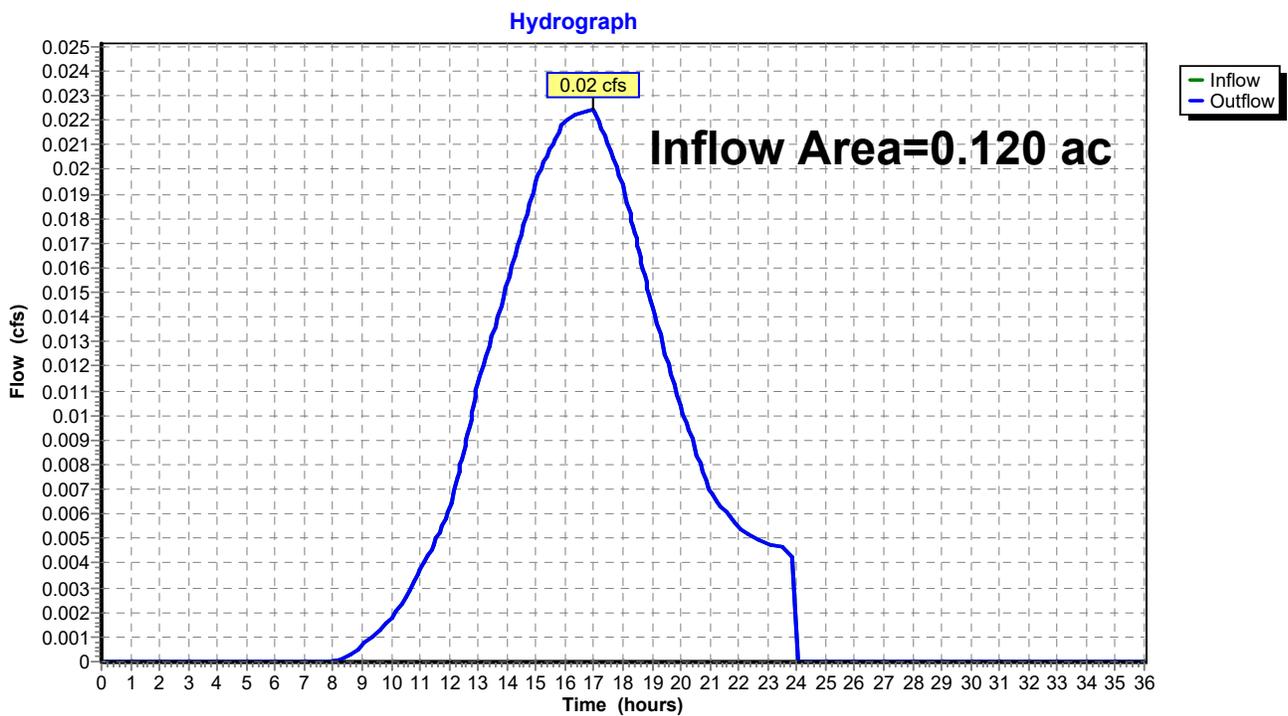


Summary for Reach 13R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 1.37" for 2-yr, 24-hr event
 Inflow = 0.02 cfs @ 16.95 hrs, Volume= 0.014 af
 Outflow = 0.02 cfs @ 16.95 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 13R: (new Reach)

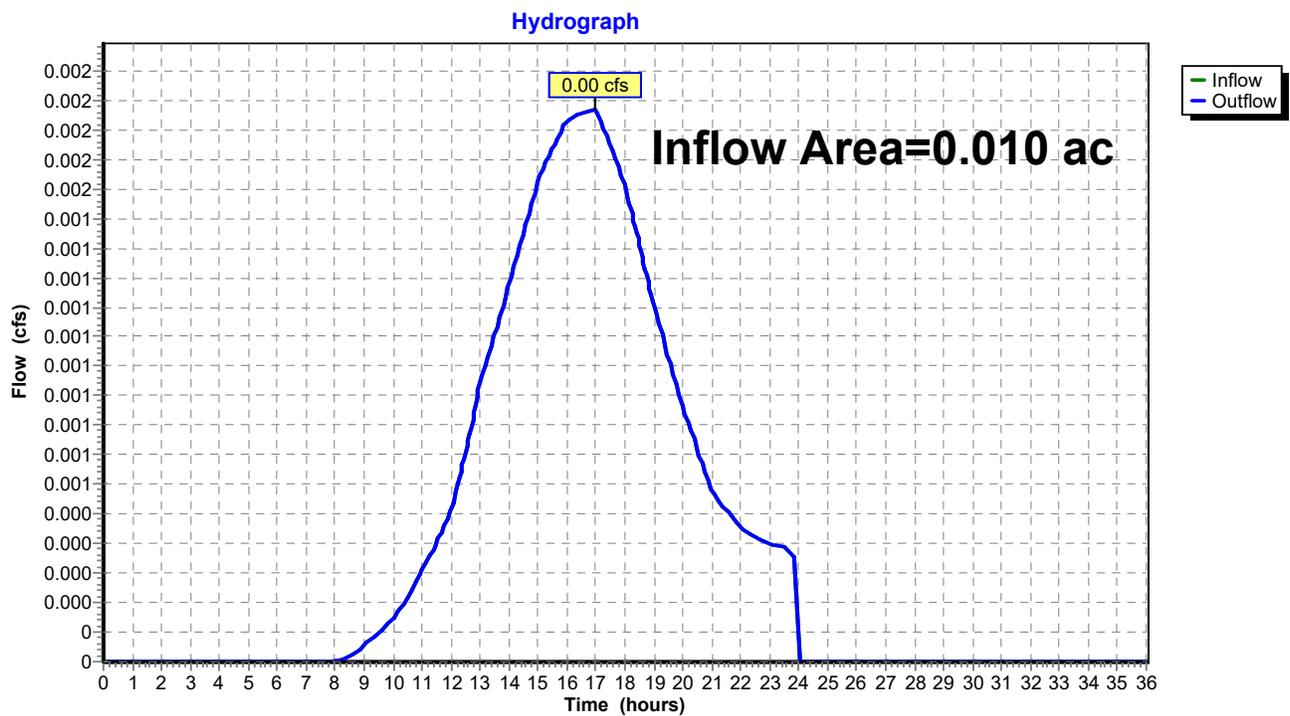


Summary for Reach 15R: (new Reach)

Inflow Area = 0.010 ac, 0.00% Impervious, Inflow Depth = 1.37" for 2-yr, 24-hr event
 Inflow = 0.00 cfs @ 16.95 hrs, Volume= 0.001 af
 Outflow = 0.00 cfs @ 16.95 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 15R: (new Reach)

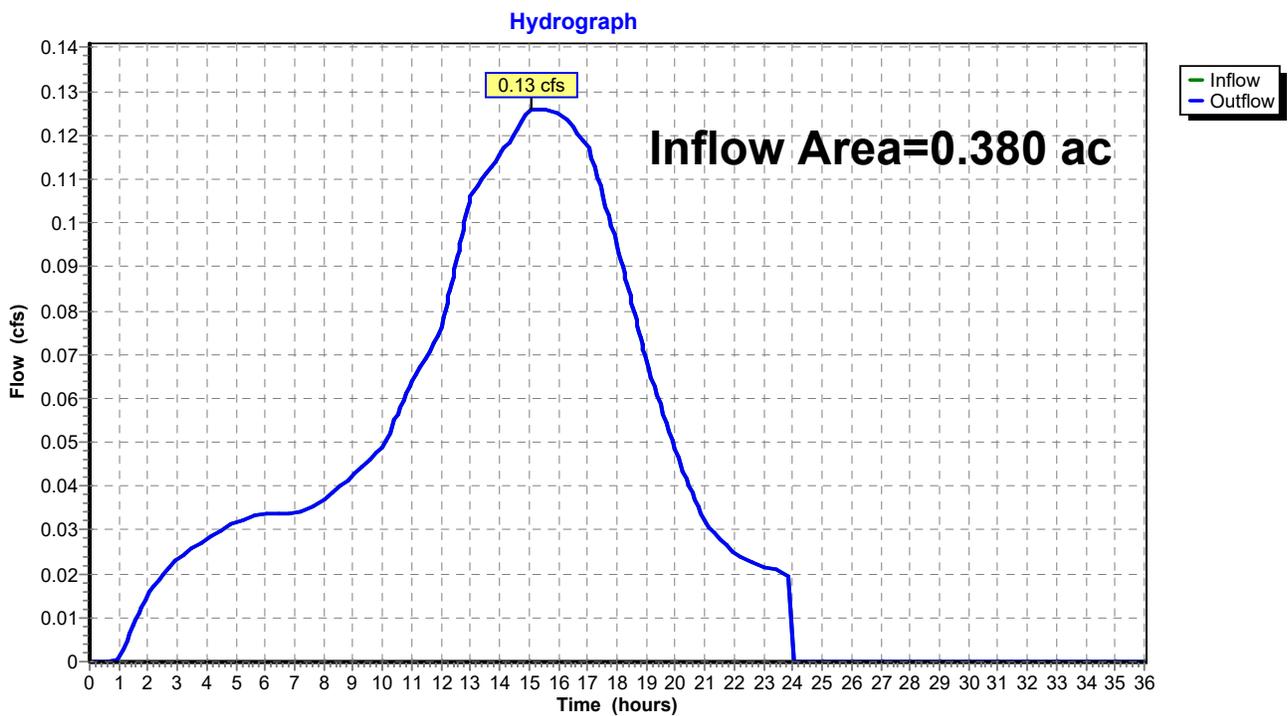


Summary for Reach 16R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 3.46" for 2-yr, 24-hr event
 Inflow = 0.13 cfs @ 15.06 hrs, Volume= 0.109 af
 Outflow = 0.13 cfs @ 15.06 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 16R: (new Reach)

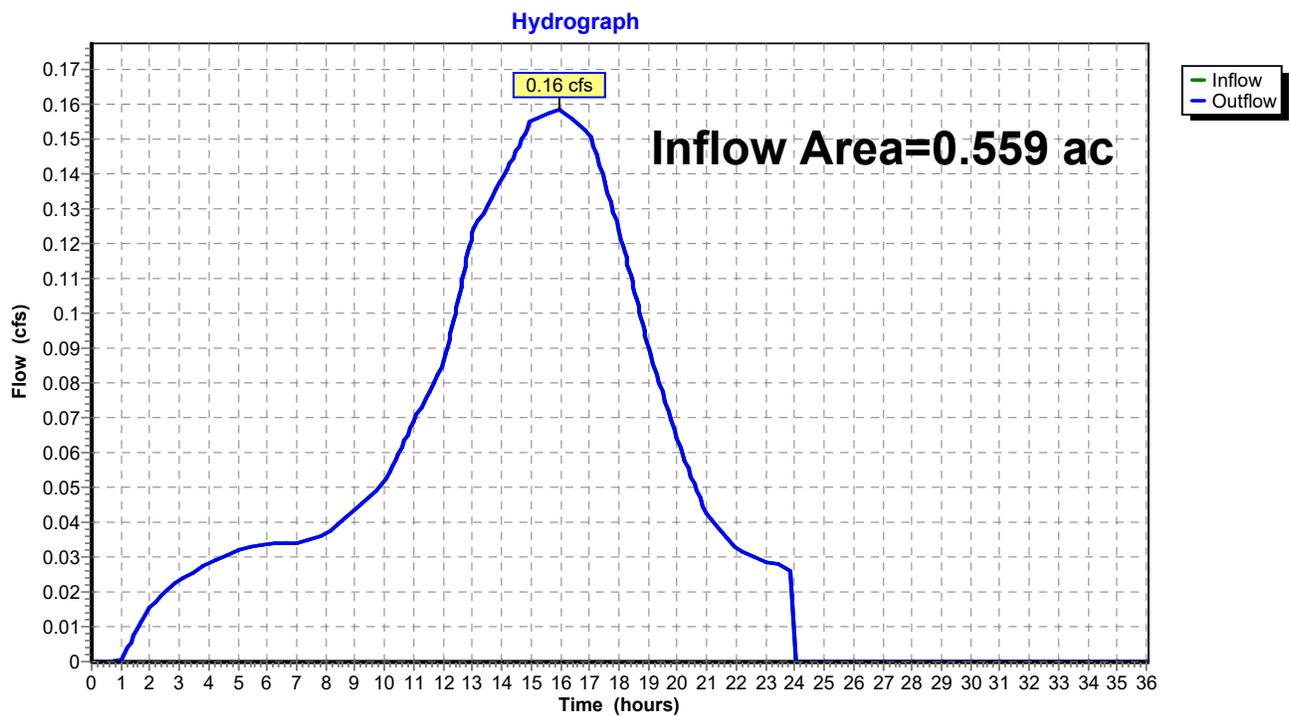


Summary for Reach 33R: PR Bypass

Inflow Area = 0.559 ac, 67.98% Impervious, Inflow Depth = 2.79" for 2-yr, 24-hr event
 Inflow = 0.16 cfs @ 15.99 hrs, Volume= 0.130 af
 Outflow = 0.16 cfs @ 15.99 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 41R : PR Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 33R: PR Bypass

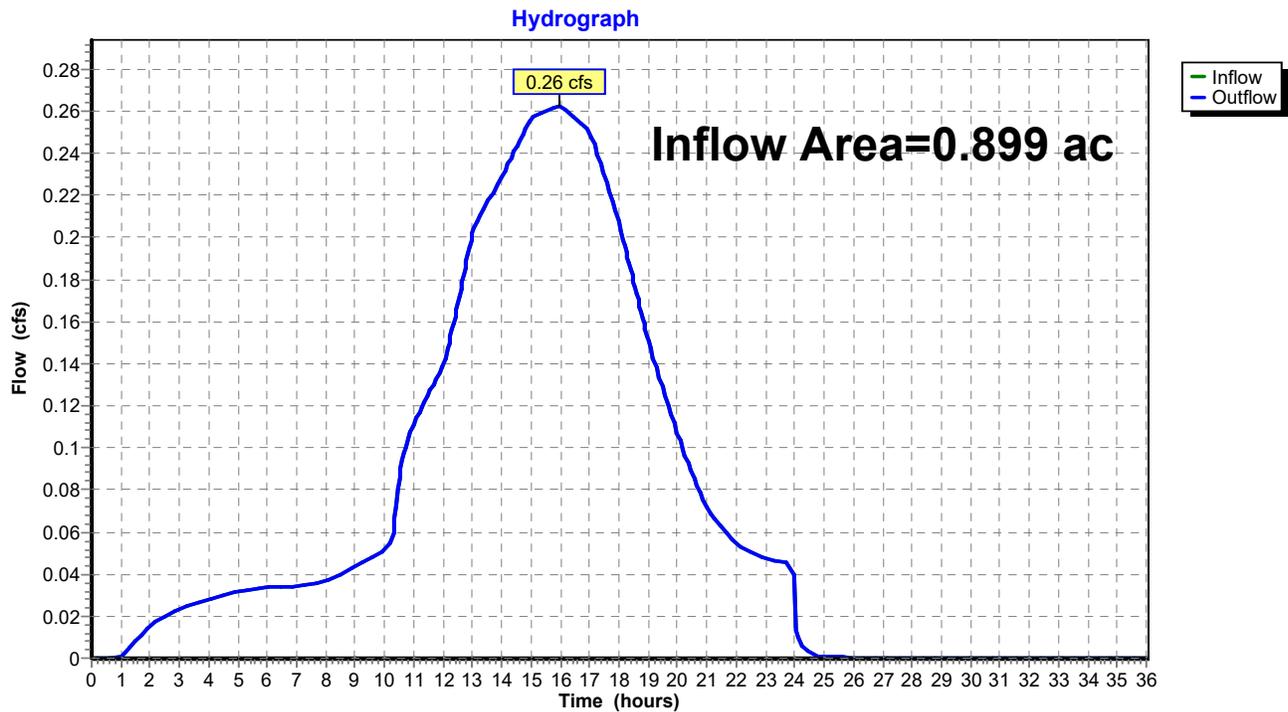


Summary for Reach 41R: PR Total

Inflow Area = 0.899 ac, 71.19% Impervious, Inflow Depth = 2.66" for 2-yr, 24-hr event
Inflow = 0.26 cfs @ 15.99 hrs, Volume= 0.199 af
Outflow = 0.26 cfs @ 15.99 hrs, Volume= 0.199 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 41R: PR Total



Summary for Pond 43P: 4" Underdrain Rock

Inflow Area = 0.340 ac, 76.47% Impervious, Inflow Depth = 2.82" for 2-yr, 24-hr event
 Inflow = 0.10 cfs @ 15.98 hrs, Volume= 0.080 af
 Outflow = 0.10 cfs @ 16.02 hrs, Volume= 0.070 af, Atten= 0%, Lag= 2.4 min
 Primary = 0.10 cfs @ 16.02 hrs, Volume= 0.070 af
 Routed to Reach 41R : PR Total

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 555.73' @ 16.02 hrs Surf.Area= 560 sf Storage= 499 cf

Plug-Flow detention time= 130.3 min calculated for 0.069 af (87% of inflow)
 Center-of-Mass det. time= 75.3 min (973.3 - 898.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	553.50'	4,098 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
553.50	560	0.0	0	0
556.00	560	40.0	560	560
556.50	908	40.0	147	707
557.00	1,222	100.0	533	1,239
558.00	1,955	100.0	1,589	2,828
558.55	2,663	100.0	1,270	4,098

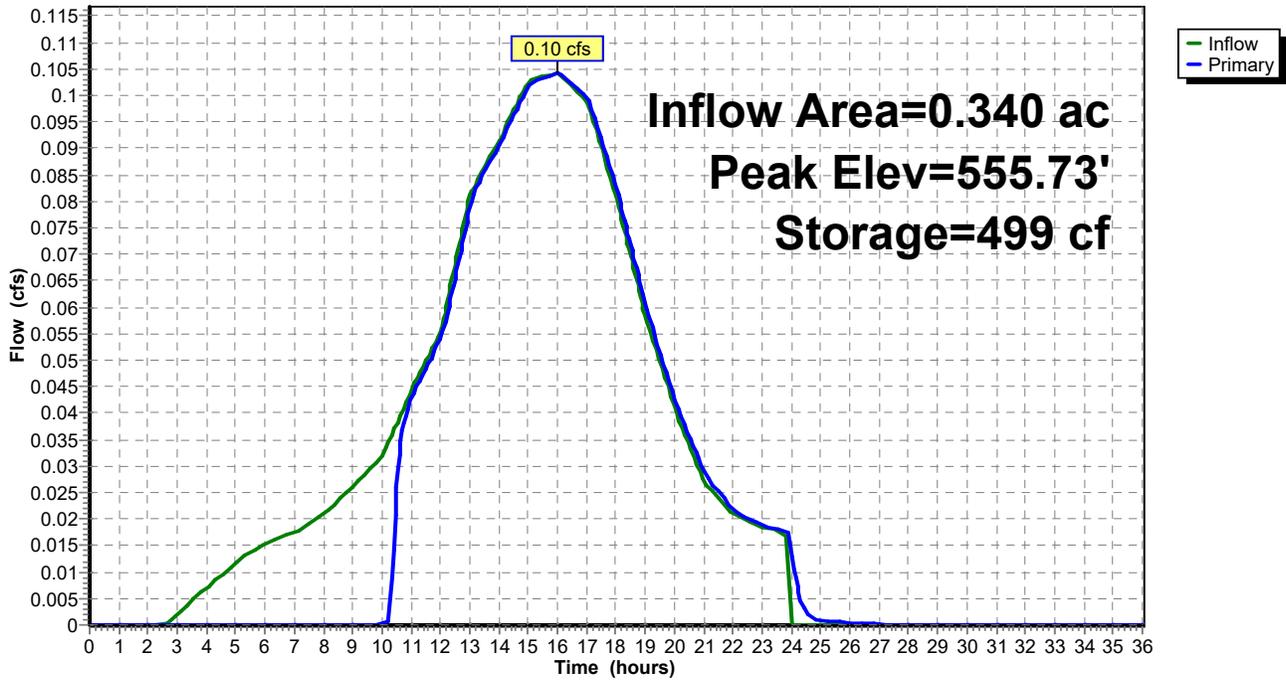
Device	Routing	Invert	Outlet Devices
#1	Primary	555.00'	12.0" Round Culvert L= 105.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 555.00' / 554.00' S= 0.0095 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	557.90'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.50 Width (feet) 4.00 4.00
#3	Primary	555.50'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.10 cfs @ 16.02 hrs HW=555.73' (Free Discharge)

- 1=Culvert (Passes 0.00 cfs of 2.08 cfs potential flow)
- 2=Custom Weir/Orifice (Controls 0.00 cfs)
- 3=Orifice/Grate (Orifice Controls 0.10 cfs @ 1.63 fps)

Pond 43P: 4" Underdrain Rock

Hydrograph



Stage-Area-Storage for Pond 43P: 4" Underdrain Rock

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
553.50	560	0	556.05	595	572
553.55	560	11	556.10	630	584
553.60	560	22	556.15	664	597
553.65	560	34	556.20	699	610
553.70	560	45	556.25	734	625
553.75	560	56	556.30	769	640
553.80	560	67	556.35	804	655
553.85	560	78	556.40	838	672
553.90	560	90	556.45	873	689
553.95	560	101	556.50	908	707
554.00	560	112	556.55	939	753
554.05	560	123	556.60	971	801
554.10	560	134	556.65	1,002	850
554.15	560	146	556.70	1,034	901
554.20	560	157	556.75	1,065	953
554.25	560	168	556.80	1,096	1,007
554.30	560	179	556.85	1,128	1,063
554.35	560	190	556.90	1,159	1,120
554.40	560	202	556.95	1,191	1,179
554.45	560	213	557.00	1,222	1,239
554.50	560	224	557.05	1,259	1,301
554.55	560	235	557.10	1,295	1,365
554.60	560	246	557.15	1,332	1,431
554.65	560	258	557.20	1,369	1,498
554.70	560	269	557.25	1,405	1,568
554.75	560	280	557.30	1,442	1,639
554.80	560	291	557.35	1,479	1,712
554.85	560	302	557.40	1,515	1,787
554.90	560	314	557.45	1,552	1,863
554.95	560	325	557.50	1,589	1,942
555.00	560	336	557.55	1,625	2,022
555.05	560	347	557.60	1,662	2,104
555.10	560	358	557.65	1,698	2,188
555.15	560	370	557.70	1,735	2,274
555.20	560	381	557.75	1,772	2,362
555.25	560	392	557.80	1,808	2,451
555.30	560	403	557.85	1,845	2,543
555.35	560	414	557.90	1,882	2,636
555.40	560	426	557.95	1,918	2,731
555.45	560	437	558.00	1,955	2,828
555.50	560	448	558.05	2,019	2,927
555.55	560	459	558.10	2,084	3,030
555.60	560	470	558.15	2,148	3,136
555.65	560	482	558.20	2,212	3,245
555.70	560	493	558.25	2,277	3,357
555.75	560	504	558.30	2,341	3,472
555.80	560	515	558.35	2,406	3,591
555.85	560	526	558.40	2,470	3,713
555.90	560	538	558.45	2,534	3,838
555.95	560	549	558.50	2,599	3,966
556.00	560	560	558.55	2,663	4,098

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment9S: PR D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=0.33" Tc=0.0 min CN=74 Runoff=0.16 cfs 0.003 af
Subcatchment11S: PR B	Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=0.33" Tc=0.0 min CN=74 Runoff=0.01 cfs 0.000 af
Subcatchment12S: PR A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=1.72" Tc=0.0 min CN=98 Runoff=3.23 cfs 0.055 af
Subcatchment32S: PR C1	Runoff Area=0.340 ac 76.47% Impervious Runoff Depth=1.19" Tc=0.0 min CN=92 Runoff=2.00 cfs 0.034 af
Subcatchment39S: PR C2 Bypass	Runoff Area=0.049 ac 0.00% Impervious Runoff Depth=0.33" Tc=0.0 min CN=74 Runoff=0.06 cfs 0.001 af
Reach 13R: (new Reach)	Inflow=0.16 cfs 0.003 af Outflow=0.16 cfs 0.003 af
Reach 15R: (new Reach)	Inflow=0.01 cfs 0.000 af Outflow=0.01 cfs 0.000 af
Reach 16R: (new Reach)	Inflow=3.23 cfs 0.055 af Outflow=3.23 cfs 0.055 af
Reach 33R: PR Bypass	Inflow=3.30 cfs 0.059 af Outflow=3.30 cfs 0.059 af
Reach 41R: PR Total	Inflow=3.29 cfs 0.083 af Outflow=3.29 cfs 0.083 af
Pond 43P: 4" Underdrain Rock	Peak Elev=556.74' Storage=947 cf Inflow=2.00 cfs 0.034 af Outflow=0.44 cfs 0.023 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.093 af Average Runoff Depth = 1.25"
28.81% Pervious = 0.259 ac 71.19% Impervious = 0.640 ac

Summary for Subcatchment 9S: PR D

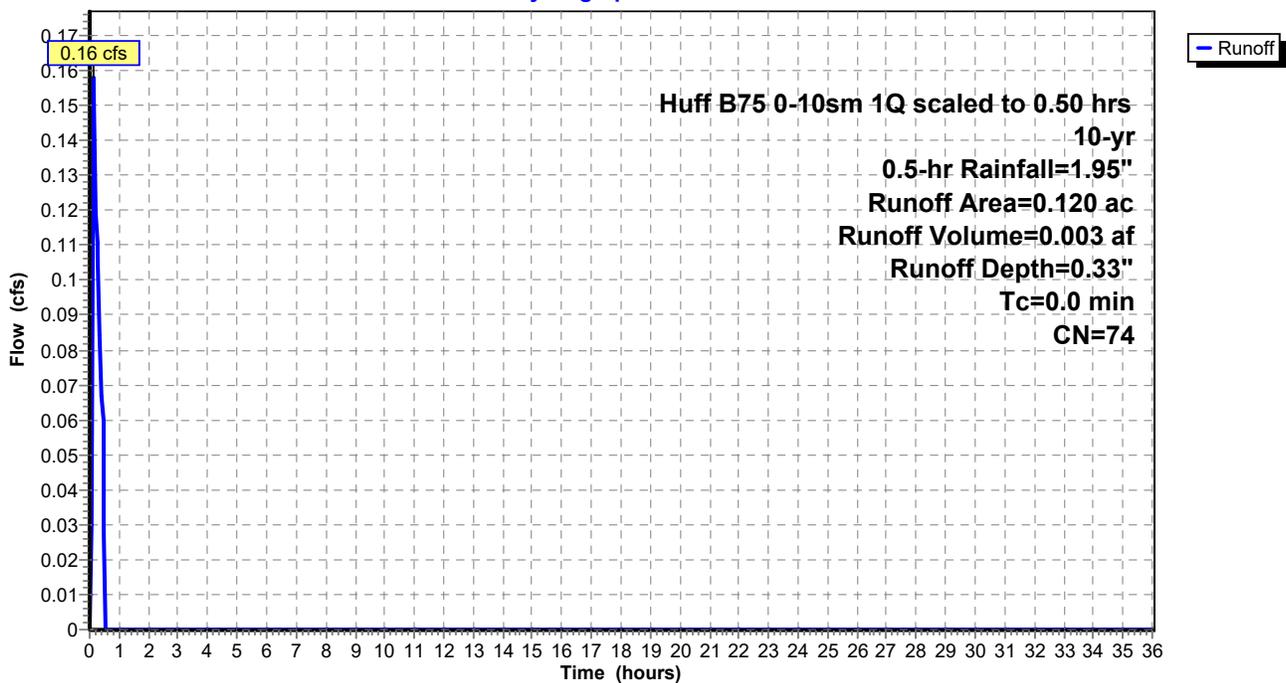
Runoff = 0.16 cfs @ 0.16 hrs, Volume= 0.003 af, Depth= 0.33"
 Routed to Reach 13R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 9S: PR D

Hydrograph



Summary for Subcatchment 11S: PR B

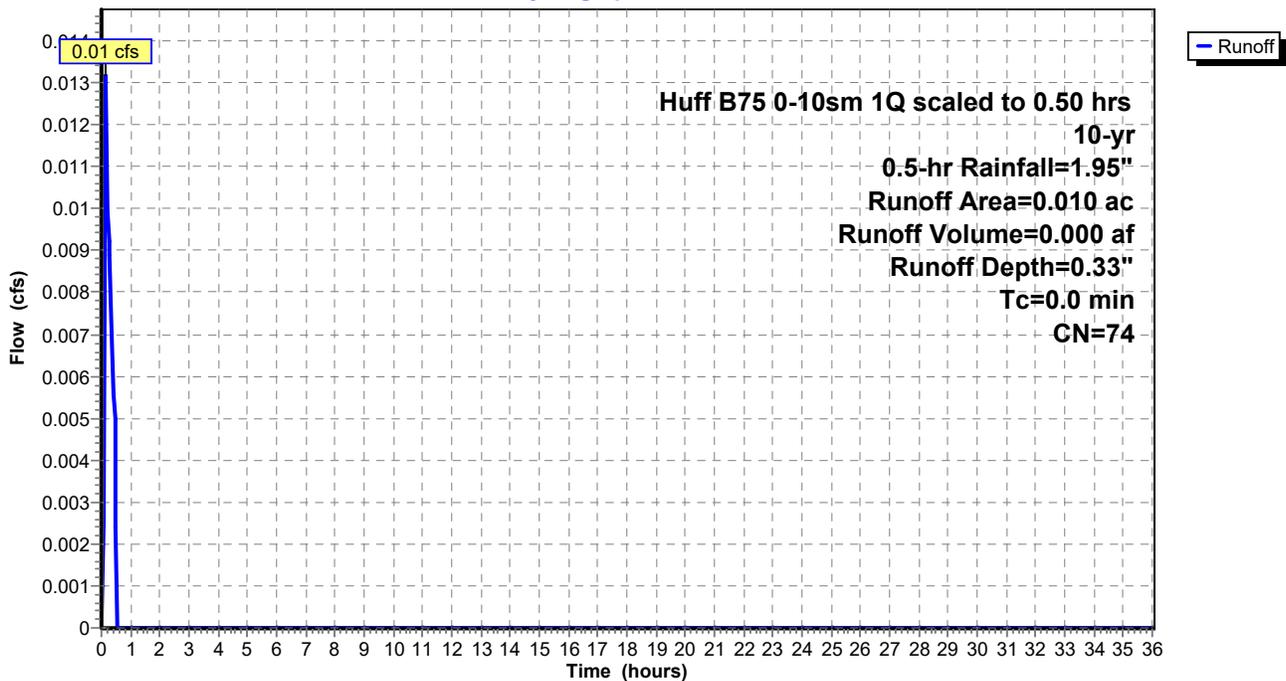
Runoff = 0.01 cfs @ 0.16 hrs, Volume= 0.000 af, Depth= 0.33"
 Routed to Reach 15R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

Area (ac)	CN	Description
0.010	74	>75% Grass cover, Good, HSG C
0.010		100.00% Pervious Area

Subcatchment 11S: PR B

Hydrograph



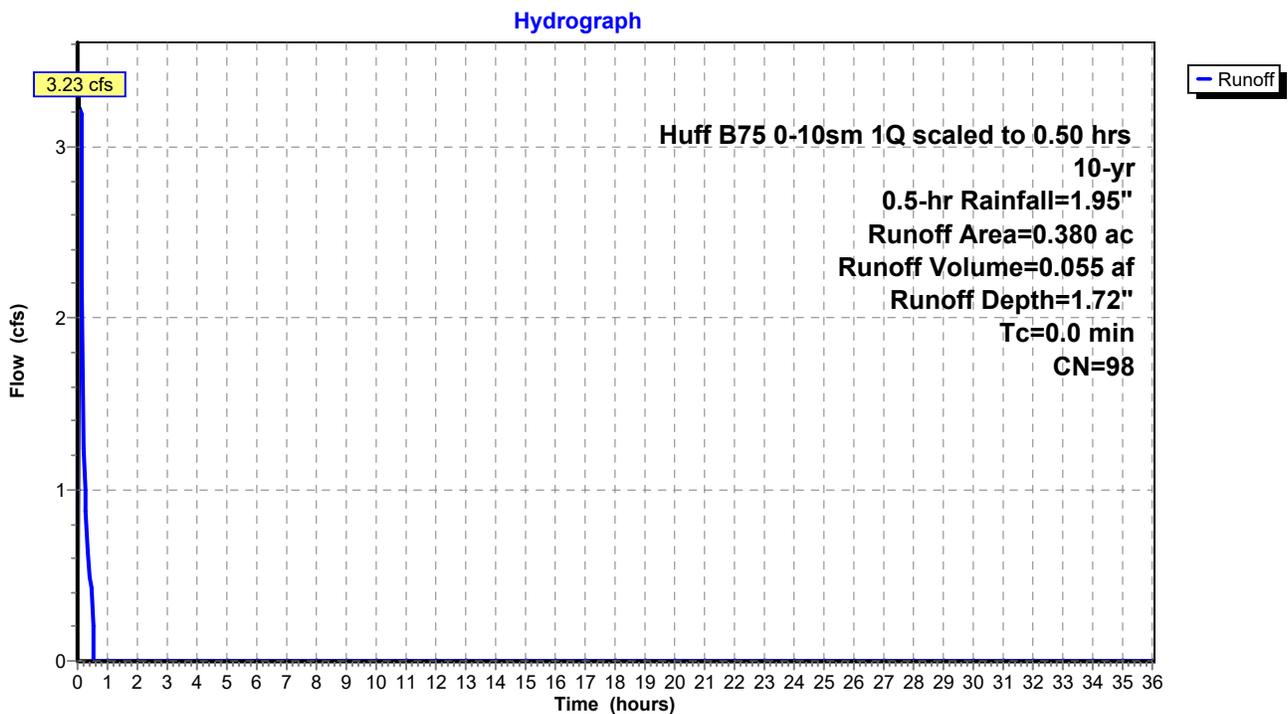
Summary for Subcatchment 12S: PR A

Runoff = 3.23 cfs @ 0.09 hrs, Volume= 0.055 af, Depth= 1.72"
 Routed to Reach 16R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 12S: PR A



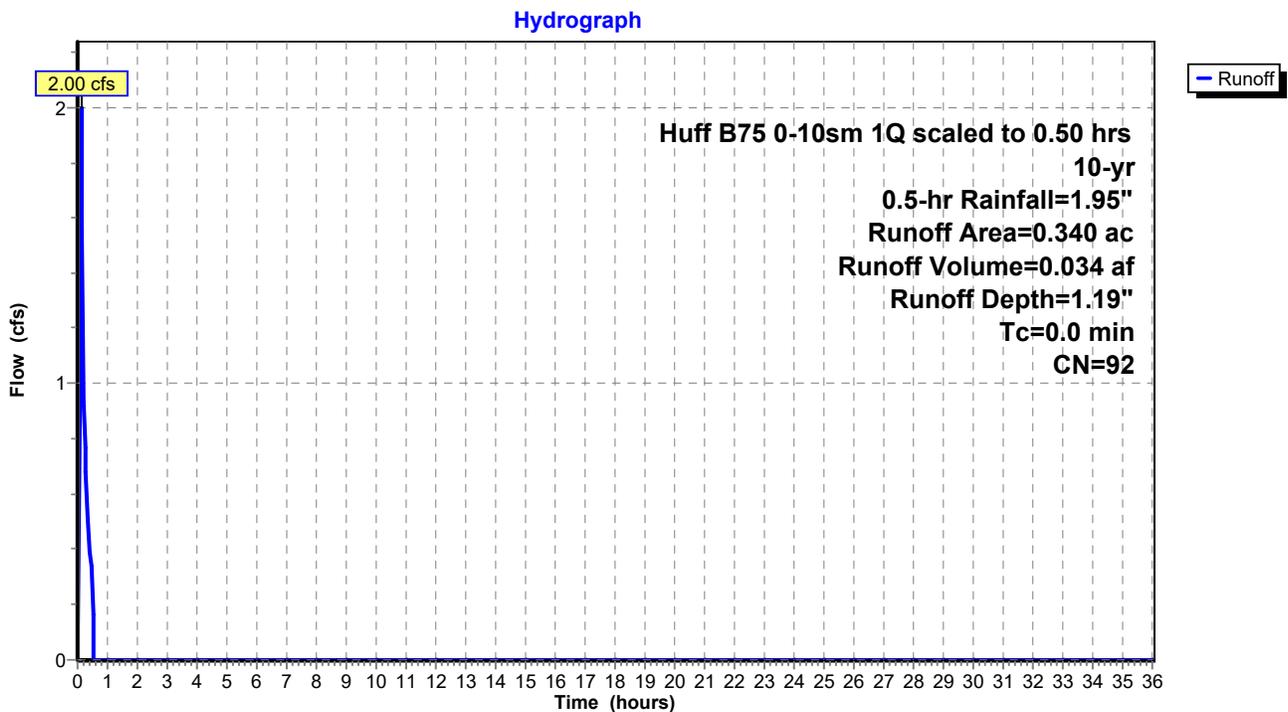
Summary for Subcatchment 32S: PR C1

Runoff = 2.00 cfs @ 0.11 hrs, Volume= 0.034 af, Depth= 1.19"
 Routed to Pond 43P : 4" Underdrain Rock

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

Area (ac)	CN	Description
0.260	98	Paved parking, HSG C
0.080	74	>75% Grass cover, Good, HSG C
0.000	96	Gravel surface, HSG C
0.340	92	Weighted Average
0.080		23.53% Pervious Area
0.260		76.47% Impervious Area

Subcatchment 32S: PR C1



Summary for Subcatchment 39S: PR C2 Bypass

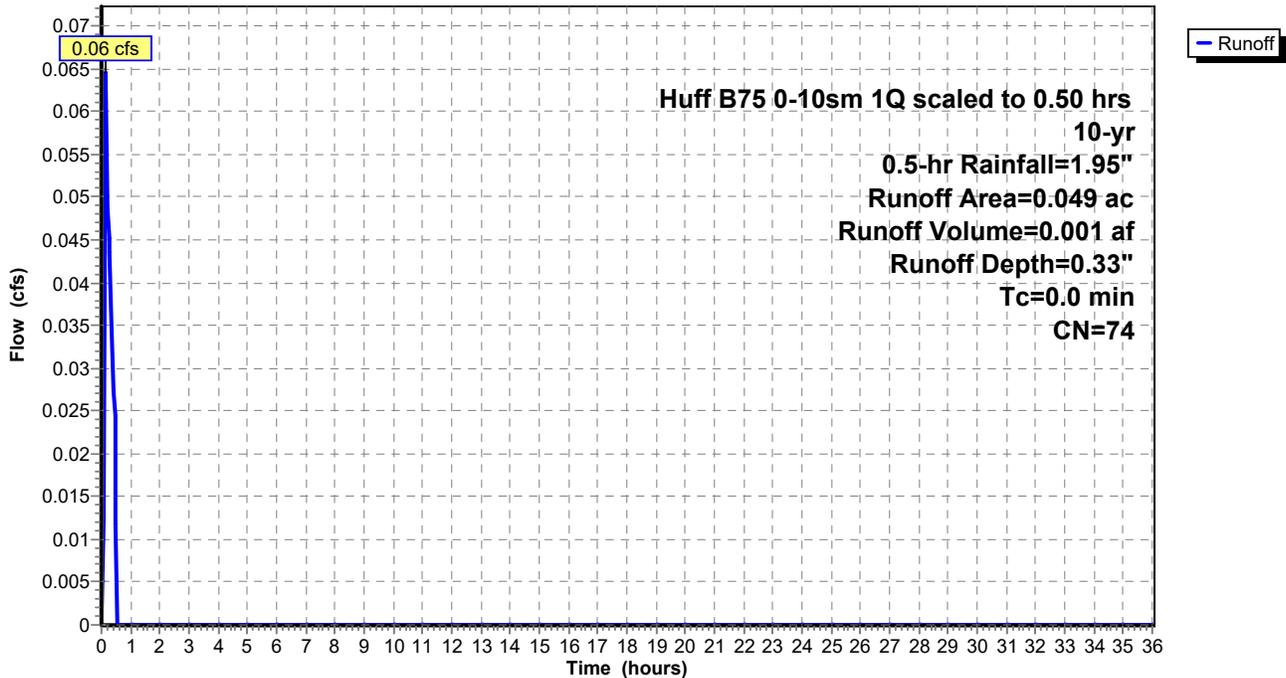
Runoff = 0.06 cfs @ 0.16 hrs, Volume= 0.001 af, Depth= 0.33"
 Routed to Reach 33R : PR Bypass

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

Area (ac)	CN	Description
0.049	74	>75% Grass cover, Good, HSG C
0.049		100.00% Pervious Area

Subcatchment 39S: PR C2 Bypass

Hydrograph



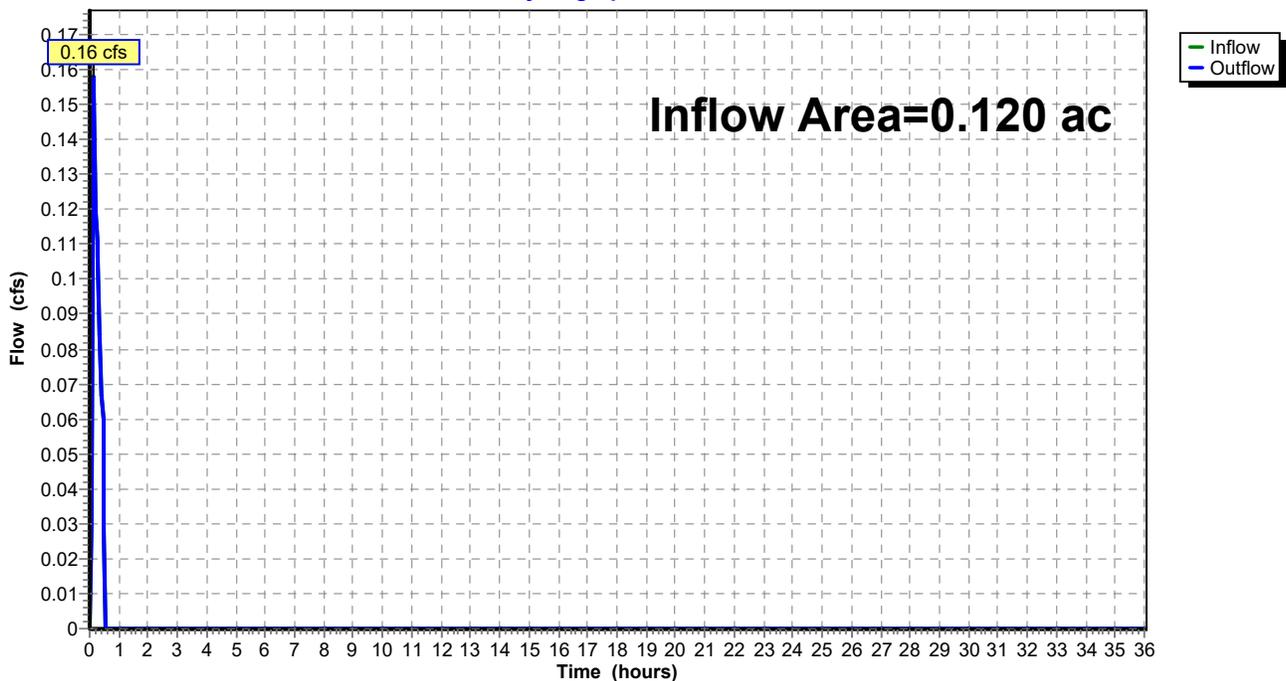
Summary for Reach 13R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 0.33" for 10-yr, 0.5-hr event
 Inflow = 0.16 cfs @ 0.16 hrs, Volume= 0.003 af
 Outflow = 0.16 cfs @ 0.16 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 13R: (new Reach)

Hydrograph



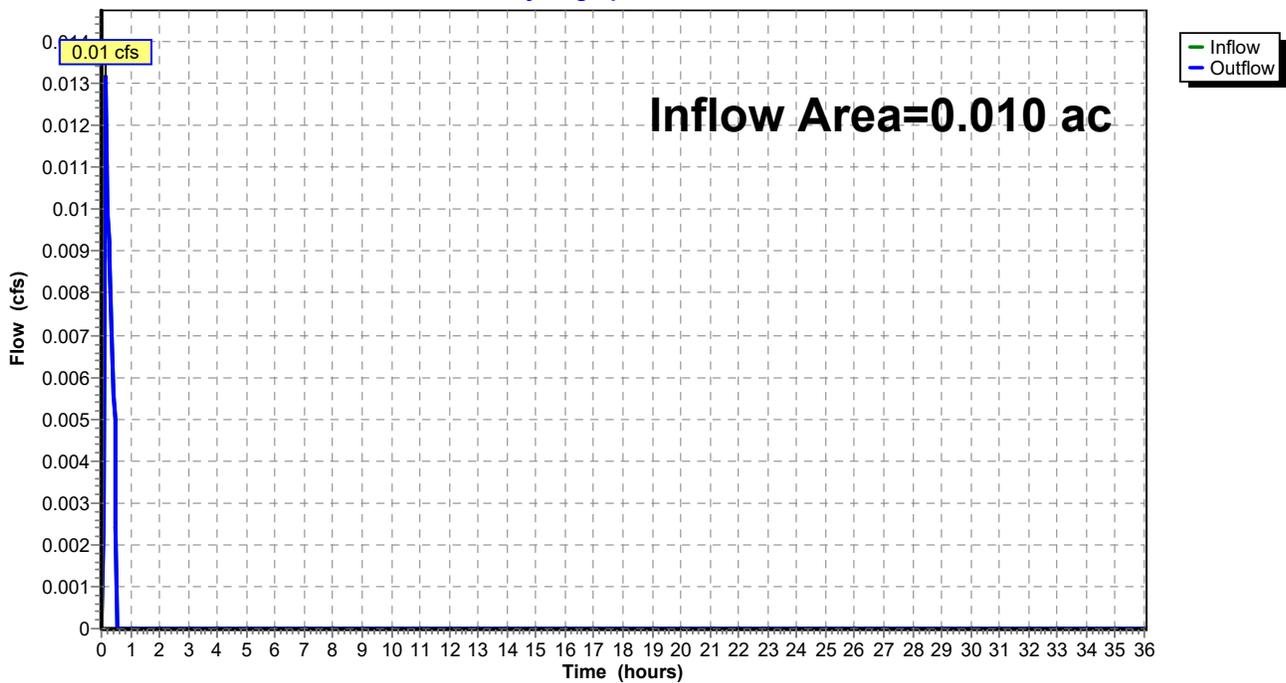
Summary for Reach 15R: (new Reach)

Inflow Area = 0.010 ac, 0.00% Impervious, Inflow Depth = 0.33" for 10-yr, 0.5-hr event
 Inflow = 0.01 cfs @ 0.16 hrs, Volume= 0.000 af
 Outflow = 0.01 cfs @ 0.16 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 15R: (new Reach)

Hydrograph



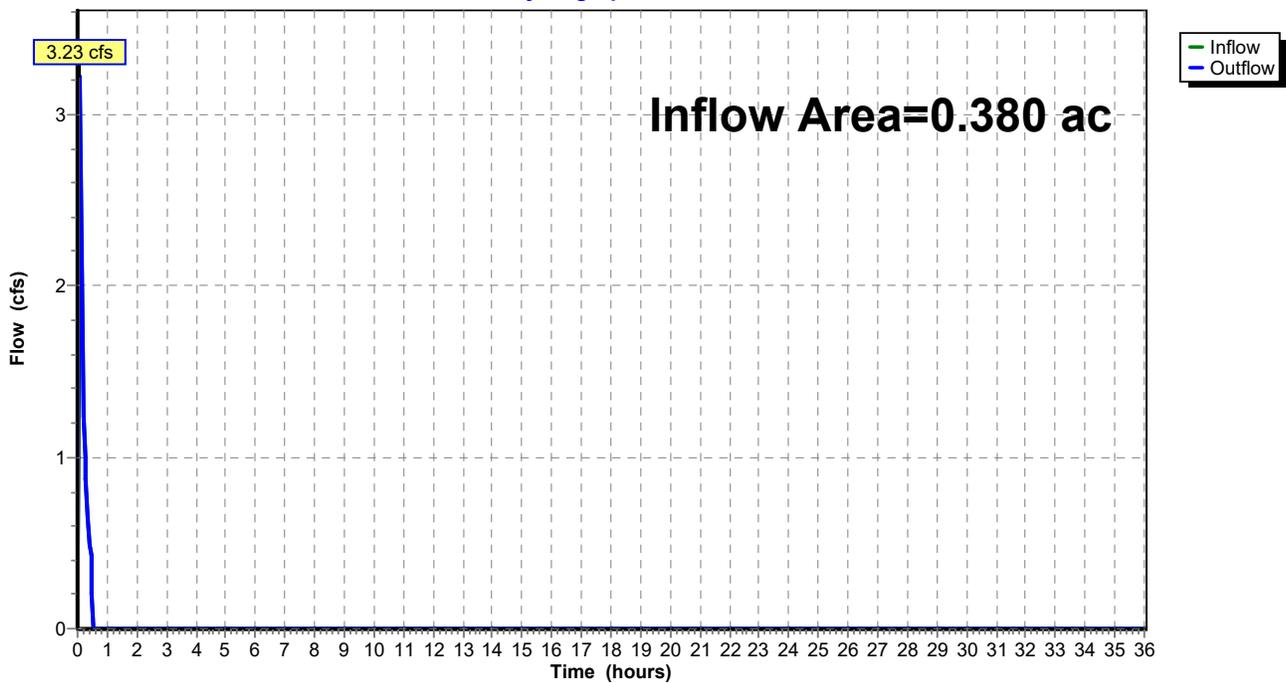
Summary for Reach 16R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 1.72" for 10-yr, 0.5-hr event
 Inflow = 3.23 cfs @ 0.09 hrs, Volume= 0.055 af
 Outflow = 3.23 cfs @ 0.09 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 16R: (new Reach)

Hydrograph

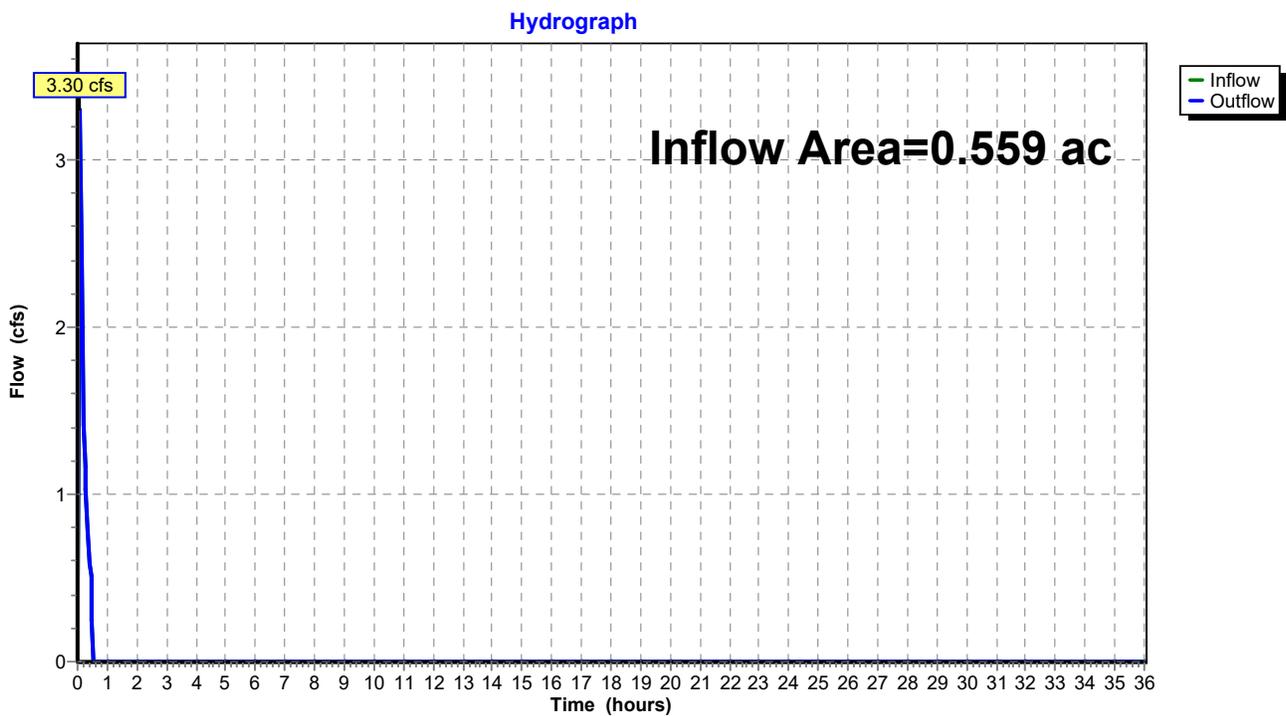


Summary for Reach 33R: PR Bypass

Inflow Area = 0.559 ac, 67.98% Impervious, Inflow Depth = 1.28" for 10-yr, 0.5-hr event
 Inflow = 3.30 cfs @ 0.09 hrs, Volume= 0.059 af
 Outflow = 3.30 cfs @ 0.09 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 41R : PR Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 33R: PR Bypass



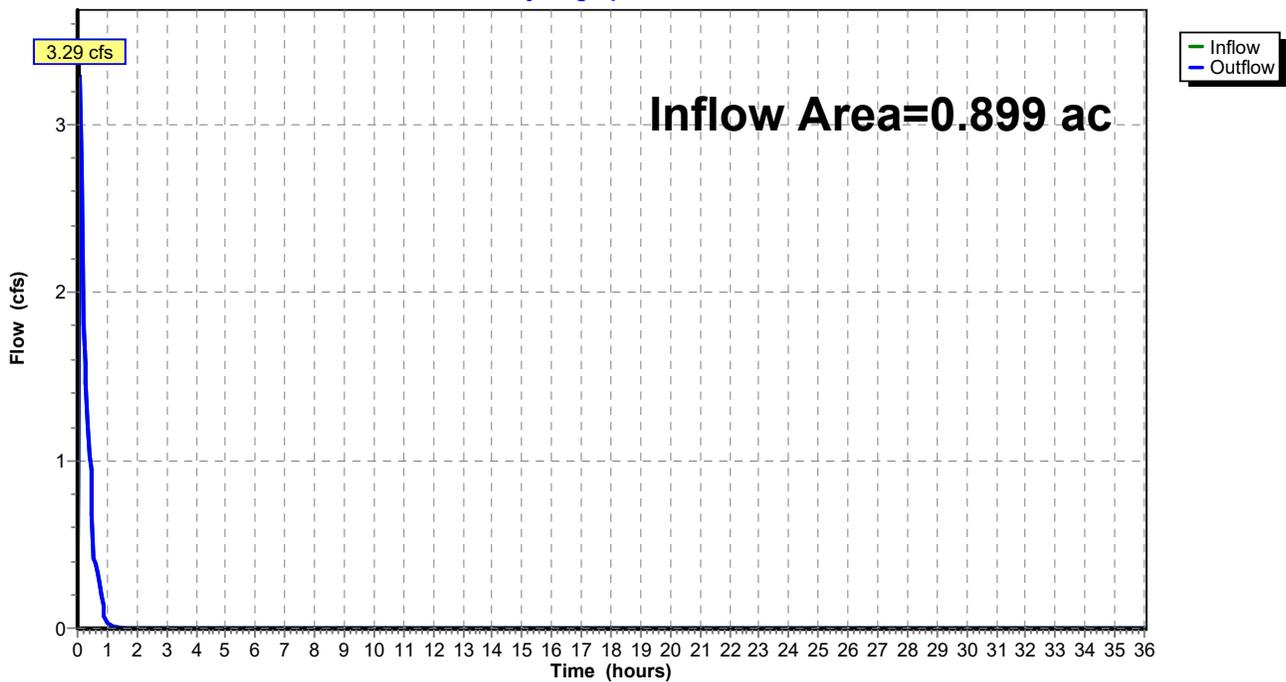
Summary for Reach 41R: PR Total

Inflow Area = 0.899 ac, 71.19% Impervious, Inflow Depth = 1.11" for 10-yr, 0.5-hr event
Inflow = 3.29 cfs @ 0.10 hrs, Volume= 0.083 af
Outflow = 3.29 cfs @ 0.10 hrs, Volume= 0.083 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 41R: PR Total

Hydrograph



Summary for Pond 43P: 4" Underdrain Rock

Inflow Area = 0.340 ac, 76.47% Impervious, Inflow Depth = 1.19" for 10-yr, 0.5-hr event
 Inflow = 2.00 cfs @ 0.11 hrs, Volume= 0.034 af
 Outflow = 0.44 cfs @ 0.38 hrs, Volume= 0.023 af, Atten= 78%, Lag= 16.3 min
 Primary = 0.44 cfs @ 0.38 hrs, Volume= 0.023 af
 Routed to Reach 41R : PR Total

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 556.74' @ 0.38 hrs Surf.Area= 1,061 sf Storage= 947 cf

Plug-Flow detention time= 23.4 min calculated for 0.023 af (70% of inflow)
 Center-of-Mass det. time= 18.1 min (30.0 - 11.9)

Volume	Invert	Avail.Storage	Storage Description	
#1	553.50'	4,098 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
553.50	560	0.0	0	0
556.00	560	40.0	560	560
556.50	908	40.0	147	707
557.00	1,222	100.0	533	1,239
558.00	1,955	100.0	1,589	2,828
558.55	2,663	100.0	1,270	4,098

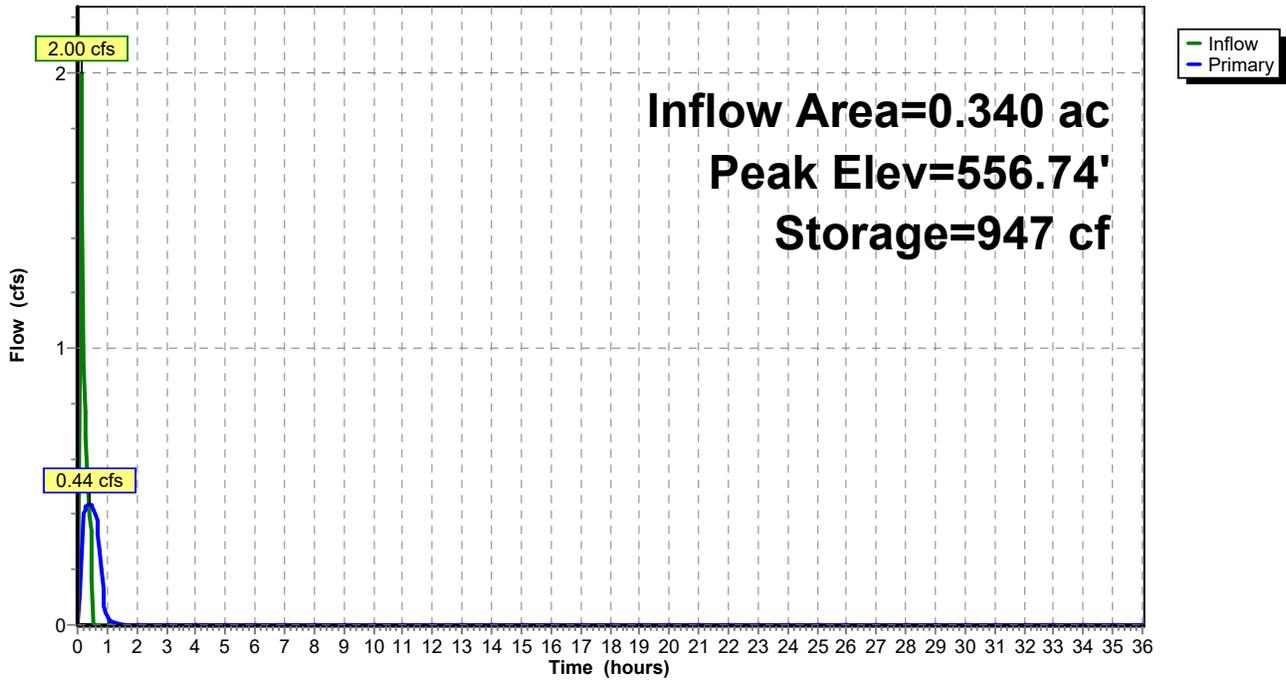
Device	Routing	Invert	Outlet Devices
#1	Primary	555.00'	12.0" Round Culvert L= 105.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 555.00' / 554.00' S= 0.0095 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	557.90'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.50 Width (feet) 4.00 4.00
#3	Primary	555.50'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.44 cfs @ 0.38 hrs HW=556.74' (Free Discharge)

- 1=Culvert (Passes 0.00 cfs of 4.41 cfs potential flow)
- 2=Custom Weir/Orifice (Controls 0.00 cfs)
- 3=Orifice/Grate (Orifice Controls 0.44 cfs @ 4.99 fps)

Pond 43P: 4" Underdrain Rock

Hydrograph



Stage-Area-Storage for Pond 43P: 4" Underdrain Rock

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
553.50	560	0	556.05	595	572
553.55	560	11	556.10	630	584
553.60	560	22	556.15	664	597
553.65	560	34	556.20	699	610
553.70	560	45	556.25	734	625
553.75	560	56	556.30	769	640
553.80	560	67	556.35	804	655
553.85	560	78	556.40	838	672
553.90	560	90	556.45	873	689
553.95	560	101	556.50	908	707
554.00	560	112	556.55	939	753
554.05	560	123	556.60	971	801
554.10	560	134	556.65	1,002	850
554.15	560	146	556.70	1,034	901
554.20	560	157	556.75	1,065	953
554.25	560	168	556.80	1,096	1,007
554.30	560	179	556.85	1,128	1,063
554.35	560	190	556.90	1,159	1,120
554.40	560	202	556.95	1,191	1,179
554.45	560	213	557.00	1,222	1,239
554.50	560	224	557.05	1,259	1,301
554.55	560	235	557.10	1,295	1,365
554.60	560	246	557.15	1,332	1,431
554.65	560	258	557.20	1,369	1,498
554.70	560	269	557.25	1,405	1,568
554.75	560	280	557.30	1,442	1,639
554.80	560	291	557.35	1,479	1,712
554.85	560	302	557.40	1,515	1,787
554.90	560	314	557.45	1,552	1,863
554.95	560	325	557.50	1,589	1,942
555.00	560	336	557.55	1,625	2,022
555.05	560	347	557.60	1,662	2,104
555.10	560	358	557.65	1,698	2,188
555.15	560	370	557.70	1,735	2,274
555.20	560	381	557.75	1,772	2,362
555.25	560	392	557.80	1,808	2,451
555.30	560	403	557.85	1,845	2,543
555.35	560	414	557.90	1,882	2,636
555.40	560	426	557.95	1,918	2,731
555.45	560	437	558.00	1,955	2,828
555.50	560	448	558.05	2,019	2,927
555.55	560	459	558.10	2,084	3,030
555.60	560	470	558.15	2,148	3,136
555.65	560	482	558.20	2,212	3,245
555.70	560	493	558.25	2,277	3,357
555.75	560	504	558.30	2,341	3,472
555.80	560	515	558.35	2,406	3,591
555.85	560	526	558.40	2,470	3,713
555.90	560	538	558.45	2,534	3,838
555.95	560	549	558.50	2,599	3,966
556.00	560	560	558.55	2,663	4,098

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment9S: PR D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=2.58" Tc=0.0 min CN=74 Runoff=0.04 cfs 0.026 af
Subcatchment11S: PR B	Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=2.58" Tc=0.0 min CN=74 Runoff=0.00 cfs 0.002 af
Subcatchment12S: PR A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=5.03" Tc=0.0 min CN=98 Runoff=0.18 cfs 0.159 af
Subcatchment32S: PR C1	Runoff Area=0.340 ac 76.47% Impervious Runoff Depth=4.35" Tc=0.0 min CN=92 Runoff=0.15 cfs 0.123 af
Subcatchment39S: PR C2 Bypass	Runoff Area=0.049 ac 0.00% Impervious Runoff Depth=2.58" Tc=0.0 min CN=74 Runoff=0.02 cfs 0.011 af
Reach 13R: (new Reach)	Inflow=0.04 cfs 0.026 af Outflow=0.04 cfs 0.026 af
Reach 15R: (new Reach)	Inflow=0.00 cfs 0.002 af Outflow=0.00 cfs 0.002 af
Reach 16R: (new Reach)	Inflow=0.18 cfs 0.159 af Outflow=0.18 cfs 0.159 af
Reach 33R: PR Bypass	Inflow=0.24 cfs 0.198 af Outflow=0.24 cfs 0.198 af
Reach 41R: PR Total	Inflow=0.39 cfs 0.311 af Outflow=0.39 cfs 0.311 af
Pond 43P: 4" Underdrain Rock	Peak Elev=555.80' Storage=516 cf Inflow=0.15 cfs 0.123 af Outflow=0.15 cfs 0.113 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.321 af Average Runoff Depth = 4.29"
28.81% Pervious = 0.259 ac 71.19% Impervious = 0.640 ac

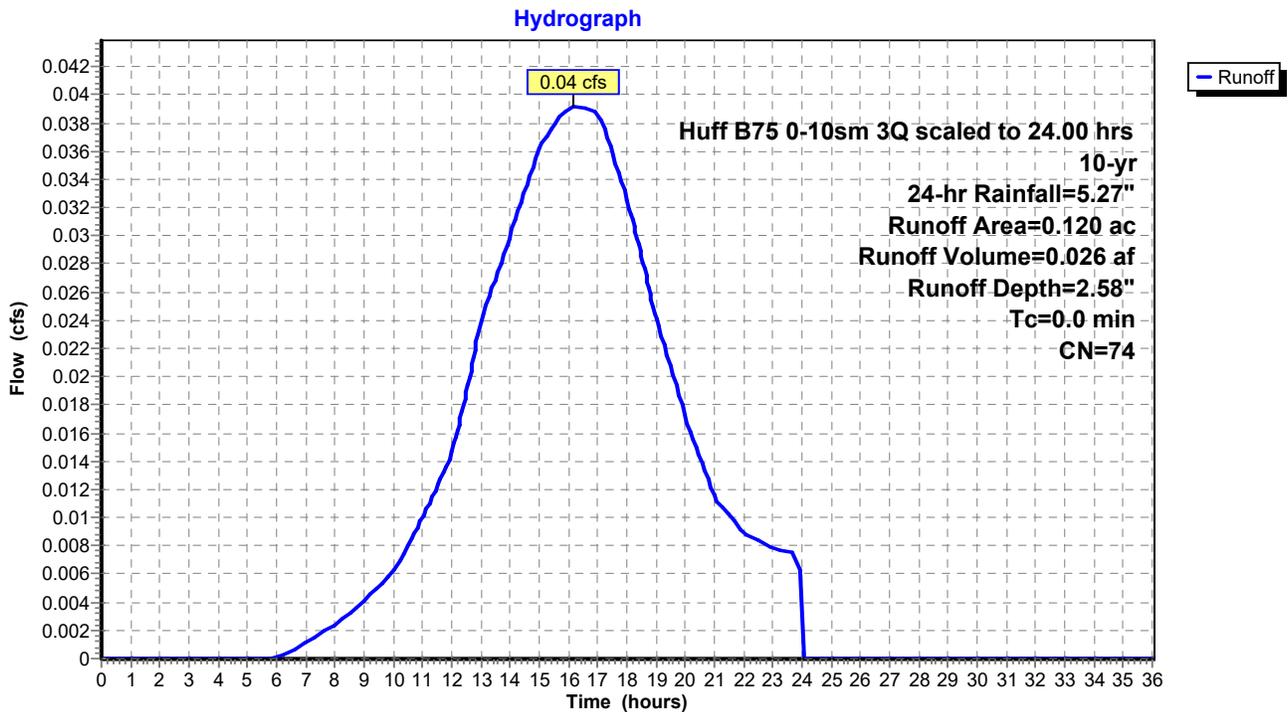
Summary for Subcatchment 9S: PR D

Runoff = 0.04 cfs @ 16.14 hrs, Volume= 0.026 af, Depth= 2.58"
 Routed to Reach 13R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 10-yr, 24-hr Rainfall=5.27"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 9S: PR D



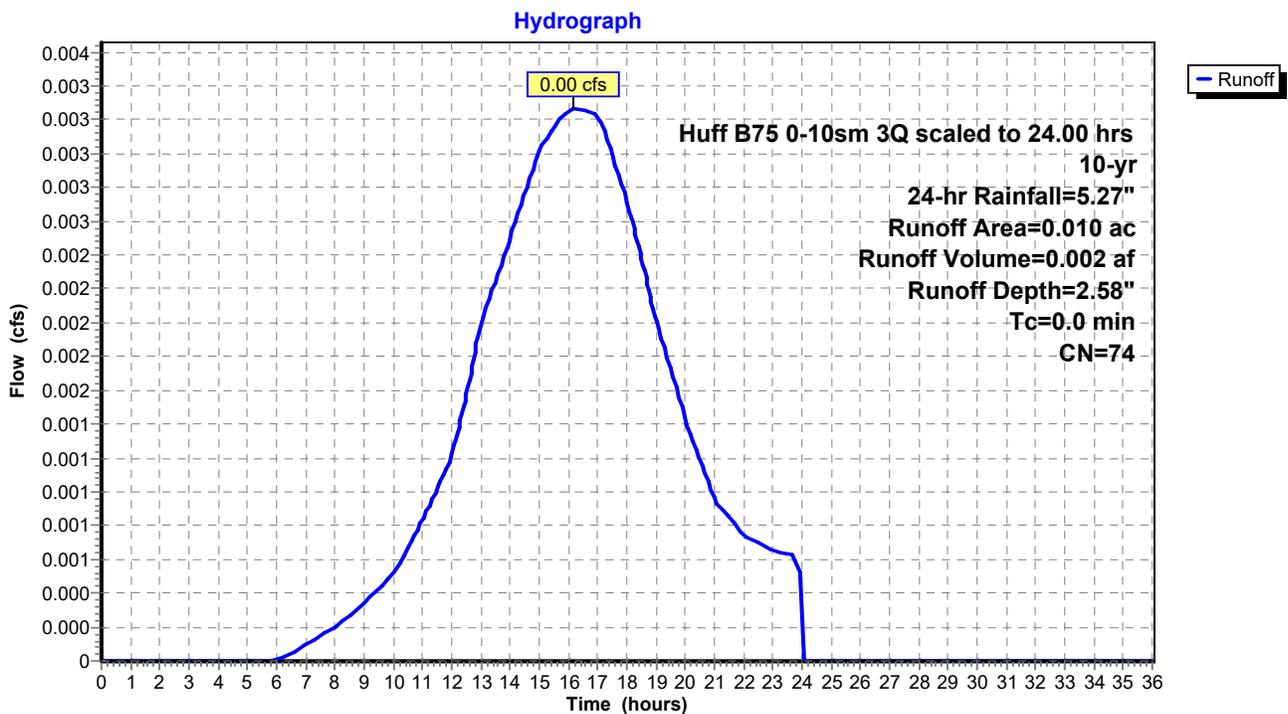
Summary for Subcatchment 11S: PR B

Runoff = 0.00 cfs @ 16.14 hrs, Volume= 0.002 af, Depth= 2.58"
 Routed to Reach 15R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 10-yr, 24-hr Rainfall=5.27"

Area (ac)	CN	Description
0.010	74	>75% Grass cover, Good, HSG C
0.010		100.00% Pervious Area

Subcatchment 11S: PR B



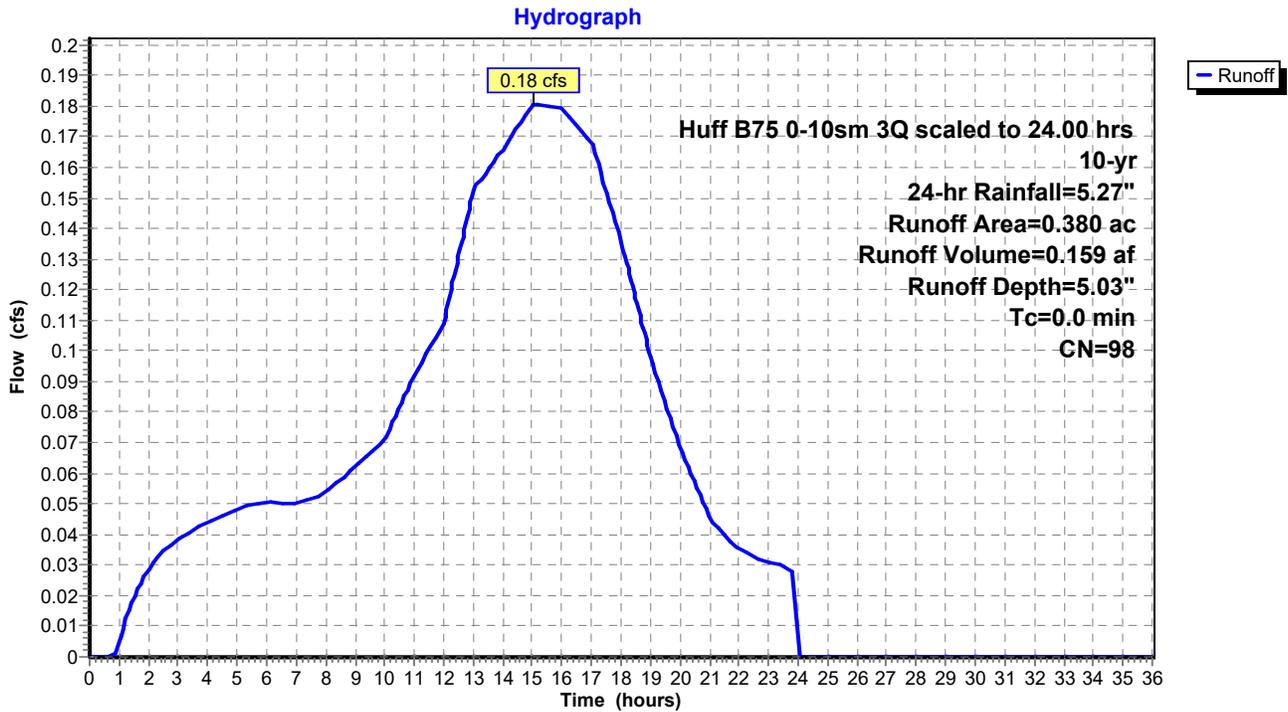
Summary for Subcatchment 12S: PR A

Runoff = 0.18 cfs @ 15.06 hrs, Volume= 0.159 af, Depth= 5.03"
 Routed to Reach 16R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 10-yr, 24-hr Rainfall=5.27"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 12S: PR A



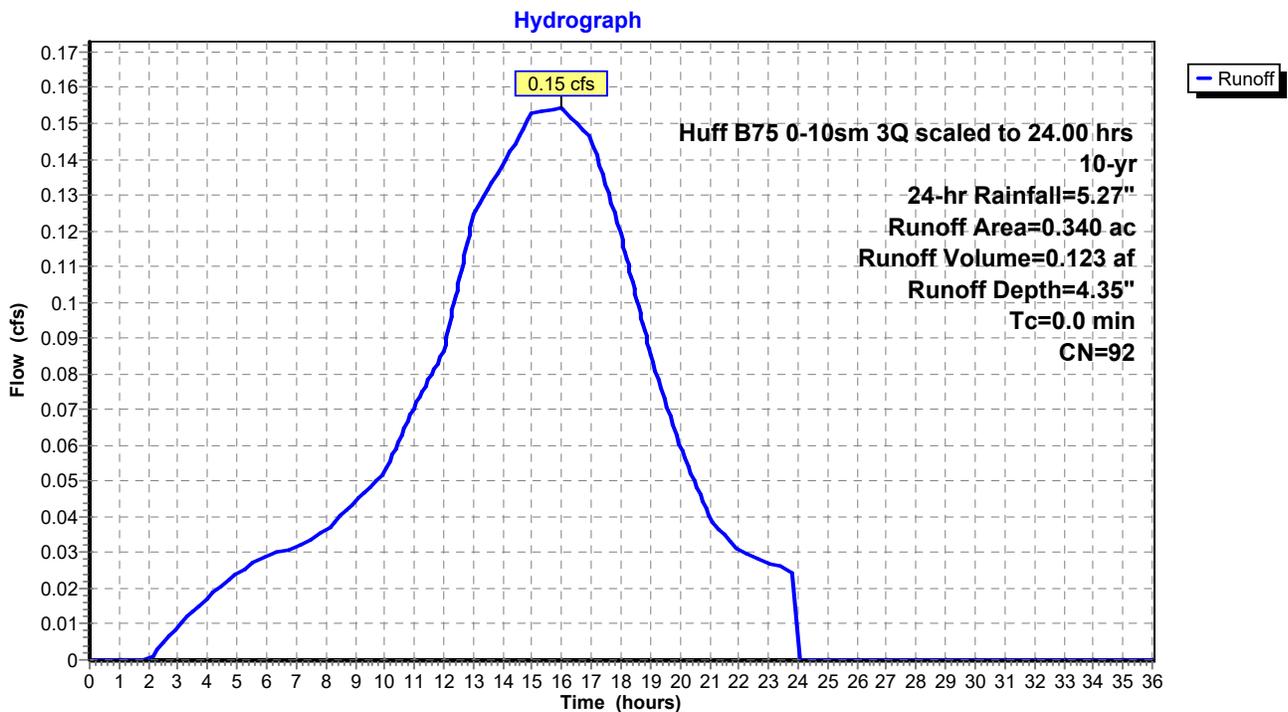
Summary for Subcatchment 32S: PR C1

Runoff = 0.15 cfs @ 15.96 hrs, Volume= 0.123 af, Depth= 4.35"
 Routed to Pond 43P : 4" Underdrain Rock

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 10-yr, 24-hr Rainfall=5.27"

Area (ac)	CN	Description
0.260	98	Paved parking, HSG C
0.080	74	>75% Grass cover, Good, HSG C
0.000	96	Gravel surface, HSG C
0.340	92	Weighted Average
0.080		23.53% Pervious Area
0.260		76.47% Impervious Area

Subcatchment 32S: PR C1



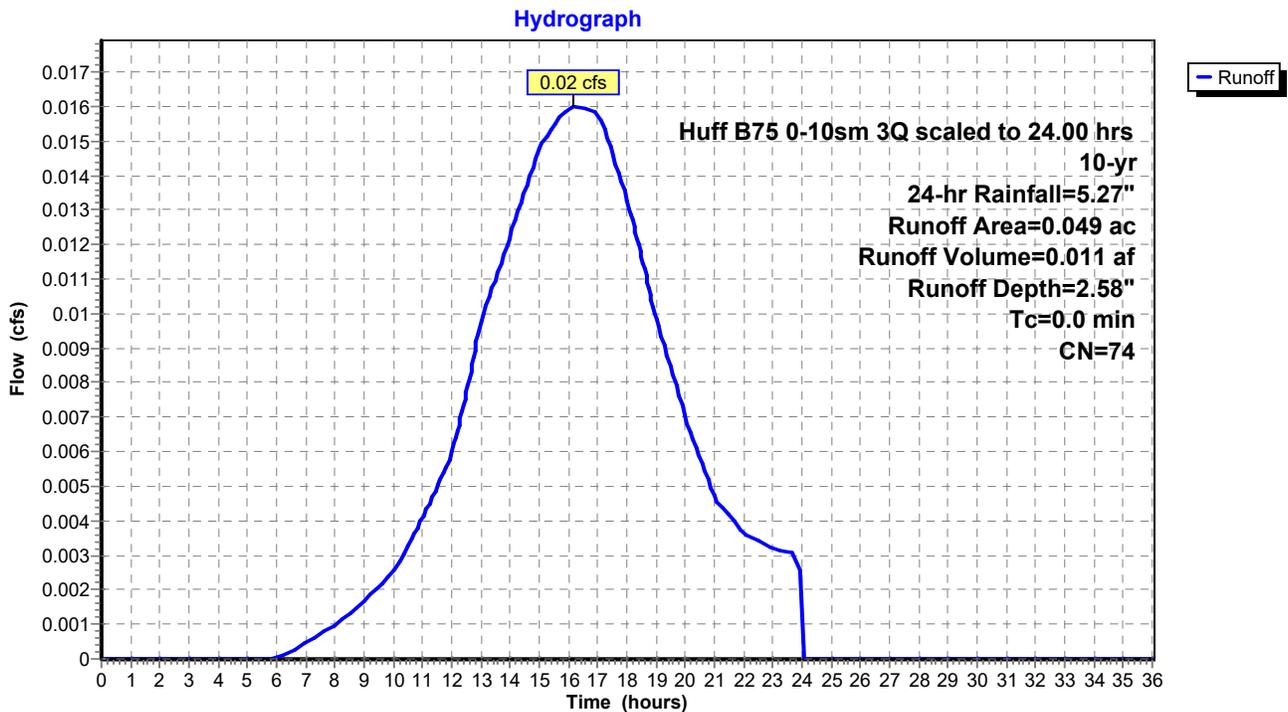
Summary for Subcatchment 39S: PR C2 Bypass

Runoff = 0.02 cfs @ 16.14 hrs, Volume= 0.011 af, Depth= 2.58"
 Routed to Reach 33R : PR Bypass

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 10-yr, 24-hr Rainfall=5.27"

Area (ac)	CN	Description
0.049	74	>75% Grass cover, Good, HSG C
0.049		100.00% Pervious Area

Subcatchment 39S: PR C2 Bypass

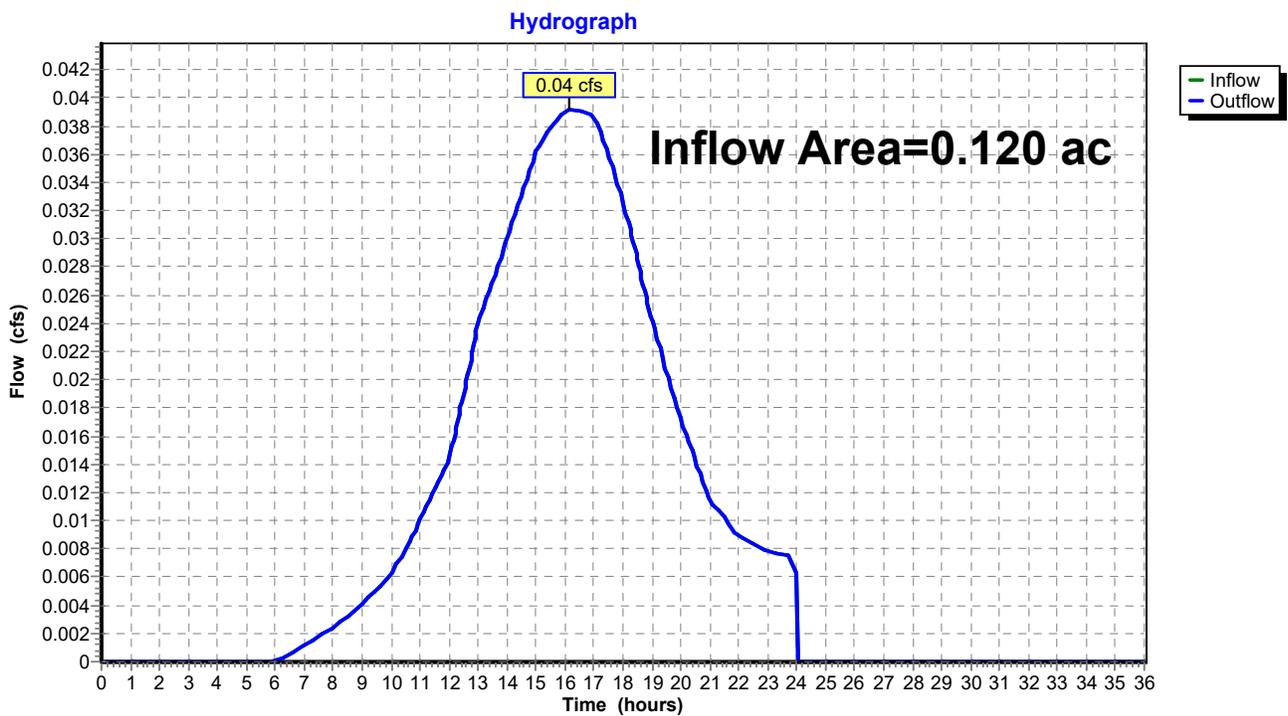


Summary for Reach 13R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 2.58" for 10-yr, 24-hr event
 Inflow = 0.04 cfs @ 16.14 hrs, Volume= 0.026 af
 Outflow = 0.04 cfs @ 16.14 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 13R: (new Reach)

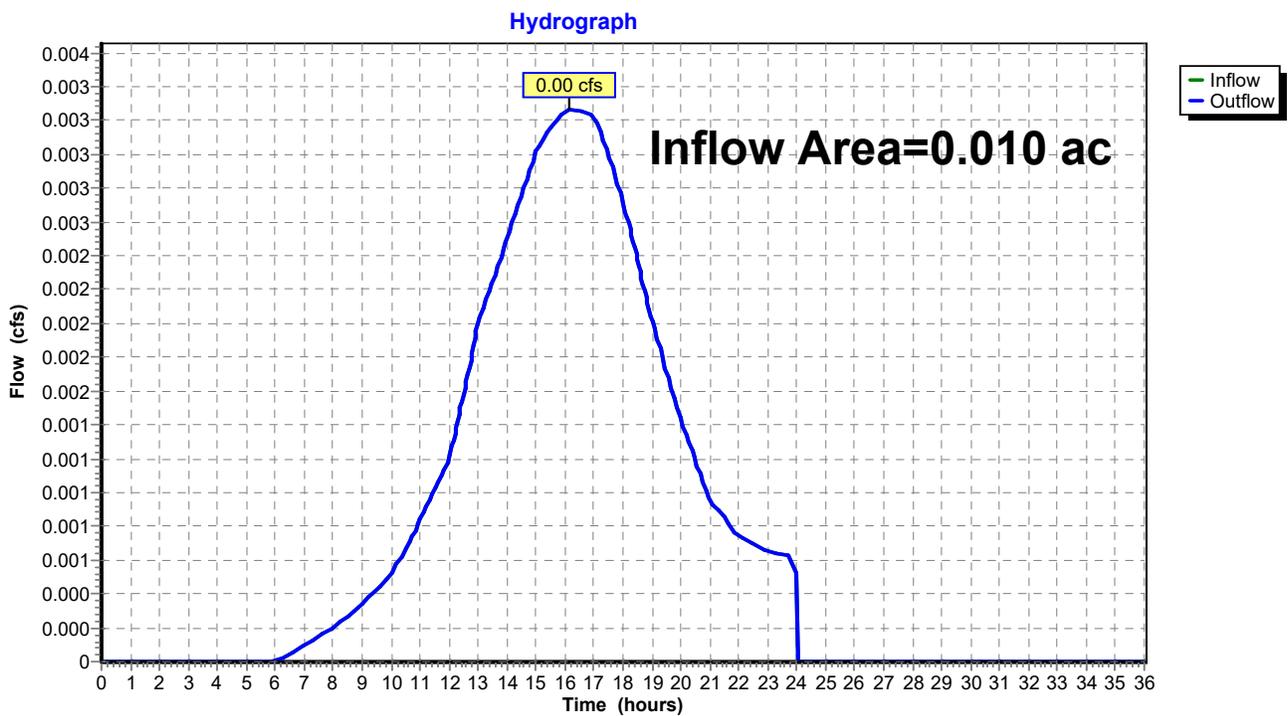


Summary for Reach 15R: (new Reach)

Inflow Area = 0.010 ac, 0.00% Impervious, Inflow Depth = 2.58" for 10-yr, 24-hr event
 Inflow = 0.00 cfs @ 16.14 hrs, Volume= 0.002 af
 Outflow = 0.00 cfs @ 16.14 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 15R: (new Reach)

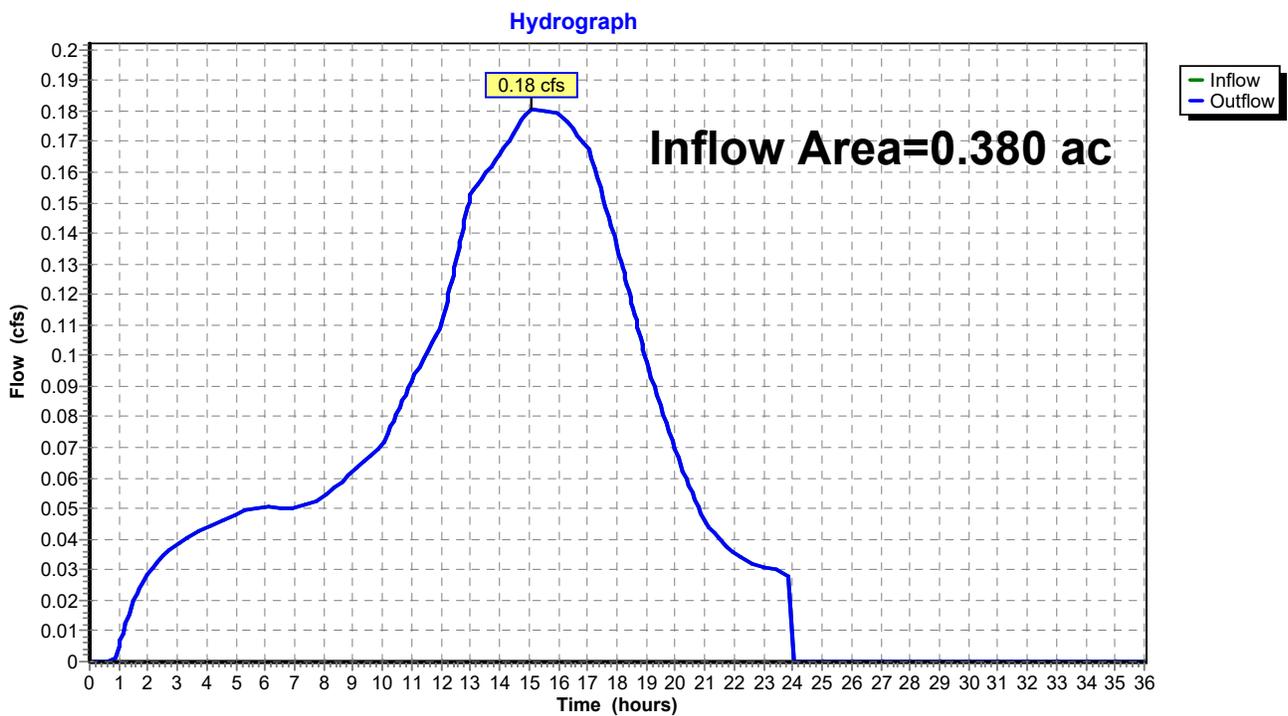


Summary for Reach 16R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 5.03" for 10-yr, 24-hr event
 Inflow = 0.18 cfs @ 15.06 hrs, Volume= 0.159 af
 Outflow = 0.18 cfs @ 15.06 hrs, Volume= 0.159 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 16R: (new Reach)

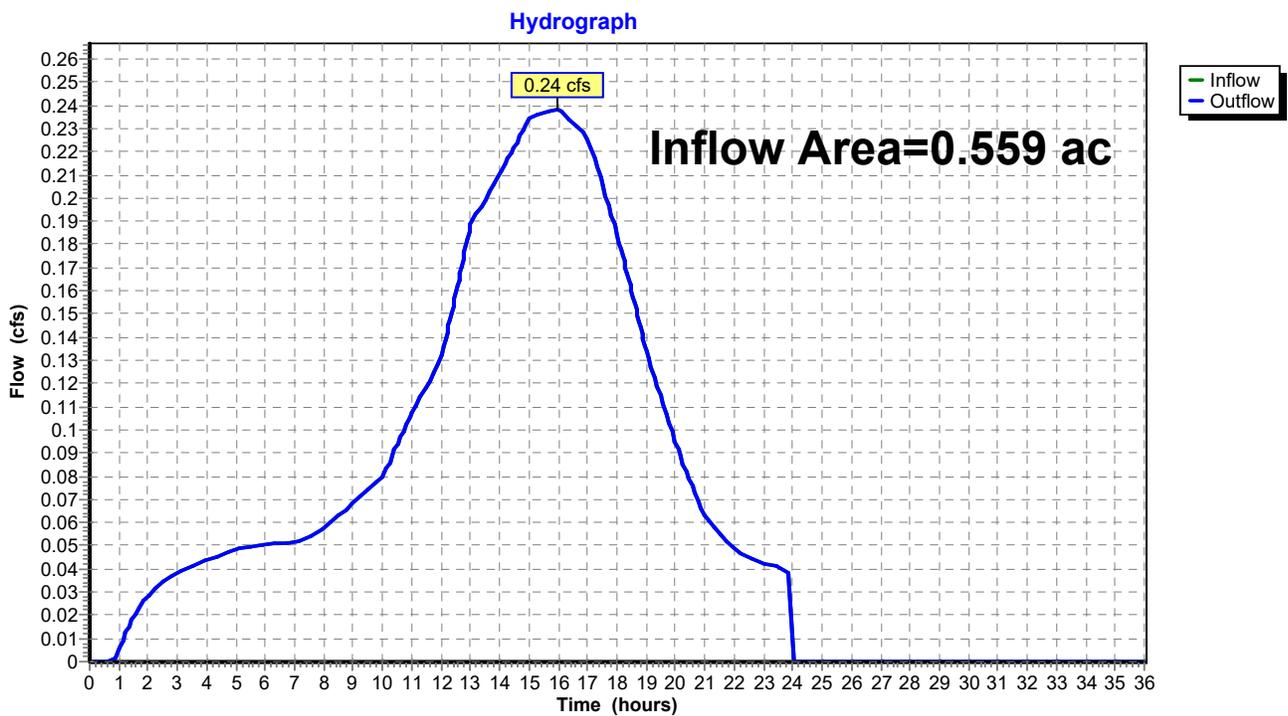


Summary for Reach 33R: PR Bypass

Inflow Area = 0.559 ac, 67.98% Impervious, Inflow Depth = 4.25" for 10-yr, 24-hr event
 Inflow = 0.24 cfs @ 15.98 hrs, Volume= 0.198 af
 Outflow = 0.24 cfs @ 15.98 hrs, Volume= 0.198 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 41R : PR Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 33R: PR Bypass



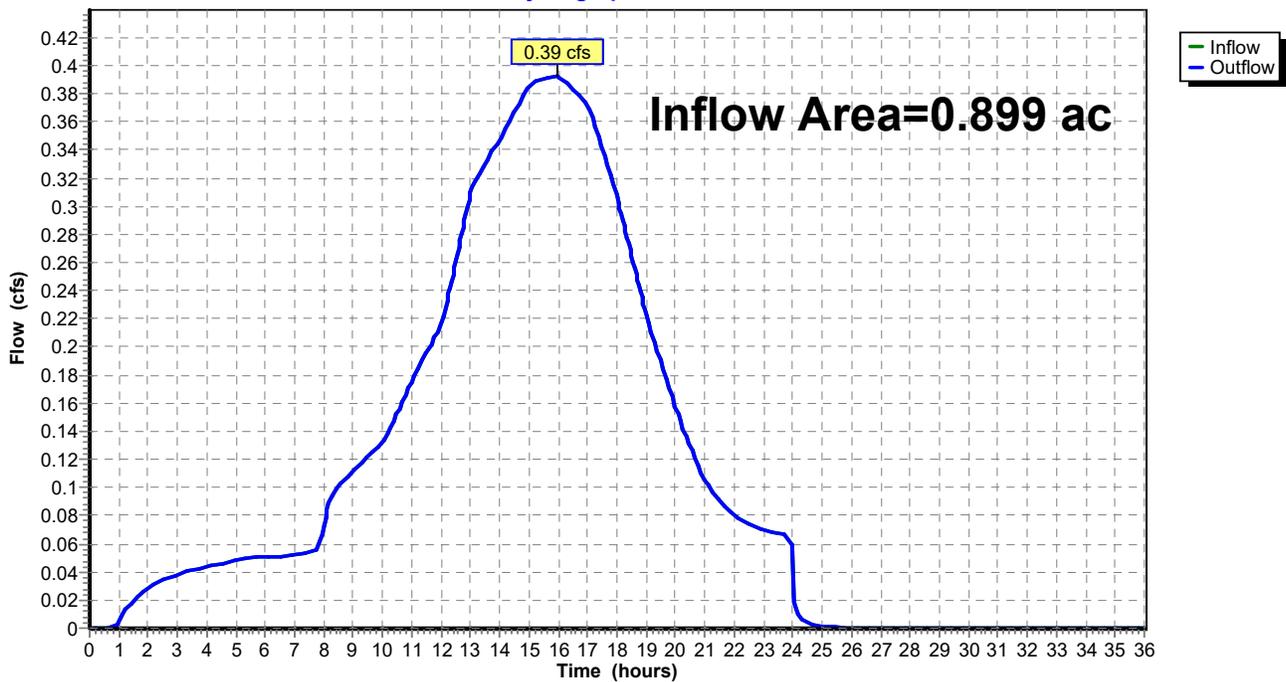
Summary for Reach 41R: PR Total

Inflow Area = 0.899 ac, 71.19% Impervious, Inflow Depth = 4.15" for 10-yr, 24-hr event
 Inflow = 0.39 cfs @ 15.98 hrs, Volume= 0.311 af
 Outflow = 0.39 cfs @ 15.98 hrs, Volume= 0.311 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 41R: PR Total

Hydrograph



Summary for Pond 43P: 4" Underdrain Rock

Inflow Area = 0.340 ac, 76.47% Impervious, Inflow Depth = 4.35" for 10-yr, 24-hr event
 Inflow = 0.15 cfs @ 15.96 hrs, Volume= 0.123 af
 Outflow = 0.15 cfs @ 16.00 hrs, Volume= 0.113 af, Atten= 0%, Lag= 1.9 min
 Primary = 0.15 cfs @ 16.00 hrs, Volume= 0.113 af
 Routed to Reach 41R : PR Total

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 555.80' @ 16.00 hrs Surf.Area= 560 sf Storage= 516 cf

Plug-Flow detention time= 96.8 min calculated for 0.113 af (92% of inflow)
 Center-of-Mass det. time= 57.6 min (935.2 - 877.6)

Volume	Invert	Avail.Storage	Storage Description	
#1	553.50'	4,098 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
553.50	560	0.0	0	0
556.00	560	40.0	560	560
556.50	908	40.0	147	707
557.00	1,222	100.0	533	1,239
558.00	1,955	100.0	1,589	2,828
558.55	2,663	100.0	1,270	4,098

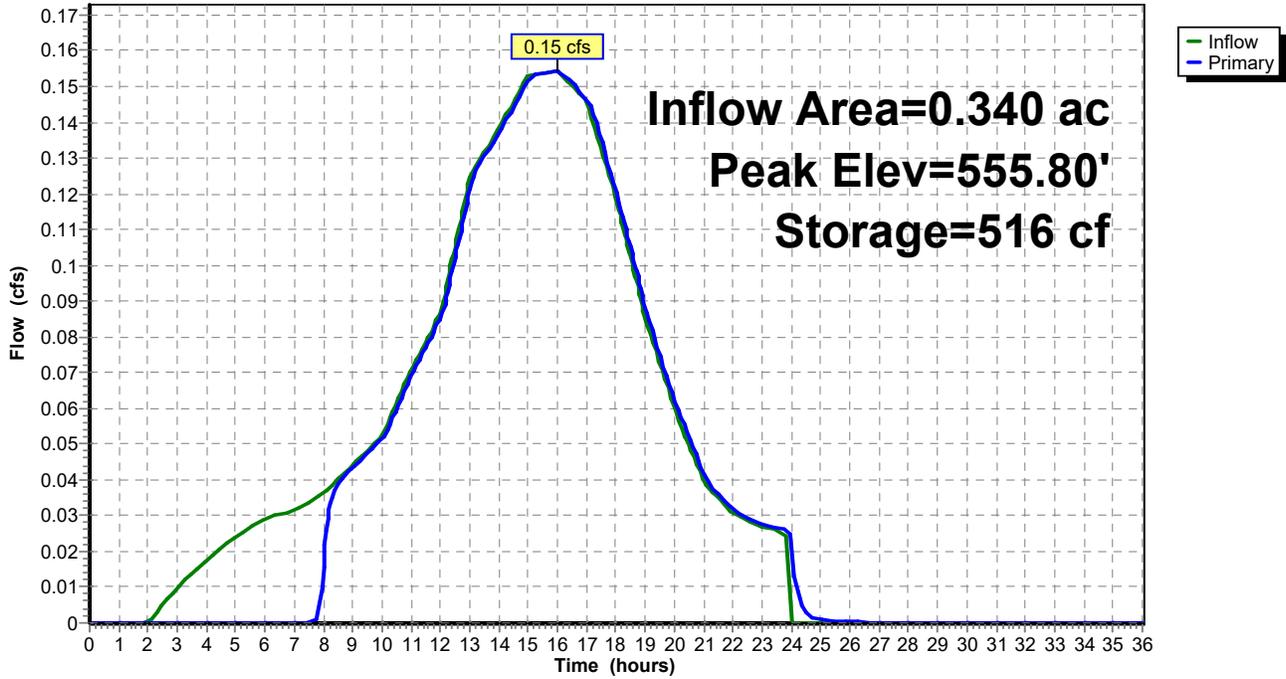
Device	Routing	Invert	Outlet Devices
#1	Primary	555.00'	12.0" Round Culvert L= 105.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 555.00' / 554.00' S= 0.0095 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	557.90'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.50 Width (feet) 4.00 4.00
#3	Primary	555.50'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.16 cfs @ 16.00 hrs HW=555.80' (Free Discharge)

- 1=Culvert** (Passes 0.00 cfs of 2.41 cfs potential flow)
2=Custom Weir/Orifice (Controls 0.00 cfs)
3=Orifice/Grate (Orifice Controls 0.16 cfs @ 1.87 fps)

Pond 43P: 4" Underdrain Rock

Hydrograph



Stage-Area-Storage for Pond 43P: 4" Underdrain Rock

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
553.50	560	0	556.05	595	572
553.55	560	11	556.10	630	584
553.60	560	22	556.15	664	597
553.65	560	34	556.20	699	610
553.70	560	45	556.25	734	625
553.75	560	56	556.30	769	640
553.80	560	67	556.35	804	655
553.85	560	78	556.40	838	672
553.90	560	90	556.45	873	689
553.95	560	101	556.50	908	707
554.00	560	112	556.55	939	753
554.05	560	123	556.60	971	801
554.10	560	134	556.65	1,002	850
554.15	560	146	556.70	1,034	901
554.20	560	157	556.75	1,065	953
554.25	560	168	556.80	1,096	1,007
554.30	560	179	556.85	1,128	1,063
554.35	560	190	556.90	1,159	1,120
554.40	560	202	556.95	1,191	1,179
554.45	560	213	557.00	1,222	1,239
554.50	560	224	557.05	1,259	1,301
554.55	560	235	557.10	1,295	1,365
554.60	560	246	557.15	1,332	1,431
554.65	560	258	557.20	1,369	1,498
554.70	560	269	557.25	1,405	1,568
554.75	560	280	557.30	1,442	1,639
554.80	560	291	557.35	1,479	1,712
554.85	560	302	557.40	1,515	1,787
554.90	560	314	557.45	1,552	1,863
554.95	560	325	557.50	1,589	1,942
555.00	560	336	557.55	1,625	2,022
555.05	560	347	557.60	1,662	2,104
555.10	560	358	557.65	1,698	2,188
555.15	560	370	557.70	1,735	2,274
555.20	560	381	557.75	1,772	2,362
555.25	560	392	557.80	1,808	2,451
555.30	560	403	557.85	1,845	2,543
555.35	560	414	557.90	1,882	2,636
555.40	560	426	557.95	1,918	2,731
555.45	560	437	558.00	1,955	2,828
555.50	560	448	558.05	2,019	2,927
555.55	560	459	558.10	2,084	3,030
555.60	560	470	558.15	2,148	3,136
555.65	560	482	558.20	2,212	3,245
555.70	560	493	558.25	2,277	3,357
555.75	560	504	558.30	2,341	3,472
555.80	560	515	558.35	2,406	3,591
555.85	560	526	558.40	2,470	3,713
555.90	560	538	558.45	2,534	3,838
555.95	560	549	558.50	2,599	3,966
556.00	560	560	558.55	2,663	4,098

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment9S: PR D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=0.88" Tc=0.0 min CN=74 Runoff=0.44 cfs 0.009 af
Subcatchment11S: PR B	Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=0.88" Tc=0.0 min CN=74 Runoff=0.04 cfs 0.001 af
Subcatchment12S: PR A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=2.72" Tc=0.0 min CN=98 Runoff=5.07 cfs 0.086 af
Subcatchment32S: PR C1	Runoff Area=0.340 ac 76.47% Impervious Runoff Depth=2.11" Tc=0.0 min CN=92 Runoff=3.58 cfs 0.060 af
Subcatchment39S: PR C2 Bypass	Runoff Area=0.049 ac 0.00% Impervious Runoff Depth=0.88" Tc=0.0 min CN=74 Runoff=0.18 cfs 0.004 af
Reach 13R: (new Reach)	Inflow=0.44 cfs 0.009 af Outflow=0.44 cfs 0.009 af
Reach 15R: (new Reach)	Inflow=0.04 cfs 0.001 af Outflow=0.04 cfs 0.001 af
Reach 16R: (new Reach)	Inflow=5.07 cfs 0.086 af Outflow=5.07 cfs 0.086 af
Reach 33R: PR Bypass	Inflow=5.52 cfs 0.099 af Outflow=5.52 cfs 0.099 af
Reach 41R: PR Total	Inflow=5.86 cfs 0.149 af Outflow=5.86 cfs 0.149 af
Pond 43P: 4" Underdrain Rock	Peak Elev=557.43' Storage=1,830 cf Inflow=3.58 cfs 0.060 af Outflow=0.56 cfs 0.050 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.159 af Average Runoff Depth = 2.12"
28.81% Pervious = 0.259 ac 71.19% Impervious = 0.640 ac

Summary for Subcatchment 9S: PR D

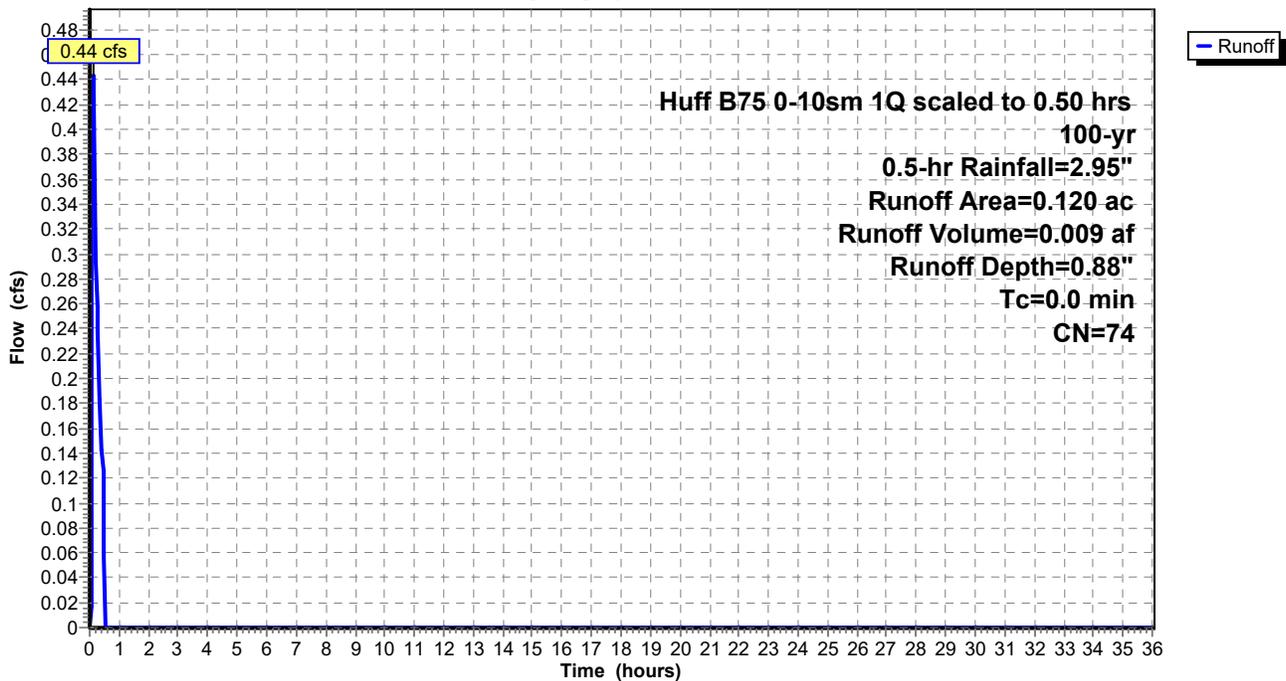
Runoff = 0.44 cfs @ 0.14 hrs, Volume= 0.009 af, Depth= 0.88"
 Routed to Reach 13R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 100-yr, 0.5-hr Rainfall=2.95"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 9S: PR D

Hydrograph



Summary for Subcatchment 11S: PR B

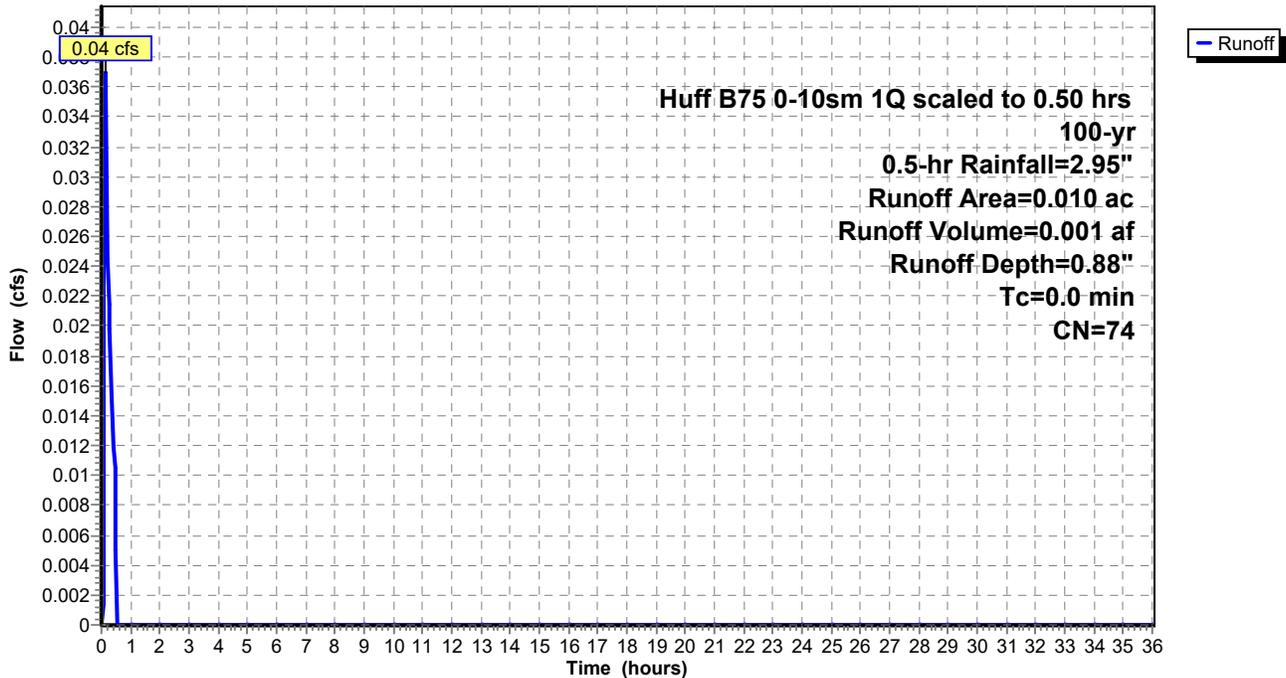
Runoff = 0.04 cfs @ 0.14 hrs, Volume= 0.001 af, Depth= 0.88"
 Routed to Reach 15R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 100-yr, 0.5-hr Rainfall=2.95"

Area (ac)	CN	Description
0.010	74	>75% Grass cover, Good, HSG C
0.010		100.00% Pervious Area

Subcatchment 11S: PR B

Hydrograph



Summary for Subcatchment 12S: PR A

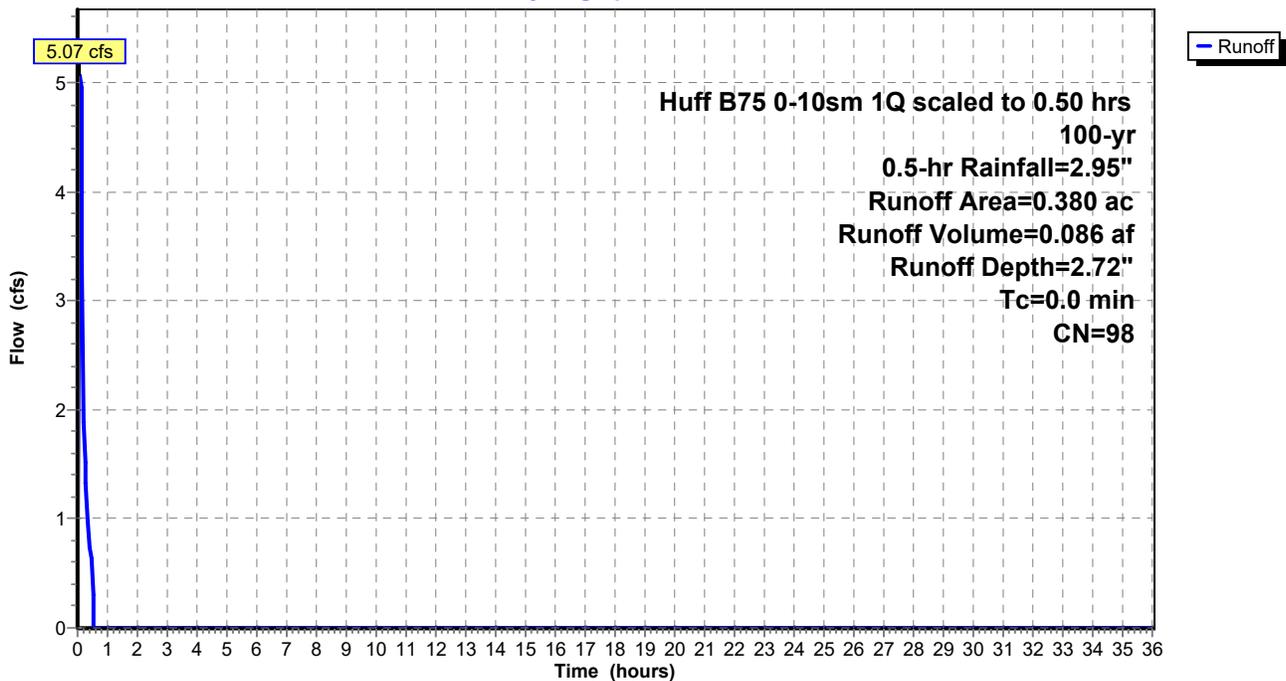
Runoff = 5.07 cfs @ 0.08 hrs, Volume= 0.086 af, Depth= 2.72"
 Routed to Reach 16R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 100-yr, 0.5-hr Rainfall=2.95"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 12S: PR A

Hydrograph



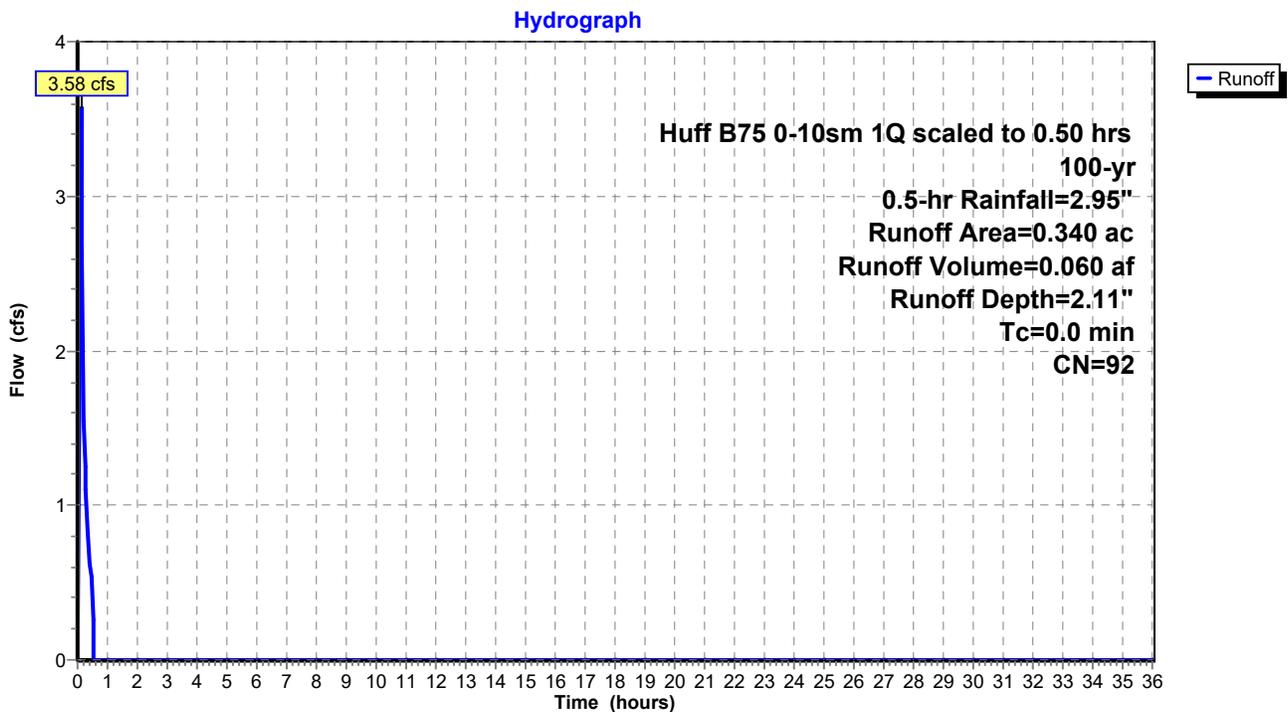
Summary for Subcatchment 32S: PR C1

Runoff = 3.58 cfs @ 0.11 hrs, Volume= 0.060 af, Depth= 2.11"
 Routed to Pond 43P : 4" Underdrain Rock

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 100-yr, 0.5-hr Rainfall=2.95"

Area (ac)	CN	Description
0.260	98	Paved parking, HSG C
0.080	74	>75% Grass cover, Good, HSG C
0.000	96	Gravel surface, HSG C
0.340	92	Weighted Average
0.080		23.53% Pervious Area
0.260		76.47% Impervious Area

Subcatchment 32S: PR C1



Summary for Subcatchment 39S: PR C2 Bypass

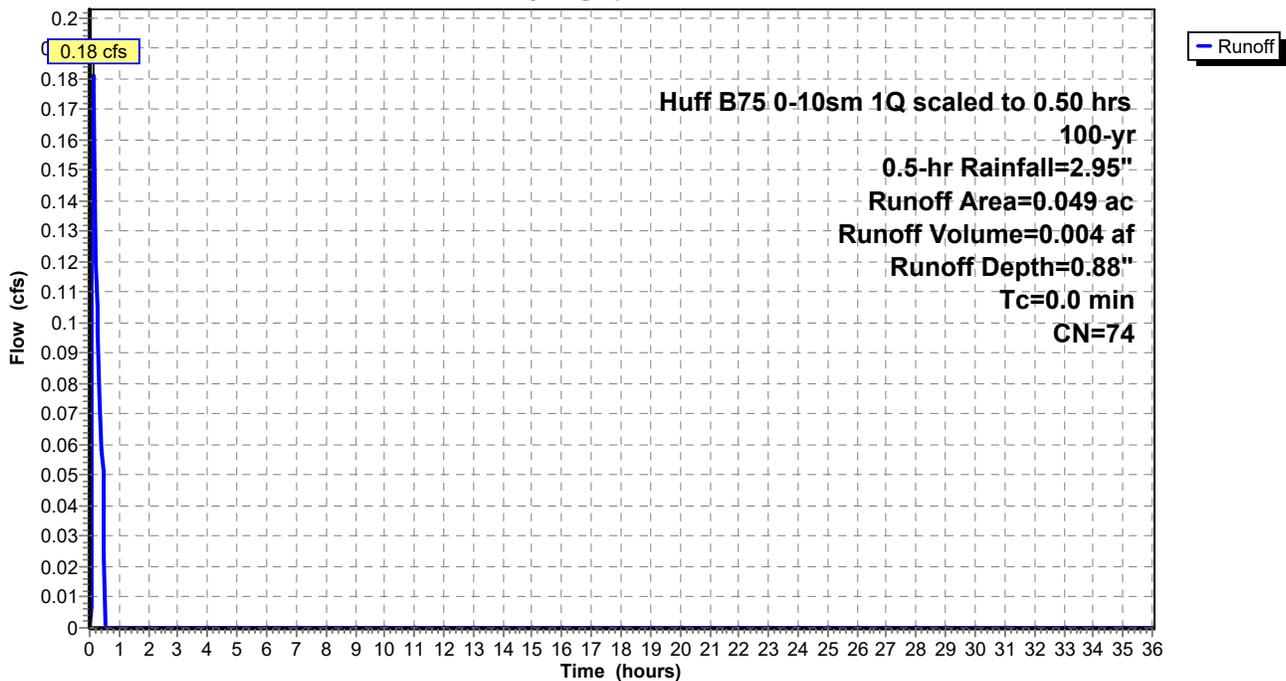
Runoff = 0.18 cfs @ 0.14 hrs, Volume= 0.004 af, Depth= 0.88"
 Routed to Reach 33R : PR Bypass

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 100-yr, 0.5-hr Rainfall=2.95"

Area (ac)	CN	Description
0.049	74	>75% Grass cover, Good, HSG C
0.049		100.00% Pervious Area

Subcatchment 39S: PR C2 Bypass

Hydrograph



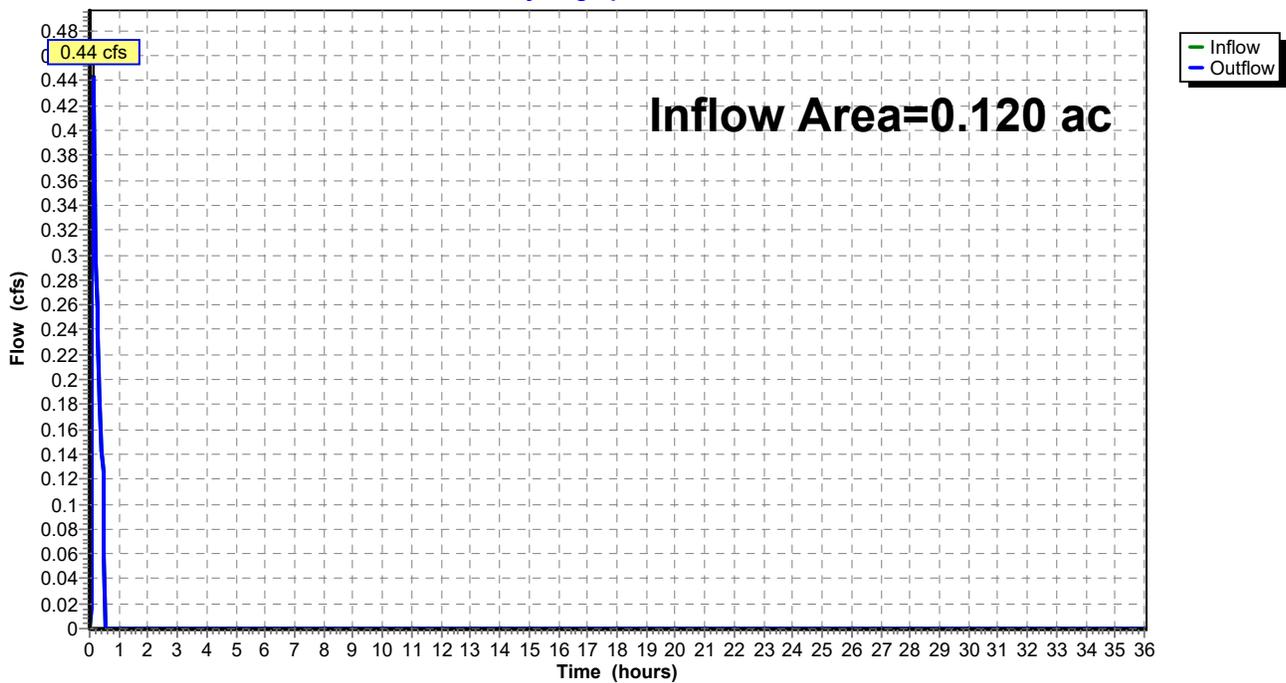
Summary for Reach 13R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 0.88" for 100-yr, 0.5-hr event
 Inflow = 0.44 cfs @ 0.14 hrs, Volume= 0.009 af
 Outflow = 0.44 cfs @ 0.14 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 13R: (new Reach)

Hydrograph



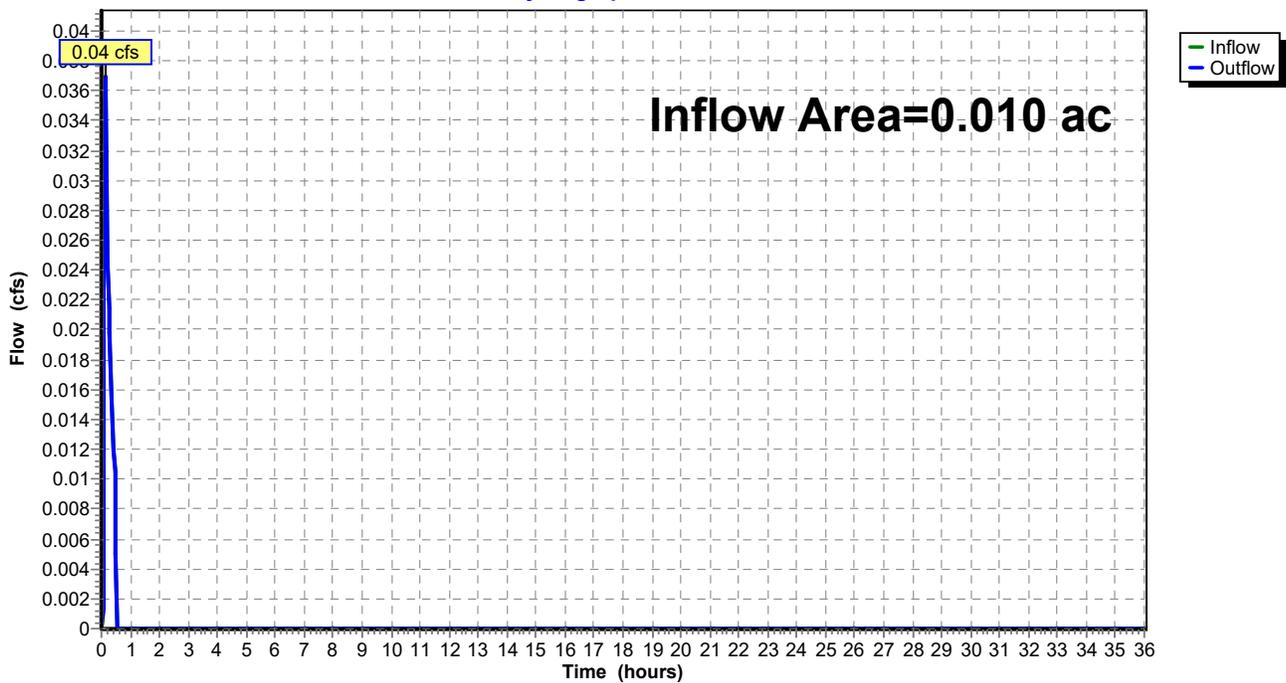
Summary for Reach 15R: (new Reach)

Inflow Area = 0.010 ac, 0.00% Impervious, Inflow Depth = 0.88" for 100-yr, 0.5-hr event
 Inflow = 0.04 cfs @ 0.14 hrs, Volume= 0.001 af
 Outflow = 0.04 cfs @ 0.14 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 15R: (new Reach)

Hydrograph



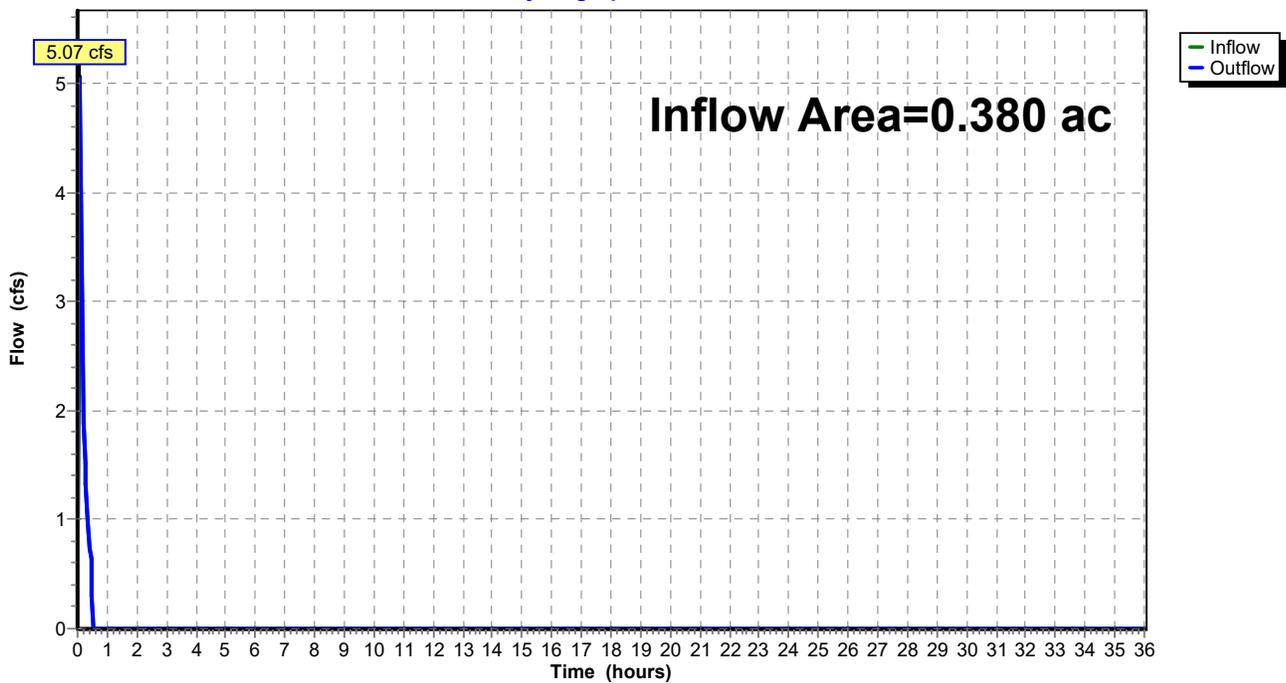
Summary for Reach 16R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 2.72" for 100-yr, 0.5-hr event
 Inflow = 5.07 cfs @ 0.08 hrs, Volume= 0.086 af
 Outflow = 5.07 cfs @ 0.08 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 16R: (new Reach)

Hydrograph

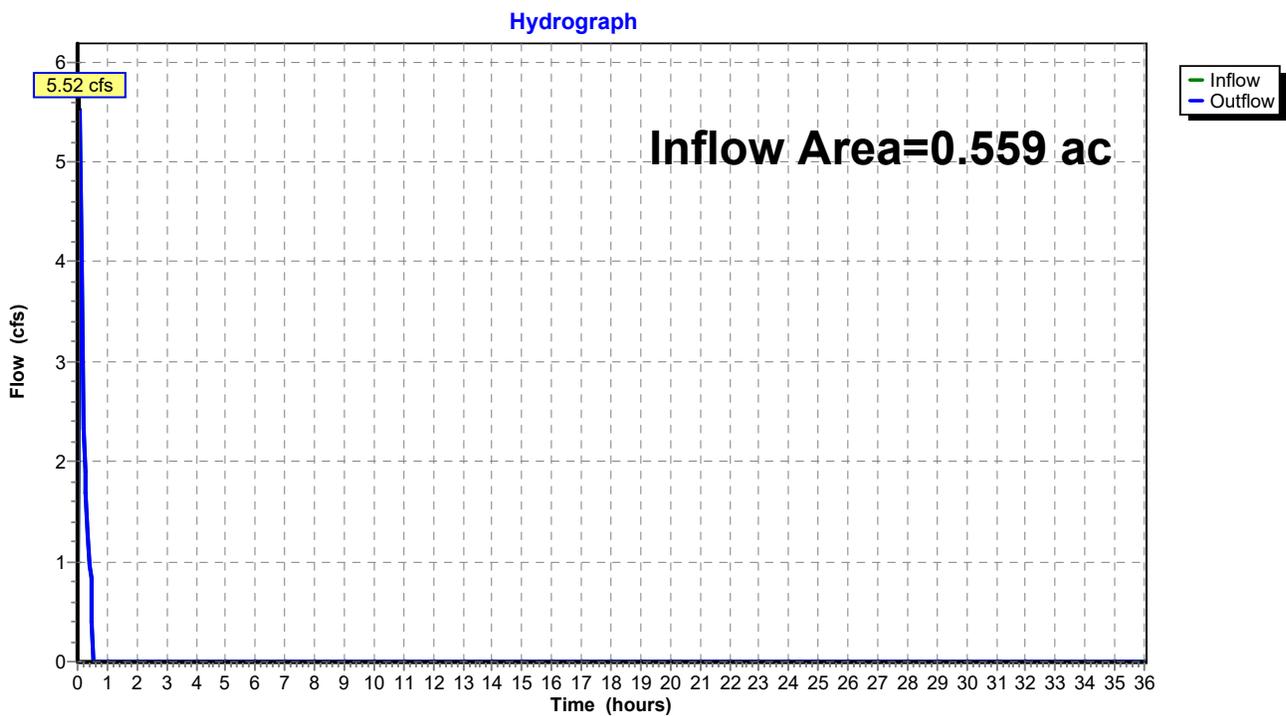


Summary for Reach 33R: PR Bypass

Inflow Area = 0.559 ac, 67.98% Impervious, Inflow Depth = 2.13" for 100-yr, 0.5-hr event
 Inflow = 5.52 cfs @ 0.09 hrs, Volume= 0.099 af
 Outflow = 5.52 cfs @ 0.09 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 41R : PR Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 33R: PR Bypass



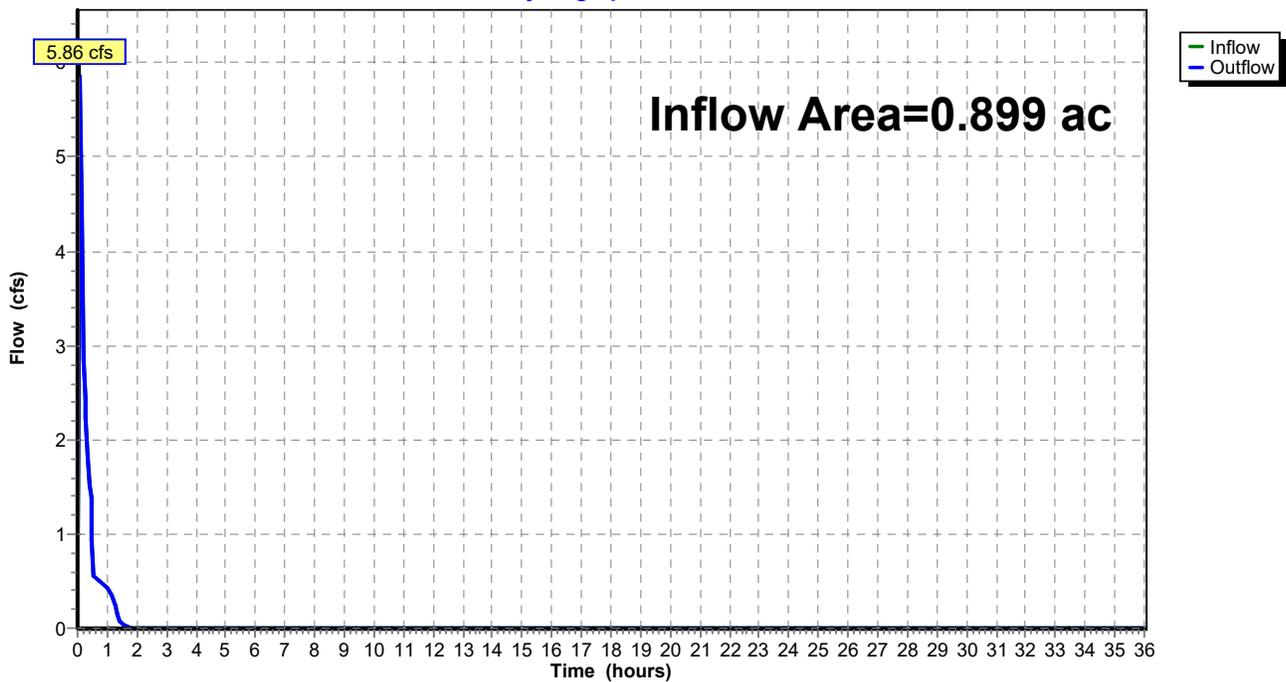
Summary for Reach 41R: PR Total

Inflow Area = 0.899 ac, 71.19% Impervious, Inflow Depth = 1.99" for 100-yr, 0.5-hr event
 Inflow = 5.86 cfs @ 0.10 hrs, Volume= 0.149 af
 Outflow = 5.86 cfs @ 0.10 hrs, Volume= 0.149 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 41R: PR Total

Hydrograph



Summary for Pond 43P: 4" Underdrain Rock

Inflow Area = 0.340 ac, 76.47% Impervious, Inflow Depth = 2.11" for 100-yr, 0.5-hr event
 Inflow = 3.58 cfs @ 0.11 hrs, Volume= 0.060 af
 Outflow = 0.56 cfs @ 0.43 hrs, Volume= 0.050 af, Atten= 84%, Lag= 19.6 min
 Primary = 0.56 cfs @ 0.43 hrs, Volume= 0.050 af
 Routed to Reach 41R : PR Total

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 557.43' @ 0.43 hrs Surf.Area= 1,536 sf Storage= 1,830 cf

Plug-Flow detention time= 33.6 min calculated for 0.050 af (83% of inflow)
 Center-of-Mass det. time= 29.8 min (41.1 - 11.3)

Volume	Invert	Avail.Storage	Storage Description	
#1	553.50'	4,098 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
553.50	560	0.0	0	0
556.00	560	40.0	560	560
556.50	908	40.0	147	707
557.00	1,222	100.0	533	1,239
558.00	1,955	100.0	1,589	2,828
558.55	2,663	100.0	1,270	4,098

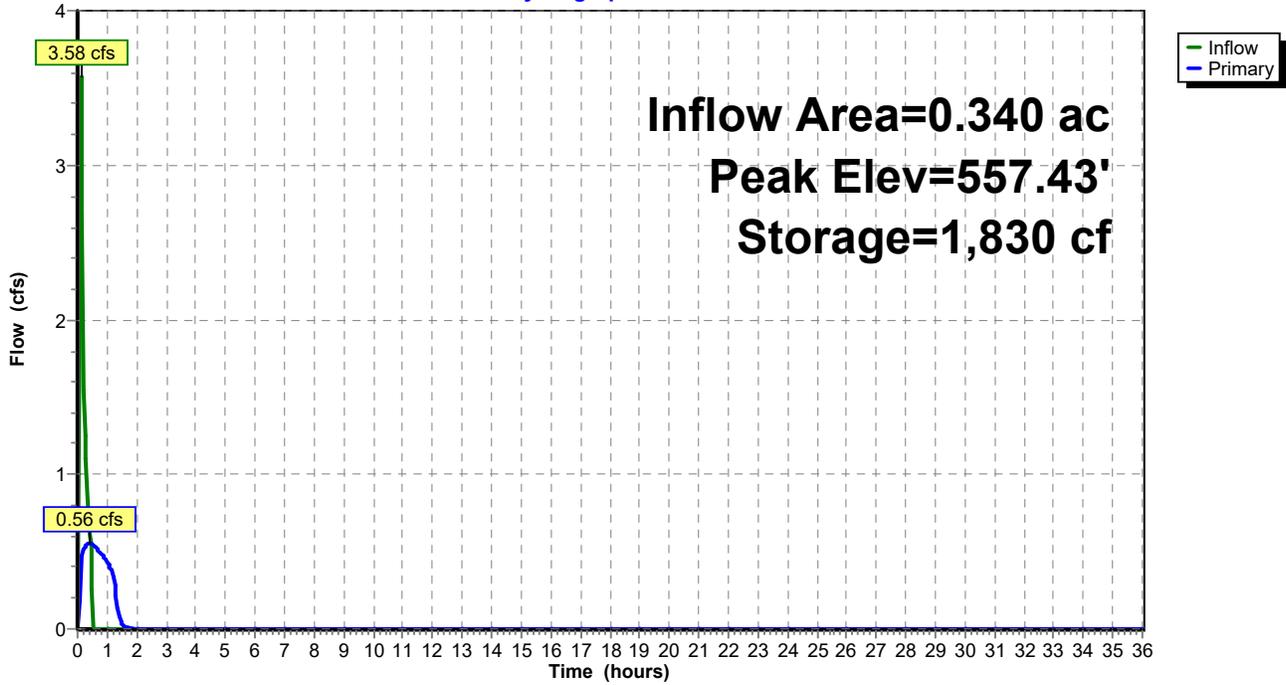
Device	Routing	Invert	Outlet Devices
#1	Primary	555.00'	12.0" Round Culvert L= 105.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 555.00' / 554.00' S= 0.0095 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	557.90'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.50 Width (feet) 4.00 4.00
#3	Primary	555.50'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.56 cfs @ 0.43 hrs HW=557.43' (Free Discharge)

- 1=Culvert (Passes 0.00 cfs of 5.20 cfs potential flow)
- 2=Custom Weir/Orifice (Controls 0.00 cfs)
- 3=Orifice/Grate (Orifice Controls 0.56 cfs @ 6.39 fps)

Pond 43P: 4" Underdrain Rock

Hydrograph



Stage-Area-Storage for Pond 43P: 4" Underdrain Rock

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
553.50	560	0	556.05	595	572
553.55	560	11	556.10	630	584
553.60	560	22	556.15	664	597
553.65	560	34	556.20	699	610
553.70	560	45	556.25	734	625
553.75	560	56	556.30	769	640
553.80	560	67	556.35	804	655
553.85	560	78	556.40	838	672
553.90	560	90	556.45	873	689
553.95	560	101	556.50	908	707
554.00	560	112	556.55	939	753
554.05	560	123	556.60	971	801
554.10	560	134	556.65	1,002	850
554.15	560	146	556.70	1,034	901
554.20	560	157	556.75	1,065	953
554.25	560	168	556.80	1,096	1,007
554.30	560	179	556.85	1,128	1,063
554.35	560	190	556.90	1,159	1,120
554.40	560	202	556.95	1,191	1,179
554.45	560	213	557.00	1,222	1,239
554.50	560	224	557.05	1,259	1,301
554.55	560	235	557.10	1,295	1,365
554.60	560	246	557.15	1,332	1,431
554.65	560	258	557.20	1,369	1,498
554.70	560	269	557.25	1,405	1,568
554.75	560	280	557.30	1,442	1,639
554.80	560	291	557.35	1,479	1,712
554.85	560	302	557.40	1,515	1,787
554.90	560	314	557.45	1,552	1,863
554.95	560	325	557.50	1,589	1,942
555.00	560	336	557.55	1,625	2,022
555.05	560	347	557.60	1,662	2,104
555.10	560	358	557.65	1,698	2,188
555.15	560	370	557.70	1,735	2,274
555.20	560	381	557.75	1,772	2,362
555.25	560	392	557.80	1,808	2,451
555.30	560	403	557.85	1,845	2,543
555.35	560	414	557.90	1,882	2,636
555.40	560	426	557.95	1,918	2,731
555.45	560	437	558.00	1,955	2,828
555.50	560	448	558.05	2,019	2,927
555.55	560	459	558.10	2,084	3,030
555.60	560	470	558.15	2,148	3,136
555.65	560	482	558.20	2,212	3,245
555.70	560	493	558.25	2,277	3,357
555.75	560	504	558.30	2,341	3,472
555.80	560	515	558.35	2,406	3,591
555.85	560	526	558.40	2,470	3,713
555.90	560	538	558.45	2,534	3,838
555.95	560	549	558.50	2,599	3,966
556.00	560	560	558.55	2,663	4,098

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment9S: PR D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=4.89" Tc=0.0 min CN=74 Runoff=0.07 cfs 0.049 af
Subcatchment11S: PR B	Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=4.89" Tc=0.0 min CN=74 Runoff=0.01 cfs 0.004 af
Subcatchment12S: PR A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=7.72" Tc=0.0 min CN=98 Runoff=0.27 cfs 0.244 af
Subcatchment32S: PR C1	Runoff Area=0.340 ac 76.47% Impervious Runoff Depth=7.00" Tc=0.0 min CN=92 Runoff=0.24 cfs 0.198 af
Subcatchment39S: PR C2 Bypass	Runoff Area=0.049 ac 0.00% Impervious Runoff Depth=4.89" Tc=0.0 min CN=74 Runoff=0.03 cfs 0.020 af
Reach 13R: (new Reach)	Inflow=0.07 cfs 0.049 af Outflow=0.07 cfs 0.049 af
Reach 15R: (new Reach)	Inflow=0.01 cfs 0.004 af Outflow=0.01 cfs 0.004 af
Reach 16R: (new Reach)	Inflow=0.27 cfs 0.244 af Outflow=0.27 cfs 0.244 af
Reach 33R: PR Bypass	Inflow=0.38 cfs 0.317 af Outflow=0.38 cfs 0.317 af
Reach 41R: PR Total	Inflow=0.61 cfs 0.506 af Outflow=0.61 cfs 0.506 af
Pond 43P: 4" Underdrain Rock	Peak Elev=555.99' Storage=558 cf Inflow=0.24 cfs 0.198 af Outflow=0.24 cfs 0.188 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.516 af Average Runoff Depth = 6.89"
28.81% Pervious = 0.259 ac 71.19% Impervious = 0.640 ac

Summary for Subcatchment 9S: PR D

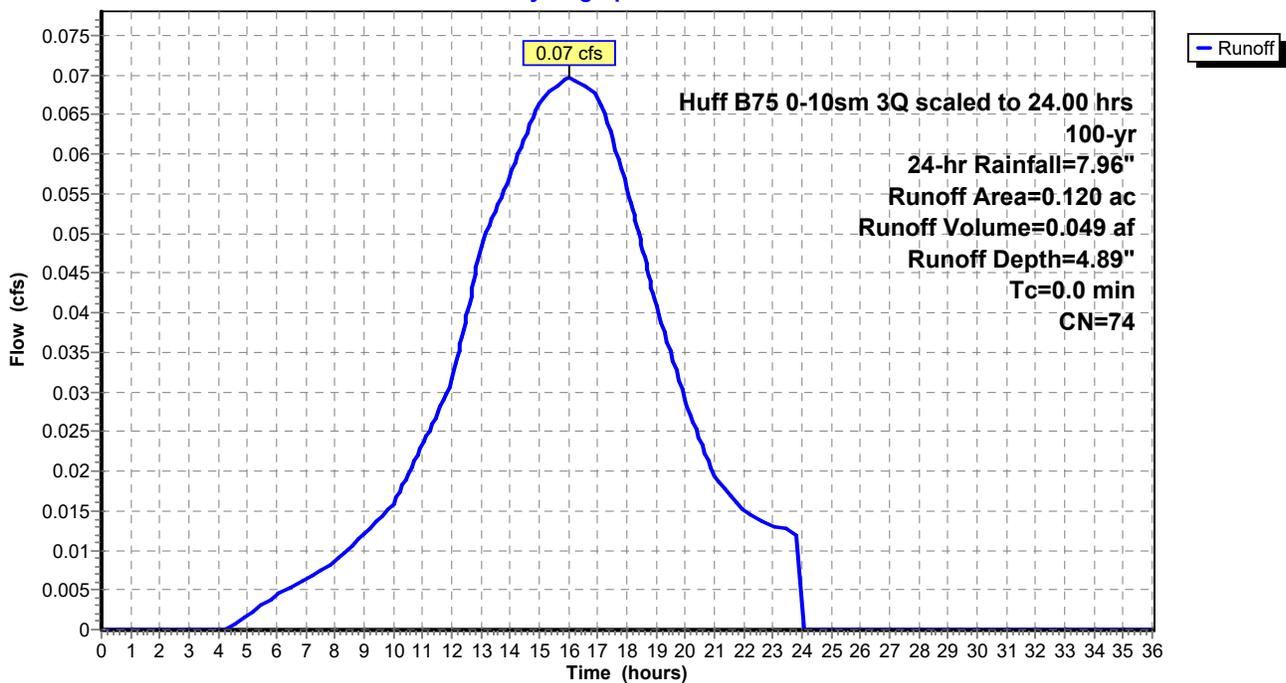
Runoff = 0.07 cfs @ 16.01 hrs, Volume= 0.049 af, Depth= 4.89"
 Routed to Reach 13R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 100-yr, 24-hr Rainfall=7.96"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 9S: PR D

Hydrograph



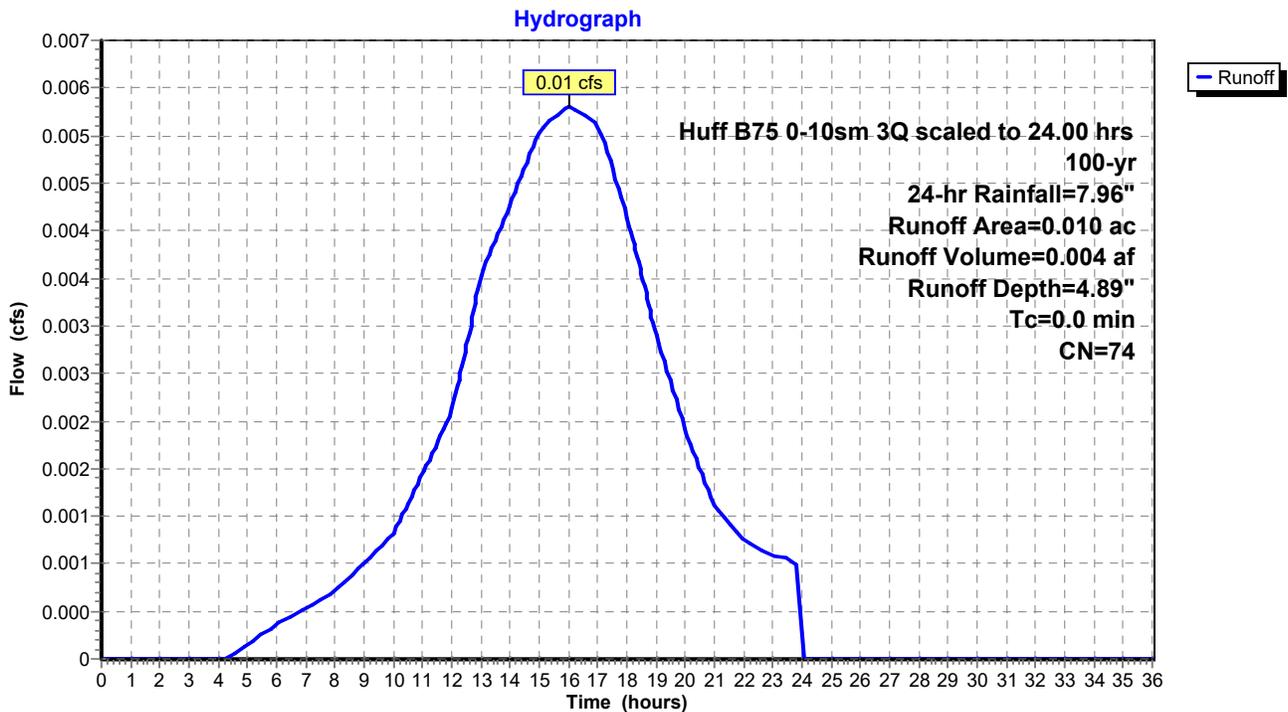
Summary for Subcatchment 11S: PR B

Runoff = 0.01 cfs @ 16.01 hrs, Volume= 0.004 af, Depth= 4.89"
 Routed to Reach 15R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 100-yr, 24-hr Rainfall=7.96"

Area (ac)	CN	Description
0.010	74	>75% Grass cover, Good, HSG C
0.010		100.00% Pervious Area

Subcatchment 11S: PR B



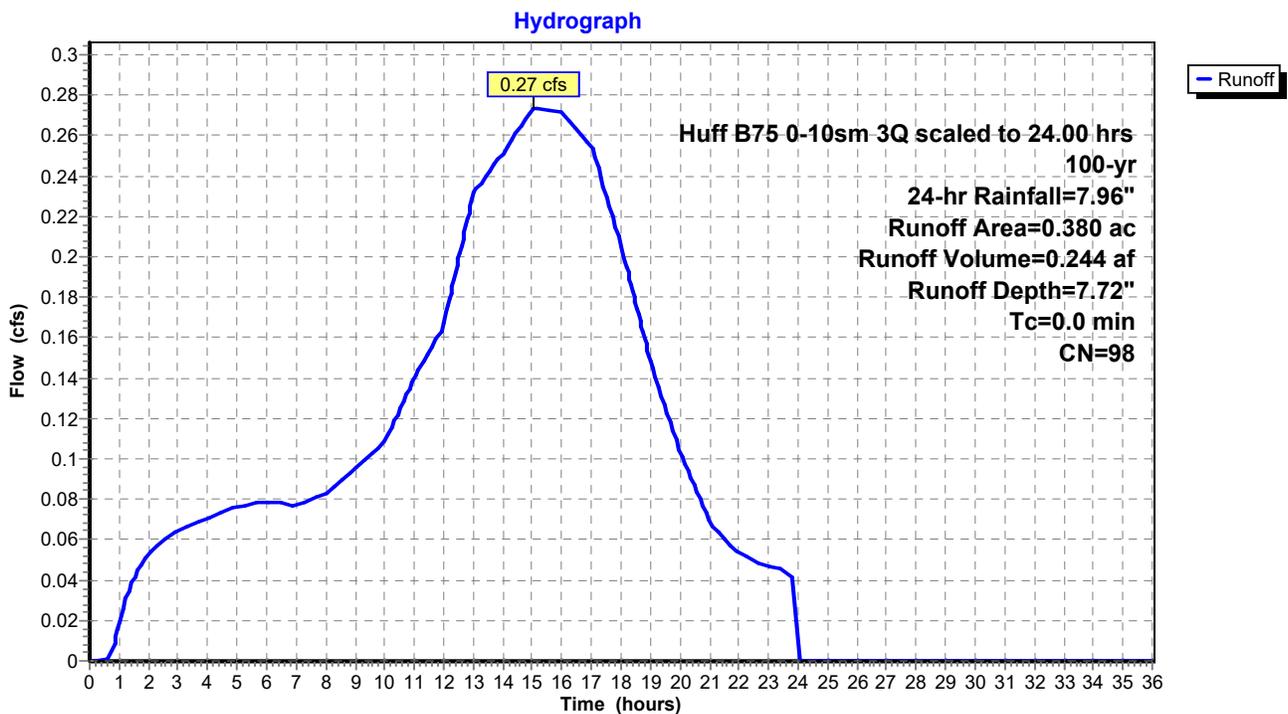
Summary for Subcatchment 12S: PR A

Runoff = 0.27 cfs @ 15.06 hrs, Volume= 0.244 af, Depth= 7.72"
 Routed to Reach 16R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 100-yr, 24-hr Rainfall=7.96"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 12S: PR A



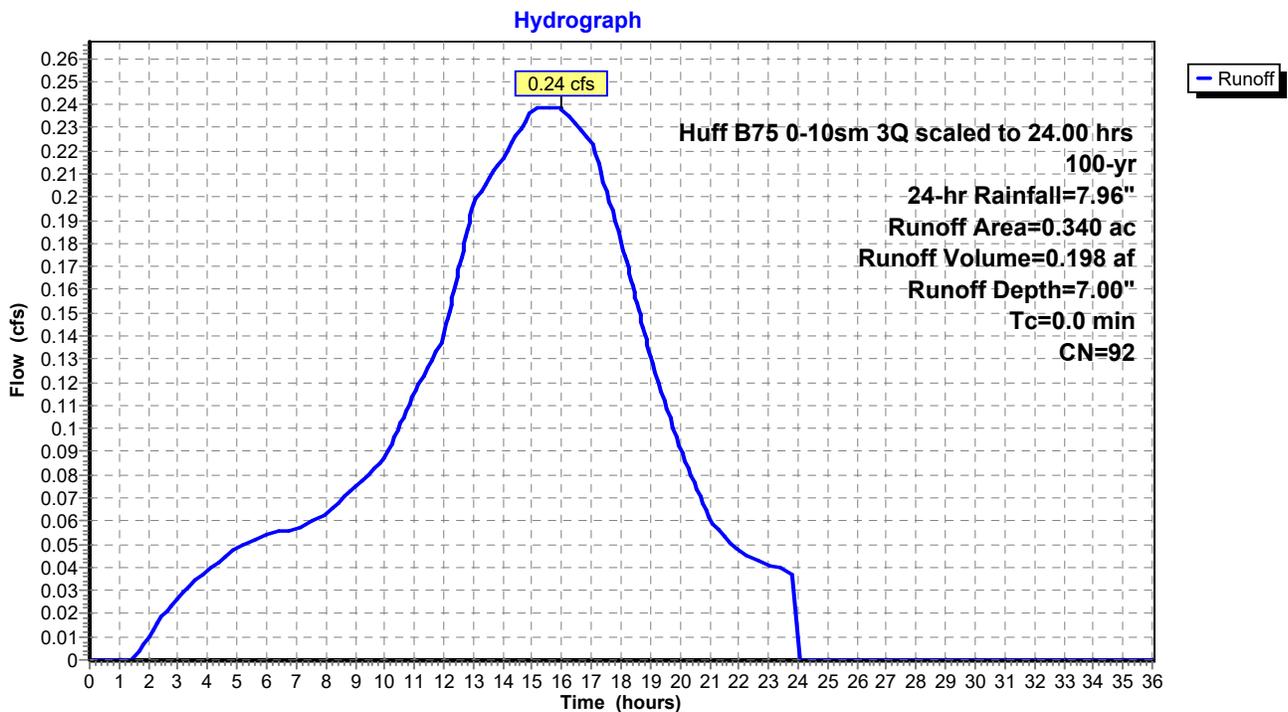
Summary for Subcatchment 32S: PR C1

Runoff = 0.24 cfs @ 15.95 hrs, Volume= 0.198 af, Depth= 7.00"
 Routed to Pond 43P : 4" Underdrain Rock

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 100-yr, 24-hr Rainfall=7.96"

Area (ac)	CN	Description
0.260	98	Paved parking, HSG C
0.080	74	>75% Grass cover, Good, HSG C
0.000	96	Gravel surface, HSG C
0.340	92	Weighted Average
0.080		23.53% Pervious Area
0.260		76.47% Impervious Area

Subcatchment 32S: PR C1



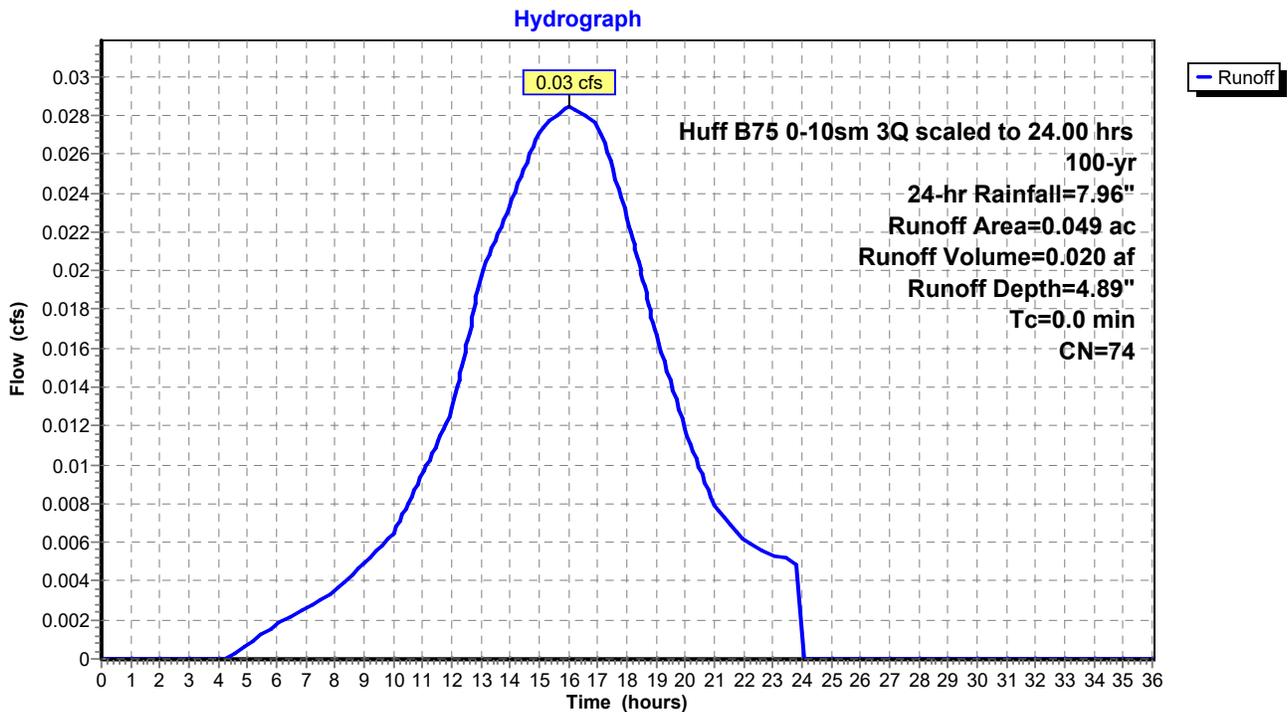
Summary for Subcatchment 39S: PR C2 Bypass

Runoff = 0.03 cfs @ 16.01 hrs, Volume= 0.020 af, Depth= 4.89"
 Routed to Reach 33R : PR Bypass

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 100-yr, 24-hr Rainfall=7.96"

Area (ac)	CN	Description
0.049	74	>75% Grass cover, Good, HSG C
0.049		100.00% Pervious Area

Subcatchment 39S: PR C2 Bypass

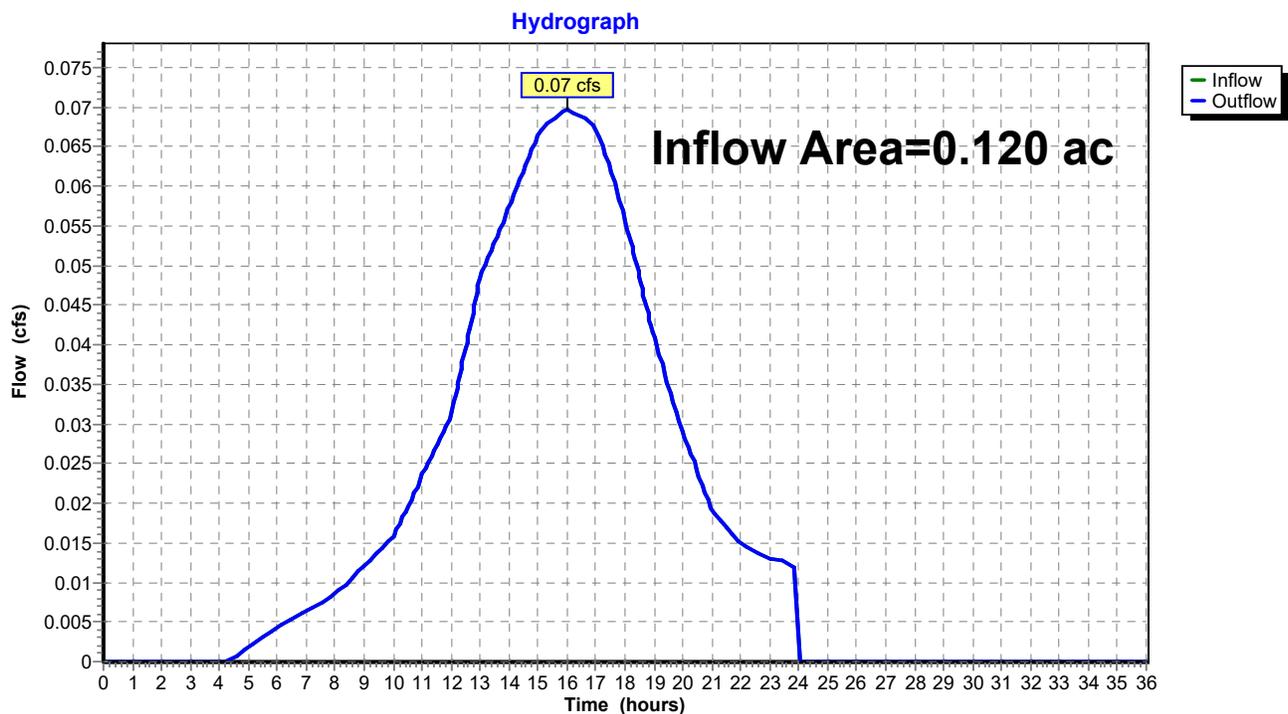


Summary for Reach 13R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 4.89" for 100-yr, 24-hr event
 Inflow = 0.07 cfs @ 16.01 hrs, Volume= 0.049 af
 Outflow = 0.07 cfs @ 16.01 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 13R: (new Reach)

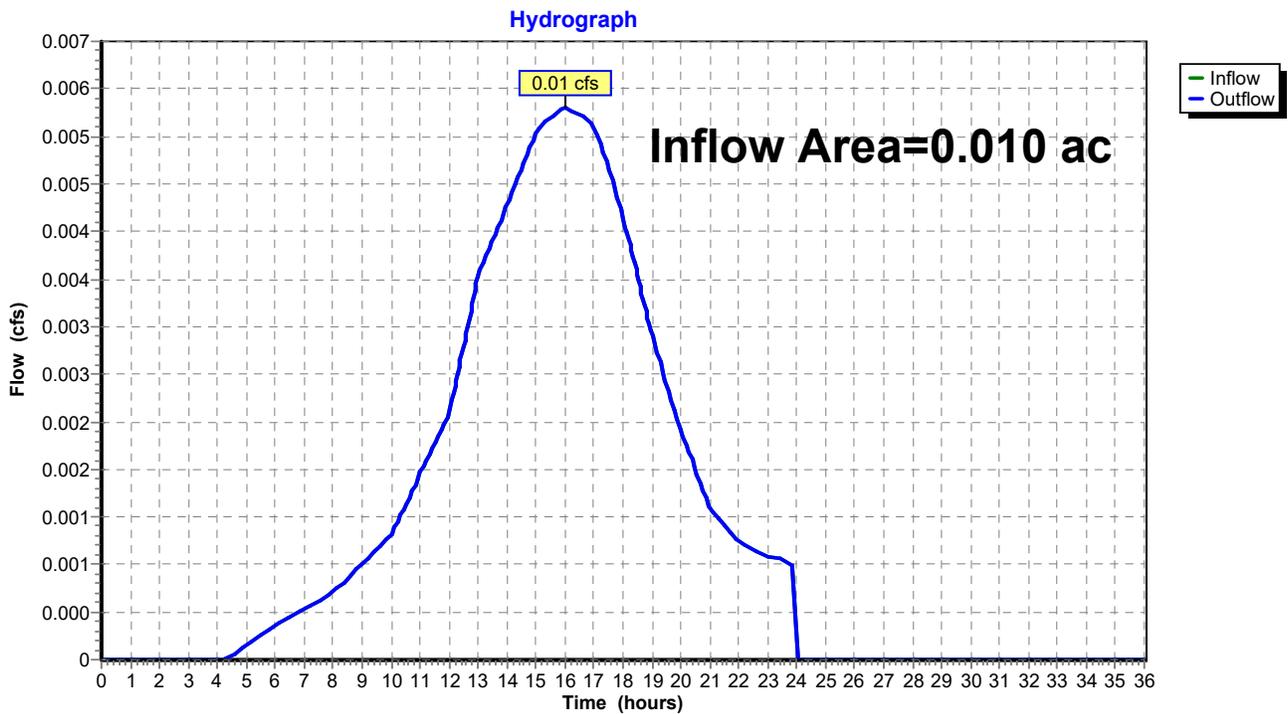


Summary for Reach 15R: (new Reach)

Inflow Area = 0.010 ac, 0.00% Impervious, Inflow Depth = 4.89" for 100-yr, 24-hr event
 Inflow = 0.01 cfs @ 16.01 hrs, Volume= 0.004 af
 Outflow = 0.01 cfs @ 16.01 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 15R: (new Reach)

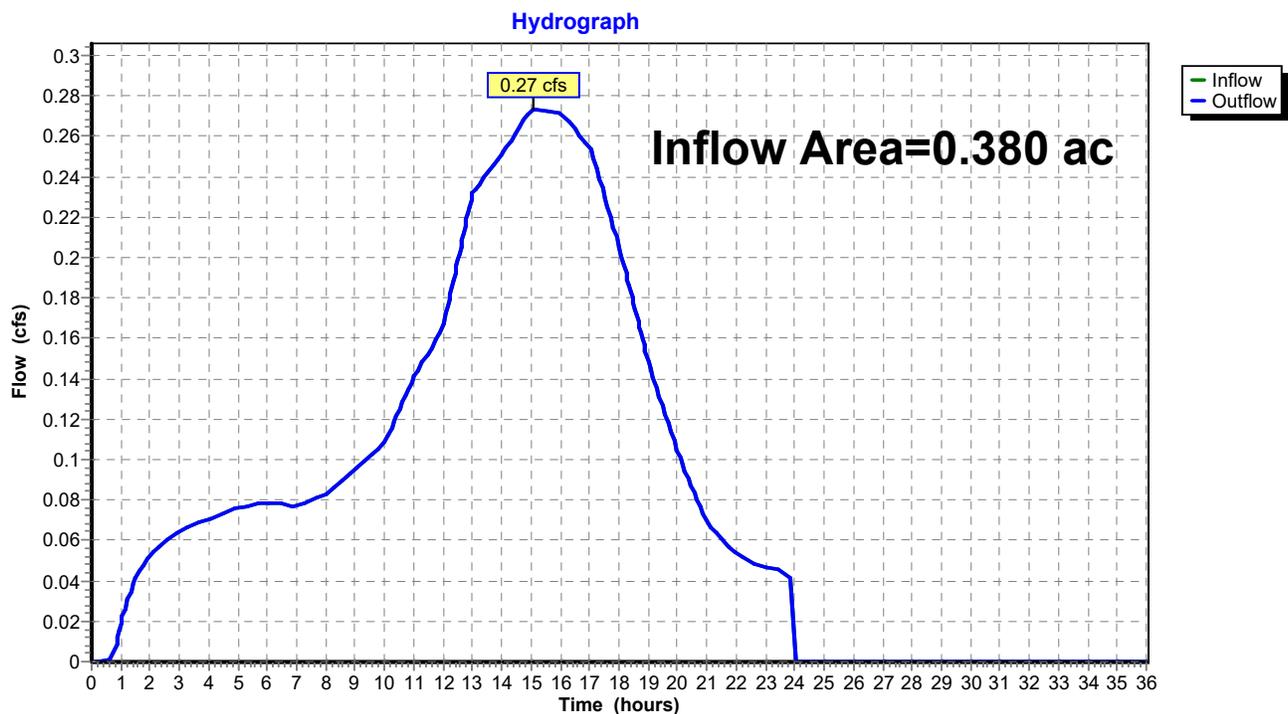


Summary for Reach 16R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 7.72" for 100-yr, 24-hr event
 Inflow = 0.27 cfs @ 15.06 hrs, Volume= 0.244 af
 Outflow = 0.27 cfs @ 15.06 hrs, Volume= 0.244 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 16R: (new Reach)

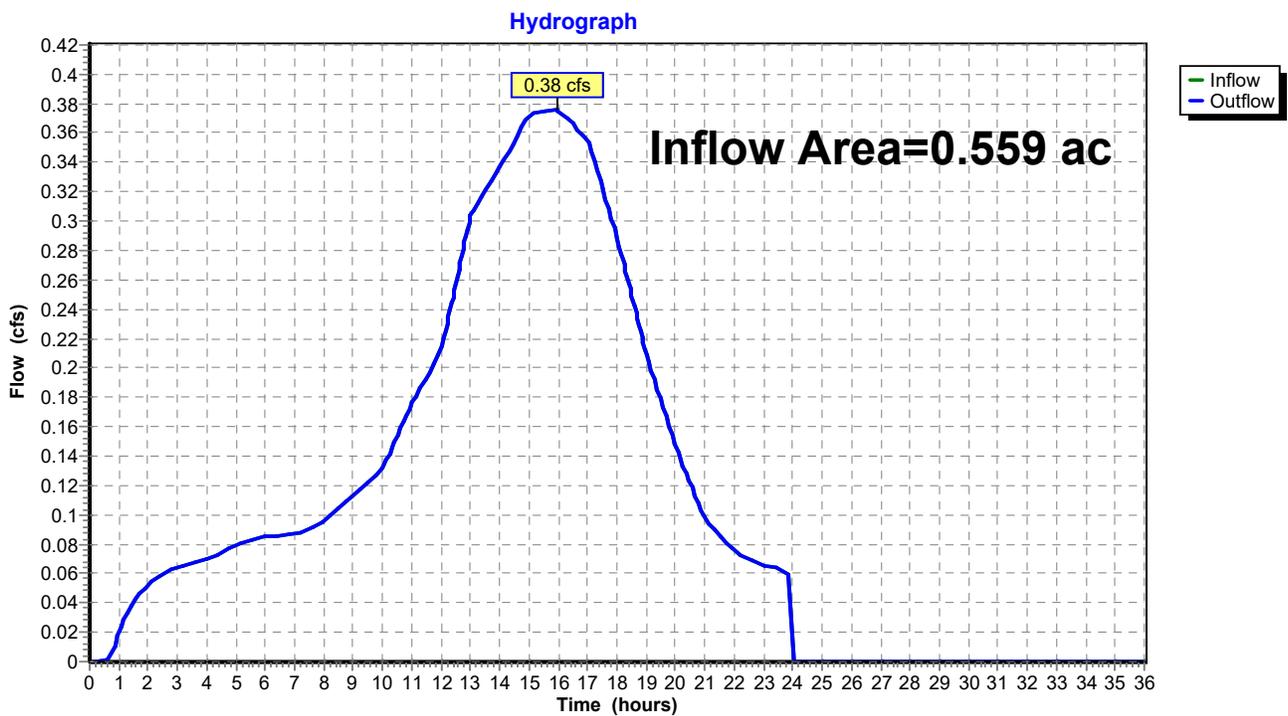


Summary for Reach 33R: PR Bypass

Inflow Area = 0.559 ac, 67.98% Impervious, Inflow Depth = 6.81" for 100-yr, 24-hr event
 Inflow = 0.38 cfs @ 15.97 hrs, Volume= 0.317 af
 Outflow = 0.38 cfs @ 15.97 hrs, Volume= 0.317 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 41R : PR Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 33R: PR Bypass

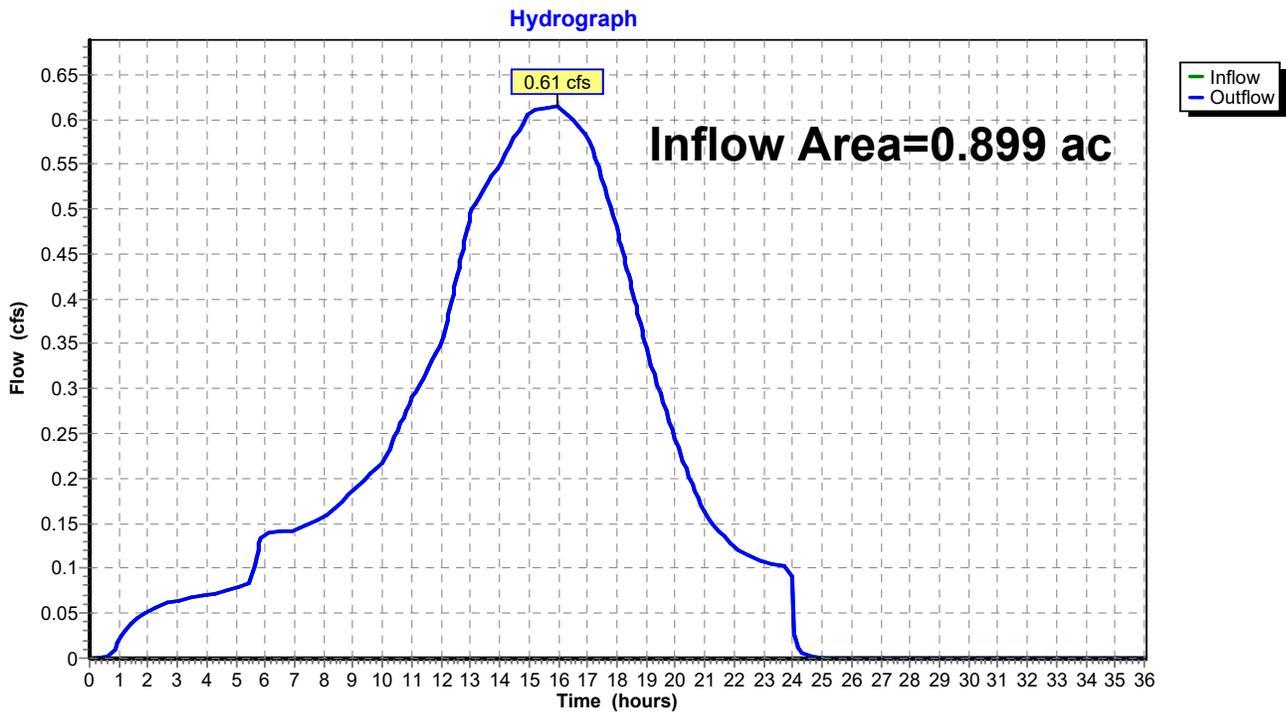


Summary for Reach 41R: PR Total

Inflow Area = 0.899 ac, 71.19% Impervious, Inflow Depth = 6.75" for 100-yr, 24-hr event
Inflow = 0.61 cfs @ 15.98 hrs, Volume= 0.506 af
Outflow = 0.61 cfs @ 15.98 hrs, Volume= 0.506 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 41R: PR Total



Summary for Pond 43P: 4" Underdrain Rock

Inflow Area = 0.340 ac, 76.47% Impervious, Inflow Depth = 7.00" for 100-yr, 24-hr event
 Inflow = 0.24 cfs @ 15.95 hrs, Volume= 0.198 af
 Outflow = 0.24 cfs @ 15.98 hrs, Volume= 0.188 af, Atten= 0%, Lag= 1.7 min
 Primary = 0.24 cfs @ 15.98 hrs, Volume= 0.188 af
 Routed to Reach 41R : PR Total

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 555.99' @ 15.98 hrs Surf.Area= 560 sf Storage= 558 cf

Plug-Flow detention time= 68.4 min calculated for 0.188 af (95% of inflow)
 Center-of-Mass det. time= 41.8 min (899.4 - 857.7)

Volume	Invert	Avail.Storage	Storage Description	
#1	553.50'	4,098 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
553.50	560	0.0	0	0
556.00	560	40.0	560	560
556.50	908	40.0	147	707
557.00	1,222	100.0	533	1,239
558.00	1,955	100.0	1,589	2,828
558.55	2,663	100.0	1,270	4,098

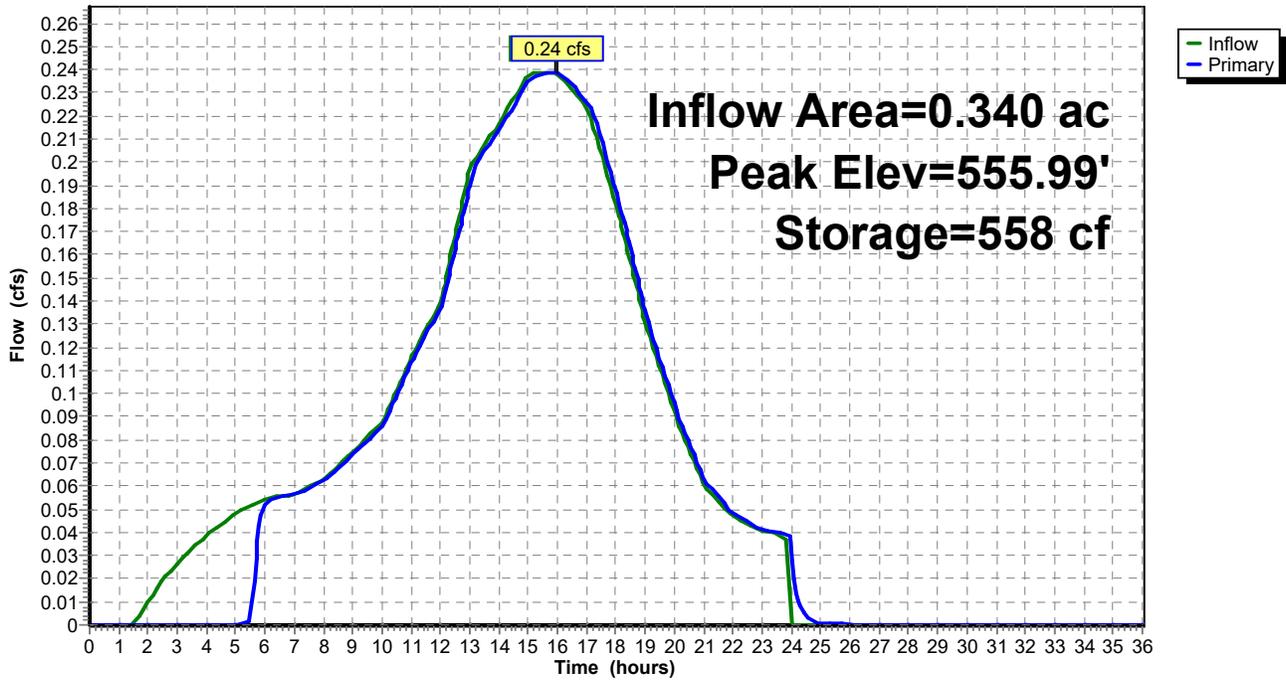
Device	Routing	Invert	Outlet Devices
#1	Primary	555.00'	12.0" Round Culvert L= 105.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 555.00' / 554.00' S= 0.0095 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	557.90'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.50 Width (feet) 4.00 4.00
#3	Primary	555.50'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.24 cfs @ 15.98 hrs HW=555.99' (Free Discharge)

- 1=Culvert (Passes 0.00 cfs of 3.21 cfs potential flow)
- 2=Custom Weir/Orifice (Controls 0.00 cfs)
- 3=Orifice/Grate (Orifice Controls 0.24 cfs @ 2.73 fps)

Pond 43P: 4" Underdrain Rock

Hydrograph

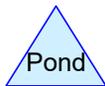
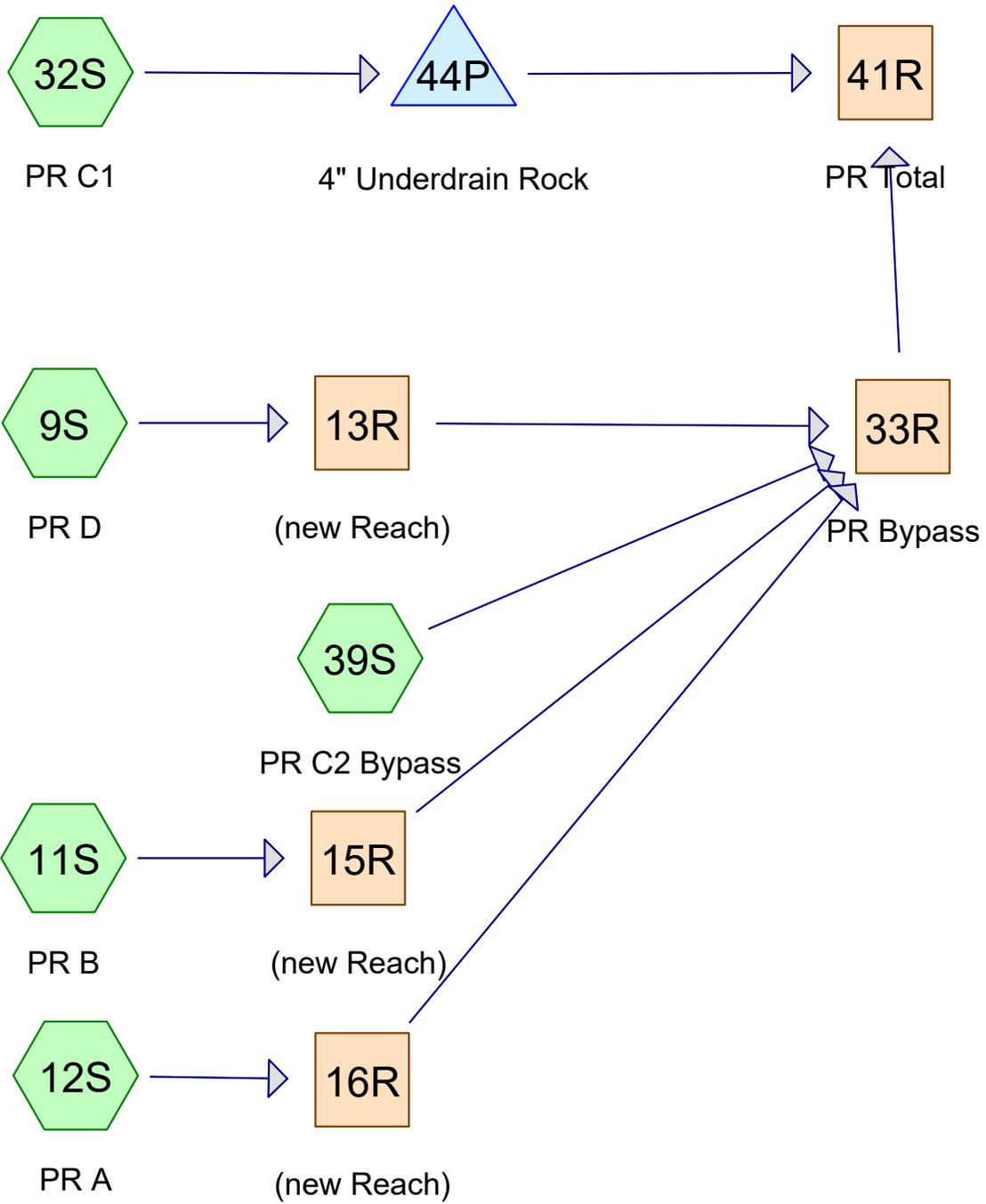


Stage-Area-Storage for Pond 43P: 4" Underdrain Rock

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
553.50	560	0	556.05	595	572
553.55	560	11	556.10	630	584
553.60	560	22	556.15	664	597
553.65	560	34	556.20	699	610
553.70	560	45	556.25	734	625
553.75	560	56	556.30	769	640
553.80	560	67	556.35	804	655
553.85	560	78	556.40	838	672
553.90	560	90	556.45	873	689
553.95	560	101	556.50	908	707
554.00	560	112	556.55	939	753
554.05	560	123	556.60	971	801
554.10	560	134	556.65	1,002	850
554.15	560	146	556.70	1,034	901
554.20	560	157	556.75	1,065	953
554.25	560	168	556.80	1,096	1,007
554.30	560	179	556.85	1,128	1,063
554.35	560	190	556.90	1,159	1,120
554.40	560	202	556.95	1,191	1,179
554.45	560	213	557.00	1,222	1,239
554.50	560	224	557.05	1,259	1,301
554.55	560	235	557.10	1,295	1,365
554.60	560	246	557.15	1,332	1,431
554.65	560	258	557.20	1,369	1,498
554.70	560	269	557.25	1,405	1,568
554.75	560	280	557.30	1,442	1,639
554.80	560	291	557.35	1,479	1,712
554.85	560	302	557.40	1,515	1,787
554.90	560	314	557.45	1,552	1,863
554.95	560	325	557.50	1,589	1,942
555.00	560	336	557.55	1,625	2,022
555.05	560	347	557.60	1,662	2,104
555.10	560	358	557.65	1,698	2,188
555.15	560	370	557.70	1,735	2,274
555.20	560	381	557.75	1,772	2,362
555.25	560	392	557.80	1,808	2,451
555.30	560	403	557.85	1,845	2,543
555.35	560	414	557.90	1,882	2,636
555.40	560	426	557.95	1,918	2,731
555.45	560	437	558.00	1,955	2,828
555.50	560	448	558.05	2,019	2,927
555.55	560	459	558.10	2,084	3,030
555.60	560	470	558.15	2,148	3,136
555.65	560	482	558.20	2,212	3,245
555.70	560	493	558.25	2,277	3,357
555.75	560	504	558.30	2,341	3,472
555.80	560	515	558.35	2,406	3,591
555.85	560	526	558.40	2,470	3,713
555.90	560	538	558.45	2,534	3,838
555.95	560	549	558.50	2,599	3,966
556.00	560	560	558.55	2,663	4,098

Appendix H

Proposed HydroCAD Clogged



Bulletin 75_SW District_HydroCAD_Master Auto

Prepared by Oates Associates, Inc

Printed 11/13/2025

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.259	74	>75% Grass cover, Good, HSG C (9S, 11S, 32S, 39S)
0.640	98	Paved parking, HSG C (12S, 32S)
0.899	91	TOTAL AREA

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment9S: PR D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=0.11" Tc=0.0 min CN=74 Runoff=0.04 cfs 0.001 af
Subcatchment11S: PR B	Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=0.11" Tc=0.0 min CN=74 Runoff=0.00 cfs 0.000 af
Subcatchment12S: PR A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=1.15" Tc=0.0 min CN=98 Runoff=2.17 cfs 0.036 af
Subcatchment32S: PR C1	Runoff Area=0.340 ac 76.47% Impervious Runoff Depth=0.69" Tc=0.0 min CN=92 Runoff=1.13 cfs 0.020 af
Subcatchment39S: PR C2 Bypass	Runoff Area=0.049 ac 0.00% Impervious Runoff Depth=0.11" Tc=0.0 min CN=74 Runoff=0.02 cfs 0.000 af
Reach 13R: (new Reach)	Inflow=0.04 cfs 0.001 af Outflow=0.04 cfs 0.001 af
Reach 15R: (new Reach)	Inflow=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af
Reach 16R: (new Reach)	Inflow=2.17 cfs 0.036 af Outflow=2.17 cfs 0.036 af
Reach 33R: PR Bypass	Inflow=2.16 cfs 0.038 af Outflow=2.16 cfs 0.038 af
Reach 41R: PR Total	Inflow=2.16 cfs 0.038 af Outflow=2.16 cfs 0.038 af
Pond 44P: 4" Underdrain Rock	Peak Elev=556.65' Storage=855 cf Inflow=1.13 cfs 0.020 af Outflow=0.00 cfs 0.000 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.058 af Average Runoff Depth = 0.77"
28.81% Pervious = 0.259 ac 71.19% Impervious = 0.640 ac

Summary for Subcatchment 9S: PR D

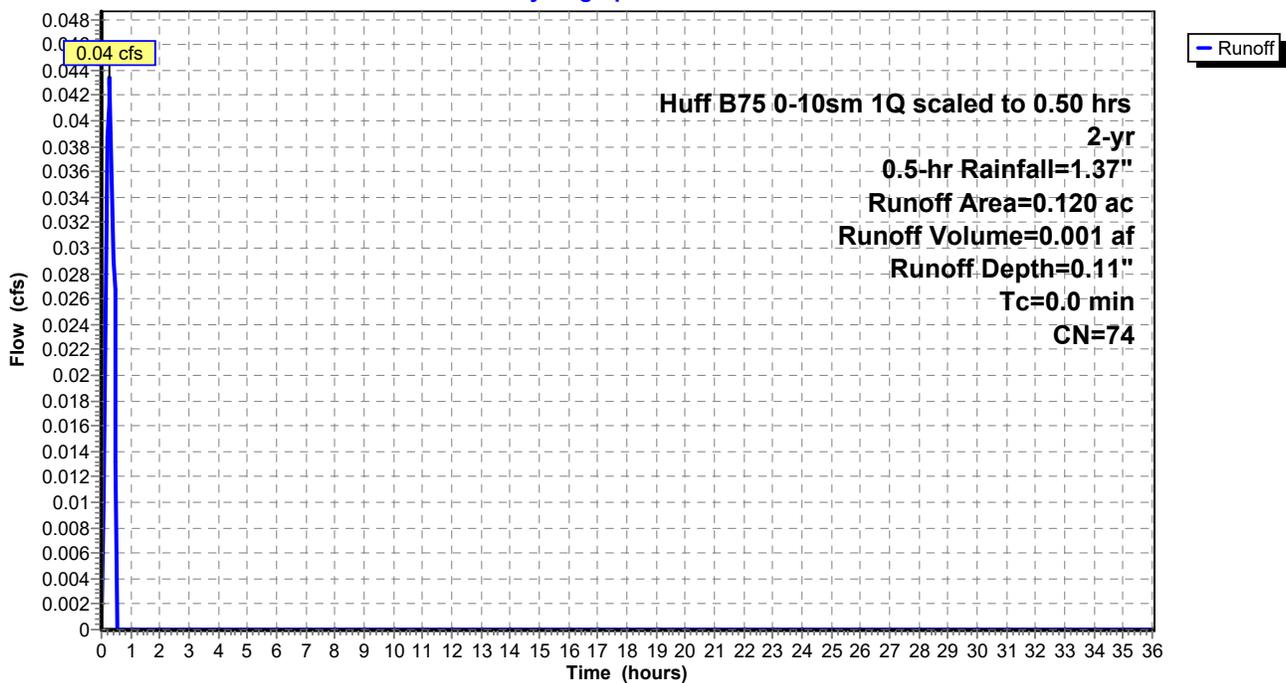
Runoff = 0.04 cfs @ 0.28 hrs, Volume= 0.001 af, Depth= 0.11"
 Routed to Reach 13R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 2-yr, 0.5-hr Rainfall=1.37"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 9S: PR D

Hydrograph



Summary for Subcatchment 11S: PR B

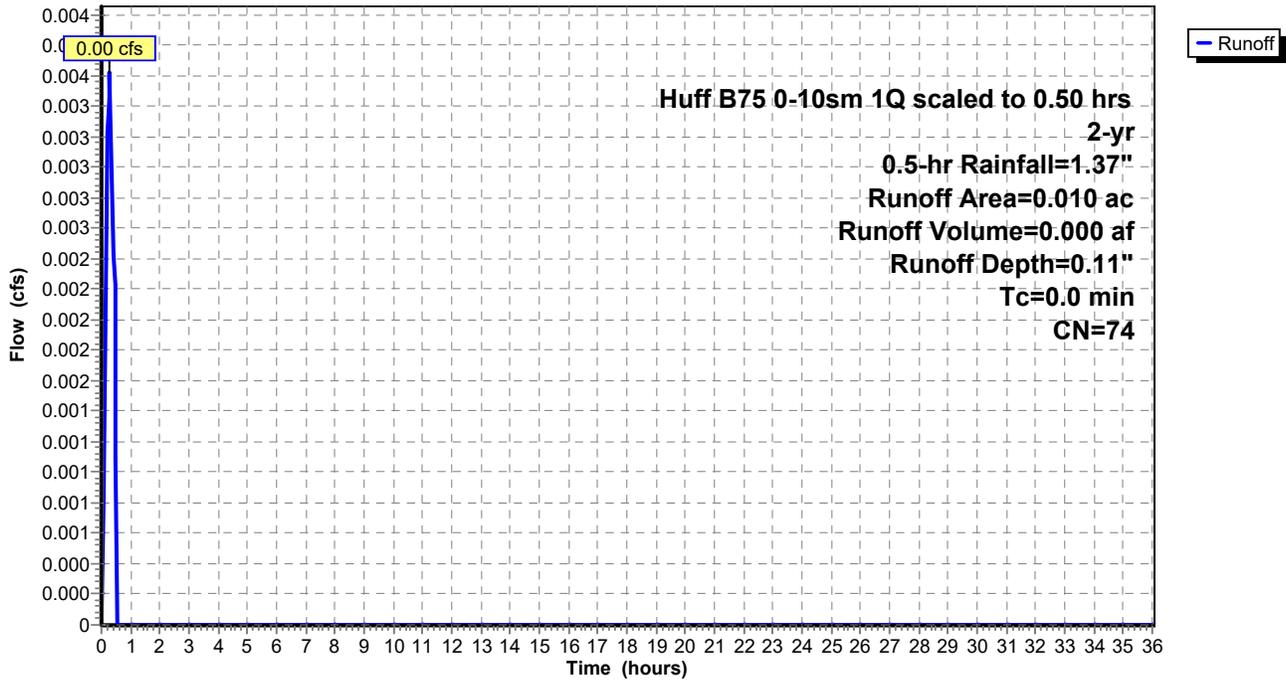
Runoff = 0.00 cfs @ 0.28 hrs, Volume= 0.000 af, Depth= 0.11"
 Routed to Reach 15R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 2-yr, 0.5-hr Rainfall=1.37"

Area (ac)	CN	Description
0.010	74	>75% Grass cover, Good, HSG C
0.010		100.00% Pervious Area

Subcatchment 11S: PR B

Hydrograph



Summary for Subcatchment 12S: PR A

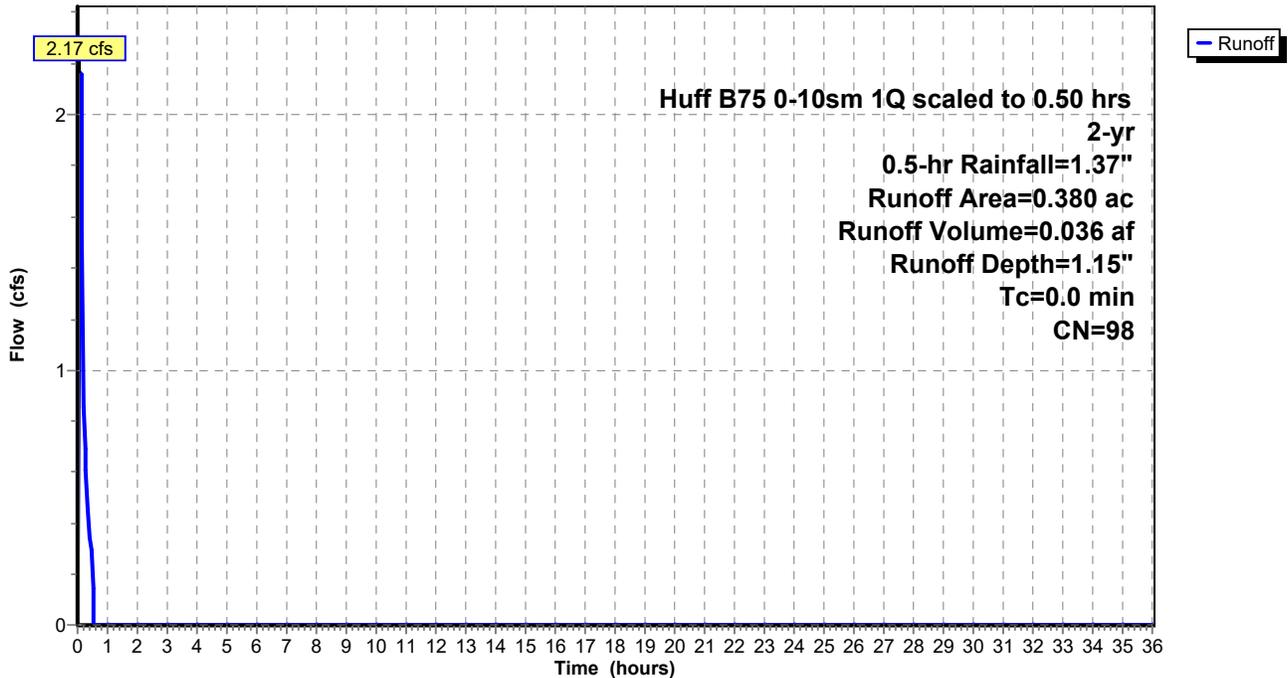
Runoff = 2.17 cfs @ 0.10 hrs, Volume= 0.036 af, Depth= 1.15"
 Routed to Reach 16R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 2-yr, 0.5-hr Rainfall=1.37"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 12S: PR A

Hydrograph



Summary for Subcatchment 32S: PR C1

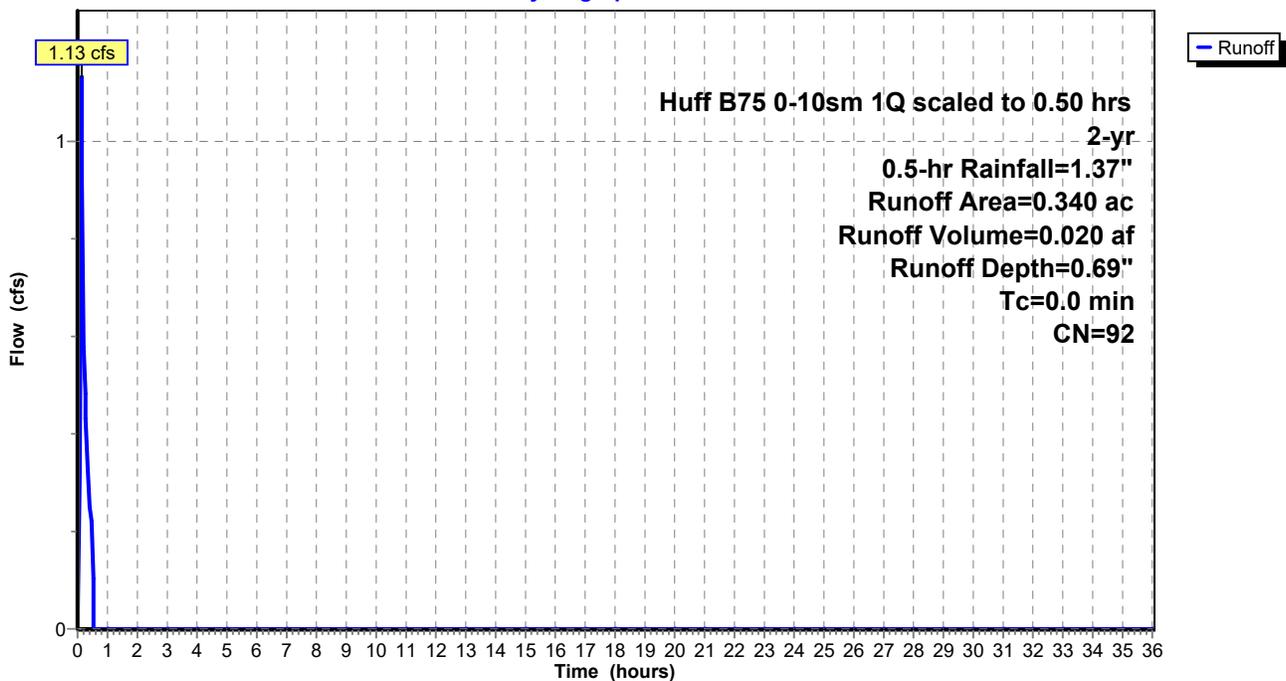
Runoff = 1.13 cfs @ 0.12 hrs, Volume= 0.020 af, Depth= 0.69"
 Routed to Pond 44P : 4" Underdrain Rock

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Huff B75 0-10sm 1Q scaled to 0.50 hrs 2-yr, 0.5-hr Rainfall=1.37"

Area (ac)	CN	Description
0.260	98	Paved parking, HSG C
0.080	74	>75% Grass cover, Good, HSG C
0.000	96	Gravel surface, HSG C
0.340	92	Weighted Average
0.080		23.53% Pervious Area
0.260		76.47% Impervious Area

Subcatchment 32S: PR C1

Hydrograph



Summary for Subcatchment 39S: PR C2 Bypass

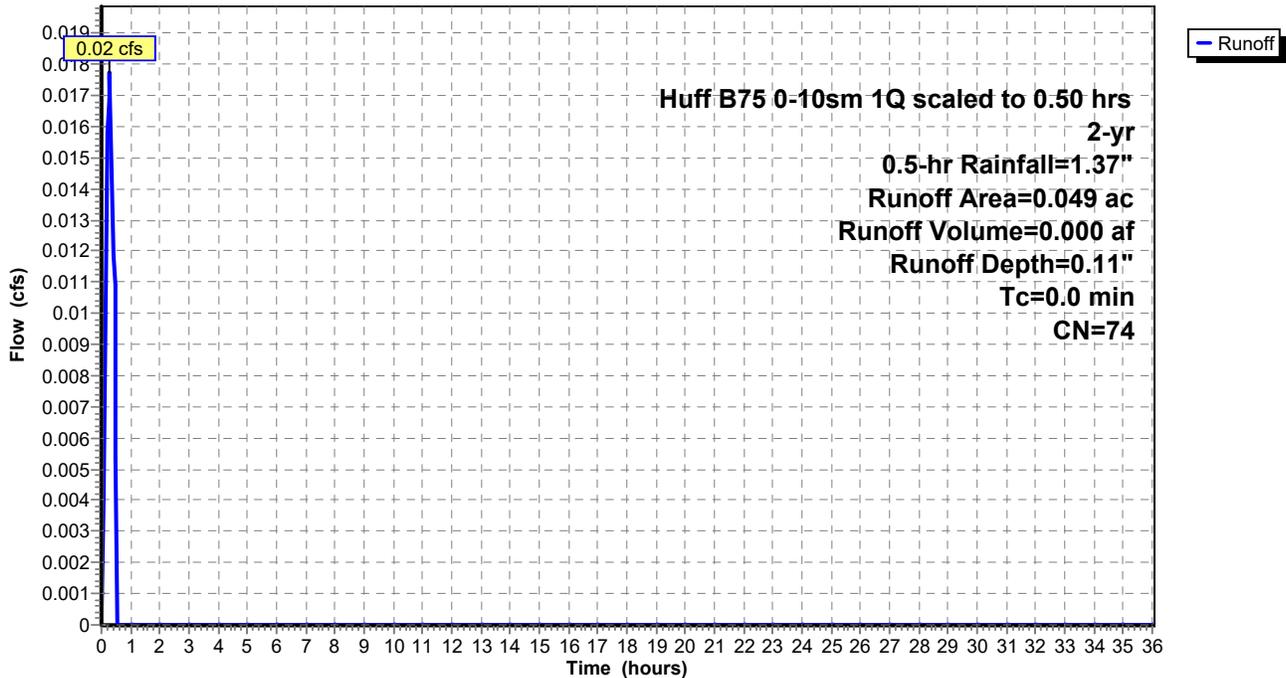
Runoff = 0.02 cfs @ 0.28 hrs, Volume= 0.000 af, Depth= 0.11"
 Routed to Reach 33R : PR Bypass

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 2-yr, 0.5-hr Rainfall=1.37"

Area (ac)	CN	Description
0.049	74	>75% Grass cover, Good, HSG C
0.049		100.00% Pervious Area

Subcatchment 39S: PR C2 Bypass

Hydrograph



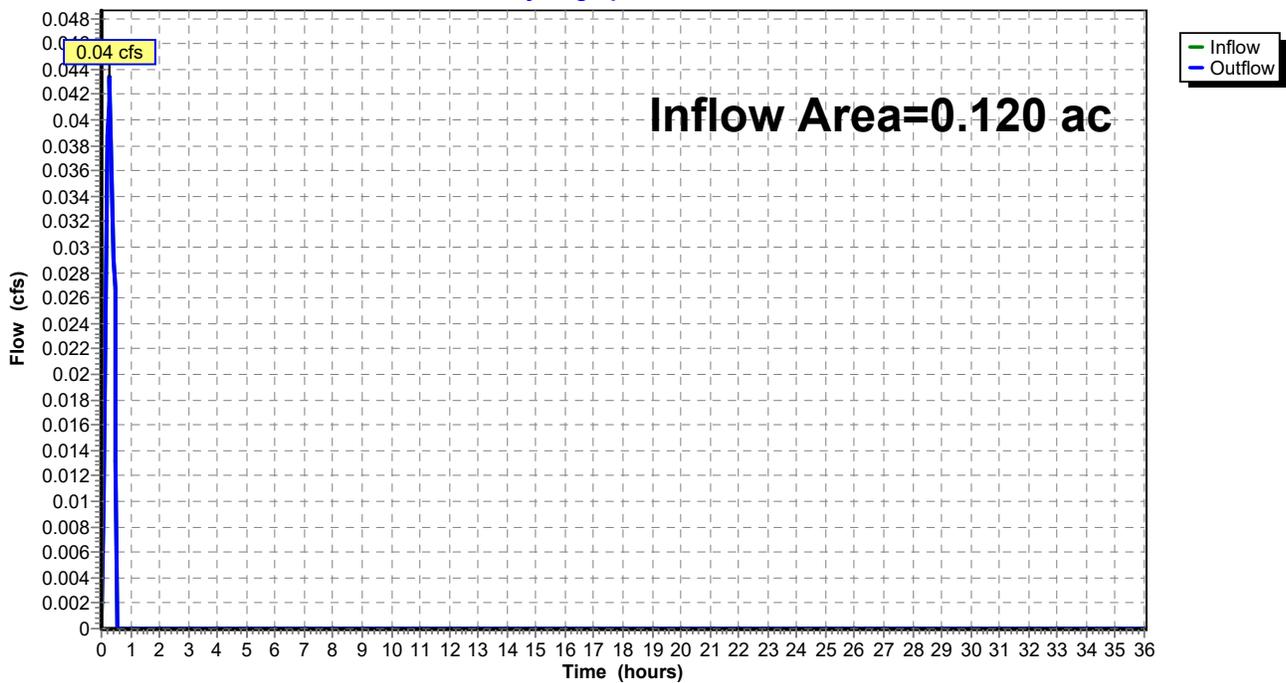
Summary for Reach 13R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 0.11" for 2-yr, 0.5-hr event
 Inflow = 0.04 cfs @ 0.28 hrs, Volume= 0.001 af
 Outflow = 0.04 cfs @ 0.28 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 13R: (new Reach)

Hydrograph



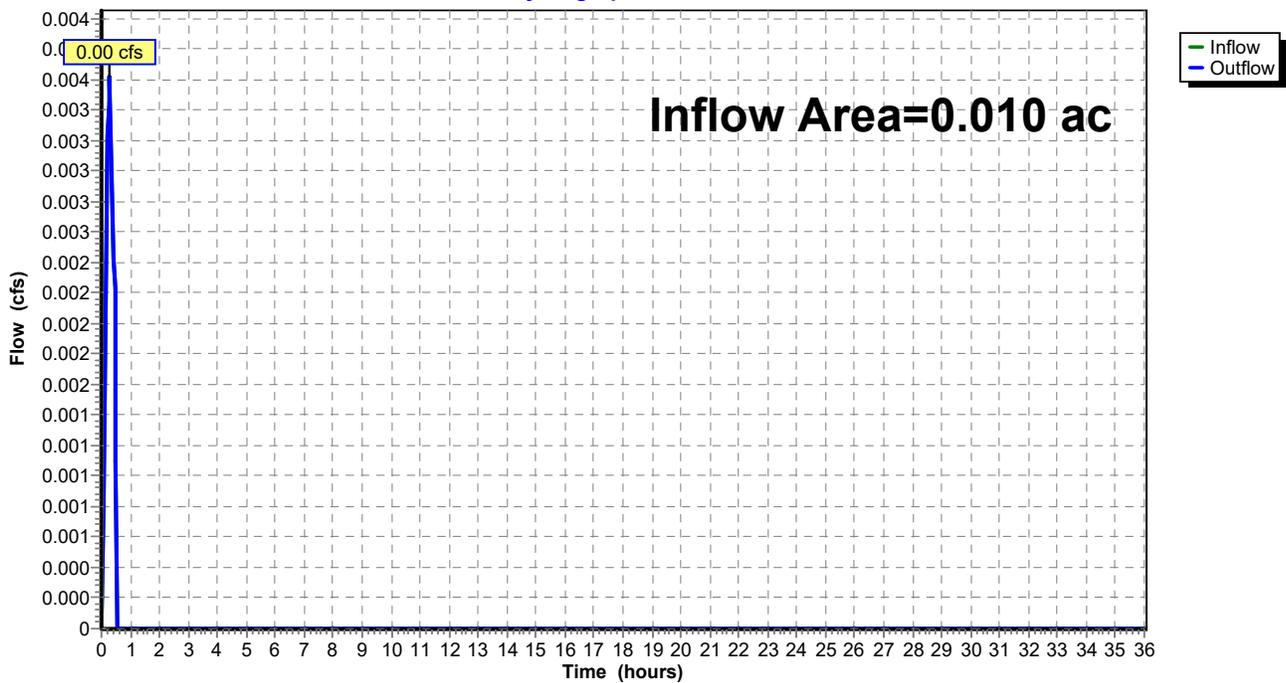
Summary for Reach 15R: (new Reach)

Inflow Area = 0.010 ac, 0.00% Impervious, Inflow Depth = 0.11" for 2-yr, 0.5-hr event
 Inflow = 0.00 cfs @ 0.28 hrs, Volume= 0.000 af
 Outflow = 0.00 cfs @ 0.28 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 15R: (new Reach)

Hydrograph



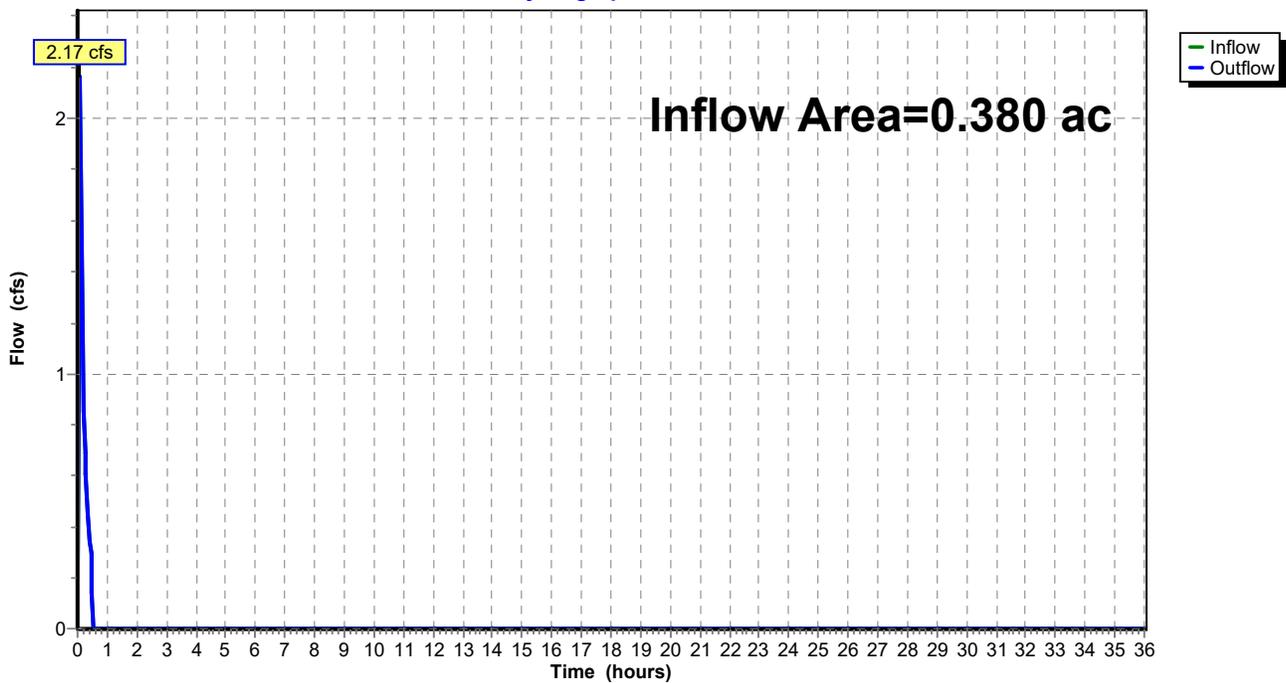
Summary for Reach 16R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 1.15" for 2-yr, 0.5-hr event
 Inflow = 2.17 cfs @ 0.10 hrs, Volume= 0.036 af
 Outflow = 2.17 cfs @ 0.10 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 16R: (new Reach)

Hydrograph

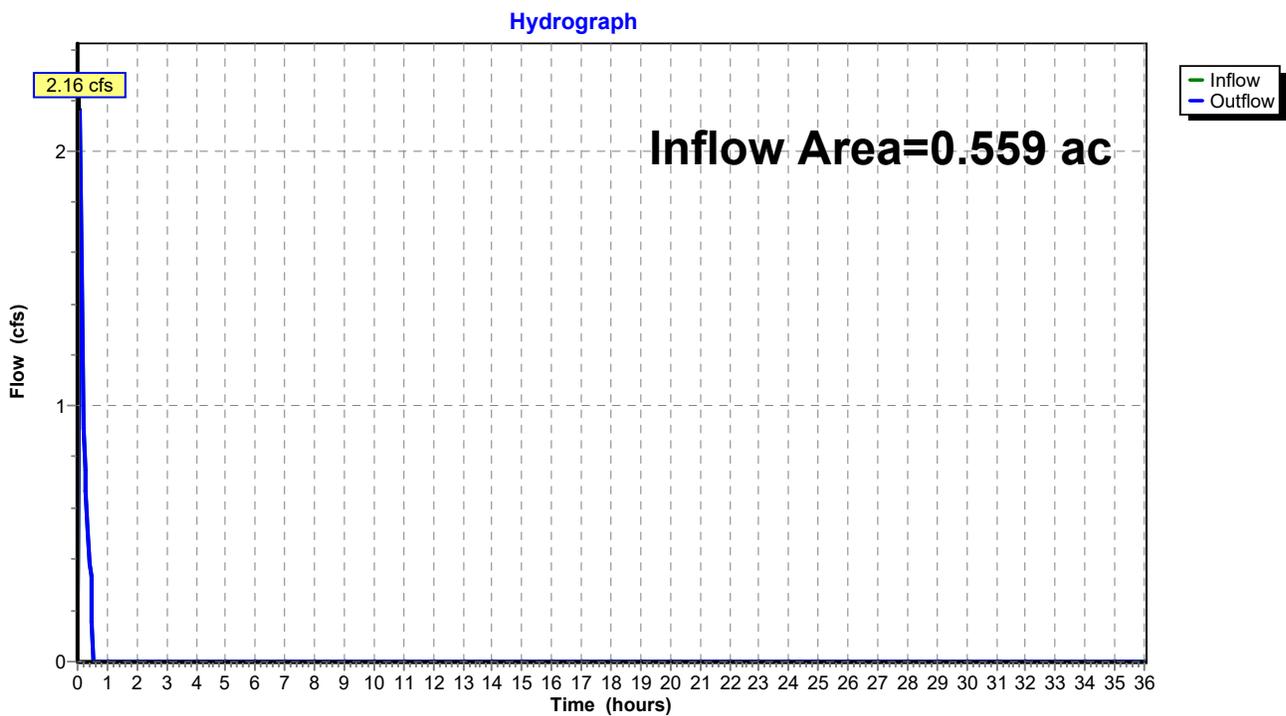


Summary for Reach 33R: PR Bypass

Inflow Area = 0.559 ac, 67.98% Impervious, Inflow Depth = 0.82" for 2-yr, 0.5-hr event
 Inflow = 2.16 cfs @ 0.10 hrs, Volume= 0.038 af
 Outflow = 2.16 cfs @ 0.10 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 41R : PR Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 33R: PR Bypass



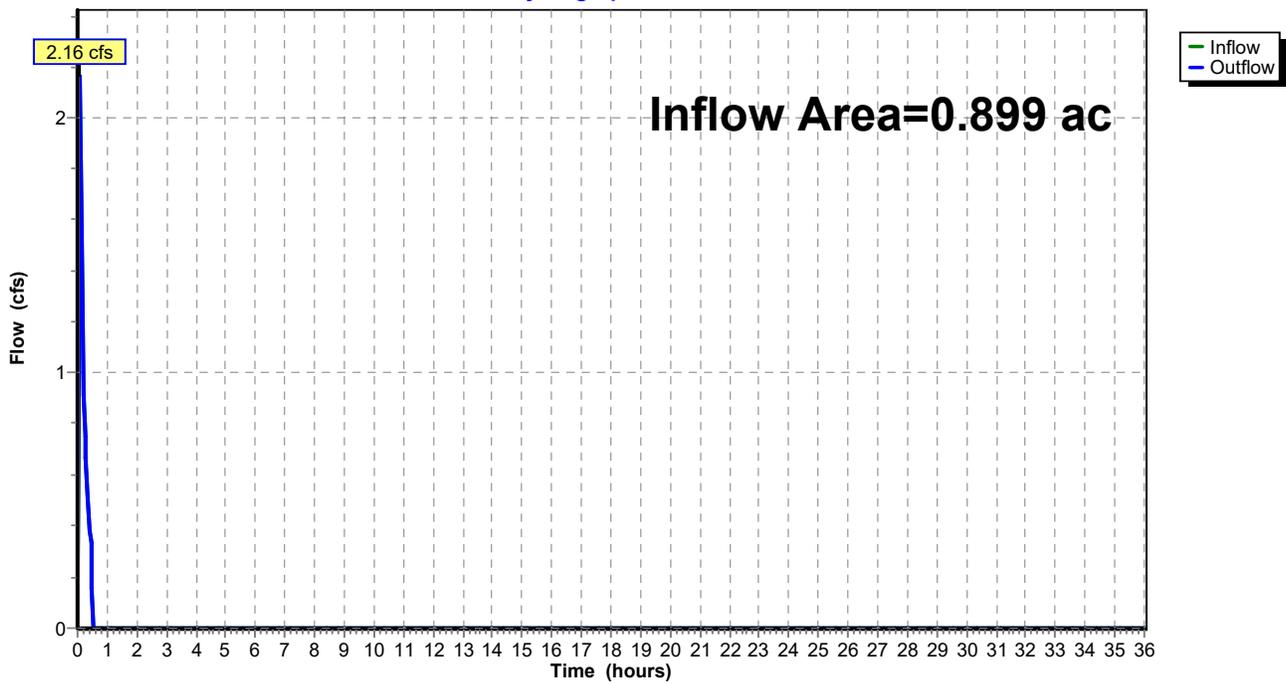
Summary for Reach 41R: PR Total

Inflow Area = 0.899 ac, 71.19% Impervious, Inflow Depth = 0.51" for 2-yr, 0.5-hr event
Inflow = 2.16 cfs @ 0.10 hrs, Volume= 0.038 af
Outflow = 2.16 cfs @ 0.10 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 41R: PR Total

Hydrograph



Summary for Pond 44P: 4" Underdrain Rock

Inflow Area = 0.340 ac, 76.47% Impervious, Inflow Depth = 0.69" for 2-yr, 0.5-hr event
 Inflow = 1.13 cfs @ 0.12 hrs, Volume= 0.020 af
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 41R : PR Total

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 556.65' @ 0.55 hrs Surf.Area= 1,005 sf Storage= 855 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description	
#1	553.50'	4,098 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
553.50	560	0.0	0	0
556.00	560	40.0	560	560
556.50	908	40.0	147	707
557.00	1,222	100.0	533	1,239
558.00	1,955	100.0	1,589	2,828
558.55	2,663	100.0	1,270	4,098

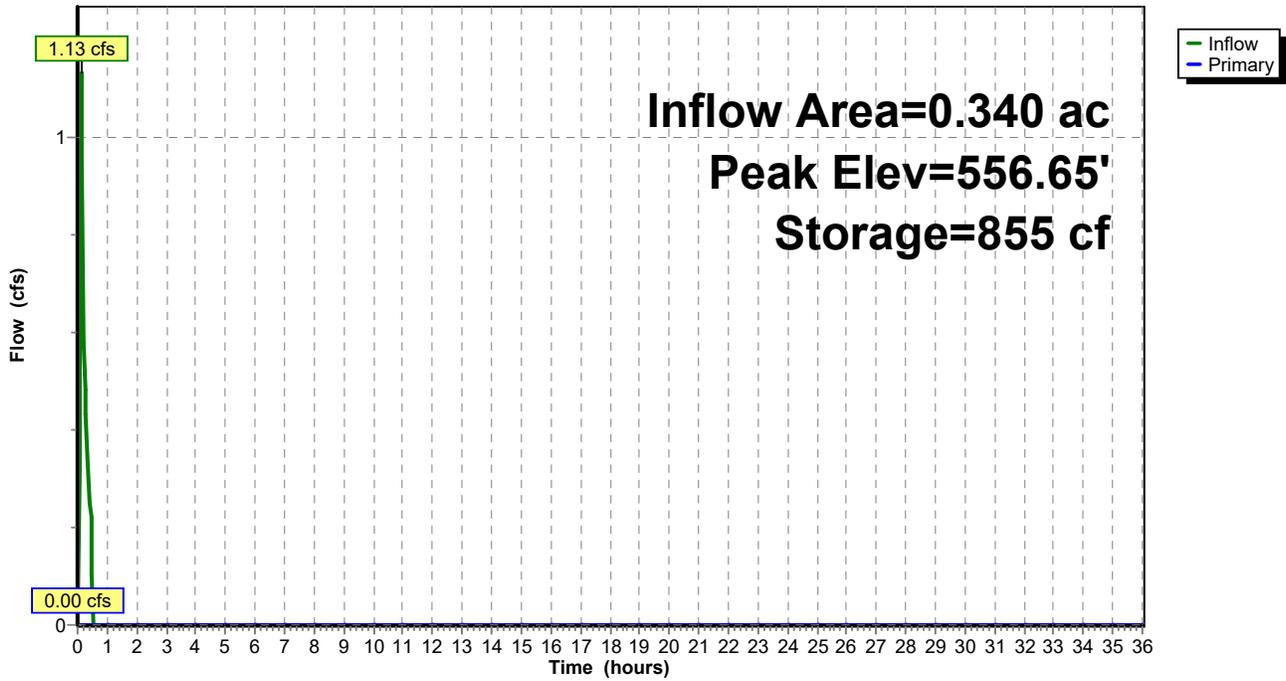
Device	Routing	Invert	Outlet Devices
#1	Primary	555.00'	12.0" Round Culvert L= 105.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 555.00' / 554.00' S= 0.0095 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	557.90'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.50 Width (feet) 4.00 4.00

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=553.50' (Free Discharge)

- ↑ 1=Culvert (Controls 0.00 cfs)
- ↑ 2=Custom Weir/Orifice (Controls 0.00 cfs)

Pond 44P: 4" Underdrain Rock

Hydrograph



Stage-Area-Storage for Pond 44P: 4" Underdrain Rock

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
553.50	560	0	556.05	595	572
553.55	560	11	556.10	630	584
553.60	560	22	556.15	664	597
553.65	560	34	556.20	699	610
553.70	560	45	556.25	734	625
553.75	560	56	556.30	769	640
553.80	560	67	556.35	804	655
553.85	560	78	556.40	838	672
553.90	560	90	556.45	873	689
553.95	560	101	556.50	908	707
554.00	560	112	556.55	939	753
554.05	560	123	556.60	971	801
554.10	560	134	556.65	1,002	850
554.15	560	146	556.70	1,034	901
554.20	560	157	556.75	1,065	953
554.25	560	168	556.80	1,096	1,007
554.30	560	179	556.85	1,128	1,063
554.35	560	190	556.90	1,159	1,120
554.40	560	202	556.95	1,191	1,179
554.45	560	213	557.00	1,222	1,239
554.50	560	224	557.05	1,259	1,301
554.55	560	235	557.10	1,295	1,365
554.60	560	246	557.15	1,332	1,431
554.65	560	258	557.20	1,369	1,498
554.70	560	269	557.25	1,405	1,568
554.75	560	280	557.30	1,442	1,639
554.80	560	291	557.35	1,479	1,712
554.85	560	302	557.40	1,515	1,787
554.90	560	314	557.45	1,552	1,863
554.95	560	325	557.50	1,589	1,942
555.00	560	336	557.55	1,625	2,022
555.05	560	347	557.60	1,662	2,104
555.10	560	358	557.65	1,698	2,188
555.15	560	370	557.70	1,735	2,274
555.20	560	381	557.75	1,772	2,362
555.25	560	392	557.80	1,808	2,451
555.30	560	403	557.85	1,845	2,543
555.35	560	414	557.90	1,882	2,636
555.40	560	426	557.95	1,918	2,731
555.45	560	437	558.00	1,955	2,828
555.50	560	448	558.05	2,019	2,927
555.55	560	459	558.10	2,084	3,030
555.60	560	470	558.15	2,148	3,136
555.65	560	482	558.20	2,212	3,245
555.70	560	493	558.25	2,277	3,357
555.75	560	504	558.30	2,341	3,472
555.80	560	515	558.35	2,406	3,591
555.85	560	526	558.40	2,470	3,713
555.90	560	538	558.45	2,534	3,838
555.95	560	549	558.50	2,599	3,966
556.00	560	560	558.55	2,663	4,098

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment9S: PR D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=1.37" Tc=0.0 min CN=74 Runoff=0.02 cfs 0.014 af
Subcatchment11S: PR B	Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=1.37" Tc=0.0 min CN=74 Runoff=0.00 cfs 0.001 af
Subcatchment12S: PR A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=3.46" Tc=0.0 min CN=98 Runoff=0.13 cfs 0.109 af
Subcatchment32S: PR C1	Runoff Area=0.340 ac 76.47% Impervious Runoff Depth=2.82" Tc=0.0 min CN=92 Runoff=0.10 cfs 0.080 af
Subcatchment39S: PR C2 Bypass	Runoff Area=0.049 ac 0.00% Impervious Runoff Depth=1.37" Tc=0.0 min CN=74 Runoff=0.01 cfs 0.006 af
Reach 13R: (new Reach)	Inflow=0.02 cfs 0.014 af Outflow=0.02 cfs 0.014 af
Reach 15R: (new Reach)	Inflow=0.00 cfs 0.001 af Outflow=0.00 cfs 0.001 af
Reach 16R: (new Reach)	Inflow=0.13 cfs 0.109 af Outflow=0.13 cfs 0.109 af
Reach 33R: PR Bypass	Inflow=0.16 cfs 0.130 af Outflow=0.16 cfs 0.130 af
Reach 41R: PR Total	Inflow=0.19 cfs 0.149 af Outflow=0.19 cfs 0.149 af
Pond 44P: 4" Underdrain Rock	Peak Elev=557.93' Storage=2,686 cf Inflow=0.10 cfs 0.080 af Outflow=0.07 cfs 0.019 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.210 af Average Runoff Depth = 2.80"
28.81% Pervious = 0.259 ac 71.19% Impervious = 0.640 ac

Summary for Subcatchment 9S: PR D

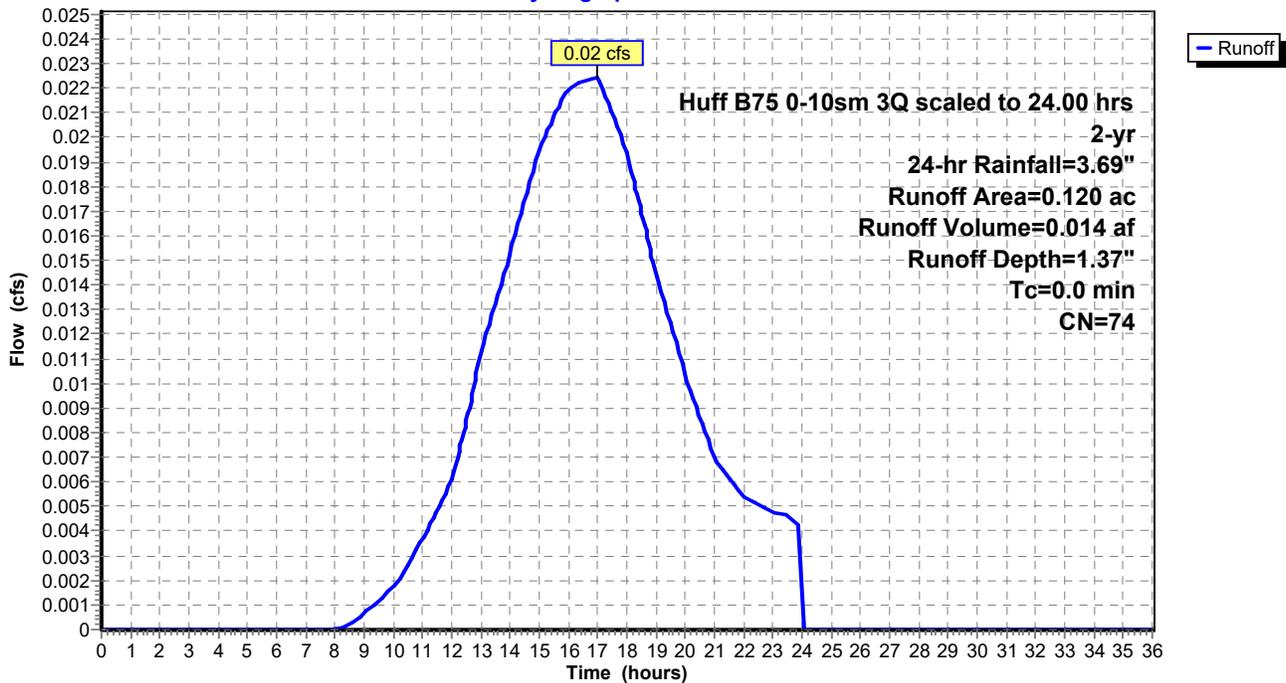
Runoff = 0.02 cfs @ 16.95 hrs, Volume= 0.014 af, Depth= 1.37"
 Routed to Reach 13R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 2-yr, 24-hr Rainfall=3.69"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 9S: PR D

Hydrograph



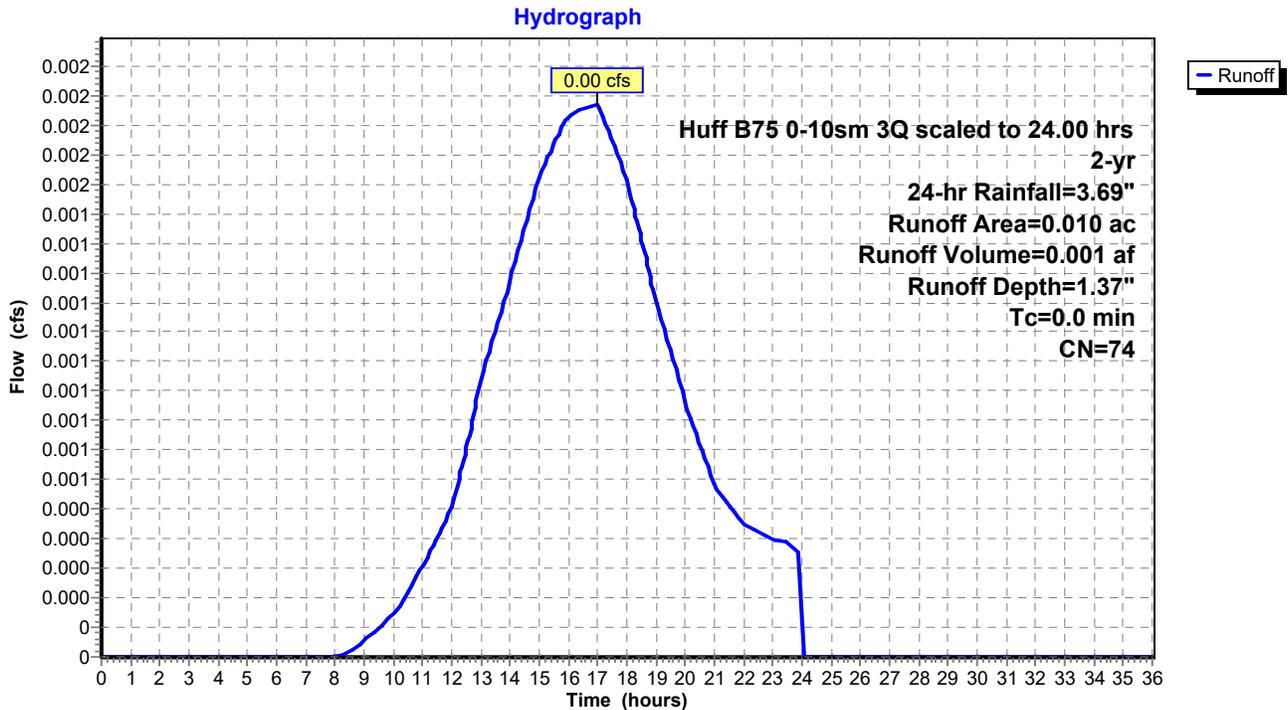
Summary for Subcatchment 11S: PR B

Runoff = 0.00 cfs @ 16.95 hrs, Volume= 0.001 af, Depth= 1.37"
 Routed to Reach 15R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 2-yr, 24-hr Rainfall=3.69"

Area (ac)	CN	Description
0.010	74	>75% Grass cover, Good, HSG C
0.010		100.00% Pervious Area

Subcatchment 11S: PR B



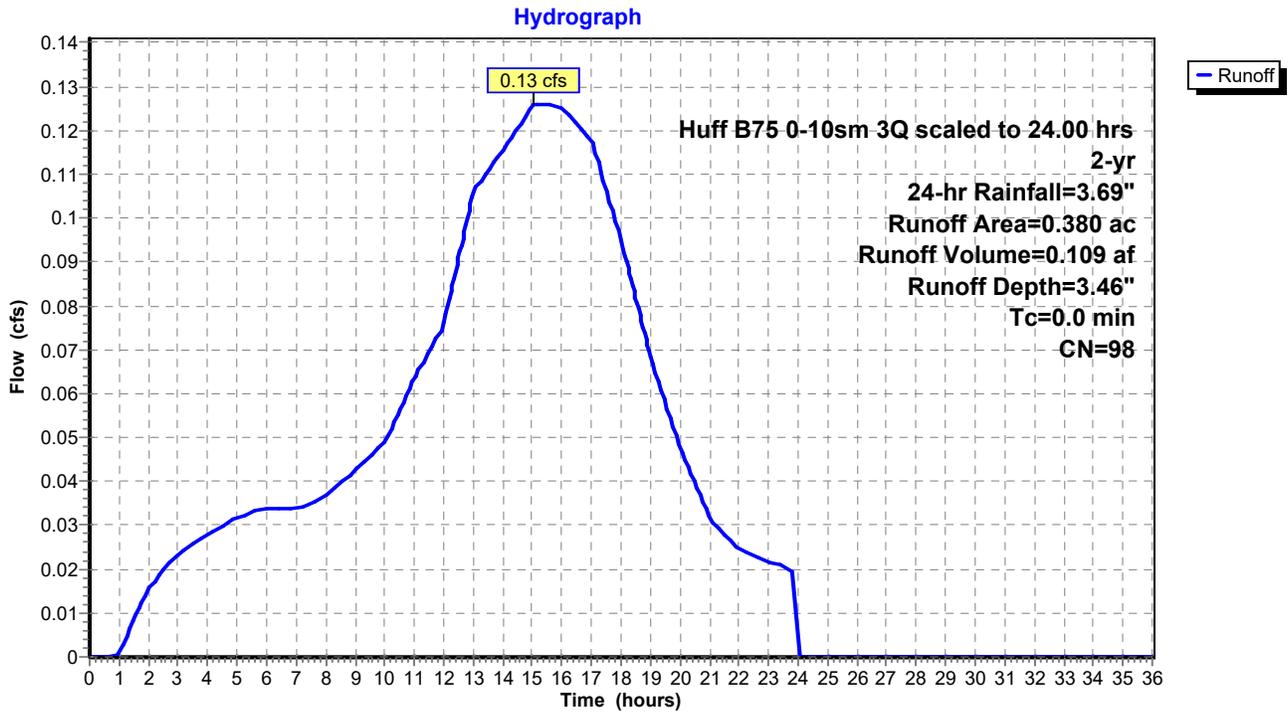
Summary for Subcatchment 12S: PR A

Runoff = 0.13 cfs @ 15.06 hrs, Volume= 0.109 af, Depth= 3.46"
 Routed to Reach 16R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 2-yr, 24-hr Rainfall=3.69"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 12S: PR A



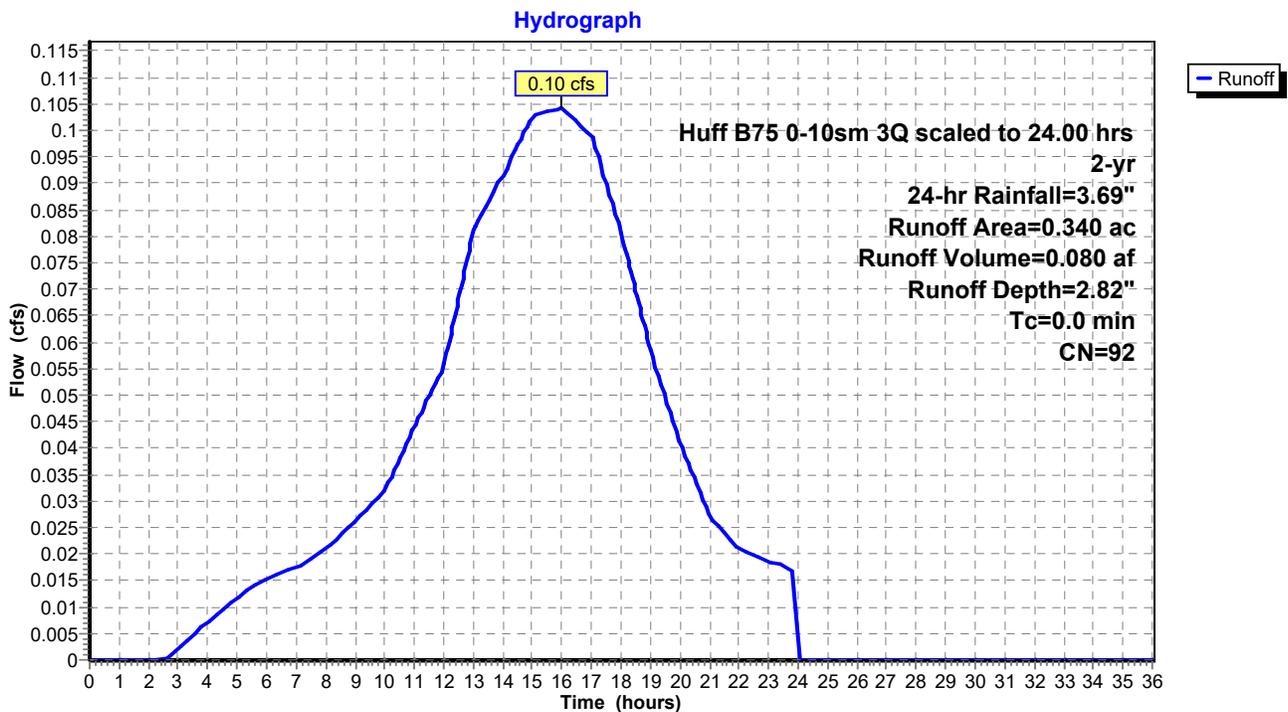
Summary for Subcatchment 32S: PR C1

Runoff = 0.10 cfs @ 15.98 hrs, Volume= 0.080 af, Depth= 2.82"
 Routed to Pond 44P : 4" Underdrain Rock

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 2-yr, 24-hr Rainfall=3.69"

Area (ac)	CN	Description
0.260	98	Paved parking, HSG C
0.080	74	>75% Grass cover, Good, HSG C
0.000	96	Gravel surface, HSG C
0.340	92	Weighted Average
0.080		23.53% Pervious Area
0.260		76.47% Impervious Area

Subcatchment 32S: PR C1



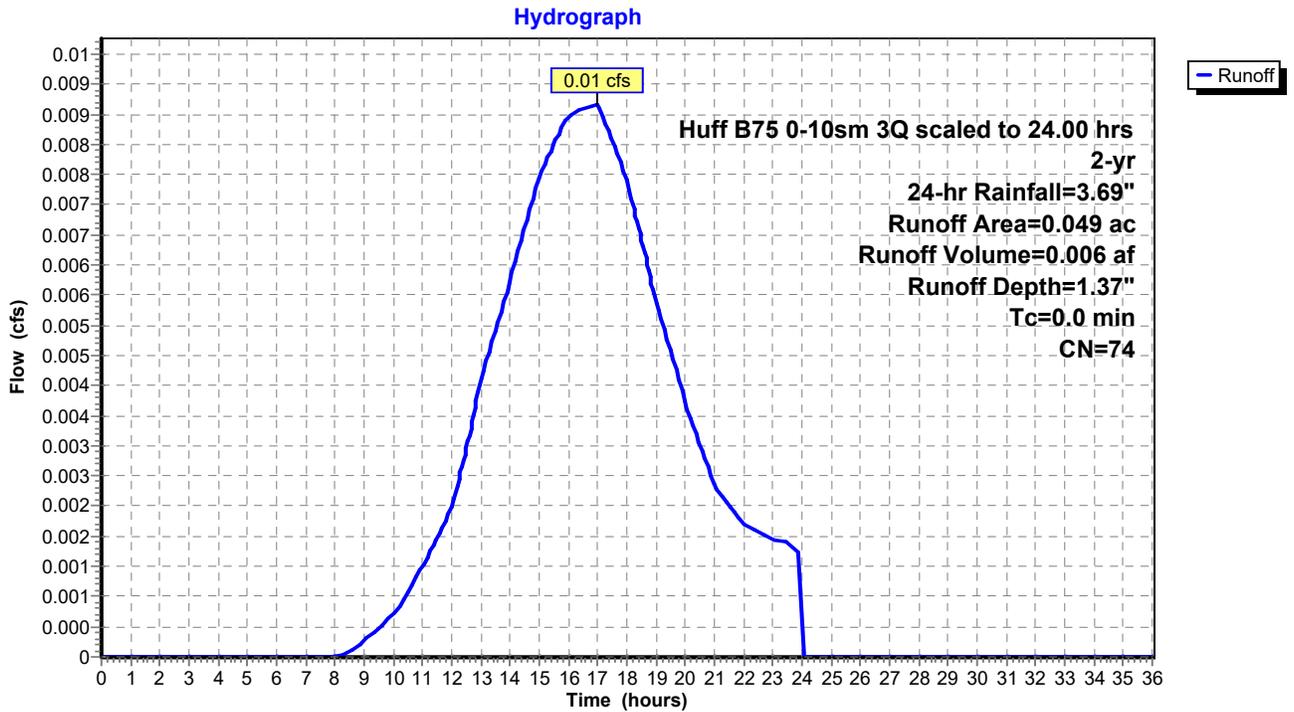
Summary for Subcatchment 39S: PR C2 Bypass

Runoff = 0.01 cfs @ 16.95 hrs, Volume= 0.006 af, Depth= 1.37"
 Routed to Reach 33R : PR Bypass

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 2-yr, 24-hr Rainfall=3.69"

Area (ac)	CN	Description
0.049	74	>75% Grass cover, Good, HSG C
0.049		100.00% Pervious Area

Subcatchment 39S: PR C2 Bypass

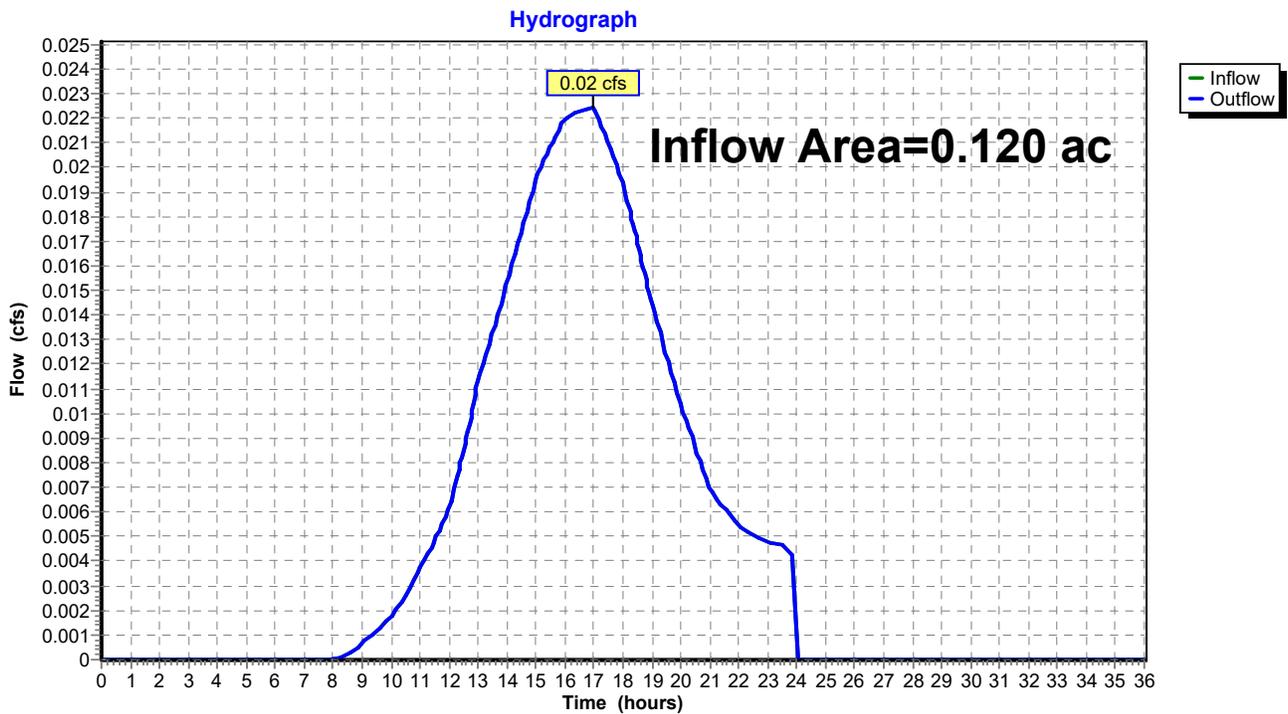


Summary for Reach 13R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 1.37" for 2-yr, 24-hr event
 Inflow = 0.02 cfs @ 16.95 hrs, Volume= 0.014 af
 Outflow = 0.02 cfs @ 16.95 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 13R: (new Reach)



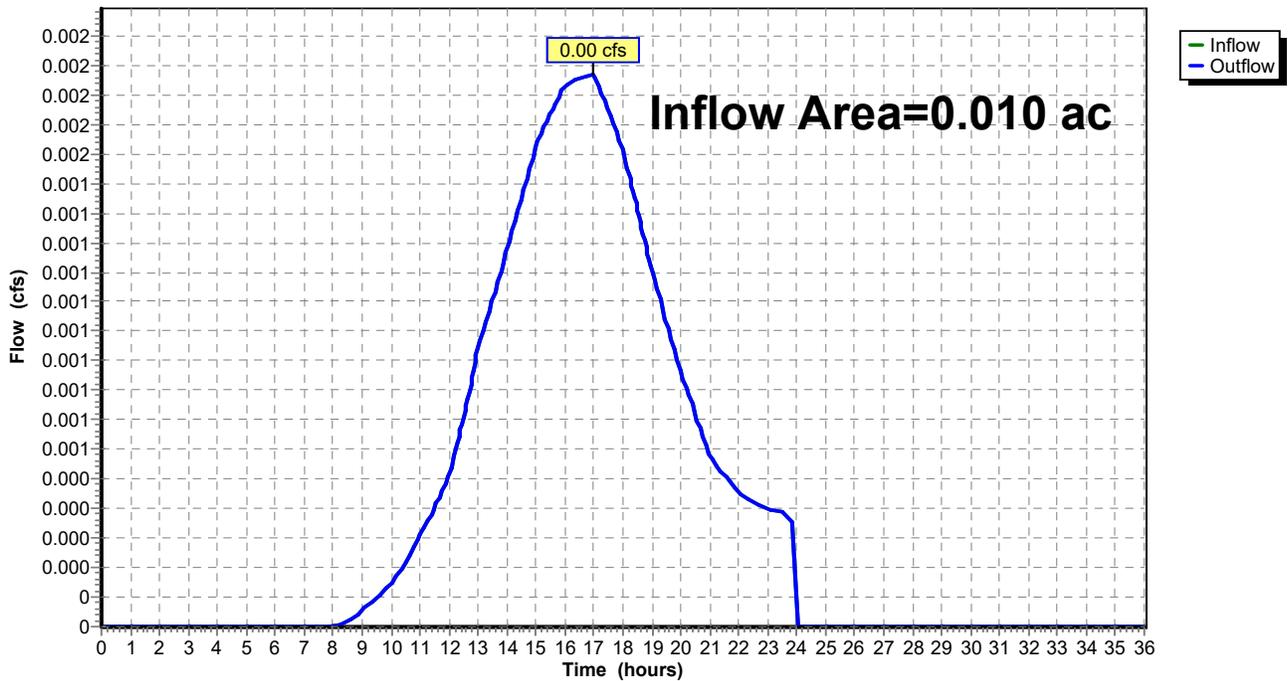
Summary for Reach 15R: (new Reach)

Inflow Area = 0.010 ac, 0.00% Impervious, Inflow Depth = 1.37" for 2-yr, 24-hr event
Inflow = 0.00 cfs @ 16.95 hrs, Volume= 0.001 af
Outflow = 0.00 cfs @ 16.95 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 15R: (new Reach)

Hydrograph

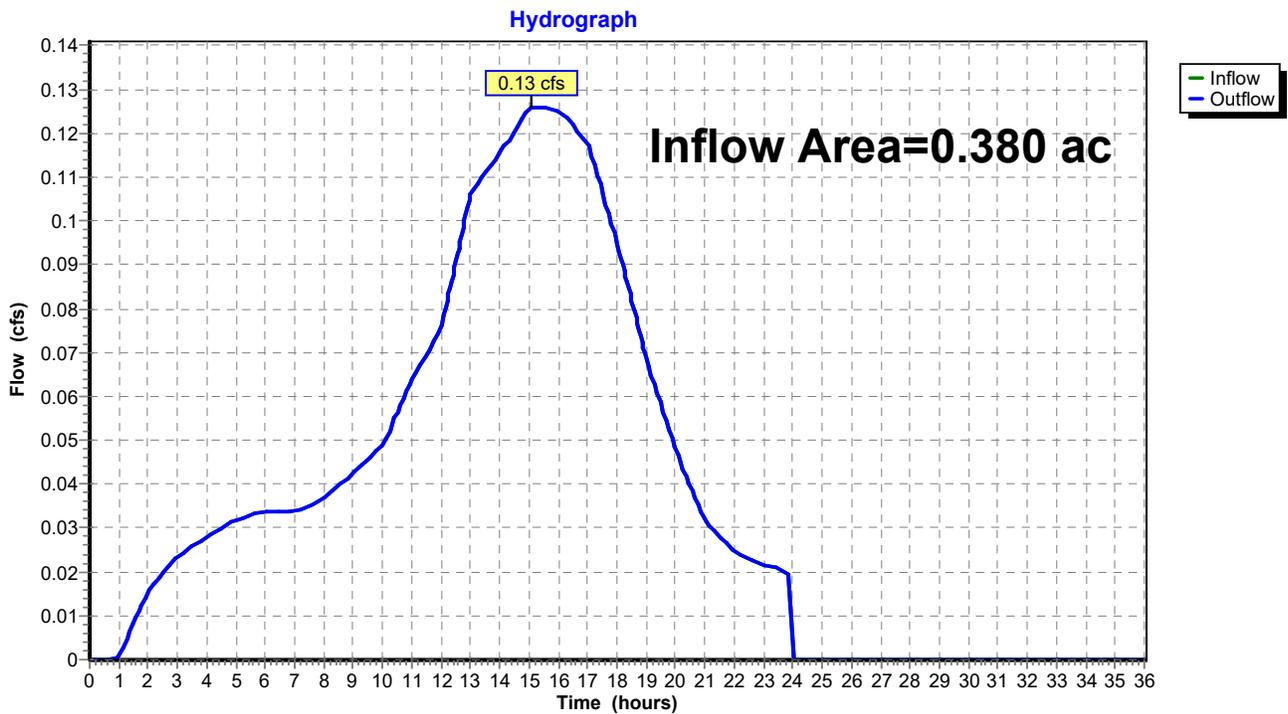


Summary for Reach 16R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 3.46" for 2-yr, 24-hr event
Inflow = 0.13 cfs @ 15.06 hrs, Volume= 0.109 af
Outflow = 0.13 cfs @ 15.06 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 16R: (new Reach)

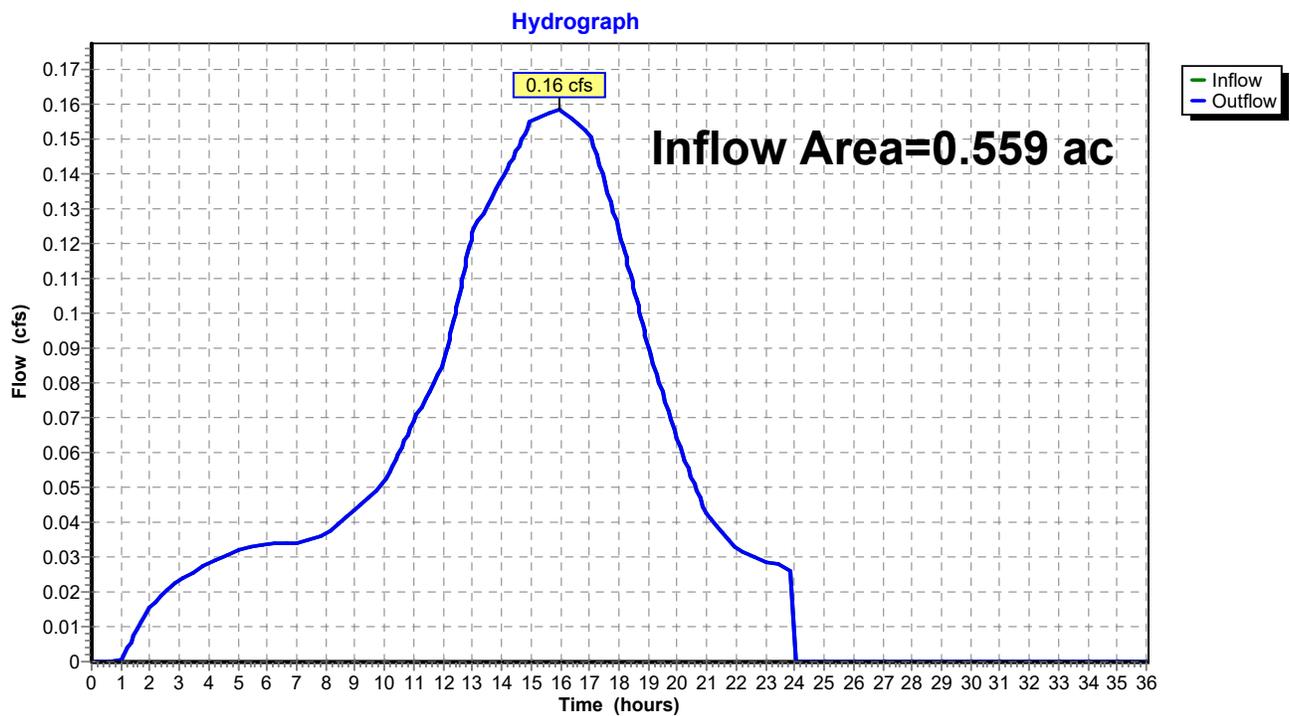


Summary for Reach 33R: PR Bypass

Inflow Area = 0.559 ac, 67.98% Impervious, Inflow Depth = 2.79" for 2-yr, 24-hr event
 Inflow = 0.16 cfs @ 15.99 hrs, Volume= 0.130 af
 Outflow = 0.16 cfs @ 15.99 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 41R : PR Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 33R: PR Bypass

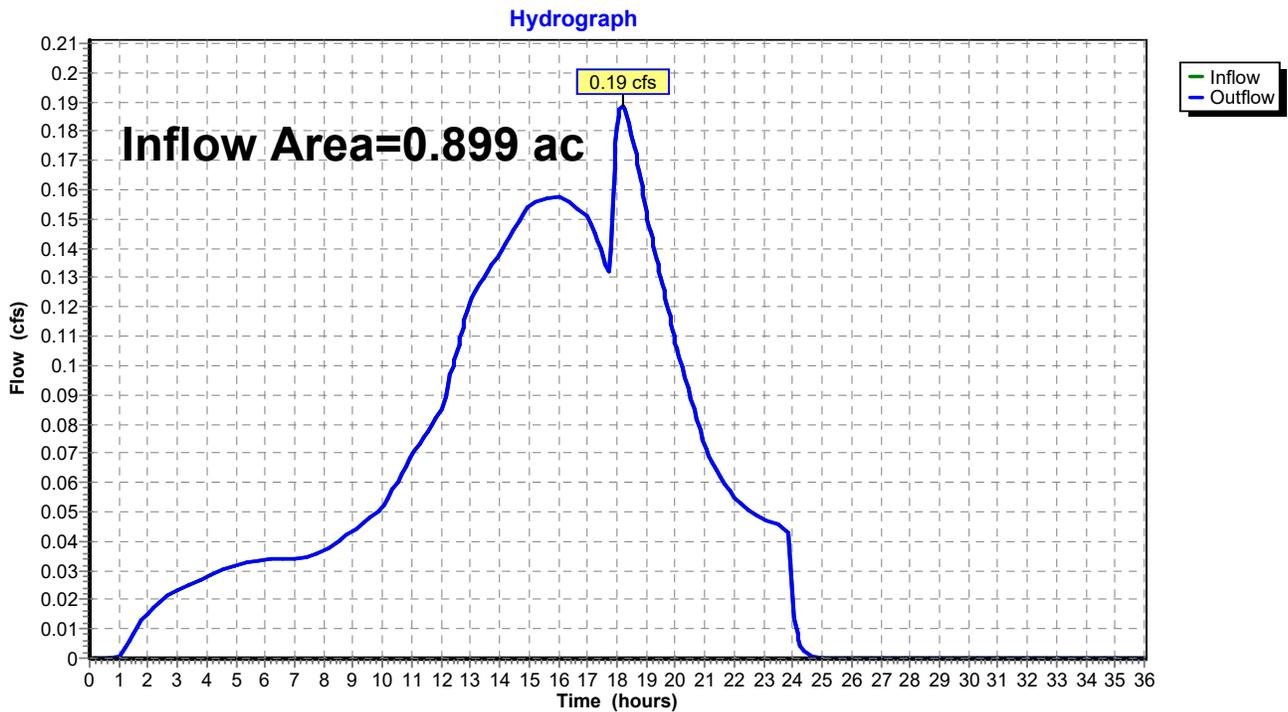


Summary for Reach 41R: PR Total

Inflow Area = 0.899 ac, 71.19% Impervious, Inflow Depth = 1.99" for 2-yr, 24-hr event
 Inflow = 0.19 cfs @ 18.18 hrs, Volume= 0.149 af
 Outflow = 0.19 cfs @ 18.18 hrs, Volume= 0.149 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 41R: PR Total



Bulletin 75_SW District_HydHuff B75 0-10sm 3Q scaled to 24.00 hrs 2-yr, 24-hr Rainfall=3.69"

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Summary for Pond 44P: 4" Underdrain Rock

Inflow Area = 0.340 ac, 76.47% Impervious, Inflow Depth = 2.82" for 2-yr, 24-hr event
 Inflow = 0.10 cfs @ 15.98 hrs, Volume= 0.080 af
 Outflow = 0.07 cfs @ 18.36 hrs, Volume= 0.019 af, Atten= 30%, Lag= 142.8 min
 Primary = 0.07 cfs @ 18.36 hrs, Volume= 0.019 af
 Routed to Reach 41R : PR Total

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 557.93' @ 18.36 hrs Surf.Area= 1,901 sf Storage= 2,686 cf

Plug-Flow detention time= 643.1 min calculated for 0.019 af (24% of inflow)
 Center-of-Mass det. time= 311.2 min (1,209.1 - 898.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	553.50'	4,098 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
553.50	560	0.0	0	0
556.00	560	40.0	560	560
556.50	908	40.0	147	707
557.00	1,222	100.0	533	1,239
558.00	1,955	100.0	1,589	2,828
558.55	2,663	100.0	1,270	4,098

Device	Routing	Invert	Outlet Devices
#1	Primary	555.00'	12.0" Round Culvert L= 105.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 555.00' / 554.00' S= 0.0095 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	557.90'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.50 Width (feet) 4.00 4.00

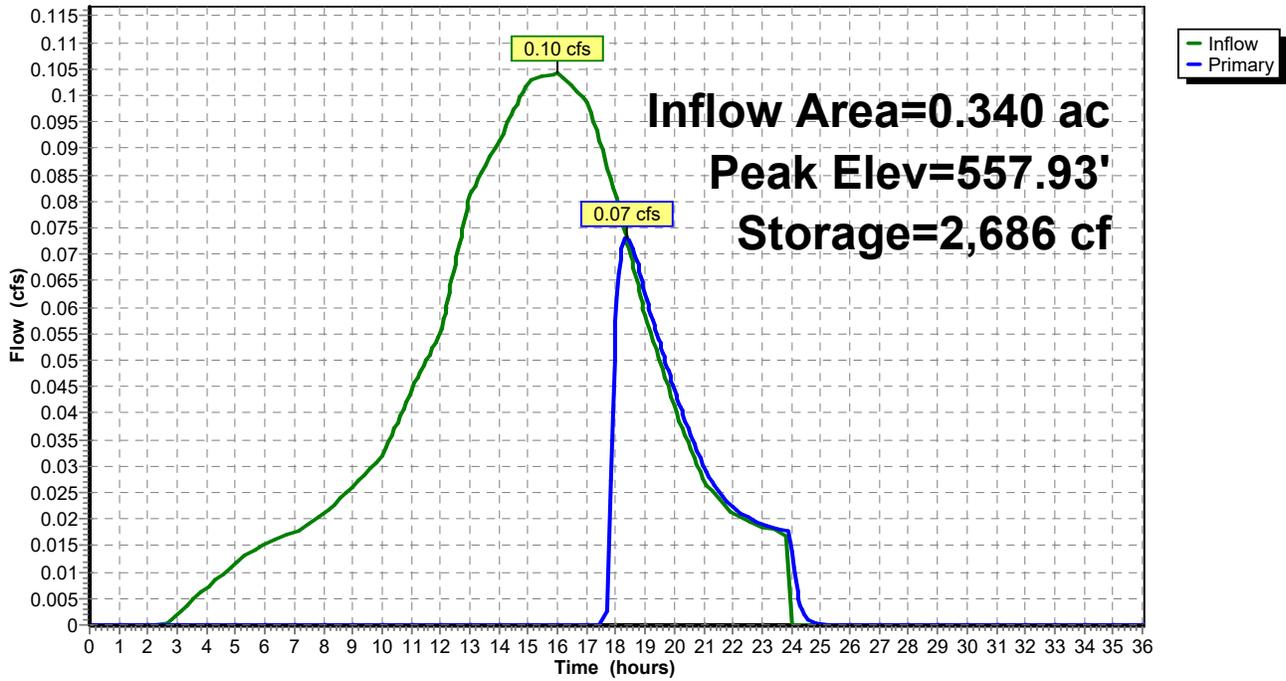
Primary OutFlow Max=0.06 cfs @ 18.36 hrs HW=557.93' (Free Discharge)

↑1=Culvert (Passes 0.06 cfs of 5.71 cfs potential flow)

↑2=Custom Weir/Orifice (Weir Controls 0.06 cfs @ 0.53 fps)

Pond 44P: 4" Underdrain Rock

Hydrograph



Stage-Area-Storage for Pond 44P: 4" Underdrain Rock

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
553.50	560	0	556.05	595	572
553.55	560	11	556.10	630	584
553.60	560	22	556.15	664	597
553.65	560	34	556.20	699	610
553.70	560	45	556.25	734	625
553.75	560	56	556.30	769	640
553.80	560	67	556.35	804	655
553.85	560	78	556.40	838	672
553.90	560	90	556.45	873	689
553.95	560	101	556.50	908	707
554.00	560	112	556.55	939	753
554.05	560	123	556.60	971	801
554.10	560	134	556.65	1,002	850
554.15	560	146	556.70	1,034	901
554.20	560	157	556.75	1,065	953
554.25	560	168	556.80	1,096	1,007
554.30	560	179	556.85	1,128	1,063
554.35	560	190	556.90	1,159	1,120
554.40	560	202	556.95	1,191	1,179
554.45	560	213	557.00	1,222	1,239
554.50	560	224	557.05	1,259	1,301
554.55	560	235	557.10	1,295	1,365
554.60	560	246	557.15	1,332	1,431
554.65	560	258	557.20	1,369	1,498
554.70	560	269	557.25	1,405	1,568
554.75	560	280	557.30	1,442	1,639
554.80	560	291	557.35	1,479	1,712
554.85	560	302	557.40	1,515	1,787
554.90	560	314	557.45	1,552	1,863
554.95	560	325	557.50	1,589	1,942
555.00	560	336	557.55	1,625	2,022
555.05	560	347	557.60	1,662	2,104
555.10	560	358	557.65	1,698	2,188
555.15	560	370	557.70	1,735	2,274
555.20	560	381	557.75	1,772	2,362
555.25	560	392	557.80	1,808	2,451
555.30	560	403	557.85	1,845	2,543
555.35	560	414	557.90	1,882	2,636
555.40	560	426	557.95	1,918	2,731
555.45	560	437	558.00	1,955	2,828
555.50	560	448	558.05	2,019	2,927
555.55	560	459	558.10	2,084	3,030
555.60	560	470	558.15	2,148	3,136
555.65	560	482	558.20	2,212	3,245
555.70	560	493	558.25	2,277	3,357
555.75	560	504	558.30	2,341	3,472
555.80	560	515	558.35	2,406	3,591
555.85	560	526	558.40	2,470	3,713
555.90	560	538	558.45	2,534	3,838
555.95	560	549	558.50	2,599	3,966
556.00	560	560	558.55	2,663	4,098

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment9S: PR D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=0.33" Tc=0.0 min CN=74 Runoff=0.16 cfs 0.003 af
Subcatchment11S: PR B	Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=0.33" Tc=0.0 min CN=74 Runoff=0.01 cfs 0.000 af
Subcatchment12S: PR A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=1.72" Tc=0.0 min CN=98 Runoff=3.23 cfs 0.055 af
Subcatchment32S: PR C1	Runoff Area=0.340 ac 76.47% Impervious Runoff Depth=1.19" Tc=0.0 min CN=92 Runoff=2.00 cfs 0.034 af
Subcatchment39S: PR C2 Bypass	Runoff Area=0.049 ac 0.00% Impervious Runoff Depth=0.33" Tc=0.0 min CN=74 Runoff=0.06 cfs 0.001 af
Reach 13R: (new Reach)	Inflow=0.16 cfs 0.003 af Outflow=0.16 cfs 0.003 af
Reach 15R: (new Reach)	Inflow=0.01 cfs 0.000 af Outflow=0.01 cfs 0.000 af
Reach 16R: (new Reach)	Inflow=3.23 cfs 0.055 af Outflow=3.23 cfs 0.055 af
Reach 33R: PR Bypass	Inflow=3.30 cfs 0.059 af Outflow=3.30 cfs 0.059 af
Reach 41R: PR Total	Inflow=3.30 cfs 0.059 af Outflow=3.30 cfs 0.059 af
Pond 44P: 4" Underdrain Rock	Peak Elev=557.18' Storage=1,471 cf Inflow=2.00 cfs 0.034 af Outflow=0.00 cfs 0.000 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.093 af Average Runoff Depth = 1.25"
28.81% Pervious = 0.259 ac 71.19% Impervious = 0.640 ac

Summary for Subcatchment 9S: PR D

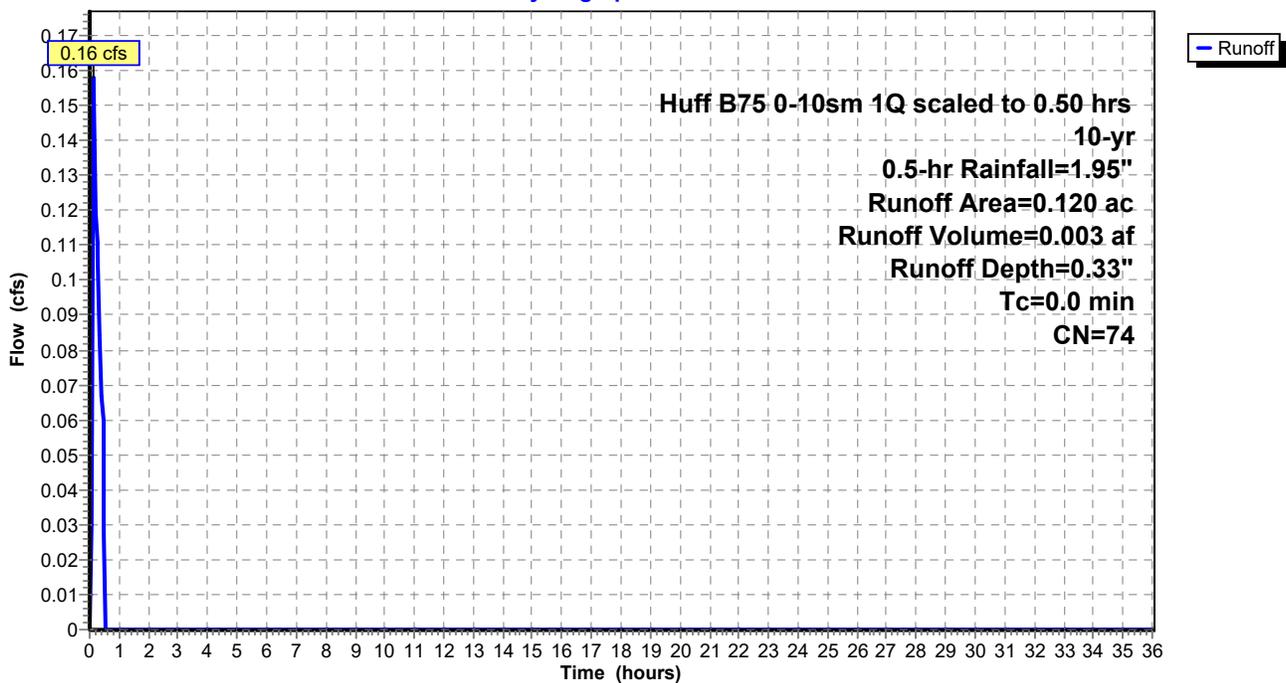
Runoff = 0.16 cfs @ 0.16 hrs, Volume= 0.003 af, Depth= 0.33"
 Routed to Reach 13R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 9S: PR D

Hydrograph



Bulletin 75_SW District_Hy Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

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Summary for Subcatchment 11S: PR B

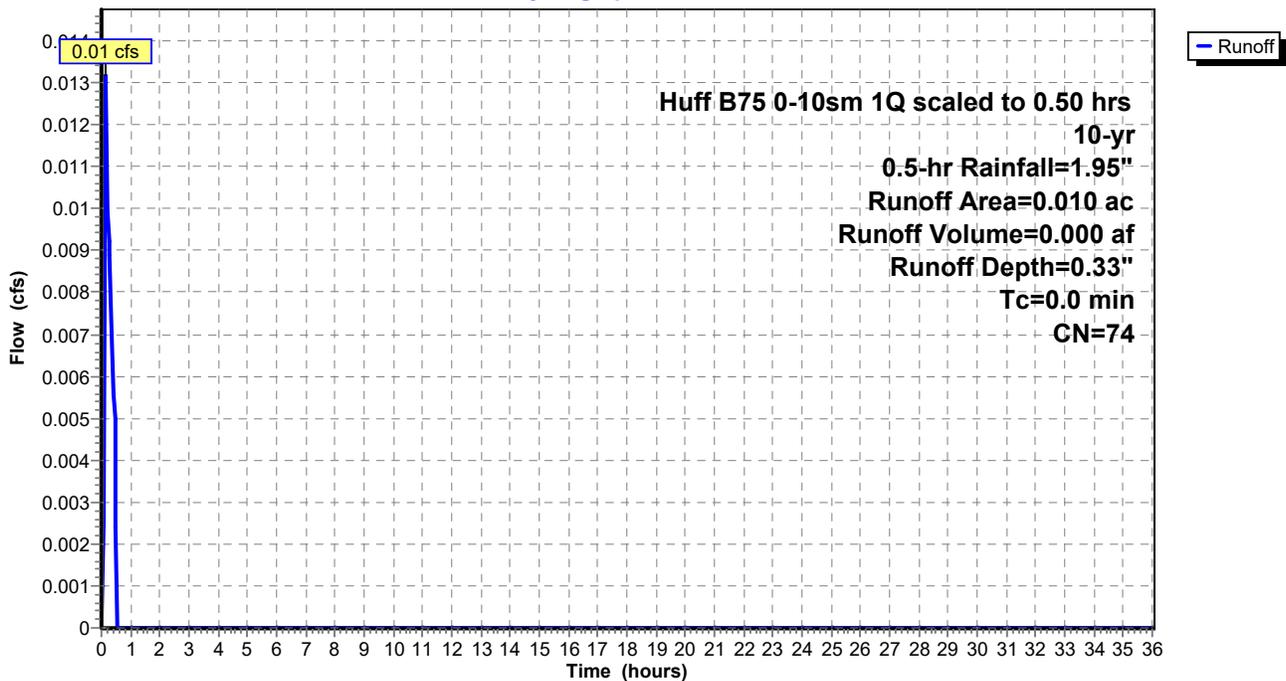
Runoff = 0.01 cfs @ 0.16 hrs, Volume= 0.000 af, Depth= 0.33"
 Routed to Reach 15R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

Area (ac)	CN	Description
0.010	74	>75% Grass cover, Good, HSG C
0.010		100.00% Pervious Area

Subcatchment 11S: PR B

Hydrograph



Bulletin 75_SW District_Hy Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

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Summary for Subcatchment 12S: PR A

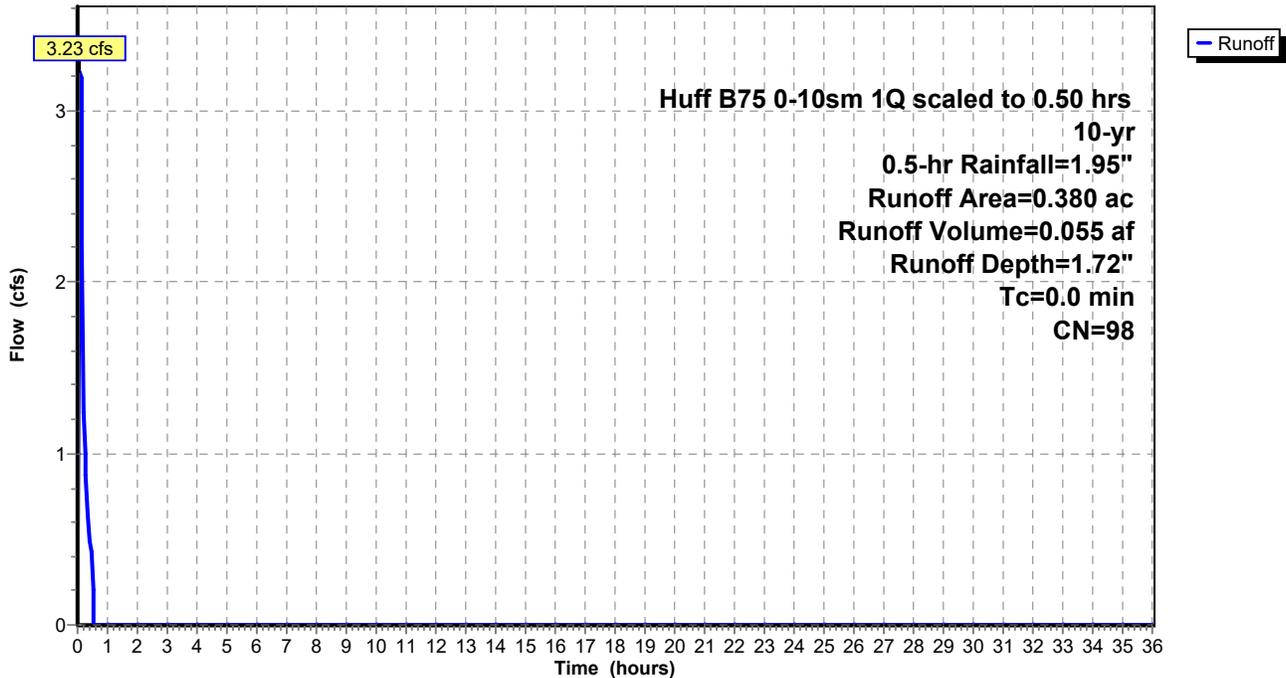
Runoff = 3.23 cfs @ 0.09 hrs, Volume= 0.055 af, Depth= 1.72"
 Routed to Reach 16R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 12S: PR A

Hydrograph



Bulletin 75_SW District_Hy Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

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Summary for Subcatchment 32S: PR C1

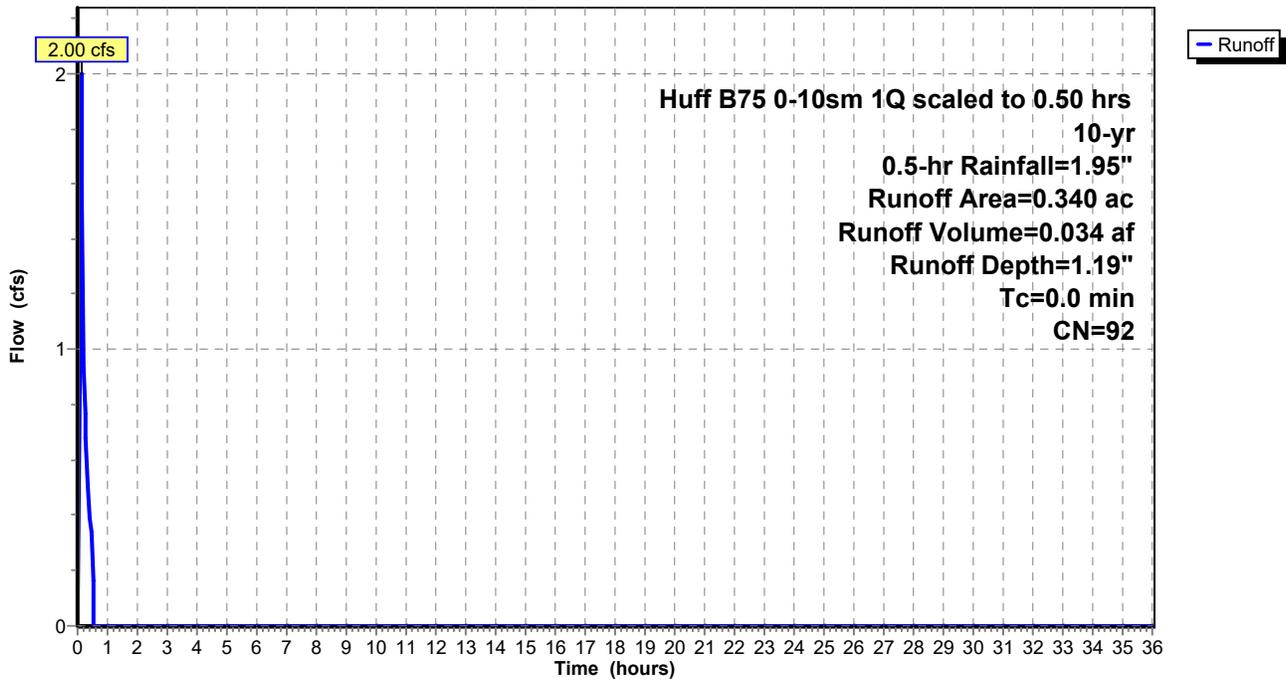
Runoff = 2.00 cfs @ 0.11 hrs, Volume= 0.034 af, Depth= 1.19"
 Routed to Pond 44P : 4" Underdrain Rock

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

Area (ac)	CN	Description
0.260	98	Paved parking, HSG C
0.080	74	>75% Grass cover, Good, HSG C
0.000	96	Gravel surface, HSG C
0.340	92	Weighted Average
0.080		23.53% Pervious Area
0.260		76.47% Impervious Area

Subcatchment 32S: PR C1

Hydrograph



Summary for Subcatchment 39S: PR C2 Bypass

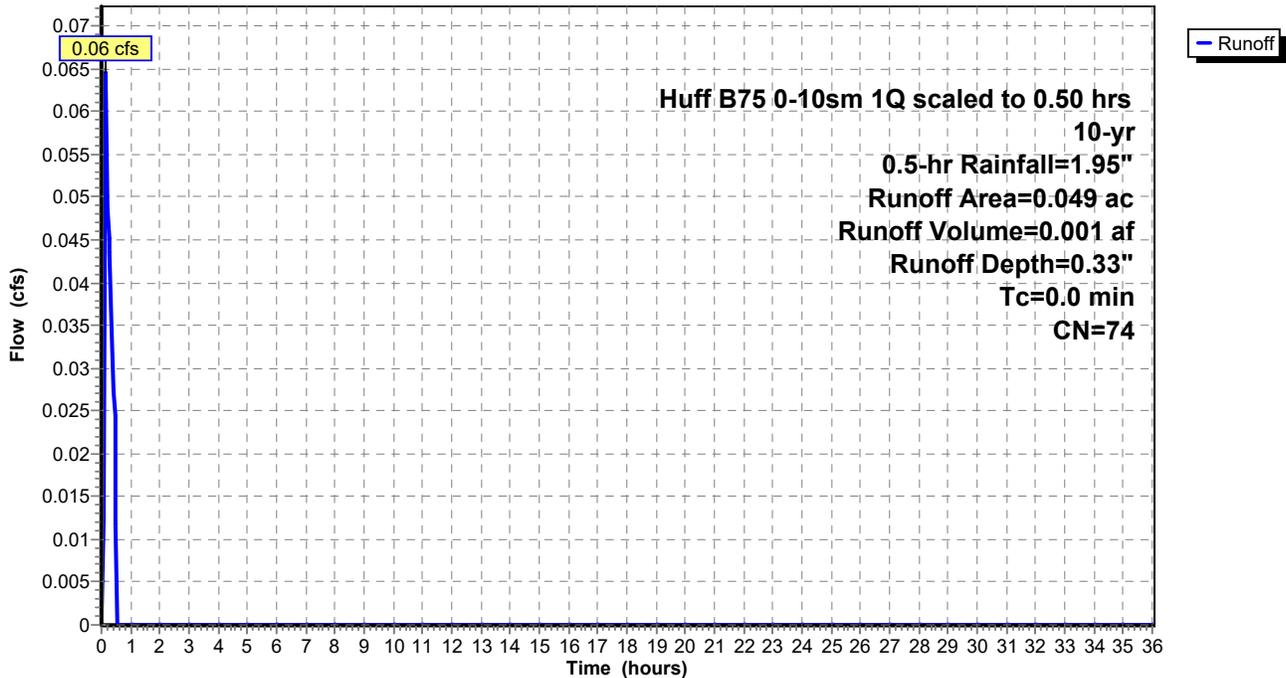
Runoff = 0.06 cfs @ 0.16 hrs, Volume= 0.001 af, Depth= 0.33"
 Routed to Reach 33R : PR Bypass

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

Area (ac)	CN	Description
0.049	74	>75% Grass cover, Good, HSG C
0.049		100.00% Pervious Area

Subcatchment 39S: PR C2 Bypass

Hydrograph



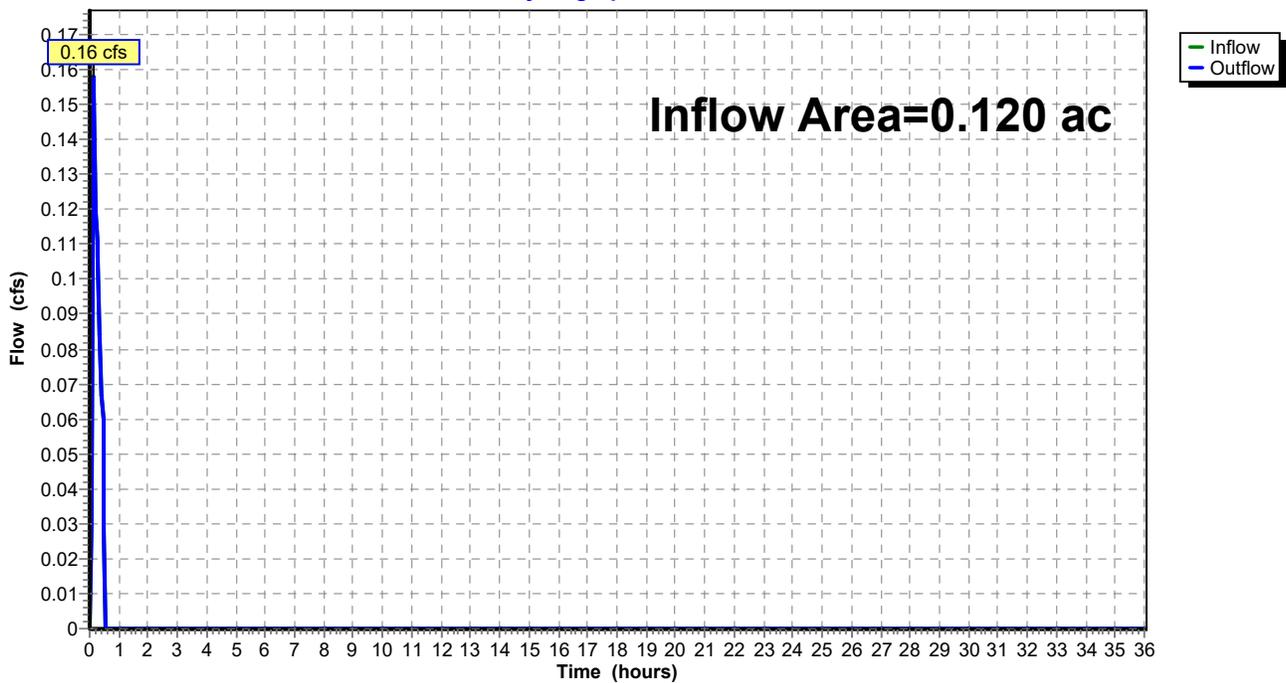
Summary for Reach 13R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 0.33" for 10-yr, 0.5-hr event
Inflow = 0.16 cfs @ 0.16 hrs, Volume= 0.003 af
Outflow = 0.16 cfs @ 0.16 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 13R: (new Reach)

Hydrograph



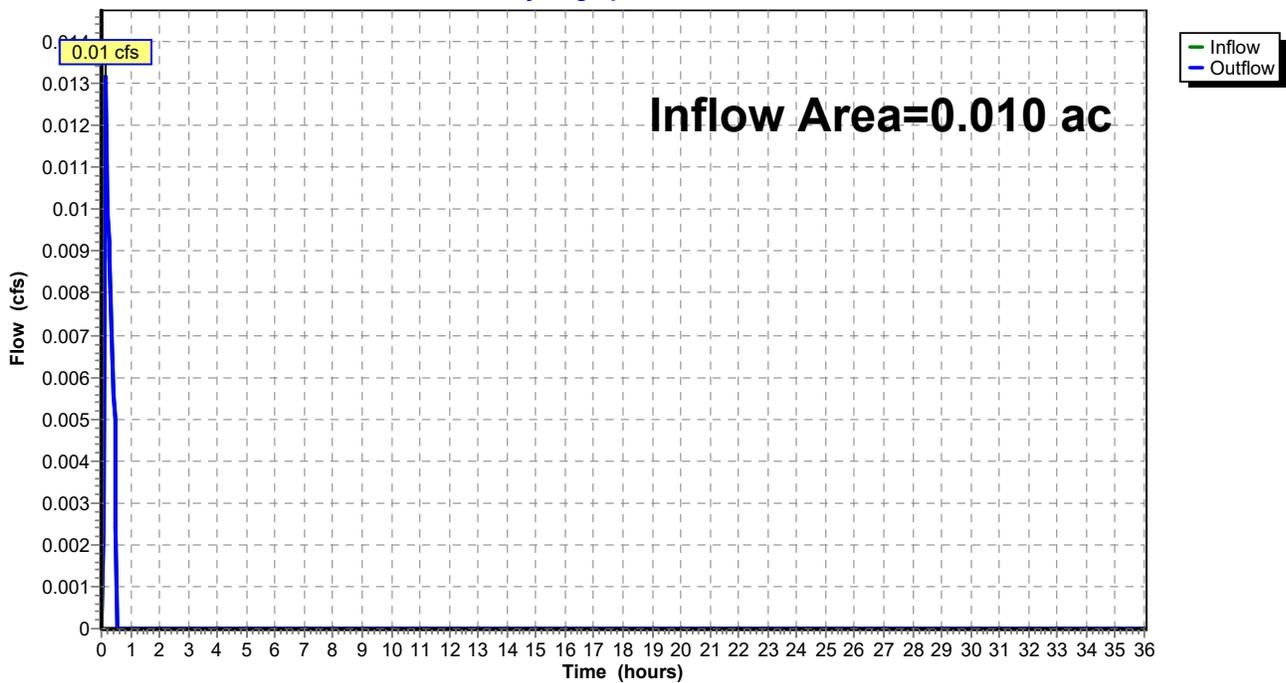
Summary for Reach 15R: (new Reach)

Inflow Area = 0.010 ac, 0.00% Impervious, Inflow Depth = 0.33" for 10-yr, 0.5-hr event
Inflow = 0.01 cfs @ 0.16 hrs, Volume= 0.000 af
Outflow = 0.01 cfs @ 0.16 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 15R: (new Reach)

Hydrograph



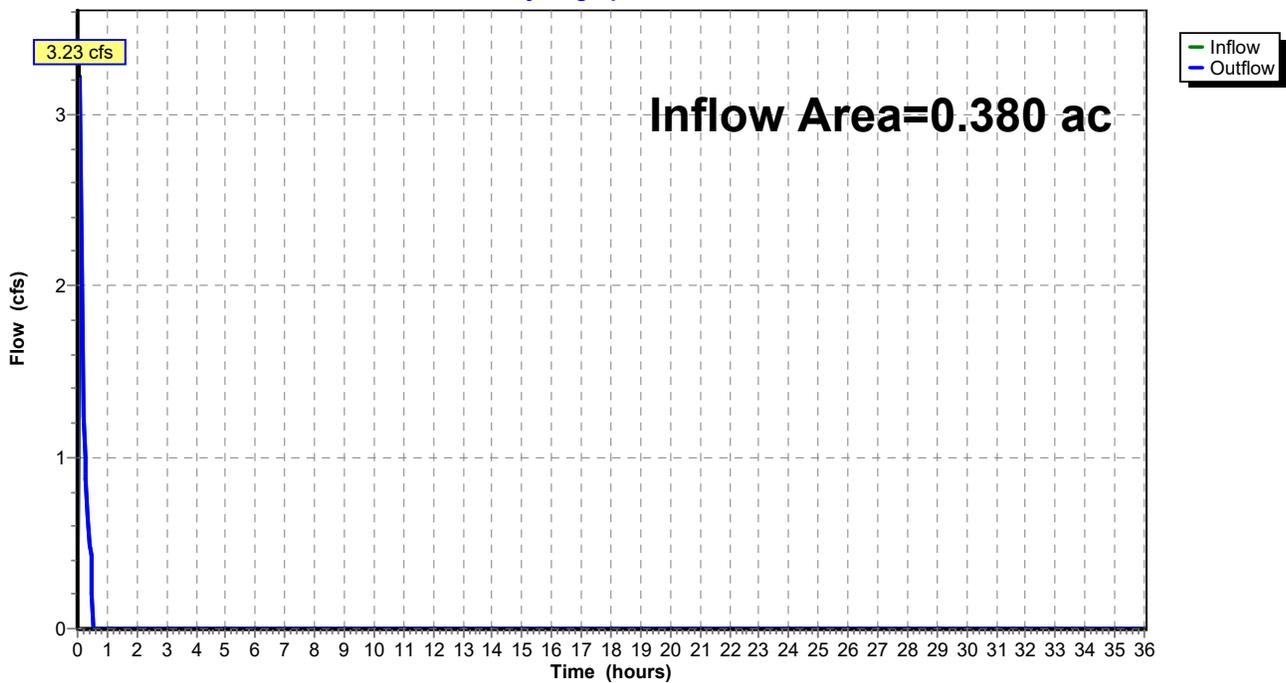
Summary for Reach 16R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 1.72" for 10-yr, 0.5-hr event
Inflow = 3.23 cfs @ 0.09 hrs, Volume= 0.055 af
Outflow = 3.23 cfs @ 0.09 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 16R: (new Reach)

Hydrograph

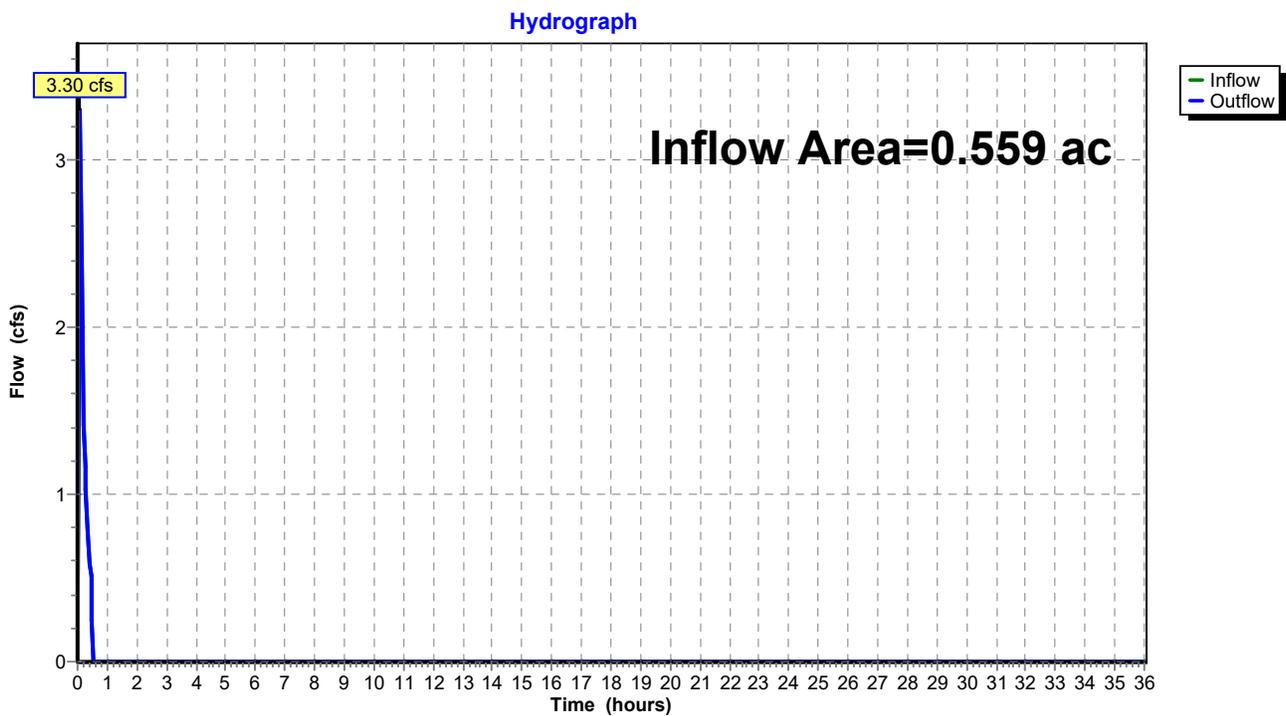


Summary for Reach 33R: PR Bypass

Inflow Area = 0.559 ac, 67.98% Impervious, Inflow Depth = 1.28" for 10-yr, 0.5-hr event
Inflow = 3.30 cfs @ 0.09 hrs, Volume= 0.059 af
Outflow = 3.30 cfs @ 0.09 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 41R : PR Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 33R: PR Bypass



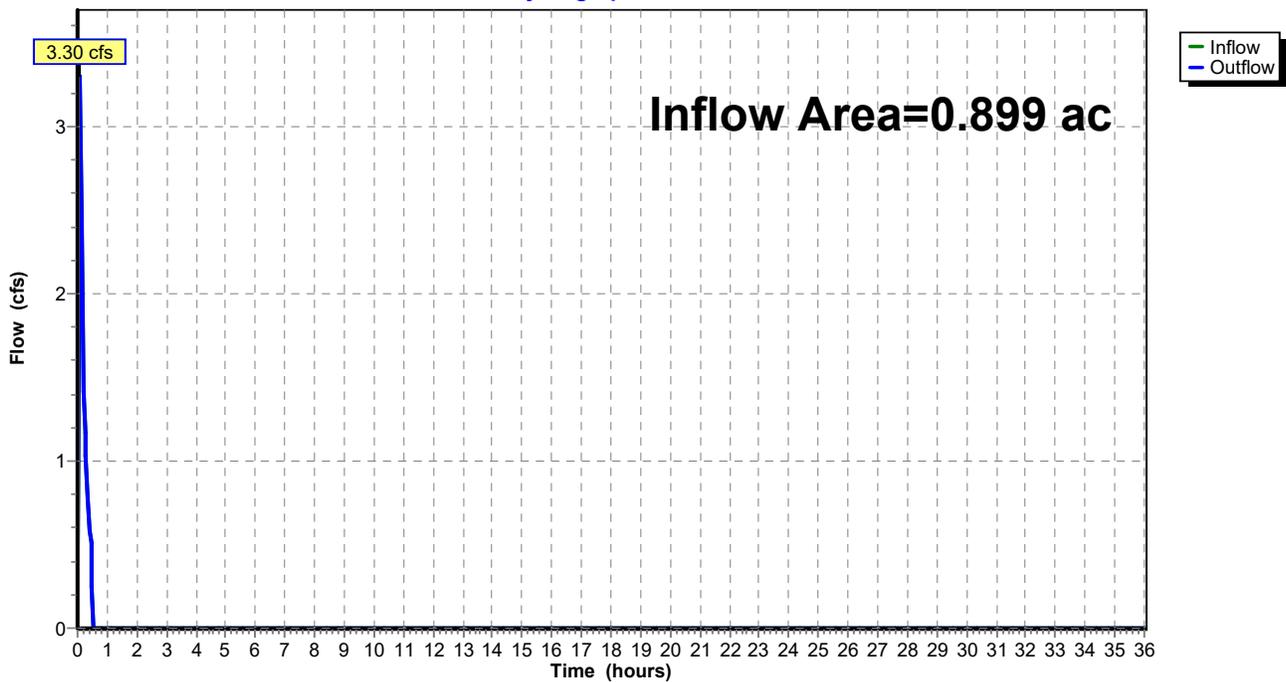
Summary for Reach 41R: PR Total

Inflow Area = 0.899 ac, 71.19% Impervious, Inflow Depth = 0.79" for 10-yr, 0.5-hr event
Inflow = 3.30 cfs @ 0.09 hrs, Volume= 0.059 af
Outflow = 3.30 cfs @ 0.09 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 41R: PR Total

Hydrograph



Bulletin 75_SW District_Hy Huff B75 0-10sm 1Q scaled to 0.50 hrs 10-yr, 0.5-hr Rainfall=1.95"

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Summary for Pond 44P: 4" Underdrain Rock

Inflow Area = 0.340 ac, 76.47% Impervious, Inflow Depth = 1.19" for 10-yr, 0.5-hr event
 Inflow = 2.00 cfs @ 0.11 hrs, Volume= 0.034 af
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 41R : PR Total

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 557.18' @ 0.55 hrs Surf.Area= 1,354 sf Storage= 1,471 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description	
#1	553.50'	4,098 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
553.50	560	0.0	0	0
556.00	560	40.0	560	560
556.50	908	40.0	147	707
557.00	1,222	100.0	533	1,239
558.00	1,955	100.0	1,589	2,828
558.55	2,663	100.0	1,270	4,098

Device	Routing	Invert	Outlet Devices
#1	Primary	555.00'	12.0" Round Culvert L= 105.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 555.00' / 554.00' S= 0.0095 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	557.90'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.50 Width (feet) 4.00 4.00

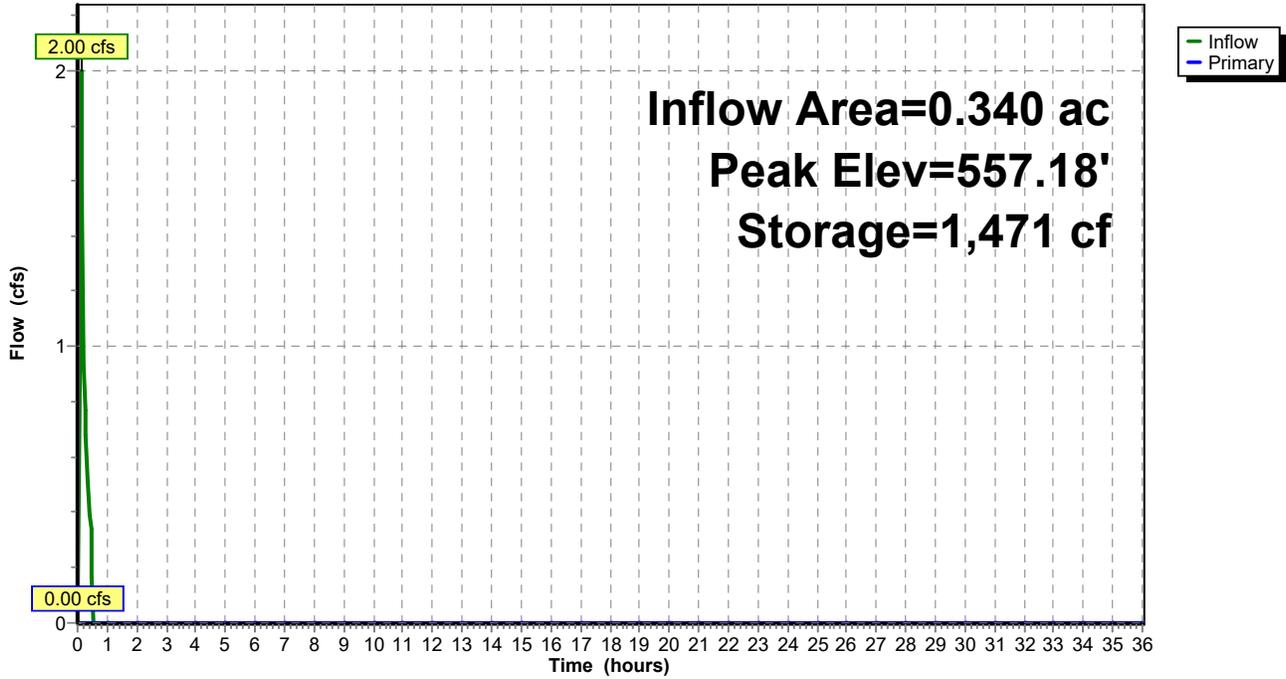
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=553.50' (Free Discharge)

↑1=Culvert (Controls 0.00 cfs)

↑2=Custom Weir/Orifice (Controls 0.00 cfs)

Pond 44P: 4" Underdrain Rock

Hydrograph



Stage-Area-Storage for Pond 44P: 4" Underdrain Rock

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
553.50	560	0	556.05	595	572
553.55	560	11	556.10	630	584
553.60	560	22	556.15	664	597
553.65	560	34	556.20	699	610
553.70	560	45	556.25	734	625
553.75	560	56	556.30	769	640
553.80	560	67	556.35	804	655
553.85	560	78	556.40	838	672
553.90	560	90	556.45	873	689
553.95	560	101	556.50	908	707
554.00	560	112	556.55	939	753
554.05	560	123	556.60	971	801
554.10	560	134	556.65	1,002	850
554.15	560	146	556.70	1,034	901
554.20	560	157	556.75	1,065	953
554.25	560	168	556.80	1,096	1,007
554.30	560	179	556.85	1,128	1,063
554.35	560	190	556.90	1,159	1,120
554.40	560	202	556.95	1,191	1,179
554.45	560	213	557.00	1,222	1,239
554.50	560	224	557.05	1,259	1,301
554.55	560	235	557.10	1,295	1,365
554.60	560	246	557.15	1,332	1,431
554.65	560	258	557.20	1,369	1,498
554.70	560	269	557.25	1,405	1,568
554.75	560	280	557.30	1,442	1,639
554.80	560	291	557.35	1,479	1,712
554.85	560	302	557.40	1,515	1,787
554.90	560	314	557.45	1,552	1,863
554.95	560	325	557.50	1,589	1,942
555.00	560	336	557.55	1,625	2,022
555.05	560	347	557.60	1,662	2,104
555.10	560	358	557.65	1,698	2,188
555.15	560	370	557.70	1,735	2,274
555.20	560	381	557.75	1,772	2,362
555.25	560	392	557.80	1,808	2,451
555.30	560	403	557.85	1,845	2,543
555.35	560	414	557.90	1,882	2,636
555.40	560	426	557.95	1,918	2,731
555.45	560	437	558.00	1,955	2,828
555.50	560	448	558.05	2,019	2,927
555.55	560	459	558.10	2,084	3,030
555.60	560	470	558.15	2,148	3,136
555.65	560	482	558.20	2,212	3,245
555.70	560	493	558.25	2,277	3,357
555.75	560	504	558.30	2,341	3,472
555.80	560	515	558.35	2,406	3,591
555.85	560	526	558.40	2,470	3,713
555.90	560	538	558.45	2,534	3,838
555.95	560	549	558.50	2,599	3,966
556.00	560	560	558.55	2,663	4,098

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment9S: PR D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=2.58" Tc=0.0 min CN=74 Runoff=0.04 cfs 0.026 af
Subcatchment11S: PR B	Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=2.58" Tc=0.0 min CN=74 Runoff=0.00 cfs 0.002 af
Subcatchment12S: PR A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=5.03" Tc=0.0 min CN=98 Runoff=0.18 cfs 0.159 af
Subcatchment32S: PR C1	Runoff Area=0.340 ac 76.47% Impervious Runoff Depth=4.35" Tc=0.0 min CN=92 Runoff=0.15 cfs 0.123 af
Subcatchment39S: PR C2 Bypass	Runoff Area=0.049 ac 0.00% Impervious Runoff Depth=2.58" Tc=0.0 min CN=74 Runoff=0.02 cfs 0.011 af
Reach 13R: (new Reach)	Inflow=0.04 cfs 0.026 af Outflow=0.04 cfs 0.026 af
Reach 15R: (new Reach)	Inflow=0.00 cfs 0.002 af Outflow=0.00 cfs 0.002 af
Reach 16R: (new Reach)	Inflow=0.18 cfs 0.159 af Outflow=0.18 cfs 0.159 af
Reach 33R: PR Bypass	Inflow=0.24 cfs 0.198 af Outflow=0.24 cfs 0.198 af
Reach 41R: PR Total	Inflow=0.39 cfs 0.261 af Outflow=0.39 cfs 0.261 af
Pond 44P: 4" Underdrain Rock	Peak Elev=557.95' Storage=2,732 cf Inflow=0.15 cfs 0.123 af Outflow=0.15 cfs 0.063 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.321 af Average Runoff Depth = 4.29"
28.81% Pervious = 0.259 ac 71.19% Impervious = 0.640 ac

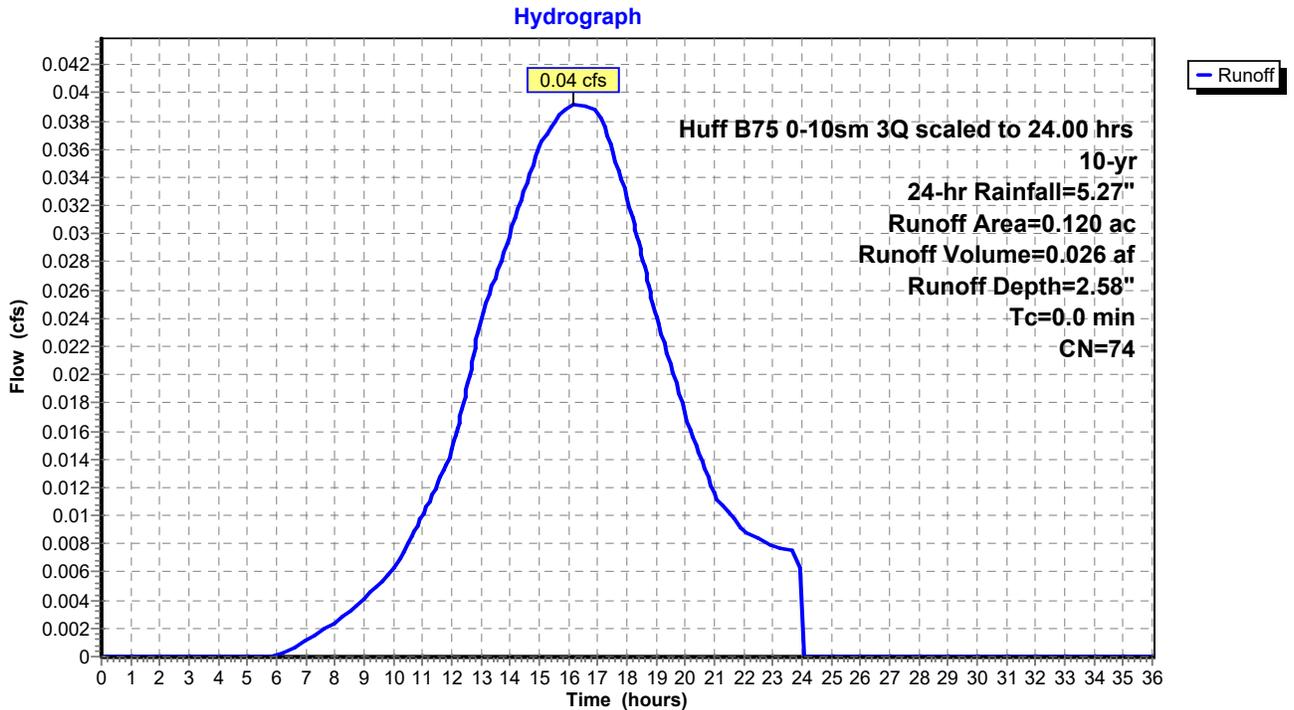
Summary for Subcatchment 9S: PR D

Runoff = 0.04 cfs @ 16.14 hrs, Volume= 0.026 af, Depth= 2.58"
 Routed to Reach 13R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 10-yr, 24-hr Rainfall=5.27"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 9S: PR D



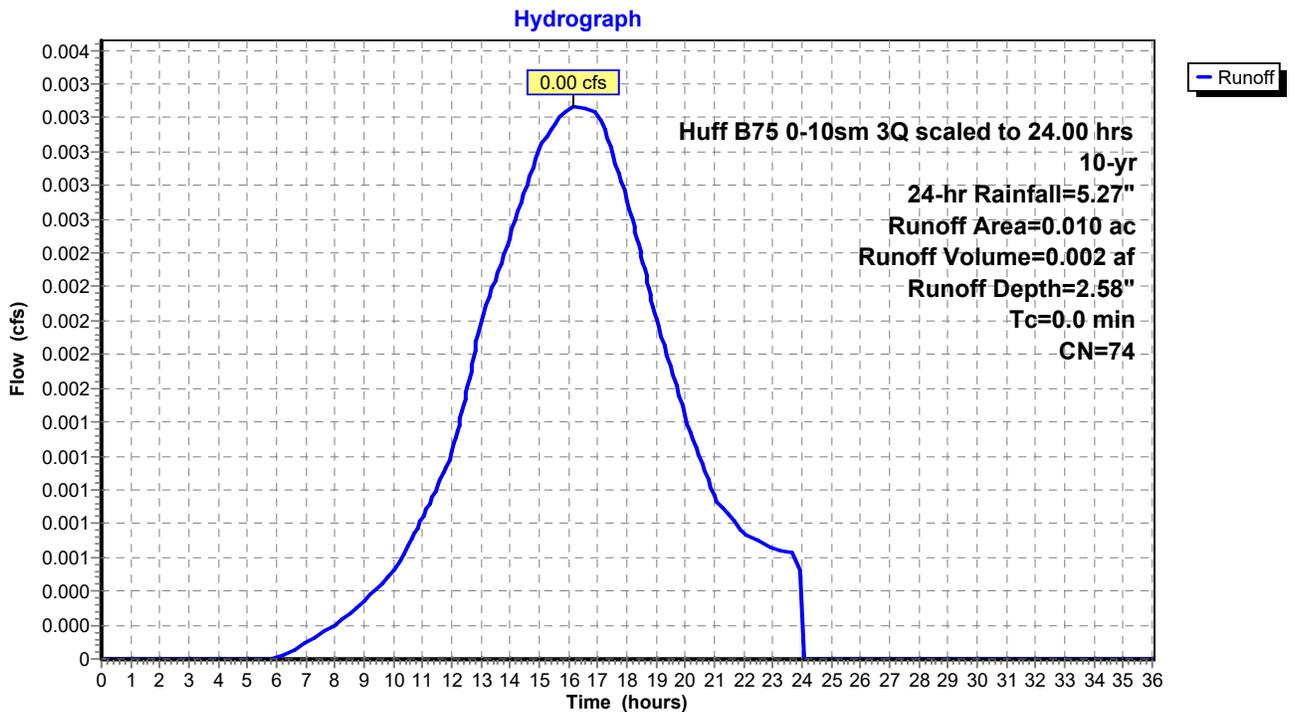
Summary for Subcatchment 11S: PR B

Runoff = 0.00 cfs @ 16.14 hrs, Volume= 0.002 af, Depth= 2.58"
 Routed to Reach 15R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 10-yr, 24-hr Rainfall=5.27"

Area (ac)	CN	Description
0.010	74	>75% Grass cover, Good, HSG C
0.010		100.00% Pervious Area

Subcatchment 11S: PR B



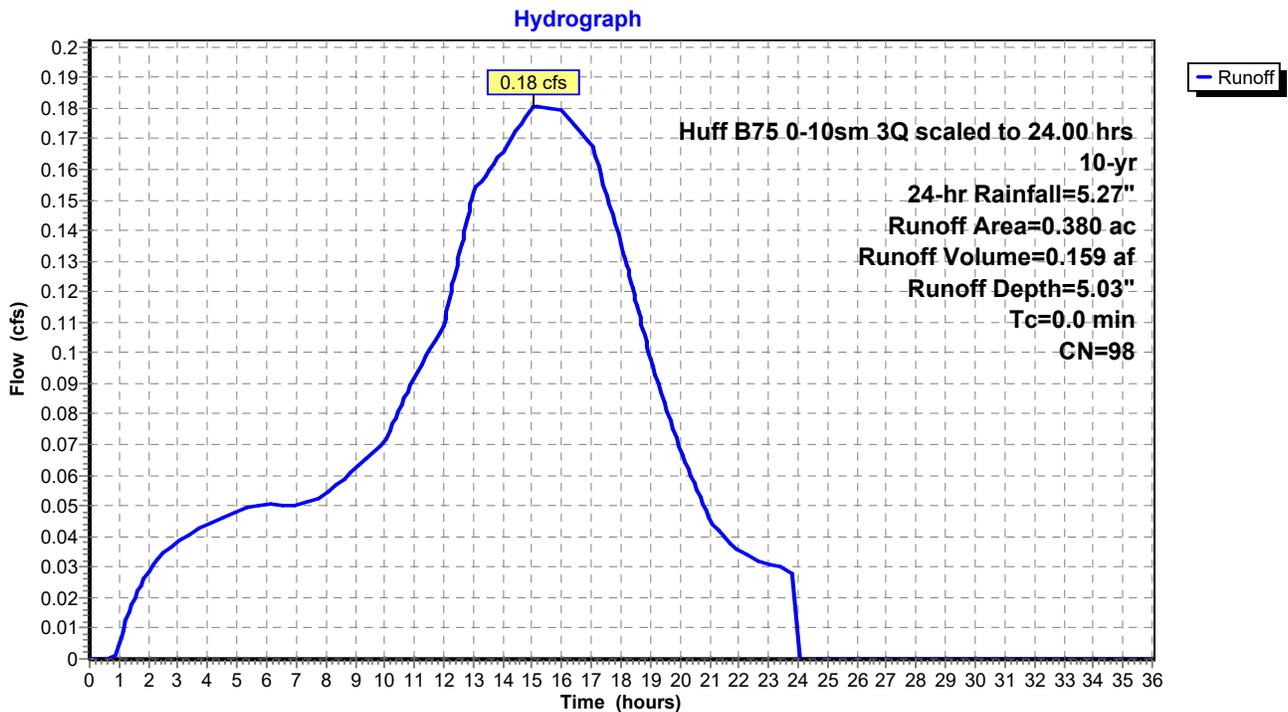
Summary for Subcatchment 12S: PR A

Runoff = 0.18 cfs @ 15.06 hrs, Volume= 0.159 af, Depth= 5.03"
 Routed to Reach 16R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 10-yr, 24-hr Rainfall=5.27"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 12S: PR A



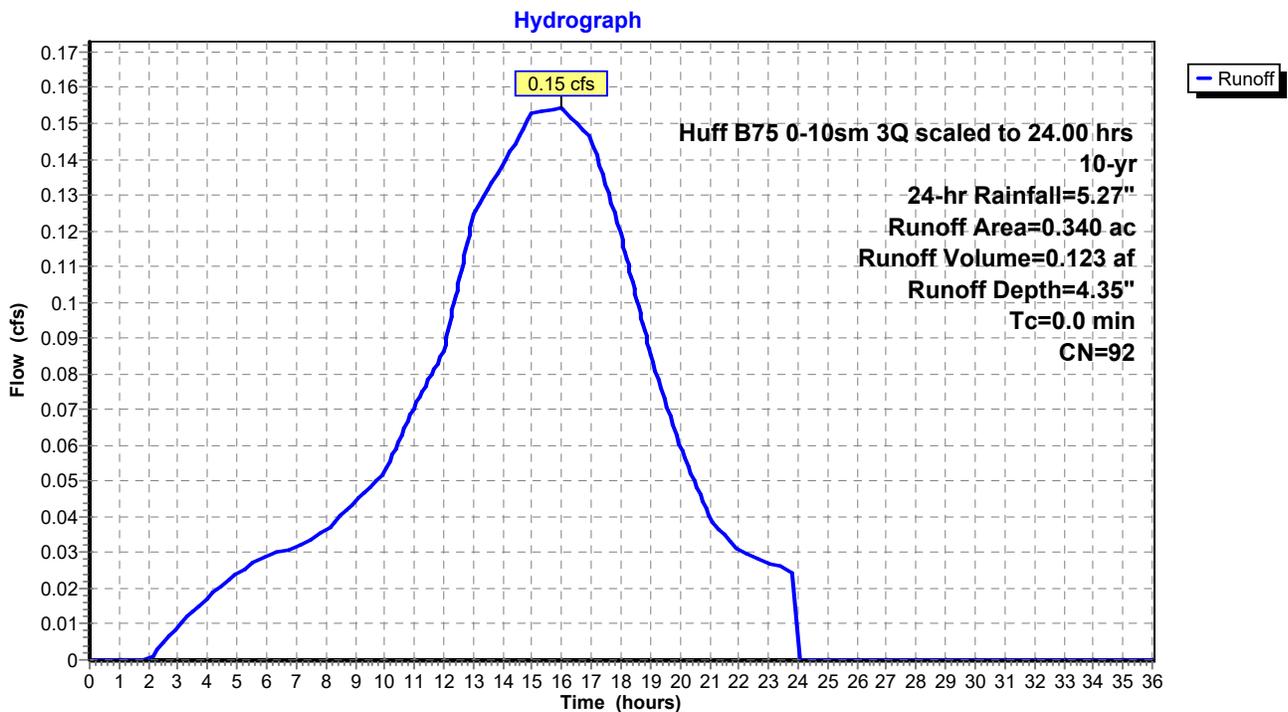
Summary for Subcatchment 32S: PR C1

Runoff = 0.15 cfs @ 15.96 hrs, Volume= 0.123 af, Depth= 4.35"
 Routed to Pond 44P : 4" Underdrain Rock

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 10-yr, 24-hr Rainfall=5.27"

Area (ac)	CN	Description
0.260	98	Paved parking, HSG C
0.080	74	>75% Grass cover, Good, HSG C
0.000	96	Gravel surface, HSG C
0.340	92	Weighted Average
0.080		23.53% Pervious Area
0.260		76.47% Impervious Area

Subcatchment 32S: PR C1



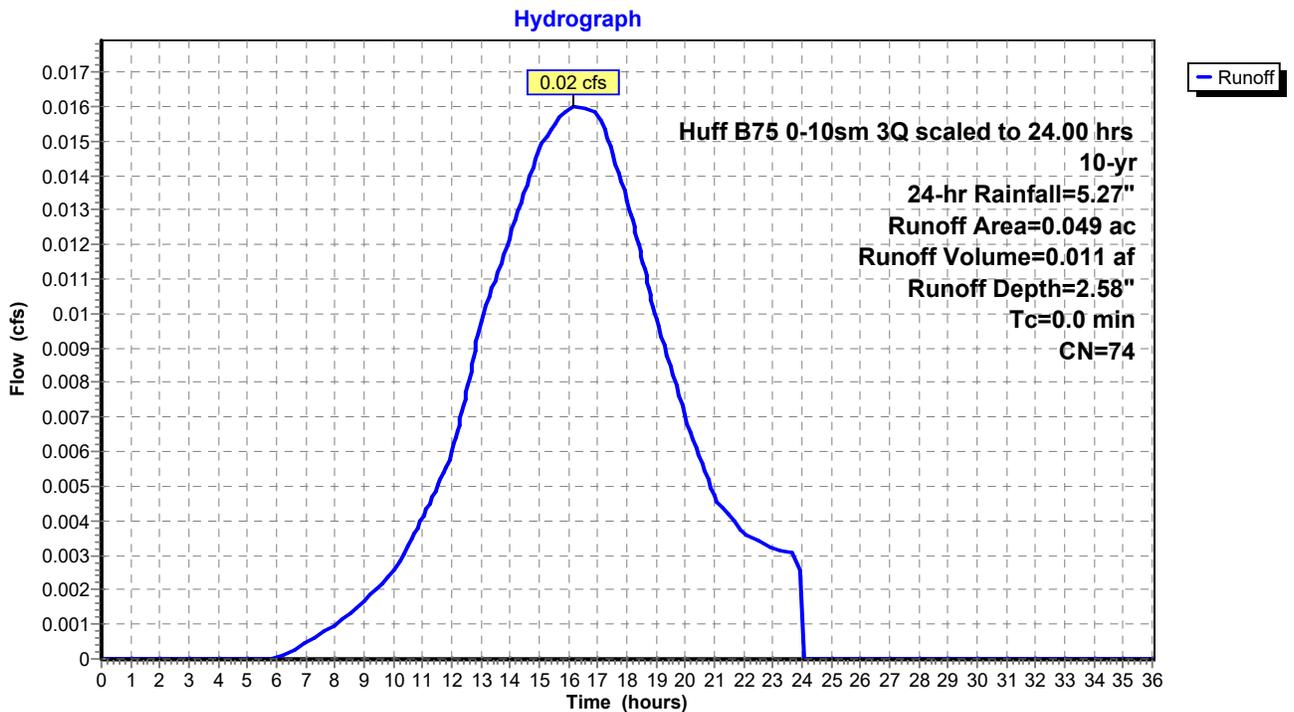
Summary for Subcatchment 39S: PR C2 Bypass

Runoff = 0.02 cfs @ 16.14 hrs, Volume= 0.011 af, Depth= 2.58"
 Routed to Reach 33R : PR Bypass

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 10-yr, 24-hr Rainfall=5.27"

Area (ac)	CN	Description
0.049	74	>75% Grass cover, Good, HSG C
0.049		100.00% Pervious Area

Subcatchment 39S: PR C2 Bypass

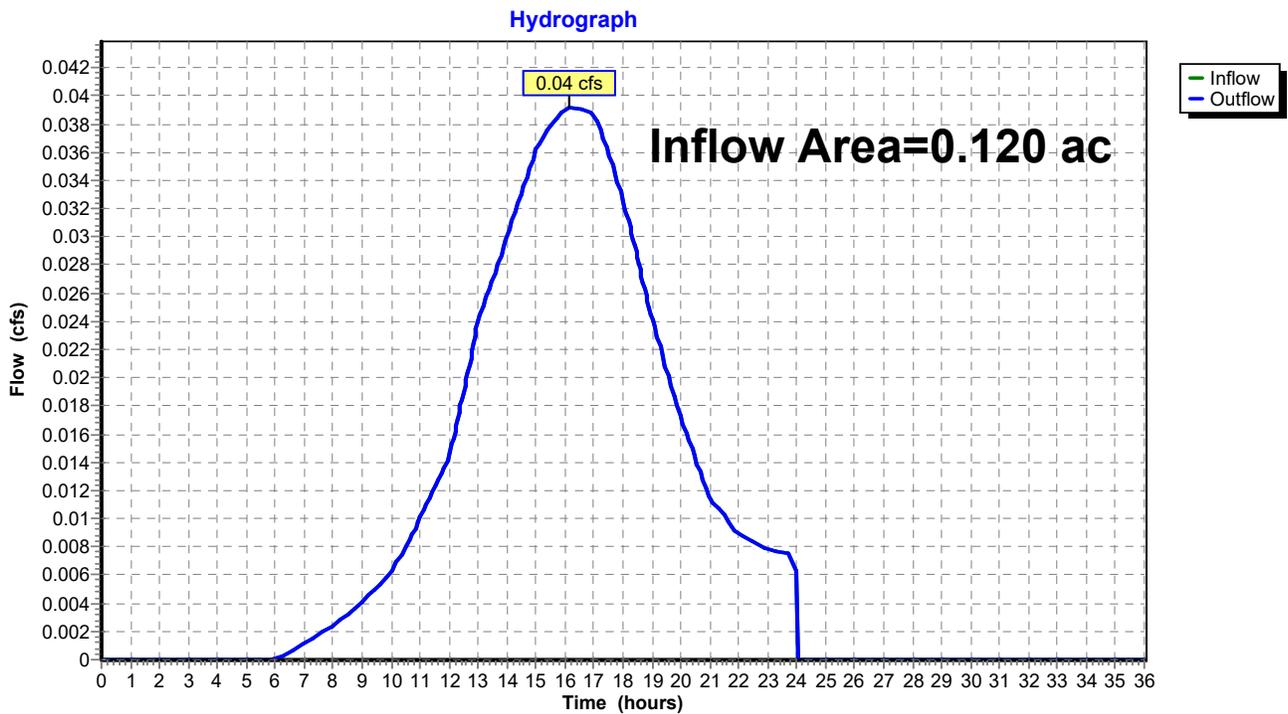


Summary for Reach 13R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 2.58" for 10-yr, 24-hr event
 Inflow = 0.04 cfs @ 16.14 hrs, Volume= 0.026 af
 Outflow = 0.04 cfs @ 16.14 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 13R: (new Reach)

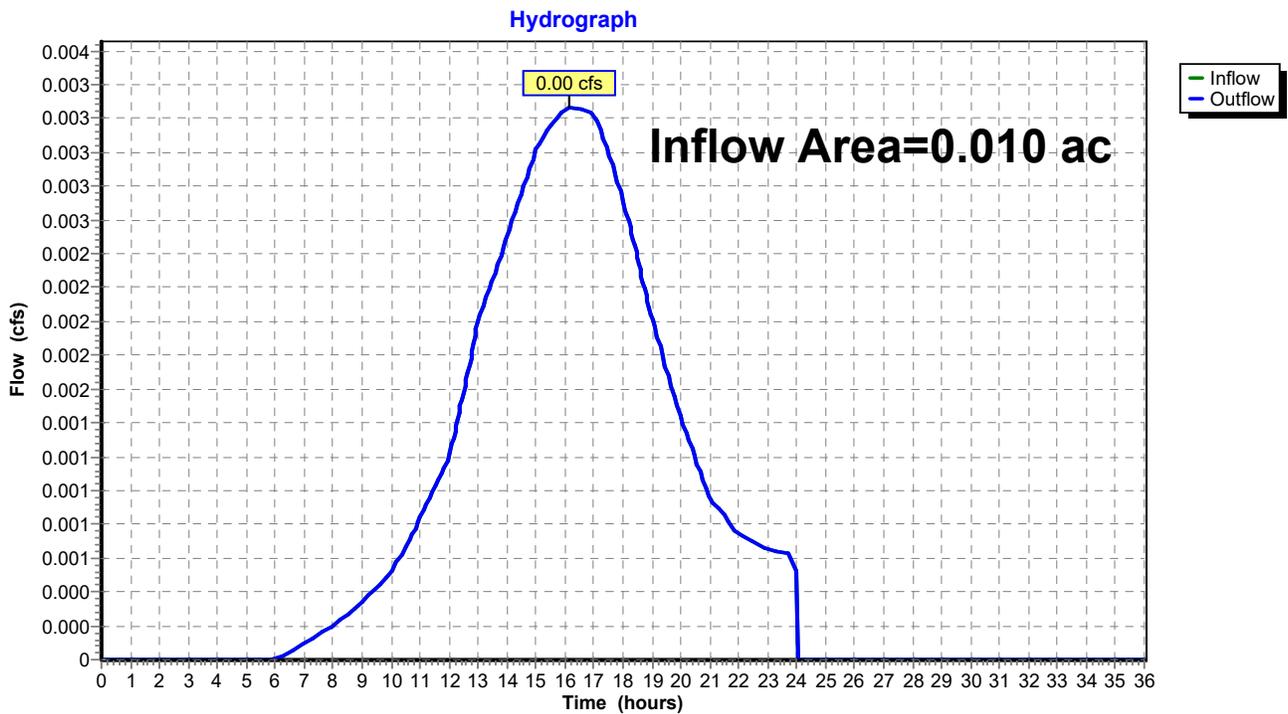


Summary for Reach 15R: (new Reach)

Inflow Area = 0.010 ac, 0.00% Impervious, Inflow Depth = 2.58" for 10-yr, 24-hr event
 Inflow = 0.00 cfs @ 16.14 hrs, Volume= 0.002 af
 Outflow = 0.00 cfs @ 16.14 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 15R: (new Reach)

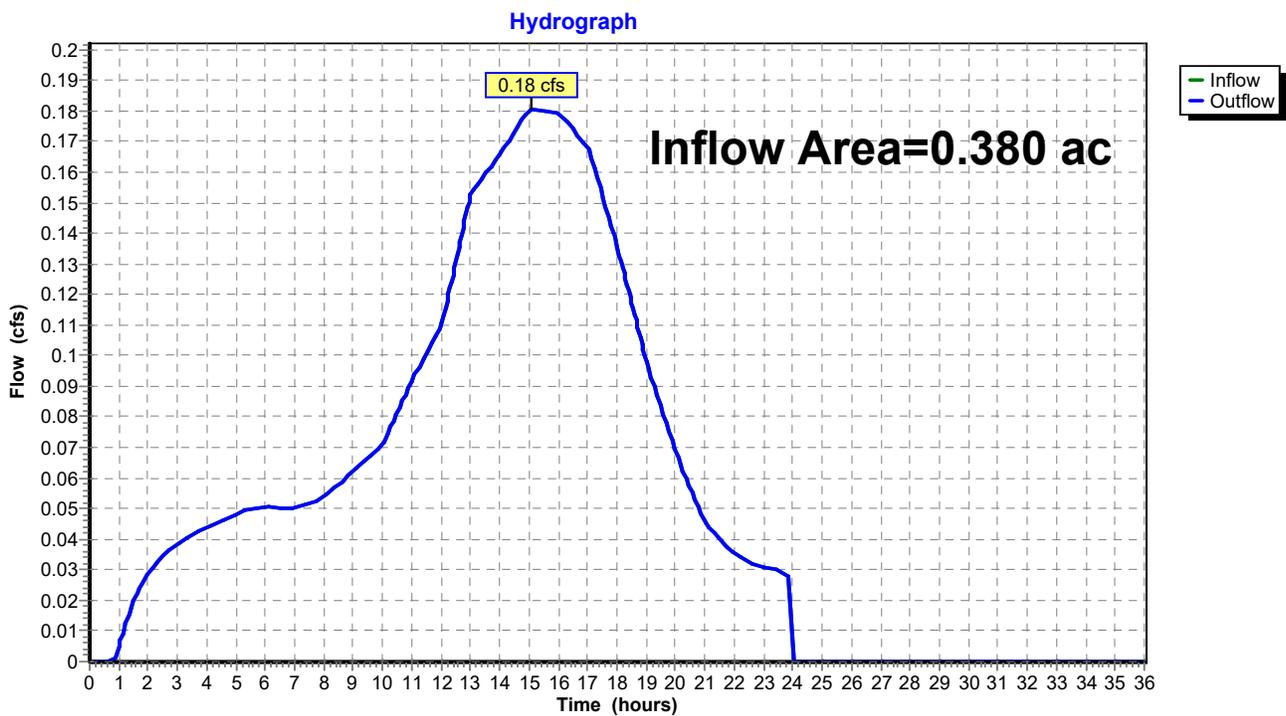


Summary for Reach 16R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 5.03" for 10-yr, 24-hr event
 Inflow = 0.18 cfs @ 15.06 hrs, Volume= 0.159 af
 Outflow = 0.18 cfs @ 15.06 hrs, Volume= 0.159 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 16R: (new Reach)

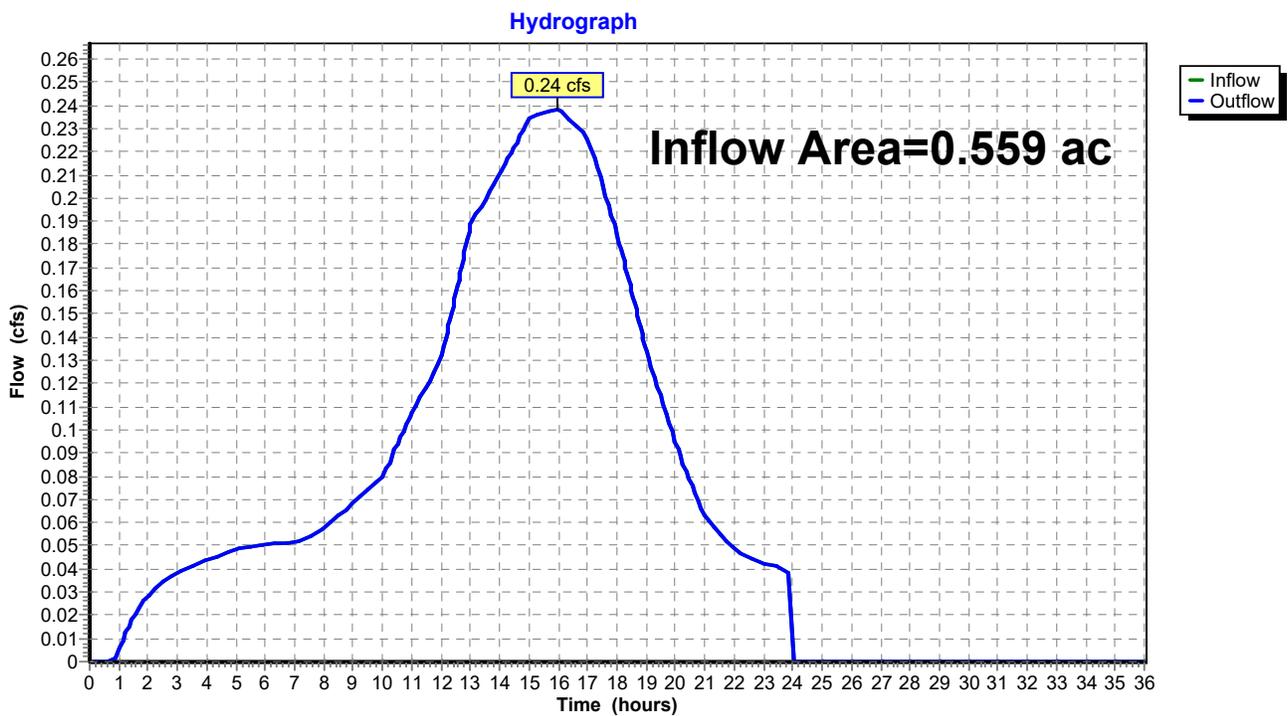


Summary for Reach 33R: PR Bypass

Inflow Area = 0.559 ac, 67.98% Impervious, Inflow Depth = 4.25" for 10-yr, 24-hr event
 Inflow = 0.24 cfs @ 15.98 hrs, Volume= 0.198 af
 Outflow = 0.24 cfs @ 15.98 hrs, Volume= 0.198 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 41R : PR Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 33R: PR Bypass

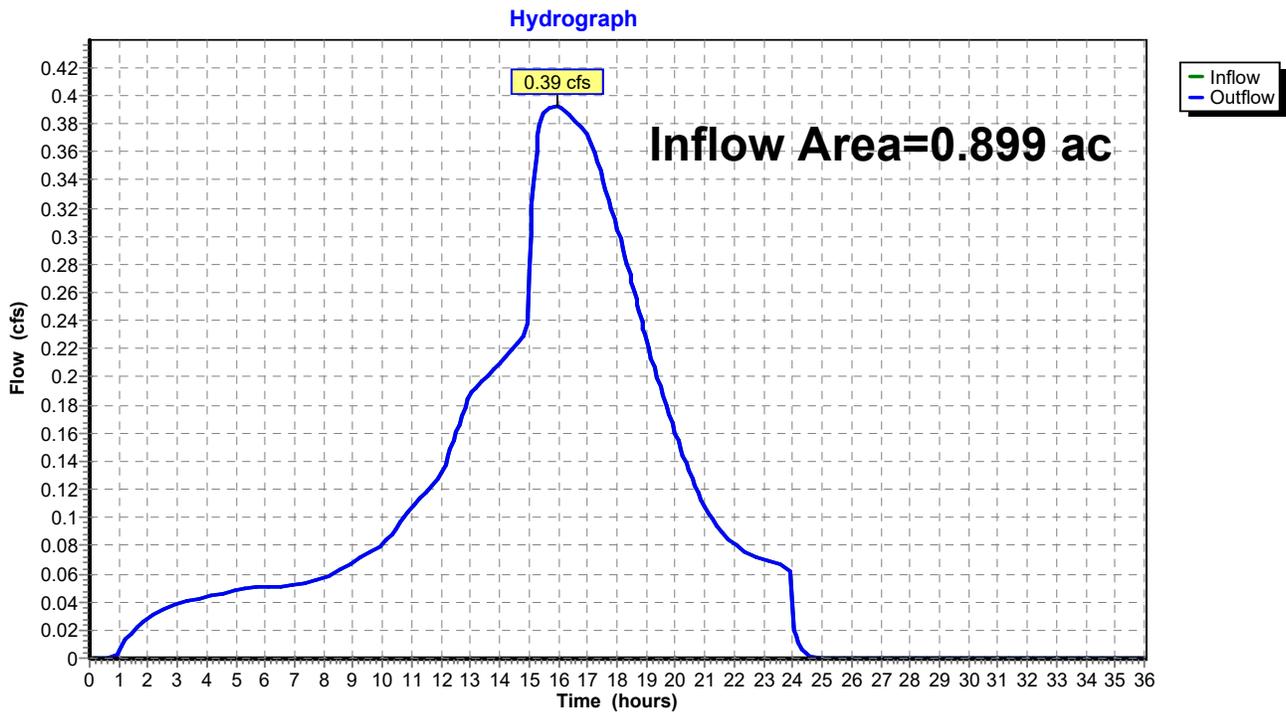


Summary for Reach 41R: PR Total

Inflow Area = 0.899 ac, 71.19% Impervious, Inflow Depth = 3.48" for 10-yr, 24-hr event
Inflow = 0.39 cfs @ 15.98 hrs, Volume= 0.261 af
Outflow = 0.39 cfs @ 15.98 hrs, Volume= 0.261 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 41R: PR Total



Summary for Pond 44P: 4" Underdrain Rock

Inflow Area = 0.340 ac, 76.47% Impervious, Inflow Depth = 4.35" for 10-yr, 24-hr event
 Inflow = 0.15 cfs @ 15.96 hrs, Volume= 0.123 af
 Outflow = 0.15 cfs @ 16.00 hrs, Volume= 0.063 af, Atten= 0%, Lag= 2.2 min
 Primary = 0.15 cfs @ 16.00 hrs, Volume= 0.063 af
 Routed to Reach 41R : PR Total

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 557.95' @ 16.00 hrs Surf.Area= 1,919 sf Storage= 2,732 cf

Plug-Flow detention time= 409.3 min calculated for 0.063 af (51% of inflow)
 Center-of-Mass det. time= 210.7 min (1,088.3 - 877.6)

Volume	Invert	Avail.Storage	Storage Description	
#1	553.50'	4,098 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
553.50	560	0.0	0	0
556.00	560	40.0	560	560
556.50	908	40.0	147	707
557.00	1,222	100.0	533	1,239
558.00	1,955	100.0	1,589	2,828
558.55	2,663	100.0	1,270	4,098

Device	Routing	Invert	Outlet Devices
#1	Primary	555.00'	12.0" Round Culvert L= 105.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 555.00' / 554.00' S= 0.0095 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	557.90'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.50 Width (feet) 4.00 4.00

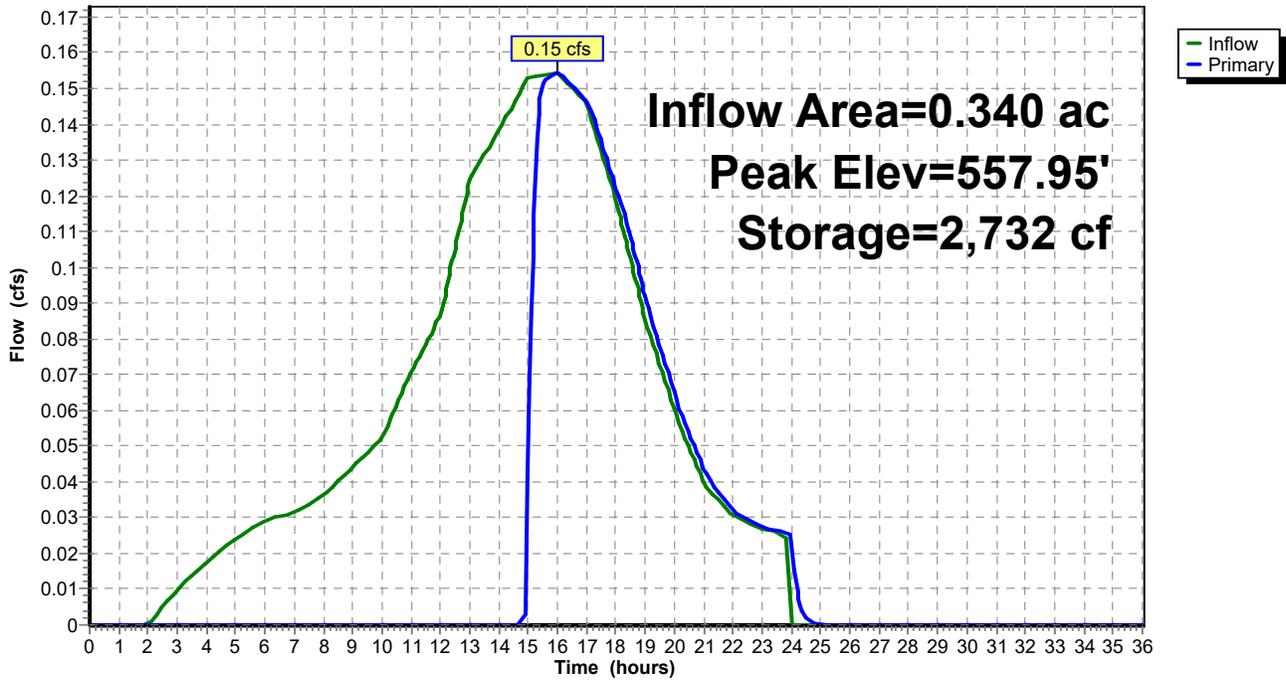
Primary OutFlow Max=0.15 cfs @ 16.00 hrs HW=557.95' (Free Discharge)

↑1=Culvert (Passes 0.15 cfs of 5.74 cfs potential flow)

↑2=Custom Weir/Orifice (Weir Controls 0.15 cfs @ 0.74 fps)

Pond 44P: 4" Underdrain Rock

Hydrograph



Stage-Area-Storage for Pond 44P: 4" Underdrain Rock

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
553.50	560	0	556.05	595	572
553.55	560	11	556.10	630	584
553.60	560	22	556.15	664	597
553.65	560	34	556.20	699	610
553.70	560	45	556.25	734	625
553.75	560	56	556.30	769	640
553.80	560	67	556.35	804	655
553.85	560	78	556.40	838	672
553.90	560	90	556.45	873	689
553.95	560	101	556.50	908	707
554.00	560	112	556.55	939	753
554.05	560	123	556.60	971	801
554.10	560	134	556.65	1,002	850
554.15	560	146	556.70	1,034	901
554.20	560	157	556.75	1,065	953
554.25	560	168	556.80	1,096	1,007
554.30	560	179	556.85	1,128	1,063
554.35	560	190	556.90	1,159	1,120
554.40	560	202	556.95	1,191	1,179
554.45	560	213	557.00	1,222	1,239
554.50	560	224	557.05	1,259	1,301
554.55	560	235	557.10	1,295	1,365
554.60	560	246	557.15	1,332	1,431
554.65	560	258	557.20	1,369	1,498
554.70	560	269	557.25	1,405	1,568
554.75	560	280	557.30	1,442	1,639
554.80	560	291	557.35	1,479	1,712
554.85	560	302	557.40	1,515	1,787
554.90	560	314	557.45	1,552	1,863
554.95	560	325	557.50	1,589	1,942
555.00	560	336	557.55	1,625	2,022
555.05	560	347	557.60	1,662	2,104
555.10	560	358	557.65	1,698	2,188
555.15	560	370	557.70	1,735	2,274
555.20	560	381	557.75	1,772	2,362
555.25	560	392	557.80	1,808	2,451
555.30	560	403	557.85	1,845	2,543
555.35	560	414	557.90	1,882	2,636
555.40	560	426	557.95	1,918	2,731
555.45	560	437	558.00	1,955	2,828
555.50	560	448	558.05	2,019	2,927
555.55	560	459	558.10	2,084	3,030
555.60	560	470	558.15	2,148	3,136
555.65	560	482	558.20	2,212	3,245
555.70	560	493	558.25	2,277	3,357
555.75	560	504	558.30	2,341	3,472
555.80	560	515	558.35	2,406	3,591
555.85	560	526	558.40	2,470	3,713
555.90	560	538	558.45	2,534	3,838
555.95	560	549	558.50	2,599	3,966
556.00	560	560	558.55	2,663	4,098

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment9S: PR D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=0.88" Tc=0.0 min CN=74 Runoff=0.44 cfs 0.009 af
Subcatchment11S: PR B	Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=0.88" Tc=0.0 min CN=74 Runoff=0.04 cfs 0.001 af
Subcatchment12S: PR A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=2.72" Tc=0.0 min CN=98 Runoff=5.07 cfs 0.086 af
Subcatchment32S: PR C1	Runoff Area=0.340 ac 76.47% Impervious Runoff Depth=2.11" Tc=0.0 min CN=92 Runoff=3.58 cfs 0.060 af
Subcatchment39S: PR C2 Bypass	Runoff Area=0.049 ac 0.00% Impervious Runoff Depth=0.88" Tc=0.0 min CN=74 Runoff=0.18 cfs 0.004 af
Reach 13R: (new Reach)	Inflow=0.44 cfs 0.009 af Outflow=0.44 cfs 0.009 af
Reach 15R: (new Reach)	Inflow=0.04 cfs 0.001 af Outflow=0.04 cfs 0.001 af
Reach 16R: (new Reach)	Inflow=5.07 cfs 0.086 af Outflow=5.07 cfs 0.086 af
Reach 33R: PR Bypass	Inflow=5.52 cfs 0.099 af Outflow=5.52 cfs 0.099 af
Reach 41R: PR Total	Inflow=5.52 cfs 0.099 af Outflow=5.52 cfs 0.099 af
Pond 44P: 4" Underdrain Rock	Peak Elev=557.89' Storage=2,609 cf Inflow=3.58 cfs 0.060 af Outflow=0.00 cfs 0.000 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.159 af Average Runoff Depth = 2.12"
28.81% Pervious = 0.259 ac 71.19% Impervious = 0.640 ac

Summary for Subcatchment 9S: PR D

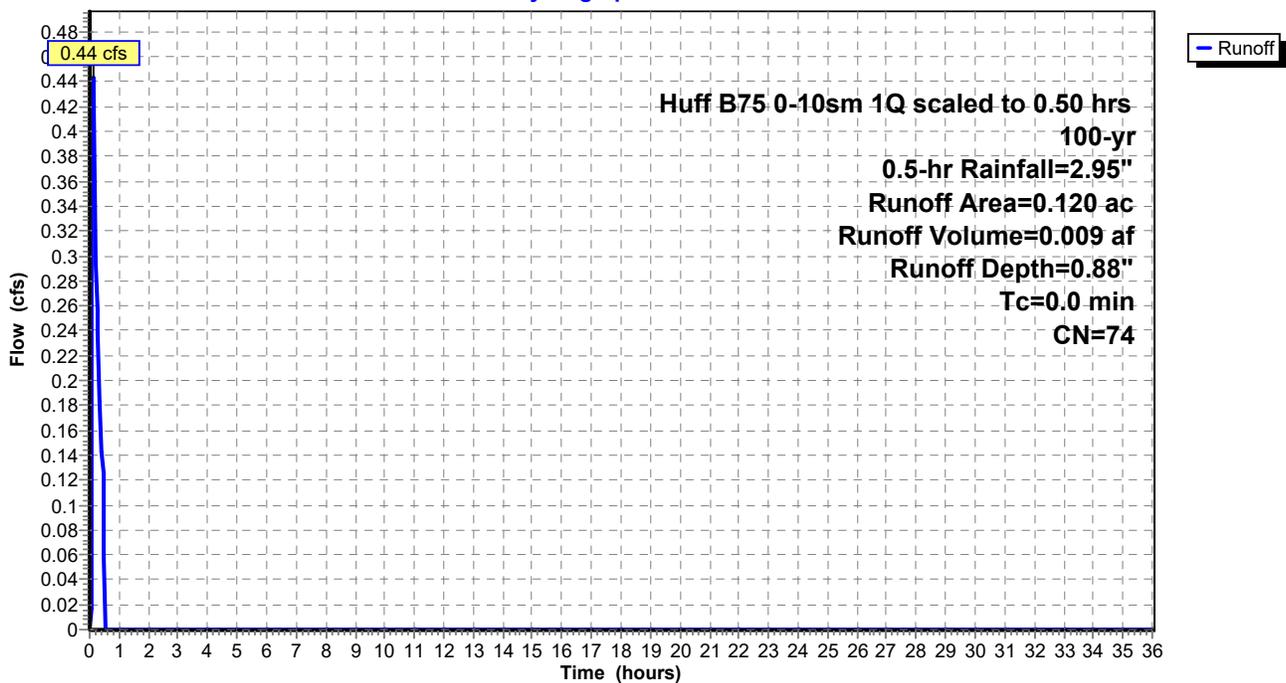
Runoff = 0.44 cfs @ 0.14 hrs, Volume= 0.009 af, Depth= 0.88"
 Routed to Reach 13R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 100-yr, 0.5-hr Rainfall=2.95"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 9S: PR D

Hydrograph



Summary for Subcatchment 11S: PR B

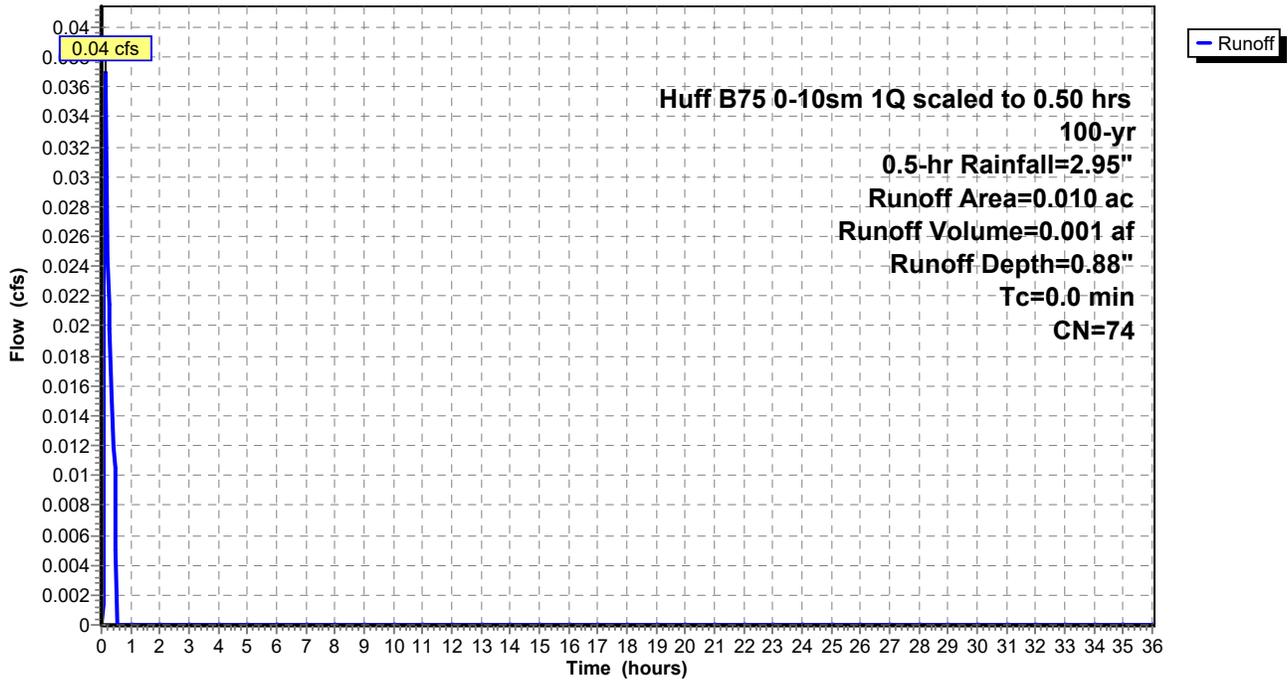
Runoff = 0.04 cfs @ 0.14 hrs, Volume= 0.001 af, Depth= 0.88"
 Routed to Reach 15R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 100-yr, 0.5-hr Rainfall=2.95"

Area (ac)	CN	Description
0.010	74	>75% Grass cover, Good, HSG C
0.010		100.00% Pervious Area

Subcatchment 11S: PR B

Hydrograph



Summary for Subcatchment 12S: PR A

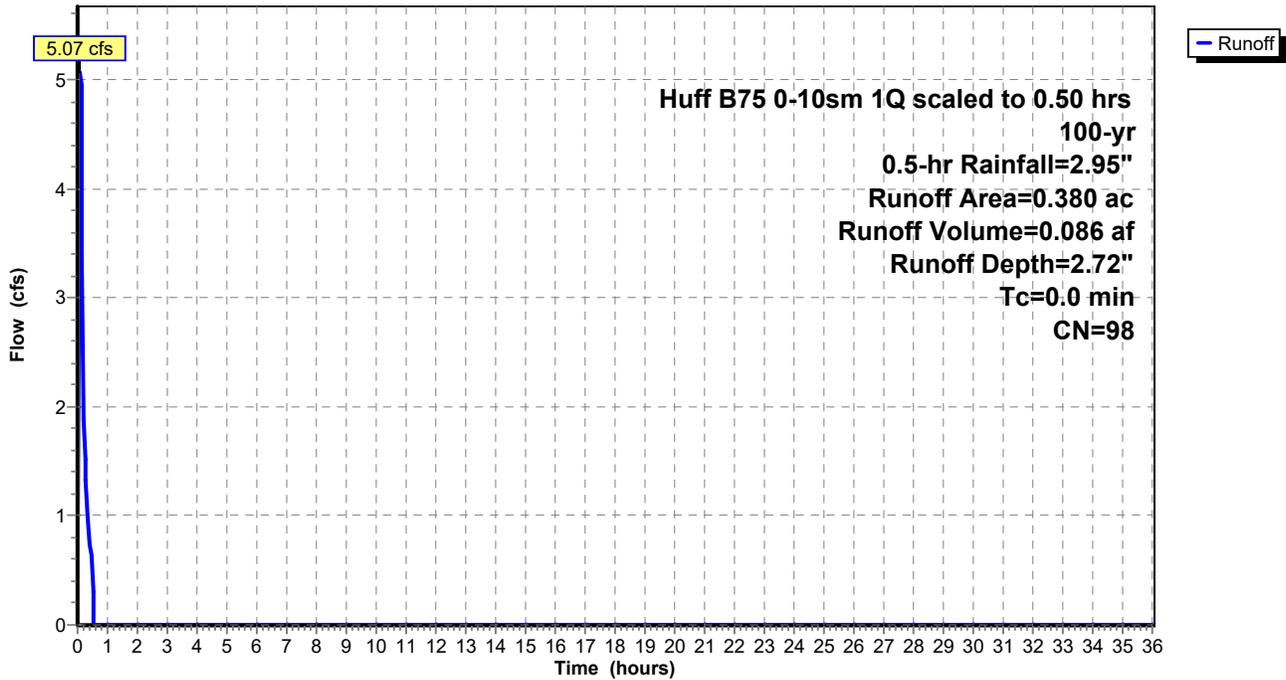
Runoff = 5.07 cfs @ 0.08 hrs, Volume= 0.086 af, Depth= 2.72"
 Routed to Reach 16R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 100-yr, 0.5-hr Rainfall=2.95"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 12S: PR A

Hydrograph



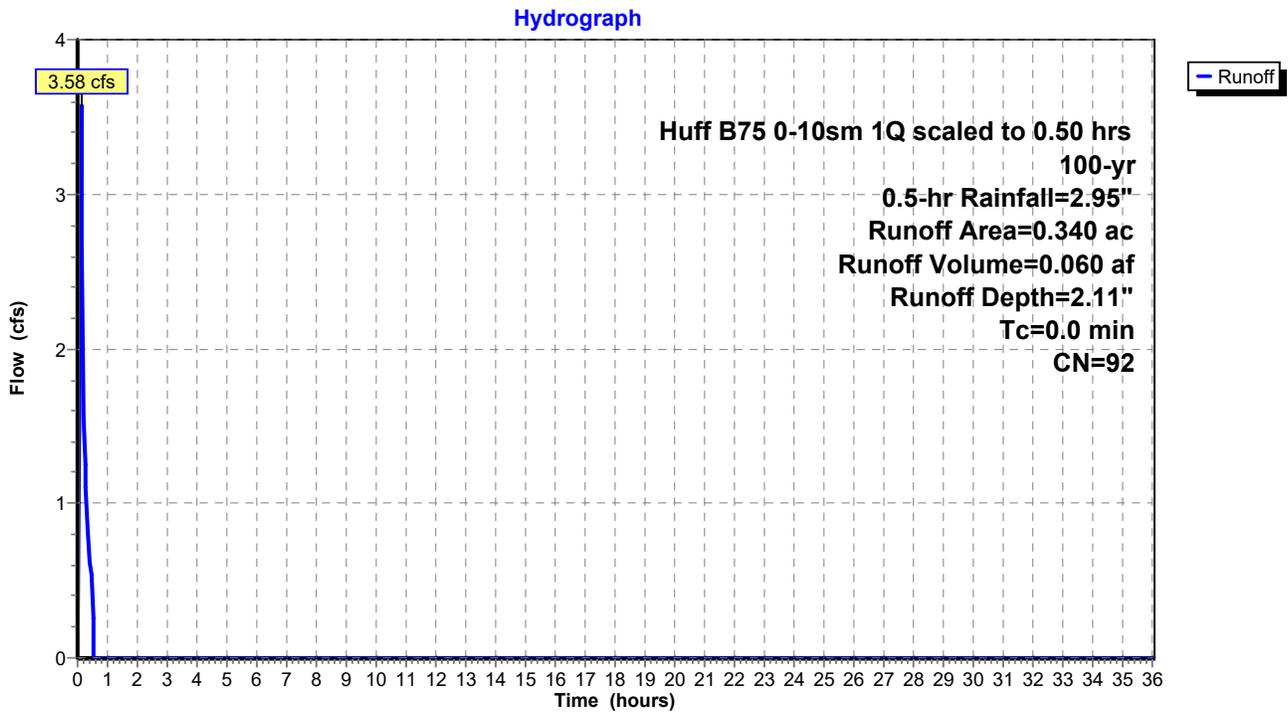
Summary for Subcatchment 32S: PR C1

Runoff = 3.58 cfs @ 0.11 hrs, Volume= 0.060 af, Depth= 2.11"
 Routed to Pond 44P : 4" Underdrain Rock

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 100-yr, 0.5-hr Rainfall=2.95"

Area (ac)	CN	Description
0.260	98	Paved parking, HSG C
0.080	74	>75% Grass cover, Good, HSG C
0.000	96	Gravel surface, HSG C
0.340	92	Weighted Average
0.080		23.53% Pervious Area
0.260		76.47% Impervious Area

Subcatchment 32S: PR C1



Summary for Subcatchment 39S: PR C2 Bypass

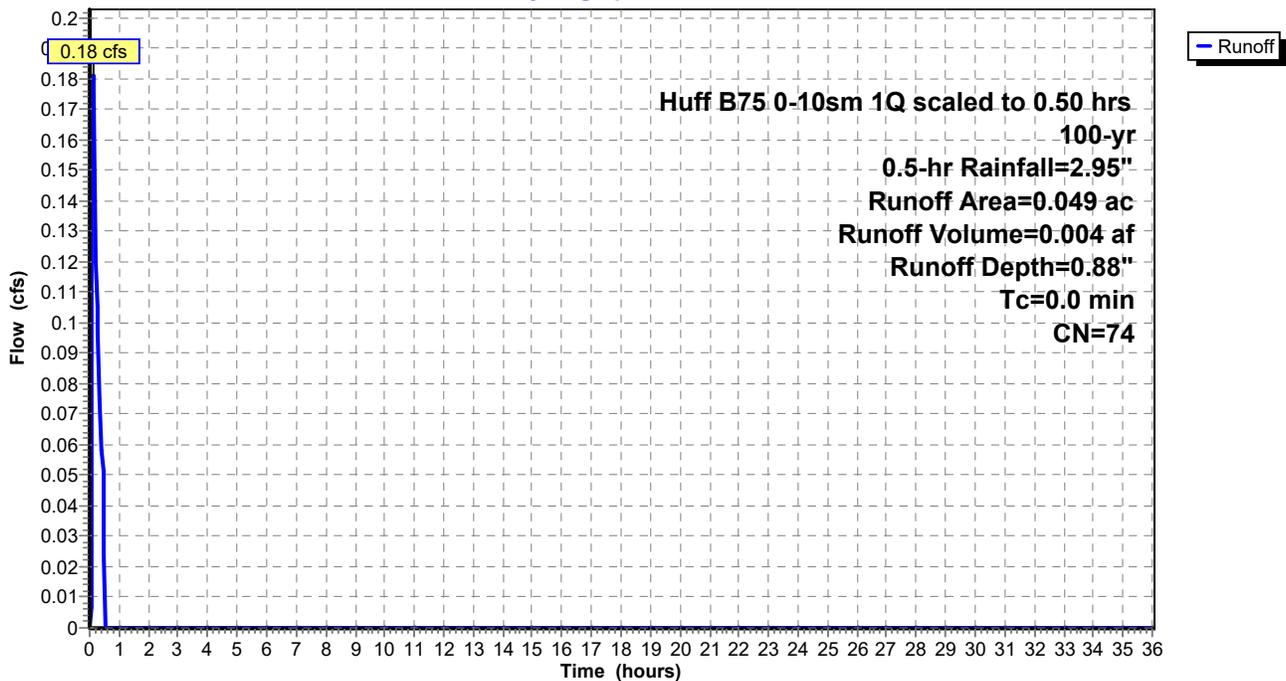
Runoff = 0.18 cfs @ 0.14 hrs, Volume= 0.004 af, Depth= 0.88"
 Routed to Reach 33R : PR Bypass

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 1Q scaled to 0.50 hrs 100-yr, 0.5-hr Rainfall=2.95"

Area (ac)	CN	Description
0.049	74	>75% Grass cover, Good, HSG C
0.049		100.00% Pervious Area

Subcatchment 39S: PR C2 Bypass

Hydrograph



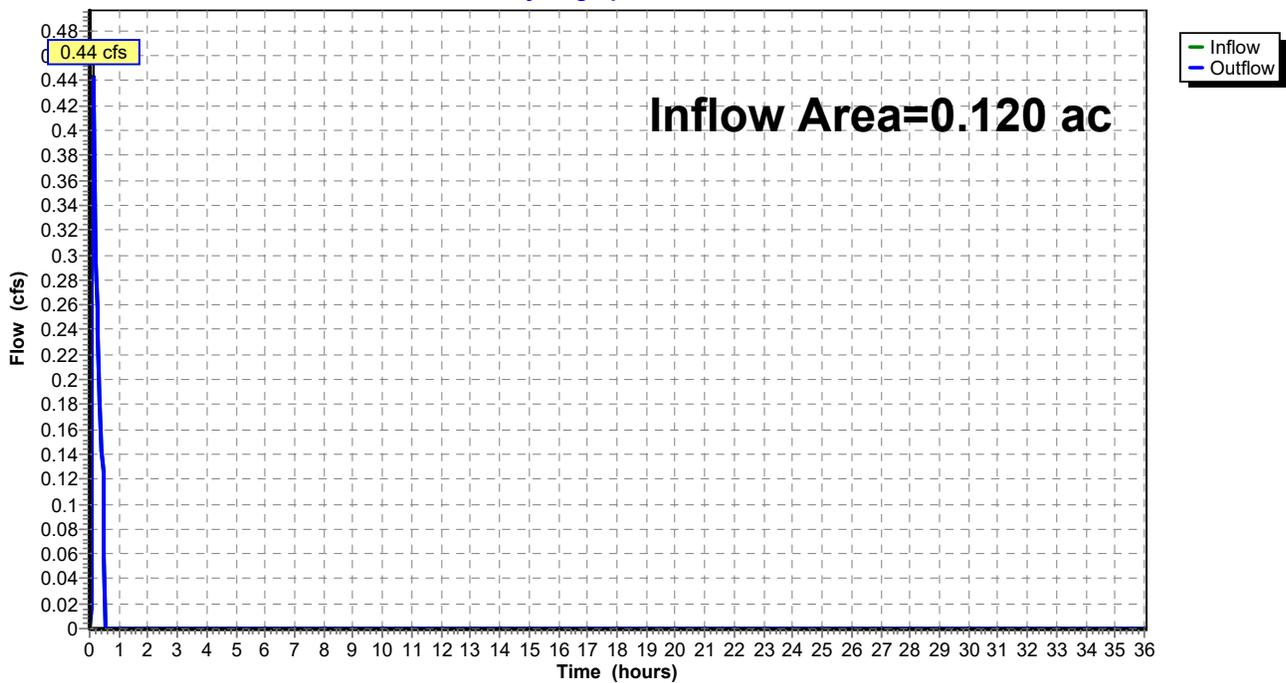
Summary for Reach 13R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 0.88" for 100-yr, 0.5-hr event
 Inflow = 0.44 cfs @ 0.14 hrs, Volume= 0.009 af
 Outflow = 0.44 cfs @ 0.14 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 13R: (new Reach)

Hydrograph



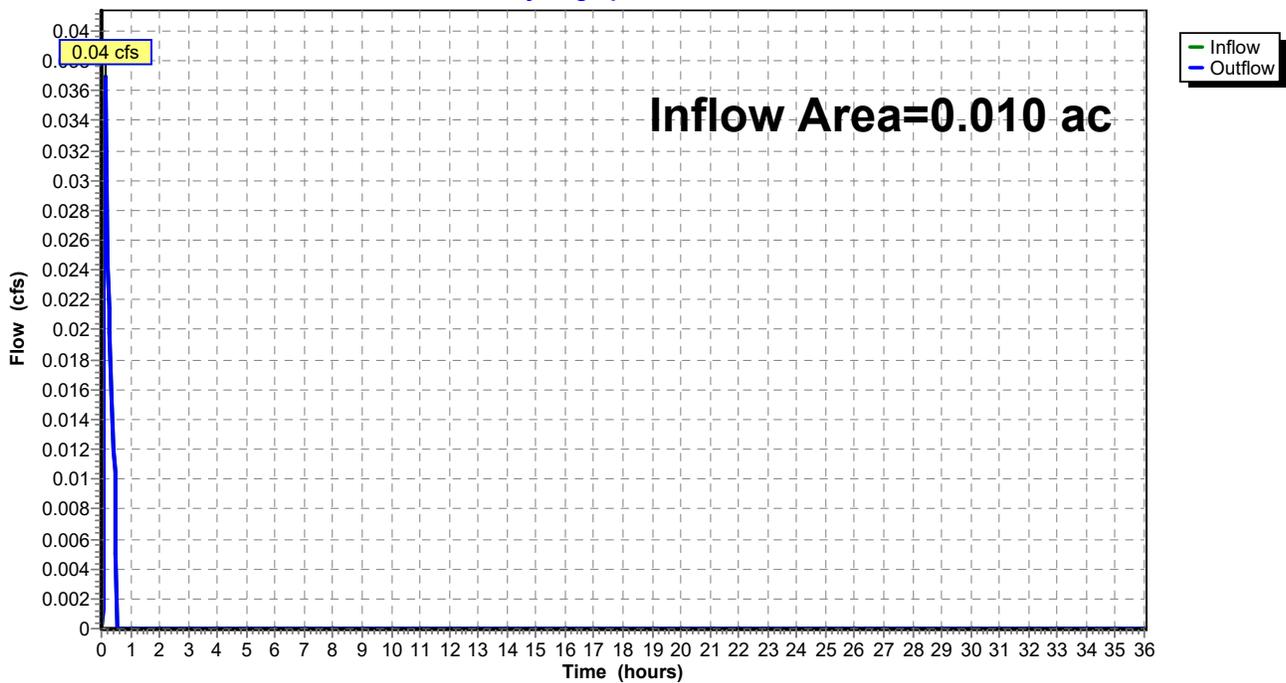
Summary for Reach 15R: (new Reach)

Inflow Area = 0.010 ac, 0.00% Impervious, Inflow Depth = 0.88" for 100-yr, 0.5-hr event
 Inflow = 0.04 cfs @ 0.14 hrs, Volume= 0.001 af
 Outflow = 0.04 cfs @ 0.14 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 15R: (new Reach)

Hydrograph



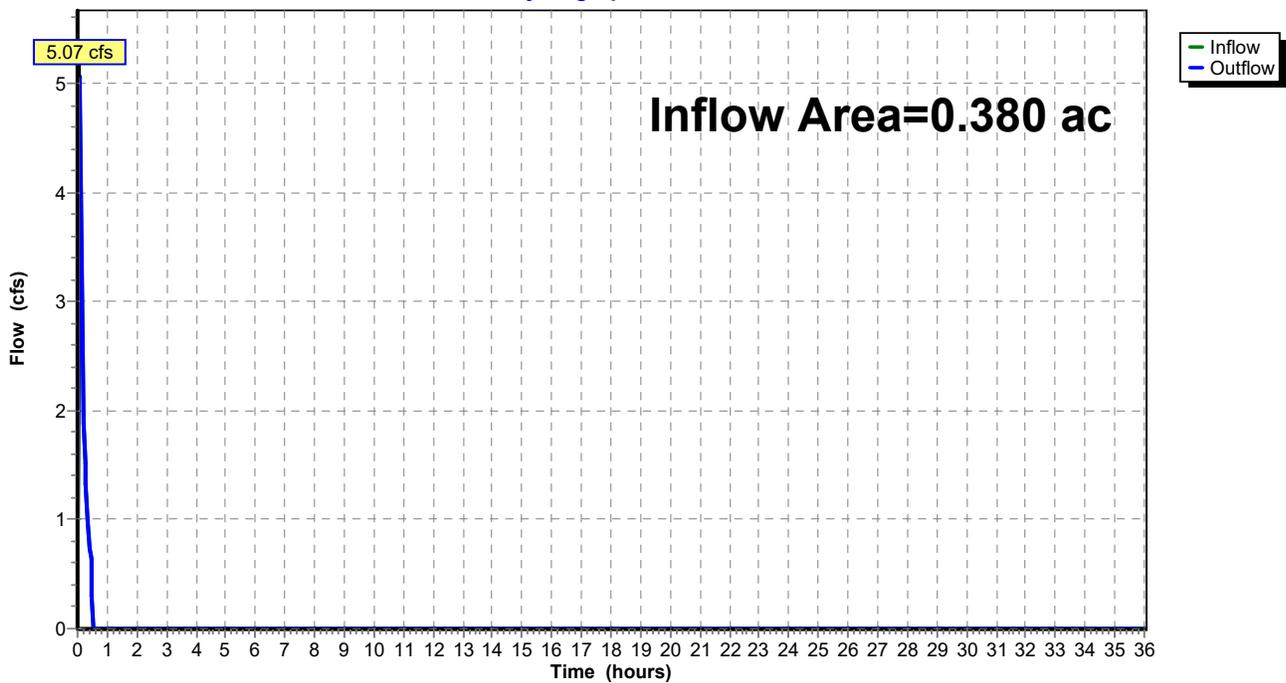
Summary for Reach 16R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 2.72" for 100-yr, 0.5-hr event
 Inflow = 5.07 cfs @ 0.08 hrs, Volume= 0.086 af
 Outflow = 5.07 cfs @ 0.08 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 16R: (new Reach)

Hydrograph



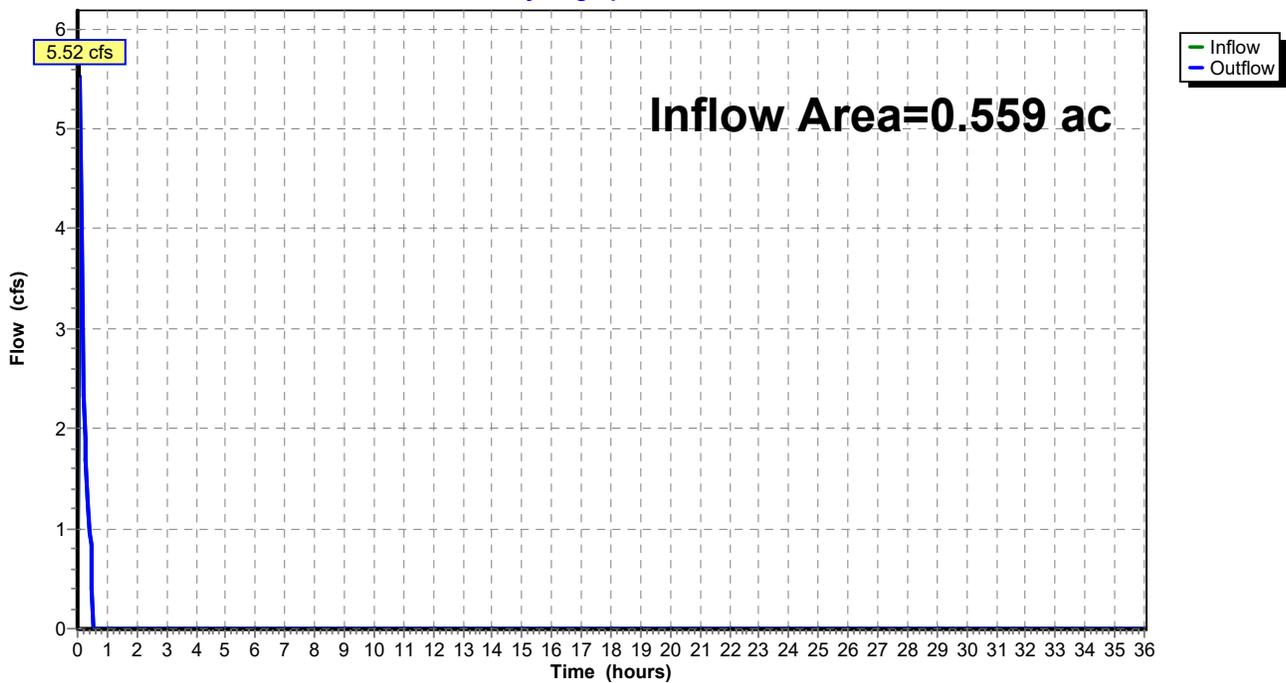
Summary for Reach 33R: PR Bypass

Inflow Area = 0.559 ac, 67.98% Impervious, Inflow Depth = 2.13" for 100-yr, 0.5-hr event
 Inflow = 5.52 cfs @ 0.09 hrs, Volume= 0.099 af
 Outflow = 5.52 cfs @ 0.09 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 41R : PR Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 33R: PR Bypass

Hydrograph



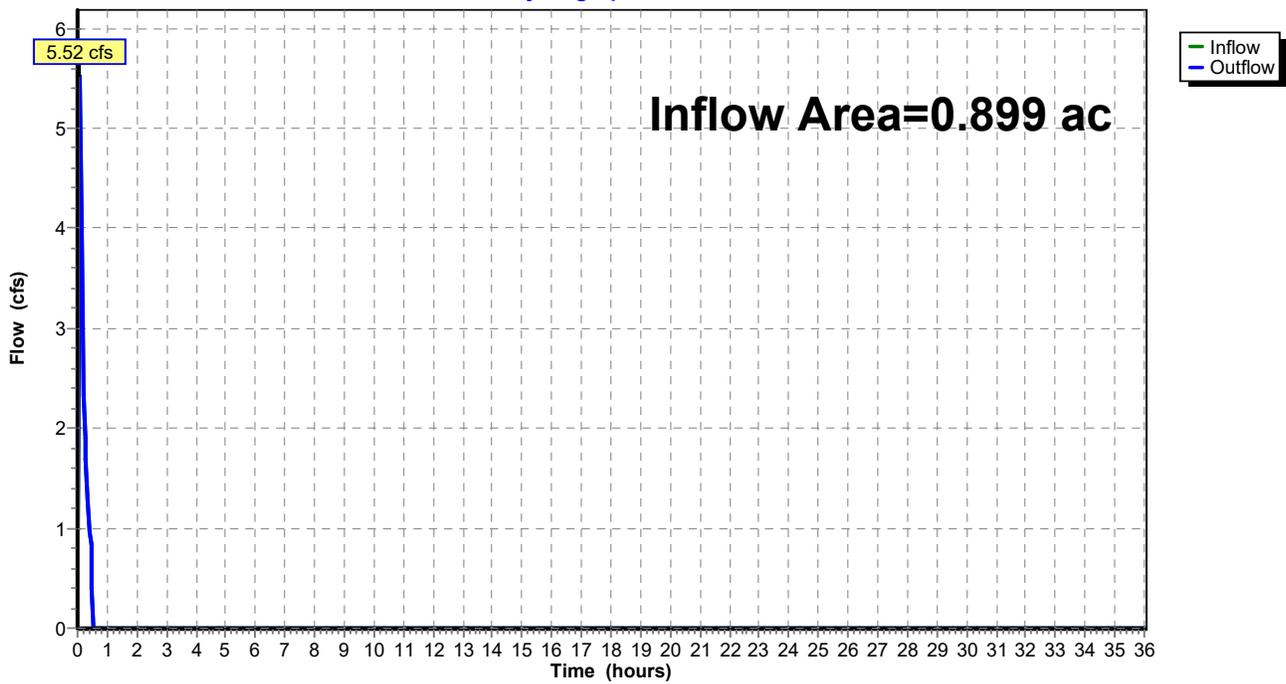
Summary for Reach 41R: PR Total

Inflow Area = 0.899 ac, 71.19% Impervious, Inflow Depth = 1.32" for 100-yr, 0.5-hr event
 Inflow = 5.52 cfs @ 0.09 hrs, Volume= 0.099 af
 Outflow = 5.52 cfs @ 0.09 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 41R: PR Total

Hydrograph



Summary for Pond 44P: 4" Underdrain Rock

Inflow Area = 0.340 ac, 76.47% Impervious, Inflow Depth = 2.11" for 100-yr, 0.5-hr event
 Inflow = 3.58 cfs @ 0.11 hrs, Volume= 0.060 af
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach 41R : PR Total

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 557.89' @ 0.55 hrs Surf.Area= 1,871 sf Storage= 2,609 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description	
#1	553.50'	4,098 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
553.50	560	0.0	0	0
556.00	560	40.0	560	560
556.50	908	40.0	147	707
557.00	1,222	100.0	533	1,239
558.00	1,955	100.0	1,589	2,828
558.55	2,663	100.0	1,270	4,098

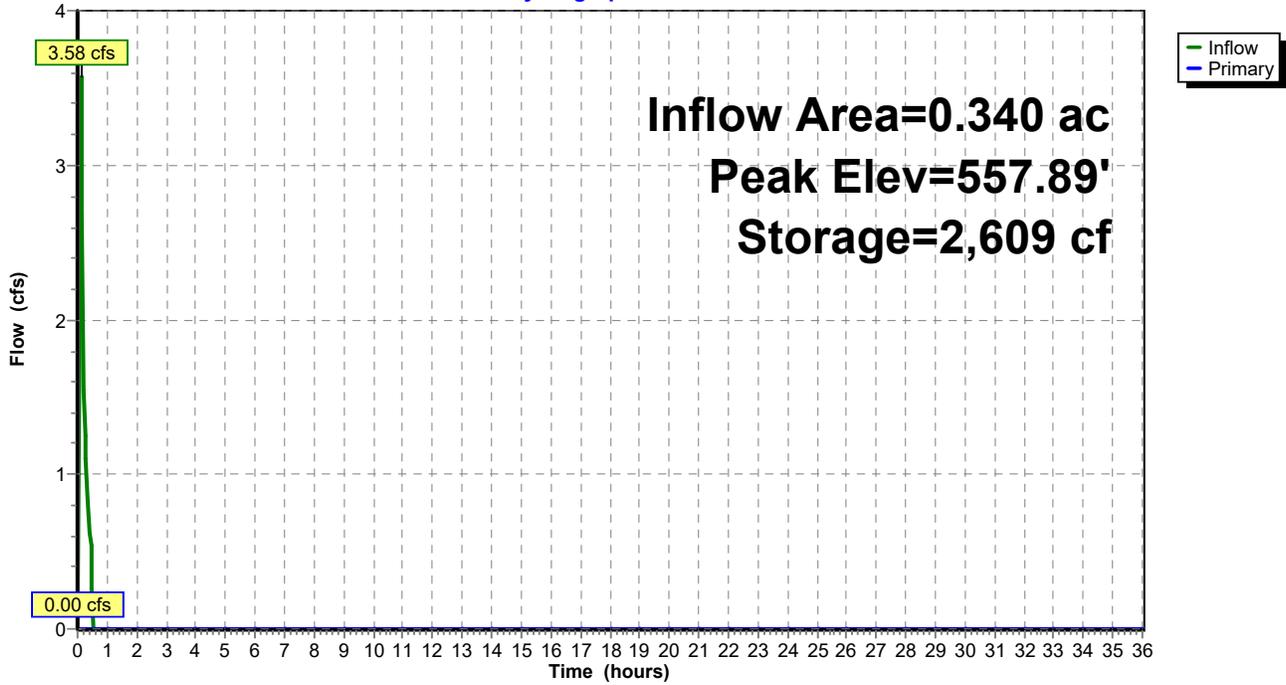
Device	Routing	Invert	Outlet Devices
#1	Primary	555.00'	12.0" Round Culvert L= 105.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 555.00' / 554.00' S= 0.0095 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	557.90'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.50 Width (feet) 4.00 4.00

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=553.50' (Free Discharge)

- ↑1=Culvert (Controls 0.00 cfs)
- ↑2=Custom Weir/Orifice (Controls 0.00 cfs)

Pond 44P: 4" Underdrain Rock

Hydrograph



Stage-Area-Storage for Pond 44P: 4" Underdrain Rock

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
553.50	560	0	556.05	595	572
553.55	560	11	556.10	630	584
553.60	560	22	556.15	664	597
553.65	560	34	556.20	699	610
553.70	560	45	556.25	734	625
553.75	560	56	556.30	769	640
553.80	560	67	556.35	804	655
553.85	560	78	556.40	838	672
553.90	560	90	556.45	873	689
553.95	560	101	556.50	908	707
554.00	560	112	556.55	939	753
554.05	560	123	556.60	971	801
554.10	560	134	556.65	1,002	850
554.15	560	146	556.70	1,034	901
554.20	560	157	556.75	1,065	953
554.25	560	168	556.80	1,096	1,007
554.30	560	179	556.85	1,128	1,063
554.35	560	190	556.90	1,159	1,120
554.40	560	202	556.95	1,191	1,179
554.45	560	213	557.00	1,222	1,239
554.50	560	224	557.05	1,259	1,301
554.55	560	235	557.10	1,295	1,365
554.60	560	246	557.15	1,332	1,431
554.65	560	258	557.20	1,369	1,498
554.70	560	269	557.25	1,405	1,568
554.75	560	280	557.30	1,442	1,639
554.80	560	291	557.35	1,479	1,712
554.85	560	302	557.40	1,515	1,787
554.90	560	314	557.45	1,552	1,863
554.95	560	325	557.50	1,589	1,942
555.00	560	336	557.55	1,625	2,022
555.05	560	347	557.60	1,662	2,104
555.10	560	358	557.65	1,698	2,188
555.15	560	370	557.70	1,735	2,274
555.20	560	381	557.75	1,772	2,362
555.25	560	392	557.80	1,808	2,451
555.30	560	403	557.85	1,845	2,543
555.35	560	414	557.90	1,882	2,636
555.40	560	426	557.95	1,918	2,731
555.45	560	437	558.00	1,955	2,828
555.50	560	448	558.05	2,019	2,927
555.55	560	459	558.10	2,084	3,030
555.60	560	470	558.15	2,148	3,136
555.65	560	482	558.20	2,212	3,245
555.70	560	493	558.25	2,277	3,357
555.75	560	504	558.30	2,341	3,472
555.80	560	515	558.35	2,406	3,591
555.85	560	526	558.40	2,470	3,713
555.90	560	538	558.45	2,534	3,838
555.95	560	549	558.50	2,599	3,966
556.00	560	560	558.55	2,663	4,098

Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment9S: PR D	Runoff Area=0.120 ac 0.00% Impervious Runoff Depth=4.89" Tc=0.0 min CN=74 Runoff=0.07 cfs 0.049 af
Subcatchment11S: PR B	Runoff Area=0.010 ac 0.00% Impervious Runoff Depth=4.89" Tc=0.0 min CN=74 Runoff=0.01 cfs 0.004 af
Subcatchment12S: PR A	Runoff Area=0.380 ac 100.00% Impervious Runoff Depth=7.72" Tc=0.0 min CN=98 Runoff=0.27 cfs 0.244 af
Subcatchment32S: PR C1	Runoff Area=0.340 ac 76.47% Impervious Runoff Depth=7.00" Tc=0.0 min CN=92 Runoff=0.24 cfs 0.198 af
Subcatchment39S: PR C2 Bypass	Runoff Area=0.049 ac 0.00% Impervious Runoff Depth=4.89" Tc=0.0 min CN=74 Runoff=0.03 cfs 0.020 af
Reach 13R: (new Reach)	Inflow=0.07 cfs 0.049 af Outflow=0.07 cfs 0.049 af
Reach 15R: (new Reach)	Inflow=0.01 cfs 0.004 af Outflow=0.01 cfs 0.004 af
Reach 16R: (new Reach)	Inflow=0.27 cfs 0.244 af Outflow=0.27 cfs 0.244 af
Reach 33R: PR Bypass	Inflow=0.38 cfs 0.317 af Outflow=0.38 cfs 0.317 af
Reach 41R: PR Total	Inflow=0.61 cfs 0.455 af Outflow=0.61 cfs 0.455 af
Pond 44P: 4" Underdrain Rock	Peak Elev=557.97' Storage=2,763 cf Inflow=0.24 cfs 0.198 af Outflow=0.24 cfs 0.138 af

Total Runoff Area = 0.899 ac Runoff Volume = 0.516 af Average Runoff Depth = 6.89"
28.81% Pervious = 0.259 ac 71.19% Impervious = 0.640 ac

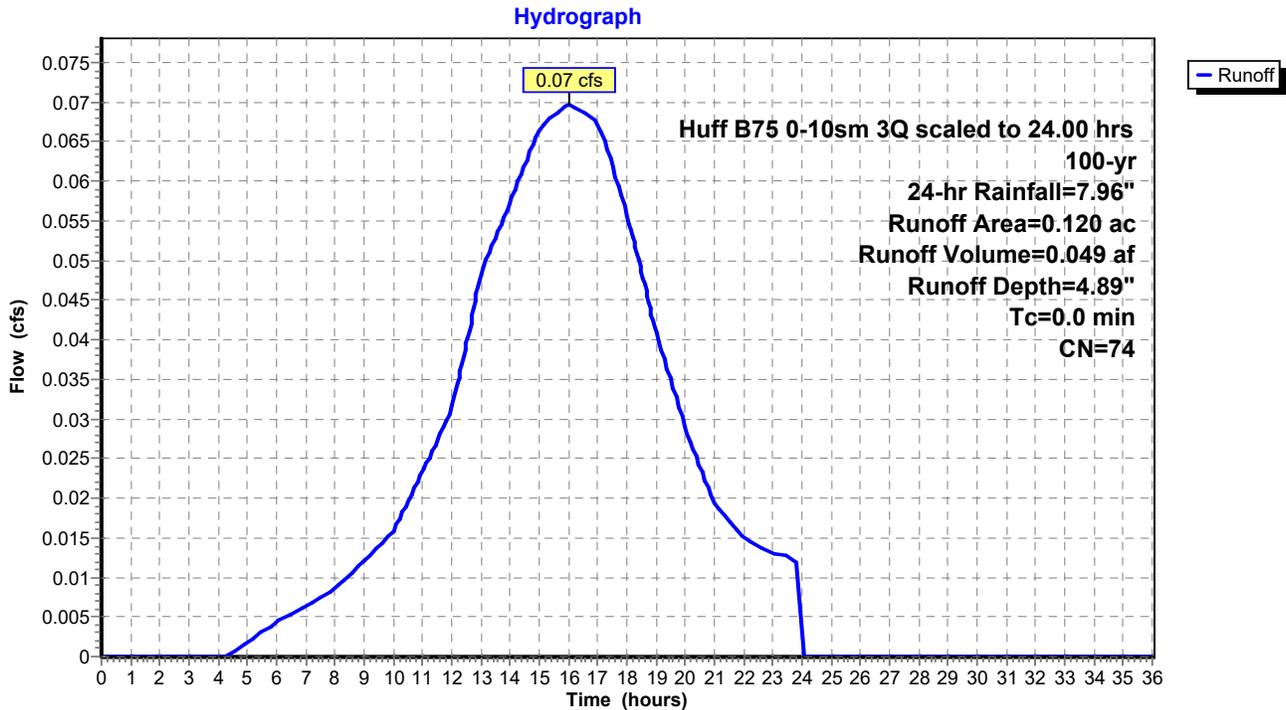
Summary for Subcatchment 9S: PR D

Runoff = 0.07 cfs @ 16.01 hrs, Volume= 0.049 af, Depth= 4.89"
 Routed to Reach 13R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 100-yr, 24-hr Rainfall=7.96"

Area (ac)	CN	Description
0.000	98	Paved parking, HSG C
0.120	74	>75% Grass cover, Good, HSG C
0.120	74	Weighted Average
0.120		100.00% Pervious Area

Subcatchment 9S: PR D



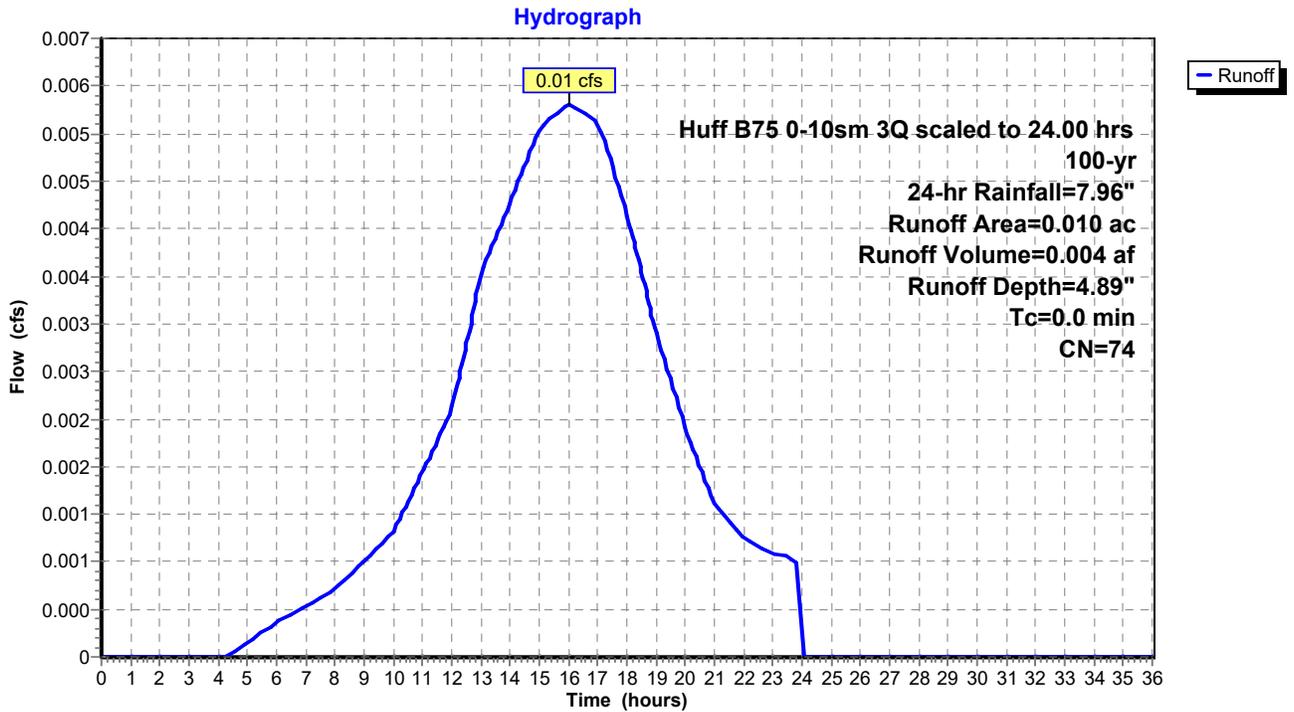
Summary for Subcatchment 11S: PR B

Runoff = 0.01 cfs @ 16.01 hrs, Volume= 0.004 af, Depth= 4.89"
 Routed to Reach 15R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 100-yr, 24-hr Rainfall=7.96"

Area (ac)	CN	Description
0.010	74	>75% Grass cover, Good, HSG C
0.010		100.00% Pervious Area

Subcatchment 11S: PR B



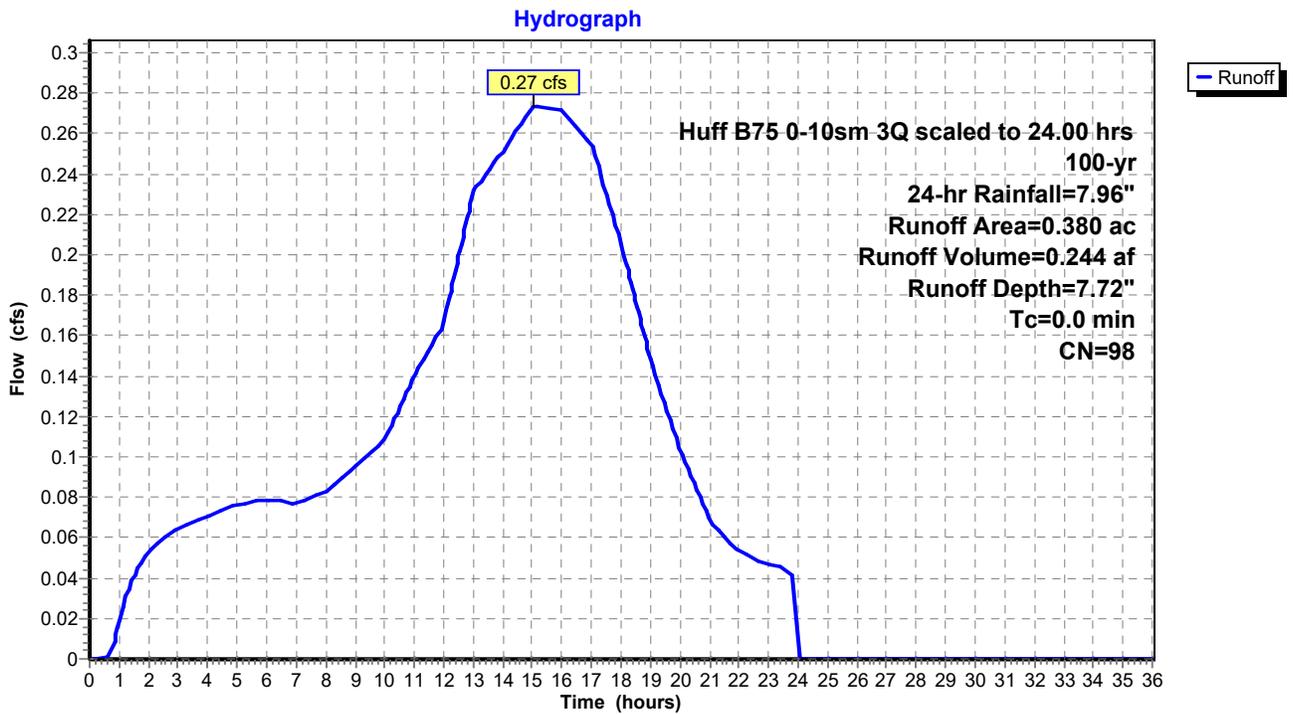
Summary for Subcatchment 12S: PR A

Runoff = 0.27 cfs @ 15.06 hrs, Volume= 0.244 af, Depth= 7.72"
 Routed to Reach 16R : (new Reach)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 100-yr, 24-hr Rainfall=7.96"

Area (ac)	CN	Description
0.380	98	Paved parking, HSG C
0.380		100.00% Impervious Area

Subcatchment 12S: PR A



Bulletin 75_SW District_H Huff B75 0-10sm 3Q scaled to 24.00 hrs 100-yr, 24-hr Rainfall=7.96"

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Printed 11/13/2025

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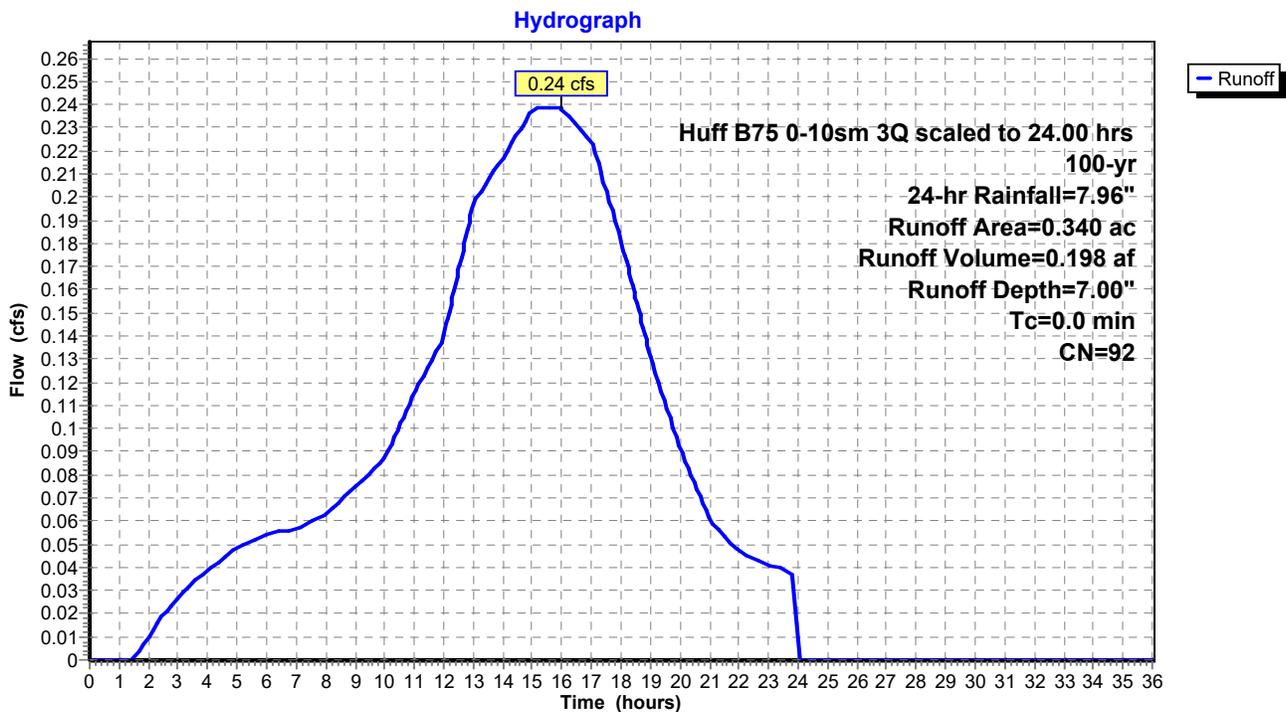
Summary for Subcatchment 32S: PR C1

Runoff = 0.24 cfs @ 15.95 hrs, Volume= 0.198 af, Depth= 7.00"
 Routed to Pond 44P : 4" Underdrain Rock

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 100-yr, 24-hr Rainfall=7.96"

Area (ac)	CN	Description
0.260	98	Paved parking, HSG C
0.080	74	>75% Grass cover, Good, HSG C
0.000	96	Gravel surface, HSG C
0.340	92	Weighted Average
0.080		23.53% Pervious Area
0.260		76.47% Impervious Area

Subcatchment 32S: PR C1



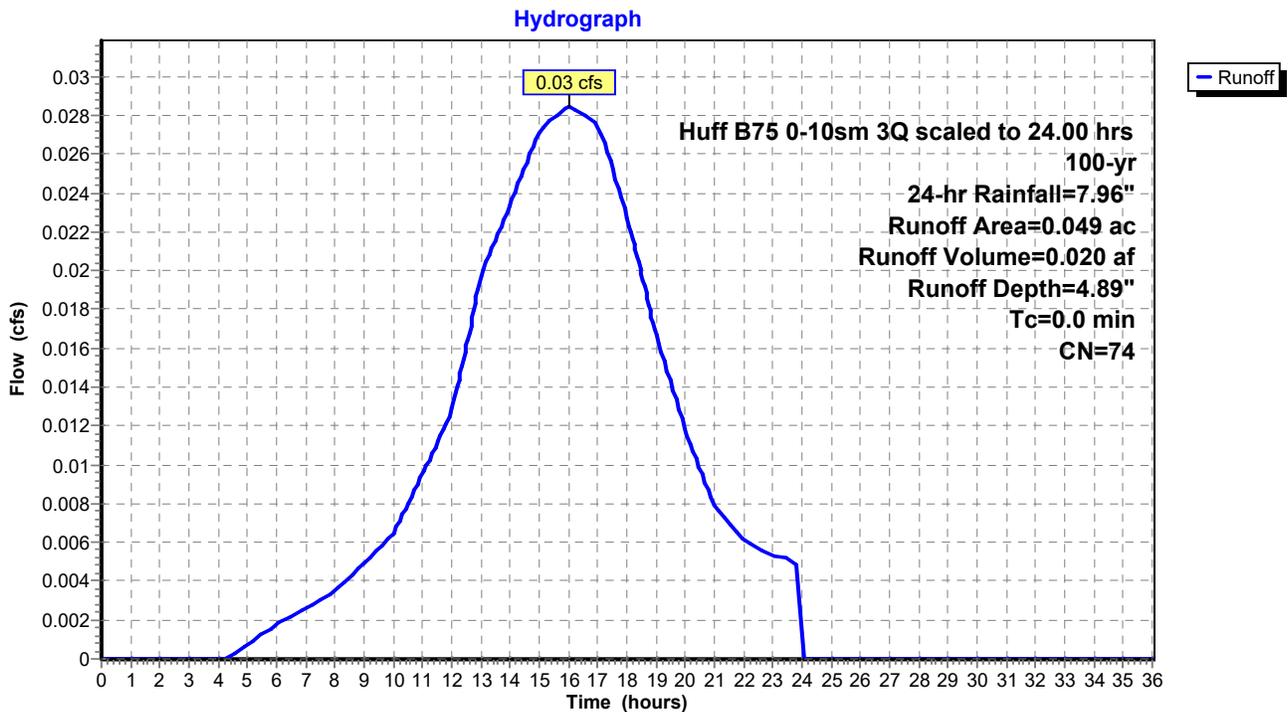
Summary for Subcatchment 39S: PR C2 Bypass

Runoff = 0.03 cfs @ 16.01 hrs, Volume= 0.020 af, Depth= 4.89"
 Routed to Reach 33R : PR Bypass

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Huff B75 0-10sm 3Q scaled to 24.00 hrs 100-yr, 24-hr Rainfall=7.96"

Area (ac)	CN	Description
0.049	74	>75% Grass cover, Good, HSG C
0.049		100.00% Pervious Area

Subcatchment 39S: PR C2 Bypass

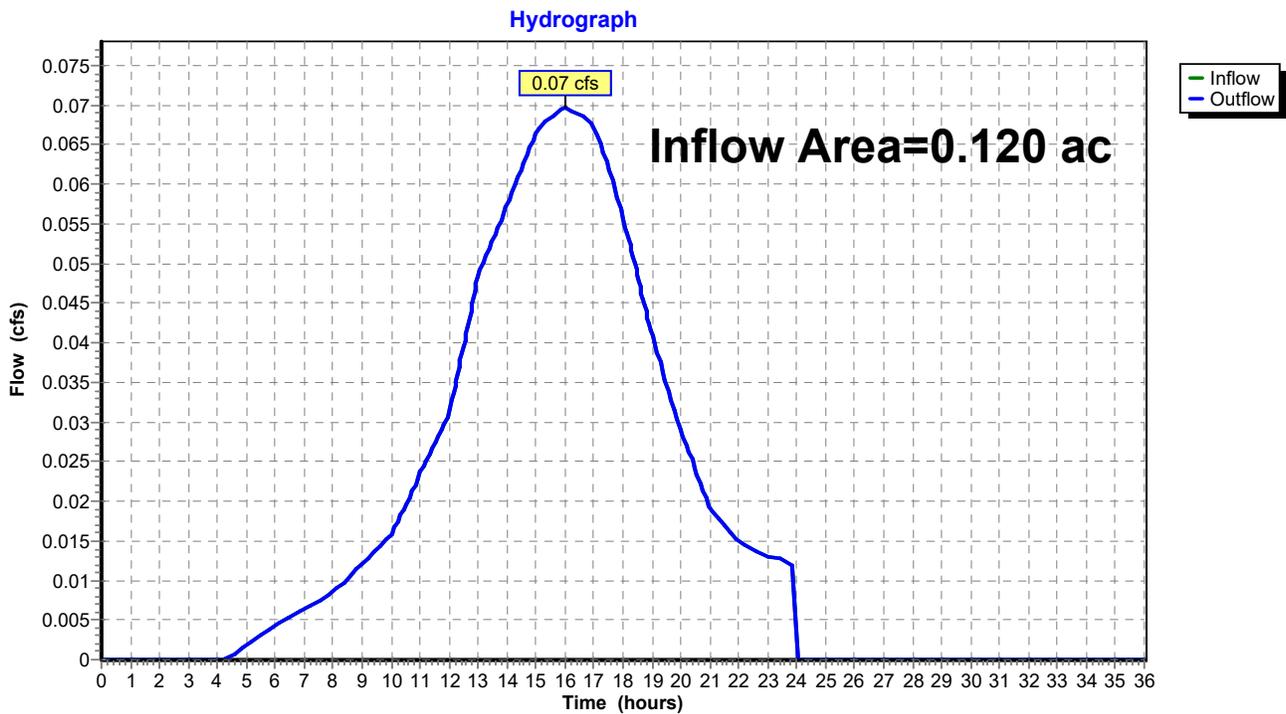


Summary for Reach 13R: (new Reach)

Inflow Area = 0.120 ac, 0.00% Impervious, Inflow Depth = 4.89" for 100-yr, 24-hr event
 Inflow = 0.07 cfs @ 16.01 hrs, Volume= 0.049 af
 Outflow = 0.07 cfs @ 16.01 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 13R: (new Reach)

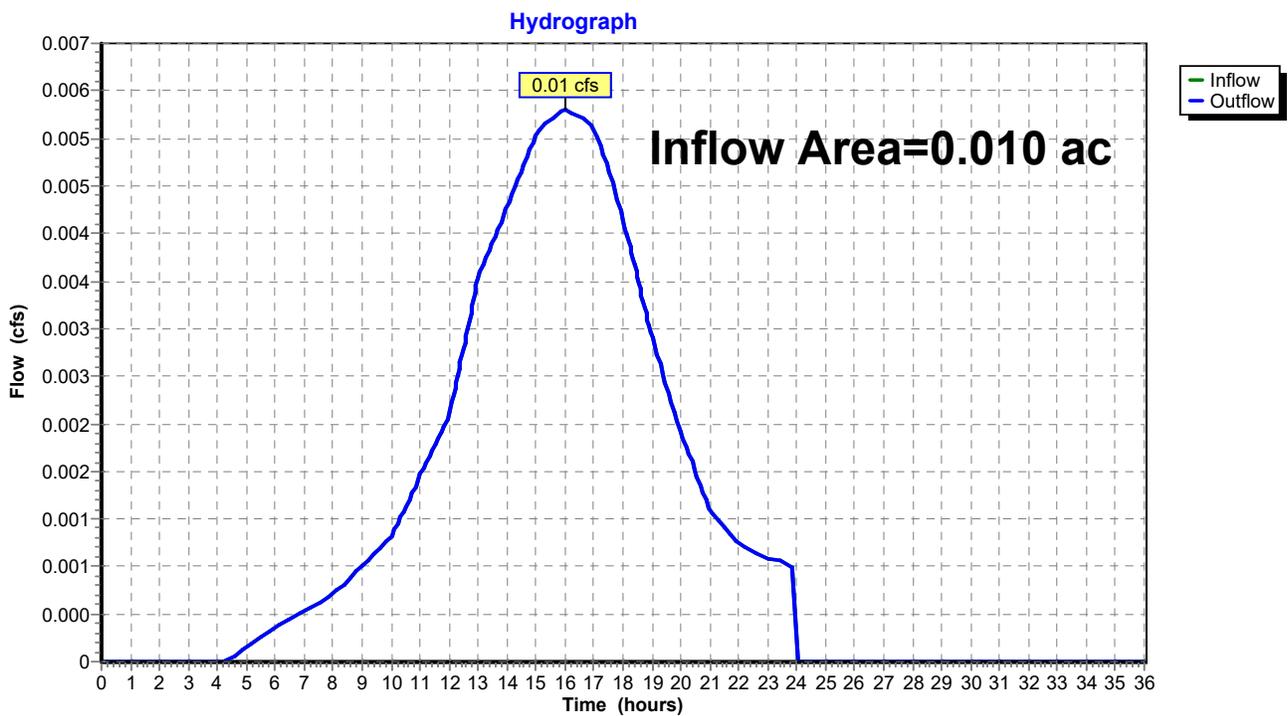


Summary for Reach 15R: (new Reach)

Inflow Area = 0.010 ac, 0.00% Impervious, Inflow Depth = 4.89" for 100-yr, 24-hr event
 Inflow = 0.01 cfs @ 16.01 hrs, Volume= 0.004 af
 Outflow = 0.01 cfs @ 16.01 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 15R: (new Reach)

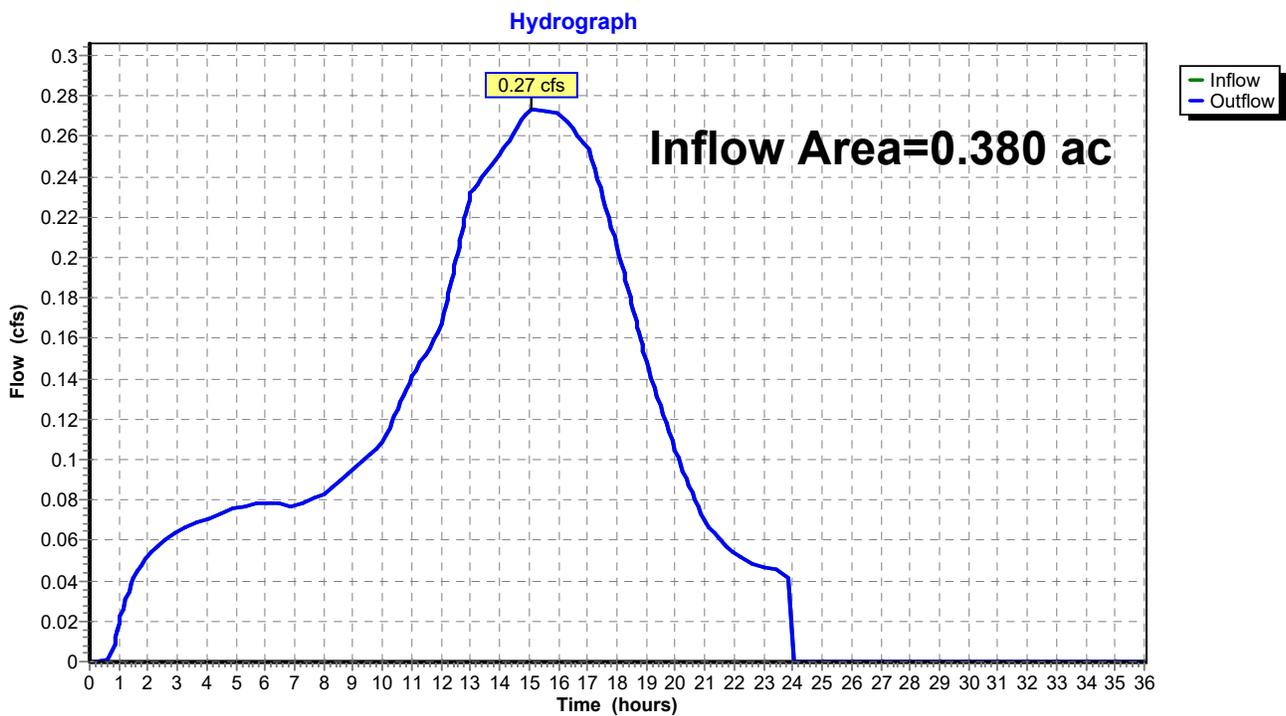


Summary for Reach 16R: (new Reach)

Inflow Area = 0.380 ac, 100.00% Impervious, Inflow Depth = 7.72" for 100-yr, 24-hr event
 Inflow = 0.27 cfs @ 15.06 hrs, Volume= 0.244 af
 Outflow = 0.27 cfs @ 15.06 hrs, Volume= 0.244 af, Atten= 0%, Lag= 0.0 min
 Routed to Reach 33R : PR Bypass

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 16R: (new Reach)

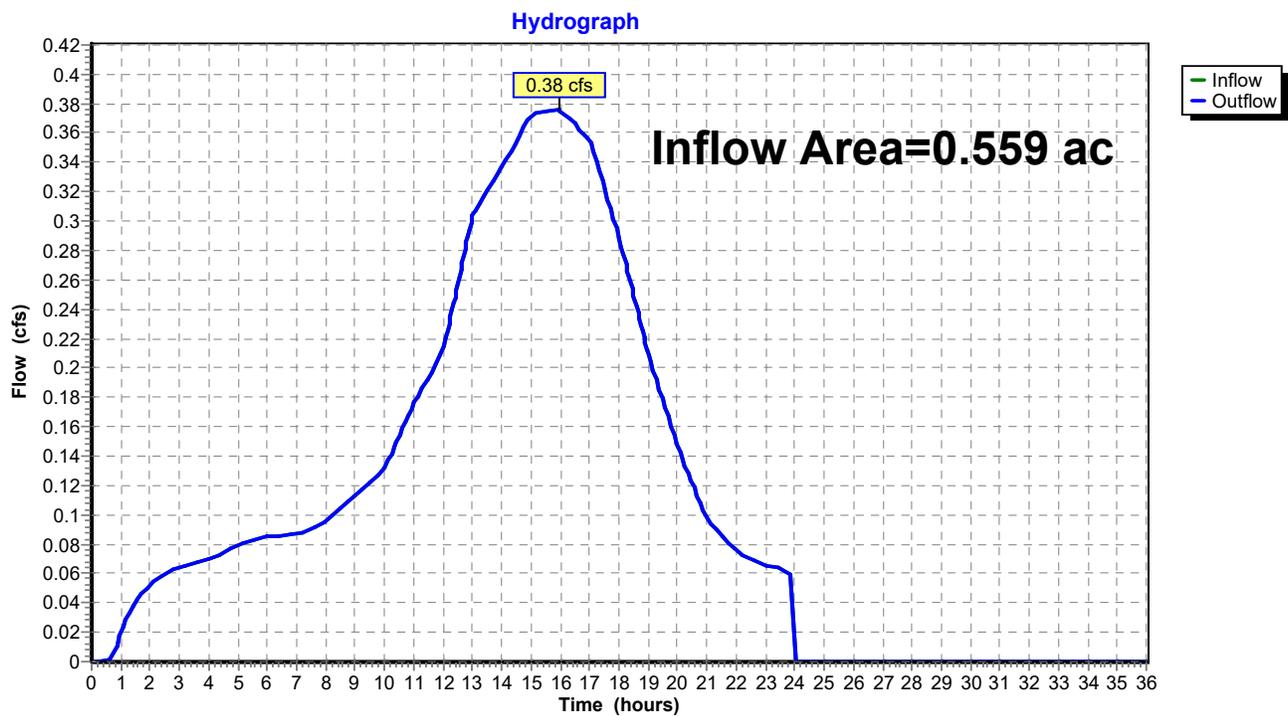


Summary for Reach 33R: PR Bypass

Inflow Area = 0.559 ac, 67.98% Impervious, Inflow Depth = 6.81" for 100-yr, 24-hr event
Inflow = 0.38 cfs @ 15.97 hrs, Volume= 0.317 af
Outflow = 0.38 cfs @ 15.97 hrs, Volume= 0.317 af, Atten= 0%, Lag= 0.0 min
Routed to Reach 41R : PR Total

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 33R: PR Bypass

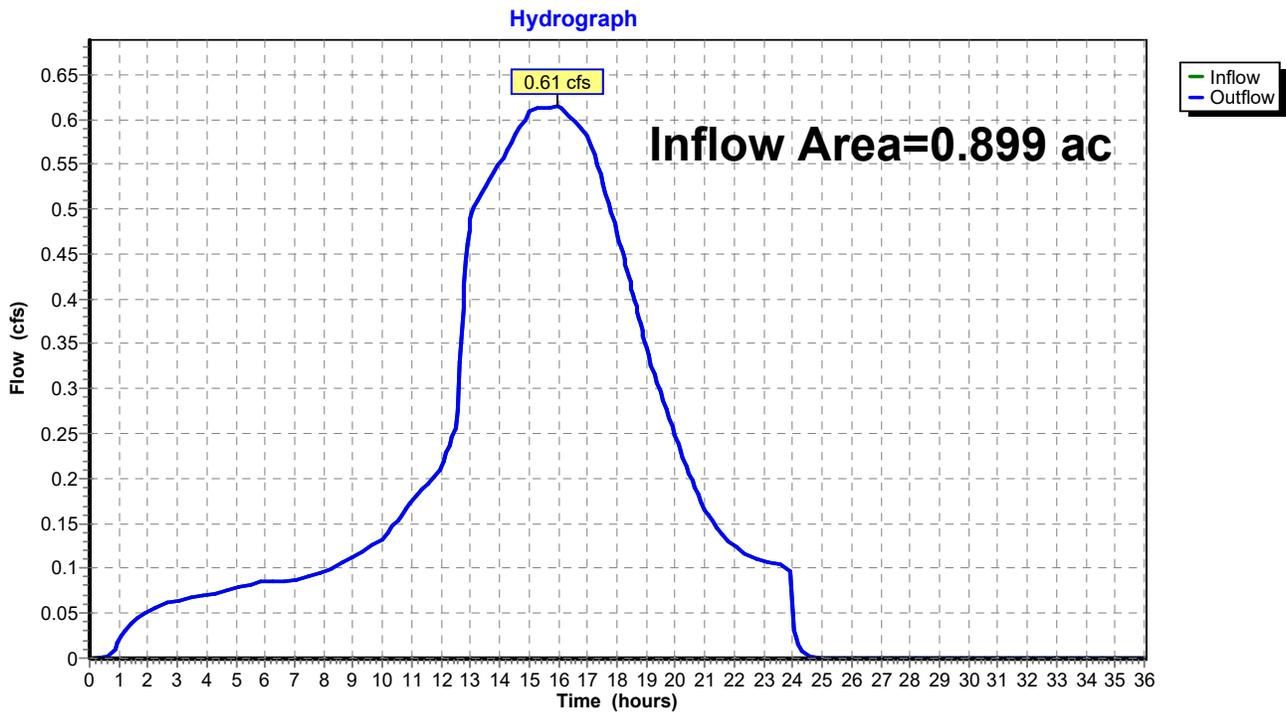


Summary for Reach 41R: PR Total

Inflow Area = 0.899 ac, 71.19% Impervious, Inflow Depth = 6.08" for 100-yr, 24-hr event
Inflow = 0.61 cfs @ 15.97 hrs, Volume= 0.455 af
Outflow = 0.61 cfs @ 15.97 hrs, Volume= 0.455 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Reach 41R: PR Total



Summary for Pond 44P: 4" Underdrain Rock

Inflow Area = 0.340 ac, 76.47% Impervious, Inflow Depth = 7.00" for 100-yr, 24-hr event
 Inflow = 0.24 cfs @ 15.95 hrs, Volume= 0.198 af
 Outflow = 0.24 cfs @ 15.96 hrs, Volume= 0.138 af, Atten= 0%, Lag= 0.6 min
 Primary = 0.24 cfs @ 15.96 hrs, Volume= 0.138 af
 Routed to Reach 41R : PR Total

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 557.97' @ 15.96 hrs Surf.Area= 1,931 sf Storage= 2,763 cf

Plug-Flow detention time= 283.2 min calculated for 0.138 af (70% of inflow)
 Center-of-Mass det. time= 154.4 min (1,012.1 - 857.7)

Volume	Invert	Avail.Storage	Storage Description	
#1	553.50'	4,098 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
553.50	560	0.0	0	0
556.00	560	40.0	560	560
556.50	908	40.0	147	707
557.00	1,222	100.0	533	1,239
558.00	1,955	100.0	1,589	2,828
558.55	2,663	100.0	1,270	4,098

Device	Routing	Invert	Outlet Devices
#1	Primary	555.00'	12.0" Round Culvert L= 105.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 555.00' / 554.00' S= 0.0095 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Device 1	557.90'	Custom Weir/Orifice, Cv= 2.62 (C= 3.28) Head (feet) 0.00 0.50 Width (feet) 4.00 4.00

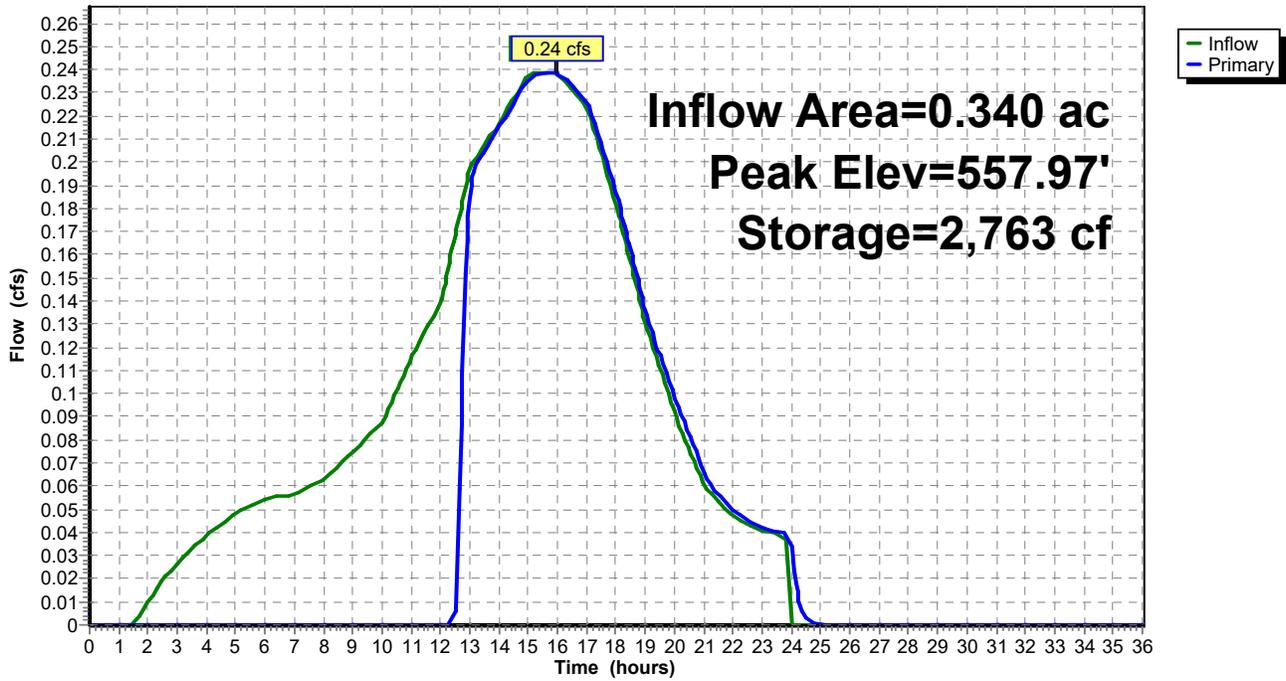
Primary OutFlow Max=0.23 cfs @ 15.96 hrs HW=557.97' (Free Discharge)

↑1=Culvert (Passes 0.23 cfs of 5.75 cfs potential flow)

↑2=Custom Weir/Orifice (Weir Controls 0.23 cfs @ 0.85 fps)

Pond 44P: 4" Underdrain Rock

Hydrograph



Stage-Area-Storage for Pond 44P: 4" Underdrain Rock

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
553.50	560	0	556.05	595	572
553.55	560	11	556.10	630	584
553.60	560	22	556.15	664	597
553.65	560	34	556.20	699	610
553.70	560	45	556.25	734	625
553.75	560	56	556.30	769	640
553.80	560	67	556.35	804	655
553.85	560	78	556.40	838	672
553.90	560	90	556.45	873	689
553.95	560	101	556.50	908	707
554.00	560	112	556.55	939	753
554.05	560	123	556.60	971	801
554.10	560	134	556.65	1,002	850
554.15	560	146	556.70	1,034	901
554.20	560	157	556.75	1,065	953
554.25	560	168	556.80	1,096	1,007
554.30	560	179	556.85	1,128	1,063
554.35	560	190	556.90	1,159	1,120
554.40	560	202	556.95	1,191	1,179
554.45	560	213	557.00	1,222	1,239
554.50	560	224	557.05	1,259	1,301
554.55	560	235	557.10	1,295	1,365
554.60	560	246	557.15	1,332	1,431
554.65	560	258	557.20	1,369	1,498
554.70	560	269	557.25	1,405	1,568
554.75	560	280	557.30	1,442	1,639
554.80	560	291	557.35	1,479	1,712
554.85	560	302	557.40	1,515	1,787
554.90	560	314	557.45	1,552	1,863
554.95	560	325	557.50	1,589	1,942
555.00	560	336	557.55	1,625	2,022
555.05	560	347	557.60	1,662	2,104
555.10	560	358	557.65	1,698	2,188
555.15	560	370	557.70	1,735	2,274
555.20	560	381	557.75	1,772	2,362
555.25	560	392	557.80	1,808	2,451
555.30	560	403	557.85	1,845	2,543
555.35	560	414	557.90	1,882	2,636
555.40	560	426	557.95	1,918	2,731
555.45	560	437	558.00	1,955	2,828
555.50	560	448	558.05	2,019	2,927
555.55	560	459	558.10	2,084	3,030
555.60	560	470	558.15	2,148	3,136
555.65	560	482	558.20	2,212	3,245
555.70	560	493	558.25	2,277	3,357
555.75	560	504	558.30	2,341	3,472
555.80	560	515	558.35	2,406	3,591
555.85	560	526	558.40	2,470	3,713
555.90	560	538	558.45	2,534	3,838
555.95	560	549	558.50	2,599	3,966
556.00	560	560	558.55	2,663	4,098

Appendix I

Water Quality Calculations

Water Quality Calculations

Project:	<u>Master Auto</u>	Calc By	<u>EJS 10/27/2025</u>
Location:	<u>206 Vandalia Street</u>	Check By	<u>MYS 11/11/2025</u>

Rocked Detention Area

The first inch of runoff from the new impervious area of development on the site shall be water quality control storage.

New Impervious Area	6,259 ft ²
Required Water Quality Storage = Impervious Area x 1' x (1/12)	522 ft ³
Provided Water Quality Storage = Surface Area x 2.5' x (40%)	560 ft ³

Volume provided in rocked detention basin below underdrain
Assumed 560sf x 2.5ft deep @40% voids