

National Flood Hazard Layer FIRMMette



72°6'23"W 41°28'36"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000

72°5'45"W 41°28'9"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

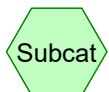
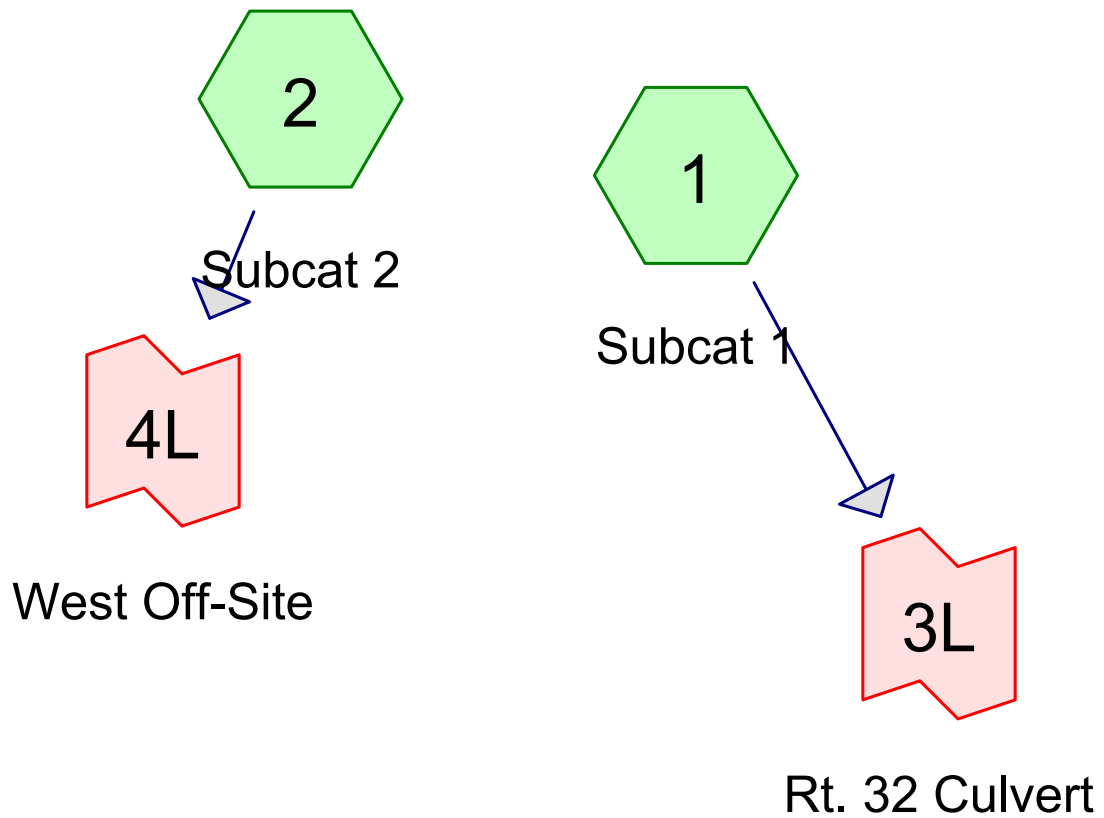
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/29/2024 at 12:59 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX D

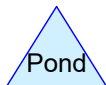
HydroCAD Reports



Subcat



Reach



Pond



Link

Routing Diagram for 2024-4-30 Existing Conditions

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Project Notes

Defined 5 rainfall events from CT-Montville-1758 Route 32_DEPTH IDF

Defined 6 rainfall events from CT-Montville-1758 Route 32_DEPTH IDF

2024-4-30 Existing Conditions

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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	NOAA 24-hr	A	Default	24.00	1	3.46	2
2	5-yr	NOAA 24-hr	A	Default	24.00	1	4.36	2
3	10-yr	NOAA 24-hr	A	Default	24.00	1	5.11	2
4	25-yr	NOAA 24-hr	A	Default	24.00	1	6.15	2
5	50-yr	NOAA 24-hr	A	Default	24.00	1	6.92	2
6	100-yr	NOAA 24-hr	A	Default	24.00	1	7.74	2

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
648,361	55	Woods, Good, HSG B (1, 2)
92,367	77	Woods, Good, HSG D (1, 2)
740,729	58	TOTAL AREA

2024-4-30 Existing Conditions

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Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
648,361	HSG B	1, 2
0	HSG C	
92,367	HSG D	1, 2
0	Other	
740,729		TOTAL AREA

2024-4-30 Existing Conditions

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subcatchment Numbers
0	648,361	0	92,367	0	740,729	Woods, Good	1, 2
0	648,361	0	92,367	0	740,729	TOTAL AREA	

2024-4-30 Existing Conditions

NOAA 24-hr A 2-yr Rainfall=3.46"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points

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

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

Subcatchment1: Subcat 1

Runoff Area=11.929 ac 0.00% Impervious Runoff Depth=0.40"
Flow Length=946' Tc=29.8 min CN=57 Runoff=2.68 cfs 17,363 cf

Subcatchment2: Subcat 2

Runoff Area=5.076 ac 0.00% Impervious Runoff Depth=0.44"
Flow Length=473' Tc=24.4 min CN=58 Runoff=1.44 cfs 8,058 cf

Link 3L: Rt. 32 Culvert

Inflow=2.68 cfs 17,363 cf
Primary=2.68 cfs 17,363 cf

Link 4L: West Off-Site

Inflow=1.44 cfs 8,058 cf
Primary=1.44 cfs 8,058 cf

Total Runoff Area = 740,729 sf Runoff Volume = 25,422 cf Average Runoff Depth = 0.41"
100.00% Pervious = 740,729 sf 0.00% Impervious = 0 sf

2024-4-30 Existing Conditions

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NOAA 24-hr A 2-yr Rainfall=3.46"

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Summary for Subcatchment 1: Subcat 1

Runoff = 2.68 cfs @ 12.56 hrs, Volume= 17,363 cf, Depth= 0.40"
Routed to Link 3L : Rt. 32 Culvert

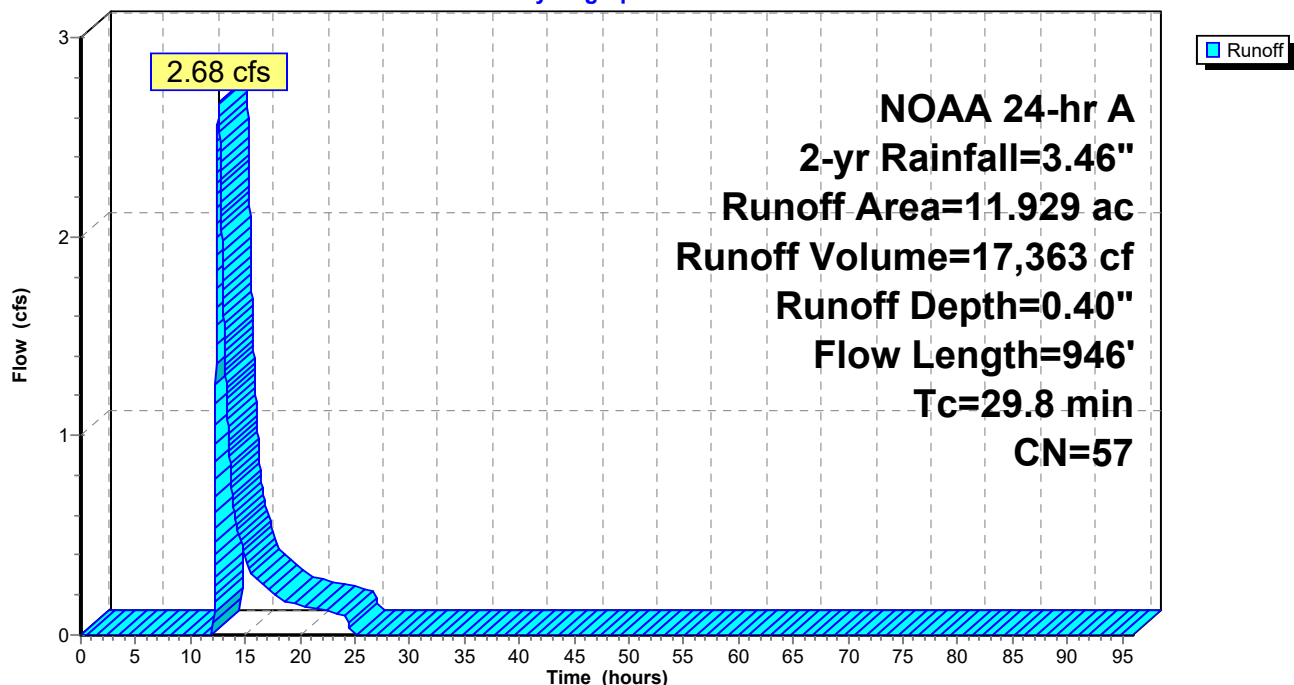
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr A 2-yr Rainfall=3.46"

Area (ac)	CN	Description
0.002	77	Woods, Good, HSG D
1.351	77	Woods, Good, HSG D
2.934	55	Woods, Good, HSG B
0.092	55	Woods, Good, HSG B
6.873	55	Woods, Good, HSG B
0.677	55	Woods, Good, HSG B
11.929	57	Weighted Average
11.929		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	100	0.0200	0.08		Sheet Flow, SHEET Woods: Light underbrush n= 0.400 P2= 3.46"
9.1	846	0.0960	1.55		Shallow Concentrated Flow, scf Woodland Kv= 5.0 fps
29.8	946	Total			

Subcatchment 1: Subcat 1

Hydrograph



2024-4-30 Existing Conditions

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NOAA 24-hr A 2-yr Rainfall=3.46"

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Summary for Subcatchment 2: Subcat 2

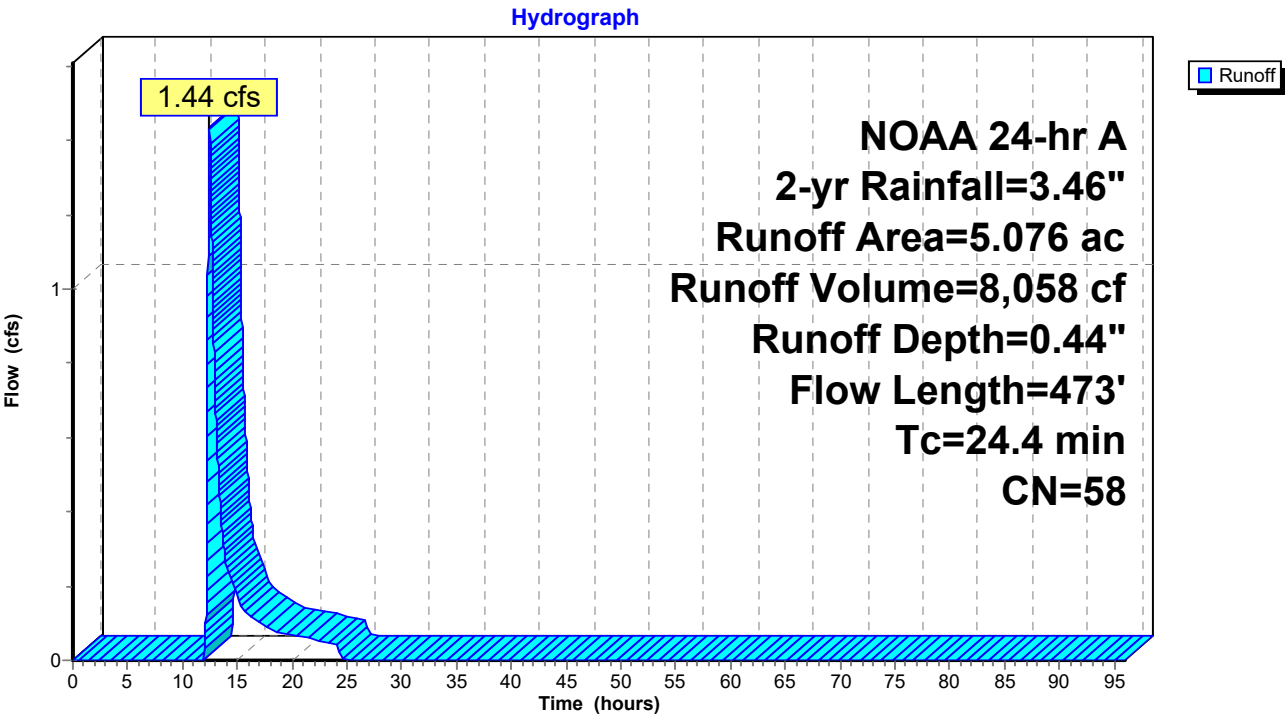
Runoff = 1.44 cfs @ 12.45 hrs, Volume= 8,058 cf, Depth= 0.44"
Routed to Link 4L : West Off-Site

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr A 2-yr Rainfall=3.46"

Area (ac)	CN	Description
0.767	77	Woods, Good, HSG D
0.040	55	Woods, Good, HSG B
0.059	55	Woods, Good, HSG B
2.470	55	Woods, Good, HSG B
1.739	55	Woods, Good, HSG B
5.076	58	Weighted Average
5.076		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	100	0.0200	0.08		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.46"
3.7	373	0.1100	1.66		Shallow Concentrated Flow, scf Woodland Kv= 5.0 fps
24.4	473	Total			

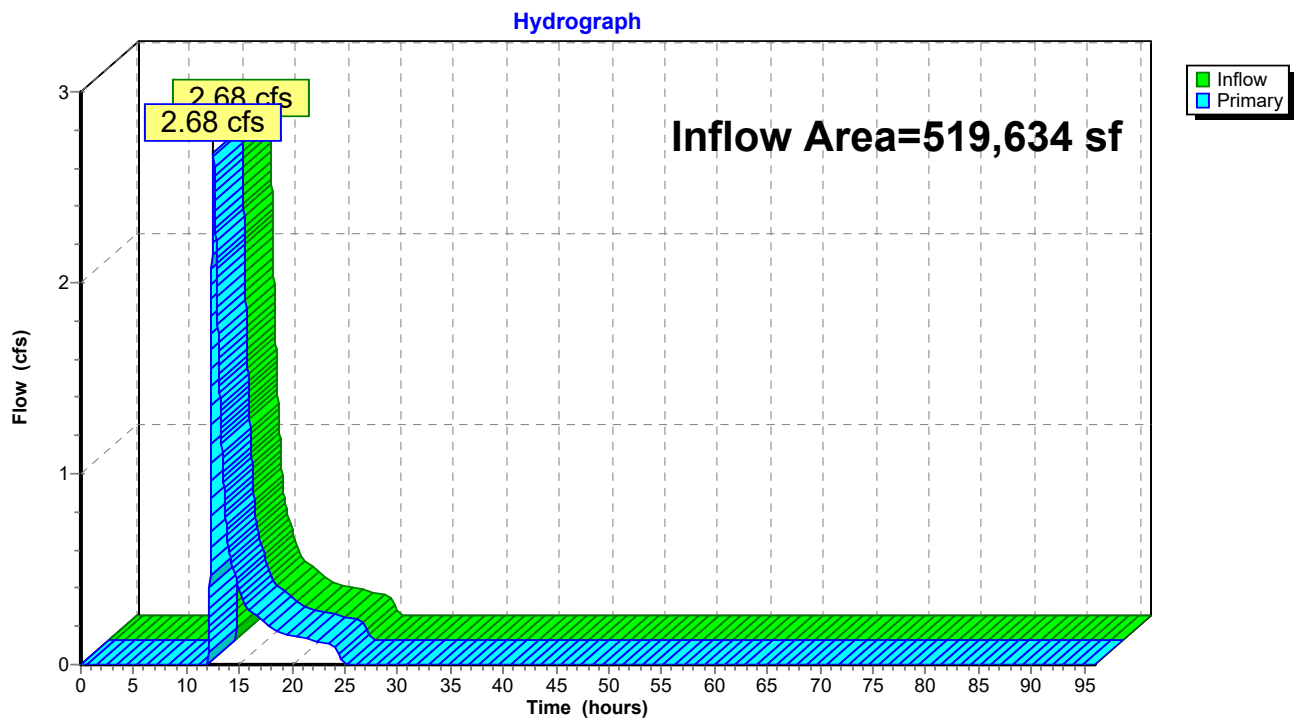
Subcatchment 2: Subcat 2



Summary for Link 3L: Rt. 32 Culvert

Inflow Area = 519,634 sf, 0.00% Impervious, Inflow Depth = 0.40" for 2-yr event
Inflow = 2.68 cfs @ 12.56 hrs, Volume= 17,363 cf
Primary = 2.68 cfs @ 12.56 hrs, Volume= 17,363 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

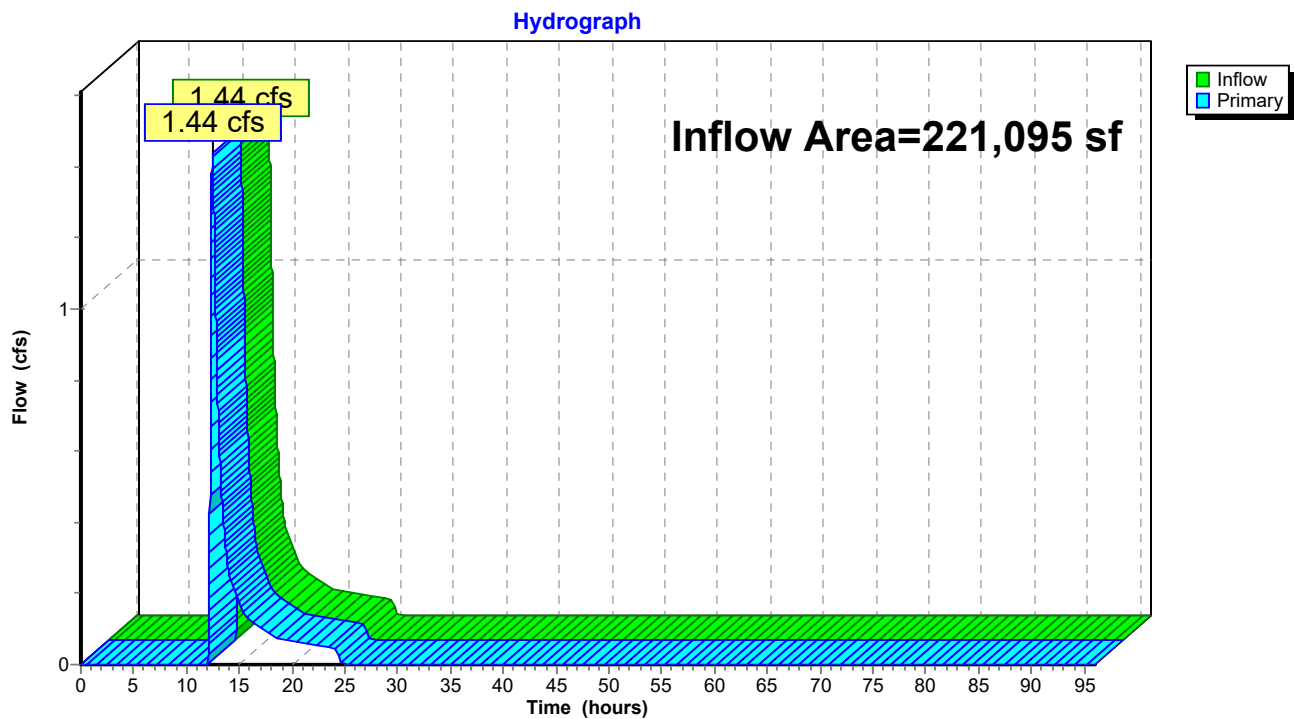
Link 3L: Rt. 32 Culvert

Summary for Link 4L: West Off-Site

Inflow Area = 221,095 sf, 0.00% Impervious, Inflow Depth = 0.44" for 2-yr event
 Inflow = 1.44 cfs @ 12.45 hrs, Volume= 8,058 cf
 Primary = 1.44 cfs @ 12.45 hrs, Volume= 8,058 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Link 4L: West Off-Site



2024-4-30 Existing Conditions

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NOAA 24-hr A 5-yr Rainfall=4.36"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points

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

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

Subcatchment1: Subcat 1

Runoff Area=11.929 ac 0.00% Impervious Runoff Depth=0.78"
Flow Length=946' Tc=29.8 min CN=57 Runoff=6.47 cfs 33,865 cf

Subcatchment2: Subcat 2

Runoff Area=5.076 ac 0.00% Impervious Runoff Depth=0.84"
Flow Length=473' Tc=24.4 min CN=58 Runoff=3.37 cfs 15,385 cf

Link 3L: Rt. 32 Culvert

Inflow=6.47 cfs 33,865 cf
Primary=6.47 cfs 33,865 cf

Link 4L: West Off-Site

Inflow=3.37 cfs 15,385 cf
Primary=3.37 cfs 15,385 cf

Total Runoff Area = 740,729 sf Runoff Volume = 49,250 cf Average Runoff Depth = 0.80"
100.00% Pervious = 740,729 sf 0.00% Impervious = 0 sf

2024-4-30 Existing Conditions

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NOAA 24-hr A 5-yr Rainfall=4.36"

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Summary for Subcatchment 1: Subcat 1

Runoff = 6.47 cfs @ 12.51 hrs, Volume= 33,865 cf, Depth= 0.78"
Routed to Link 3L : Rt. 32 Culvert

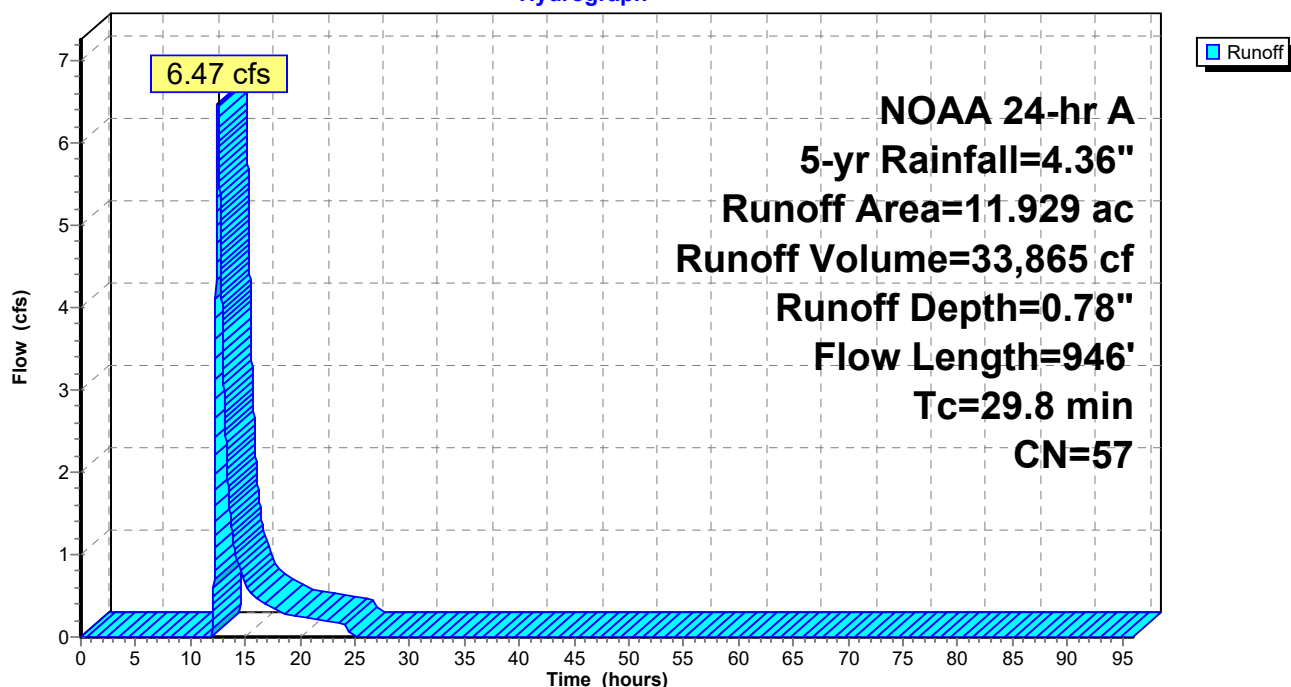
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr A 5-yr Rainfall=4.36"

Area (ac)	CN	Description
0.002	77	Woods, Good, HSG D
1.351	77	Woods, Good, HSG D
2.934	55	Woods, Good, HSG B
0.092	55	Woods, Good, HSG B
6.873	55	Woods, Good, HSG B
0.677	55	Woods, Good, HSG B
11.929	57	Weighted Average
11.929		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	100	0.0200	0.08		Sheet Flow, SHEET Woods: Light underbrush n= 0.400 P2= 3.46"
9.1	846	0.0960	1.55		Shallow Concentrated Flow, scf Woodland Kv= 5.0 fps
29.8	946	Total			

Subcatchment 1: Subcat 1

Hydrograph



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NOAA 24-hr A 5-yr Rainfall=4.36"

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Summary for Subcatchment 2: Subcat 2

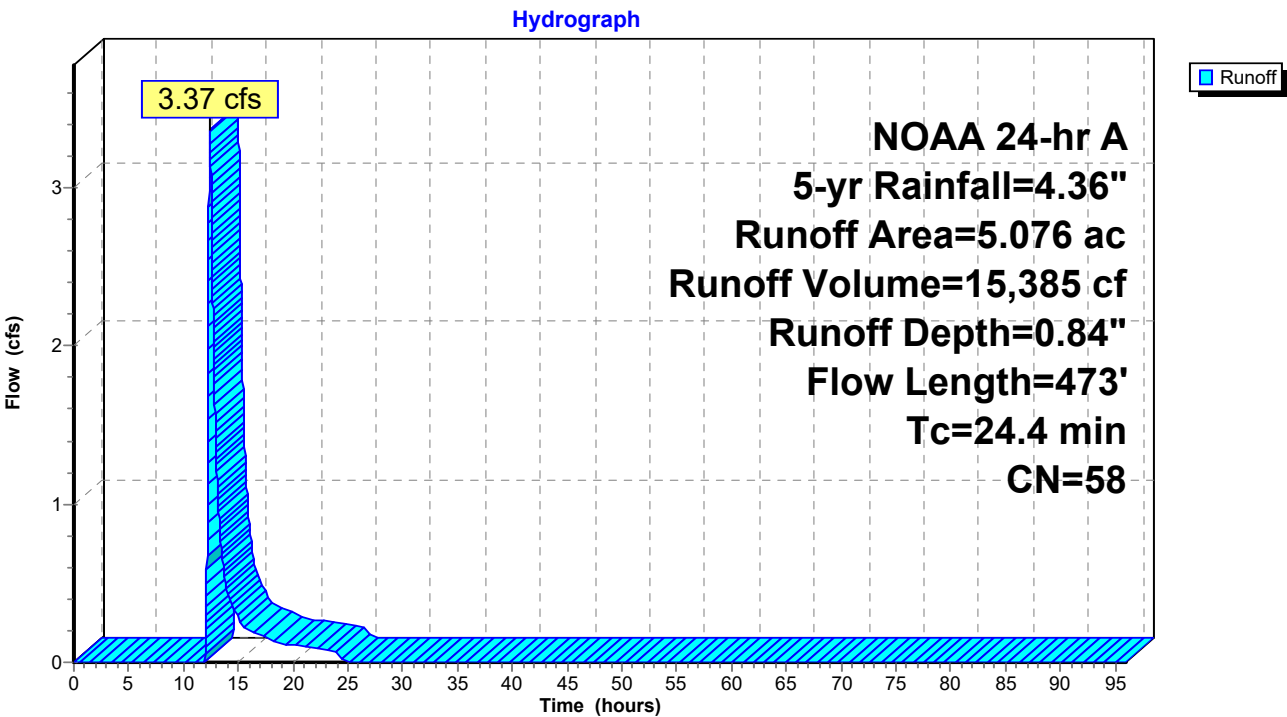
Runoff = 3.37 cfs @ 12.41 hrs, Volume= 15,385 cf, Depth= 0.84"
Routed to Link 4L : West Off-Site

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr A 5-yr Rainfall=4.36"

Area (ac)	CN	Description
0.767	77	Woods, Good, HSG D
0.040	55	Woods, Good, HSG B
0.059	55	Woods, Good, HSG B
2.470	55	Woods, Good, HSG B
1.739	55	Woods, Good, HSG B
5.076	58	Weighted Average
5.076		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	100	0.0200	0.08		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.46"
3.7	373	0.1100	1.66		Shallow Concentrated Flow, scf Woodland Kv= 5.0 fps
24.4	473	Total			

Subcatchment 2: Subcat 2

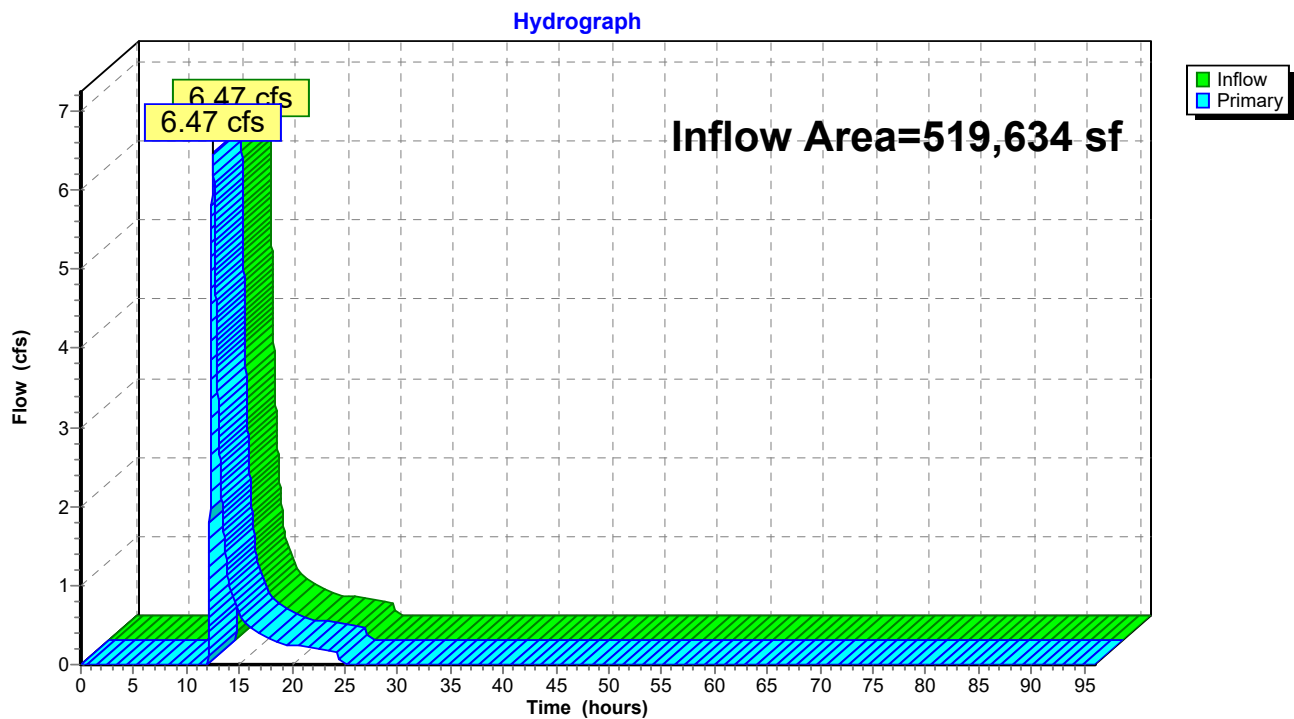


Summary for Link 3L: Rt. 32 Culvert

Inflow Area = 519,634 sf, 0.00% Impervious, Inflow Depth = 0.78" for 5-yr event
 Inflow = 6.47 cfs @ 12.51 hrs, Volume= 33,865 cf
 Primary = 6.47 cfs @ 12.51 hrs, Volume= 33,865 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Link 3L: Rt. 32 Culvert



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NOAA 24-hr A 5-yr Rainfall=4.36"

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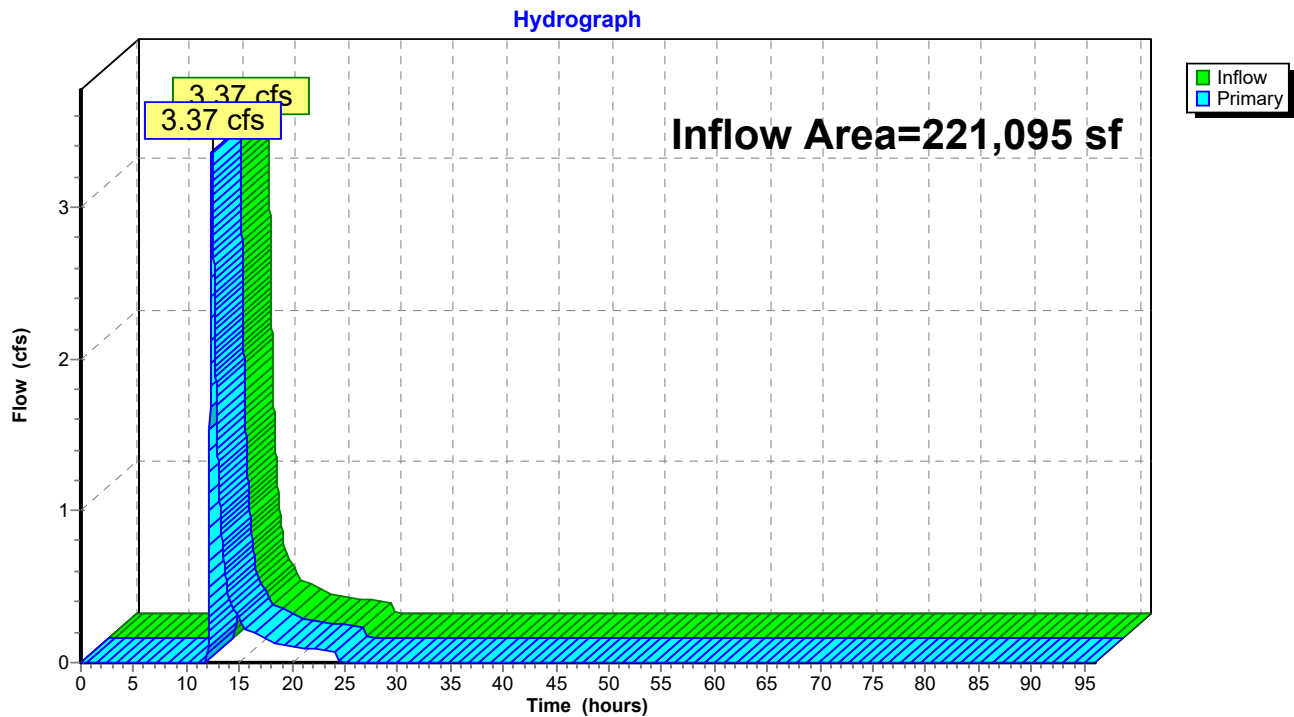
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Summary for Link 4L: West Off-Site

Inflow Area = 221,095 sf, 0.00% Impervious, Inflow Depth = 0.84" for 5-yr event
Inflow = 3.37 cfs @ 12.41 hrs, Volume= 15,385 cf
Primary = 3.37 cfs @ 12.41 hrs, Volume= 15,385 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Link 4L: West Off-Site



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NOAA 24-hr A 10-yr Rainfall=5.11"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points

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

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

Subcatchment1: Subcat 1

Runoff Area=11.929 ac 0.00% Impervious Runoff Depth=1.16"
Flow Length=946' Tc=29.8 min CN=57 Runoff=10.53 cfs 50,389 cf

Subcatchment2: Subcat 2

Runoff Area=5.076 ac 0.00% Impervious Runoff Depth=1.23"
Flow Length=473' Tc=24.4 min CN=58 Runoff=5.39 cfs 22,658 cf

Link 3L: Rt. 32 Culvert

Inflow=10.53 cfs 50,389 cf
Primary=10.53 cfs 50,389 cf

Link 4L: West Off-Site

Inflow=5.39 cfs 22,658 cf
Primary=5.39 cfs 22,658 cf

Total Runoff Area = 740,729 sf Runoff Volume = 73,047 cf Average Runoff Depth = 1.18"
100.00% Pervious = 740,729 sf 0.00% Impervious = 0 sf

2024-4-30 Existing Conditions

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NOAA 24-hr A 10-yr Rainfall=5.11"

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Summary for Subcatchment 1: Subcat 1

Runoff = 10.53 cfs @ 12.48 hrs, Volume= 50,389 cf, Depth= 1.16"
Routed to Link 3L : Rt. 32 Culvert

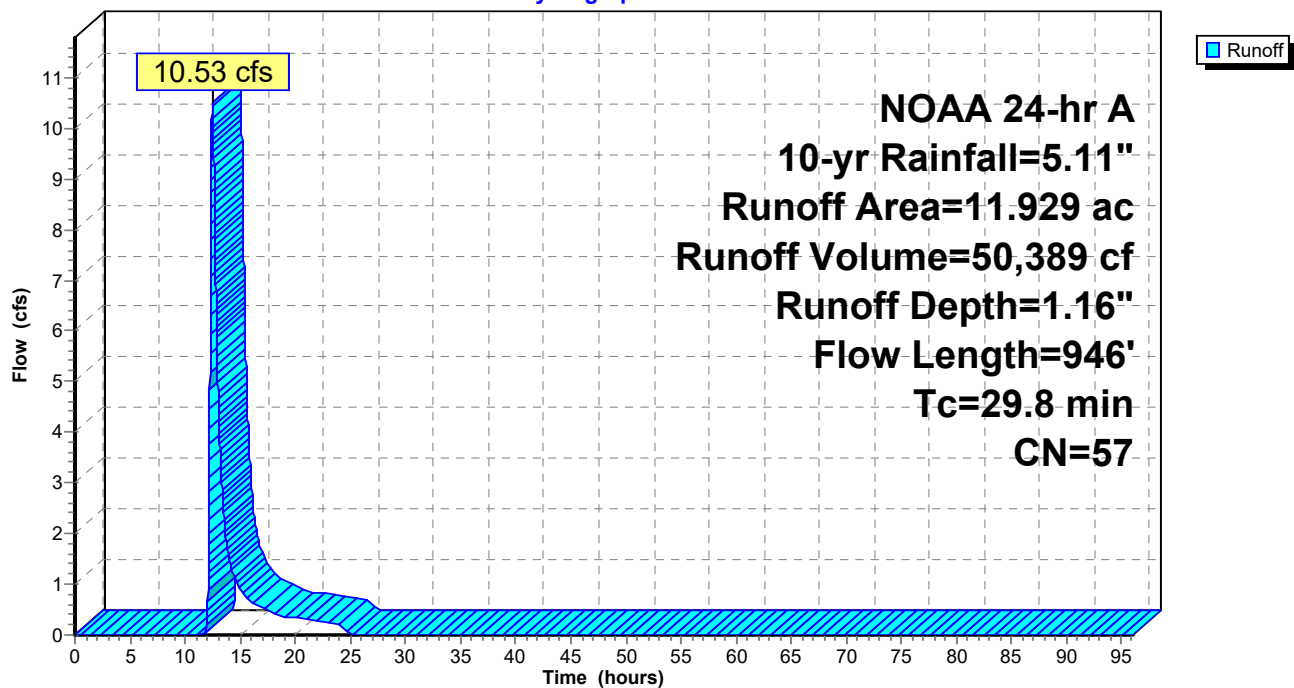
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr A 10-yr Rainfall=5.11"

Area (ac)	CN	Description
0.002	77	Woods, Good, HSG D
1.351	77	Woods, Good, HSG D
2.934	55	Woods, Good, HSG B
0.092	55	Woods, Good, HSG B
6.873	55	Woods, Good, HSG B
0.677	55	Woods, Good, HSG B
11.929	57	Weighted Average
11.929		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	100	0.0200	0.08		Sheet Flow, SHEET Woods: Light underbrush n= 0.400 P2= 3.46"
9.1	846	0.0960	1.55		Shallow Concentrated Flow, scf Woodland Kv= 5.0 fps
29.8	946	Total			

Subcatchment 1: Subcat 1

Hydrograph



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NOAA 24-hr A 10-yr Rainfall=5.11"

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Summary for Subcatchment 2: Subcat 2

Runoff = 5.39 cfs @ 12.39 hrs, Volume= 22,658 cf, Depth= 1.23"
Routed to Link 4L : West Off-Site

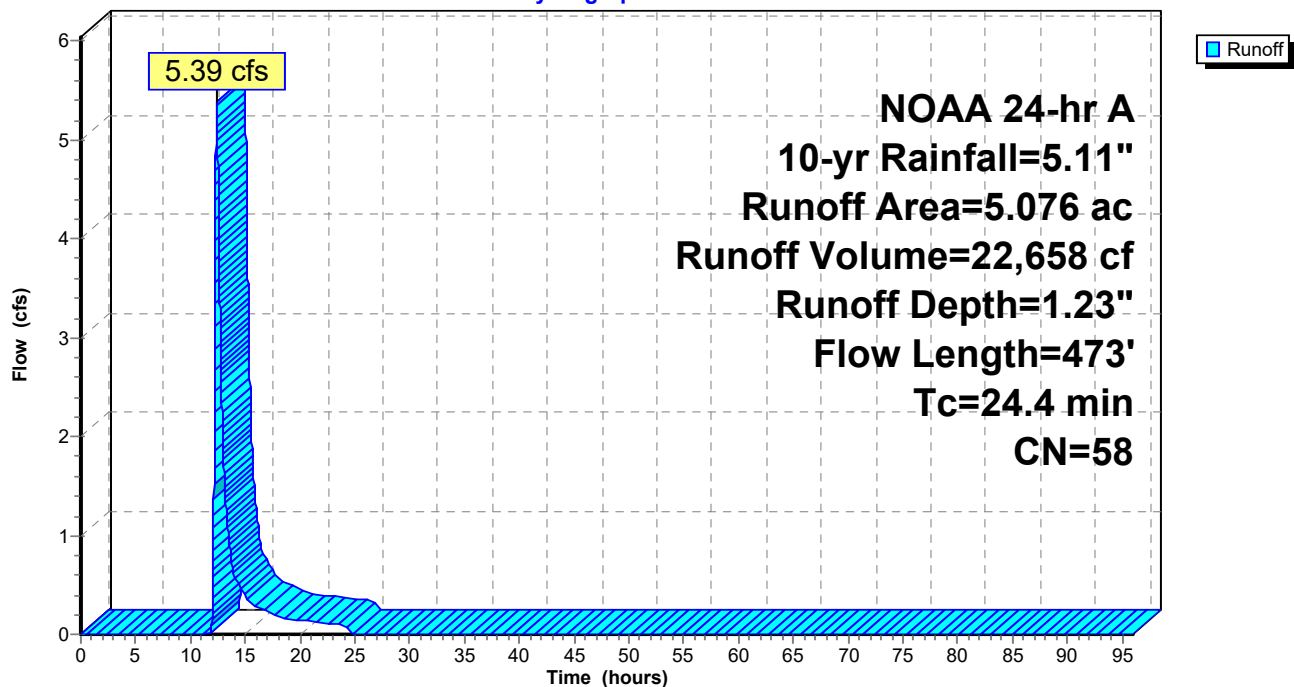
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr A 10-yr Rainfall=5.11"

Area (ac)	CN	Description
0.767	77	Woods, Good, HSG D
0.040	55	Woods, Good, HSG B
0.059	55	Woods, Good, HSG B
2.470	55	Woods, Good, HSG B
1.739	55	Woods, Good, HSG B
5.076	58	Weighted Average
5.076		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	100	0.0200	0.08		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.46"
3.7	373	0.1100	1.66		Shallow Concentrated Flow, scf Woodland Kv= 5.0 fps
24.4	473	Total			

Subcatchment 2: Subcat 2

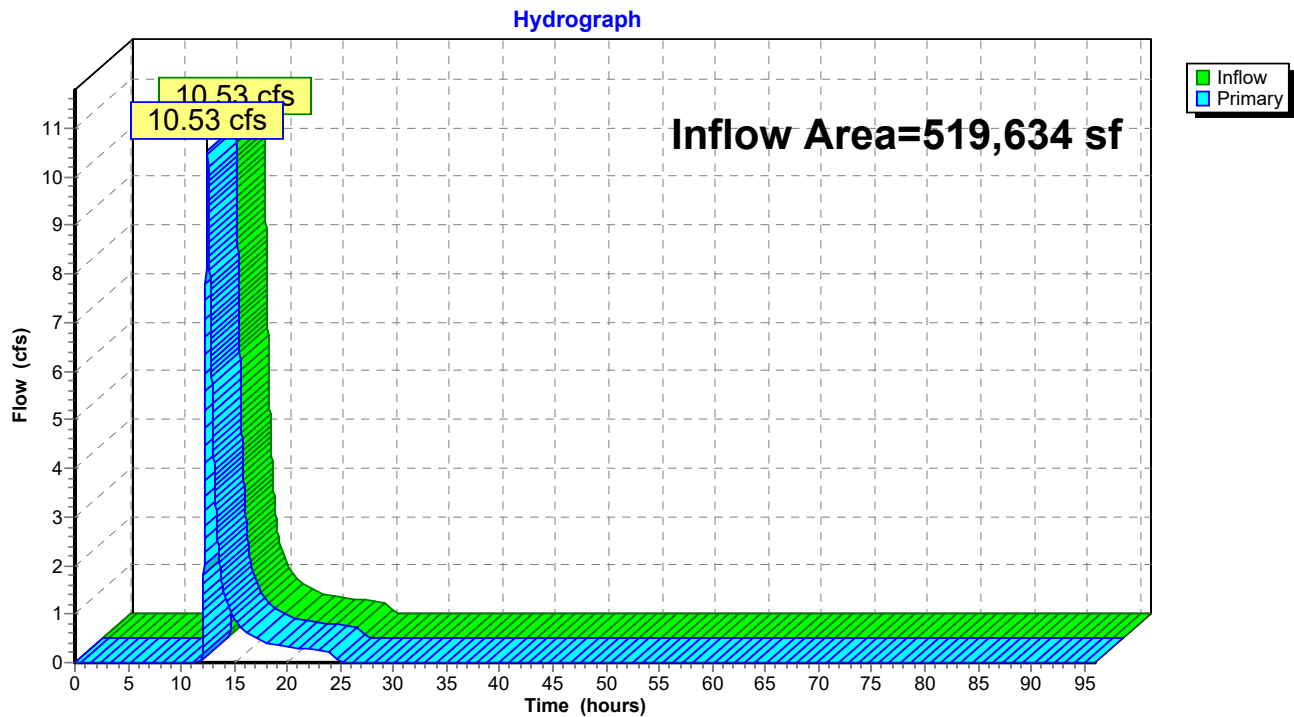
Hydrograph



Summary for Link 3L: Rt. 32 Culvert

Inflow Area = 519,634 sf, 0.00% Impervious, Inflow Depth = 1.16" for 10-yr event
Inflow = 10.53 cfs @ 12.48 hrs, Volume= 50,389 cf
Primary = 10.53 cfs @ 12.48 hrs, Volume= 50,389 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Link 3L: Rt. 32 Culvert

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NOAA 24-hr A 10-yr Rainfall=5.11"

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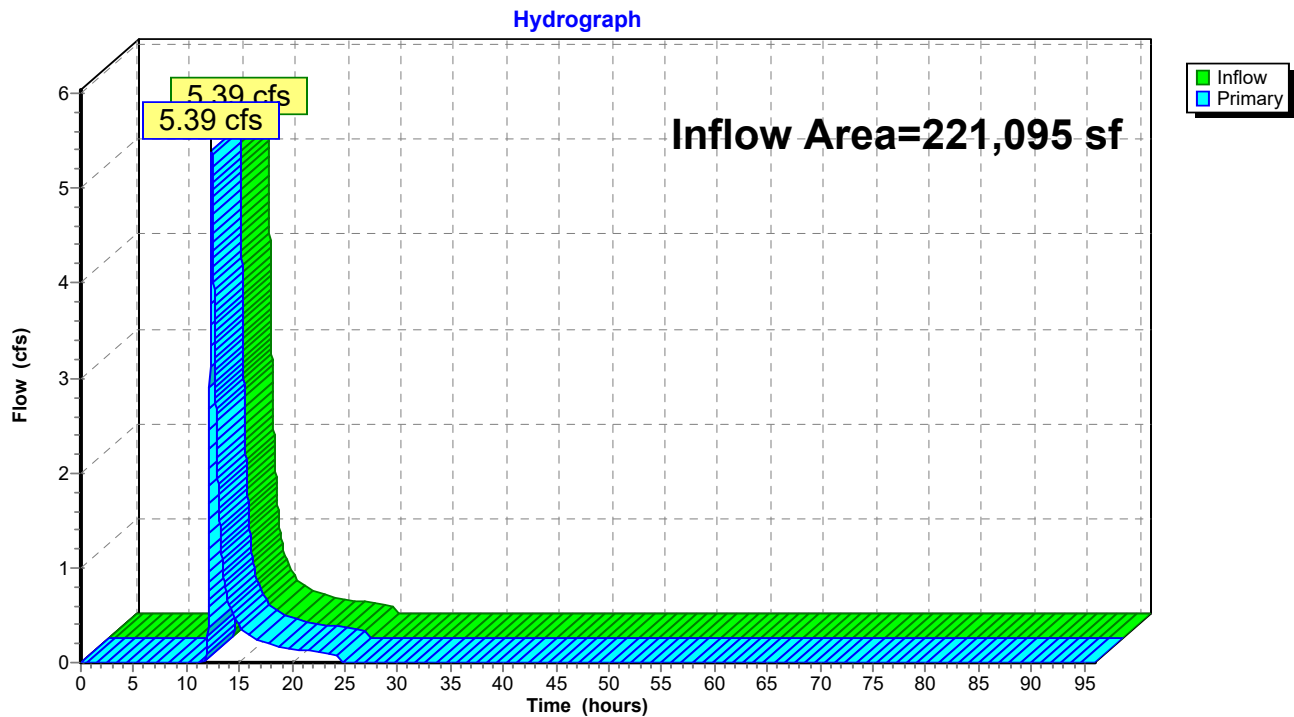
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Summary for Link 4L: West Off-Site

Inflow Area = 221,095 sf, 0.00% Impervious, Inflow Depth = 1.23" for 10-yr event
Inflow = 5.39 cfs @ 12.39 hrs, Volume= 22,658 cf
Primary = 5.39 cfs @ 12.39 hrs, Volume= 22,658 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Link 4L: West Off-Site



2024-4-30 Existing Conditions

NOAA 24-hr A 25-yr Rainfall=6.15"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points

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

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

Subcatchment1: Subcat 1

Runoff Area=11.929 ac 0.00% Impervious Runoff Depth=1.77"
Flow Length=946' Tc=29.8 min CN=57 Runoff=17.02 cfs 76,551 cf

Subcatchment2: Subcat 2

Runoff Area=5.076 ac 0.00% Impervious Runoff Depth=1.85"
Flow Length=473' Tc=24.4 min CN=58 Runoff=8.59 cfs 34,103 cf

Link 3L: Rt. 32 Culvert

Inflow=17.02 cfs 76,551 cf
Primary=17.02 cfs 76,551 cf

Link 4L: West Off-Site

Inflow=8.59 cfs 34,103 cf
Primary=8.59 cfs 34,103 cf

Total Runoff Area = 740,729 sf Runoff Volume = 110,655 cf Average Runoff Depth = 1.79"
100.00% Pervious = 740,729 sf 0.00% Impervious = 0 sf

2024-4-30 Existing Conditions

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NOAA 24-hr A 25-yr Rainfall=6.15"

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Summary for Subcatchment 1: Subcat 1

Runoff = 17.02 cfs @ 12.48 hrs, Volume= 76,551 cf, Depth= 1.77"
Routed to Link 3L : Rt. 32 Culvert

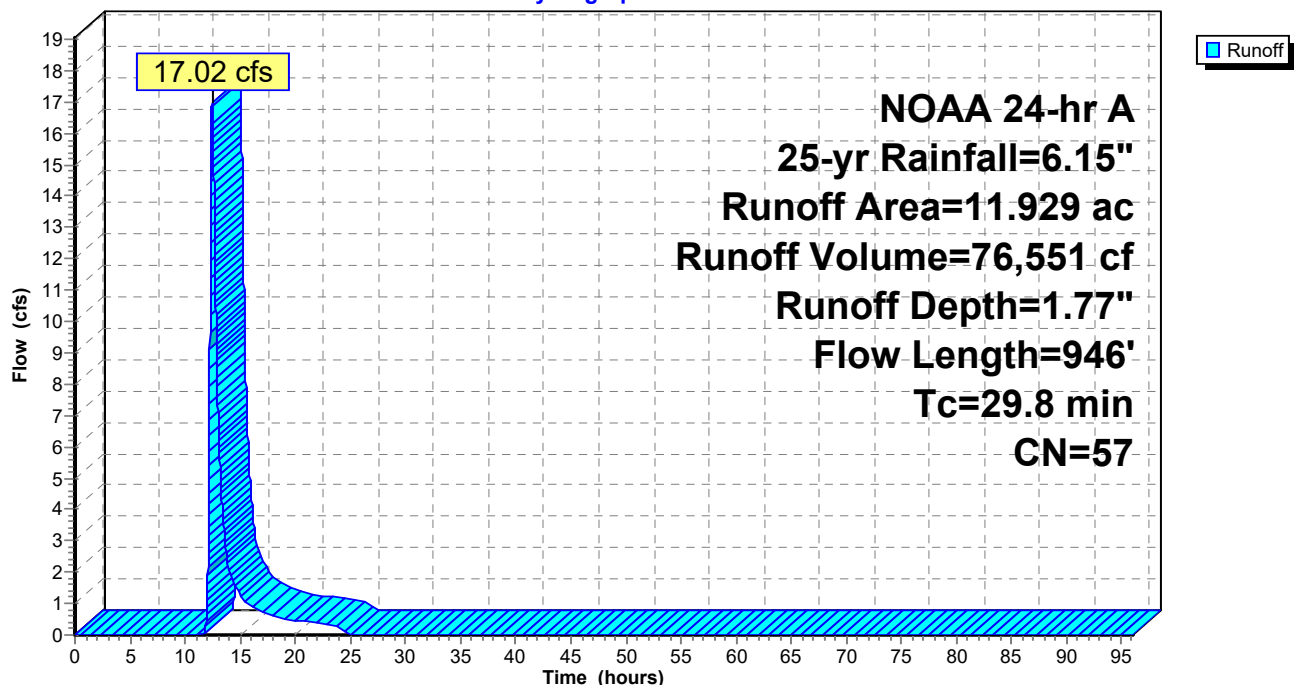
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr A 25-yr Rainfall=6.15"

Area (ac)	CN	Description
0.002	77	Woods, Good, HSG D
1.351	77	Woods, Good, HSG D
2.934	55	Woods, Good, HSG B
0.092	55	Woods, Good, HSG B
6.873	55	Woods, Good, HSG B
0.677	55	Woods, Good, HSG B
11.929	57	Weighted Average
11.929		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	100	0.0200	0.08		Sheet Flow, SHEET Woods: Light underbrush n= 0.400 P2= 3.46"
9.1	846	0.0960	1.55		Shallow Concentrated Flow, scf Woodland Kv= 5.0 fps
29.8	946	Total			

Subcatchment 1: Subcat 1

Hydrograph



2024-4-30 Existing Conditions

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NOAA 24-hr A 25-yr Rainfall=6.15"

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Summary for Subcatchment 2: Subcat 2

Runoff = 8.59 cfs @ 12.39 hrs, Volume= 34,103 cf, Depth= 1.85"
Routed to Link 4L : West Off-Site

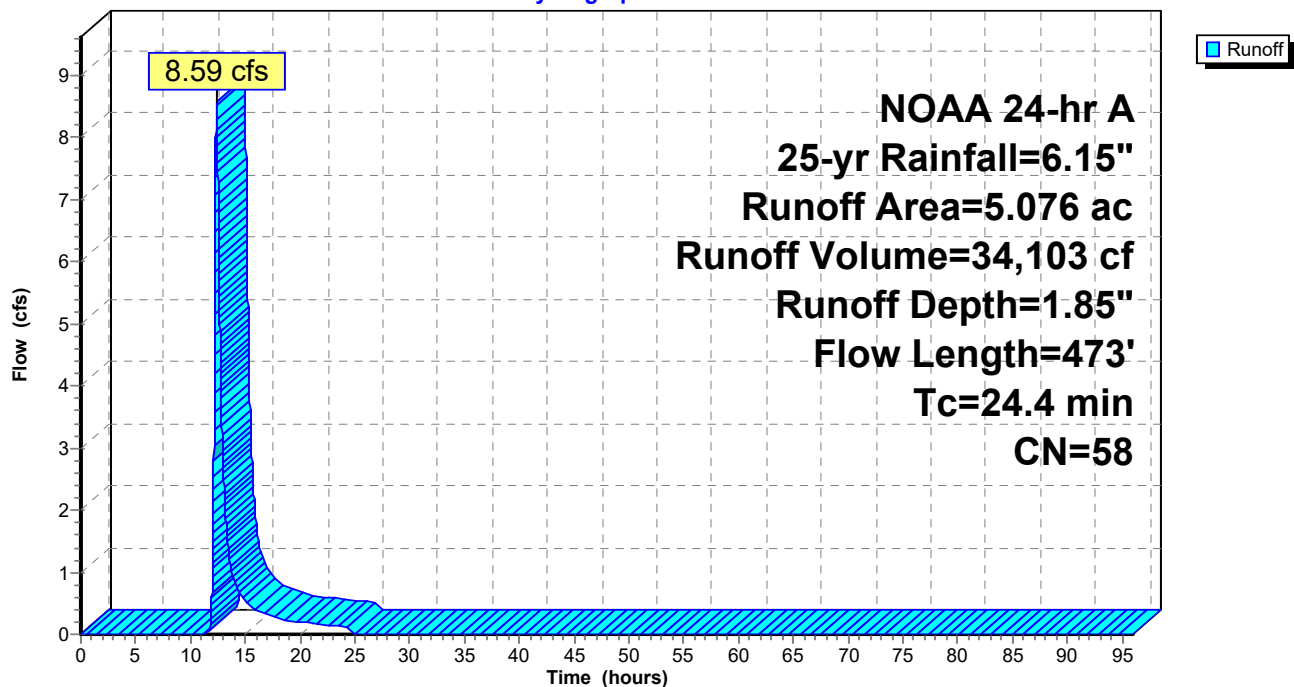
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr A 25-yr Rainfall=6.15"

Area (ac)	CN	Description
0.767	77	Woods, Good, HSG D
0.040	55	Woods, Good, HSG B
0.059	55	Woods, Good, HSG B
2.470	55	Woods, Good, HSG B
1.739	55	Woods, Good, HSG B
5.076	58	Weighted Average
5.076		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	100	0.0200	0.08		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.46"
3.7	373	0.1100	1.66		Shallow Concentrated Flow, scf Woodland Kv= 5.0 fps
24.4	473	Total			

Subcatchment 2: Subcat 2

Hydrograph



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NOAA 24-hr A 25-yr Rainfall=6.15"

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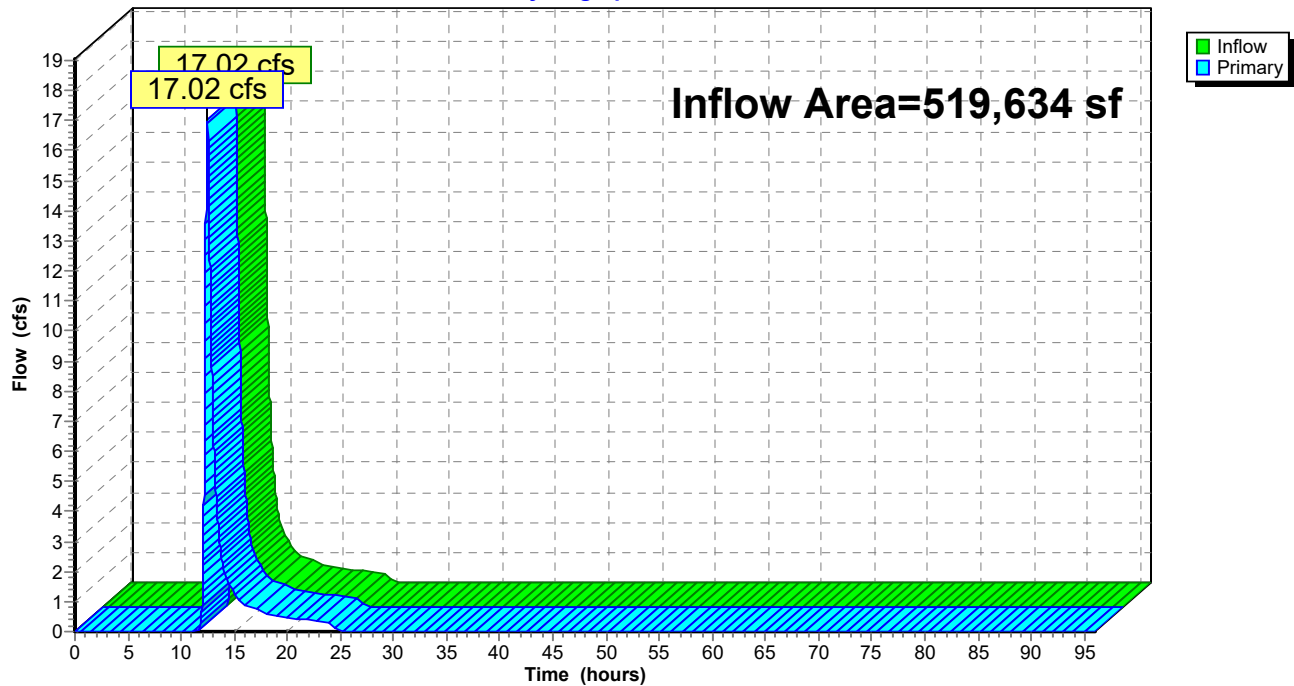
Summary for Link 3L: Rt. 32 Culvert

Inflow Area = 519,634 sf, 0.00% Impervious, Inflow Depth = 1.77" for 25-yr event
Inflow = 17.02 cfs @ 12.48 hrs, Volume= 76,551 cf
Primary = 17.02 cfs @ 12.48 hrs, Volume= 76,551 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Link 3L: Rt. 32 Culvert

Hydrograph



2024-4-30 Existing Conditions

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NOAA 24-hr A 25-yr Rainfall=6.15"

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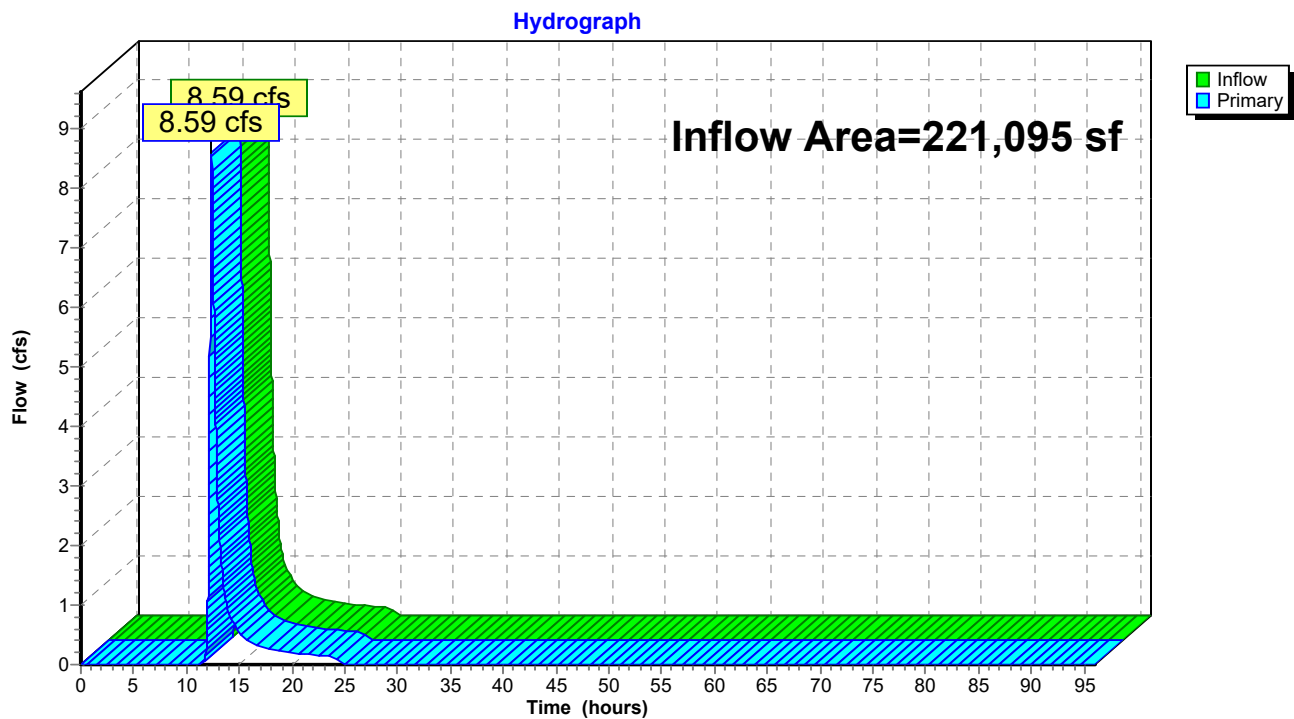
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Summary for Link 4L: West Off-Site

Inflow Area = 221,095 sf, 0.00% Impervious, Inflow Depth = 1.85" for 25-yr event
Inflow = 8.59 cfs @ 12.39 hrs, Volume= 34,103 cf
Primary = 8.59 cfs @ 12.39 hrs, Volume= 34,103 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Link 4L: West Off-Site



2024-4-30 Existing Conditions

NOAA 24-hr A 50-yr Rainfall=6.92"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points

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

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

Subcatchment1: Subcat 1

Runoff Area=11.929 ac 0.00% Impervious Runoff Depth=2.26"
Flow Length=946' Tc=29.8 min CN=57 Runoff=22.33 cfs 97,874 cf

Subcatchment2: Subcat 2

Runoff Area=5.076 ac 0.00% Impervious Runoff Depth=2.36"
Flow Length=473' Tc=24.4 min CN=58 Runoff=11.16 cfs 43,390 cf

Link 3L: Rt. 32 Culvert

Inflow=22.33 cfs 97,874 cf
Primary=22.33 cfs 97,874 cf

Link 4L: West Off-Site

Inflow=11.16 cfs 43,390 cf
Primary=11.16 cfs 43,390 cf

Total Runoff Area = 740,729 sf Runoff Volume = 141,264 cf Average Runoff Depth = 2.29"
100.00% Pervious = 740,729 sf 0.00% Impervious = 0 sf

2024-4-30 Existing Conditions

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NOAA 24-hr A 50-yr Rainfall=6.92"

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Summary for Subcatchment 1: Subcat 1

Runoff = 22.33 cfs @ 12.45 hrs, Volume= 97,874 cf, Depth= 2.26"
Routed to Link 3L : Rt. 32 Culvert

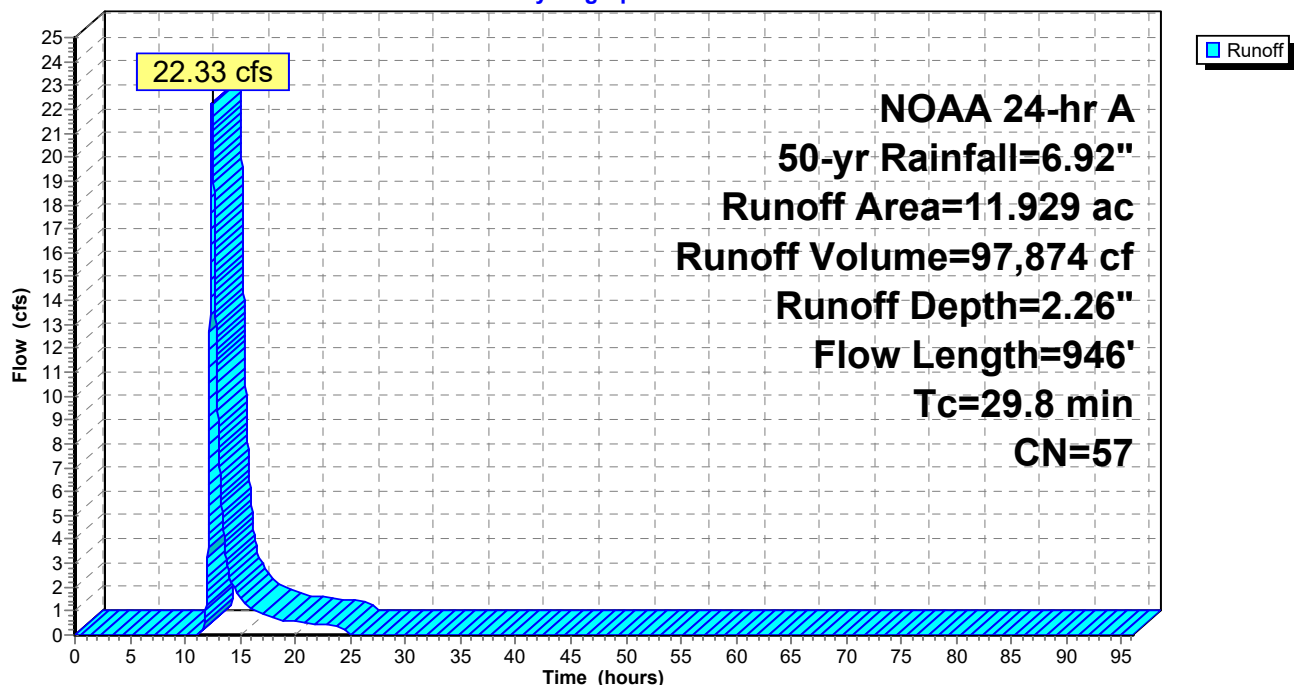
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr A 50-yr Rainfall=6.92"

Area (ac)	CN	Description
0.002	77	Woods, Good, HSG D
1.351	77	Woods, Good, HSG D
2.934	55	Woods, Good, HSG B
0.092	55	Woods, Good, HSG B
6.873	55	Woods, Good, HSG B
0.677	55	Woods, Good, HSG B
11.929	57	Weighted Average
11.929		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	100	0.0200	0.08		Sheet Flow, SHEET Woods: Light underbrush n= 0.400 P2= 3.46"
9.1	846	0.0960	1.55		Shallow Concentrated Flow, scf Woodland Kv= 5.0 fps
29.8	946	Total			

Subcatchment 1: Subcat 1

Hydrograph



2024-4-30 Existing Conditions

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NOAA 24-hr A 50-yr Rainfall=6.92"

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Summary for Subcatchment 2: Subcat 2

Runoff = 11.16 cfs @ 12.38 hrs, Volume= 43,390 cf, Depth= 2.36"
Routed to Link 4L : West Off-Site

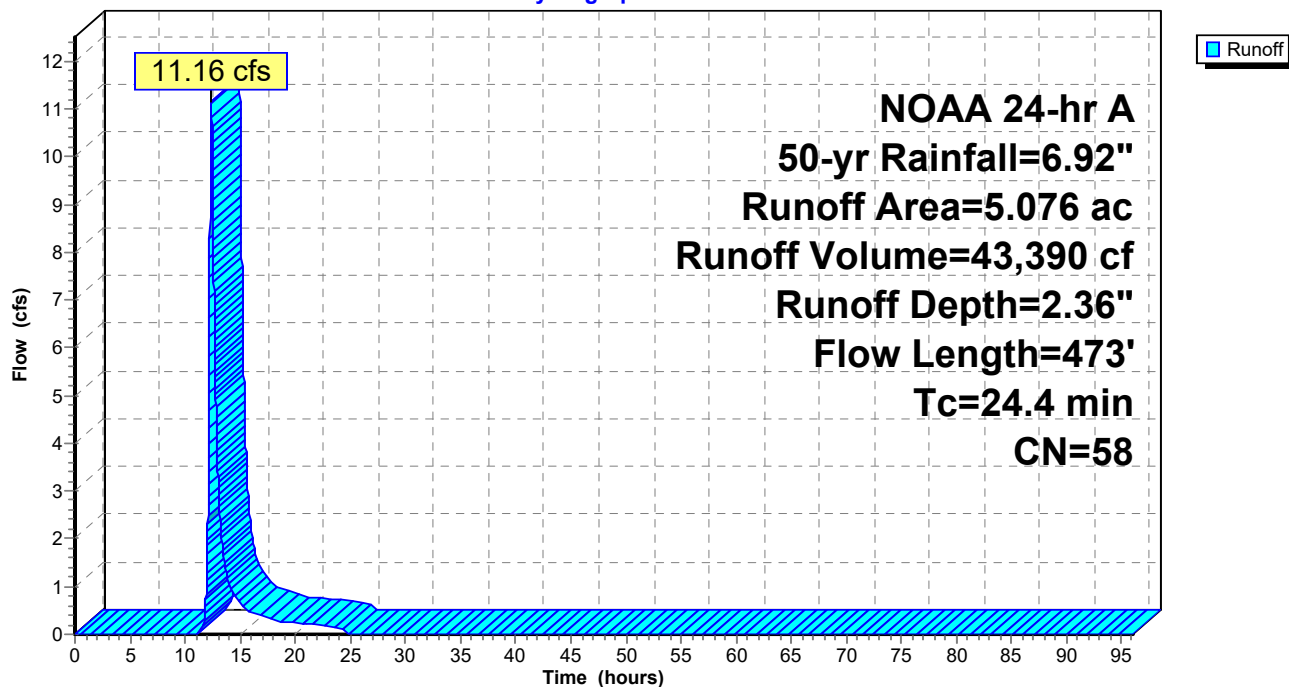
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr A 50-yr Rainfall=6.92"

Area (ac)	CN	Description
0.767	77	Woods, Good, HSG D
0.040	55	Woods, Good, HSG B
0.059	55	Woods, Good, HSG B
2.470	55	Woods, Good, HSG B
1.739	55	Woods, Good, HSG B
5.076	58	Weighted Average
5.076		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	100	0.0200	0.08		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.46"
3.7	373	0.1100	1.66		Shallow Concentrated Flow, scf Woodland Kv= 5.0 fps
24.4	473	Total			

Subcatchment 2: Subcat 2

Hydrograph



2024-4-30 Existing Conditions

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NOAA 24-hr A 50-yr Rainfall=6.92"

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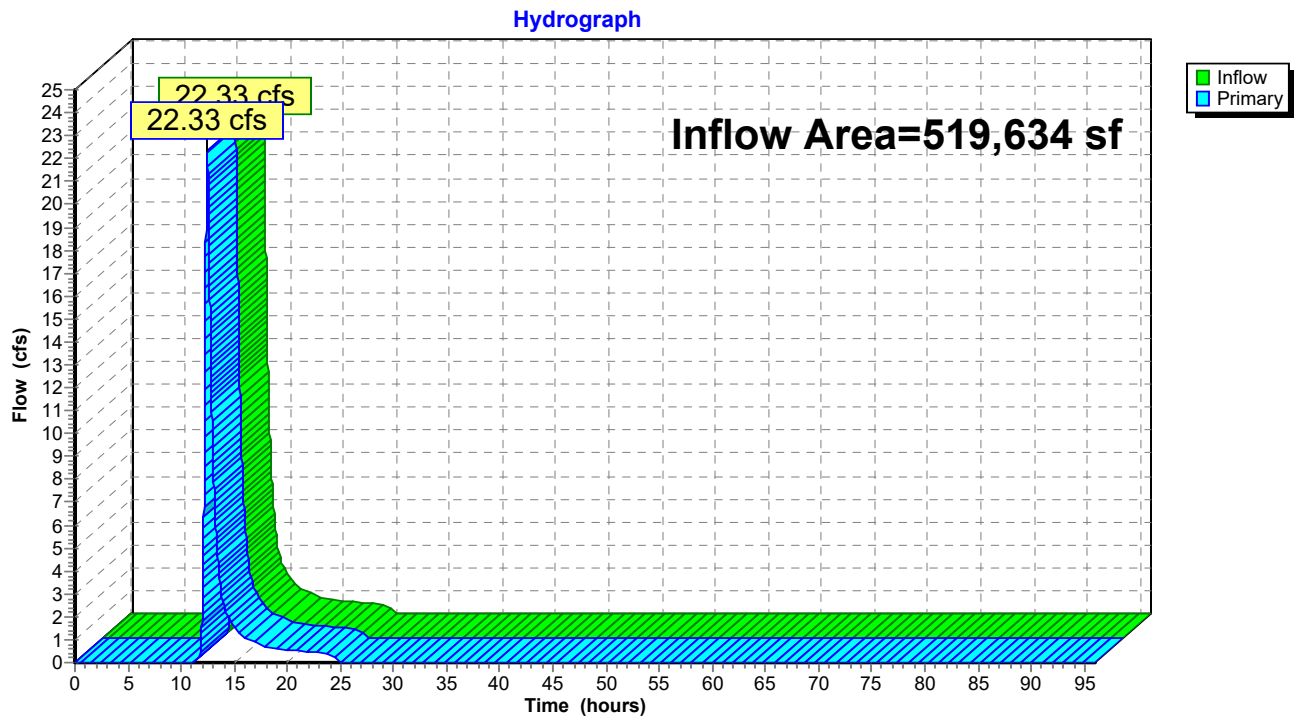
Page 30

Summary for Link 3L: Rt. 32 Culvert

Inflow Area = 519,634 sf, 0.00% Impervious, Inflow Depth = 2.26" for 50-yr event
Inflow = 22.33 cfs @ 12.45 hrs, Volume= 97,874 cf
Primary = 22.33 cfs @ 12.45 hrs, Volume= 97,874 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Link 3L: Rt. 32 Culvert



2024-4-30 Existing Conditions

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NOAA 24-hr A 50-yr Rainfall=6.92"

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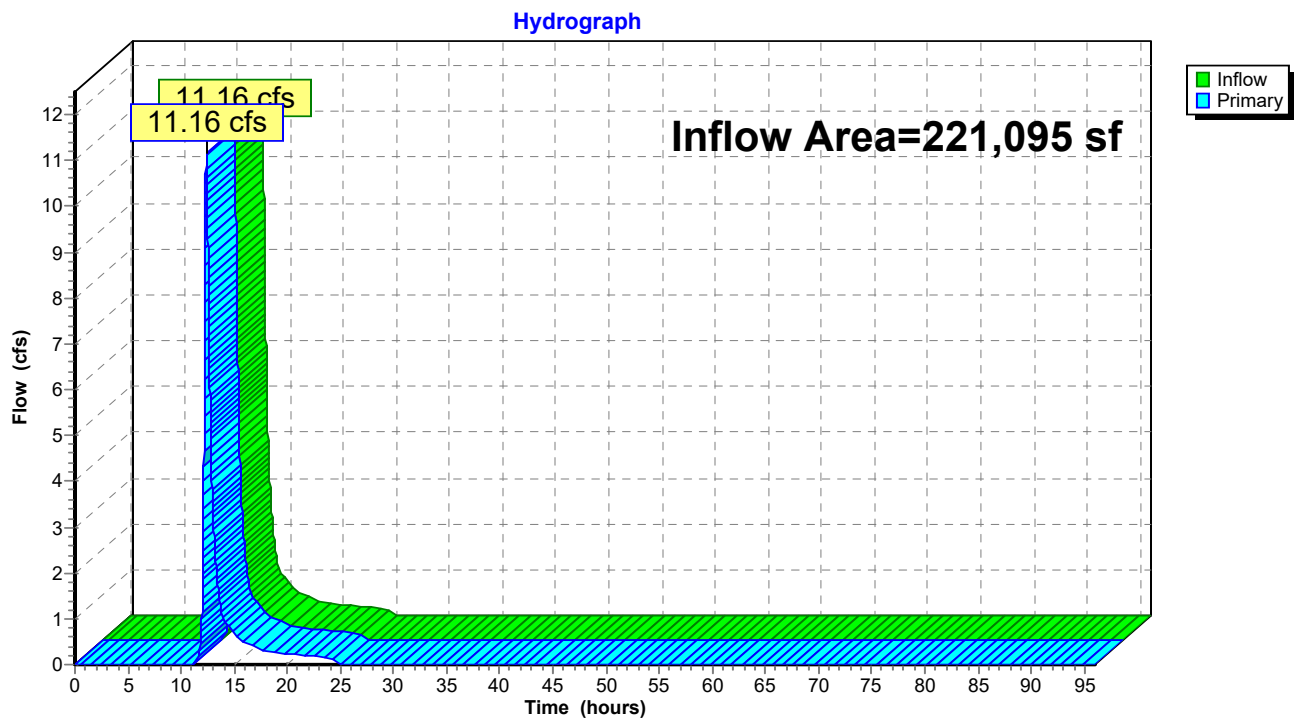
Page 31

Summary for Link 4L: West Off-Site

Inflow Area = 221,095 sf, 0.00% Impervious, Inflow Depth = 2.36" for 50-yr event
Inflow = 11.16 cfs @ 12.38 hrs, Volume= 43,390 cf
Primary = 11.16 cfs @ 12.38 hrs, Volume= 43,390 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Link 4L: West Off-Site



2024-4-30 Existing Conditions

NOAA 24-hr A 100-yr Rainfall=7.74"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points

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

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

Subcatchment1: Subcat 1

Runoff Area=11.929 ac 0.00% Impervious Runoff Depth=2.82"
Flow Length=946' Tc=29.8 min CN=57 Runoff=28.36 cfs 122,059 cf

Subcatchment2: Subcat 2

Runoff Area=5.076 ac 0.00% Impervious Runoff Depth=2.93"
Flow Length=473' Tc=24.4 min CN=58 Runoff=14.08 cfs 53,894 cf

Link 3L: Rt. 32 Culvert

Inflow=28.36 cfs 122,059 cf
Primary=28.36 cfs 122,059 cf

Link 4L: West Off-Site

Inflow=14.08 cfs 53,894 cf
Primary=14.08 cfs 53,894 cf

Total Runoff Area = 740,729 sf Runoff Volume = 175,953 cf Average Runoff Depth = 2.85"
100.00% Pervious = 740,729 sf 0.00% Impervious = 0 sf

2024-4-30 Existing Conditions

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NOAA 24-hr A 100-yr Rainfall=7.74"

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Summary for Subcatchment 1: Subcat 1

Runoff = 28.36 cfs @ 12.45 hrs, Volume= 122,059 cf, Depth= 2.82"
Routed to Link 3L : Rt. 32 Culvert

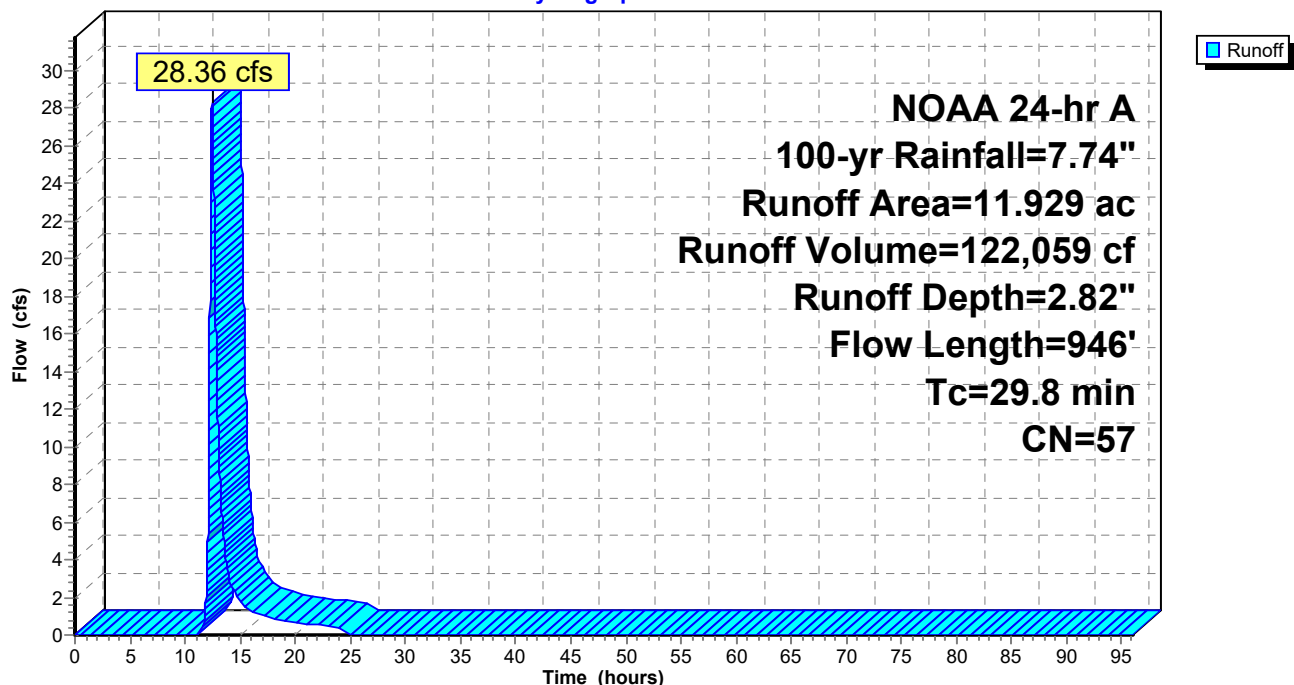
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr A 100-yr Rainfall=7.74"

Area (ac)	CN	Description
0.002	77	Woods, Good, HSG D
1.351	77	Woods, Good, HSG D
2.934	55	Woods, Good, HSG B
0.092	55	Woods, Good, HSG B
6.873	55	Woods, Good, HSG B
0.677	55	Woods, Good, HSG B
11.929	57	Weighted Average
11.929		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	100	0.0200	0.08		Sheet Flow, SHEET Woods: Light underbrush n= 0.400 P2= 3.46"
9.1	846	0.0960	1.55		Shallow Concentrated Flow, scf Woodland Kv= 5.0 fps
29.8	946	Total			

Subcatchment 1: Subcat 1

Hydrograph



2024-4-30 Existing Conditions

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NOAA 24-hr A 100-yr Rainfall=7.74"

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Summary for Subcatchment 2: Subcat 2

Runoff = 14.08 cfs @ 12.37 hrs, Volume= 53,894 cf, Depth= 2.93"
Routed to Link 4L : West Off-Site

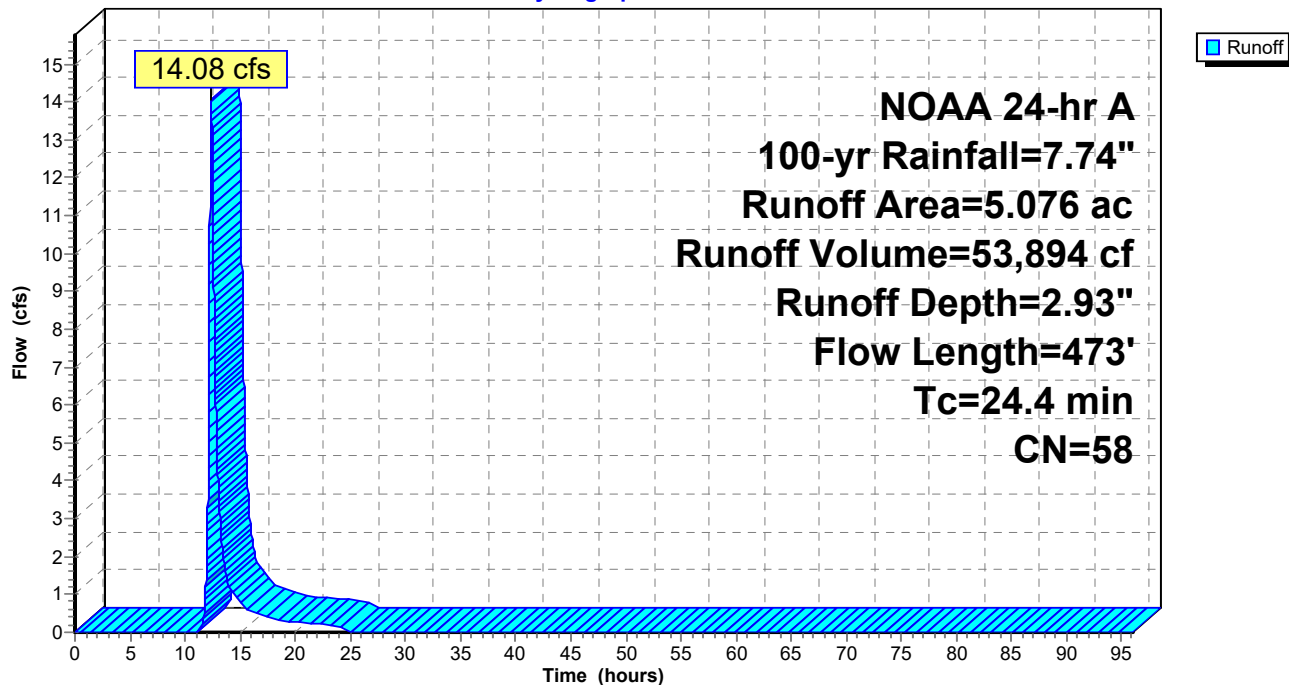
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr A 100-yr Rainfall=7.74"

Area (ac)	CN	Description
0.767	77	Woods, Good, HSG D
0.040	55	Woods, Good, HSG B
0.059	55	Woods, Good, HSG B
2.470	55	Woods, Good, HSG B
1.739	55	Woods, Good, HSG B
5.076	58	Weighted Average
5.076		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.7	100	0.0200	0.08		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.46"
3.7	373	0.1100	1.66		Shallow Concentrated Flow, scf Woodland Kv= 5.0 fps
24.4	473	Total			

Subcatchment 2: Subcat 2

Hydrograph



2024-4-30 Existing Conditions

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NOAA 24-hr A 100-yr Rainfall=7.74"

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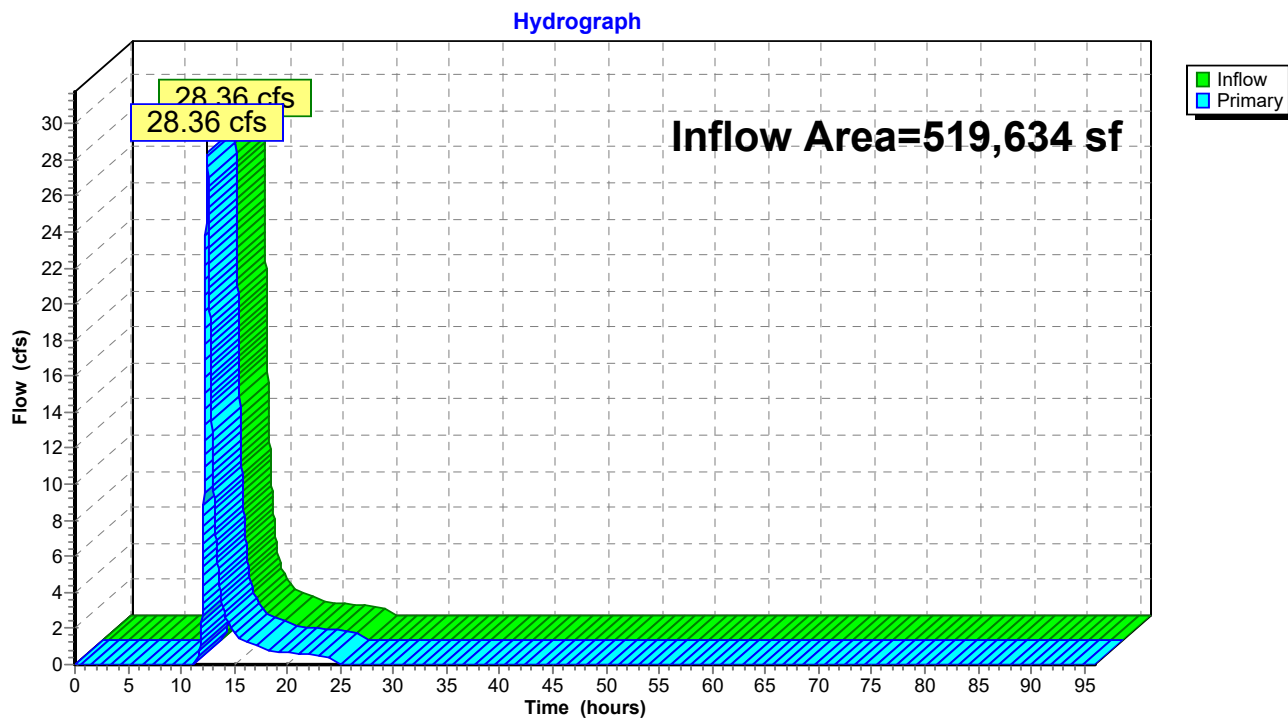
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Summary for Link 3L: Rt. 32 Culvert

Inflow Area = 519,634 sf, 0.00% Impervious, Inflow Depth = 2.82" for 100-yr event
Inflow = 28.36 cfs @ 12.45 hrs, Volume= 122,059 cf
Primary = 28.36 cfs @ 12.45 hrs, Volume= 122,059 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Link 3L: Rt. 32 Culvert



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NOAA 24-hr A 100-yr Rainfall=7.74"

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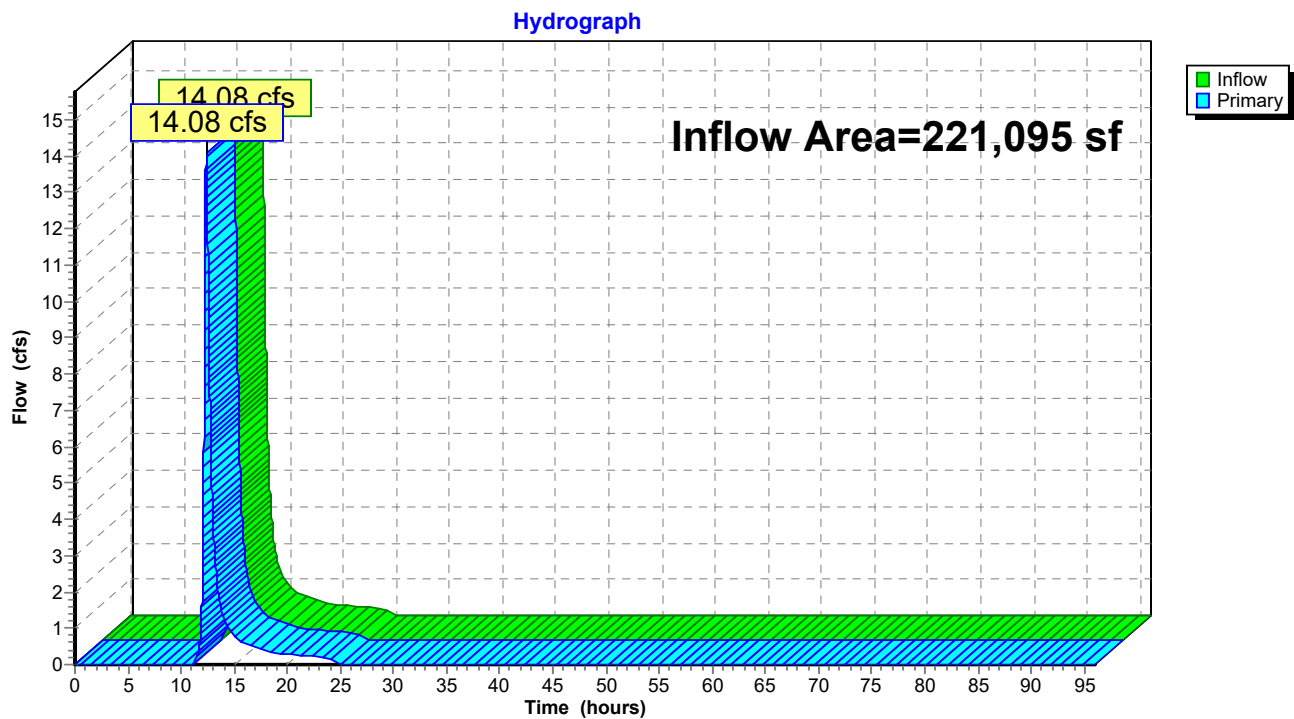
Page 36

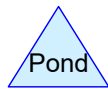
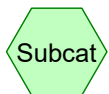
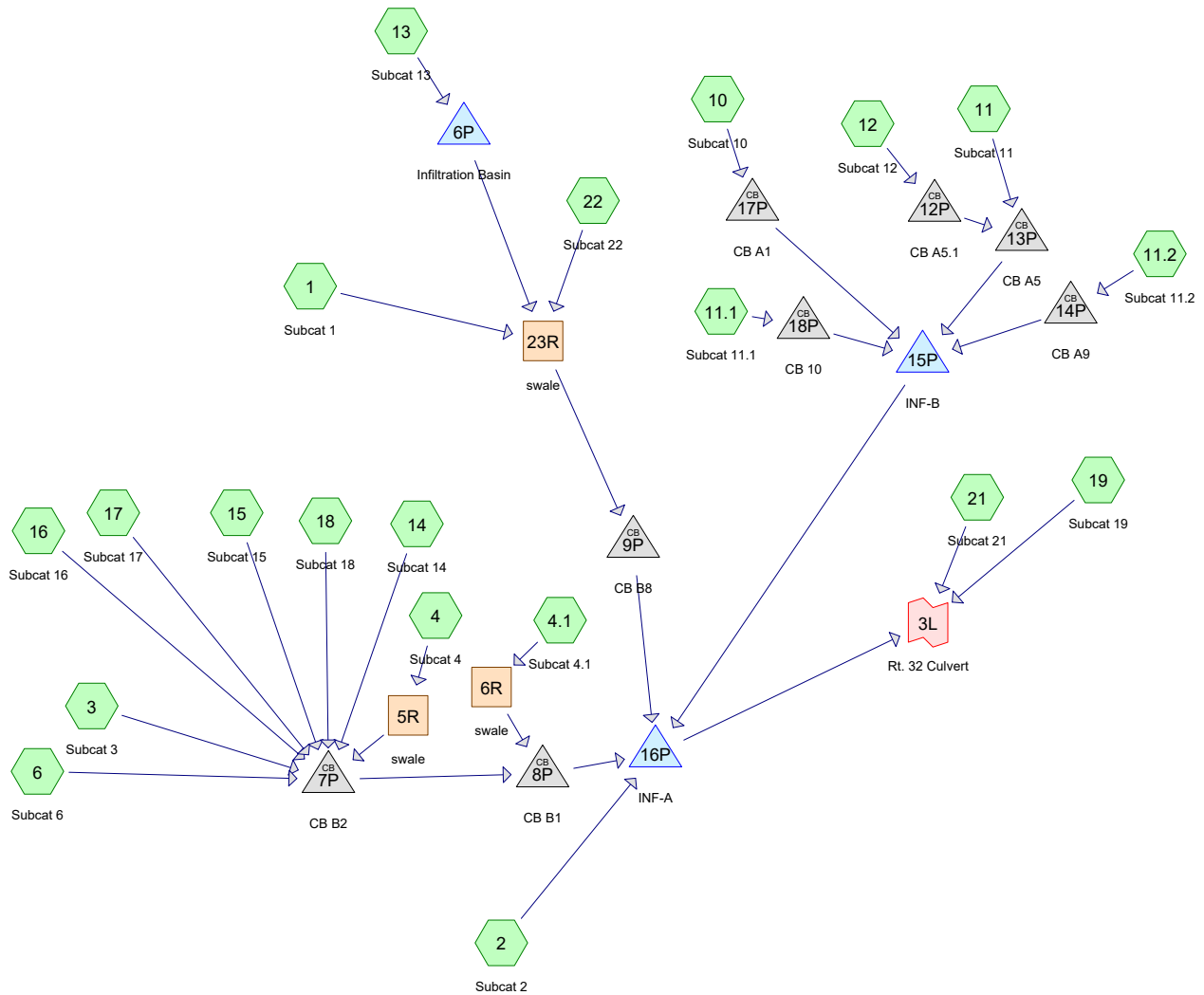
Summary for Link 4L: West Off-Site

Inflow Area = 221,095 sf, 0.00% Impervious, Inflow Depth = 2.93" for 100-yr event
Inflow = 14.08 cfs @ 12.37 hrs, Volume= 53,894 cf
Primary = 14.08 cfs @ 12.37 hrs, Volume= 53,894 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Link 4L: West Off-Site





Routing Diagram for 2024-4-30 New Conditions - Rt 32 Culvert
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2024-4-30 New Conditions - Rt 32 Culvert

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	NOAA 24-hr	D	Default	24.00	1	3.46	2
2	5-yr	NOAA 24-hr	D	Default	24.00	1	4.36	2
3	10-yr	NOAA 24-hr	D	Default	24.00	1	5.11	2
4	25-yr	NOAA 24-hr	D	Default	24.00	1	6.15	2
5	50-yr	NOAA 24-hr	D	Default	24.00	1	6.92	2

2024-4-30 New Conditions - Rt 32 Culvert

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
179,905	61	>75% Grass cover, Good, HSG B (1, 2, 3, 4, 4.1, 6, 10, 11, 11.1, 11.2, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22)
10,299	80	>75% Grass cover, Good, HSG D (10, 11, 21)
110,858	98	Paved parking, HSG B (2, 3, 4, 4.1, 10, 11, 11.1, 11.2, 12, 13, 21, 22)
11,730	98	Paved parking, HSG D (3, 10, 11)
72,458	98	Roofs, HSG B (1, 3, 4, 4.1, 6, 12, 14, 15, 16, 17, 18)
15,660	98	Unconnected pavement, HSG B (1, 3, 10, 11, 11.1, 11.2, 12, 22)
1,039	98	Unconnected pavement, HSG D (10, 11)
111,354	55	Woods, Good, HSG B (1, 11, 13, 19, 22)
45,913	77	Woods, Good, HSG D (11, 13)
559,215	75	TOTAL AREA

2024-4-30 New Conditions - Rt 32 Culvert

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Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
490,234	HSG B	1, 2, 3, 4, 4.1, 6, 10, 11, 11.1, 11.2, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22
0	HSG C	
68,980	HSG D	3, 10, 11, 13, 21
0	Other	
559,215		TOTAL AREA

2024-4-30 New Conditions - Rt 32 Culvert

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Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Sub Num
0	179,905	0	10,299	0	190,203	>75% Grass cover, Good	
0	110,858	0	11,730	0	122,588	Paved parking	
0	72,458	0	0	0	72,458	Roofs	
0	15,660	0	1,039	0	16,699	Unconnected pavement	
0	111,354	0	45,913	0	157,267	Woods, Good	
0	490,234	0	68,980	0	559,215	TOTAL AREA	

2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 2-yr Rainfall=3.46"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1: Subcat 1	Runoff Area=46,057 sf 9.58% Impervious Runoff Depth=0.64" Tc=10.0 min UI Adjusted CN=63 Runoff=0.55 cfs 2,457 cf
Subcatchment2: Subcat 2	Runoff Area=0.097 ac 83.65% Impervious Runoff Depth=2.60" Tc=5.0 min CN=92 Runoff=0.29 cfs 917 cf
Subcatchment3: Subcat 3	Runoff Area=33,237 sf 65.92% Impervious Runoff Depth=1.98" Tc=5.0 min CN=85 Runoff=1.84 cfs 5,489 cf
Subcatchment4: Subcat 4	Runoff Area=0.463 ac 2.77% Impervious Runoff Depth=0.60" Flow Length=100' Slope=0.1750 '/' Tc=5.8 min CN=62 Runoff=0.27 cfs 1,004 cf
Subcatchment4.1: Subcat 4.1	Runoff Area=40,594 sf 1.66% Impervious Runoff Depth=0.60" Tc=5.0 min CN=62 Runoff=0.56 cfs 2,019 cf
Subcatchment6: Subcat 6	Runoff Area=13,786 sf 100.00% Impervious Runoff Depth=3.23" Tc=5.0 min CN=98 Runoff=1.08 cfs 3,707 cf
Subcatchment10: Subcat 10	Runoff Area=48,523 sf 94.79% Impervious Runoff Depth=3.01" Tc=5.0 min CN=96 Runoff=3.69 cfs 12,154 cf
Subcatchment11: Subcat 11	Runoff Area=60,665 sf 52.99% Impervious Runoff Depth=1.98" Flow Length=237' Tc=17.3 min CN=85 Runoff=2.23 cfs 10,018 cf
Subcatchment11.1: Subcat 11.1	Runoff Area=19,963 sf 98.49% Impervious Runoff Depth=3.11" Tc=5.0 min CN=97 Runoff=1.54 cfs 5,182 cf
Subcatchment11.2: Subcat 11.2	Runoff Area=11,909 sf 96.82% Impervious Runoff Depth=3.11" Tc=5.0 min CN=97 Runoff=0.92 cfs 3,091 cf
Subcatchment12: Subcat 12	Runoff Area=30,100 sf 48.89% Impervious Runoff Depth=1.53" Tc=5.0 min CN=79 Runoff=1.31 cfs 3,850 cf
Subcatchment13: Subcat 13	Runoff Area=109,465 sf 0.02% Impervious Runoff Depth=0.68" Flow Length=653' Tc=23.8 min CN=64 Runoff=0.97 cfs 6,248 cf
Subcatchment14: Subcat 14	Runoff Area=13,783 sf 99.97% Impervious Runoff Depth=3.23" Tc=5.0 min CN=98 Runoff=1.08 cfs 3,706 cf
Subcatchment15: Subcat 15	Runoff Area=13,783 sf 99.98% Impervious Runoff Depth=3.23" Tc=5.0 min CN=98 Runoff=1.08 cfs 3,706 cf
Subcatchment16: Subcat 16	Runoff Area=13,792 sf 99.99% Impervious Runoff Depth=3.23" Tc=5.0 min CN=98 Runoff=1.08 cfs 3,708 cf
Subcatchment17: Subcat 17	Runoff Area=6,828 sf 8.53% Impervious Runoff Depth=0.68" Tc=5.0 min CN=64 Runoff=0.12 cfs 390 cf

2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 2-yr Rainfall=3.46"

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Subcatchment 18: Subcat 18	Runoff Area=6,372 sf 7.75% Impervious Runoff Depth=0.68" Tc=5.0 min CN=64 Runoff=0.11 cfs 364 cf
Subcatchment 19: Subcat 19	Runoff Area=5,807 sf 0.00% Impervious Runoff Depth=0.33" Flow Length=335' Tc=13.6 min CN=55 Runoff=0.02 cfs 161 cf
Subcatchment 21: Subcat 21	Runoff Area=8,901 sf 3.88% Impervious Runoff Depth=0.64" Tc=5.0 min CN=63 Runoff=0.14 cfs 475 cf
Subcatchment 22: Subcat 22	Runoff Area=51,226 sf 0.04% Impervious Runoff Depth=0.33" Flow Length=458' Tc=17.9 min CN=55 Runoff=0.14 cfs 1,419 cf
Reach 5R: swale	Avg. Flow Depth=0.16' Max Vel=2.74 fps Inflow=0.27 cfs 1,004 cf n=0.030 L=324.0' S=0.0926 '/' Capacity=65.17 cfs Outflow=0.25 cfs 1,004 cf
Reach 6R: swale	Avg. Flow Depth=0.21' Max Vel=3.42 fps Inflow=0.56 cfs 2,019 cf n=0.030 L=393.0' S=0.1018 '/' Capacity=68.33 cfs Outflow=0.52 cfs 2,019 cf
Reach 23R: swale	Avg. Flow Depth=0.23' Max Vel=2.83 fps Inflow=0.60 cfs 3,876 cf n=0.030 L=353.0' S=0.0630 '/' Capacity=37.04 cfs Outflow=0.58 cfs 3,876 cf
Pond 6P: Infiltration Basin	Peak Elev=312.68' Storage=977 cf Inflow=0.97 cfs 6,248 cf Discarded=0.39 cfs 6,248 cf Primary=0.00 cfs 0 cf Outflow=0.39 cfs 6,248 cf
Pond 7P: CB B2	Peak Elev=260.74' Inflow=6.51 cfs 22,073 cf 15.0" Round Culvert n=0.012 L=62.0' S=0.0100 '/' Outflow=6.51 cfs 22,073 cf
Pond 8P: CB B1	Peak Elev=259.49' Inflow=6.86 cfs 24,092 cf 24.0" Round Culvert n=0.012 L=14.0' S=0.0129 '/' Outflow=6.86 cfs 24,092 cf
Pond 9P: CB B8	Peak Elev=263.39' Inflow=0.58 cfs 3,876 cf 18.0" Round Culvert n=0.012 L=6.0' S=0.5667 '/' Outflow=0.58 cfs 3,876 cf
Pond 12P: CB A5.1	Peak Elev=325.00' Inflow=1.31 cfs 3,850 cf 12.0" Round Culvert n=0.012 L=92.0' S=0.0353 '/' Outflow=1.31 cfs 3,850 cf
Pond 13P: CB A5	Peak Elev=319.21' Inflow=2.85 cfs 13,868 cf 15.0" Round Culvert n=0.012 L=24.0' S=0.1563 '/' Outflow=2.85 cfs 13,868 cf
Pond 14P: CB A9	Peak Elev=312.59' Inflow=0.92 cfs 3,091 cf 12.0" Round Culvert n=0.012 L=144.0' S=0.0150 '/' Outflow=0.92 cfs 3,091 cf
Pond 15P: INF-B	Peak Elev=309.30' Storage=9,842 cf Inflow=8.90 cfs 34,295 cf Discarded=1.31 cfs 34,295 cf Primary=0.00 cfs 0 cf Outflow=1.31 cfs 34,295 cf
Pond 16P: INF-A	Peak Elev=253.67' Storage=9,592 cf Inflow=7.37 cfs 28,885 cf Discarded=0.67 cfs 28,885 cf Primary=0.00 cfs 0 cf Outflow=0.67 cfs 28,885 cf
Pond 17P: CB A1	Peak Elev=327.02' Inflow=3.69 cfs 12,154 cf 15.0" Round Culvert n=0.012 L=58.0' S=0.1552 '/' Outflow=3.69 cfs 12,154 cf
Pond 18P: CB 10	Peak Elev=315.53' Inflow=1.54 cfs 5,182 cf 12.0" Round Culvert n=0.012 L=20.0' S=0.0100 '/' Outflow=1.54 cfs 5,182 cf

2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 2-yr Rainfall=3.46"

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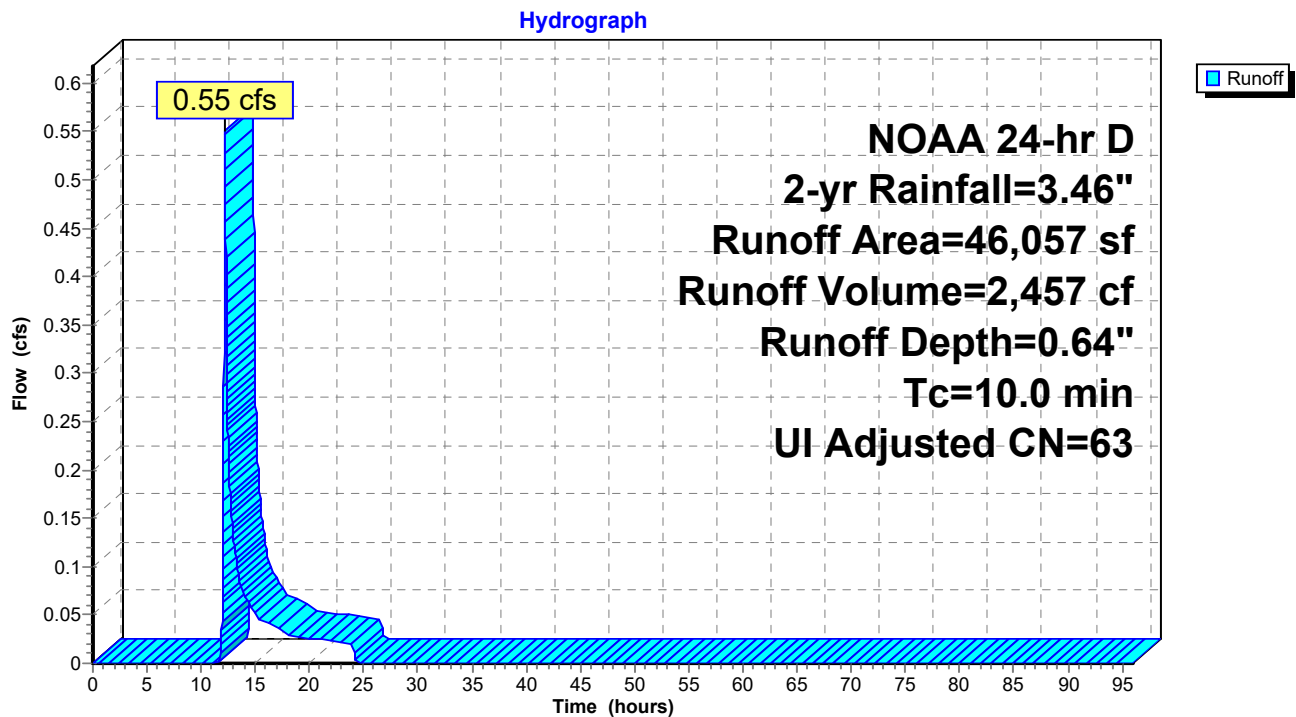
Link 3L: Rt. 32 Culvert

Inflow=0.14 cfs 636 cf

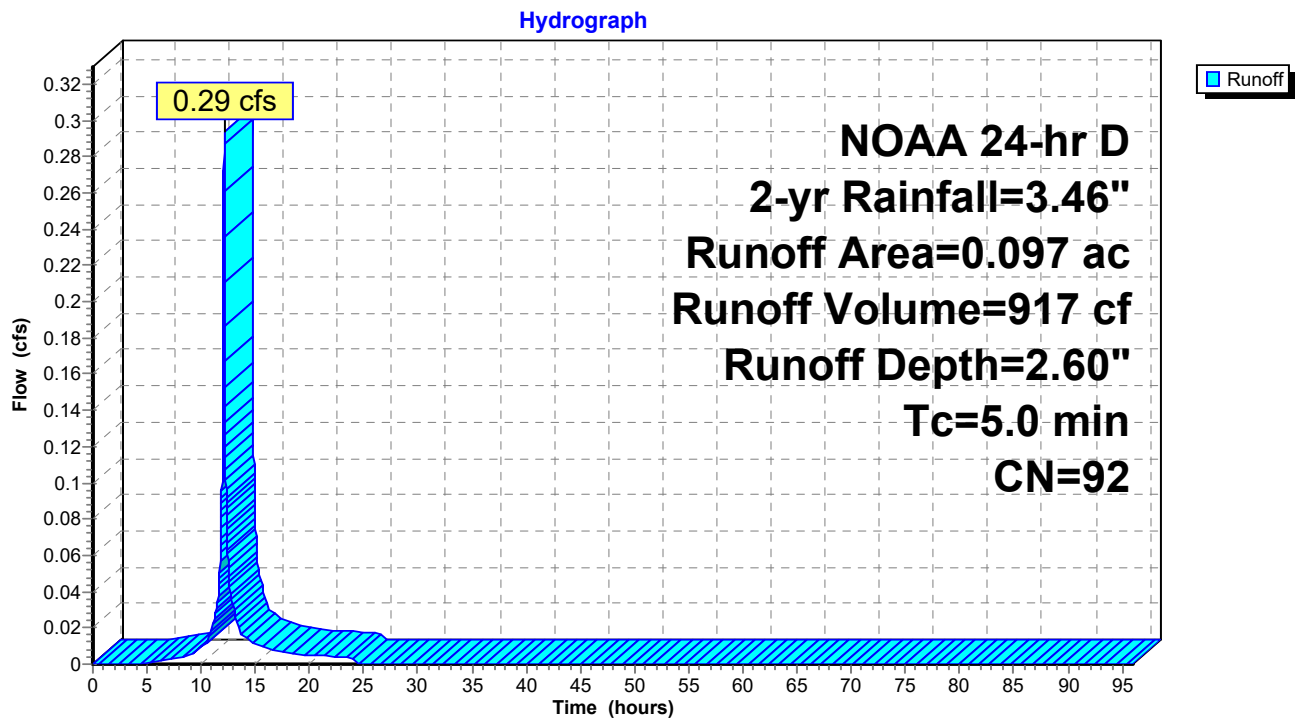
Primary=0.14 cfs 636 cf

Total Runoff Area = 559,215 sf Runoff Volume = 70,064 cf Average Runoff Depth = 1.50"
62.14% Pervious = 347,470 sf 37.86% Impervious = 211,744 sf

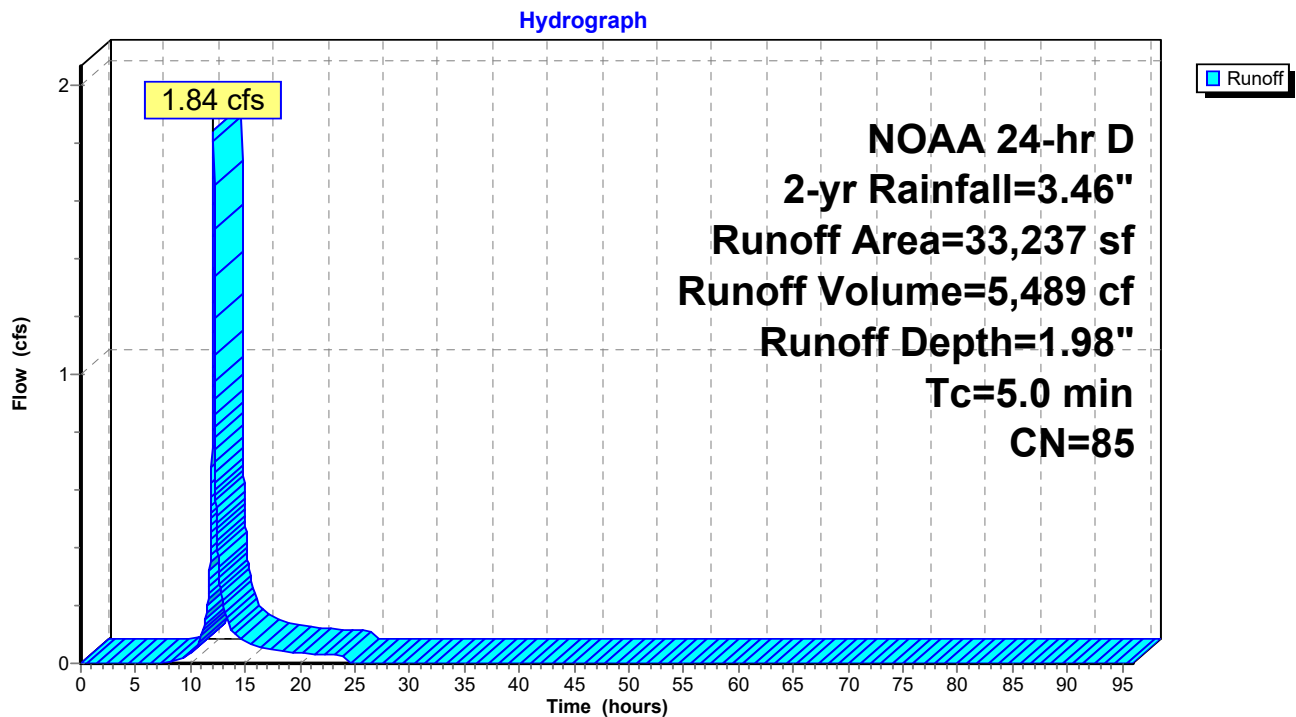
Subcatchment 1: Subcat 1



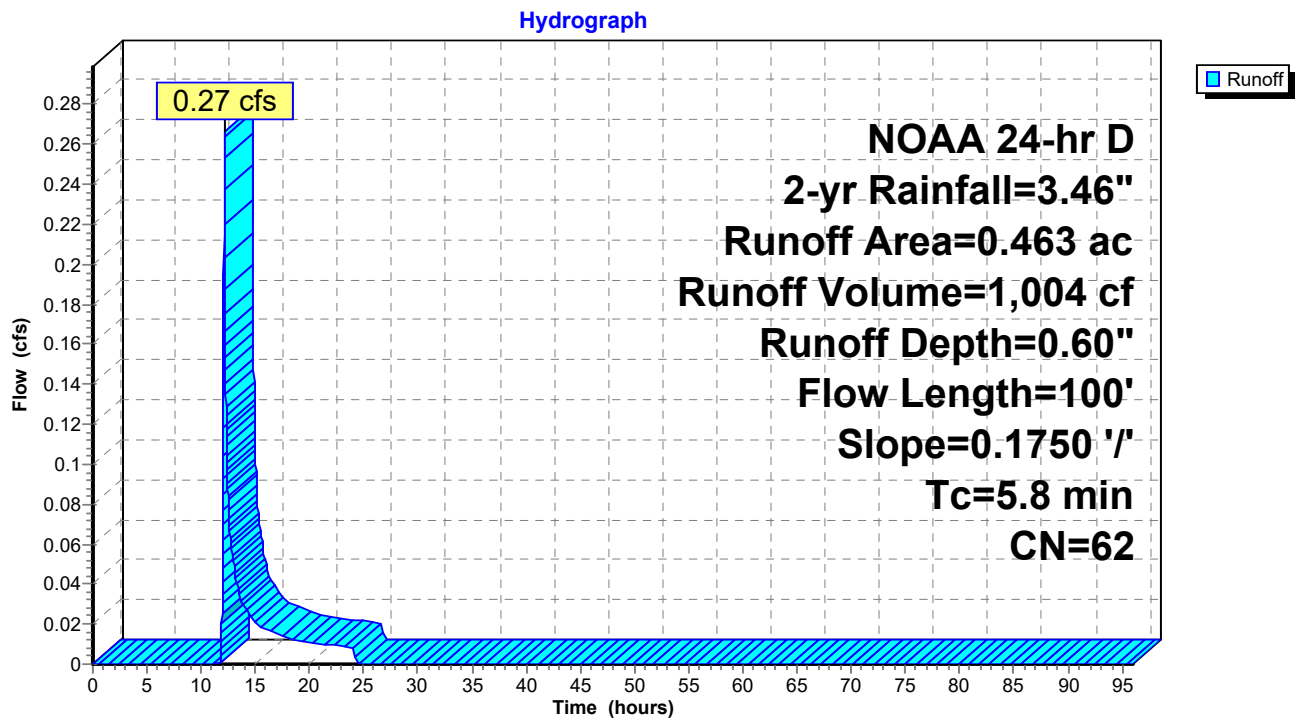
Subcatchment 2: Subcat 2



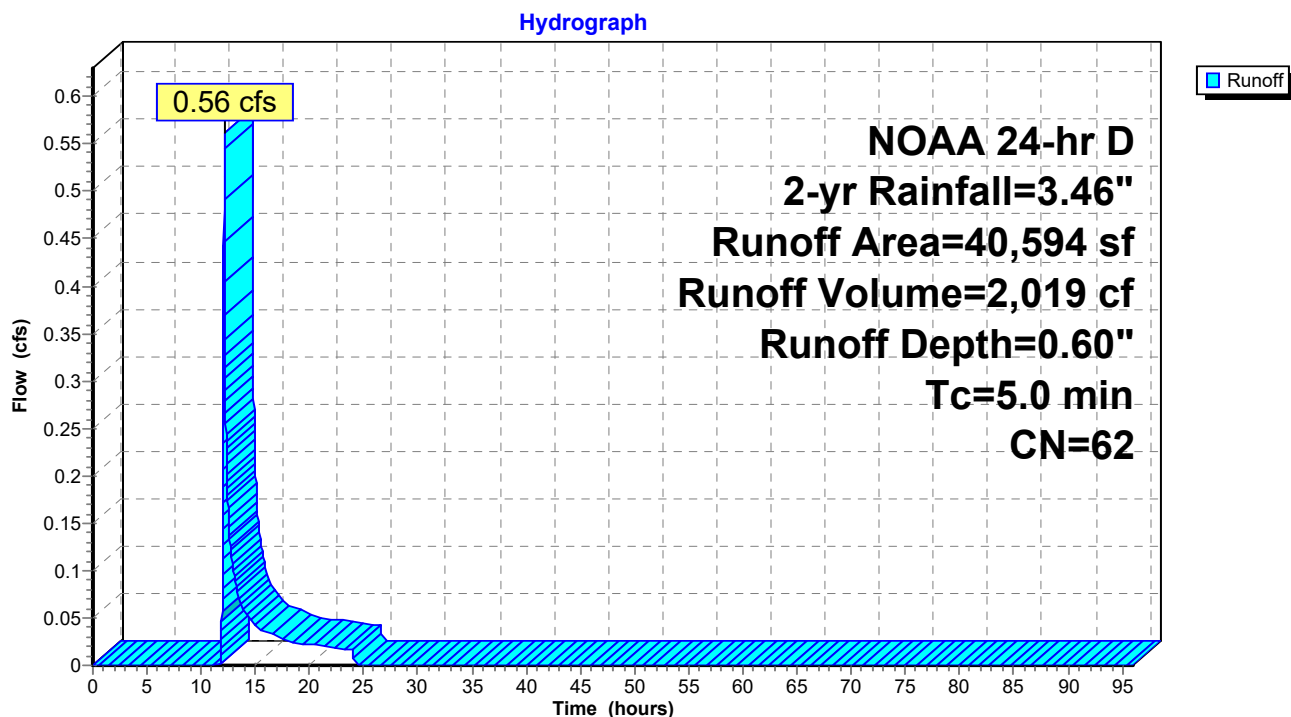
Subcatchment 3: Subcat 3



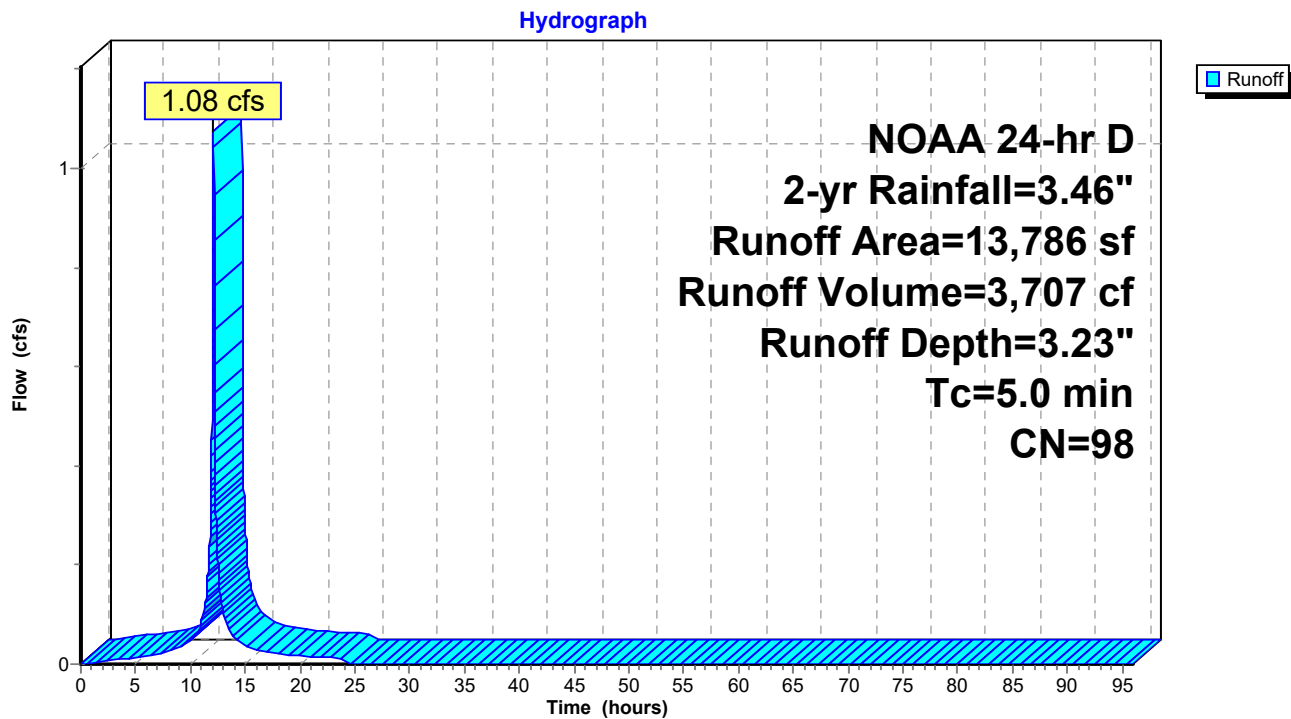
Subcatchment 4: Subcat 4



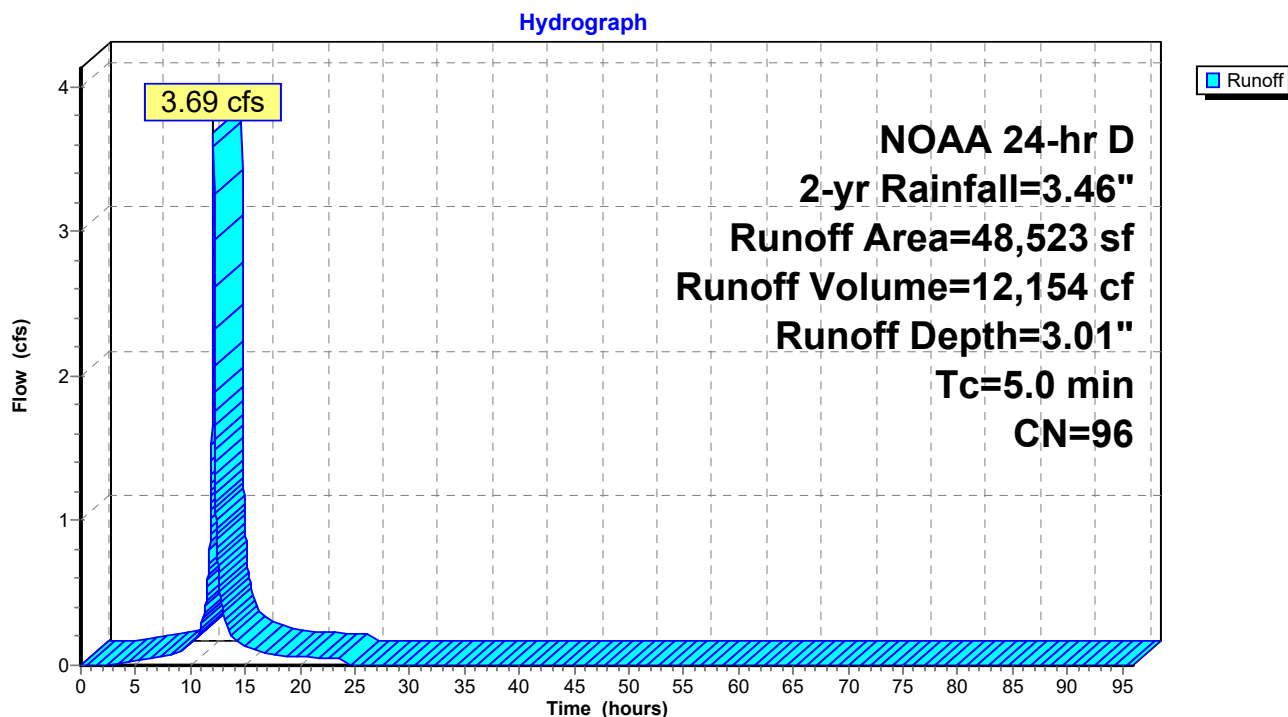
Subcatchment 4.1: Subcat 4.1



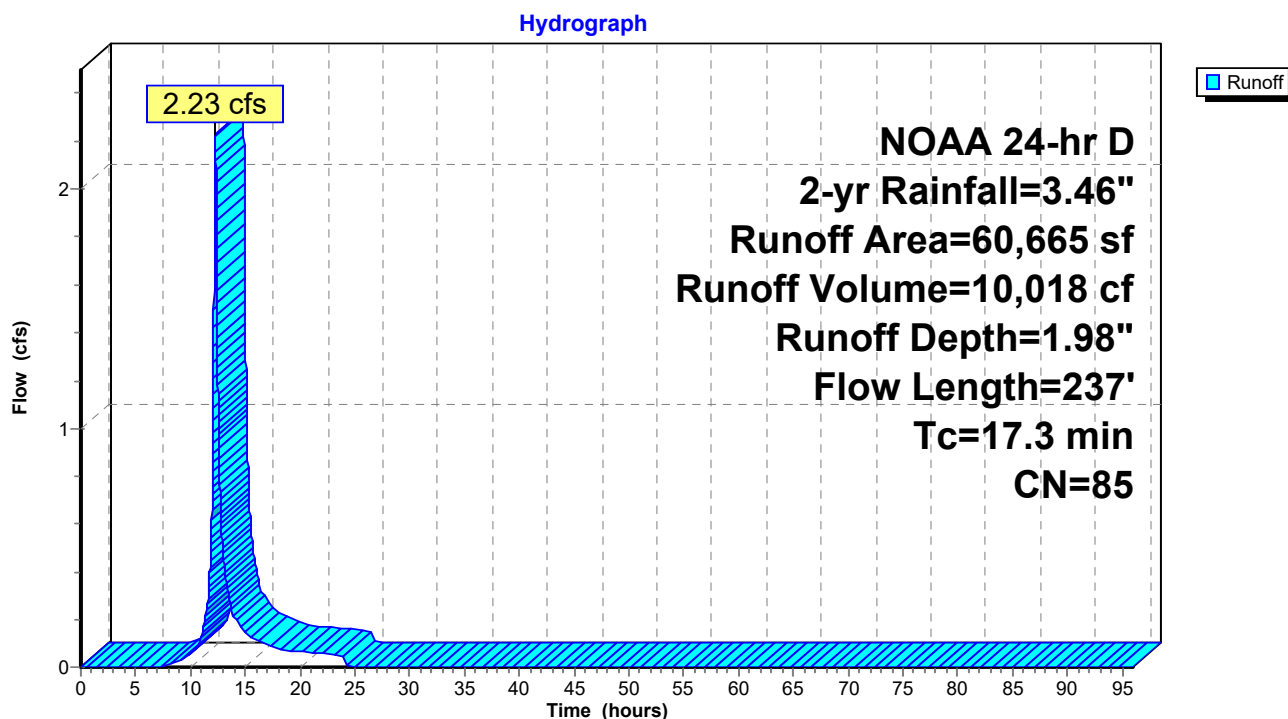
Subcatchment 6: Subcat 6



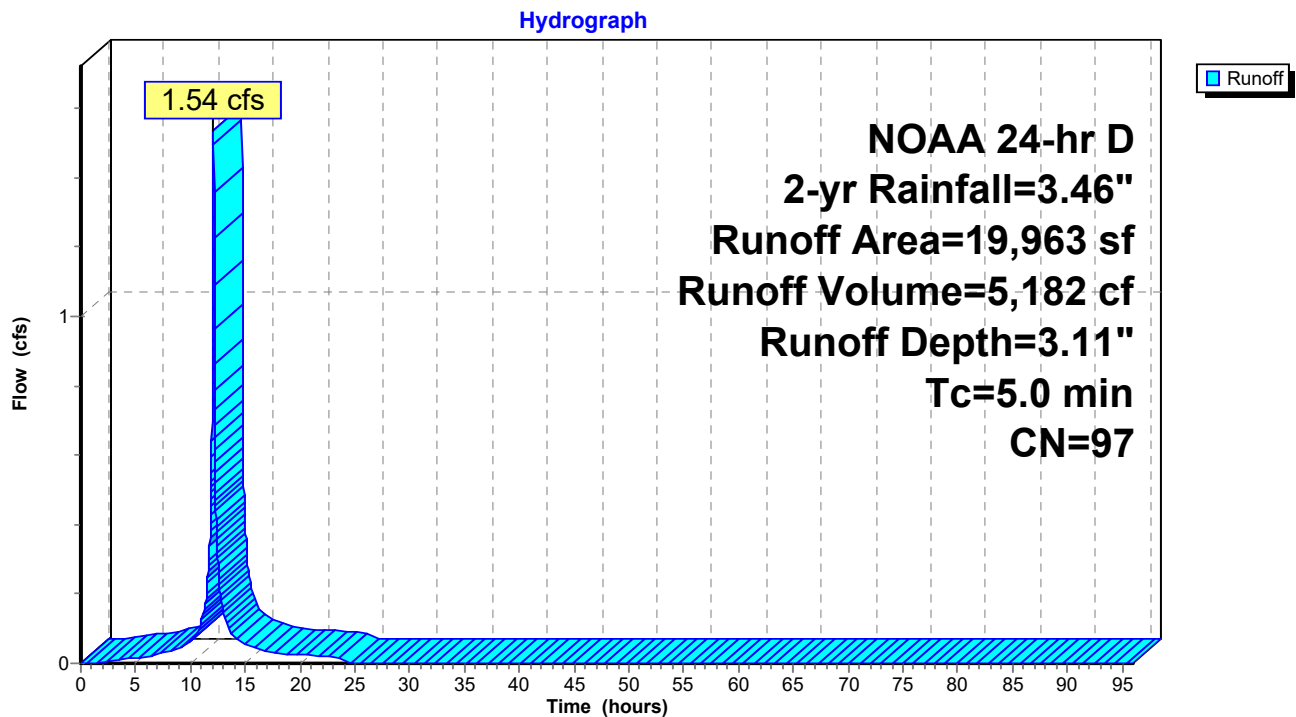
Subcatchment 10: Subcat 10



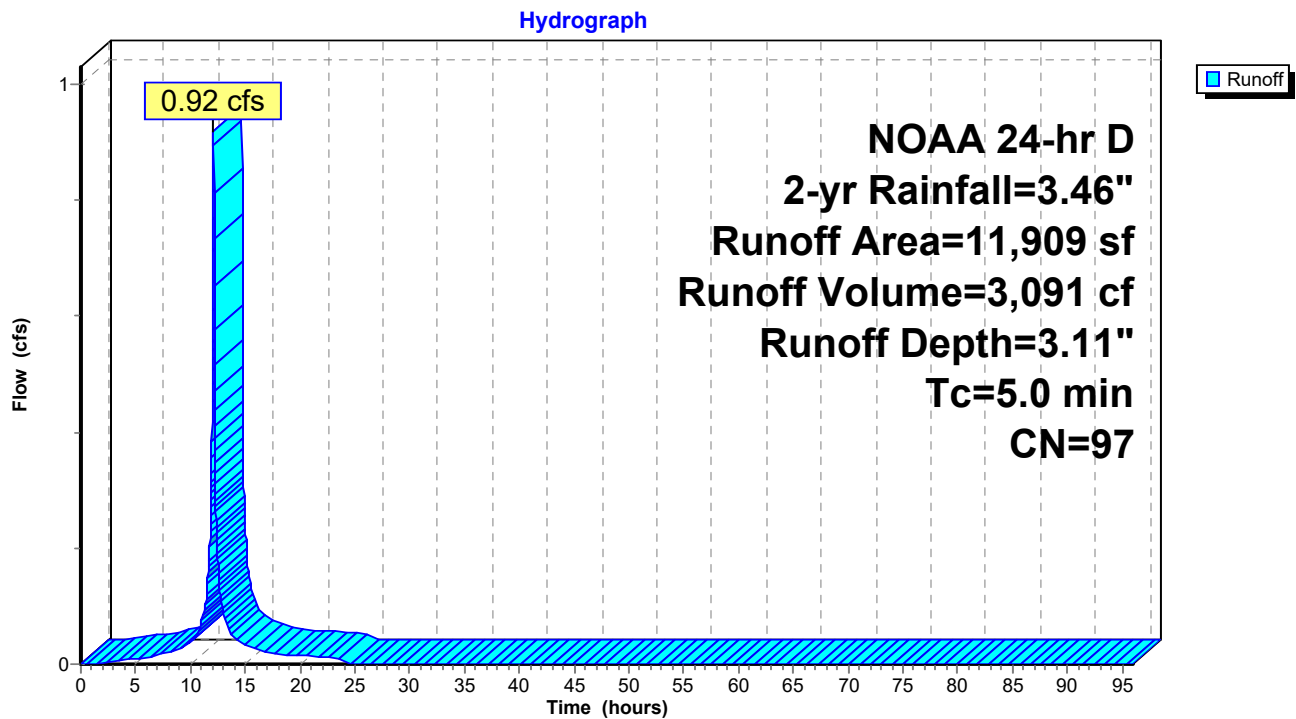
Subcatchment 11: Subcat 11



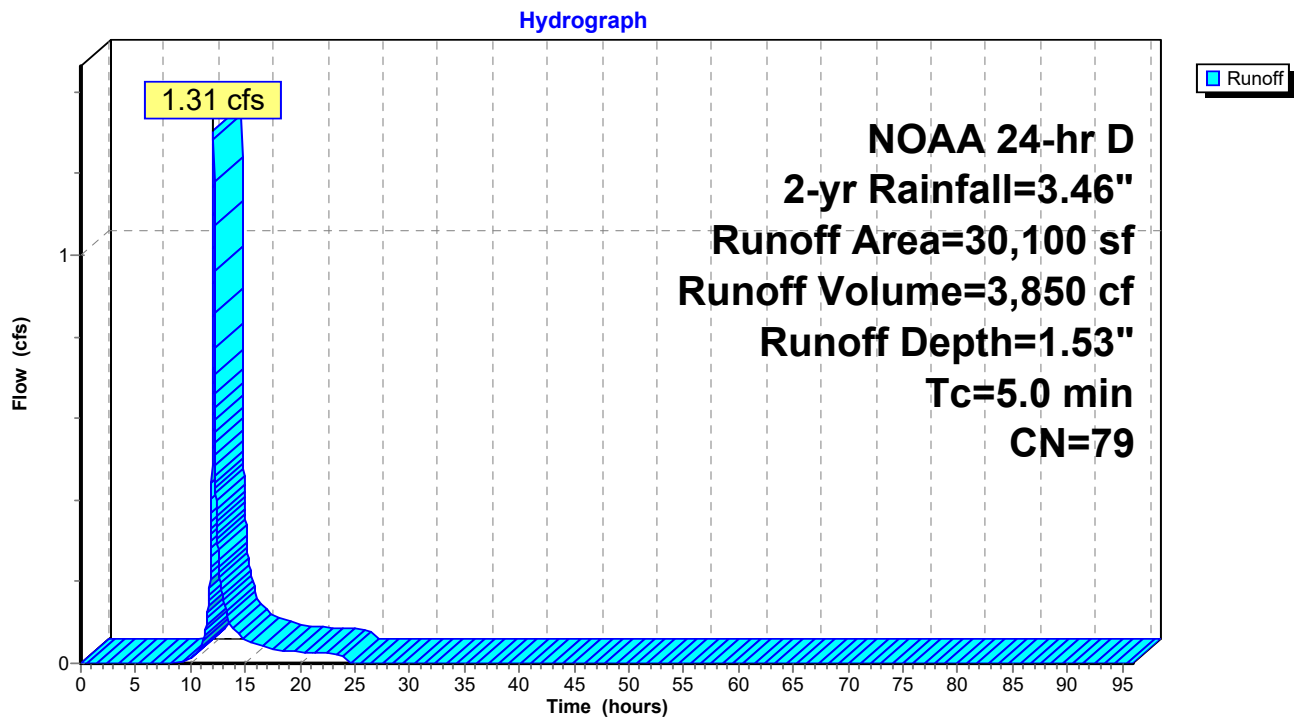
Subcatchment 11.1: Subcat 11.1



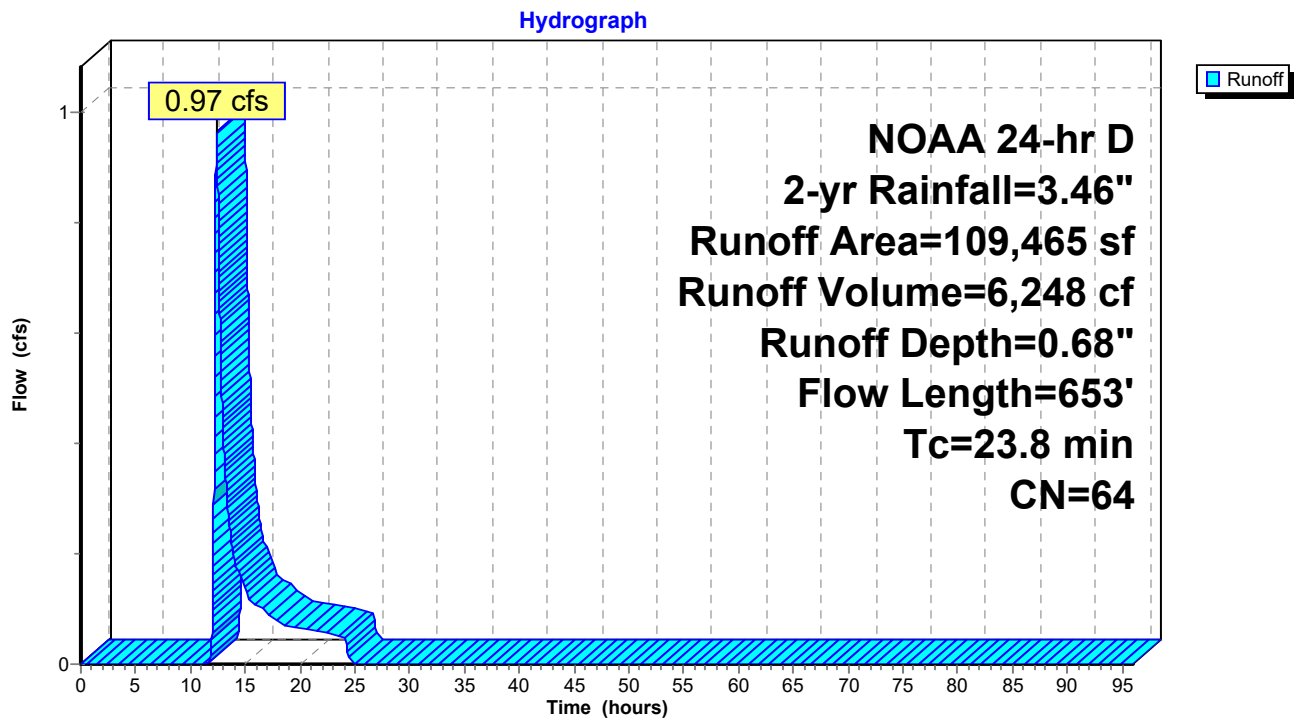
Subcatchment 11.2: Subcat 11.2



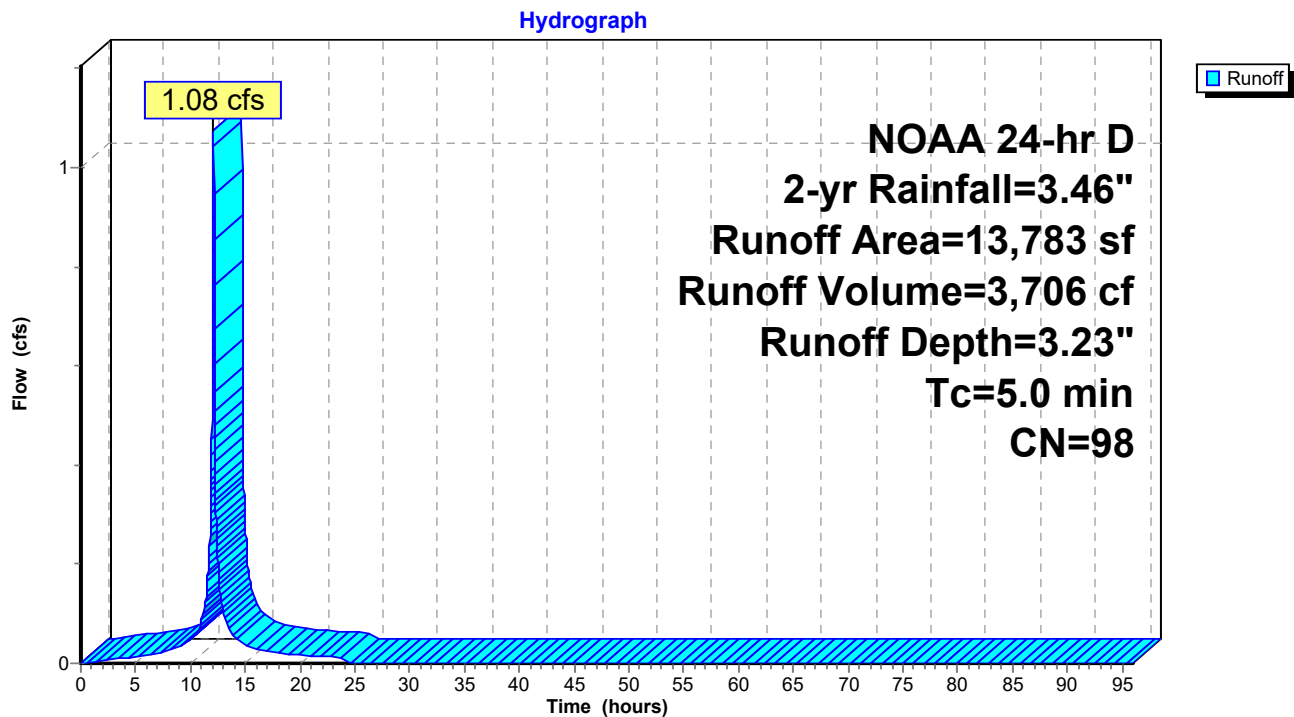
Subcatchment 12: Subcat 12



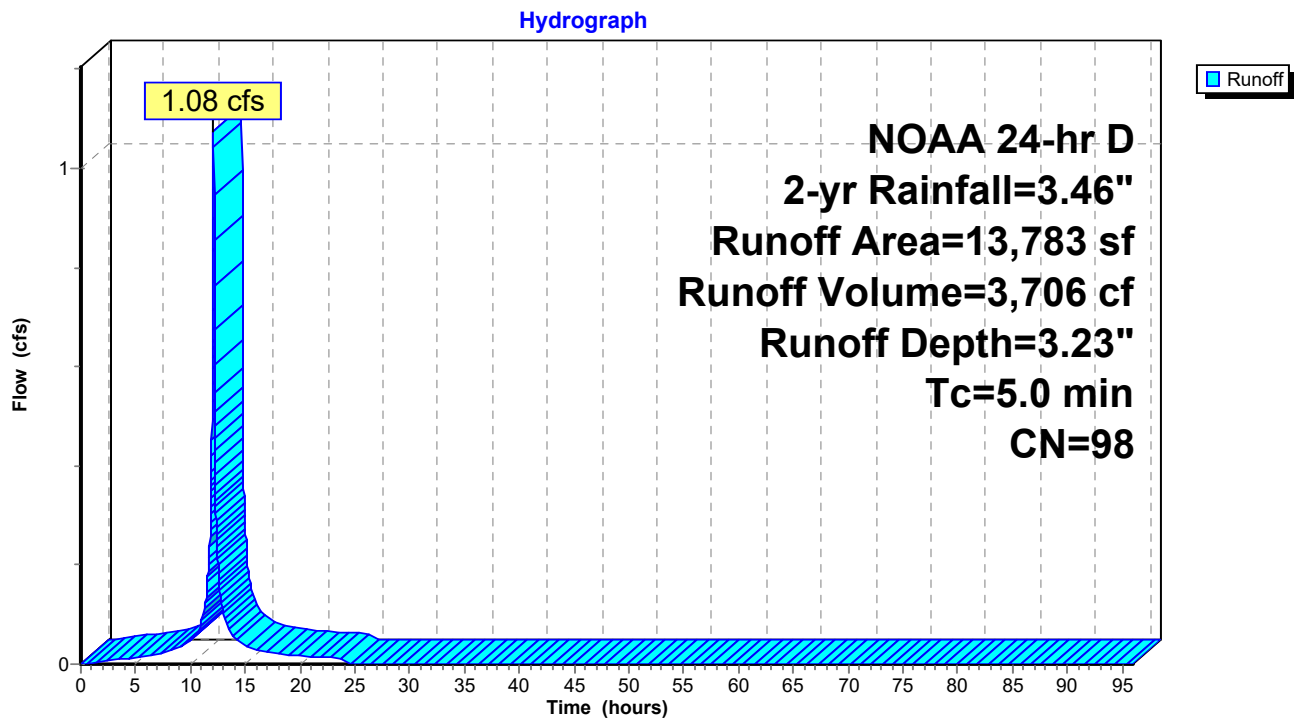
Subcatchment 13: Subcat 13



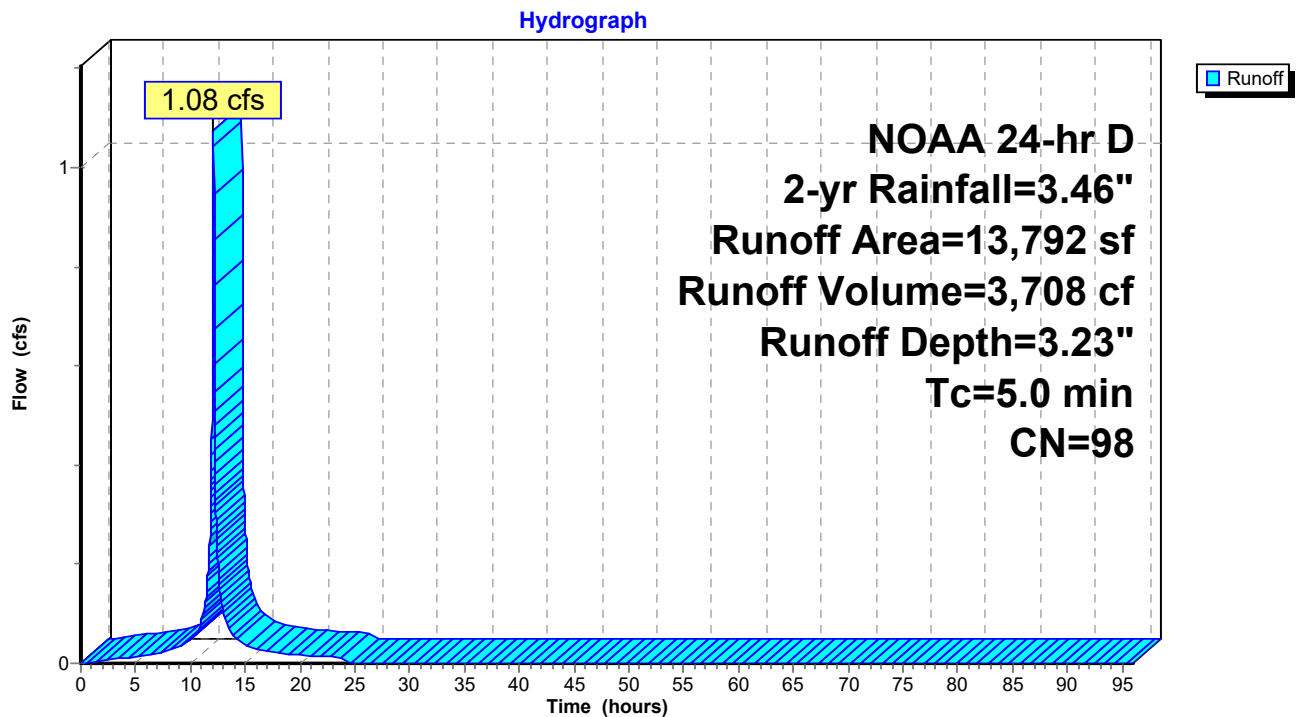
Subcatchment 14: Subcat 14



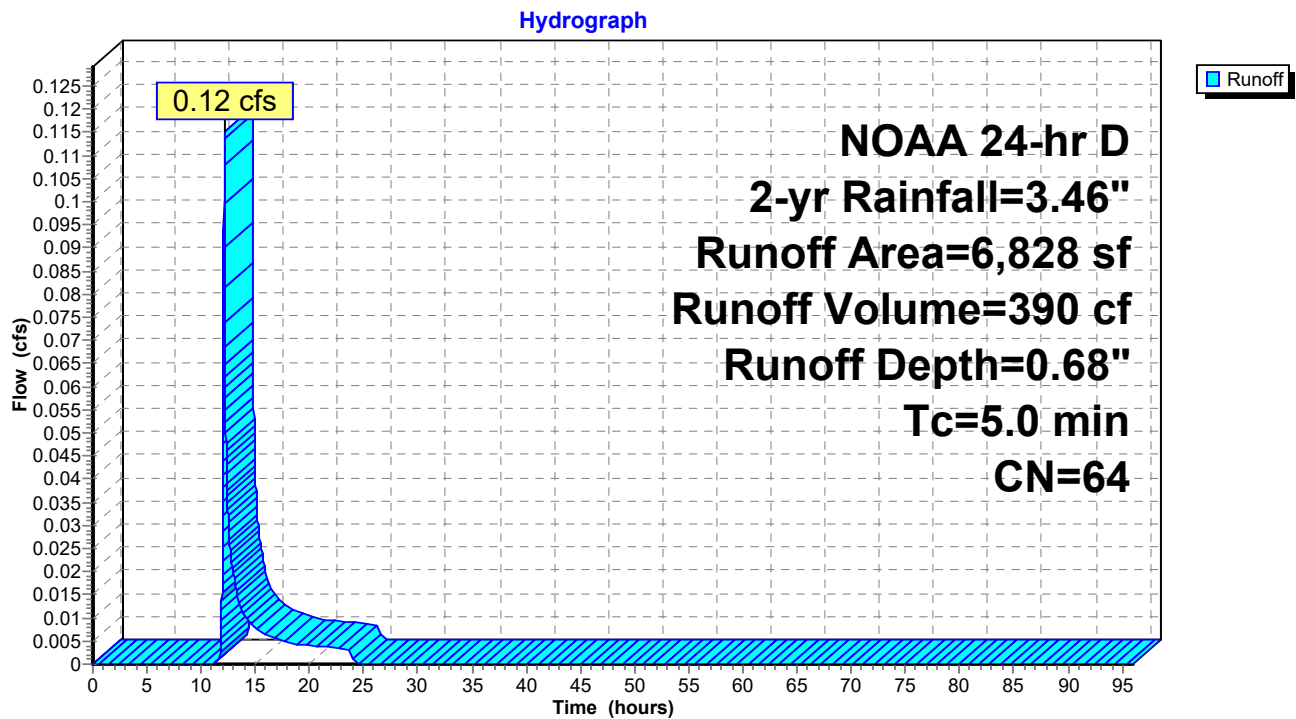
Subcatchment 15: Subcat 15



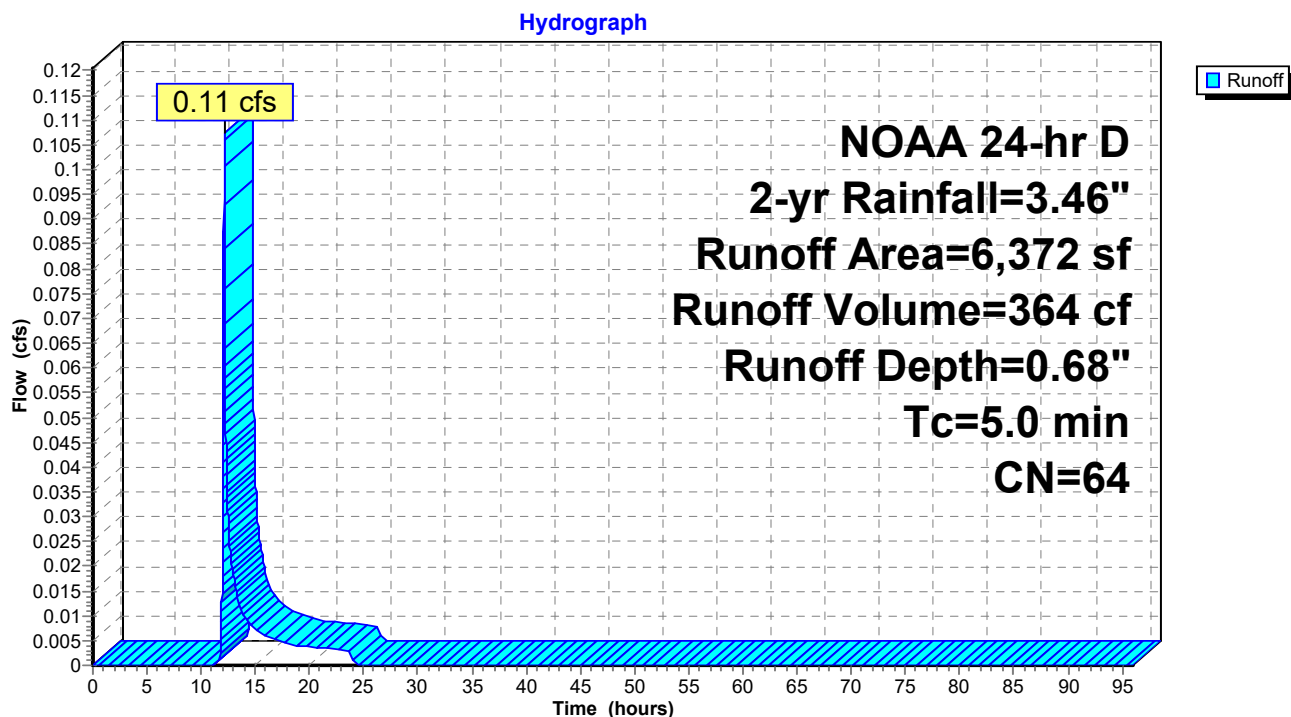
Subcatchment 16: Subcat 16



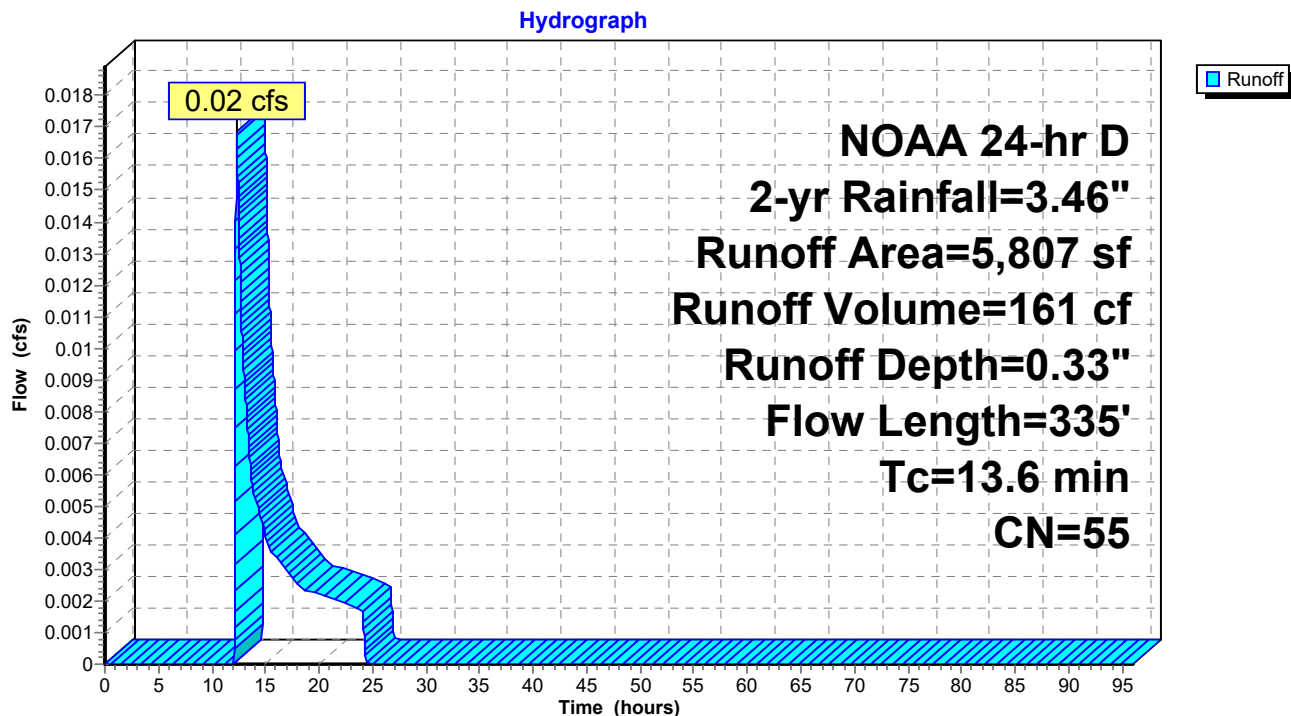
Subcatchment 17: Subcat 17



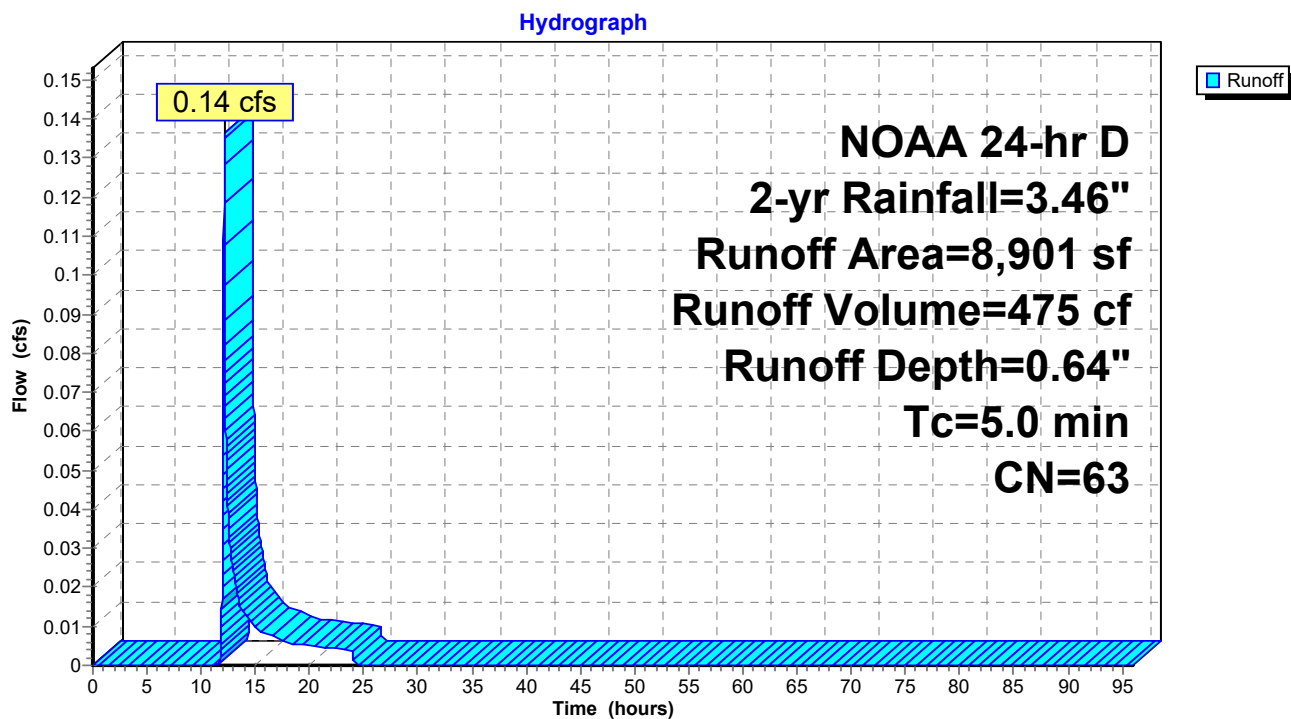
Subcatchment 18: Subcat 18



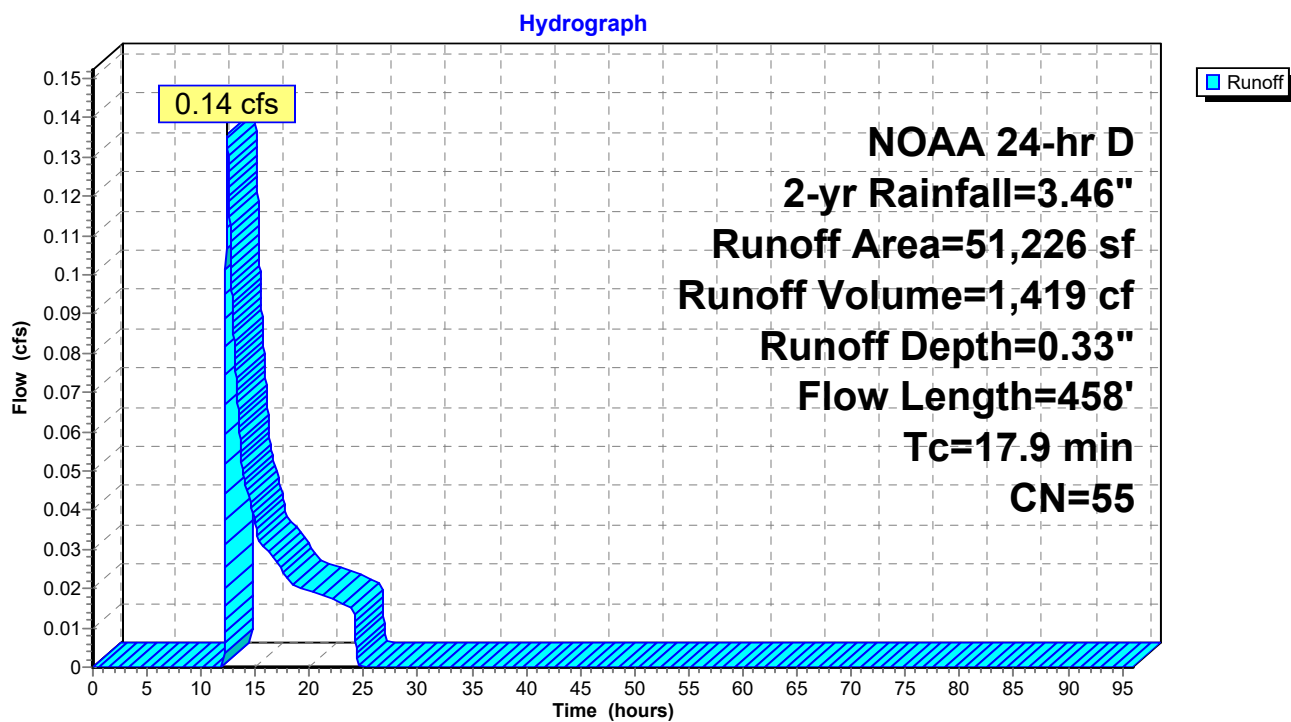
Subcatchment 19: Subcat 19



Subcatchment 21: Subcat 21

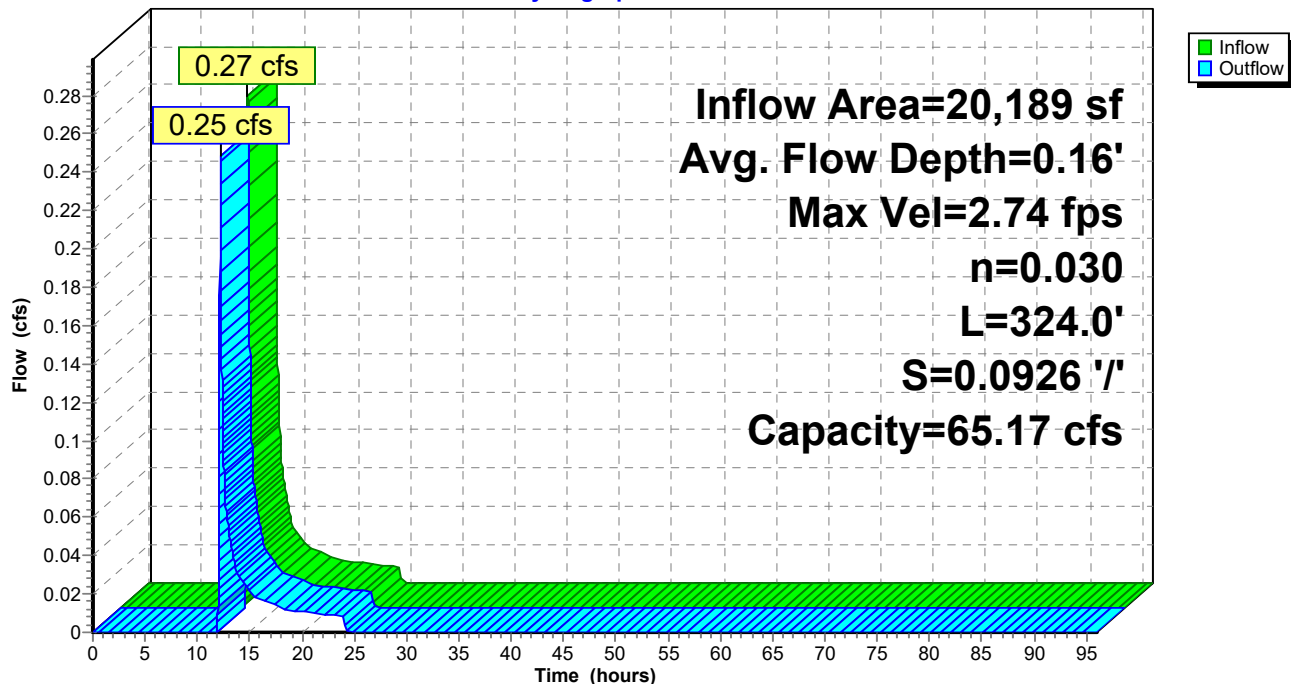


Subcatchment 22: Subcat 22



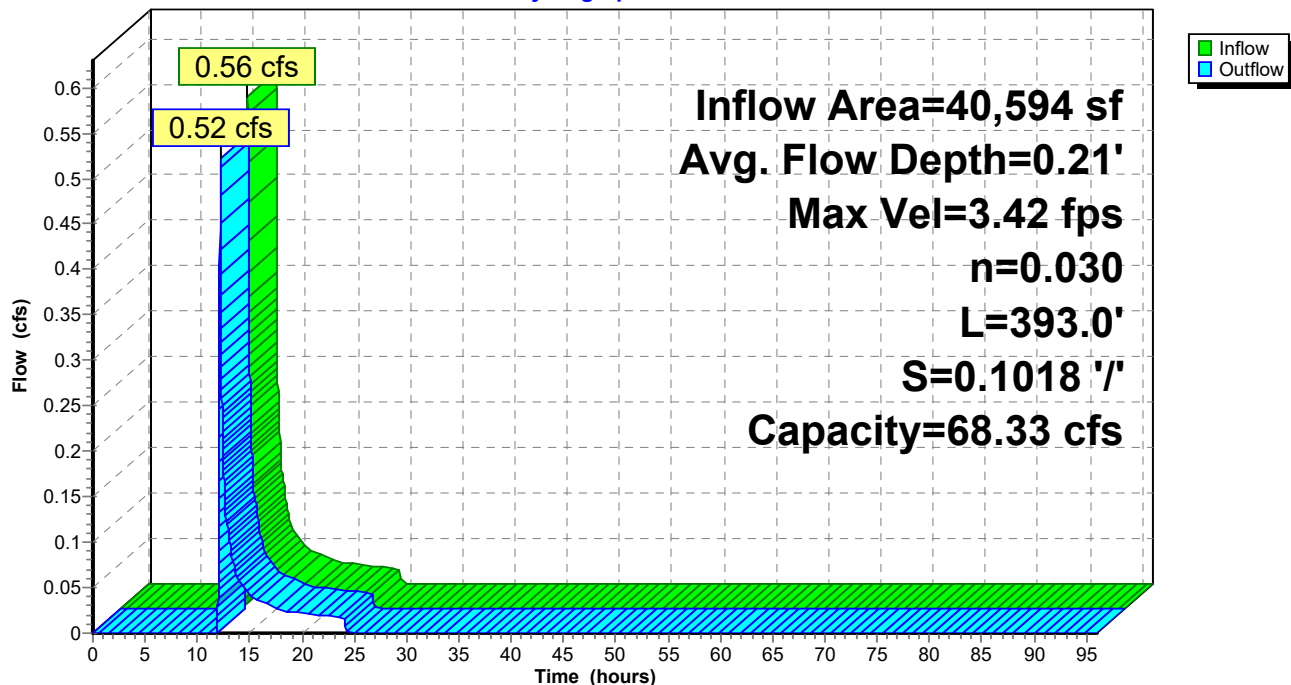
Reach 5R: swale

Hydrograph



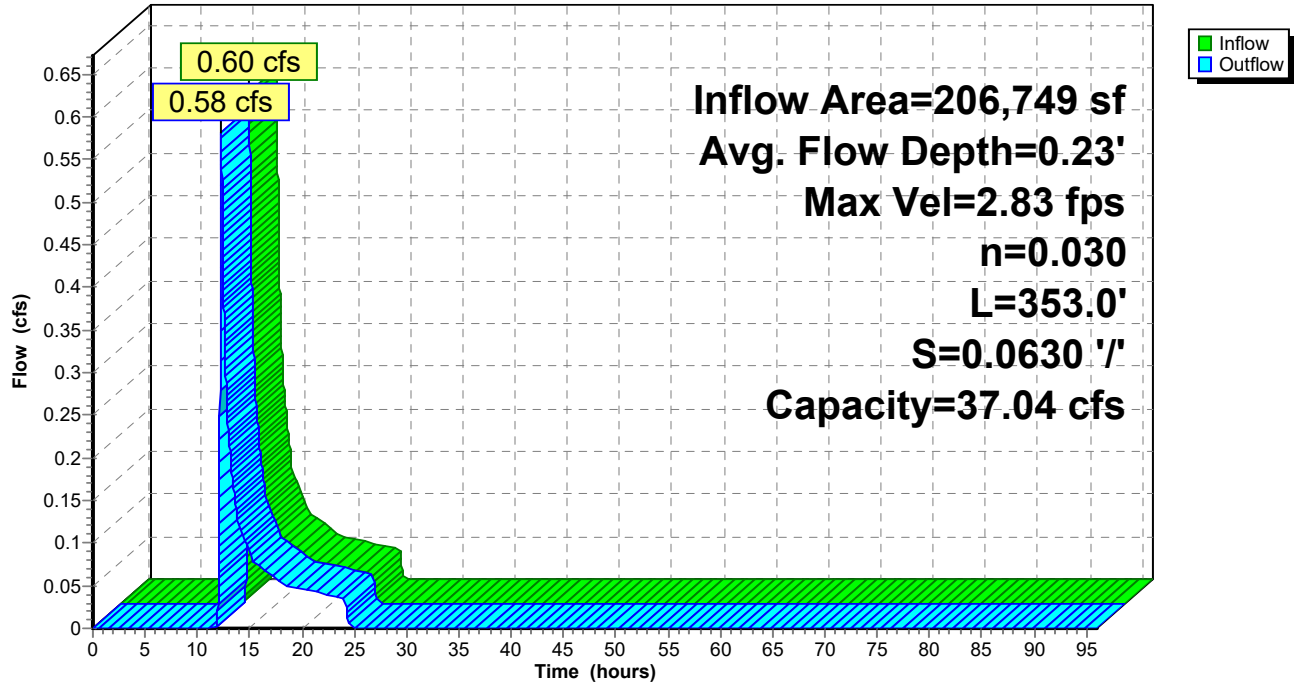
Reach 6R: swale

Hydrograph



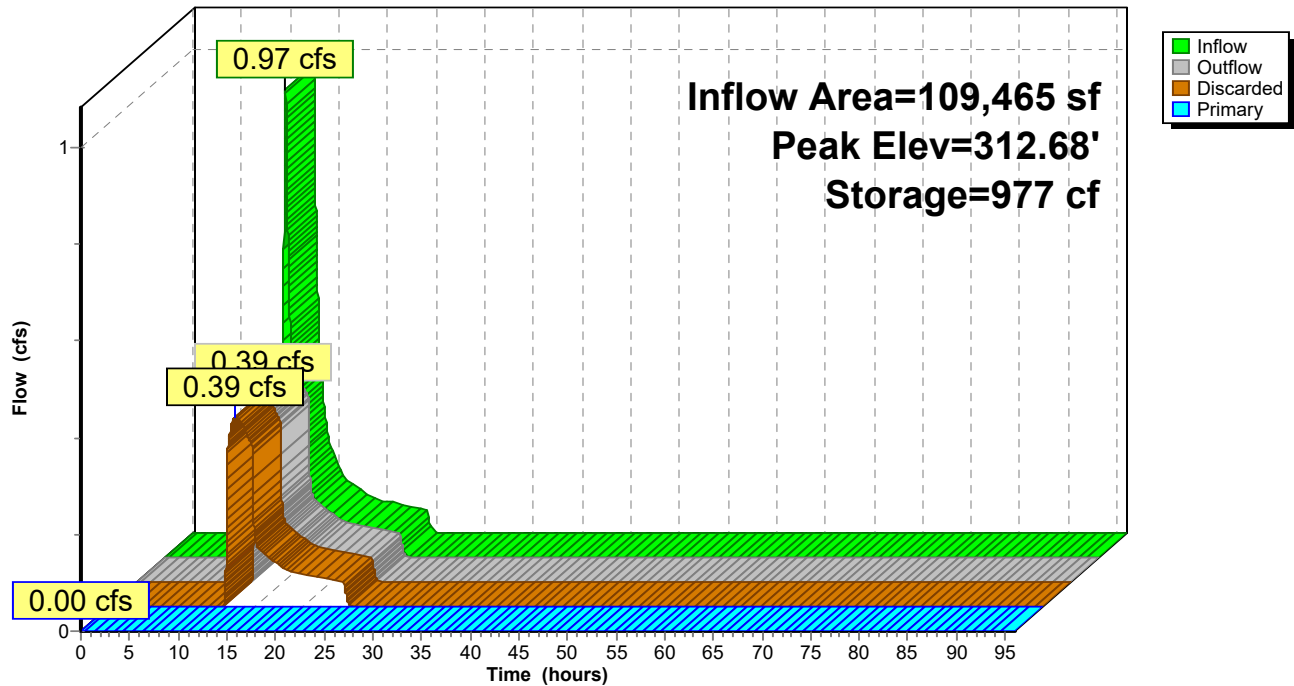
Reach 23R: swale

Hydrograph



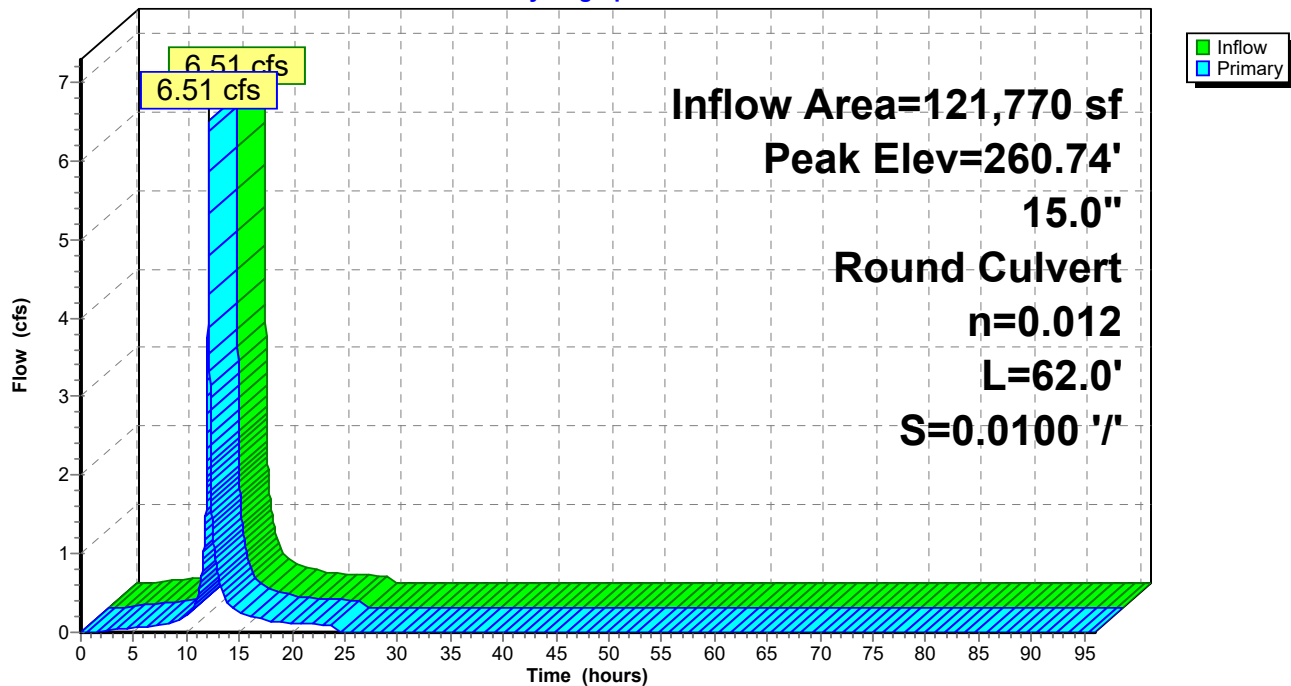
Pond 6P: Infiltration Basin

Hydrograph



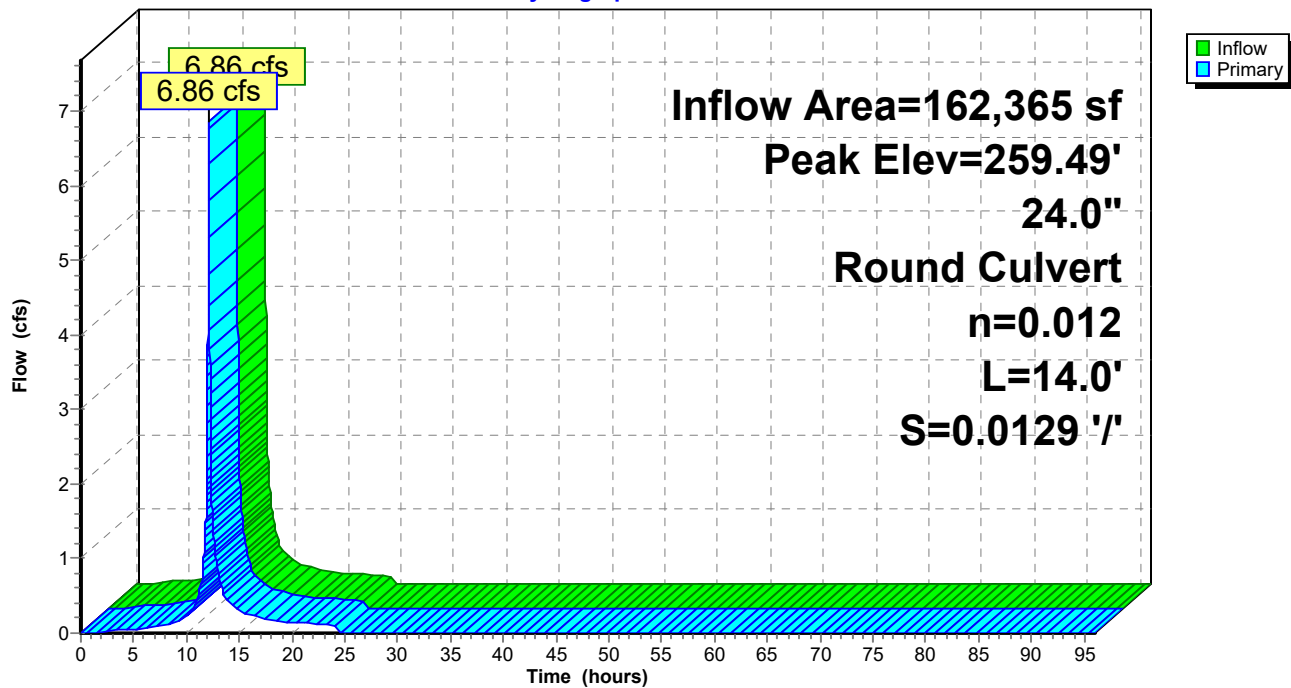
Pond 7P: CB B2

Hydrograph



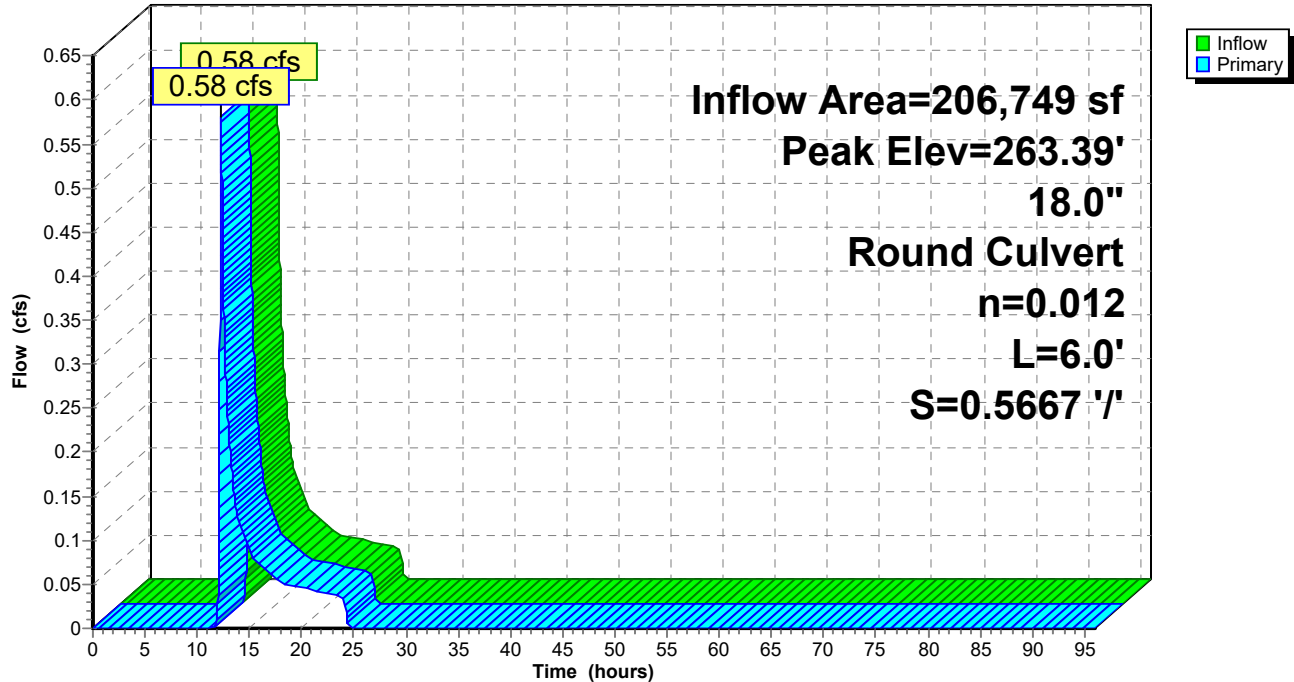
Pond 8P: CB B1

Hydrograph



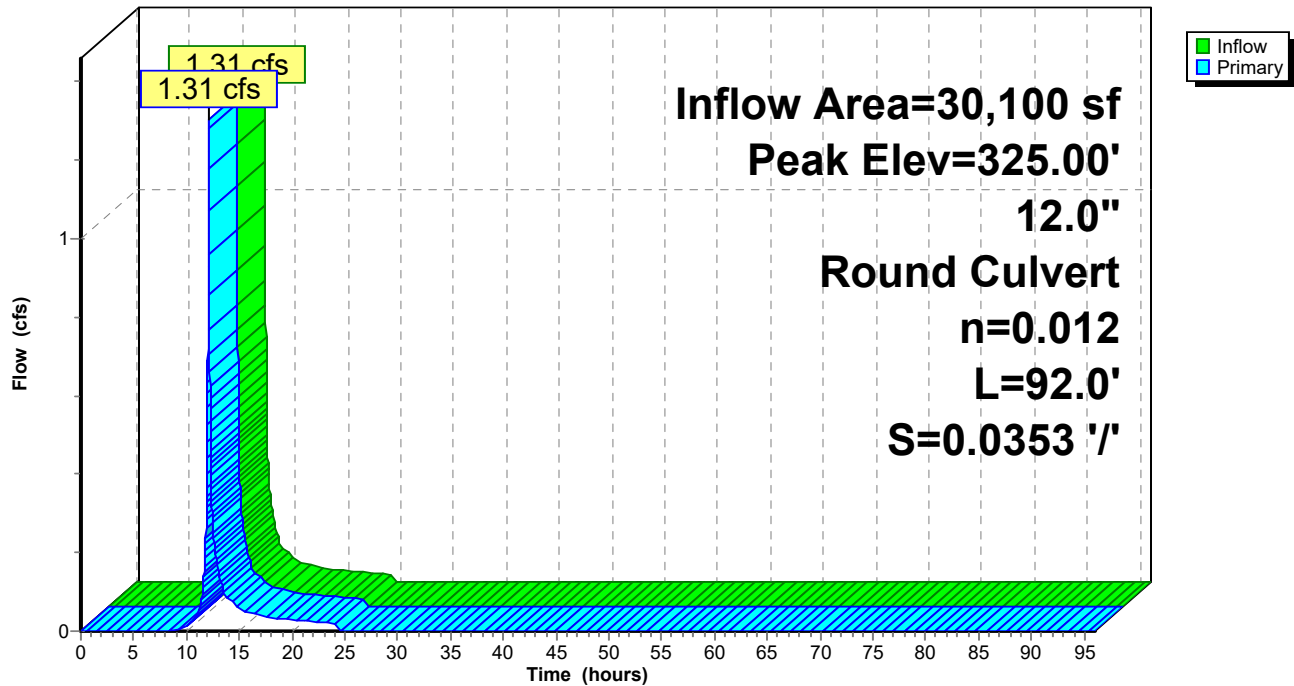
Pond 9P: CB B8

Hydrograph



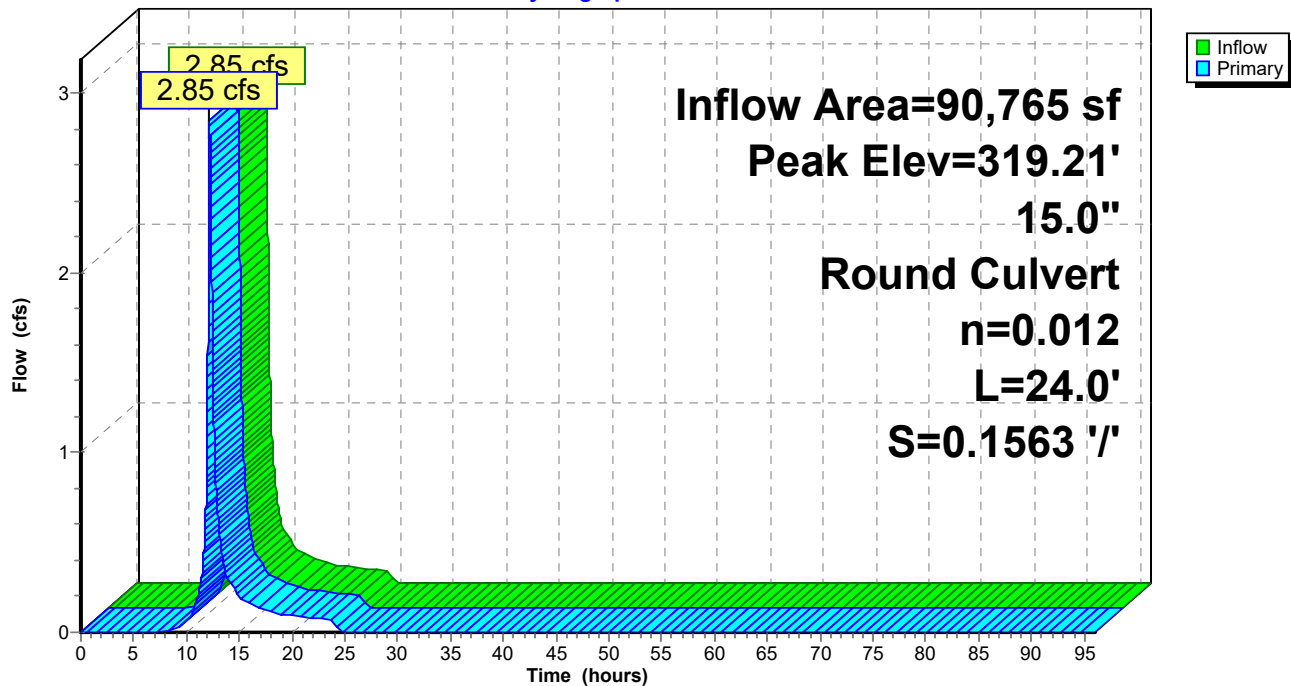
Pond 12P: CB A5.1

Hydrograph



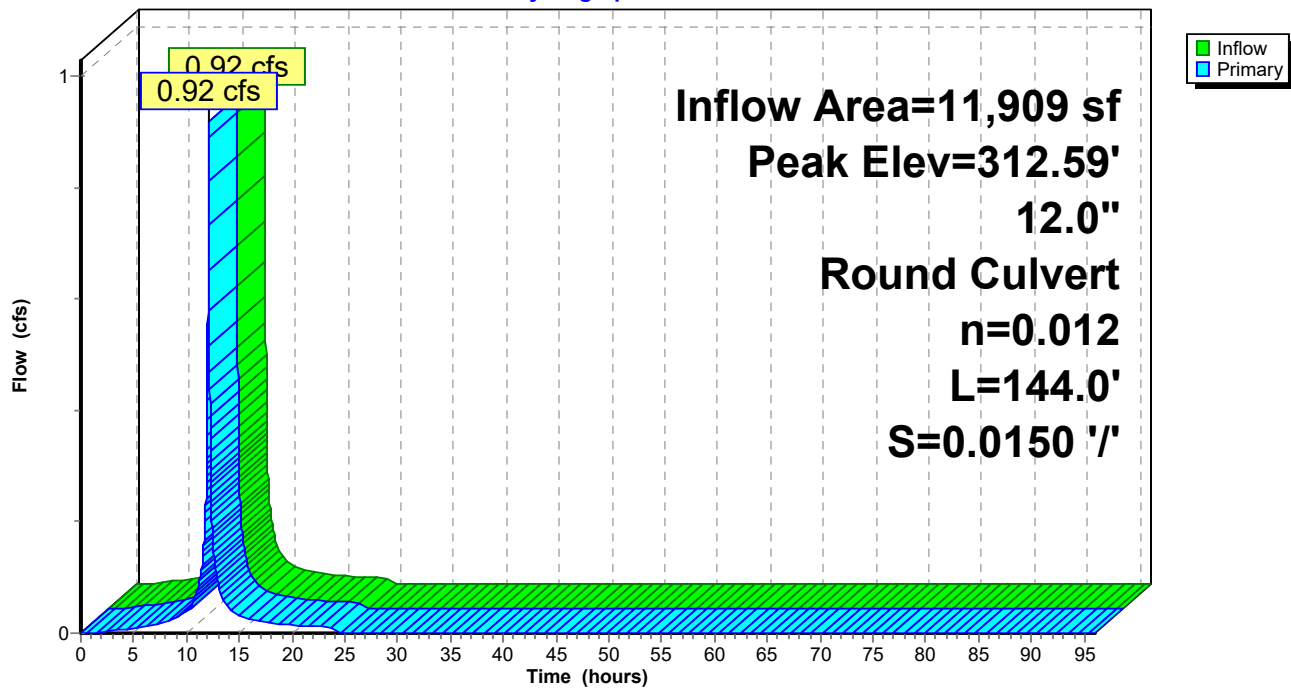
Pond 13P: CB A5

Hydrograph



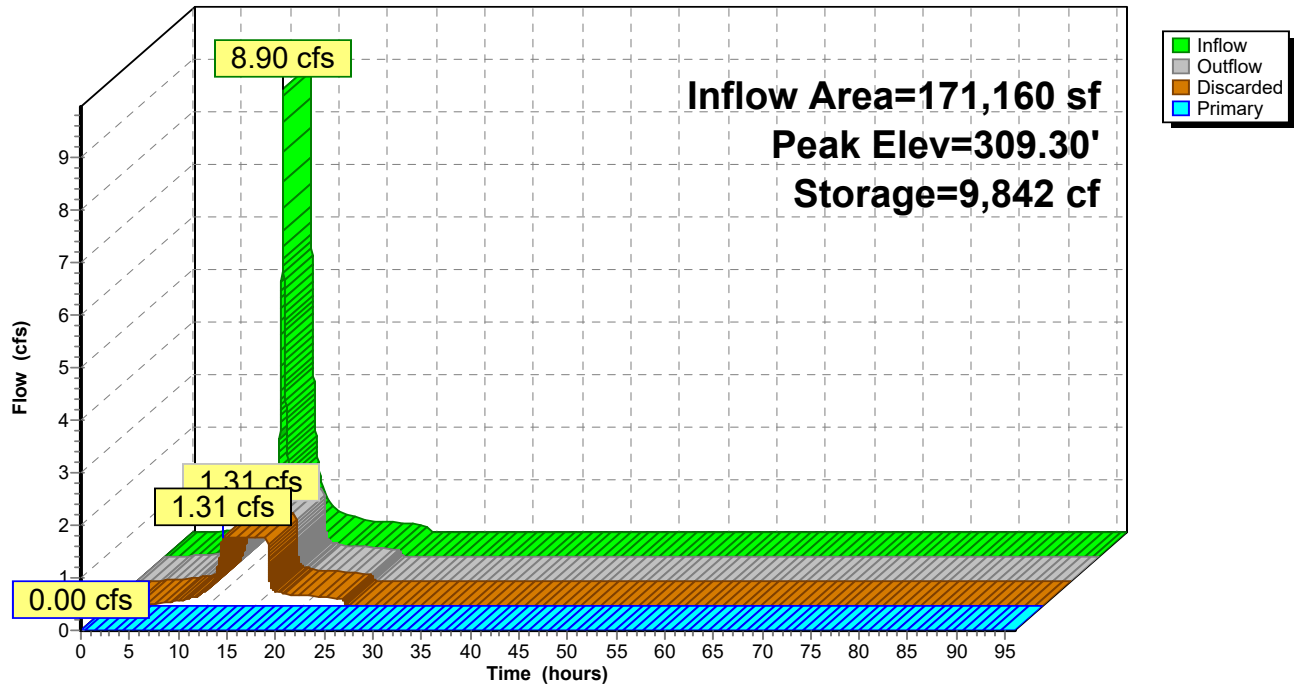
Pond 14P: CB A9

Hydrograph



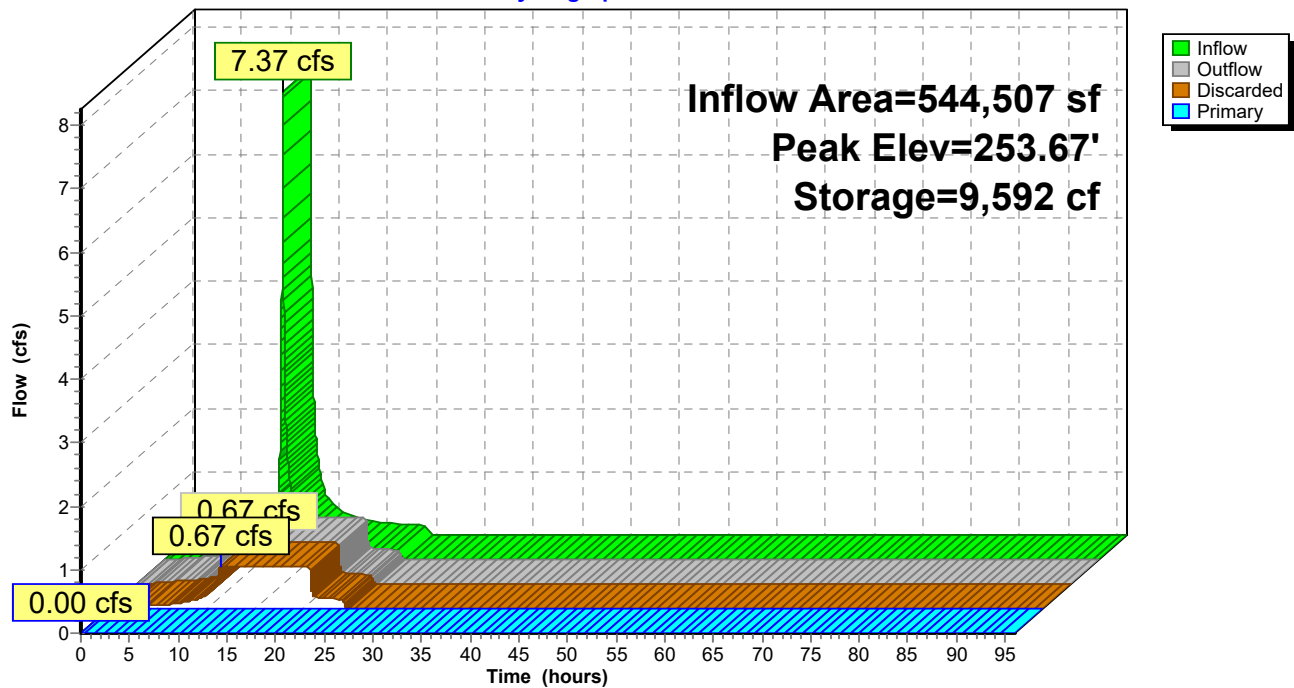
Pond 15P: INF-B

Hydrograph



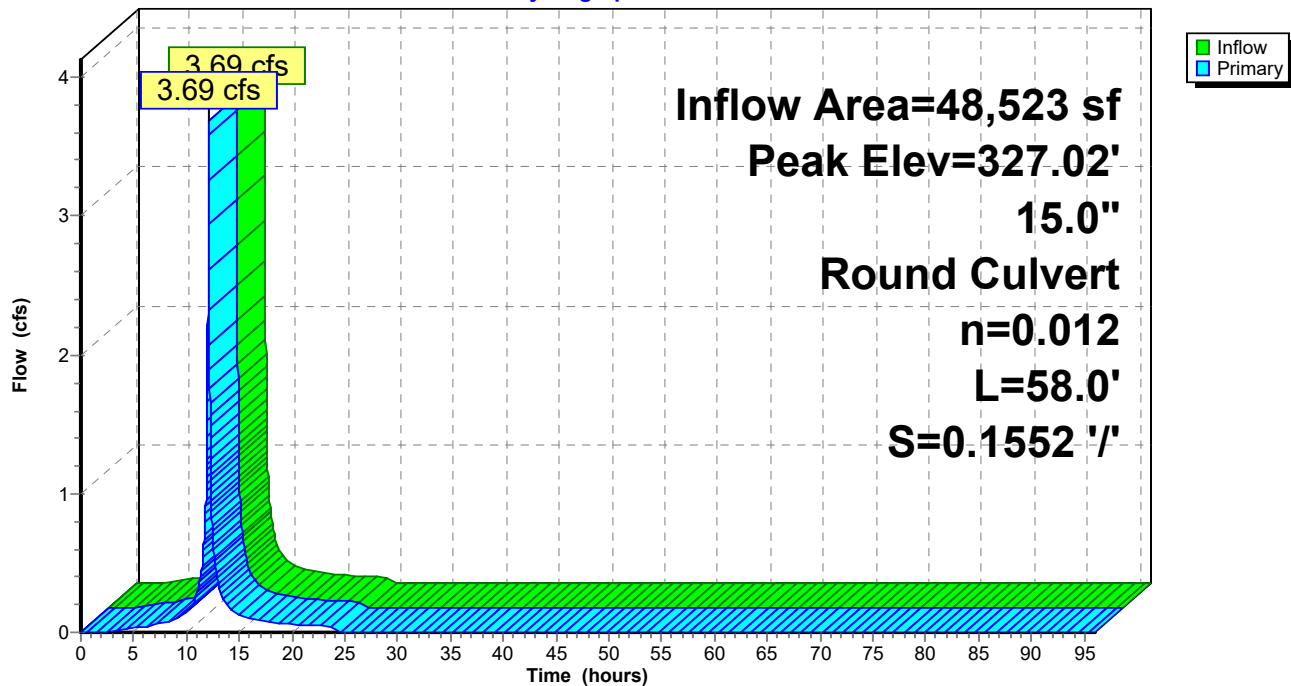
Pond 16P: INF-A

Hydrograph



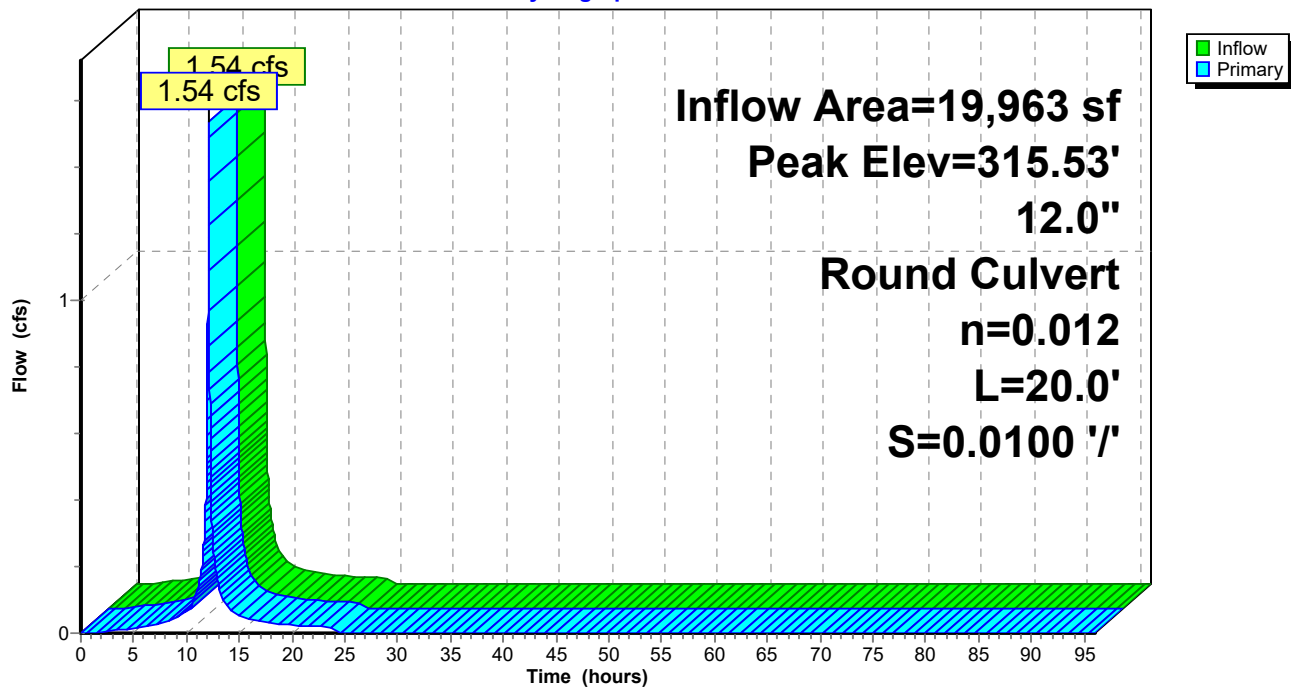
Pond 17P: CB A1

Hydrograph



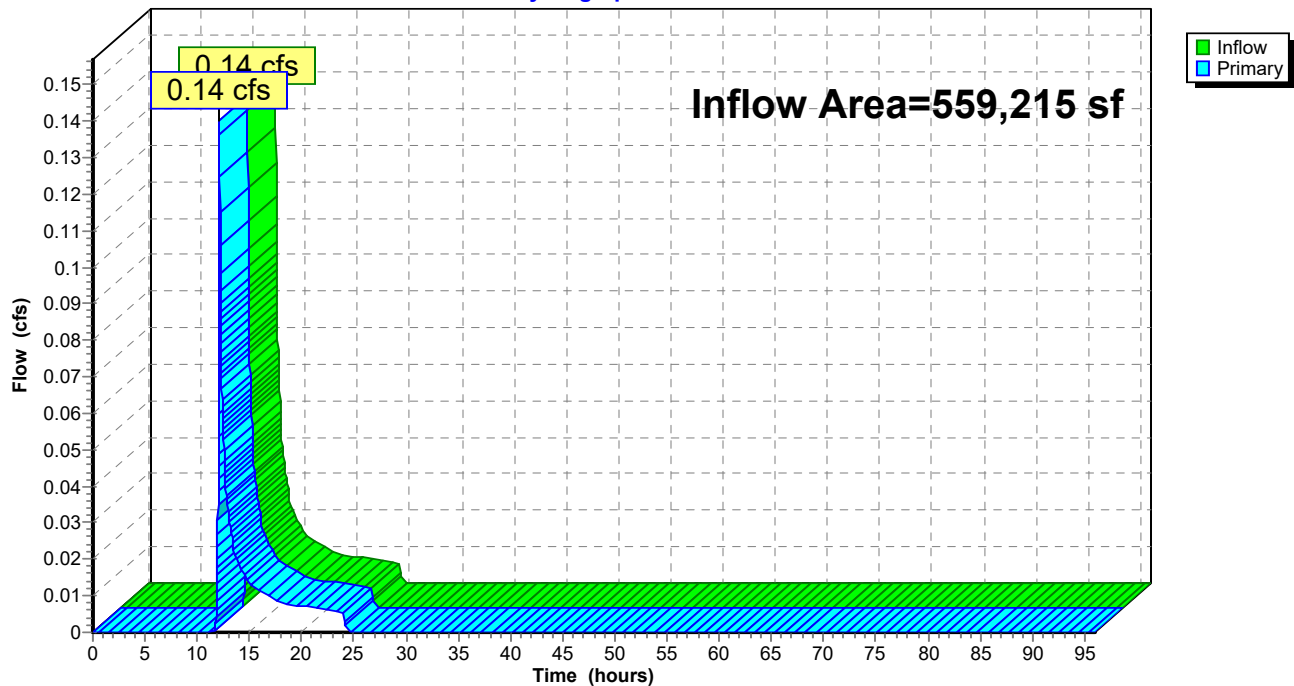
Pond 18P: CB 10

Hydrograph



Link 3L: Rt. 32 Culvert

Hydrograph



2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 5-yr Rainfall=4.36"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: Subcat 1	Runoff Area=46,057 sf 9.58% Impervious Runoff Depth=1.12" Tc=10.0 min UI Adjusted CN=63 Runoff=1.09 cfs 4,299 cf
Subcatchment 2: Subcat 2	Runoff Area=0.097 ac 83.65% Impervious Runoff Depth=3.47" Tc=5.0 min CN=92 Runoff=0.39 cfs 1,223 cf
Subcatchment 3: Subcat 3	Runoff Area=33,237 sf 65.92% Impervious Runoff Depth=2.78" Tc=5.0 min CN=85 Runoff=2.56 cfs 7,705 cf
Subcatchment 4: Subcat 4	Runoff Area=0.463 ac 2.77% Impervious Runoff Depth=1.06" Flow Length=100' Slope=0.1750 '/' Tc=5.8 min CN=62 Runoff=0.54 cfs 1,784 cf
Subcatchment 4.1: Subcat 4.1	Runoff Area=40,594 sf 1.66% Impervious Runoff Depth=1.06" Tc=5.0 min CN=62 Runoff=1.13 cfs 3,587 cf
Subcatchment 6: Subcat 6	Runoff Area=13,786 sf 100.00% Impervious Runoff Depth=4.12" Tc=5.0 min CN=98 Runoff=1.36 cfs 4,738 cf
Subcatchment 10: Subcat 10	Runoff Area=48,523 sf 94.79% Impervious Runoff Depth=3.90" Tc=5.0 min CN=96 Runoff=4.70 cfs 15,758 cf
Subcatchment 11: Subcat 11	Runoff Area=60,665 sf 52.99% Impervious Runoff Depth=2.78" Flow Length=237' Tc=17.3 min CN=85 Runoff=3.12 cfs 14,064 cf
Subcatchment 11.1: Subcat 11.1	Runoff Area=19,963 sf 98.49% Impervious Runoff Depth=4.01" Tc=5.0 min CN=97 Runoff=1.96 cfs 6,670 cf
Subcatchment 11.2: Subcat 11.2	Runoff Area=11,909 sf 96.82% Impervious Runoff Depth=4.01" Tc=5.0 min CN=97 Runoff=1.17 cfs 3,979 cf
Subcatchment 12: Subcat 12	Runoff Area=30,100 sf 48.89% Impervious Runoff Depth=2.26" Tc=5.0 min CN=79 Runoff=1.92 cfs 5,668 cf
Subcatchment 13: Subcat 13	Runoff Area=109,465 sf 0.02% Impervious Runoff Depth=1.18" Flow Length=653' Tc=23.8 min CN=64 Runoff=1.88 cfs 10,775 cf
Subcatchment 14: Subcat 14	Runoff Area=13,783 sf 99.97% Impervious Runoff Depth=4.12" Tc=5.0 min CN=98 Runoff=1.36 cfs 4,737 cf
Subcatchment 15: Subcat 15	Runoff Area=13,783 sf 99.98% Impervious Runoff Depth=4.12" Tc=5.0 min CN=98 Runoff=1.36 cfs 4,737 cf
Subcatchment 16: Subcat 16	Runoff Area=13,792 sf 99.99% Impervious Runoff Depth=4.12" Tc=5.0 min CN=98 Runoff=1.36 cfs 4,740 cf
Subcatchment 17: Subcat 17	Runoff Area=6,828 sf 8.53% Impervious Runoff Depth=1.18" Tc=5.0 min CN=64 Runoff=0.22 cfs 672 cf

2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 5-yr Rainfall=4.36"

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Subcatchment 18: Subcat 18	Runoff Area=6,372 sf 7.75% Impervious Runoff Depth=1.18" Tc=5.0 min CN=64 Runoff=0.20 cfs 627 cf
Subcatchment 19: Subcat 19	Runoff Area=5,807 sf 0.00% Impervious Runoff Depth=0.68" Flow Length=335' Tc=13.6 min CN=55 Runoff=0.06 cfs 329 cf
Subcatchment 21: Subcat 21	Runoff Area=8,901 sf 3.88% Impervious Runoff Depth=1.12" Tc=5.0 min CN=63 Runoff=0.27 cfs 831 cf
Subcatchment 22: Subcat 22	Runoff Area=51,226 sf 0.04% Impervious Runoff Depth=0.68" Flow Length=458' Tc=17.9 min CN=55 Runoff=0.45 cfs 2,904 cf
Reach 5R: swale	Avg. Flow Depth=0.21' Max Vel=3.29 fps Inflow=0.54 cfs 1,784 cf n=0.030 L=324.0' S=0.0926 '/' Capacity=65.17 cfs Outflow=0.52 cfs 1,784 cf
Reach 6R: swale	Avg. Flow Depth=0.27' Max Vel=4.09 fps Inflow=1.13 cfs 3,587 cf n=0.030 L=393.0' S=0.1018 '/' Capacity=68.33 cfs Outflow=1.08 cfs 3,587 cf
Reach 23R: swale	Avg. Flow Depth=0.31' Max Vel=3.50 fps Inflow=1.39 cfs 7,203 cf n=0.030 L=353.0' S=0.0630 '/' Capacity=37.04 cfs Outflow=1.36 cfs 7,203 cf
Pond 6P: Infiltration Basin	Peak Elev=313.68' Storage=2,774 cf Inflow=1.88 cfs 10,775 cf Discarded=0.51 cfs 10,775 cf Primary=0.00 cfs 0 cf Outflow=0.51 cfs 10,775 cf
Pond 7P: CB B2	Peak Elev=261.74' Inflow=8.79 cfs 29,741 cf 15.0" Round Culvert n=0.012 L=62.0' S=0.0100 '/' Outflow=8.79 cfs 29,741 cf
Pond 8P: CB B1	Peak Elev=259.80' Inflow=9.65 cfs 33,329 cf 24.0" Round Culvert n=0.012 L=14.0' S=0.0129 '/' Outflow=9.65 cfs 33,329 cf
Pond 9P: CB B8	Peak Elev=263.57' Inflow=1.36 cfs 7,203 cf 18.0" Round Culvert n=0.012 L=6.0' S=0.5667 '/' Outflow=1.36 cfs 7,203 cf
Pond 12P: CB A5.1	Peak Elev=325.16' Inflow=1.92 cfs 5,668 cf 12.0" Round Culvert n=0.012 L=92.0' S=0.0353 '/' Outflow=1.92 cfs 5,668 cf
Pond 13P: CB A5	Peak Elev=319.45' Inflow=4.09 cfs 19,731 cf 15.0" Round Culvert n=0.012 L=24.0' S=0.1563 '/' Outflow=4.09 cfs 19,731 cf
Pond 14P: CB A9	Peak Elev=312.66' Inflow=1.17 cfs 3,979 cf 12.0" Round Culvert n=0.012 L=144.0' S=0.0150 '/' Outflow=1.17 cfs 3,979 cf
Pond 15P: INF-B	Peak Elev=310.54' Storage=15,561 cf Inflow=11.81 cfs 46,139 cf Discarded=1.31 cfs 46,139 cf Primary=0.00 cfs 0 cf Outflow=1.31 cfs 46,139 cf
Pond 16P: INF-A	Peak Elev=256.24' Storage=14,153 cf Inflow=10.70 cfs 41,754 cf Discarded=1.34 cfs 41,754 cf Primary=0.00 cfs 0 cf Outflow=1.34 cfs 41,754 cf
Pond 17P: CB A1	Peak Elev=327.26' Inflow=4.70 cfs 15,758 cf 15.0" Round Culvert n=0.012 L=58.0' S=0.1552 '/' Outflow=4.70 cfs 15,758 cf
Pond 18P: CB 10	Peak Elev=315.65' Inflow=1.96 cfs 6,670 cf 12.0" Round Culvert n=0.012 L=20.0' S=0.0100 '/' Outflow=1.96 cfs 6,670 cf

2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 5-yr Rainfall=4.36"

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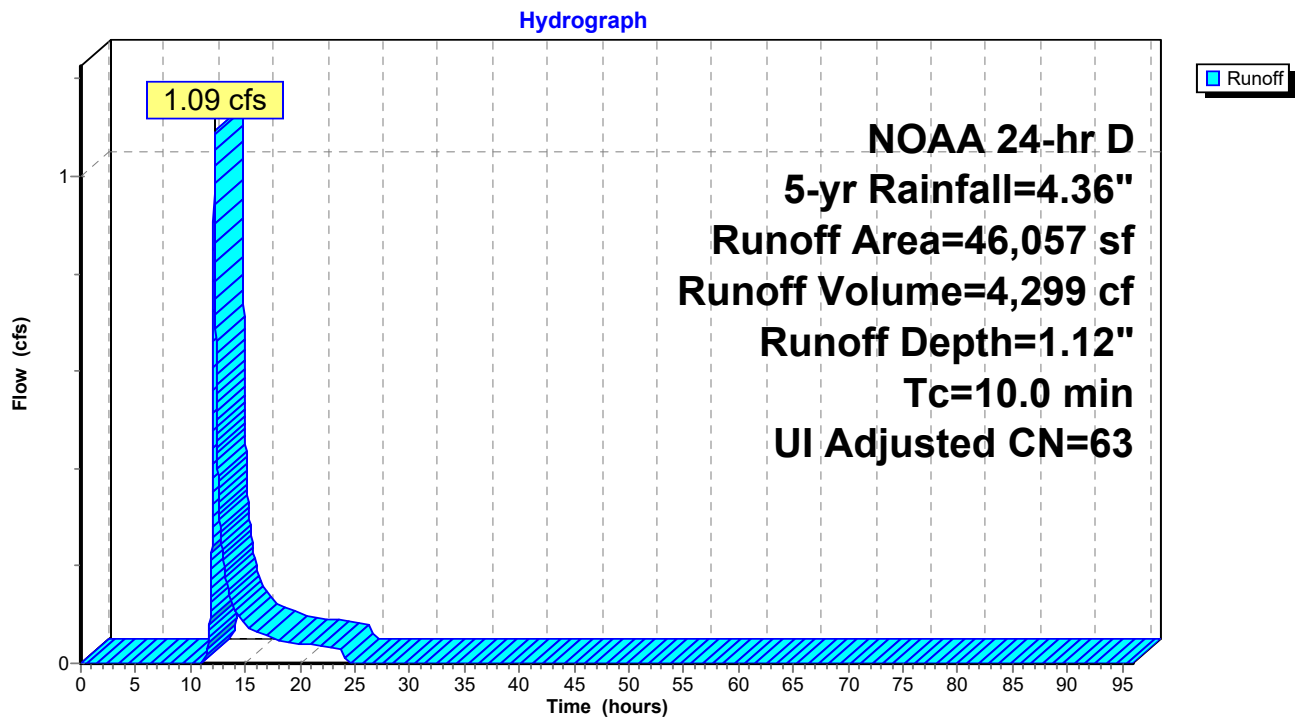
Link 3L: Rt. 32 Culvert

Inflow=0.30 cfs 1,160 cf

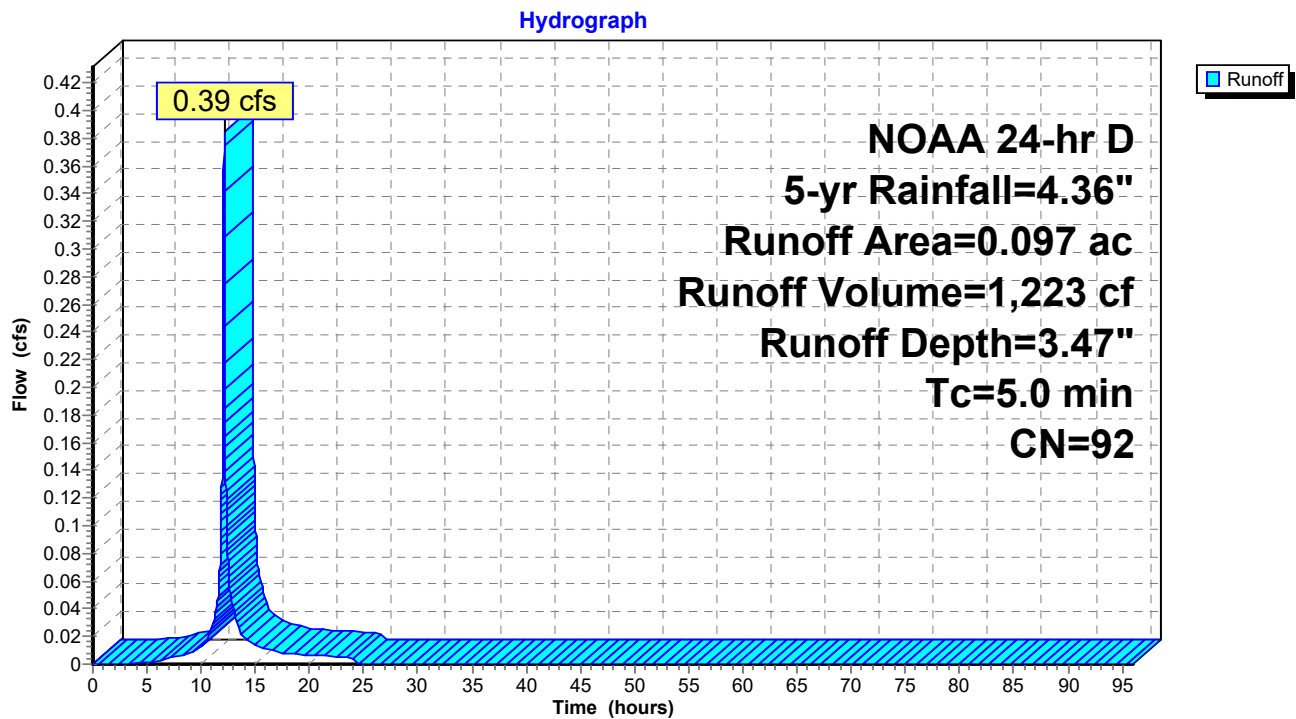
Primary=0.30 cfs 1,160 cf

Total Runoff Area = 559,215 sf Runoff Volume = 99,828 cf Average Runoff Depth = 2.14"
62.14% Pervious = 347,470 sf 37.86% Impervious = 211,744 sf

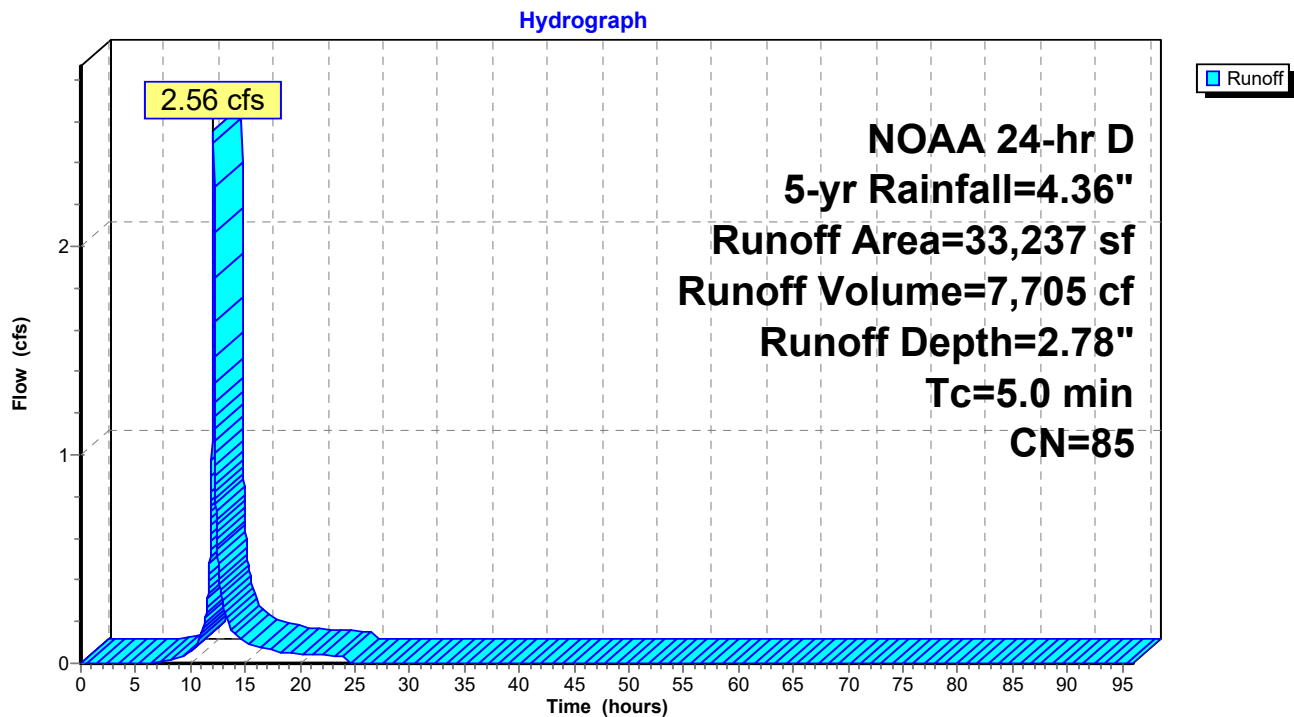
Subcatchment 1: Subcat 1



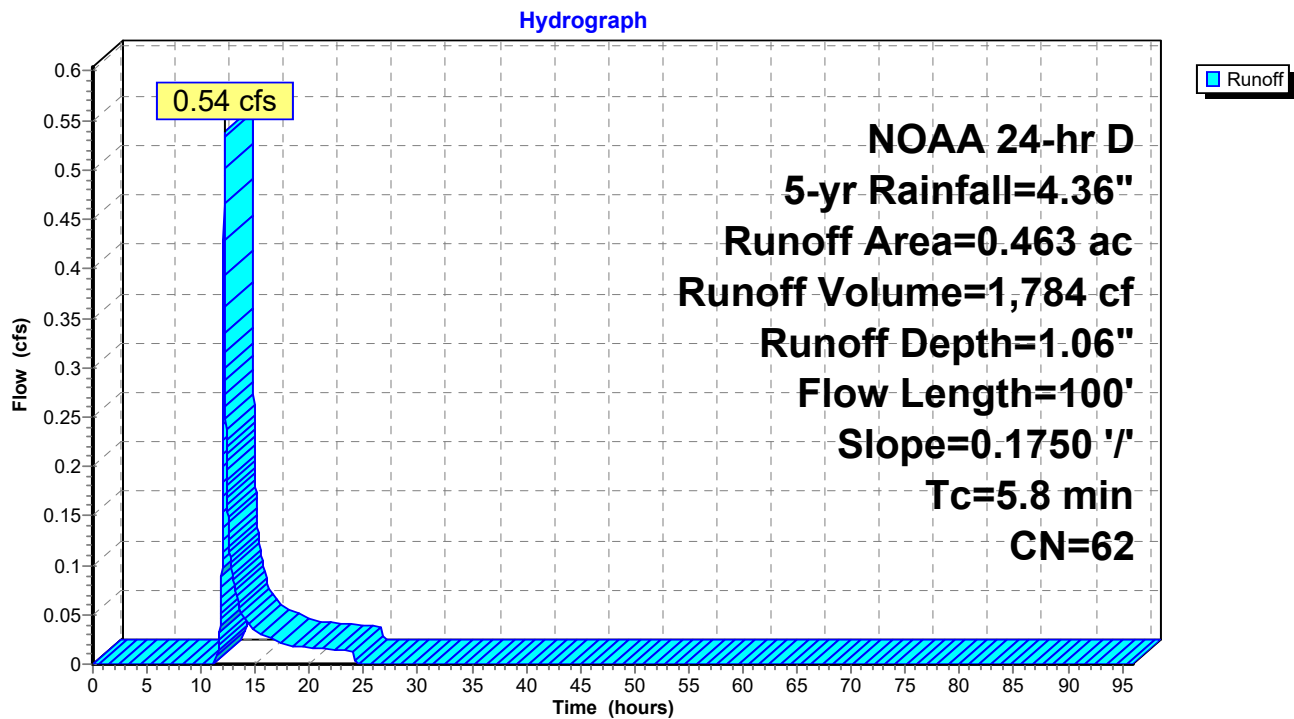
Subcatchment 2: Subcat 2



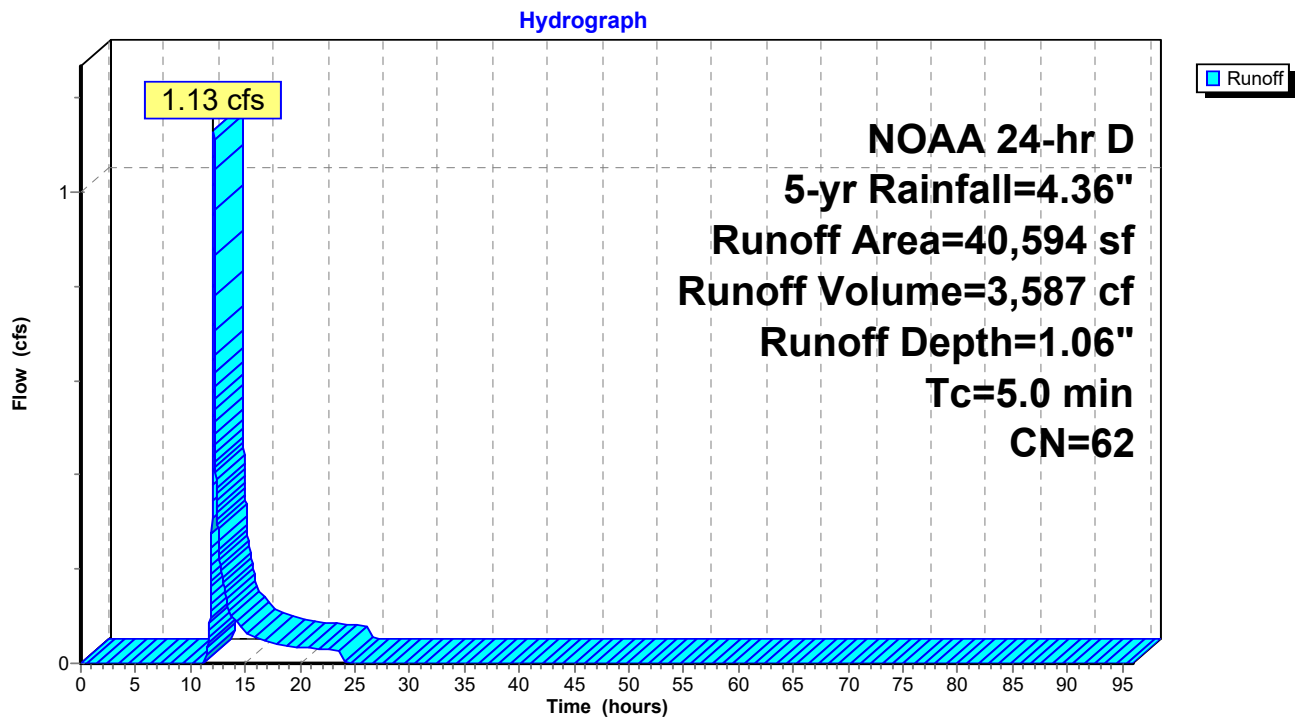
Subcatchment 3: Subcat 3



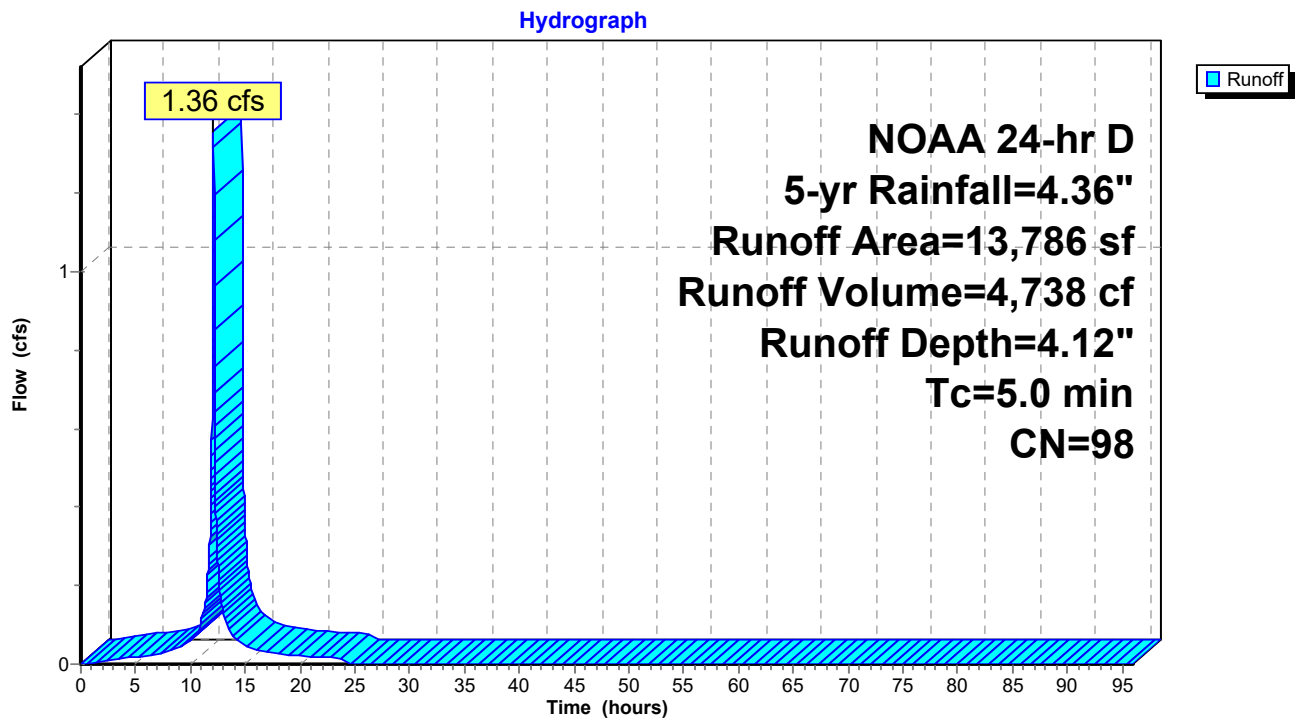
Subcatchment 4: Subcat 4



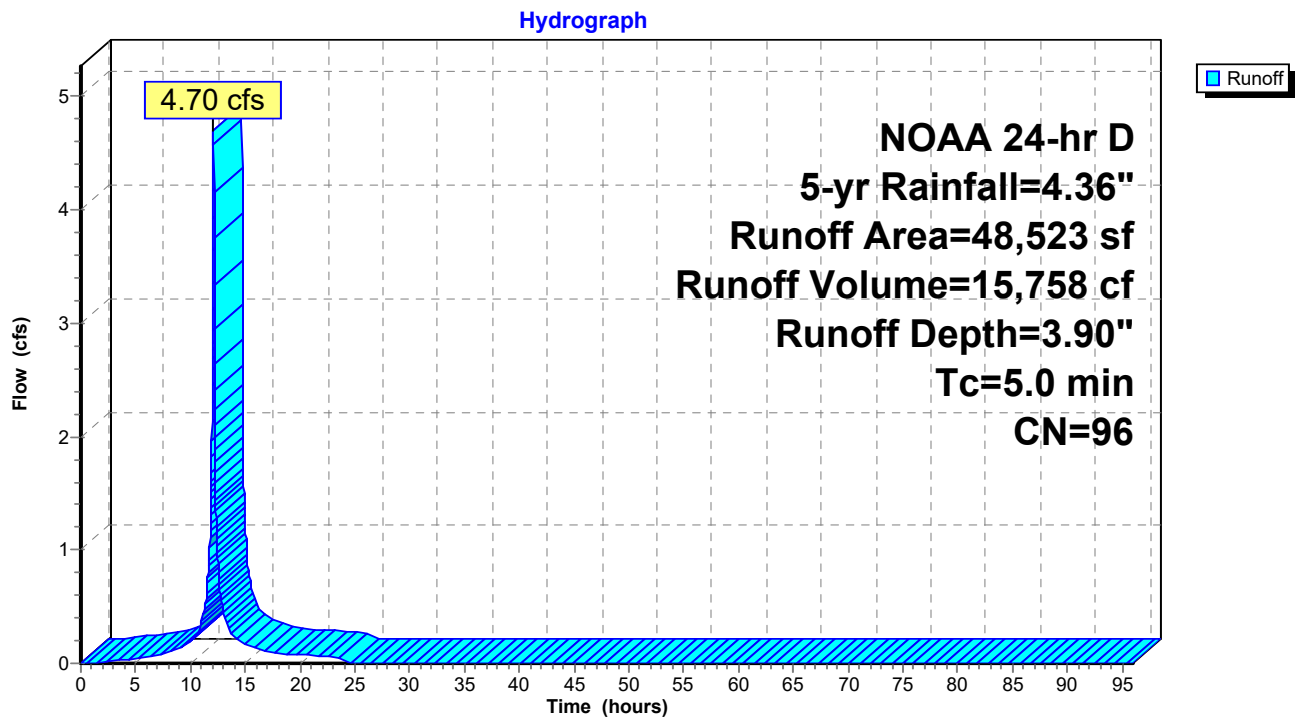
Subcatchment 4.1: Subcat 4.1



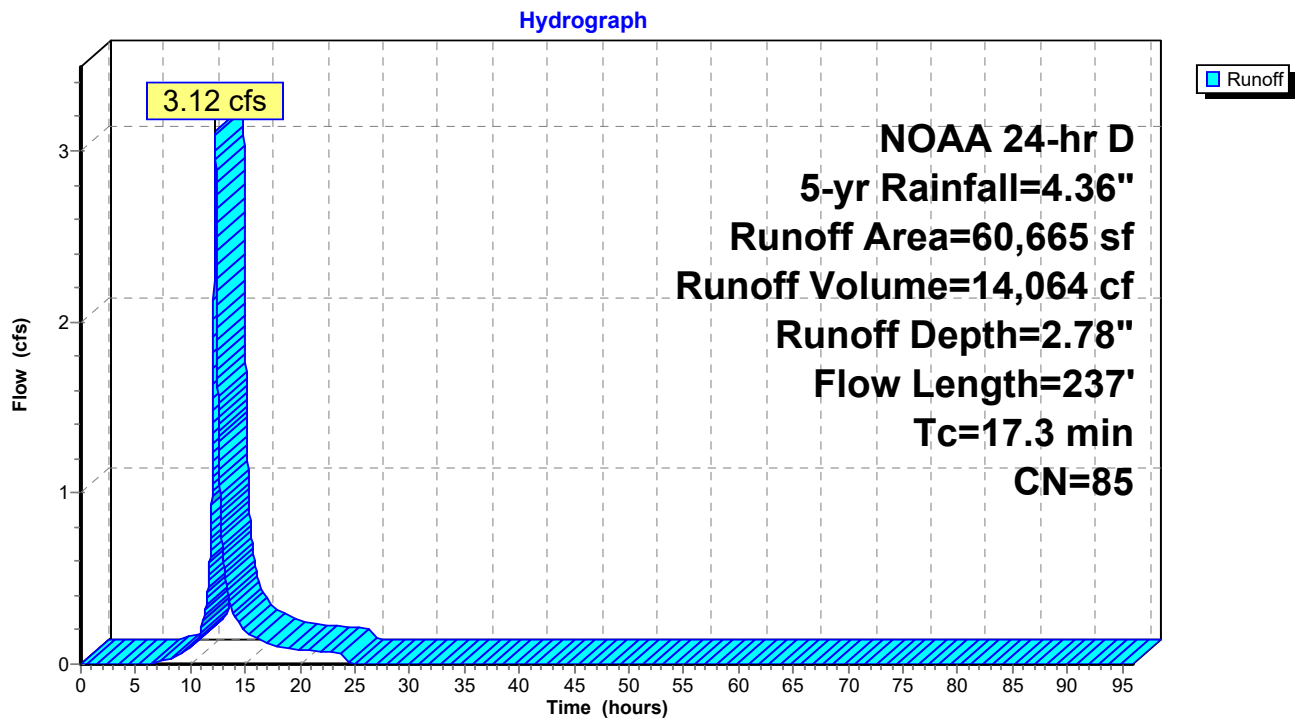
Subcatchment 6: Subcat 6



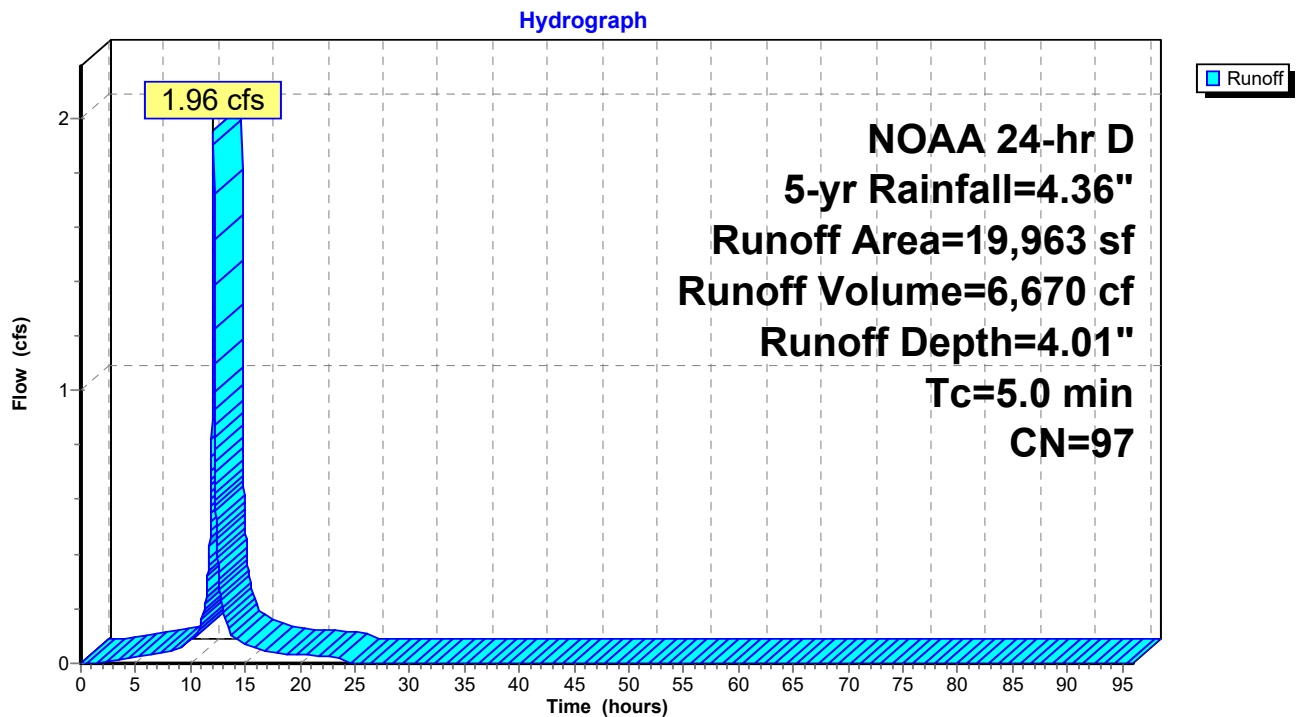
Subcatchment 10: Subcat 10



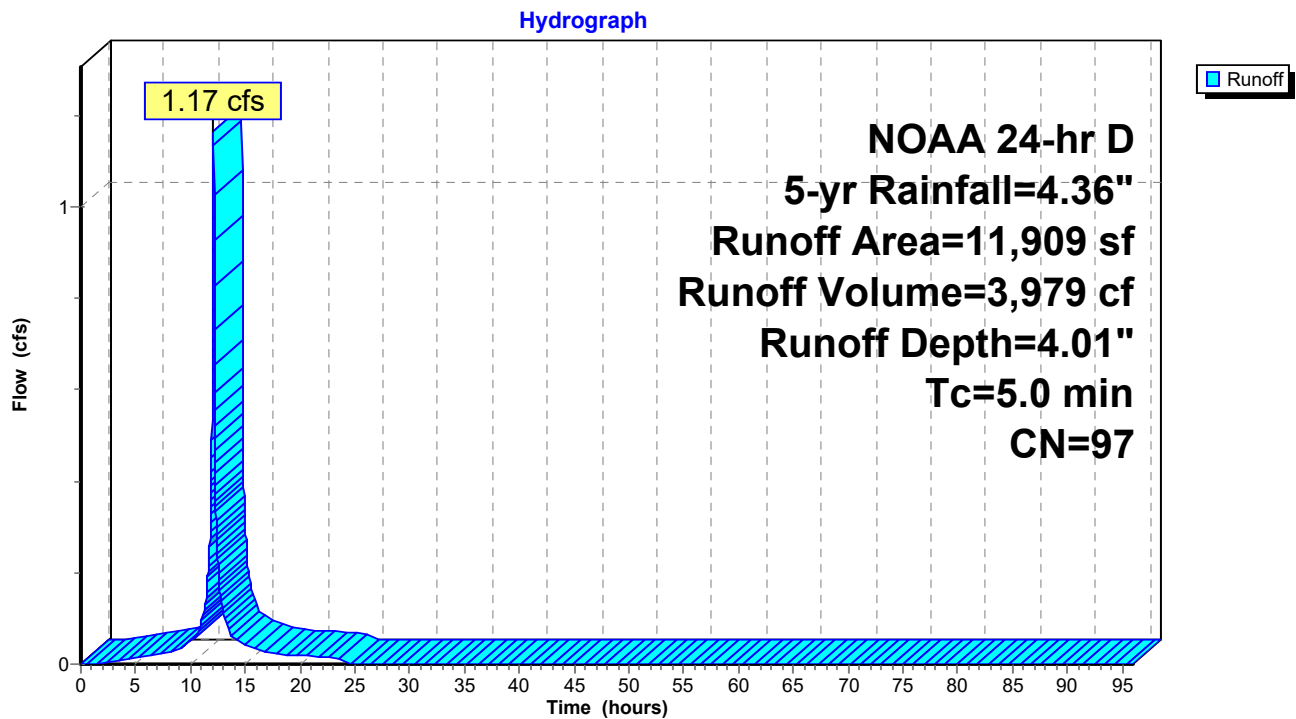
Subcatchment 11: Subcat 11



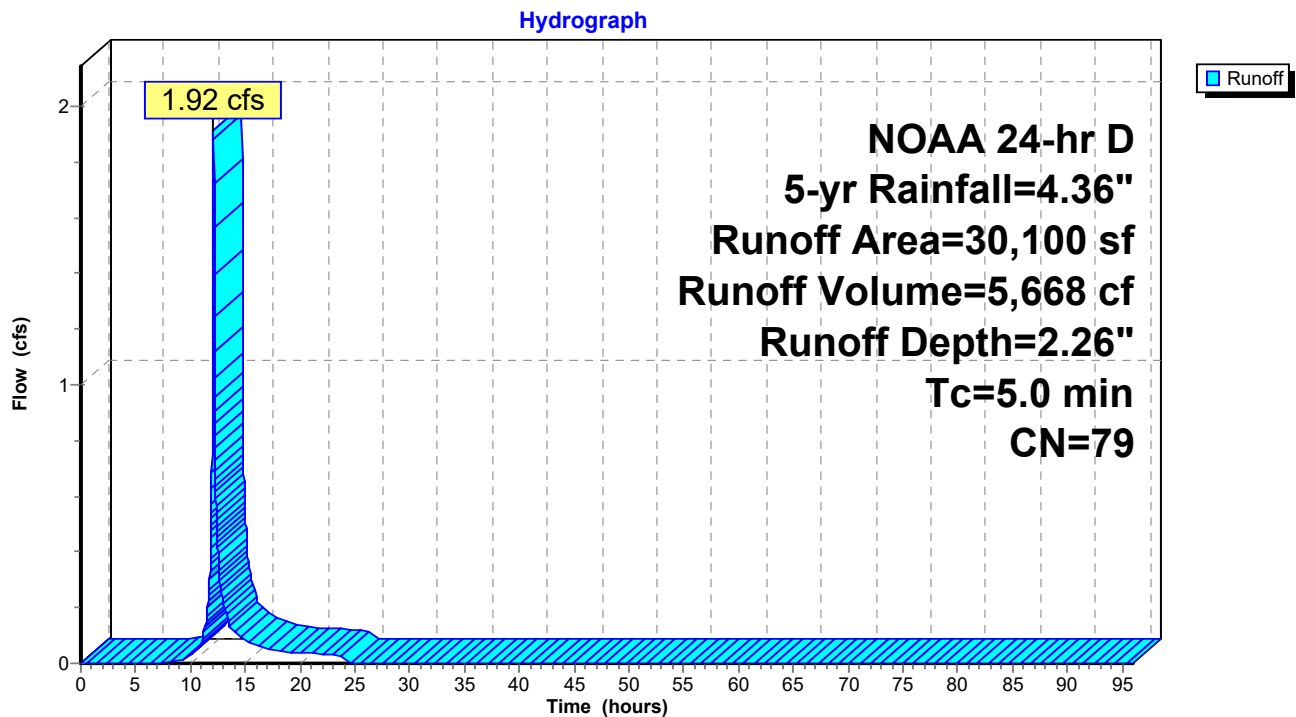
Subcatchment 11.1: Subcat 11.1



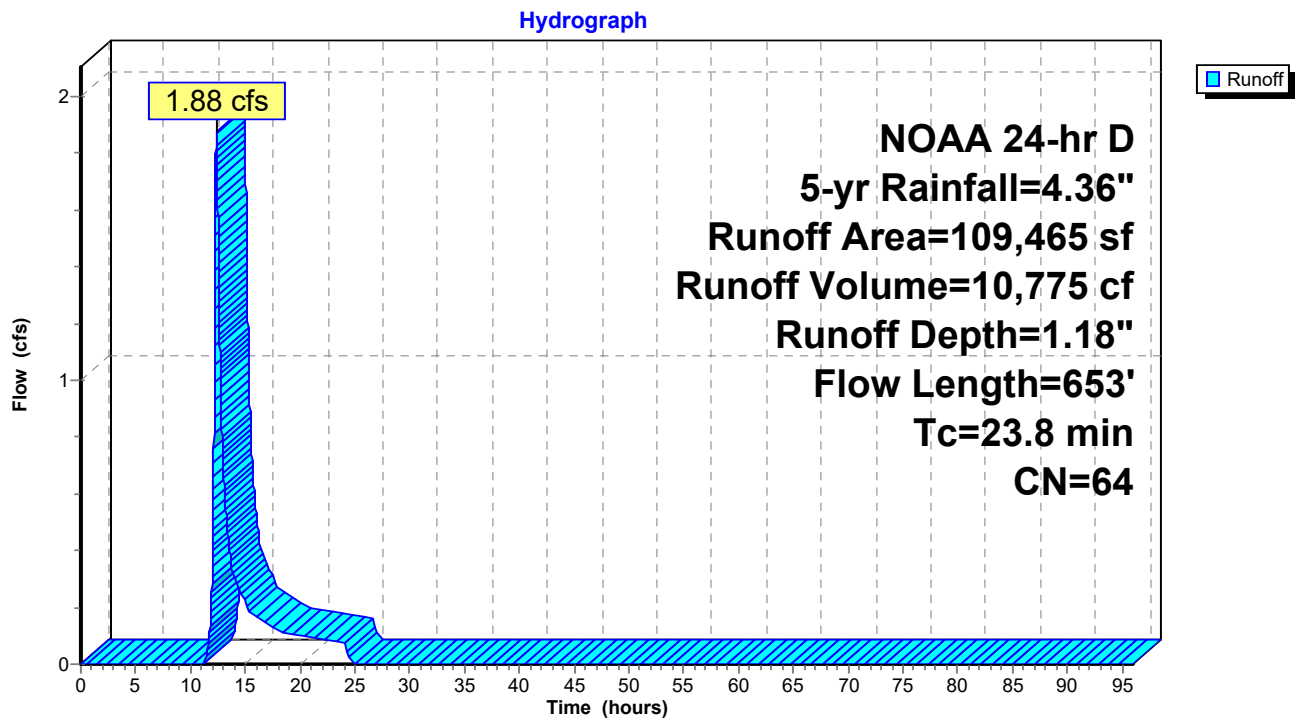
Subcatchment 11.2: Subcat 11.2



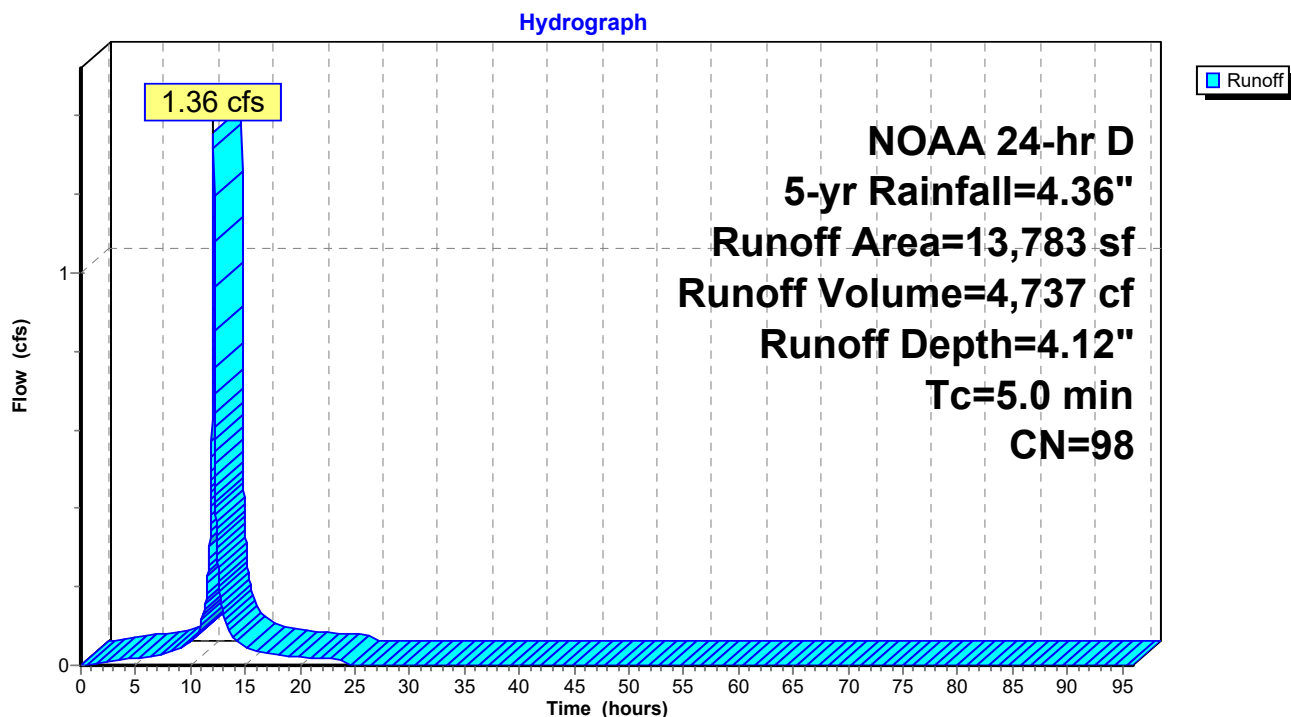
Subcatchment 12: Subcat 12



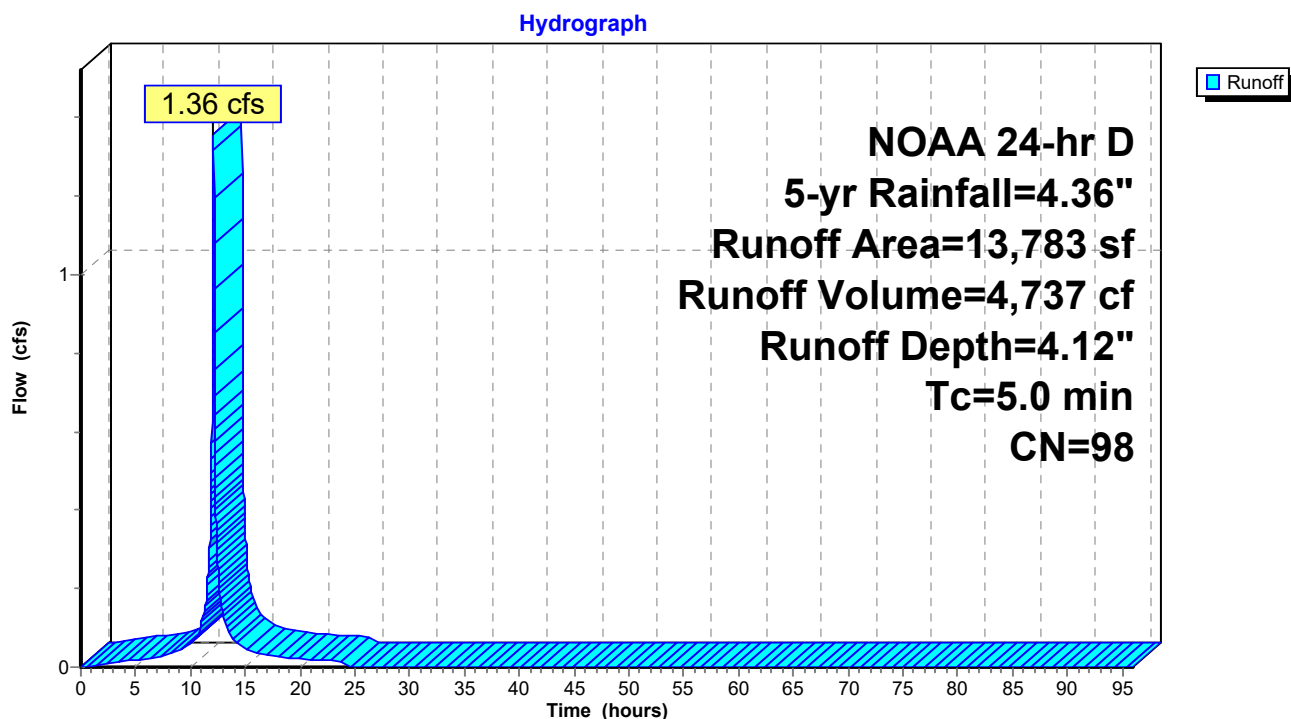
Subcatchment 13: Subcat 13



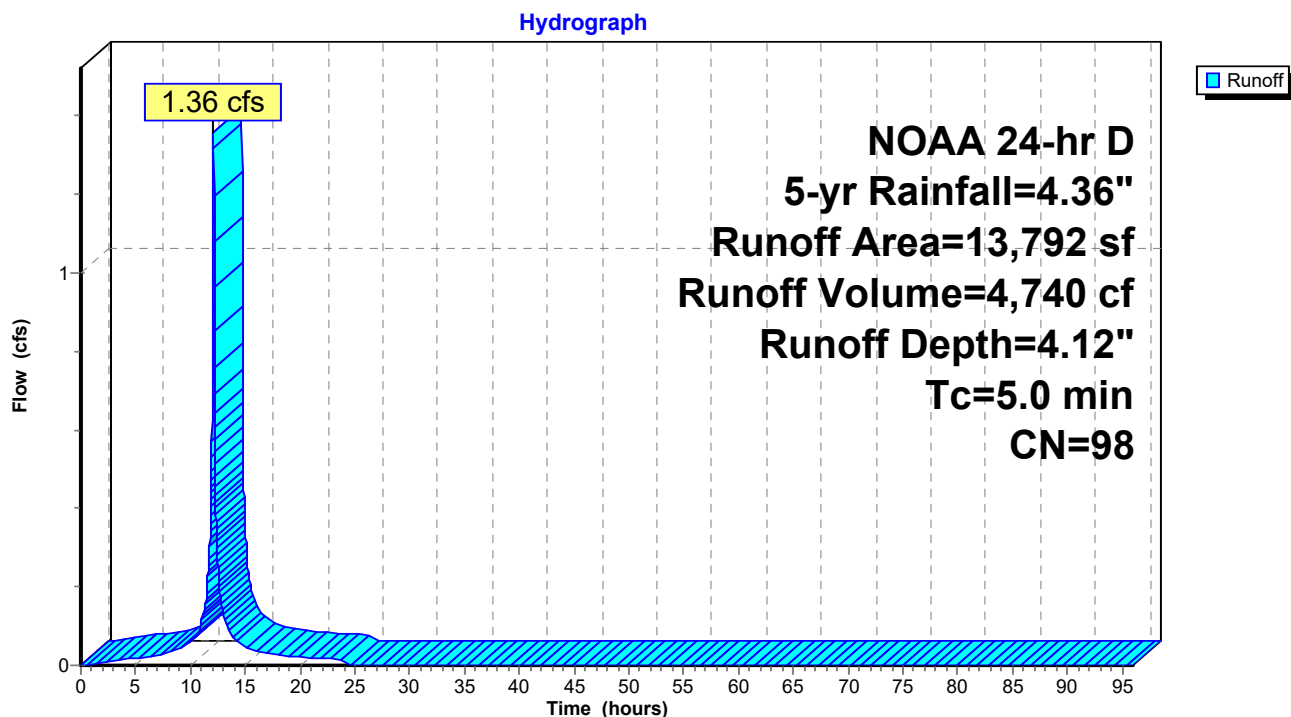
Subcatchment 14: Subcat 14



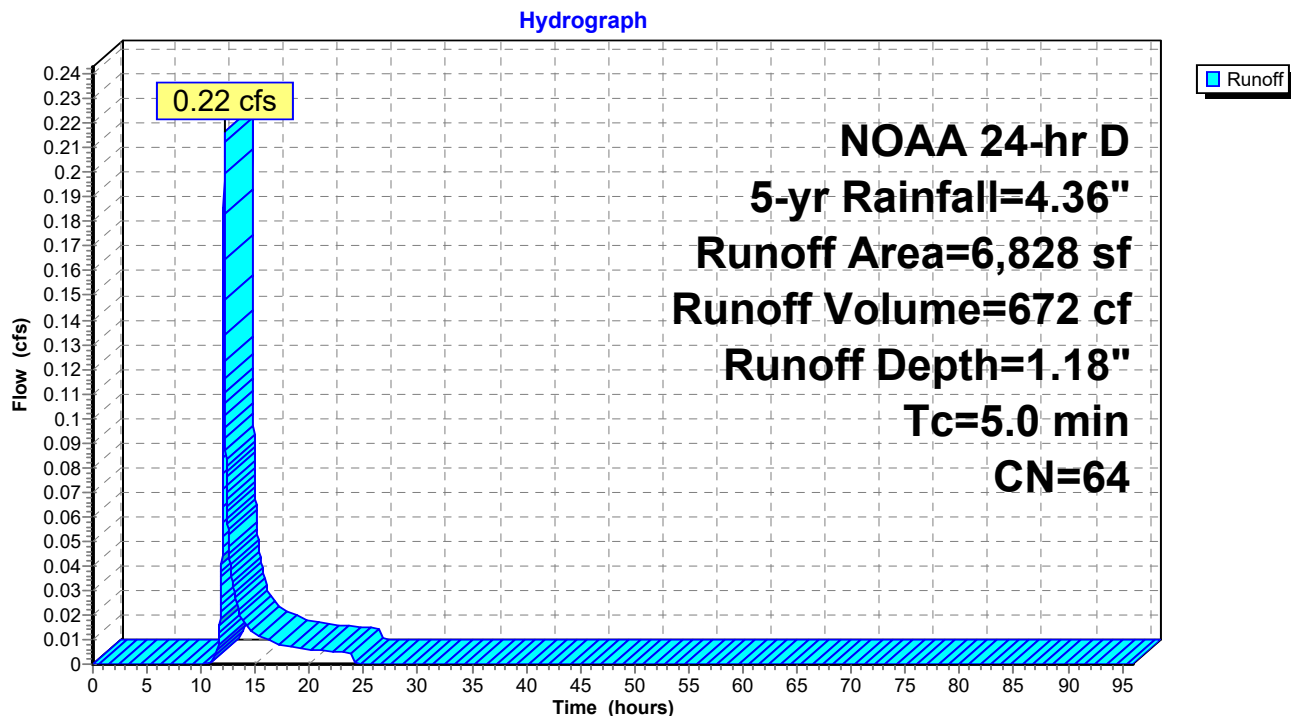
Subcatchment 15: Subcat 15



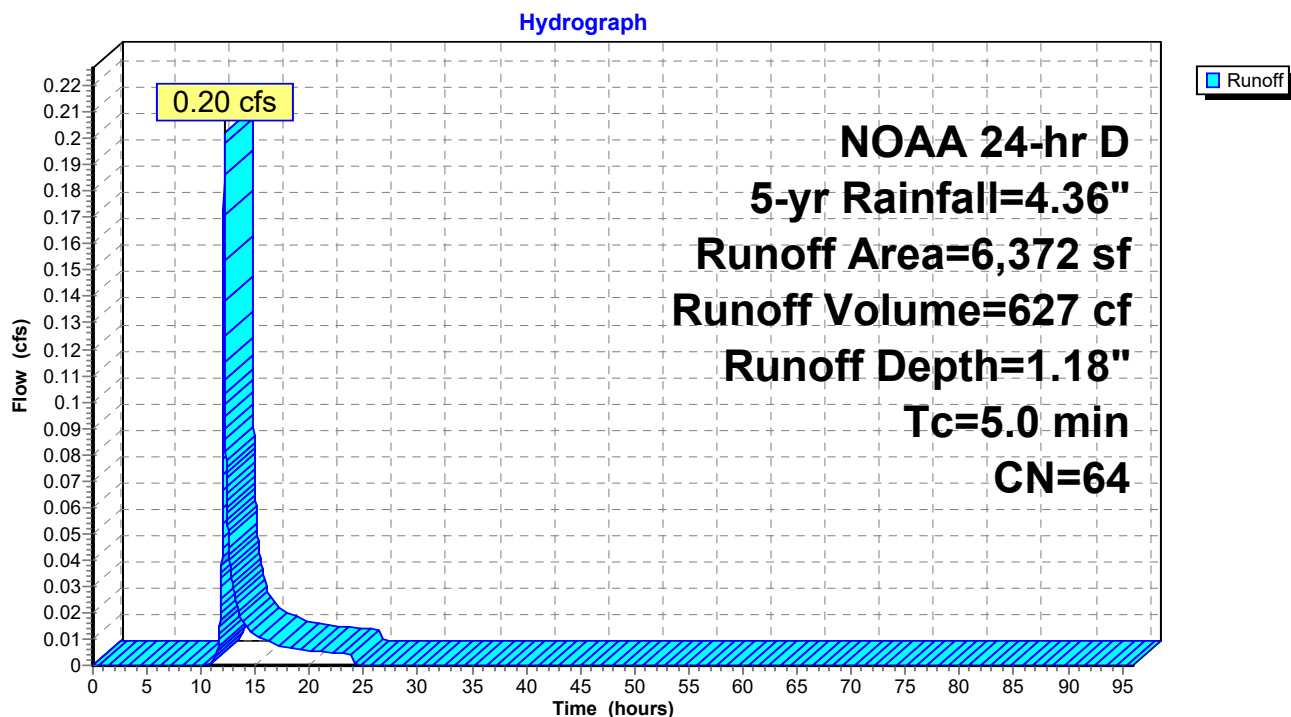
Subcatchment 16: Subcat 16



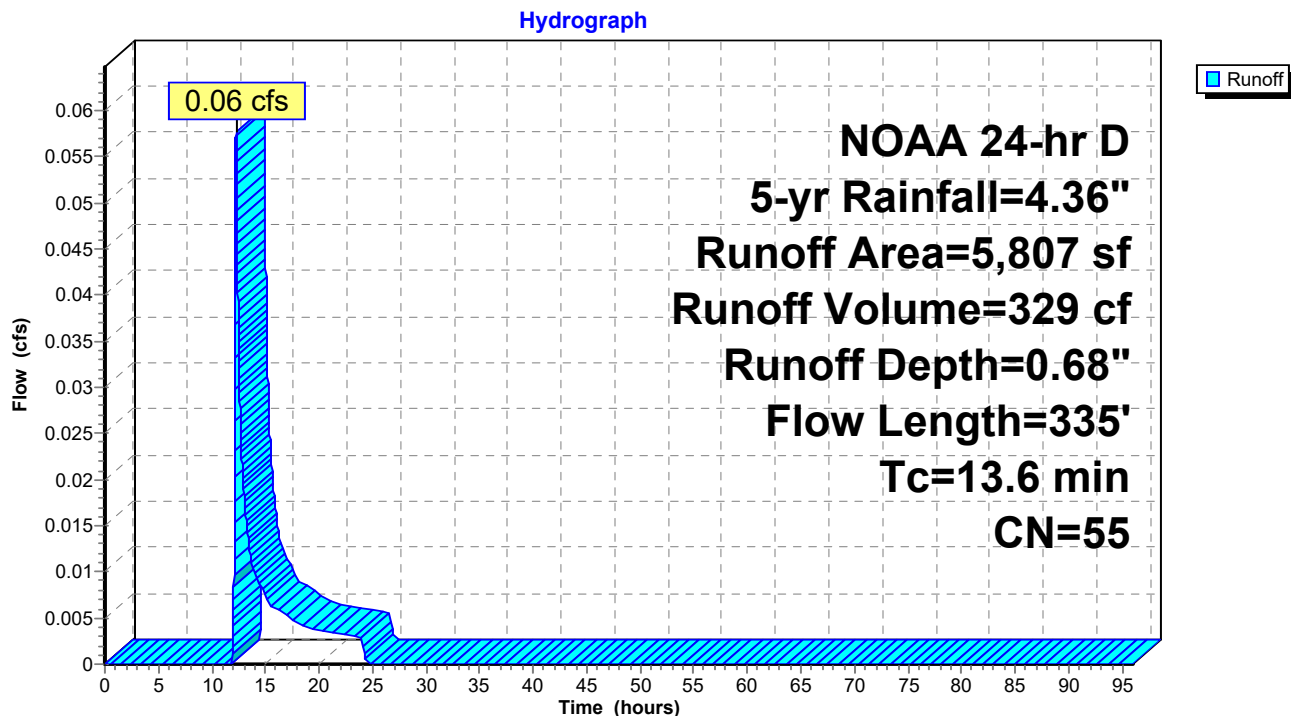
Subcatchment 17: Subcat 17



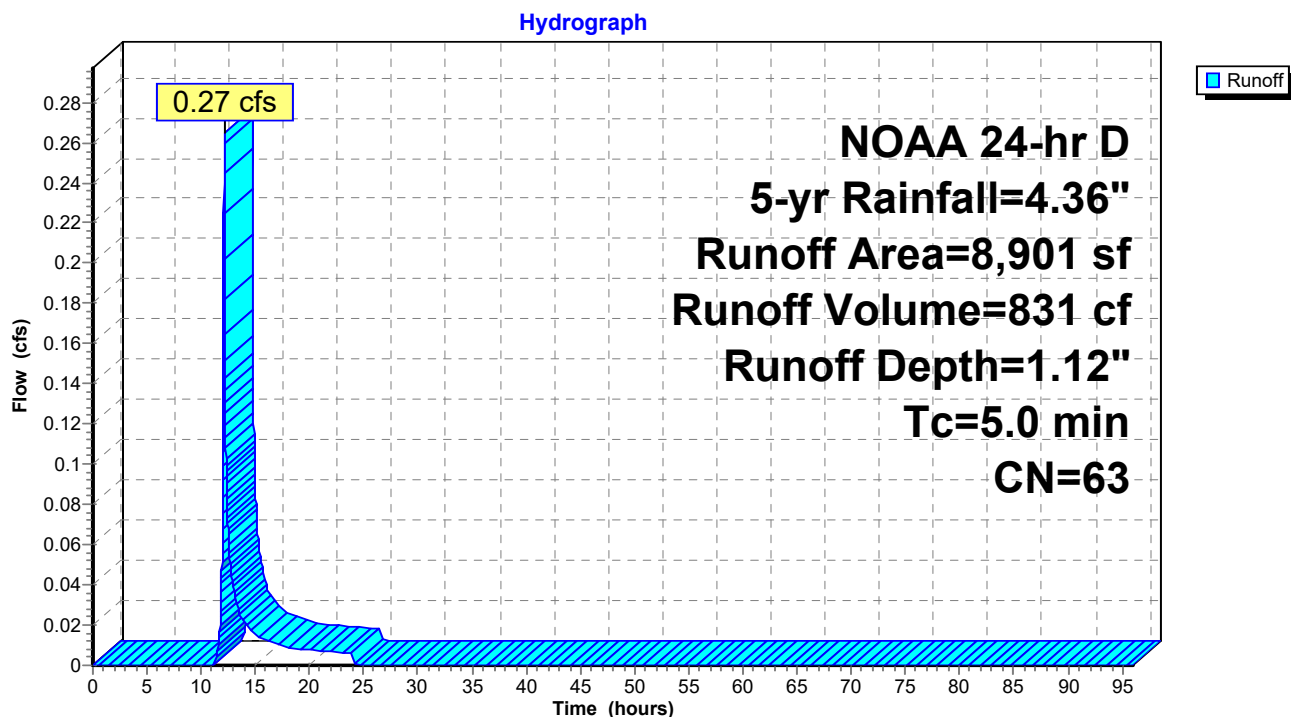
Subcatchment 18: Subcat 18



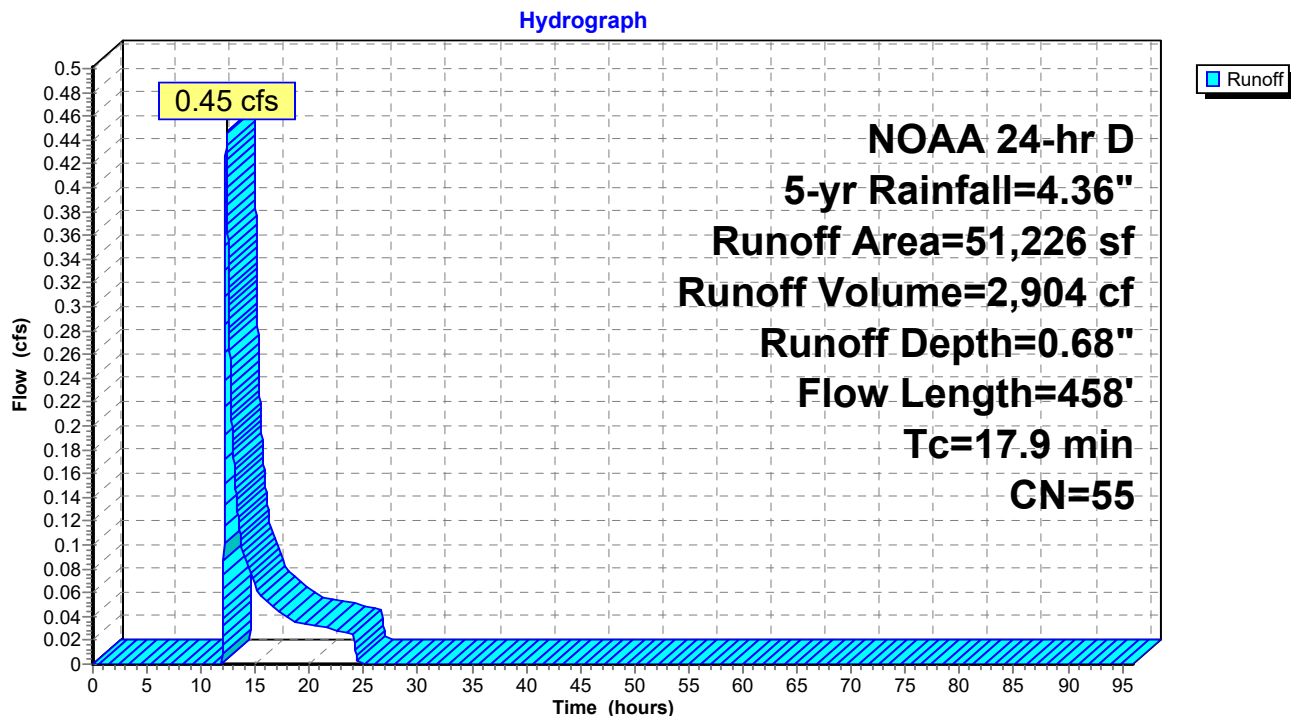
Subcatchment 19: Subcat 19



Subcatchment 21: Subcat 21

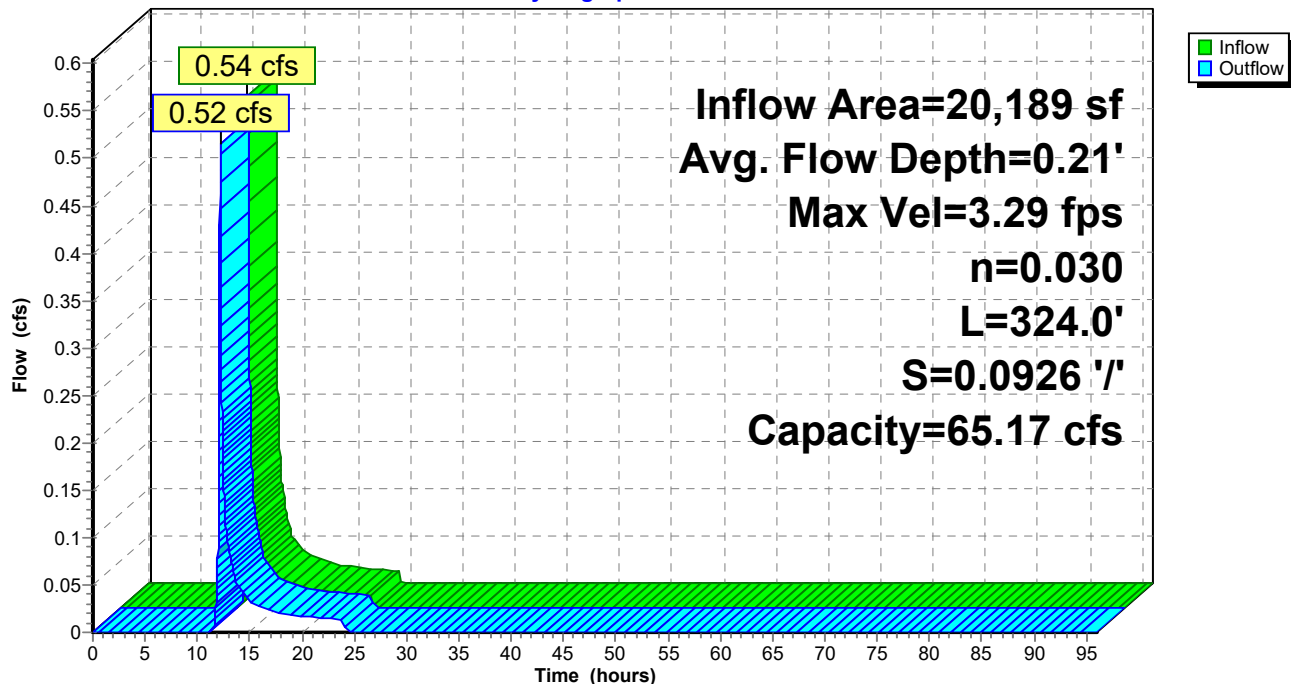


Subcatchment 22: Subcat 22



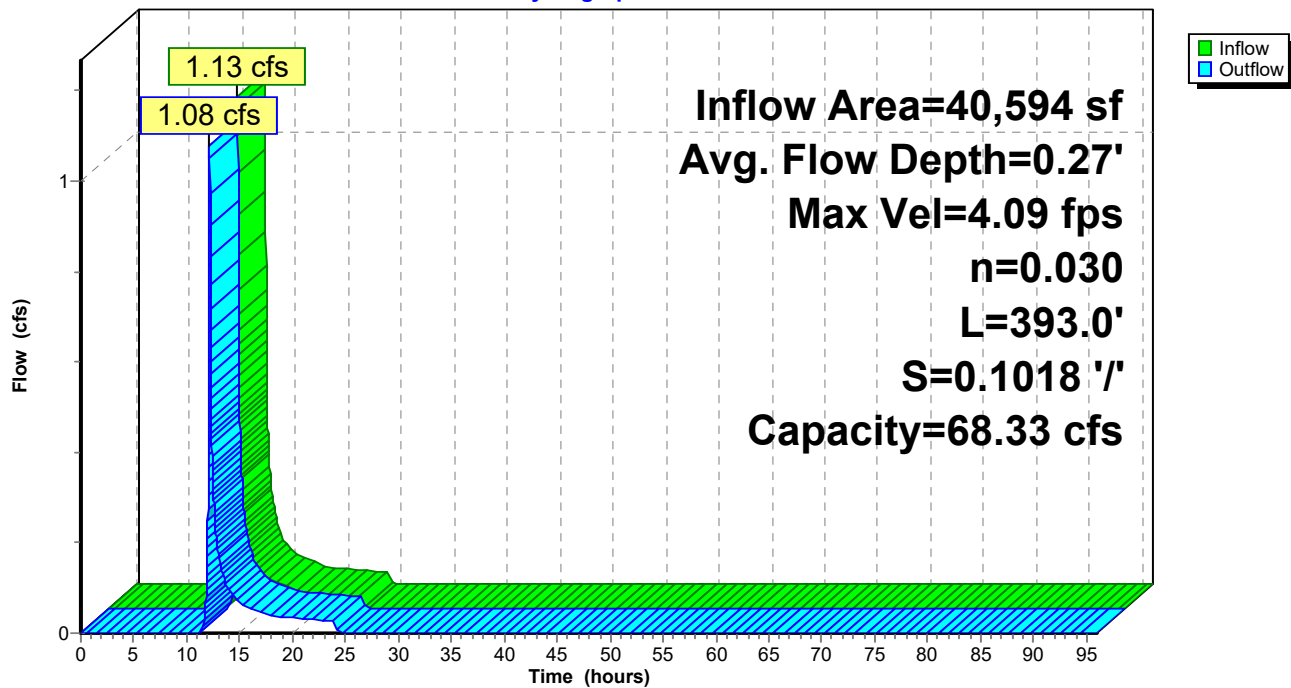
Reach 5R: swale

Hydrograph



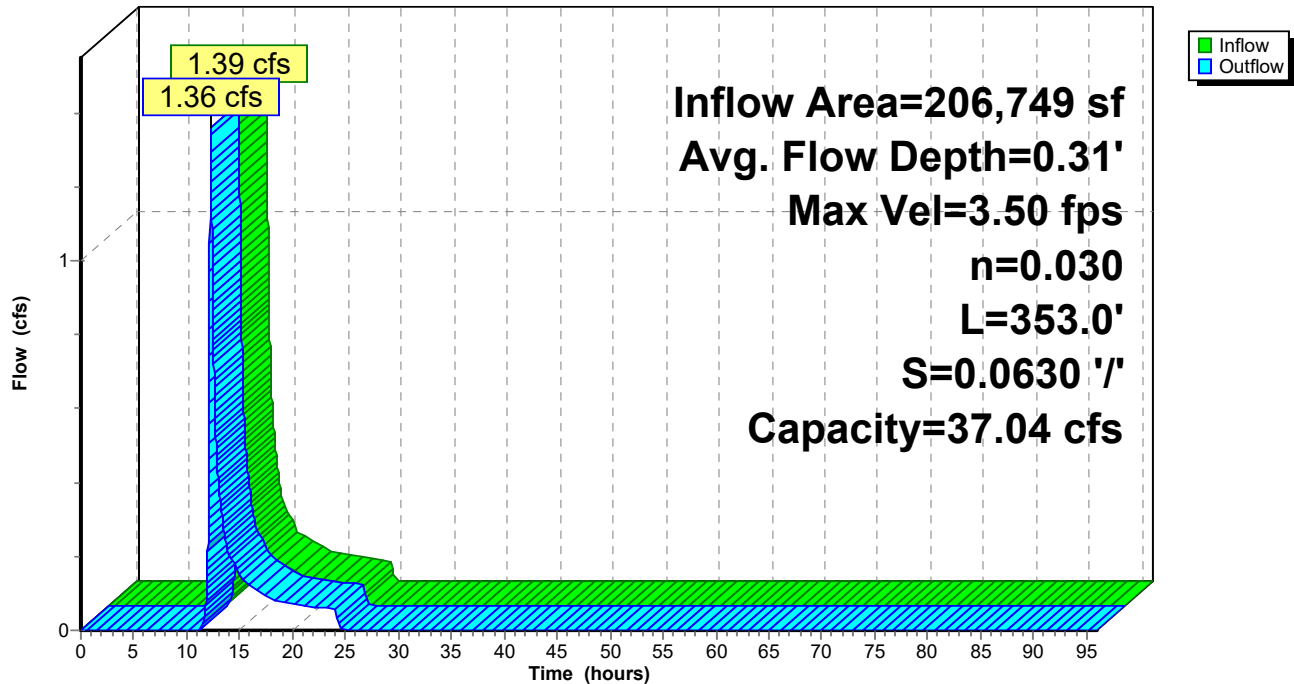
Reach 6R: swale

Hydrograph



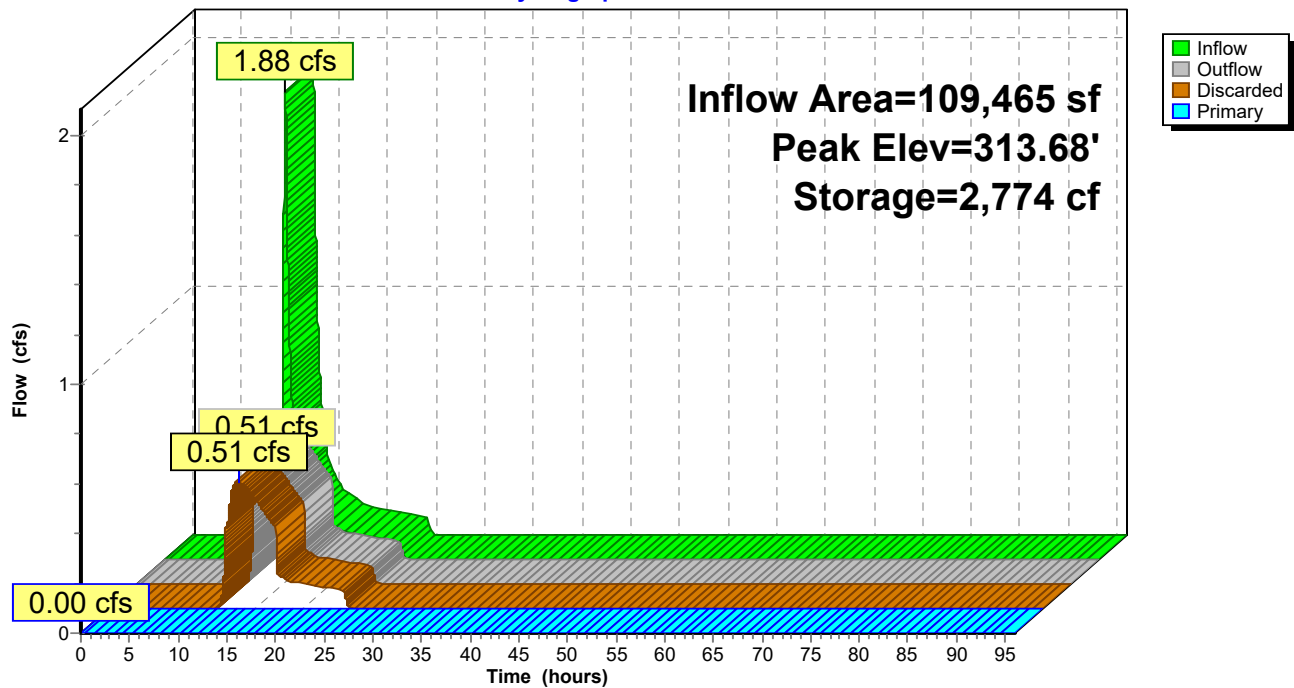
Reach 23R: swale

Hydrograph



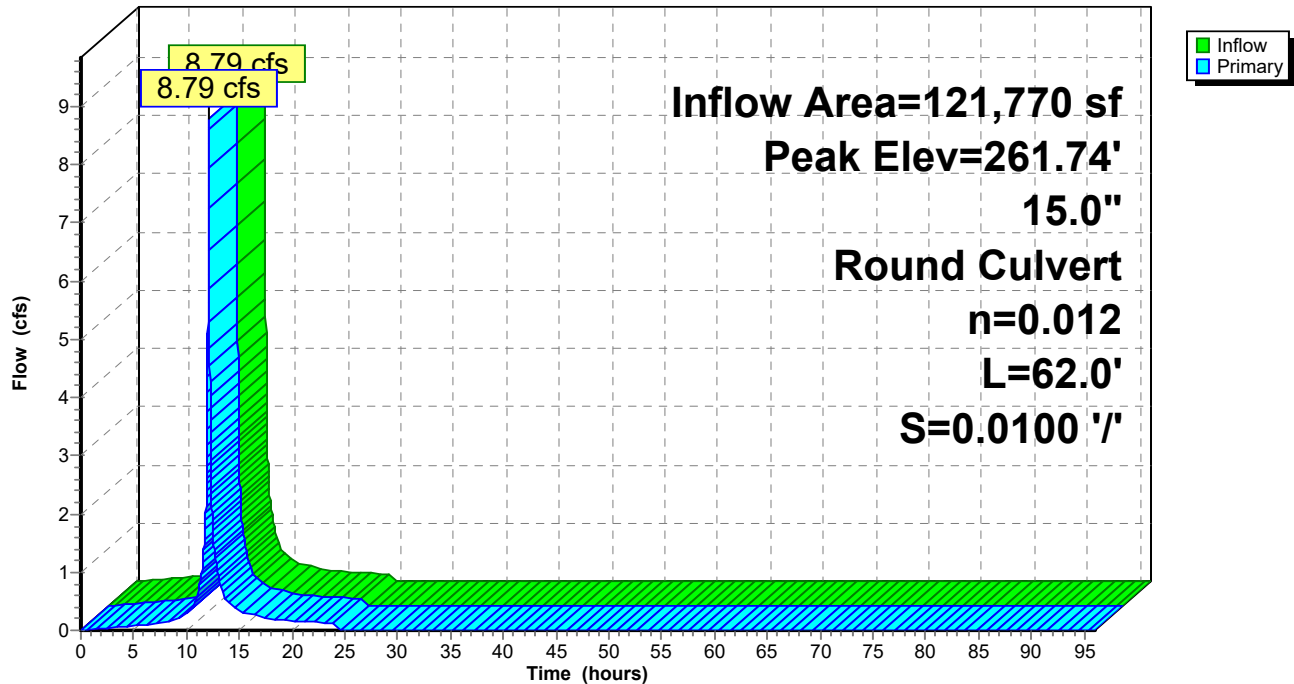
Pond 6P: Infiltration Basin

Hydrograph



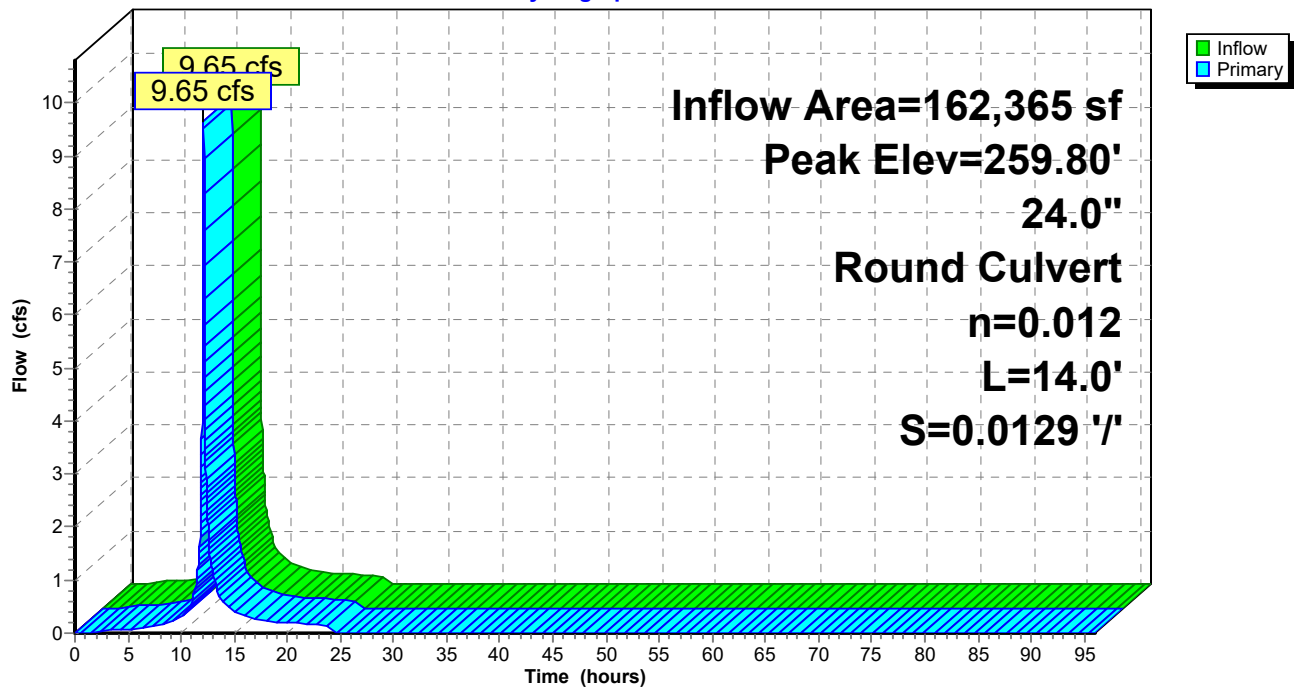
Pond 7P: CB B2

Hydrograph



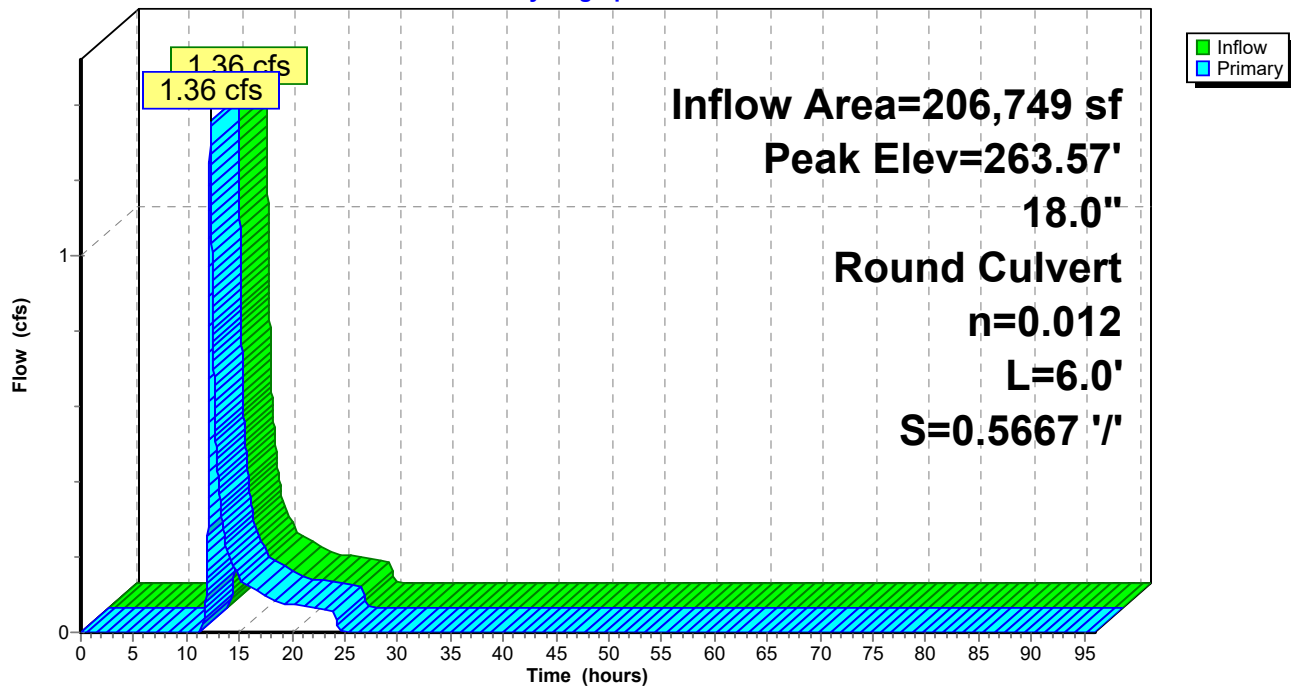
Pond 8P: CB B1

Hydrograph



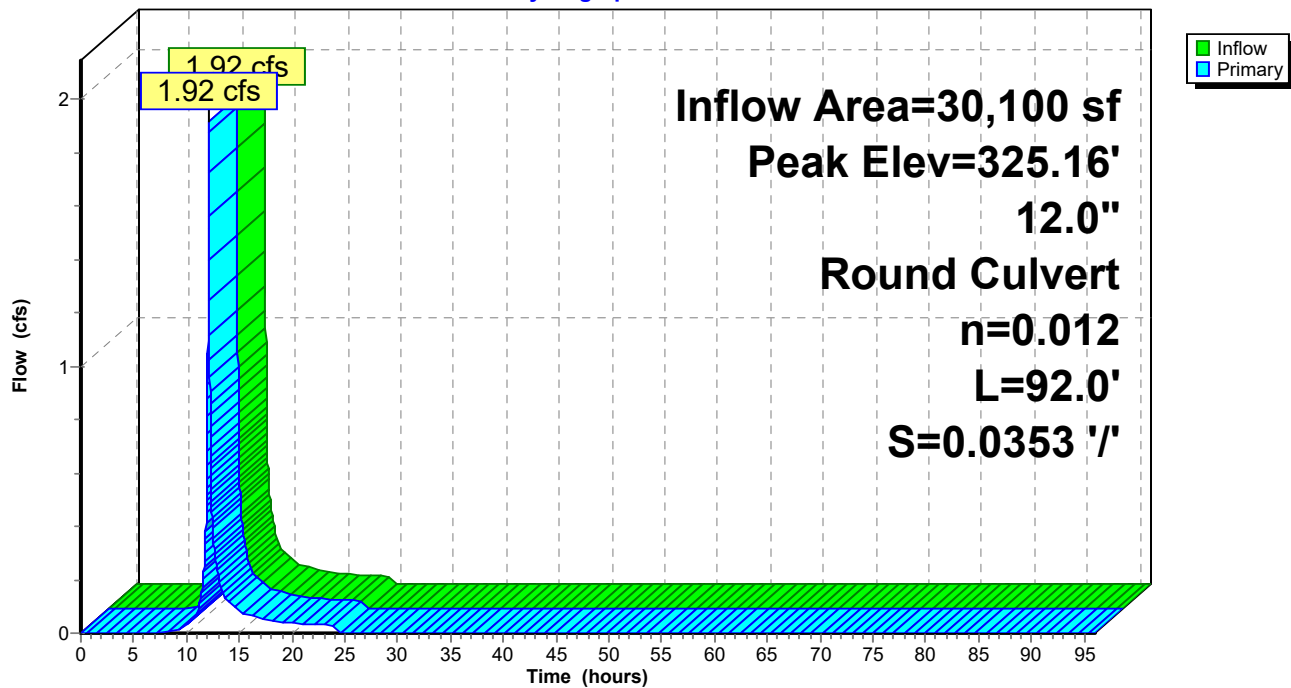
Pond 9P: CB B8

Hydrograph



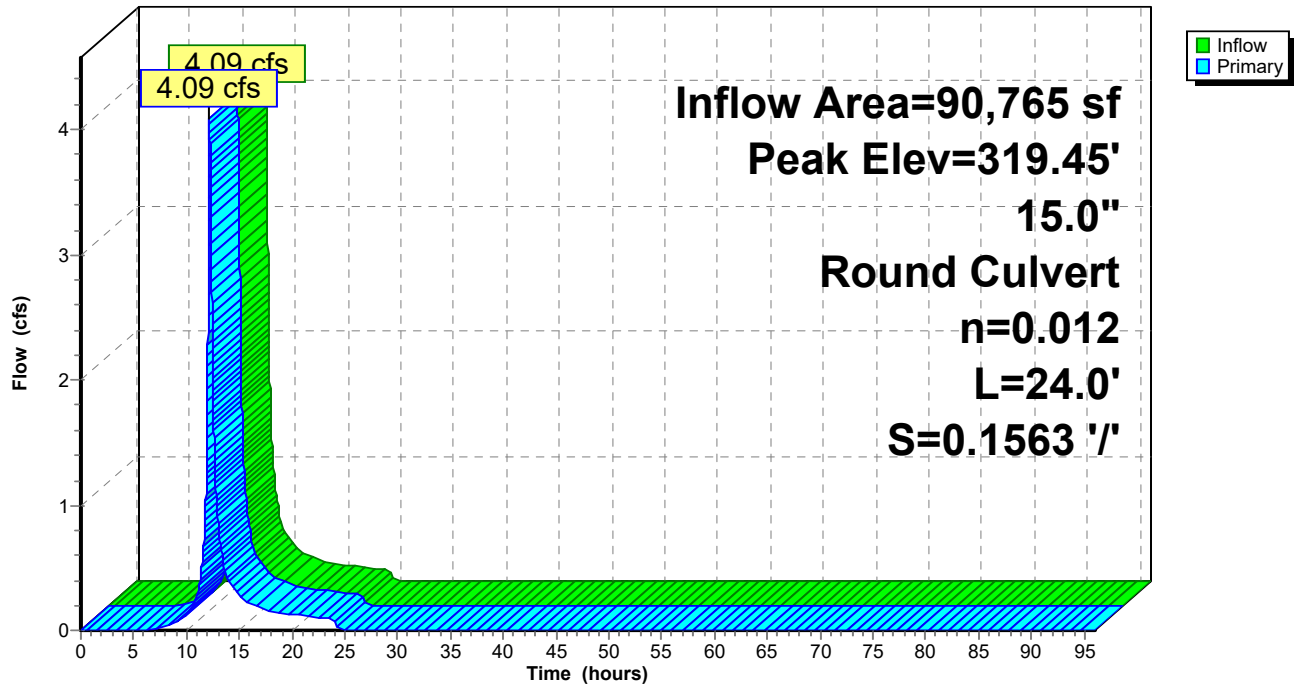
Pond 12P: CB A5.1

Hydrograph



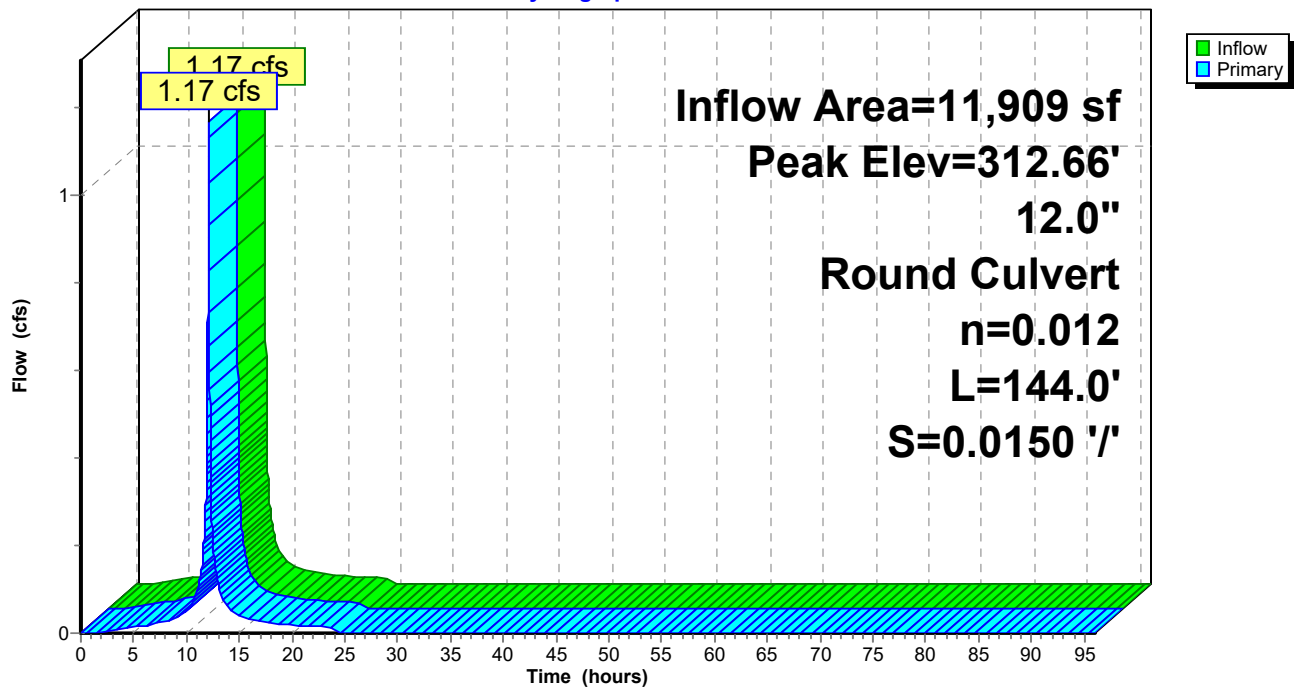
Pond 13P: CB A5

Hydrograph



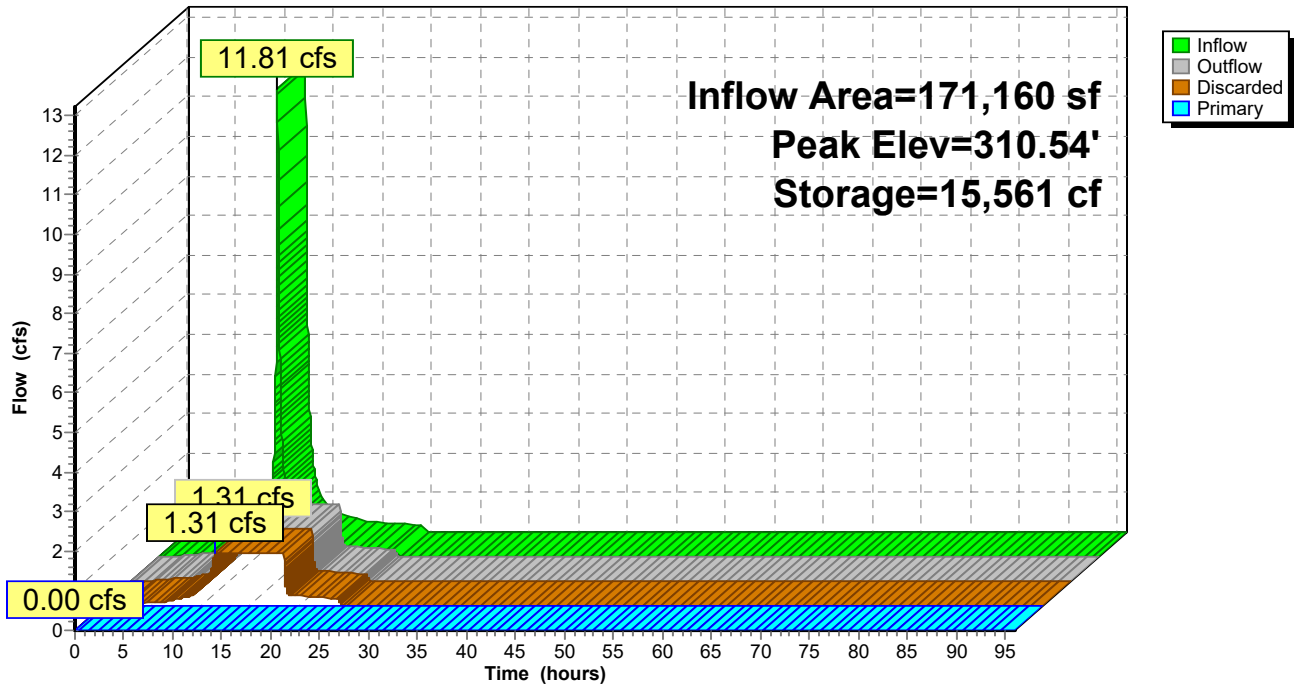
Pond 14P: CB A9

Hydrograph



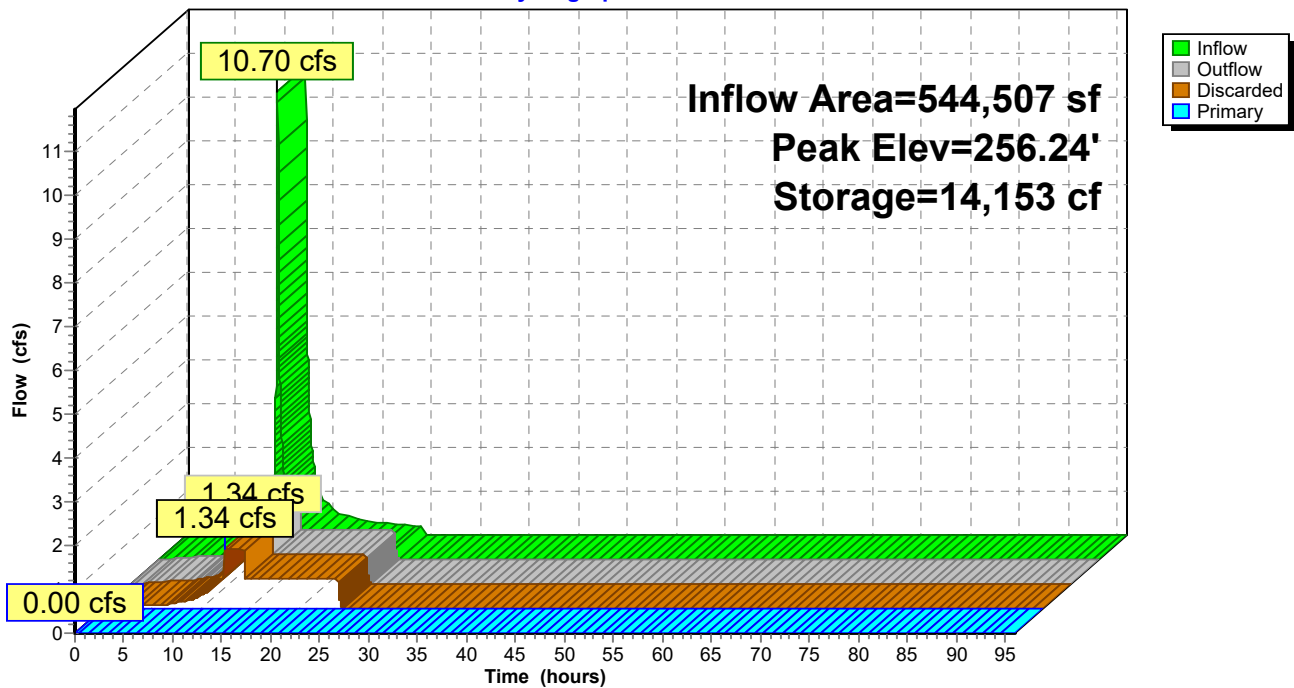
Pond 15P: INF-B

Hydrograph



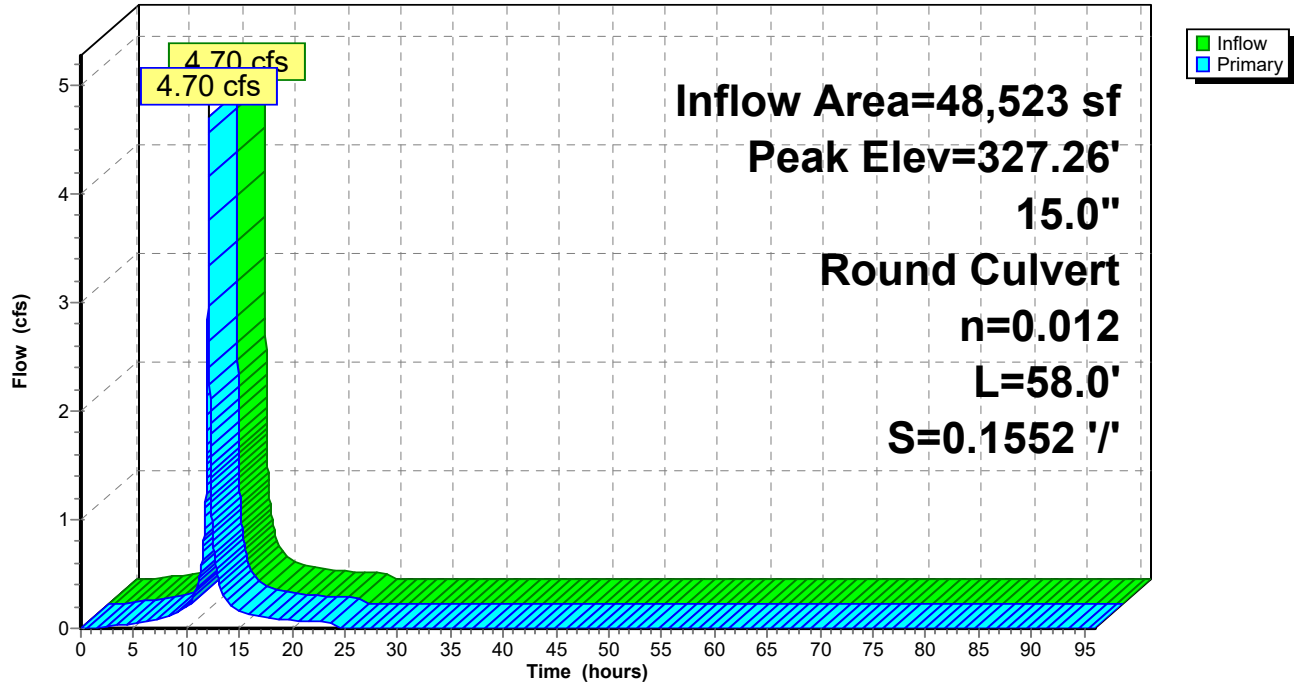
Pond 16P: INF-A

Hydrograph



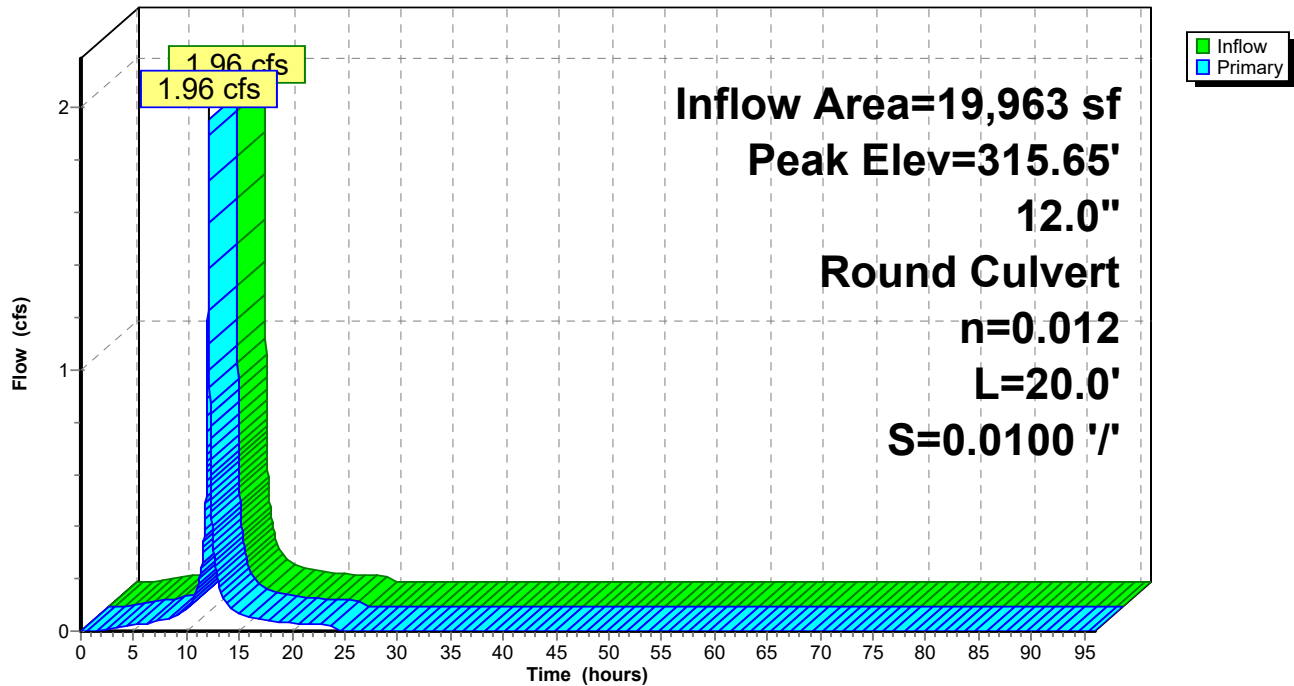
Pond 17P: CB A1

Hydrograph



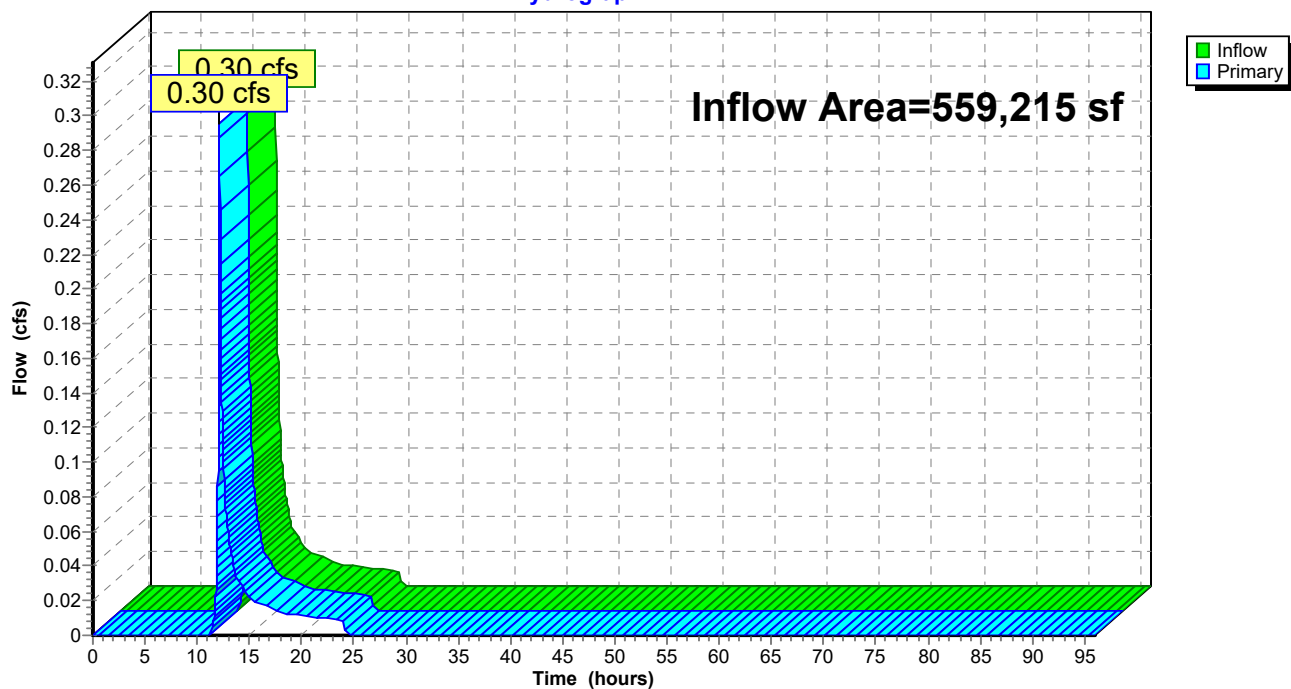
Pond 18P: CB 10

Hydrograph



Link 3L: Rt. 32 Culvert

Hydrograph



2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 10-yr Rainfall=5.11"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: Subcat 1	Runoff Area=46,057 sf 9.58% Impervious Runoff Depth=1.58" Tc=10.0 min UI Adjusted CN=63 Runoff=1.61 cfs 6,060 cf
Subcatchment 2: Subcat 2	Runoff Area=0.097 ac 83.65% Impervious Runoff Depth=4.20" Tc=5.0 min CN=92 Runoff=0.46 cfs 1,481 cf
Subcatchment 3: Subcat 3	Runoff Area=33,237 sf 65.92% Impervious Runoff Depth=3.47" Tc=5.0 min CN=85 Runoff=3.16 cfs 9,611 cf
Subcatchment 4: Subcat 4	Runoff Area=0.463 ac 2.77% Impervious Runoff Depth=1.51" Flow Length=100' Slope=0.1750 '/' Tc=5.8 min CN=62 Runoff=0.80 cfs 2,535 cf
Subcatchment 4.1: Subcat 4.1	Runoff Area=40,594 sf 1.66% Impervious Runoff Depth=1.51" Tc=5.0 min CN=62 Runoff=1.67 cfs 5,097 cf
Subcatchment 6: Subcat 6	Runoff Area=13,786 sf 100.00% Impervious Runoff Depth=4.87" Tc=5.0 min CN=98 Runoff=1.60 cfs 5,598 cf
Subcatchment 10: Subcat 10	Runoff Area=48,523 sf 94.79% Impervious Runoff Depth=4.64" Tc=5.0 min CN=96 Runoff=5.55 cfs 18,770 cf
Subcatchment 11: Subcat 11	Runoff Area=60,665 sf 52.99% Impervious Runoff Depth=3.47" Flow Length=237' Tc=17.3 min CN=85 Runoff=3.86 cfs 17,542 cf
Subcatchment 11.1: Subcat 11.1	Runoff Area=19,963 sf 98.49% Impervious Runoff Depth=4.76" Tc=5.0 min CN=97 Runoff=2.30 cfs 7,913 cf
Subcatchment 11.2: Subcat 11.2	Runoff Area=11,909 sf 96.82% Impervious Runoff Depth=4.76" Tc=5.0 min CN=97 Runoff=1.37 cfs 4,720 cf
Subcatchment 12: Subcat 12	Runoff Area=30,100 sf 48.89% Impervious Runoff Depth=2.90" Tc=5.0 min CN=79 Runoff=2.44 cfs 7,266 cf
Subcatchment 13: Subcat 13	Runoff Area=109,465 sf 0.02% Impervious Runoff Depth=1.65" Flow Length=653' Tc=23.8 min CN=64 Runoff=2.75 cfs 15,074 cf
Subcatchment 14: Subcat 14	Runoff Area=13,783 sf 99.97% Impervious Runoff Depth=4.87" Tc=5.0 min CN=98 Runoff=1.60 cfs 5,597 cf
Subcatchment 15: Subcat 15	Runoff Area=13,783 sf 99.98% Impervious Runoff Depth=4.87" Tc=5.0 min CN=98 Runoff=1.60 cfs 5,597 cf
Subcatchment 16: Subcat 16	Runoff Area=13,792 sf 99.99% Impervious Runoff Depth=4.87" Tc=5.0 min CN=98 Runoff=1.60 cfs 5,601 cf
Subcatchment 17: Subcat 17	Runoff Area=6,828 sf 8.53% Impervious Runoff Depth=1.65" Tc=5.0 min CN=64 Runoff=0.31 cfs 940 cf

2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 10-yr Rainfall=5.11"

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Subcatchment 18: Subcat 18	Runoff Area=6,372 sf 7.75% Impervious Runoff Depth=1.65" Tc=5.0 min CN=64 Runoff=0.29 cfs 877 cf
Subcatchment 19: Subcat 19	Runoff Area=5,807 sf 0.00% Impervious Runoff Depth=1.04" Flow Length=335' Tc=13.6 min CN=55 Runoff=0.10 cfs 501 cf
Subcatchment 21: Subcat 21	Runoff Area=8,901 sf 3.88% Impervious Runoff Depth=1.58" Tc=5.0 min CN=63 Runoff=0.39 cfs 1,171 cf
Subcatchment 22: Subcat 22	Runoff Area=51,226 sf 0.04% Impervious Runoff Depth=1.04" Flow Length=458' Tc=17.9 min CN=55 Runoff=0.79 cfs 4,419 cf
Reach 5R: swale	Avg. Flow Depth=0.25' Max Vel=3.63 fps Inflow=0.80 cfs 2,535 cf n=0.030 L=324.0' S=0.0926 ' Capacity=65.17 cfs Outflow=0.77 cfs 2,535 cf
Reach 6R: swale	Avg. Flow Depth=0.32' Max Vel=4.53 fps Inflow=1.67 cfs 5,097 cf n=0.030 L=393.0' S=0.1018 ' Capacity=68.33 cfs Outflow=1.60 cfs 5,097 cf
Reach 23R: swale	Avg. Flow Depth=0.37' Max Vel=3.93 fps Inflow=2.19 cfs 10,493 cf n=0.030 L=353.0' S=0.0630 ' Capacity=37.04 cfs Outflow=2.16 cfs 10,493 cf
Pond 6P: Infiltration Basin	Peak Elev=314.51' Storage=4,627 cf Inflow=2.75 cfs 15,074 cf Discarded=0.62 cfs 15,061 cf Primary=0.02 cfs 13 cf Outflow=0.64 cfs 15,074 cf
Pond 7P: CB B2	Peak Elev=262.83' Inflow=10.74 cfs 36,356 cf 15.0" Round Culvert n=0.012 L=62.0' S=0.0100 ' Outflow=10.74 cfs 36,356 cf
Pond 8P: CB B1	Peak Elev=260.07' Inflow=12.11 cfs 41,453 cf 24.0" Round Culvert n=0.012 L=14.0' S=0.0129 ' Outflow=12.11 cfs 41,453 cf
Pond 9P: CB B8	Peak Elev=263.73' Inflow=2.16 cfs 10,493 cf 18.0" Round Culvert n=0.012 L=6.0' S=0.5667 ' Outflow=2.16 cfs 10,493 cf
Pond 12P: CB A5.1	Peak Elev=325.31' Inflow=2.44 cfs 7,266 cf 12.0" Round Culvert n=0.012 L=92.0' S=0.0353 ' Outflow=2.44 cfs 7,266 cf
Pond 13P: CB A5	Peak Elev=319.74' Inflow=5.15 cfs 24,807 cf 15.0" Round Culvert n=0.012 L=24.0' S=0.1563 ' Outflow=5.15 cfs 24,807 cf
Pond 14P: CB A9	Peak Elev=312.72' Inflow=1.37 cfs 4,720 cf 12.0" Round Culvert n=0.012 L=144.0' S=0.0150 ' Outflow=1.37 cfs 4,720 cf
Pond 15P: INF-B	Peak Elev=311.70' Storage=20,874 cf Inflow=14.26 cfs 56,211 cf Discarded=1.31 cfs 56,211 cf Primary=0.00 cfs 0 cf Outflow=1.31 cfs 56,211 cf
Pond 16P: INF-A	Peak Elev=257.99' Storage=18,319 cf Inflow=13.78 cfs 53,427 cf Discarded=1.34 cfs 50,741 cf Primary=1.09 cfs 2,686 cf Outflow=2.43 cfs 53,427 cf
Pond 17P: CB A1	Peak Elev=327.51' Inflow=5.55 cfs 18,770 cf 15.0" Round Culvert n=0.012 L=58.0' S=0.1552 ' Outflow=5.55 cfs 18,770 cf
Pond 18P: CB 10	Peak Elev=315.75' Inflow=2.30 cfs 7,913 cf 12.0" Round Culvert n=0.012 L=20.0' S=0.0100 ' Outflow=2.30 cfs 7,913 cf

2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 10-yr Rainfall=5.11"

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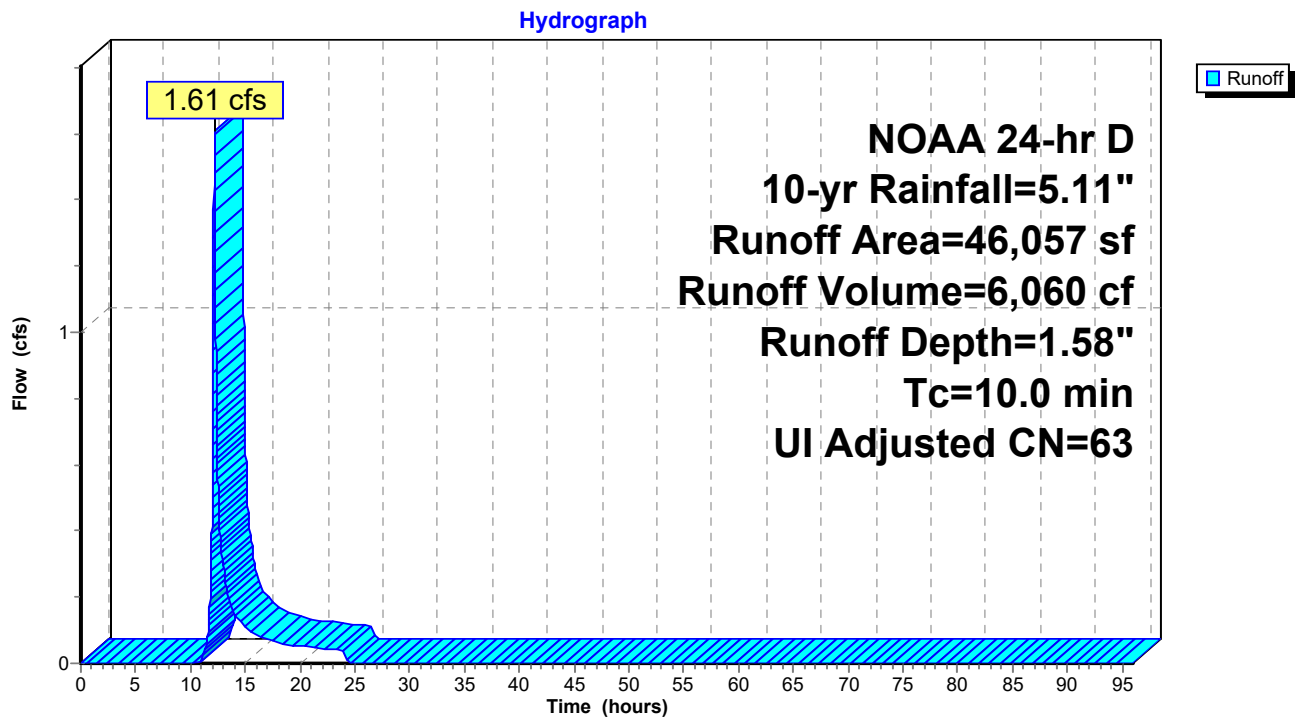
Link 3L: Rt. 32 Culvert

Inflow=1.18 cfs 4,358 cf

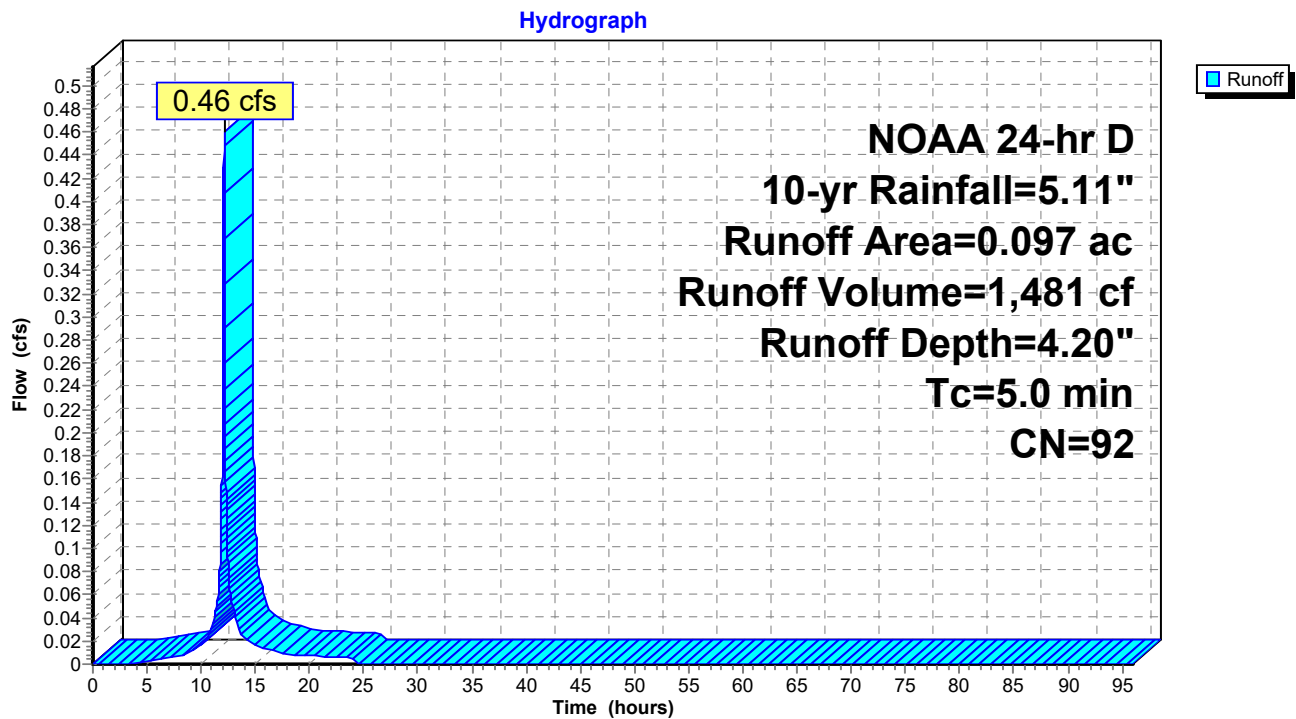
Primary=1.18 cfs 4,358 cf

Total Runoff Area = 559,215 sf Runoff Volume = 126,371 cf Average Runoff Depth = 2.71"
62.14% Pervious = 347,470 sf 37.86% Impervious = 211,744 sf

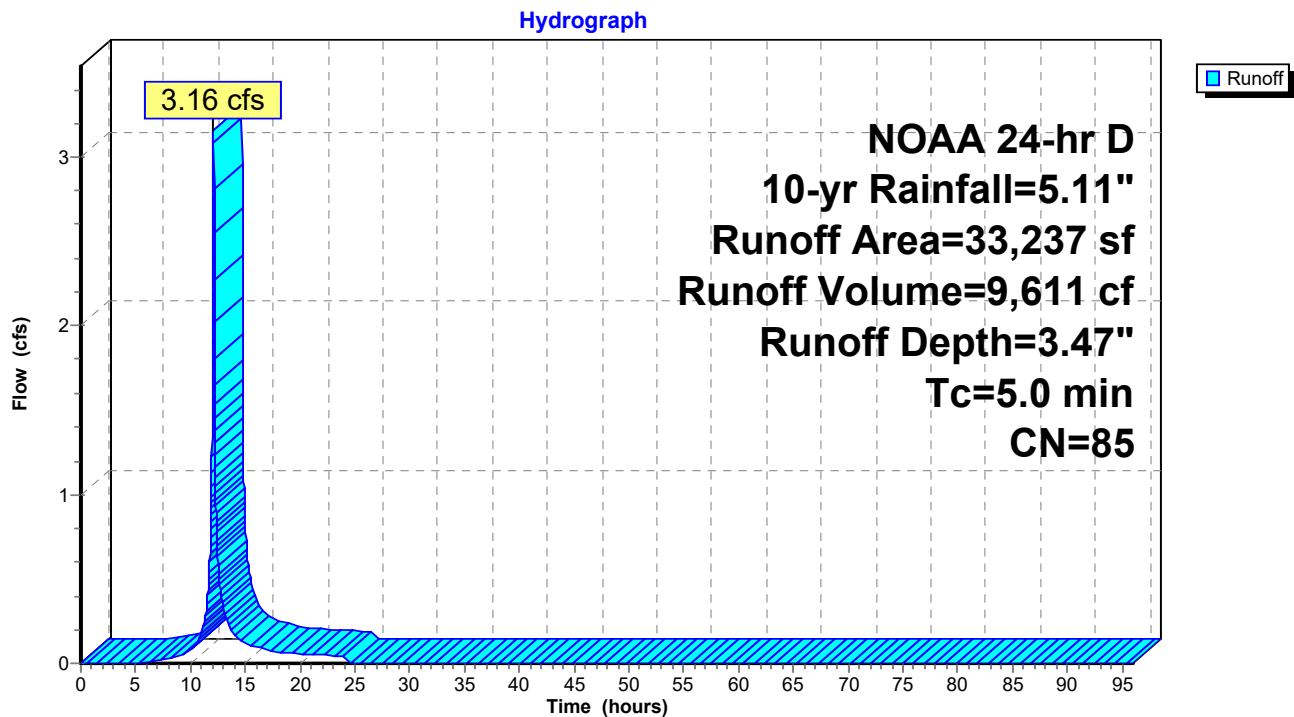
Subcatchment 1: Subcat 1



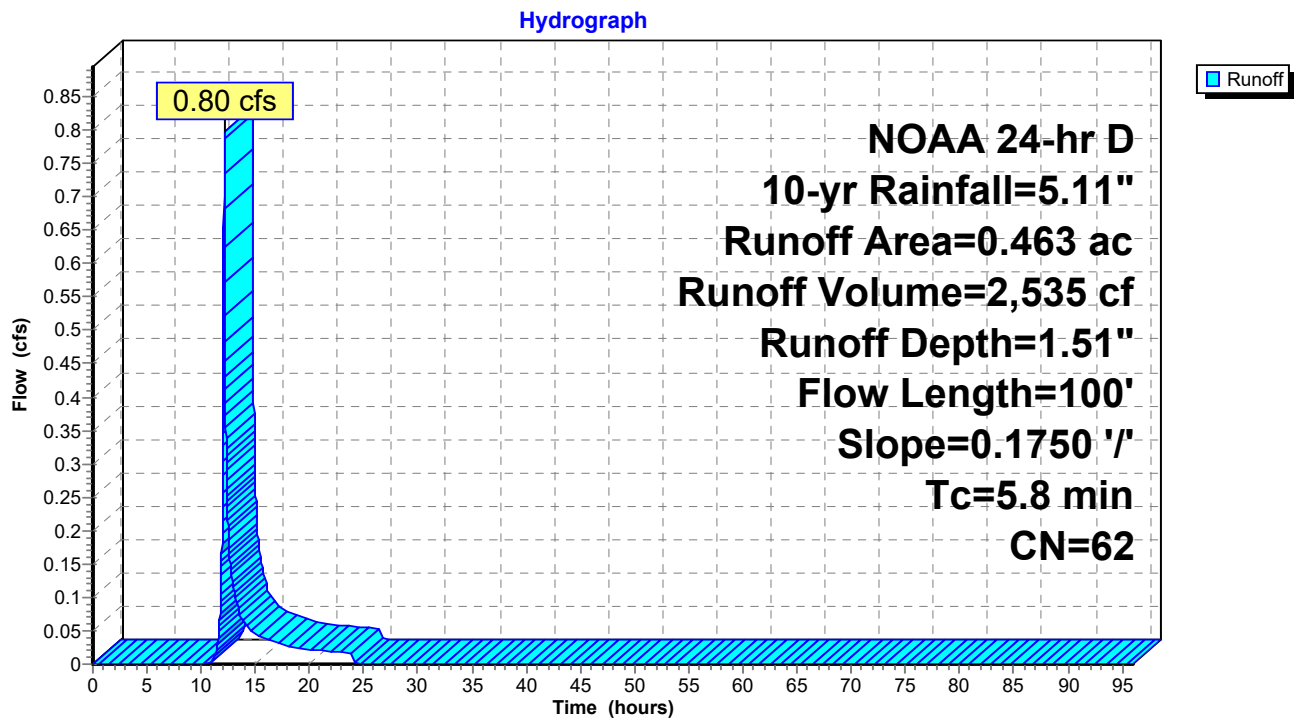
Subcatchment 2: Subcat 2



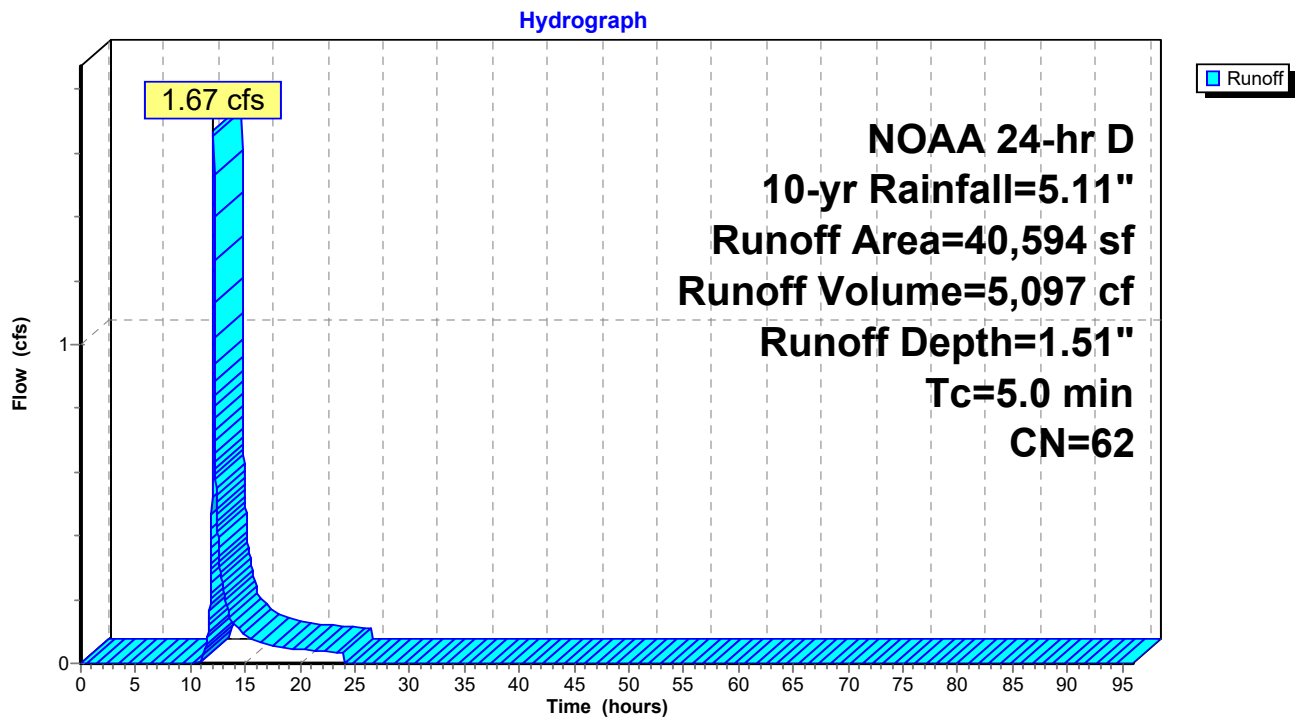
Subcatchment 3: Subcat 3



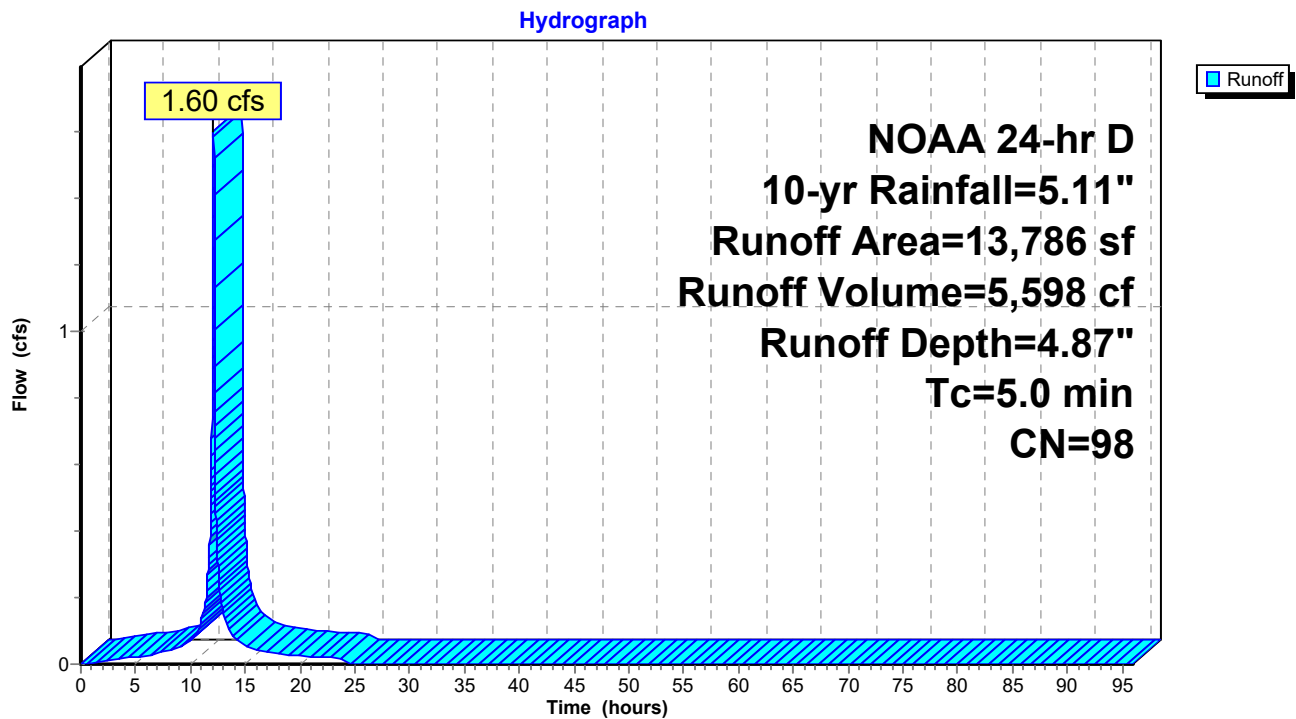
Subcatchment 4: Subcat 4



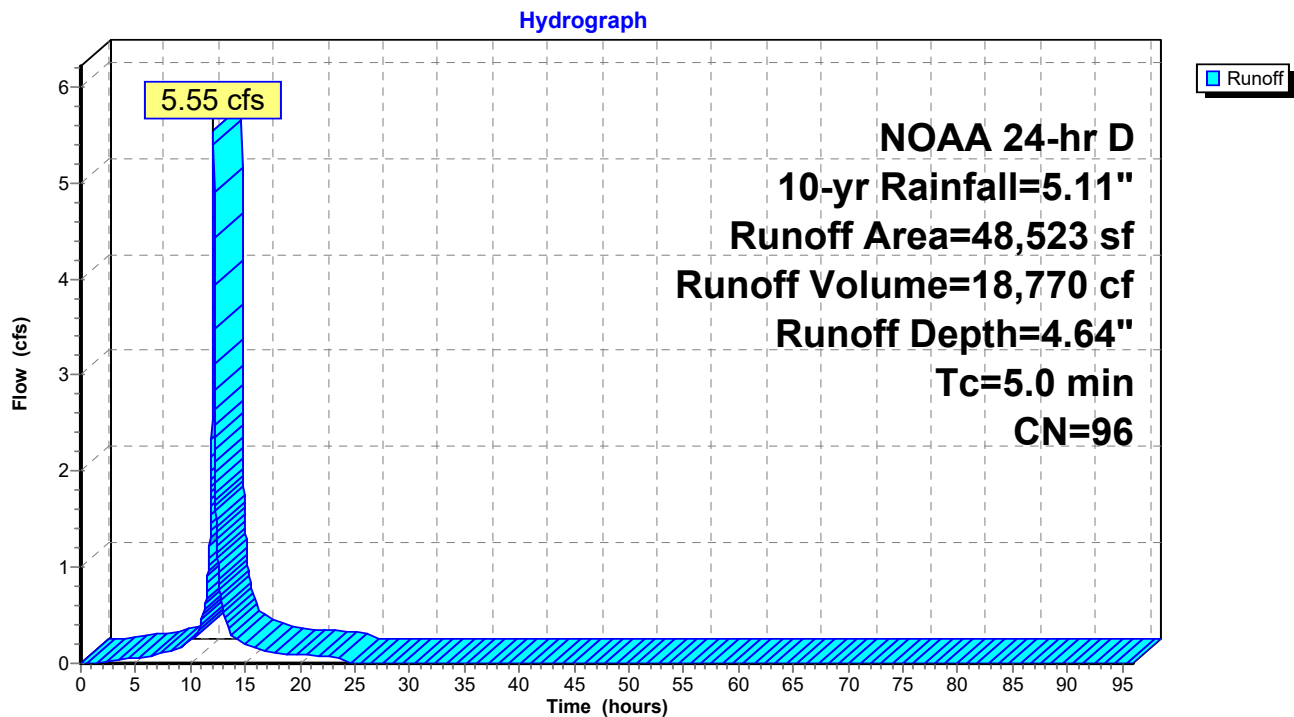
Subcatchment 4.1: Subcat 4.1



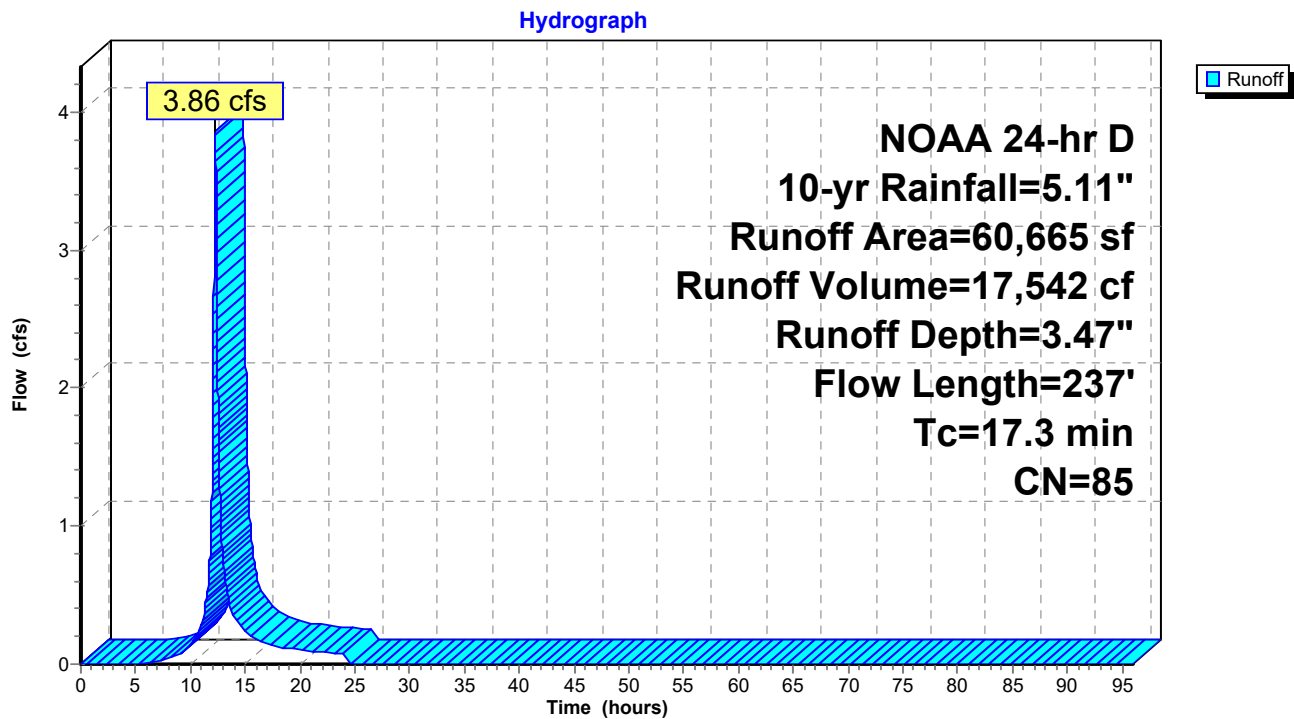
Subcatchment 6: Subcat 6



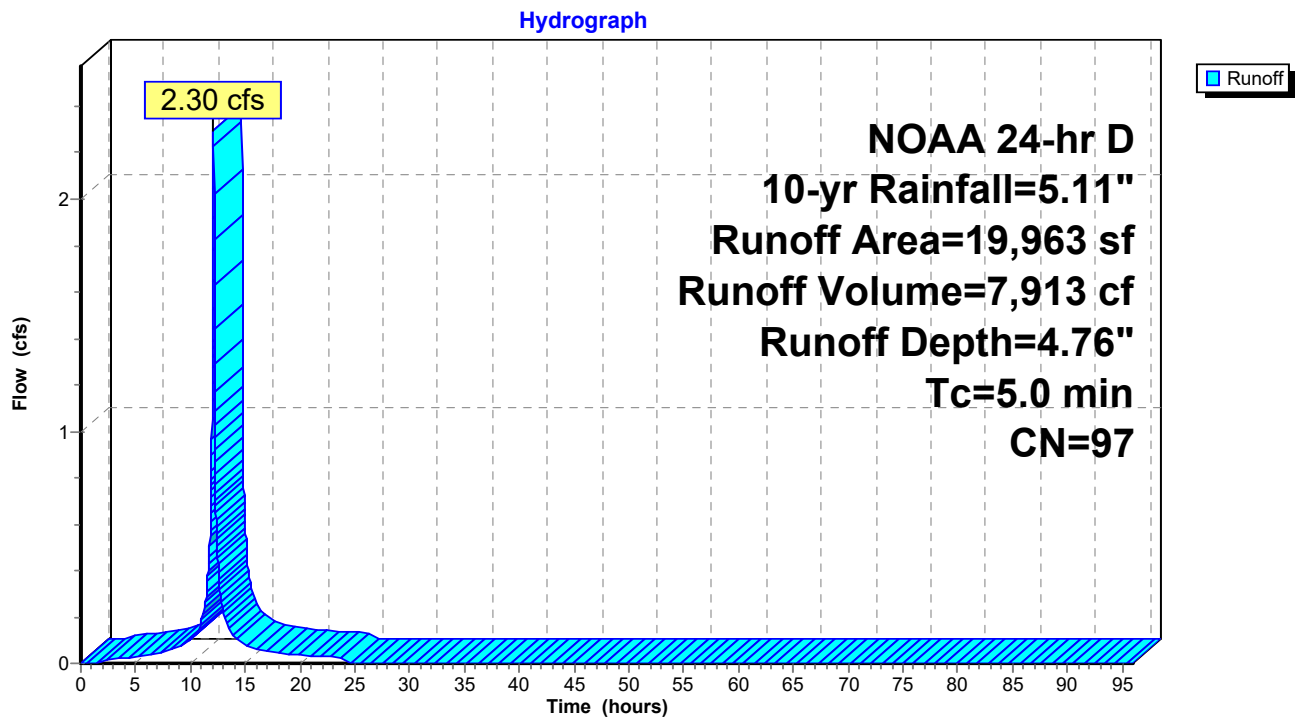
Subcatchment 10: Subcat 10



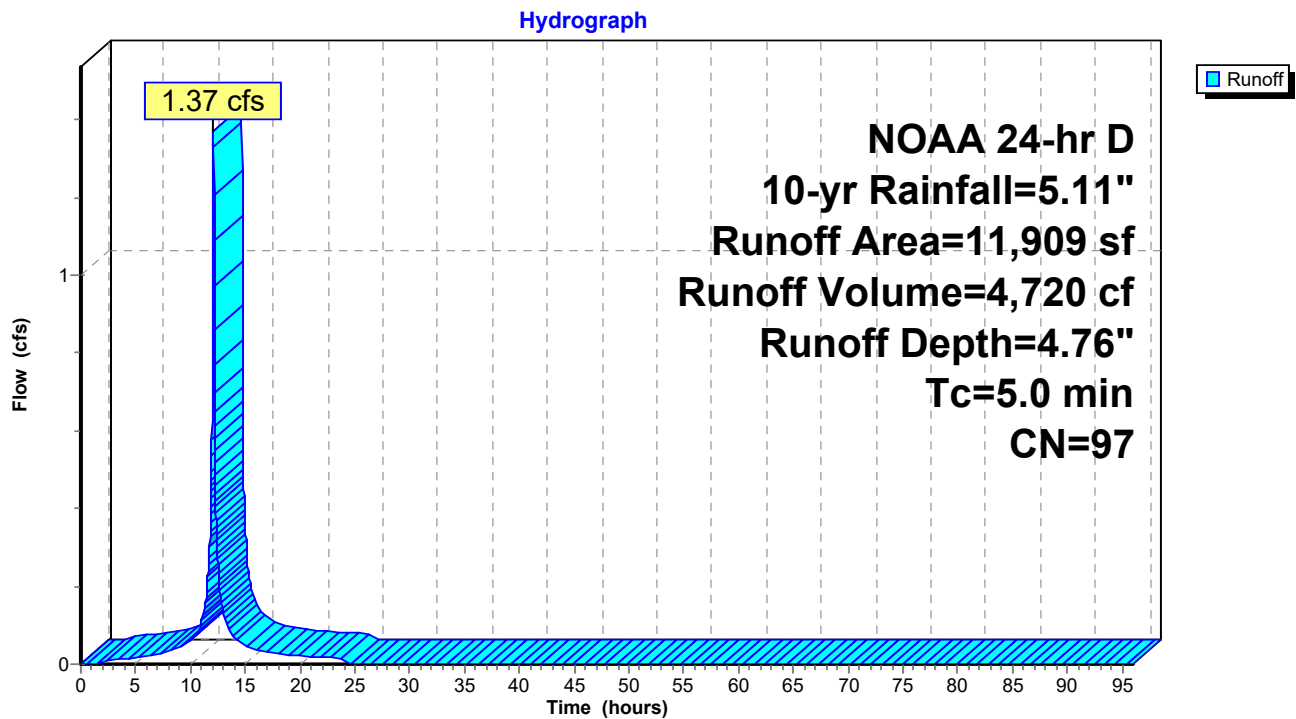
Subcatchment 11: Subcat 11



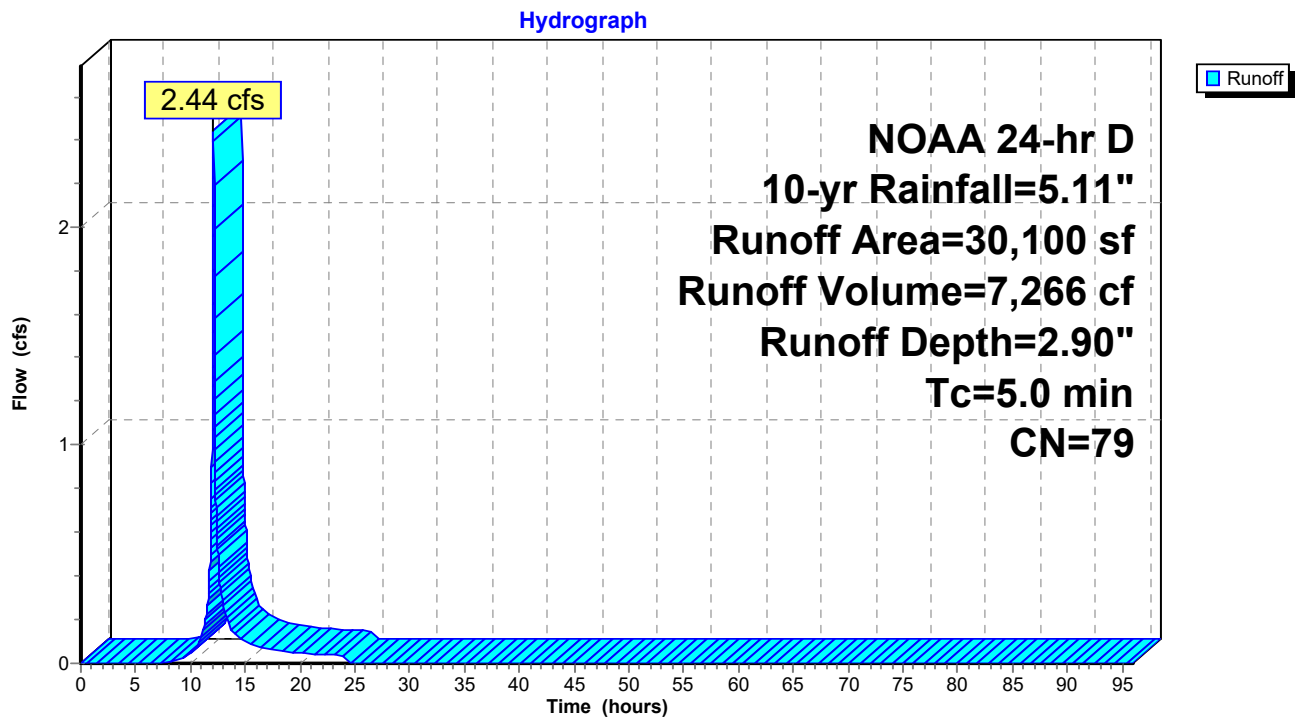
Subcatchment 11.1: Subcat 11.1



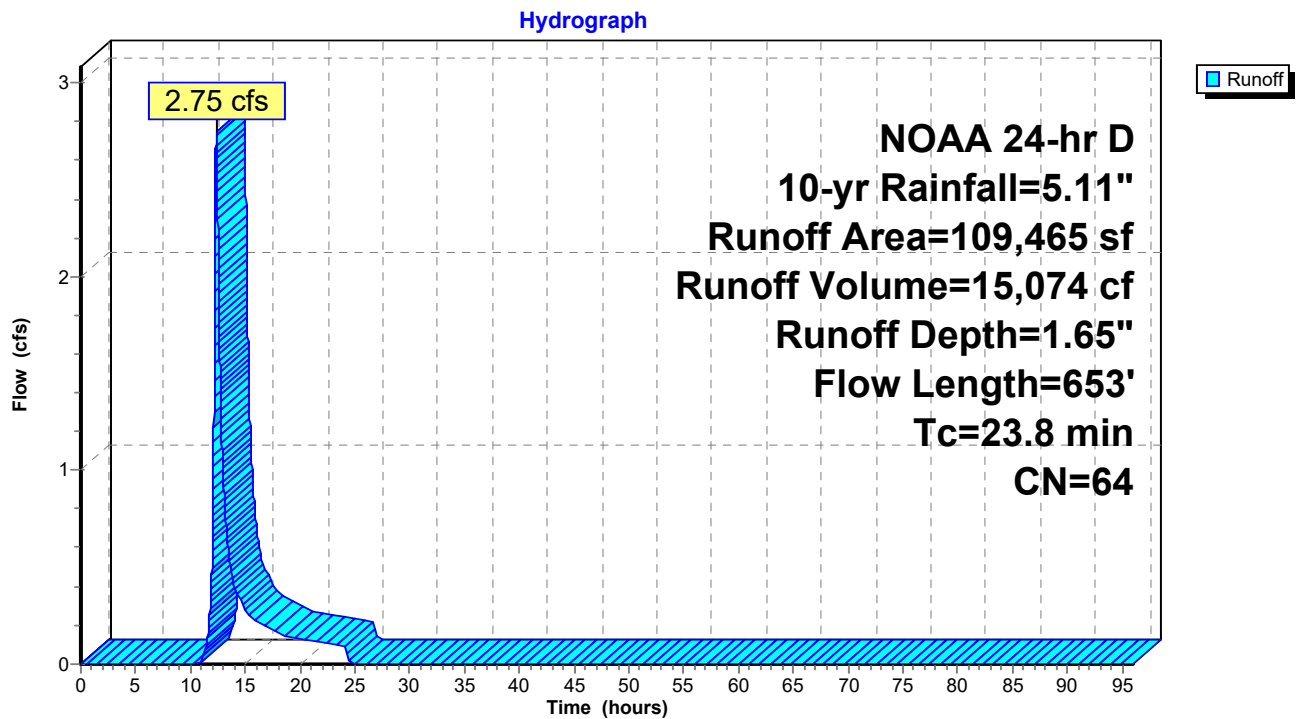
Subcatchment 11.2: Subcat 11.2



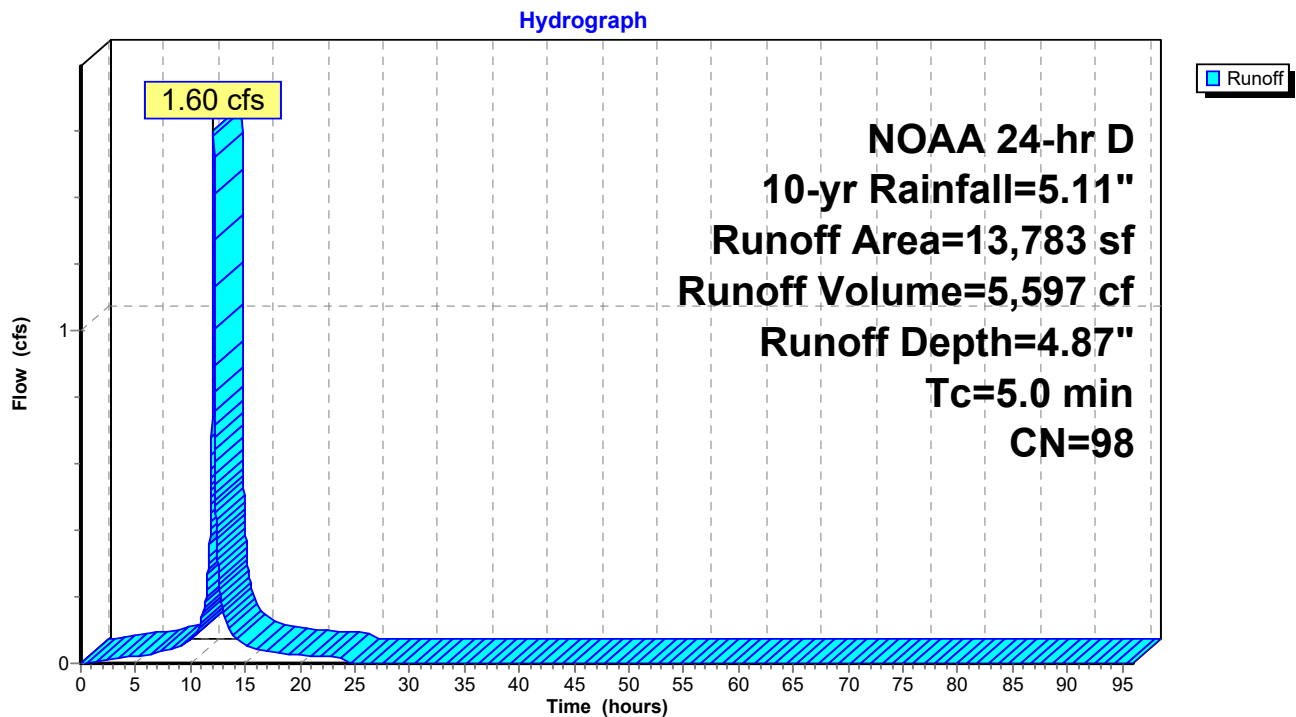
Subcatchment 12: Subcat 12



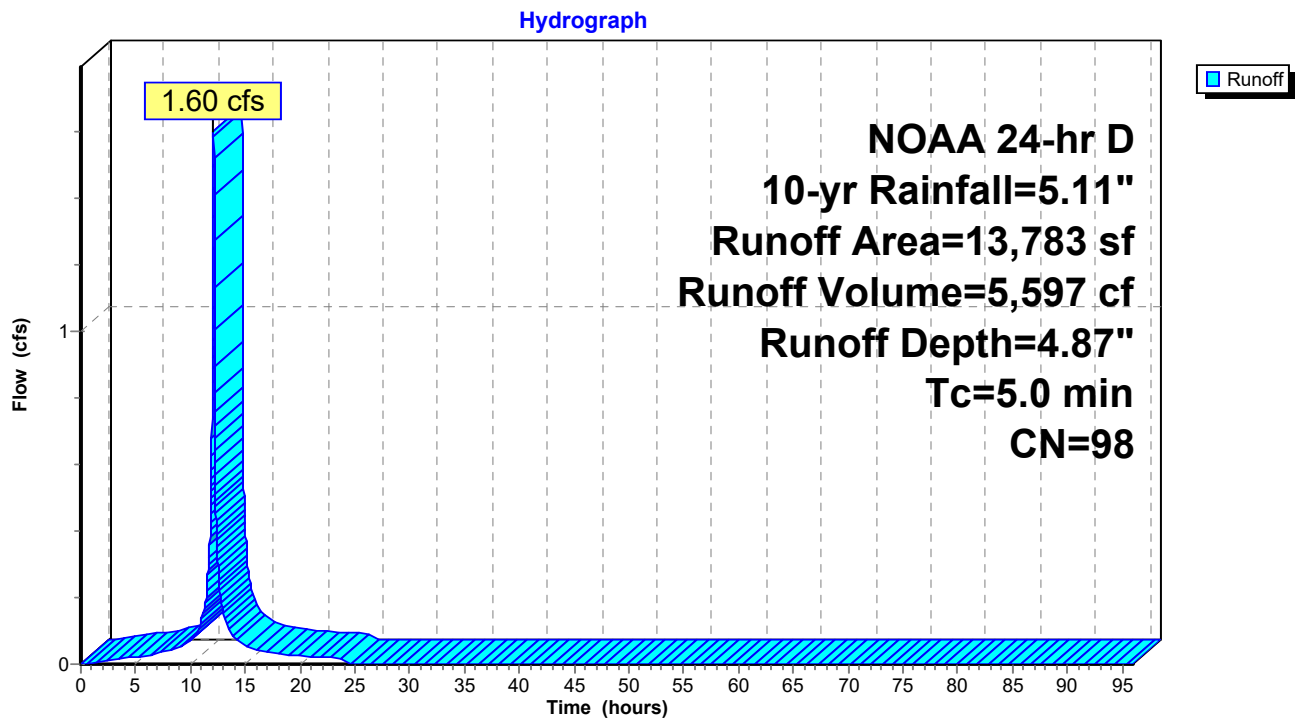
Subcatchment 13: Subcat 13



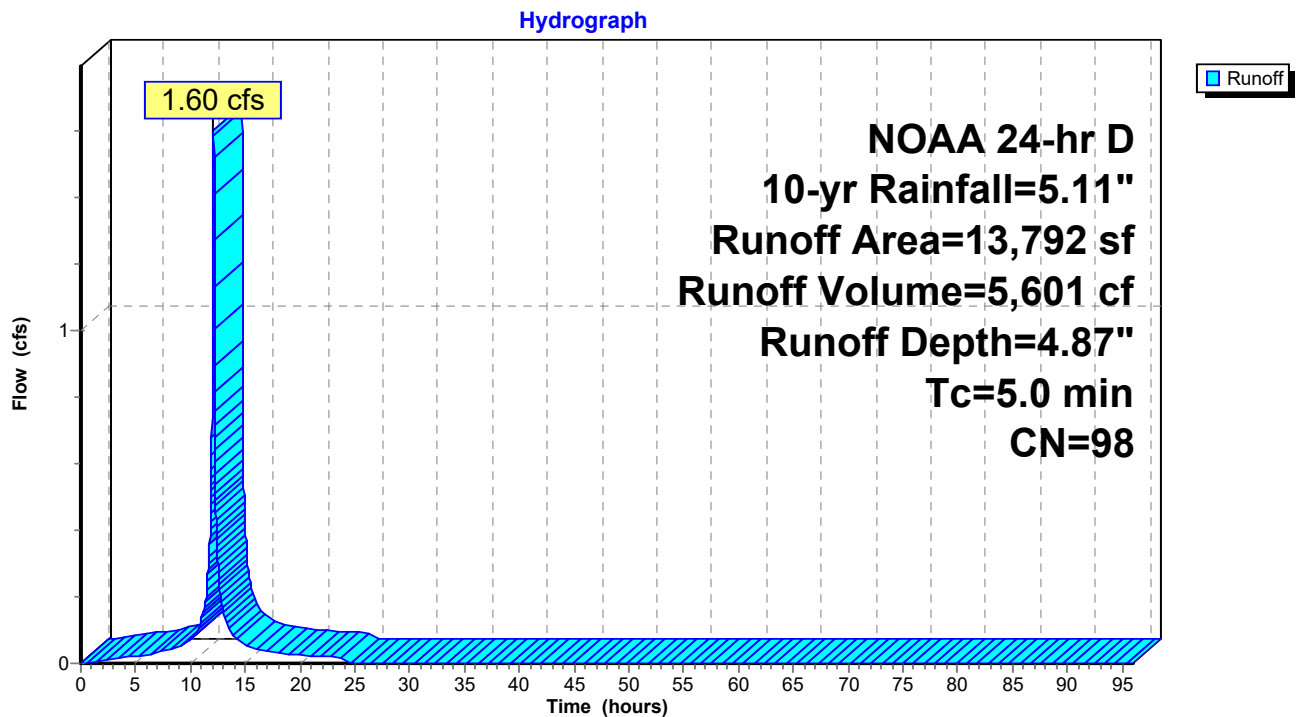
Subcatchment 14: Subcat 14



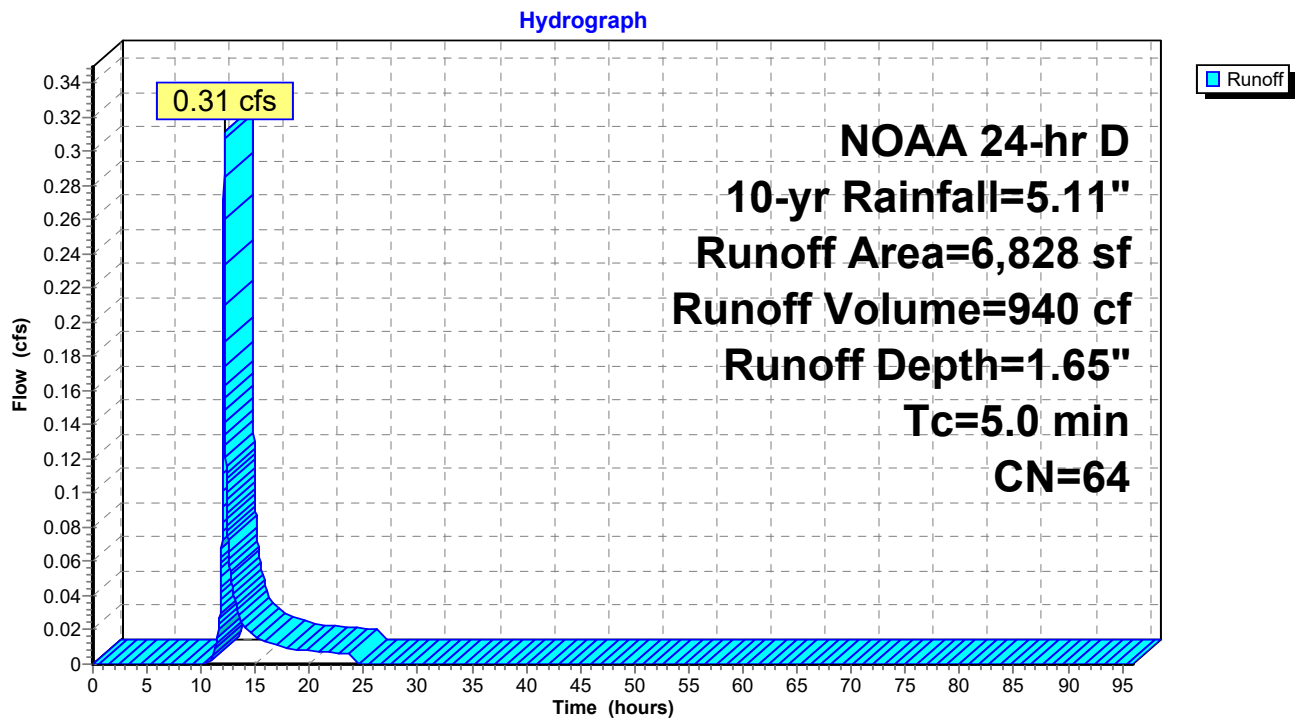
Subcatchment 15: Subcat 15



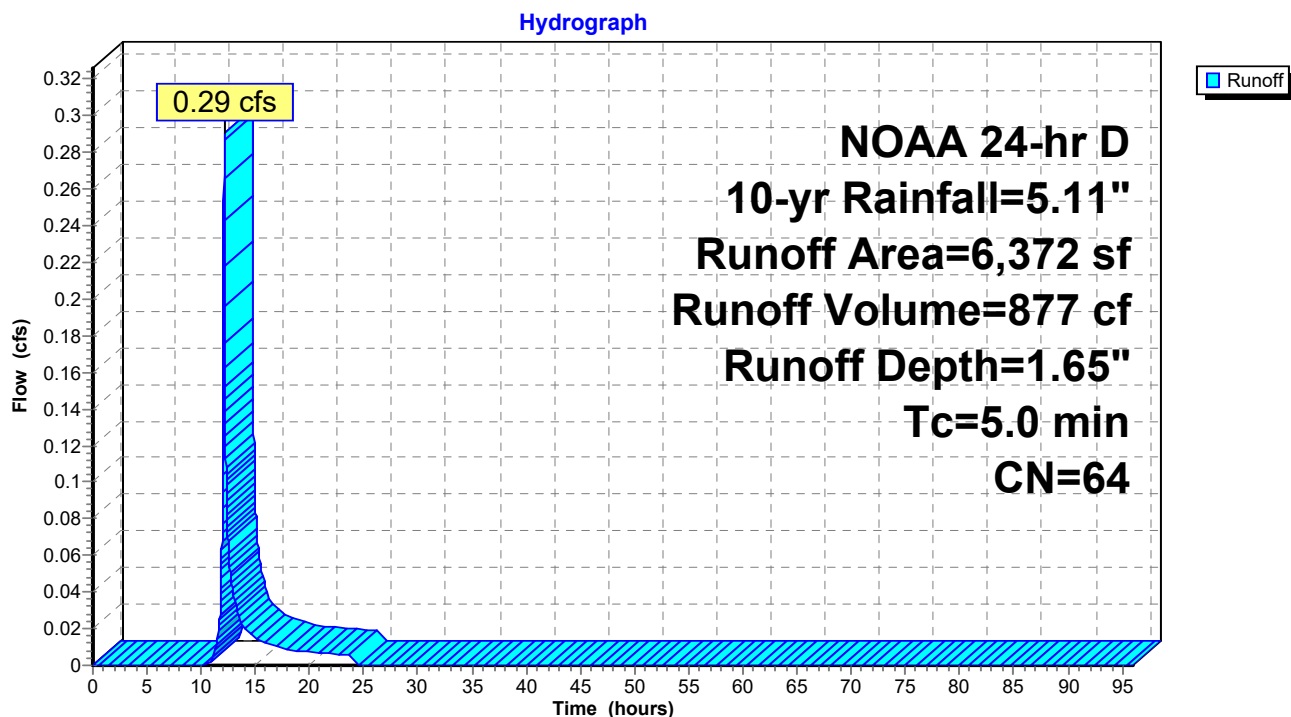
Subcatchment 16: Subcat 16



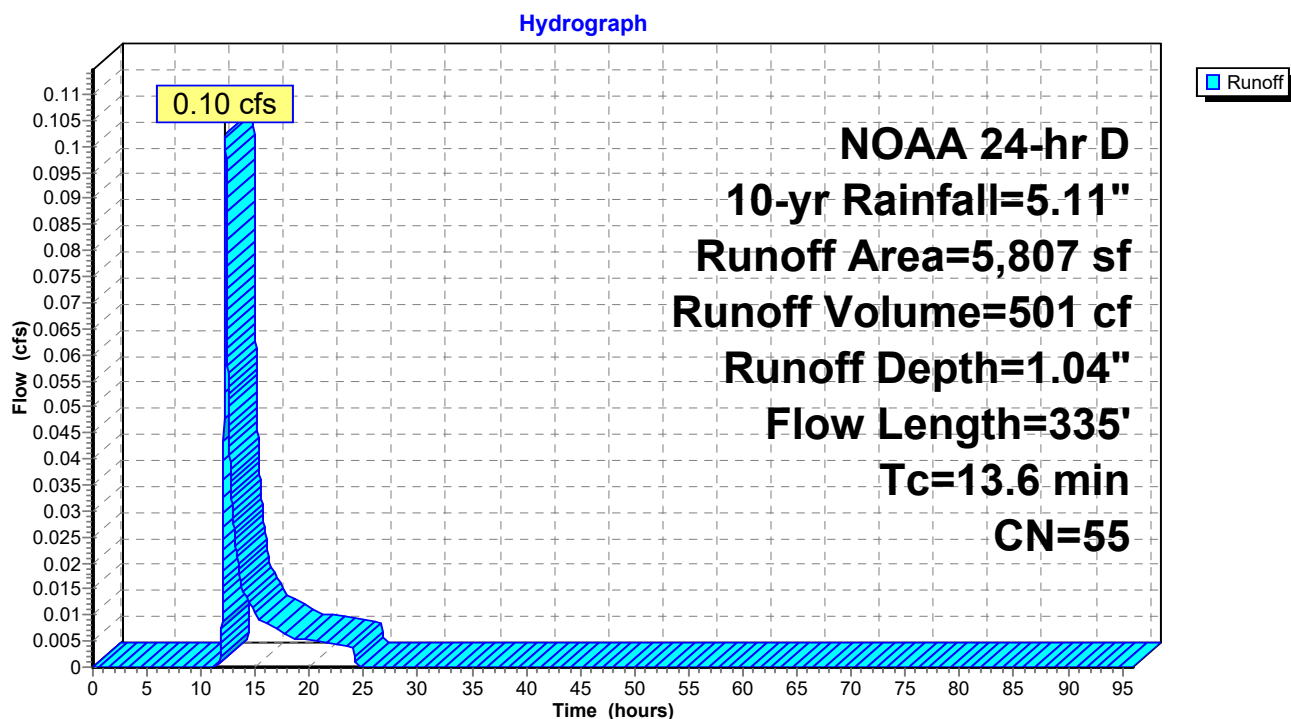
Subcatchment 17: Subcat 17



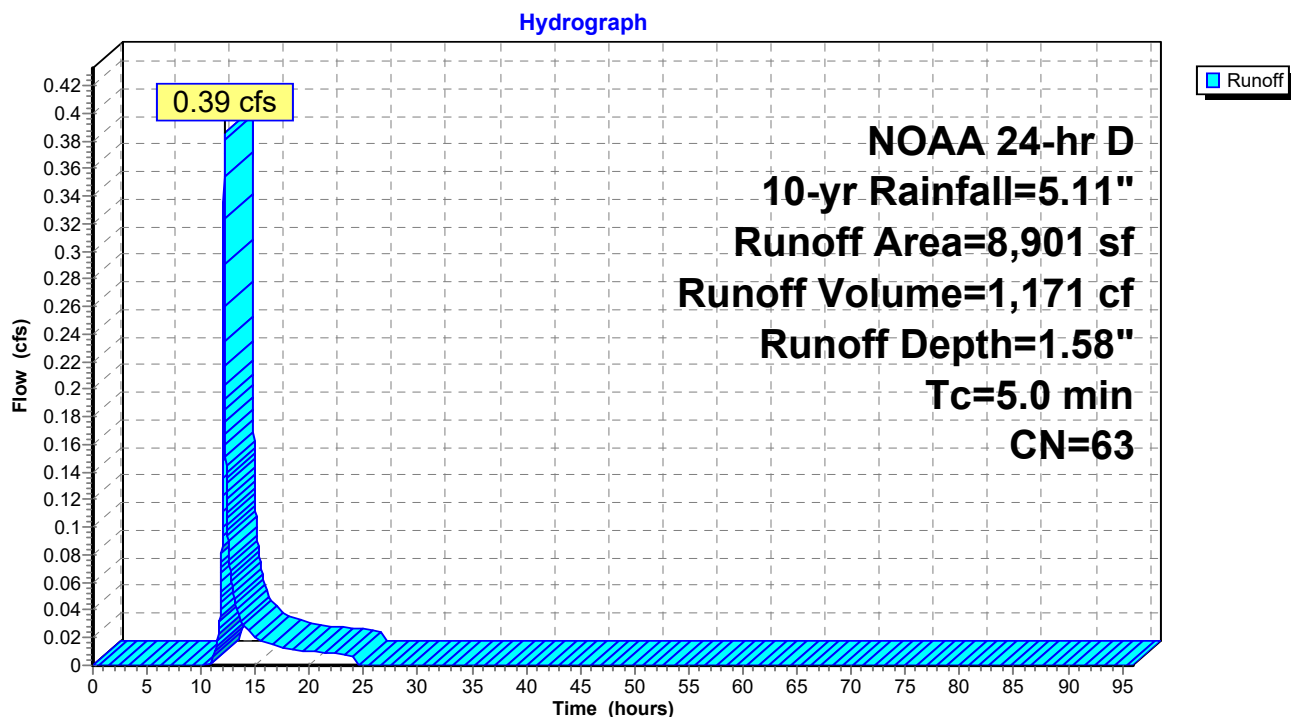
Subcatchment 18: Subcat 18



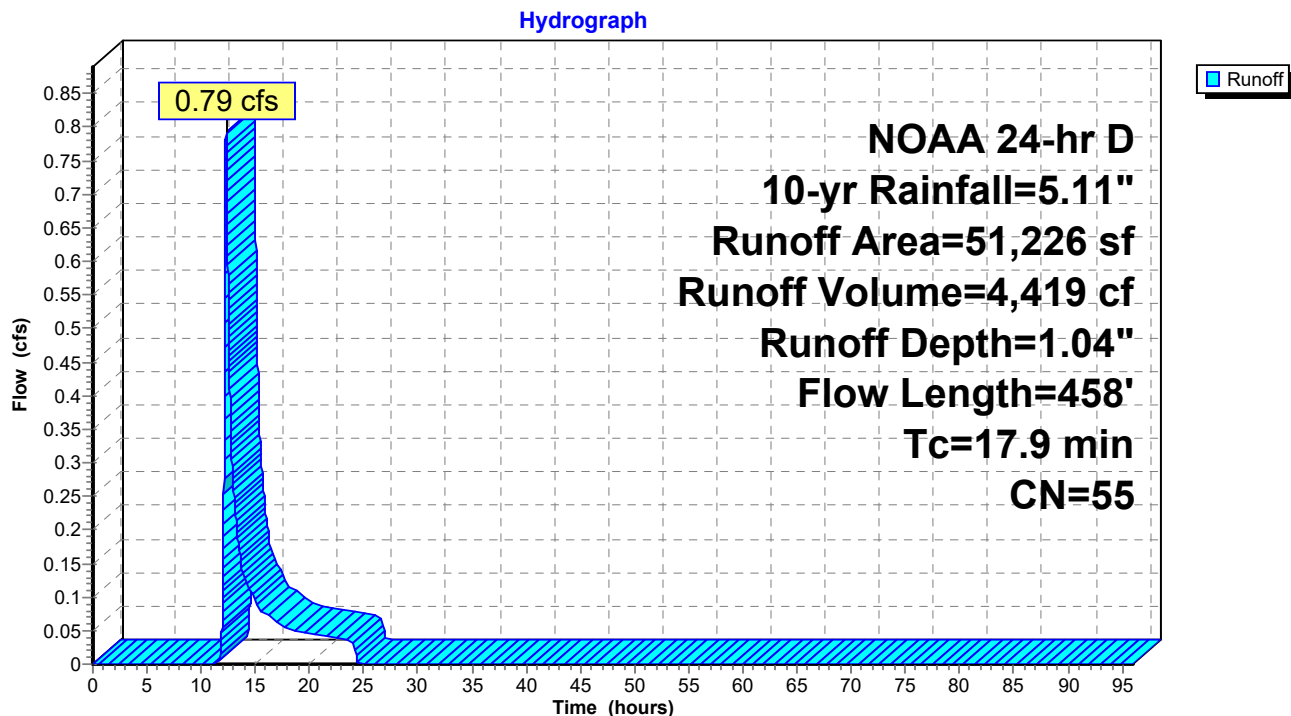
Subcatchment 19: Subcat 19



Subcatchment 21: Subcat 21

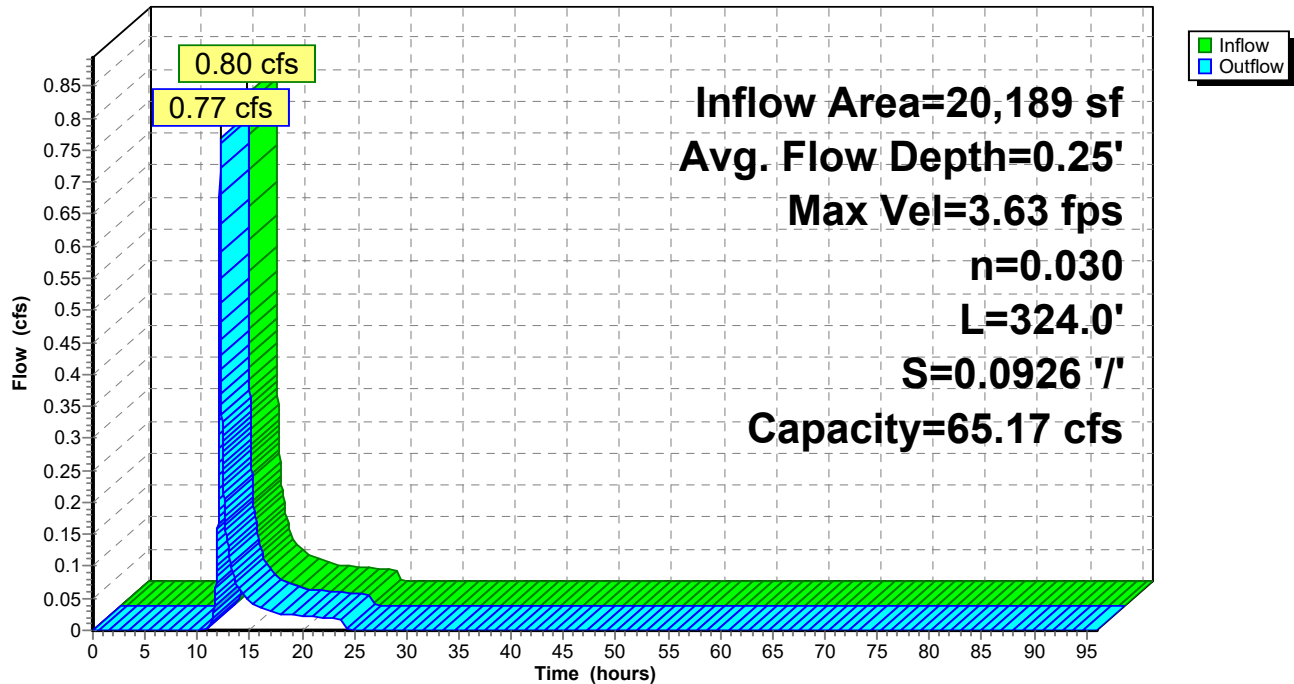


Subcatchment 22: Subcat 22



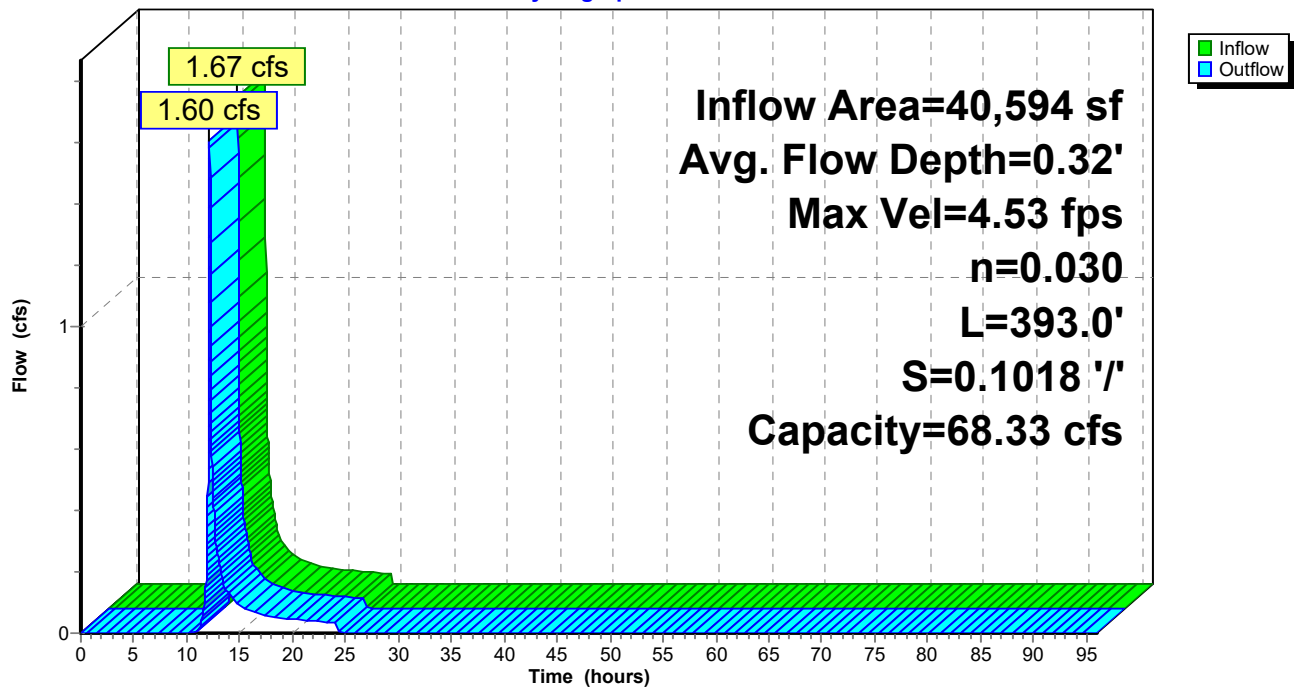
Reach 5R: swale

Hydrograph



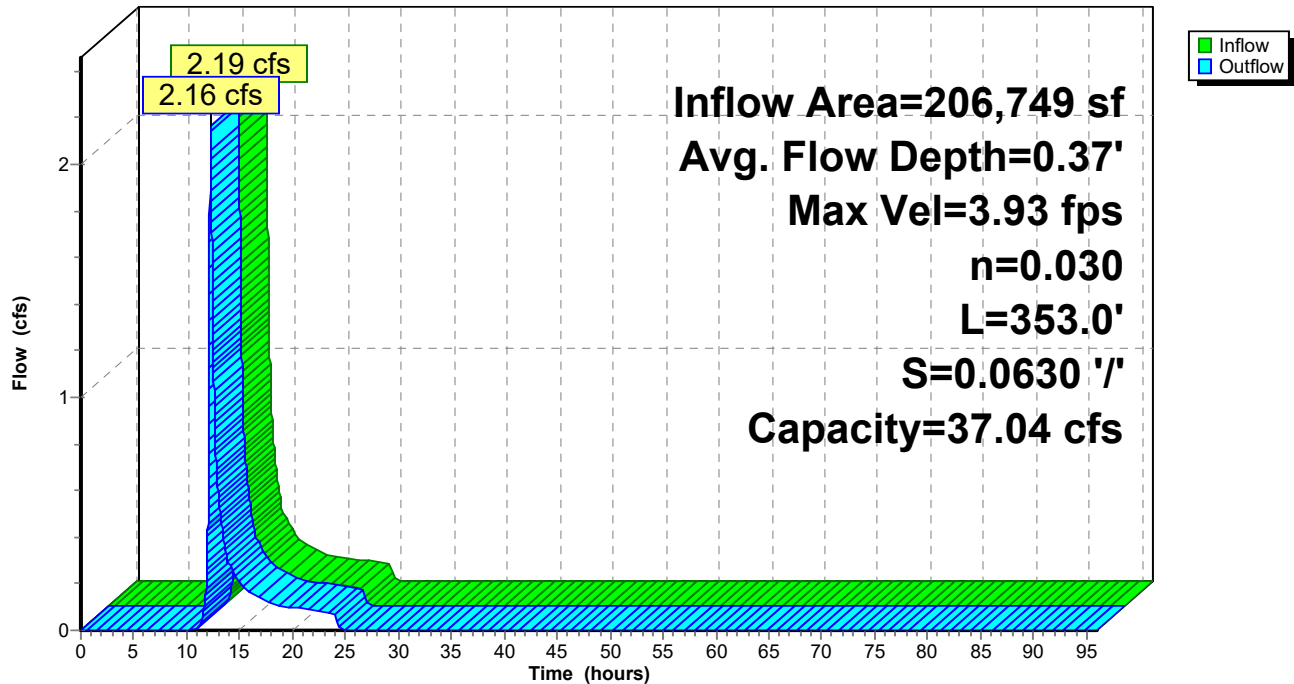
Reach 6R: swale

Hydrograph



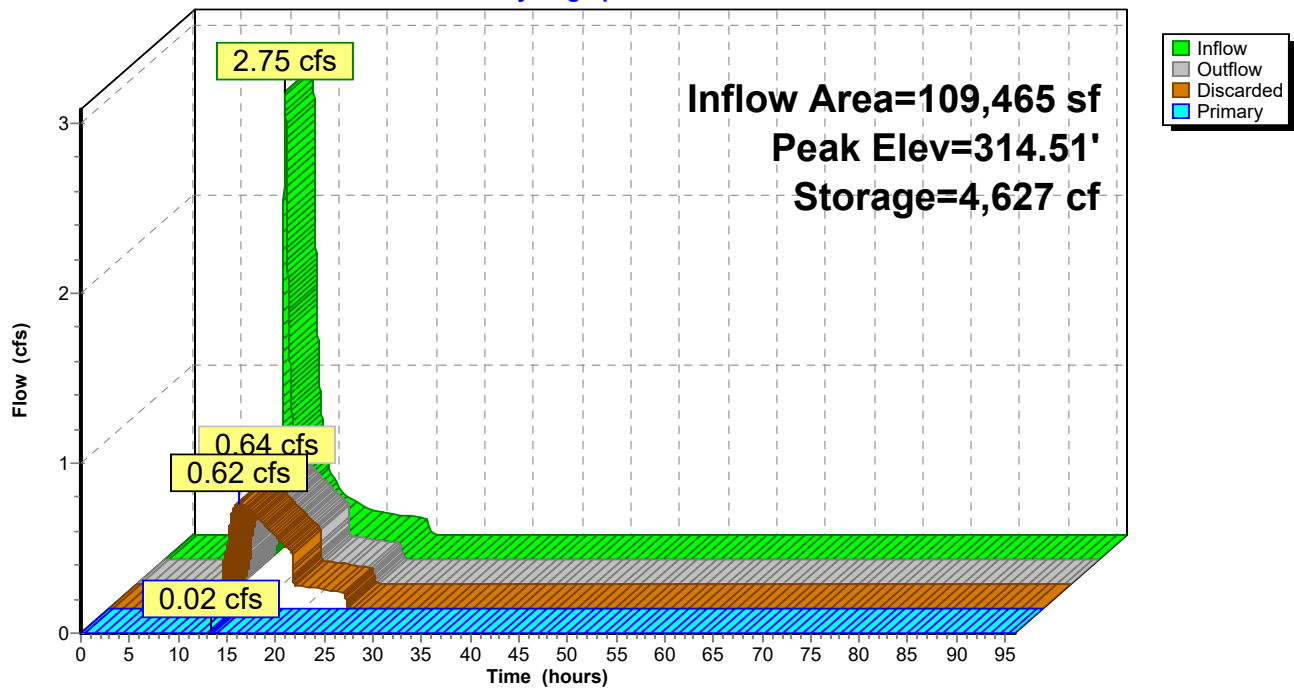
Reach 23R: swale

Hydrograph



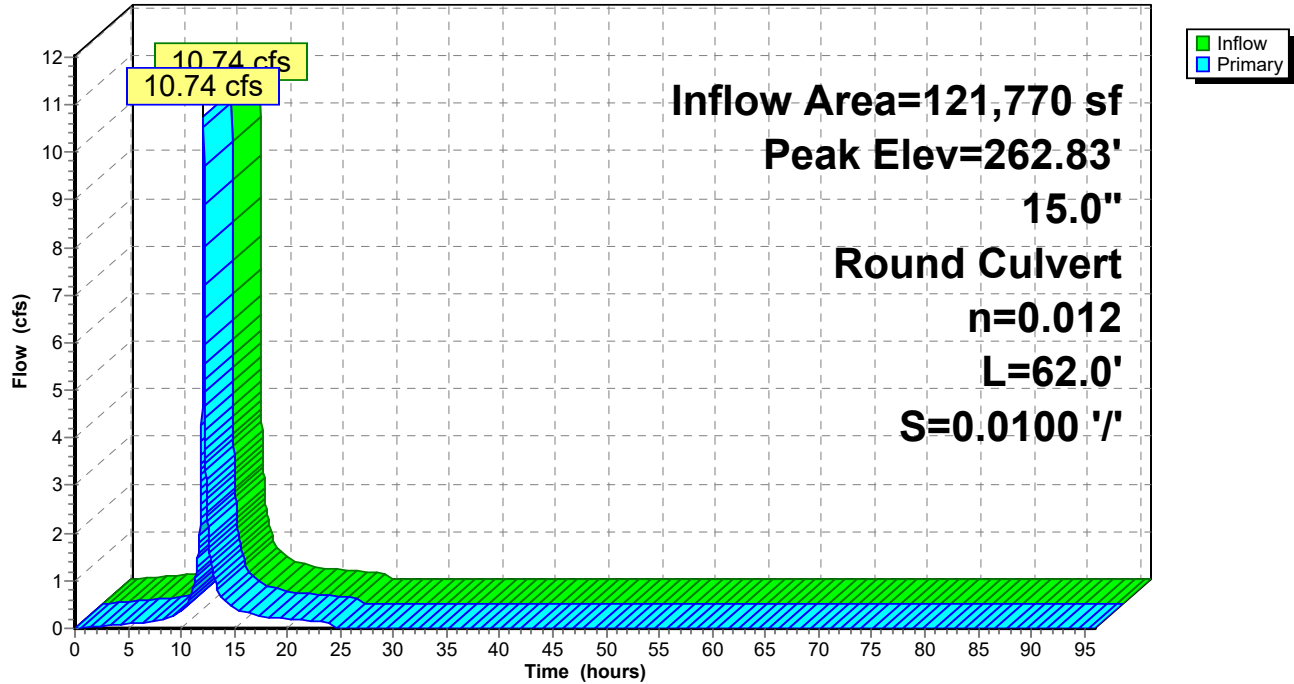
Pond 6P: Infiltration Basin

Hydrograph



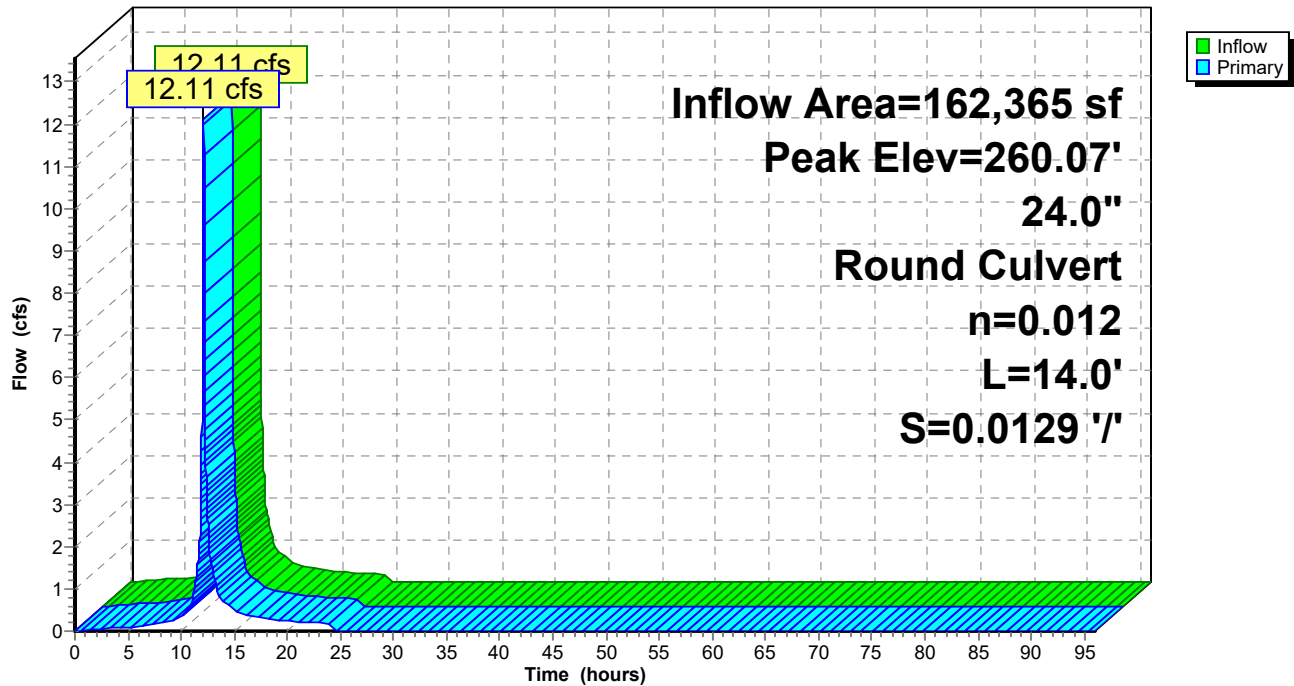
Pond 7P: CB B2

Hydrograph



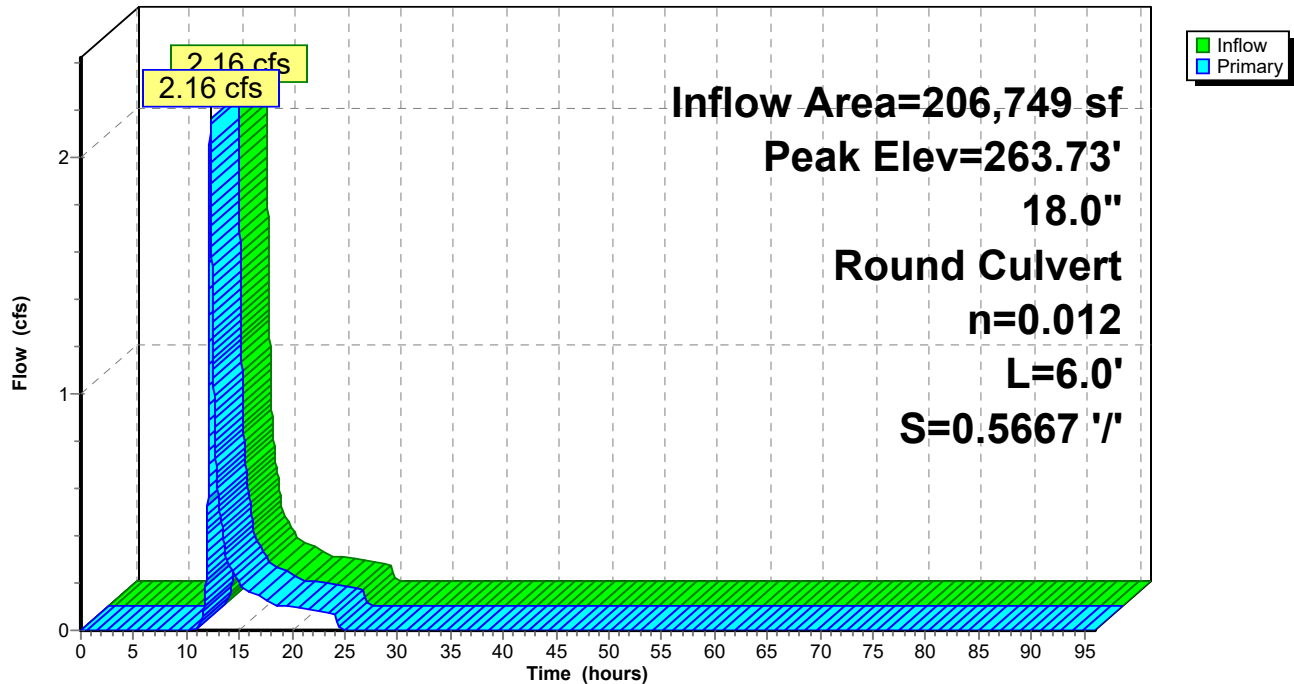
Pond 8P: CB B1

Hydrograph



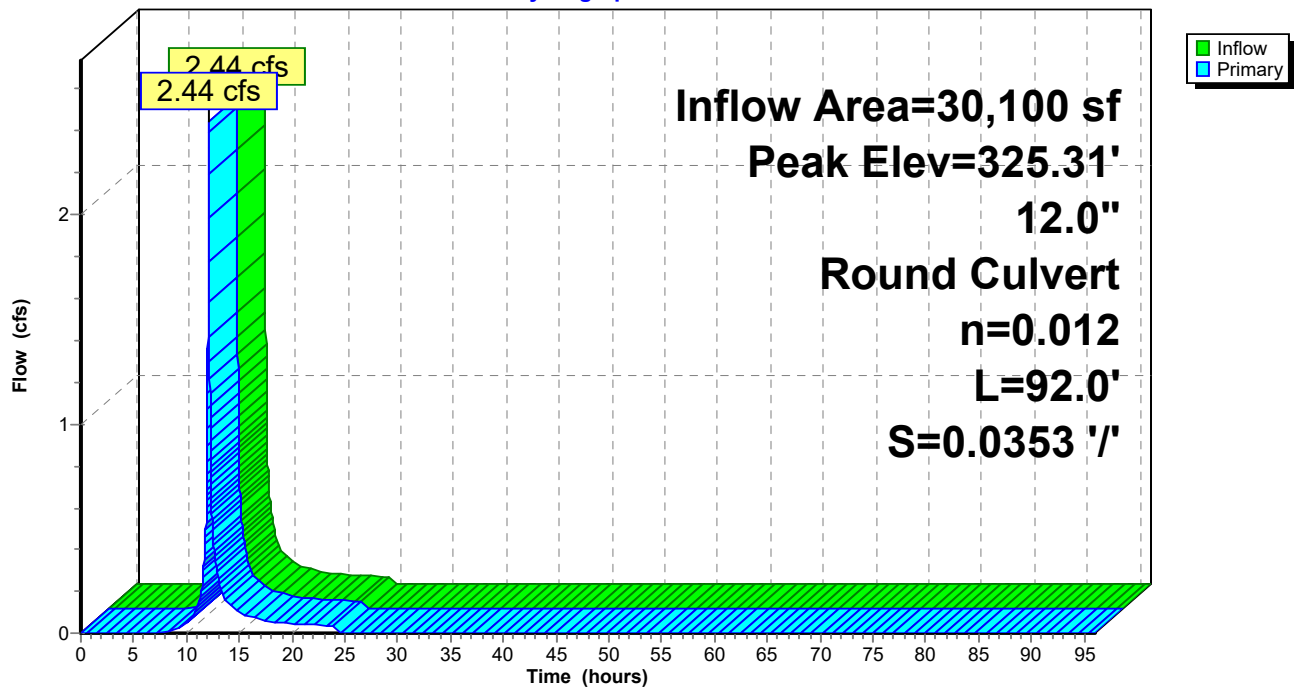
Pond 9P: CB B8

Hydrograph



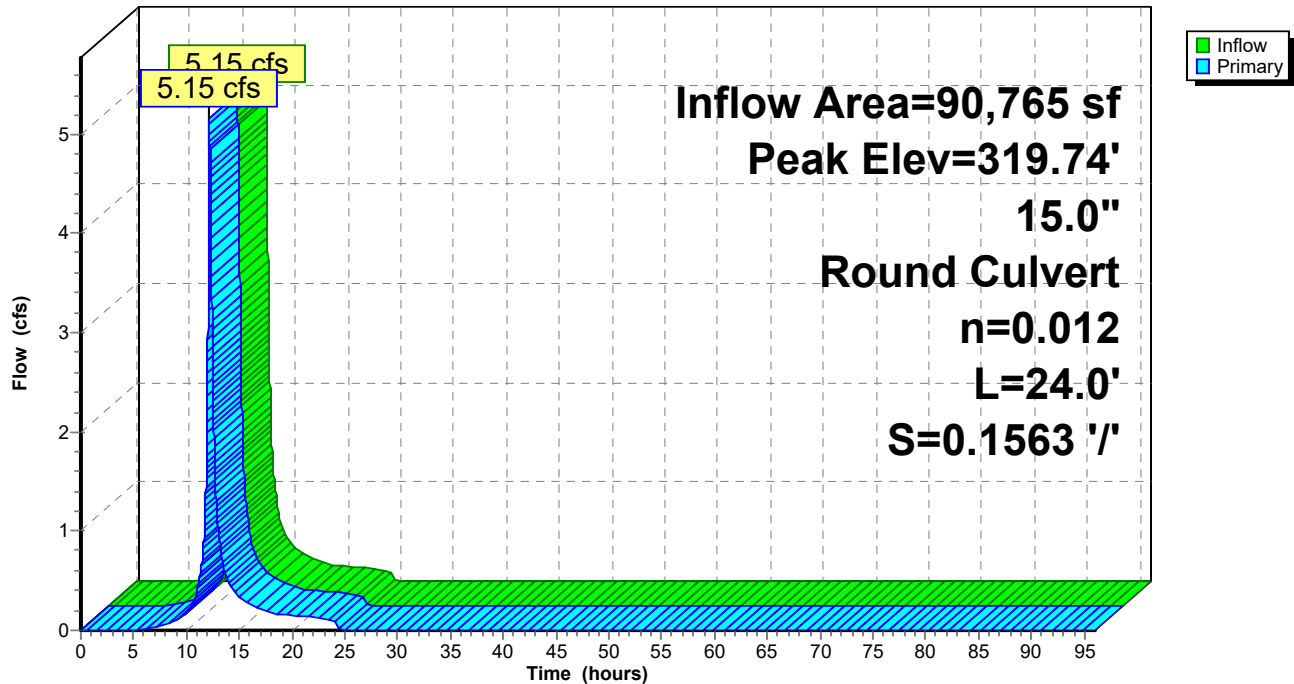
Pond 12P: CB A5.1

Hydrograph



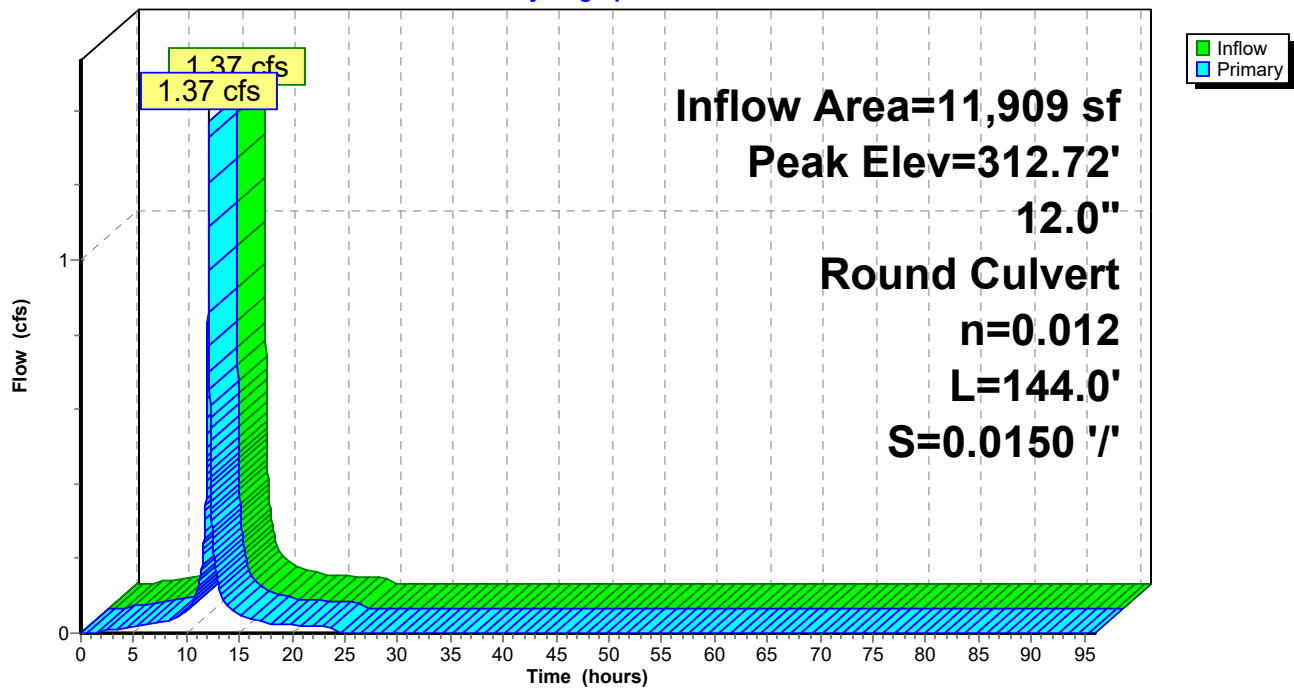
Pond 13P: CB A5

Hydrograph



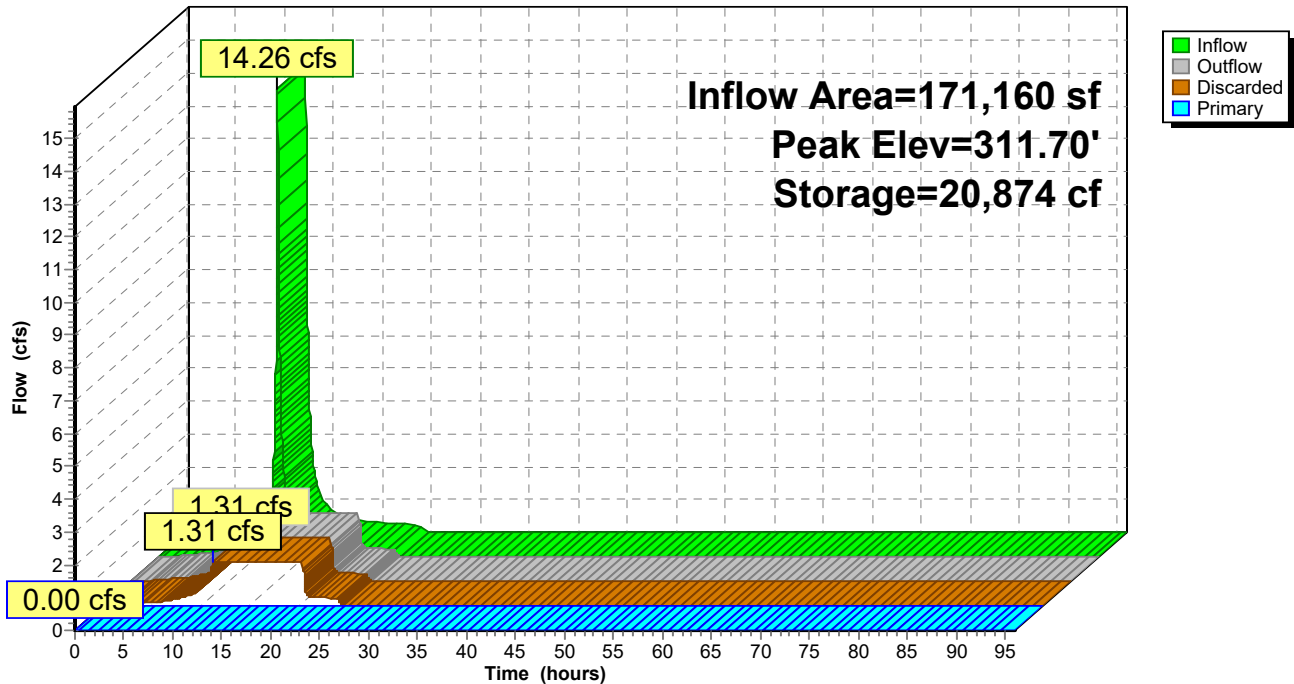
Pond 14P: CB A9

Hydrograph



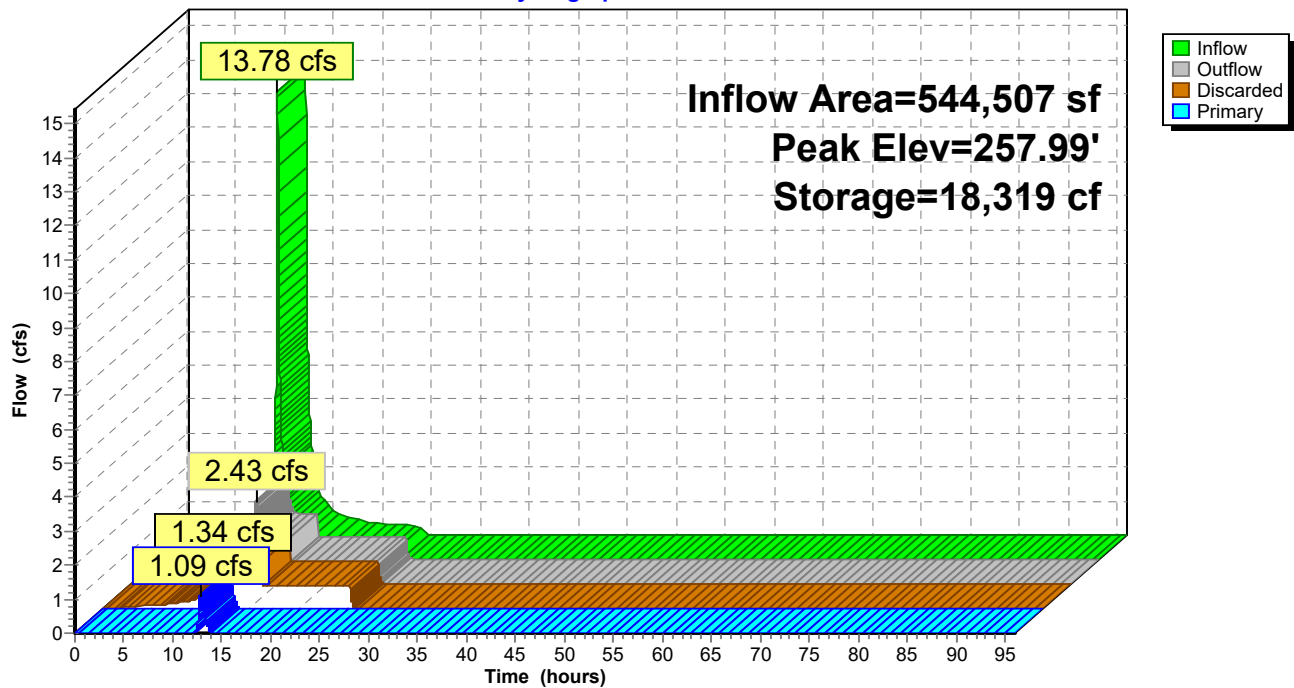
Pond 15P: INF-B

Hydrograph



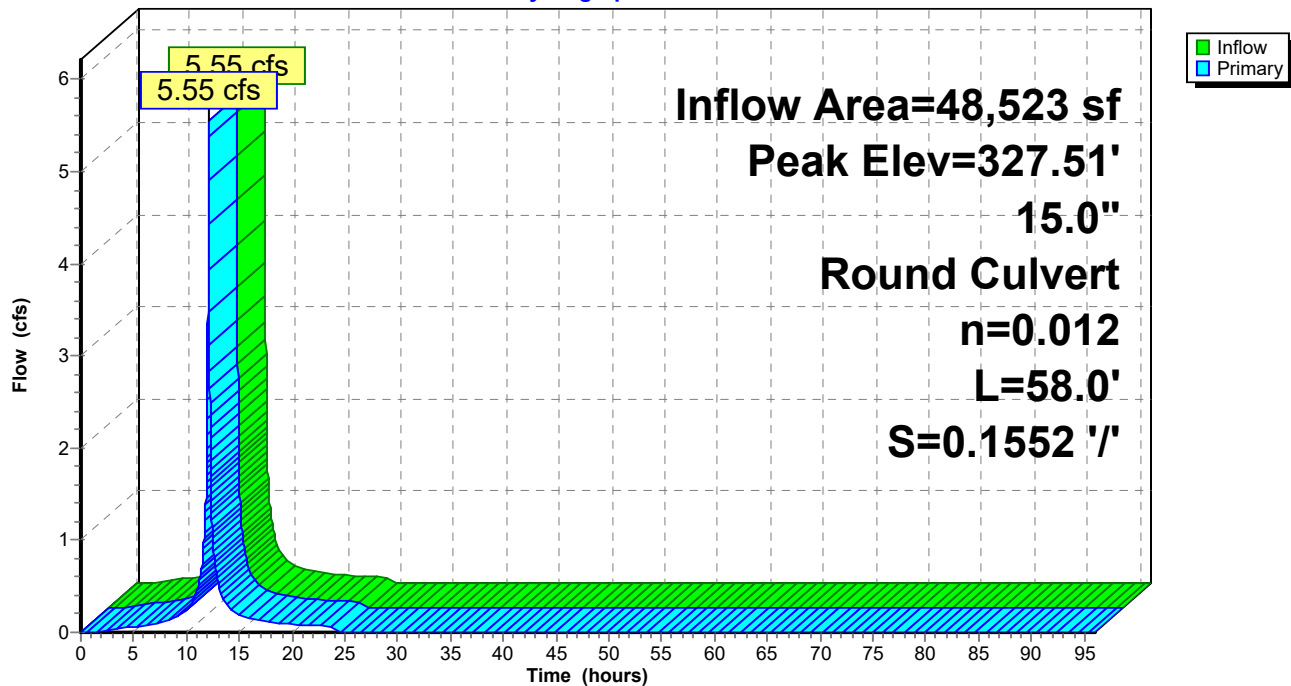
Pond 16P: INF-A

Hydrograph



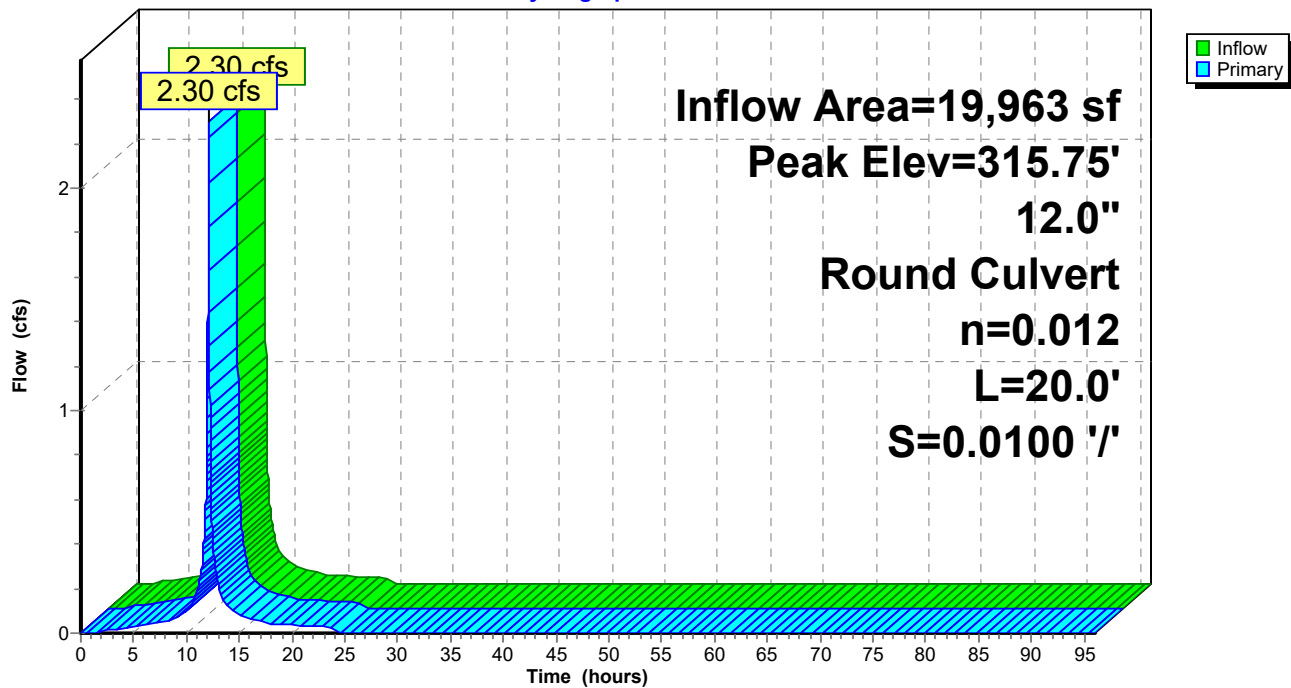
Pond 17P: CB A1

Hydrograph

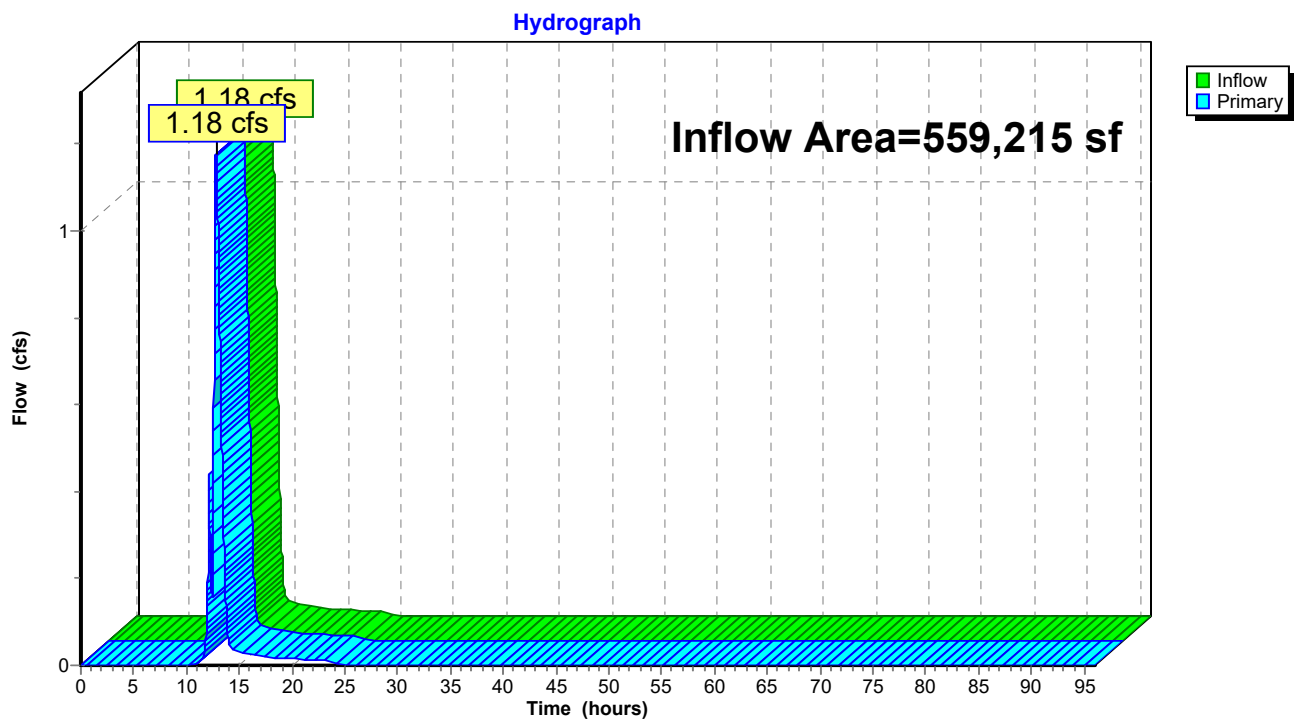


Pond 18P: CB 10

Hydrograph



Link 3L: Rt. 32 Culvert



2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 25-yr Rainfall=6.15"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: Subcat 1	Runoff Area=46,057 sf 9.58% Impervious Runoff Depth=2.28" Tc=10.0 min UI Adjusted CN=63 Runoff=2.39 cfs 8,758 cf
Subcatchment 2: Subcat 2	Runoff Area=0.097 ac 83.65% Impervious Runoff Depth=5.22" Tc=5.0 min CN=92 Runoff=0.56 cfs 1,841 cf
Subcatchment 3: Subcat 3	Runoff Area=33,237 sf 65.92% Impervious Runoff Depth=4.44" Tc=5.0 min CN=85 Runoff=3.99 cfs 12,309 cf
Subcatchment 4: Subcat 4	Runoff Area=0.463 ac 2.77% Impervious Runoff Depth=2.19" Flow Length=100' Slope=0.1750 '/' Tc=5.8 min CN=62 Runoff=1.19 cfs 3,691 cf
Subcatchment 4.1: Subcat 4.1	Runoff Area=40,594 sf 1.66% Impervious Runoff Depth=2.19" Tc=5.0 min CN=62 Runoff=2.49 cfs 7,421 cf
Subcatchment 6: Subcat 6	Runoff Area=13,786 sf 100.00% Impervious Runoff Depth=5.91" Tc=5.0 min CN=98 Runoff=1.93 cfs 6,791 cf
Subcatchment 10: Subcat 10	Runoff Area=48,523 sf 94.79% Impervious Runoff Depth=5.68" Tc=5.0 min CN=96 Runoff=6.71 cfs 22,955 cf
Subcatchment 11: Subcat 11	Runoff Area=60,665 sf 52.99% Impervious Runoff Depth=4.44" Flow Length=237' Tc=17.3 min CN=85 Runoff=4.90 cfs 22,467 cf
Subcatchment 11.1: Subcat 11.1	Runoff Area=19,963 sf 98.49% Impervious Runoff Depth=5.79" Tc=5.0 min CN=97 Runoff=2.78 cfs 9,639 cf
Subcatchment 11.2: Subcat 11.2	Runoff Area=11,909 sf 96.82% Impervious Runoff Depth=5.79" Tc=5.0 min CN=97 Runoff=1.66 cfs 5,750 cf
Subcatchment 12: Subcat 12	Runoff Area=30,100 sf 48.89% Impervious Runoff Depth=3.81" Tc=5.0 min CN=79 Runoff=3.19 cfs 9,567 cf
Subcatchment 13: Subcat 13	Runoff Area=109,465 sf 0.02% Impervious Runoff Depth=2.37" Flow Length=653' Tc=23.8 min CN=64 Runoff=4.07 cfs 21,628 cf
Subcatchment 14: Subcat 14	Runoff Area=13,783 sf 99.97% Impervious Runoff Depth=5.91" Tc=5.0 min CN=98 Runoff=1.93 cfs 6,790 cf
Subcatchment 15: Subcat 15	Runoff Area=13,783 sf 99.98% Impervious Runoff Depth=5.91" Tc=5.0 min CN=98 Runoff=1.93 cfs 6,790 cf
Subcatchment 16: Subcat 16	Runoff Area=13,792 sf 99.99% Impervious Runoff Depth=5.91" Tc=5.0 min CN=98 Runoff=1.93 cfs 6,794 cf
Subcatchment 17: Subcat 17	Runoff Area=6,828 sf 8.53% Impervious Runoff Depth=2.37" Tc=5.0 min CN=64 Runoff=0.46 cfs 1,349 cf

2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 25-yr Rainfall=6.15"

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Subcatchment 18: Subcat 18	Runoff Area=6,372 sf 7.75% Impervious Runoff Depth=2.37" Tc=5.0 min CN=64 Runoff=0.42 cfs 1,259 cf
Subcatchment 19: Subcat 19	Runoff Area=5,807 sf 0.00% Impervious Runoff Depth=1.60" Flow Length=335' Tc=13.6 min CN=55 Runoff=0.17 cfs 777 cf
Subcatchment 21: Subcat 21	Runoff Area=8,901 sf 3.88% Impervious Runoff Depth=2.28" Tc=5.0 min CN=63 Runoff=0.57 cfs 1,692 cf
Subcatchment 22: Subcat 22	Runoff Area=51,226 sf 0.04% Impervious Runoff Depth=1.60" Flow Length=458' Tc=17.9 min CN=55 Runoff=1.35 cfs 6,850 cf
Reach 5R: swale	Avg. Flow Depth=0.29' Max Vel=4.02 fps Inflow=1.19 cfs 3,691 cf n=0.030 L=324.0' S=0.0926 '/' Capacity=65.17 cfs Outflow=1.16 cfs 3,691 cf
Reach 6R: swale	Avg. Flow Depth=0.37' Max Vel=5.01 fps Inflow=2.49 cfs 7,421 cf n=0.030 L=393.0' S=0.1018 '/' Capacity=68.33 cfs Outflow=2.41 cfs 7,421 cf
Reach 23R: swale	Avg. Flow Depth=0.44' Max Vel=4.40 fps Inflow=3.45 cfs 19,083 cf n=0.030 L=353.0' S=0.0630 '/' Capacity=37.04 cfs Outflow=3.41 cfs 19,083 cf
Pond 6P: Infiltration Basin	Peak Elev=314.68' Storage=5,068 cf Inflow=4.07 cfs 21,628 cf Discarded=0.64 cfs 18,153 cf Primary=1.99 cfs 3,475 cf Outflow=2.63 cfs 21,628 cf
Pond 7P: CB B2	Peak Elev=264.76' Inflow=13.51 cfs 45,774 cf 15.0" Round Culvert n=0.012 L=62.0' S=0.0100 '/' Outflow=13.51 cfs 45,774 cf
Pond 8P: CB B1	Peak Elev=260.46' Inflow=15.65 cfs 53,195 cf 24.0" Round Culvert n=0.012 L=14.0' S=0.0129 '/' Outflow=15.65 cfs 53,195 cf
Pond 9P: CB B8	Peak Elev=263.93' Inflow=3.41 cfs 19,083 cf 18.0" Round Culvert n=0.012 L=6.0' S=0.5667 '/' Outflow=3.41 cfs 19,083 cf
Pond 12P: CB A5.1	Peak Elev=325.61' Inflow=3.19 cfs 9,567 cf 12.0" Round Culvert n=0.012 L=92.0' S=0.0353 '/' Outflow=3.19 cfs 9,567 cf
Pond 13P: CB A5	Peak Elev=320.24' Inflow=6.65 cfs 32,034 cf 15.0" Round Culvert n=0.012 L=24.0' S=0.1563 '/' Outflow=6.65 cfs 32,034 cf
Pond 14P: CB A9	Peak Elev=312.80' Inflow=1.66 cfs 5,750 cf 12.0" Round Culvert n=0.012 L=144.0' S=0.0150 '/' Outflow=1.66 cfs 5,750 cf
Pond 15P: INF-B	Peak Elev=313.28' Storage=25,078 cf Inflow=17.66 cfs 70,377 cf Discarded=2.62 cfs 70,377 cf Primary=0.00 cfs 0 cf Outflow=2.62 cfs 70,377 cf
Pond 16P: INF-A	Peak Elev=258.74' Storage=20,114 cf Inflow=18.32 cfs 74,119 cf Discarded=1.34 cfs 57,564 cf Primary=5.97 cfs 16,555 cf Outflow=7.32 cfs 74,119 cf
Pond 17P: CB A1	Peak Elev=327.92' Inflow=6.71 cfs 22,955 cf 15.0" Round Culvert n=0.012 L=58.0' S=0.1552 '/' Outflow=6.71 cfs 22,955 cf
Pond 18P: CB 10	Peak Elev=315.90' Inflow=2.78 cfs 9,639 cf 12.0" Round Culvert n=0.012 L=20.0' S=0.0100 '/' Outflow=2.78 cfs 9,639 cf

2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 25-yr Rainfall=6.15"

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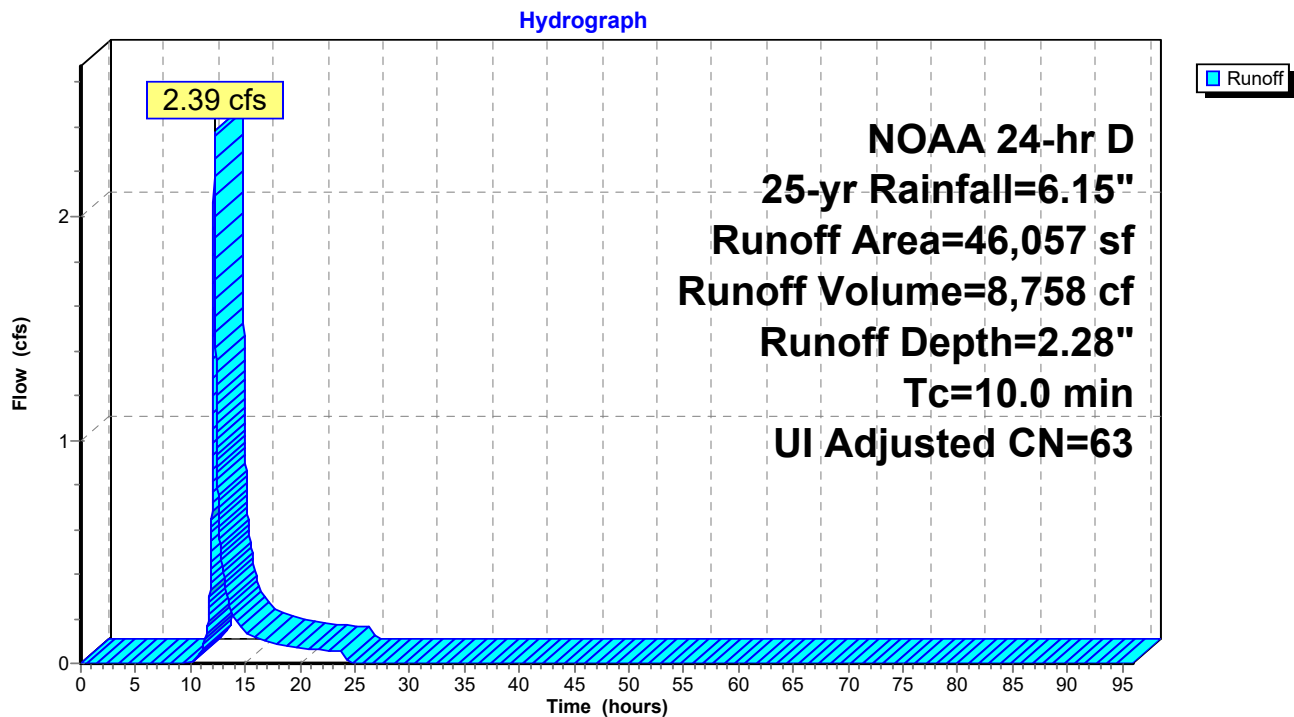
Link 3L: Rt. 32 Culvert

Inflow=6.27 cfs 19,024 cf

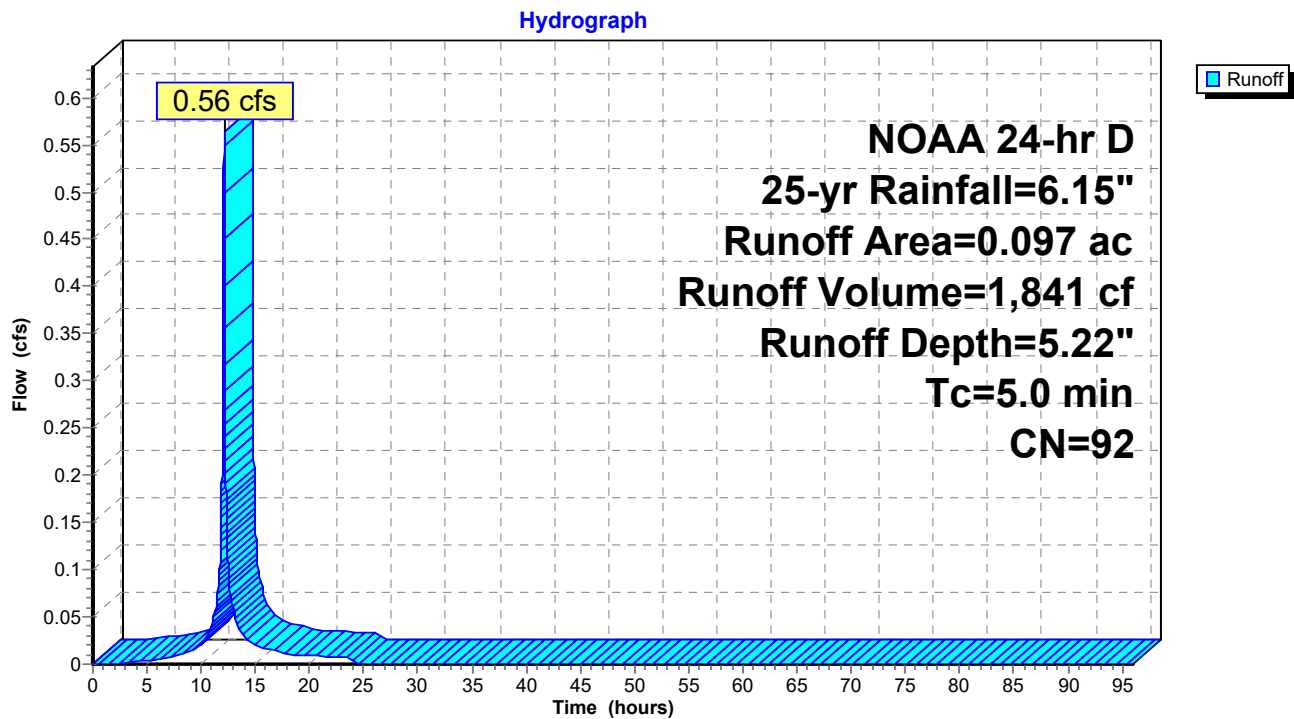
Primary=6.27 cfs 19,024 cf

Total Runoff Area = 559,215 sf Runoff Volume = 165,118 cf Average Runoff Depth = 3.54"
62.14% Pervious = 347,470 sf 37.86% Impervious = 211,744 sf

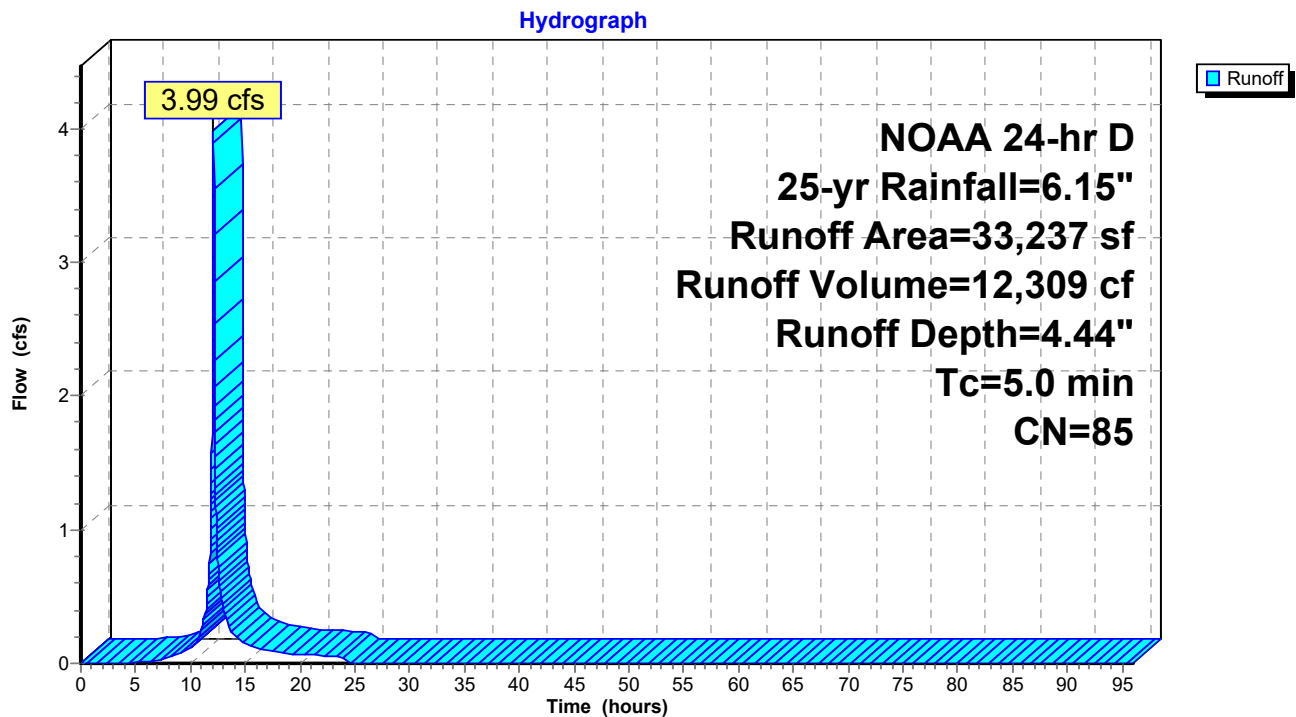
Subcatchment 1: Subcat 1



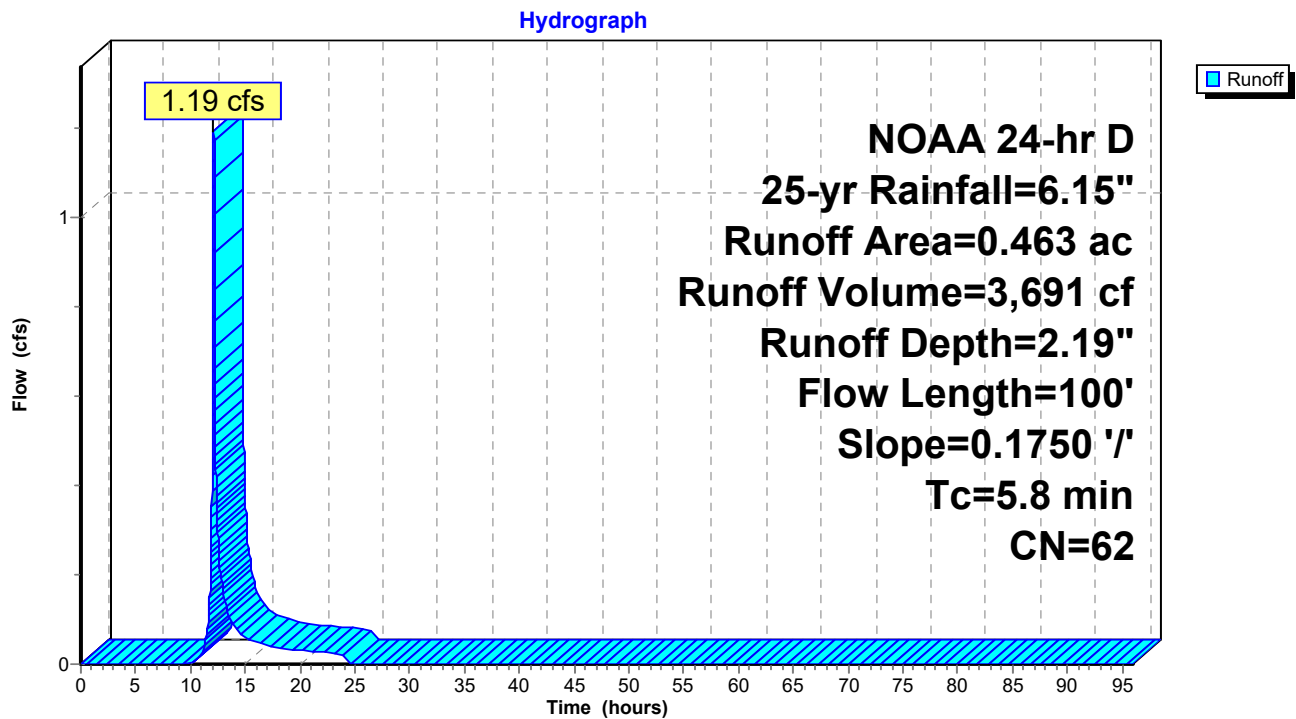
Subcatchment 2: Subcat 2



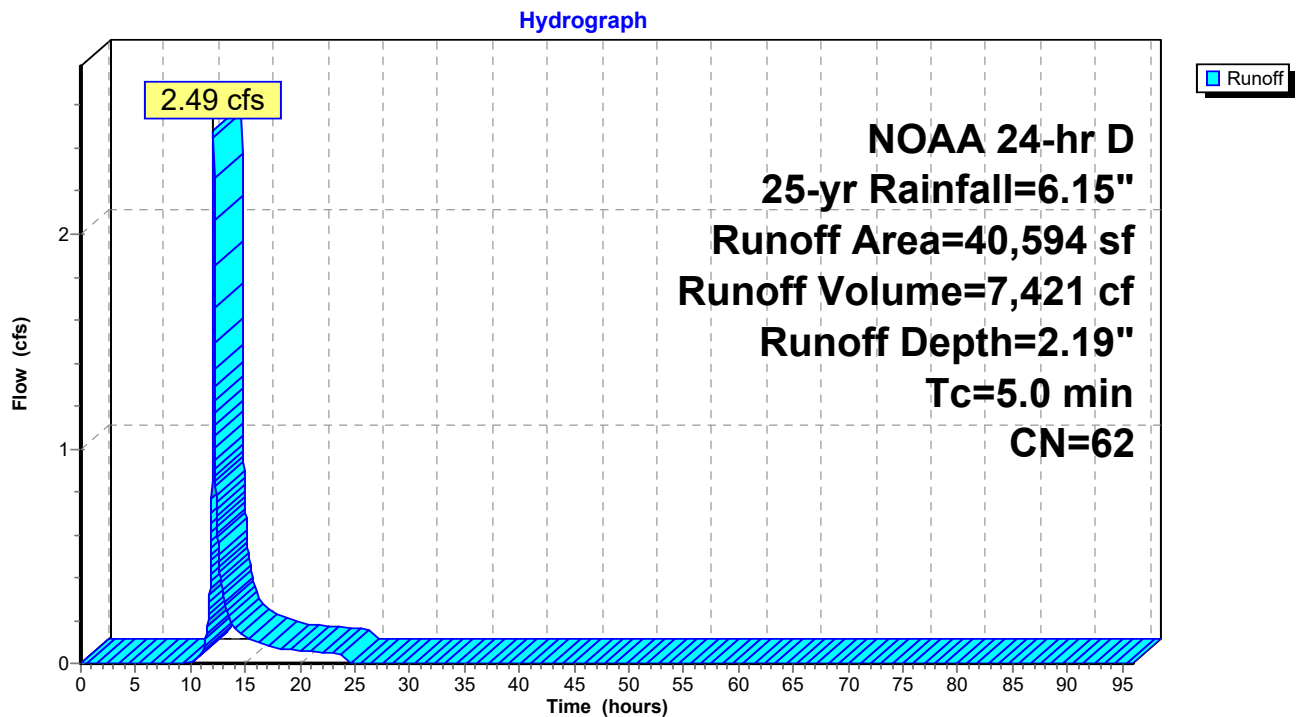
Subcatchment 3: Subcat 3



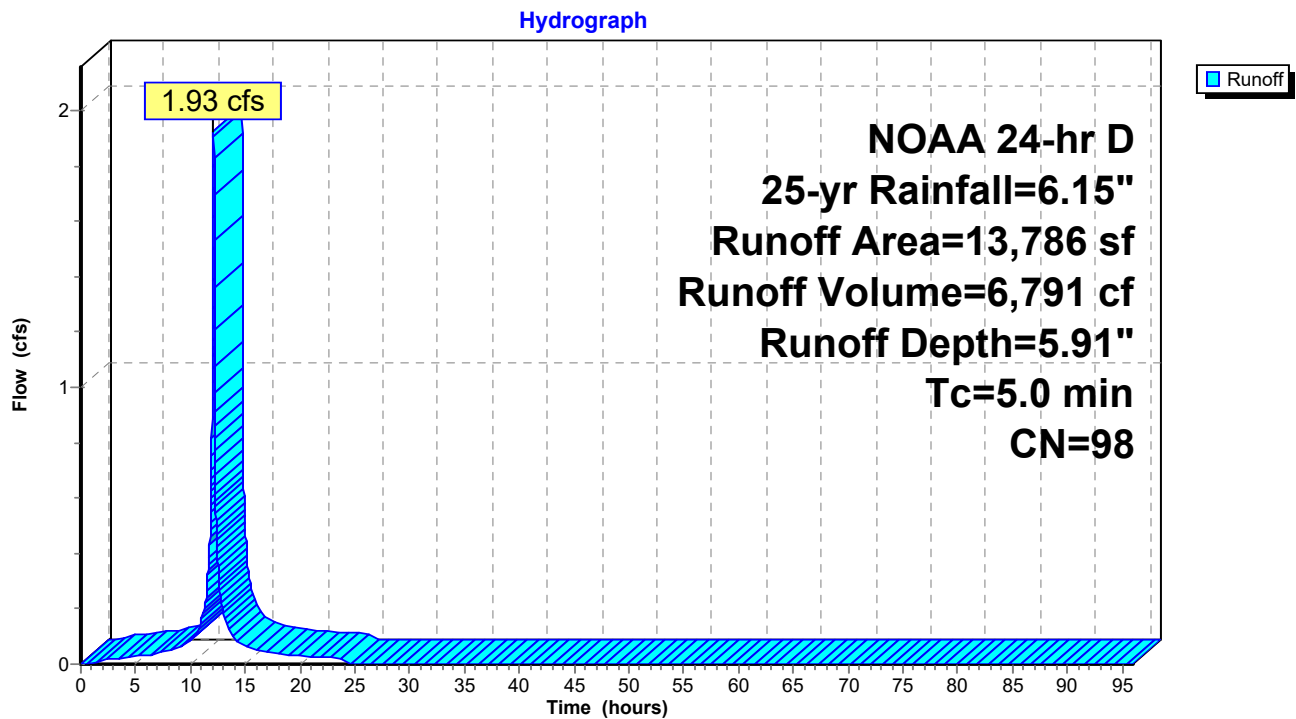
Subcatchment 4: Subcat 4



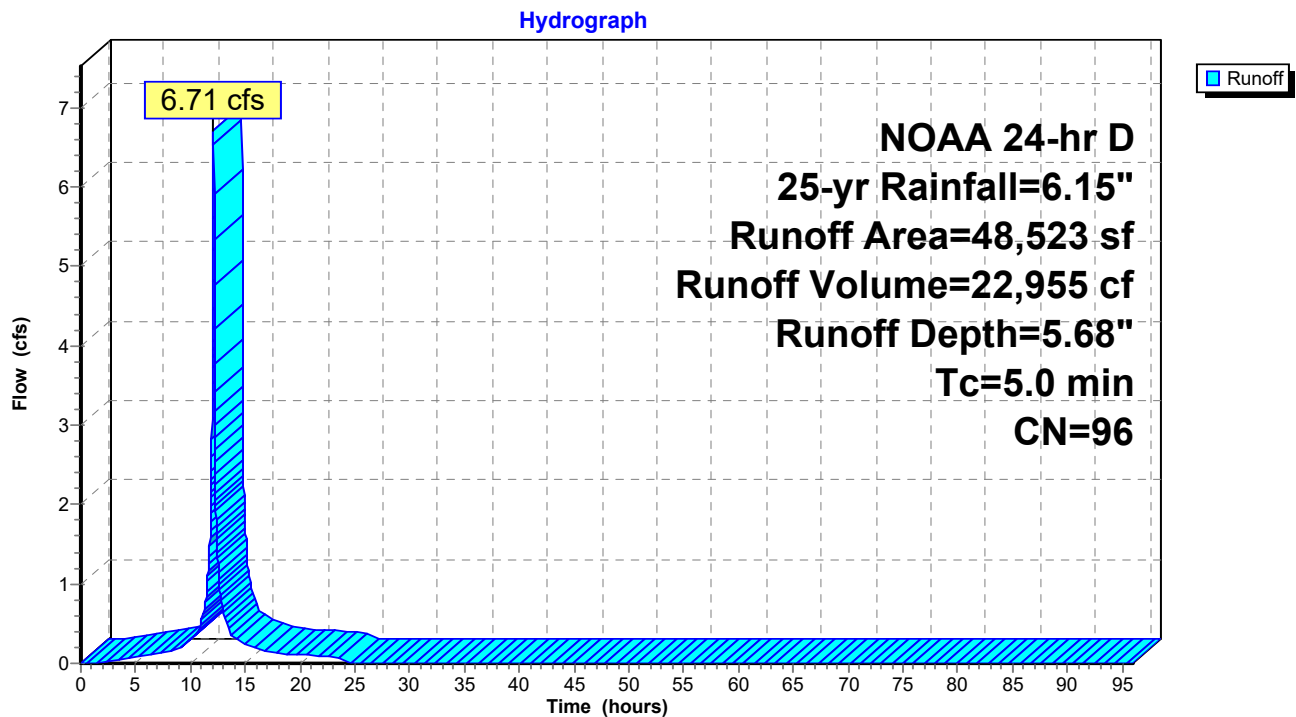
Subcatchment 4.1: Subcat 4.1



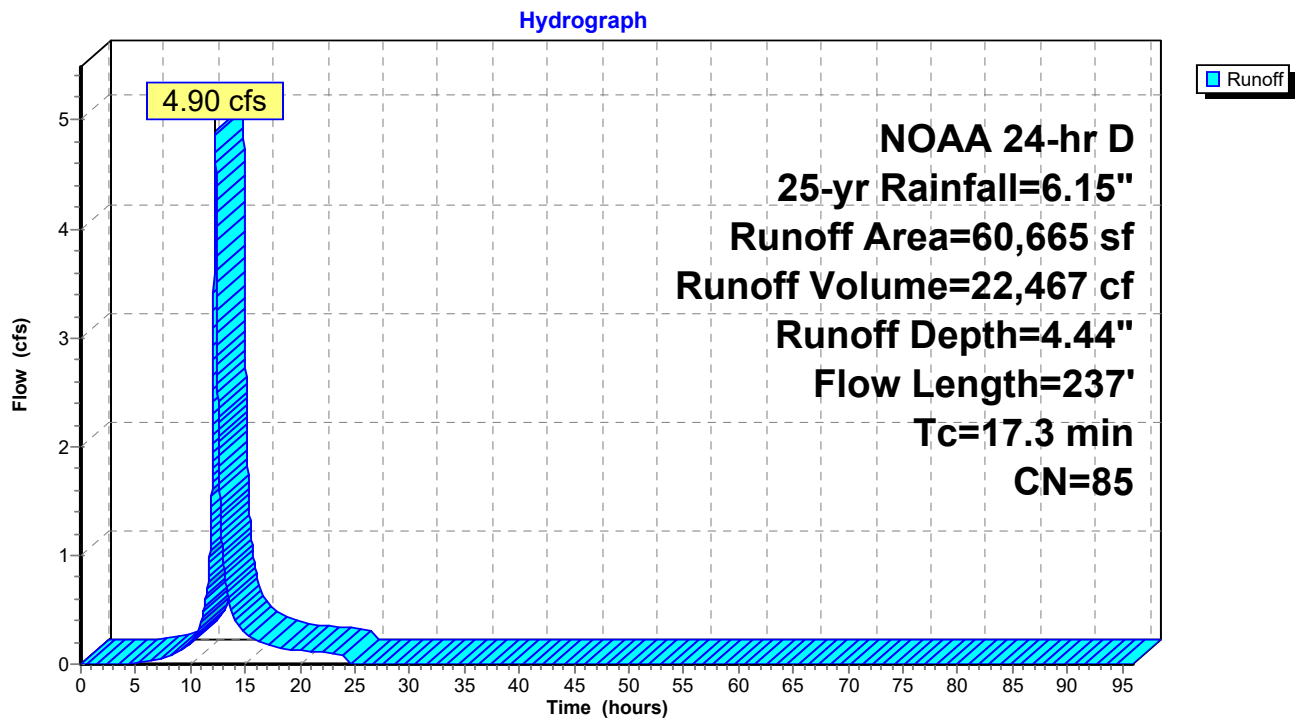
Subcatchment 6: Subcat 6



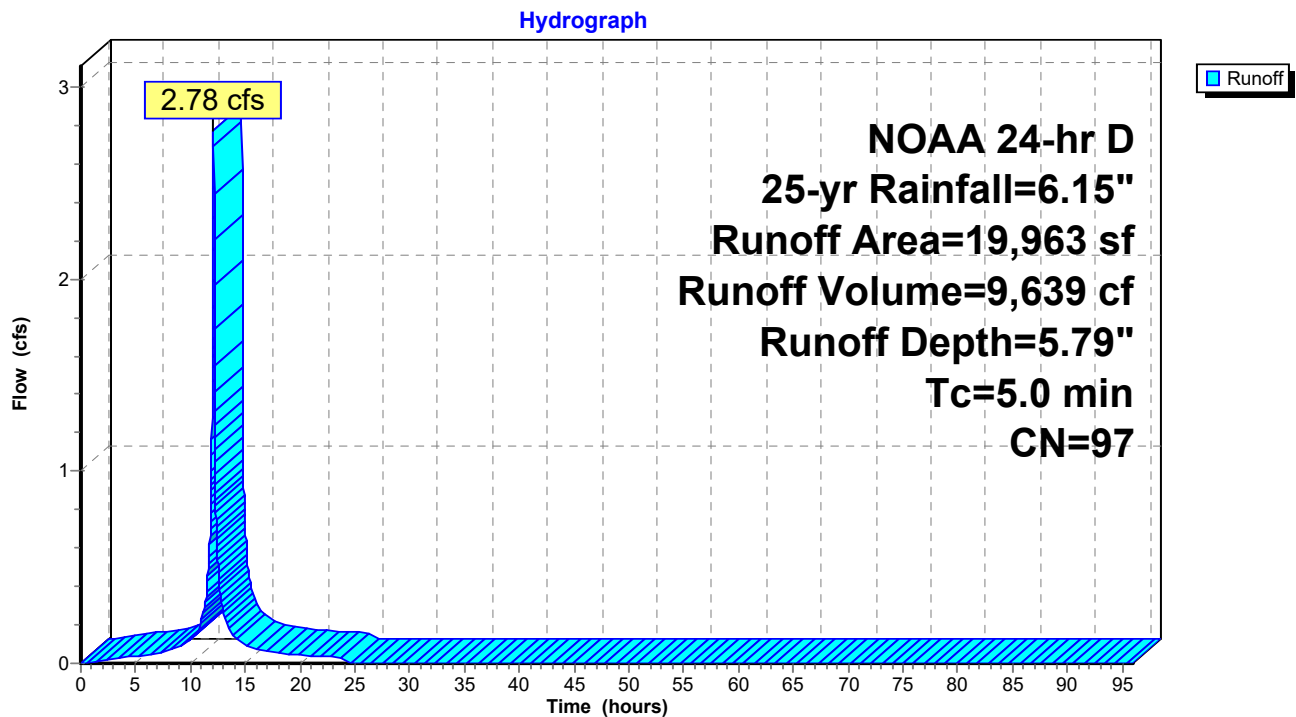
Subcatchment 10: Subcat 10



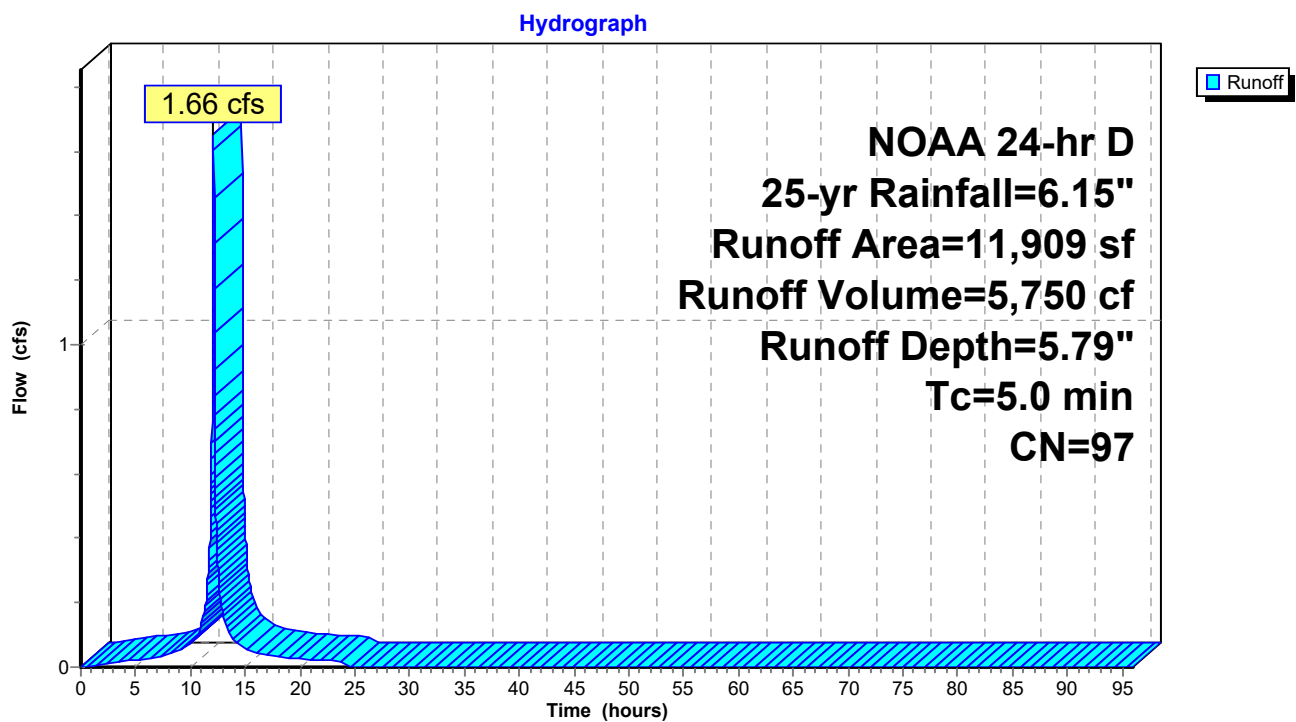
Subcatchment 11: Subcat 11



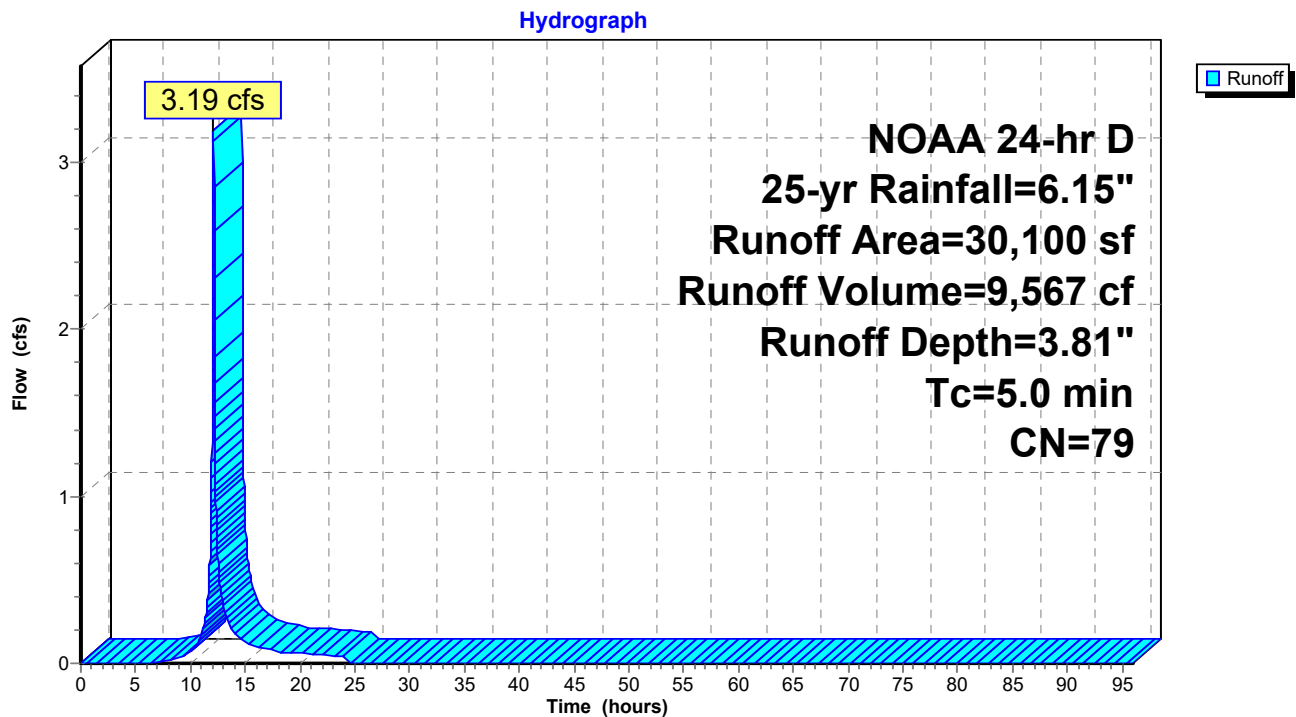
Subcatchment 11.1: Subcat 11.1



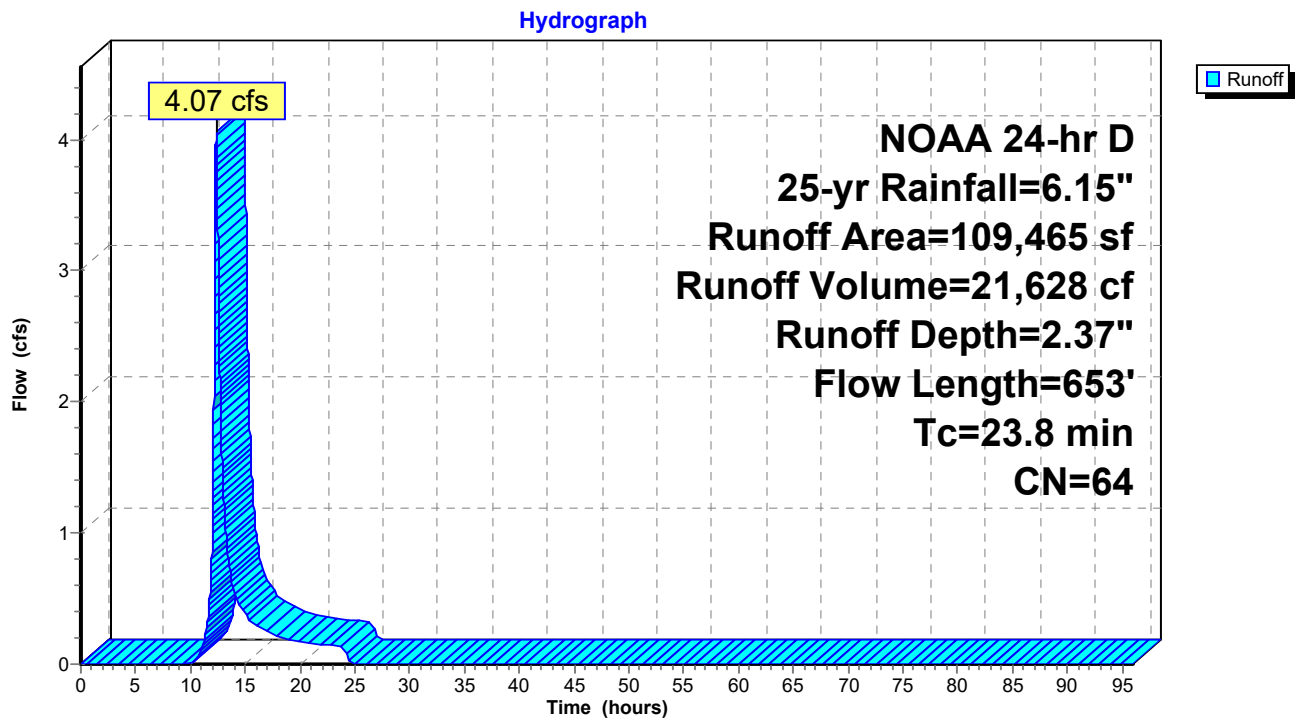
Subcatchment 11.2: Subcat 11.2



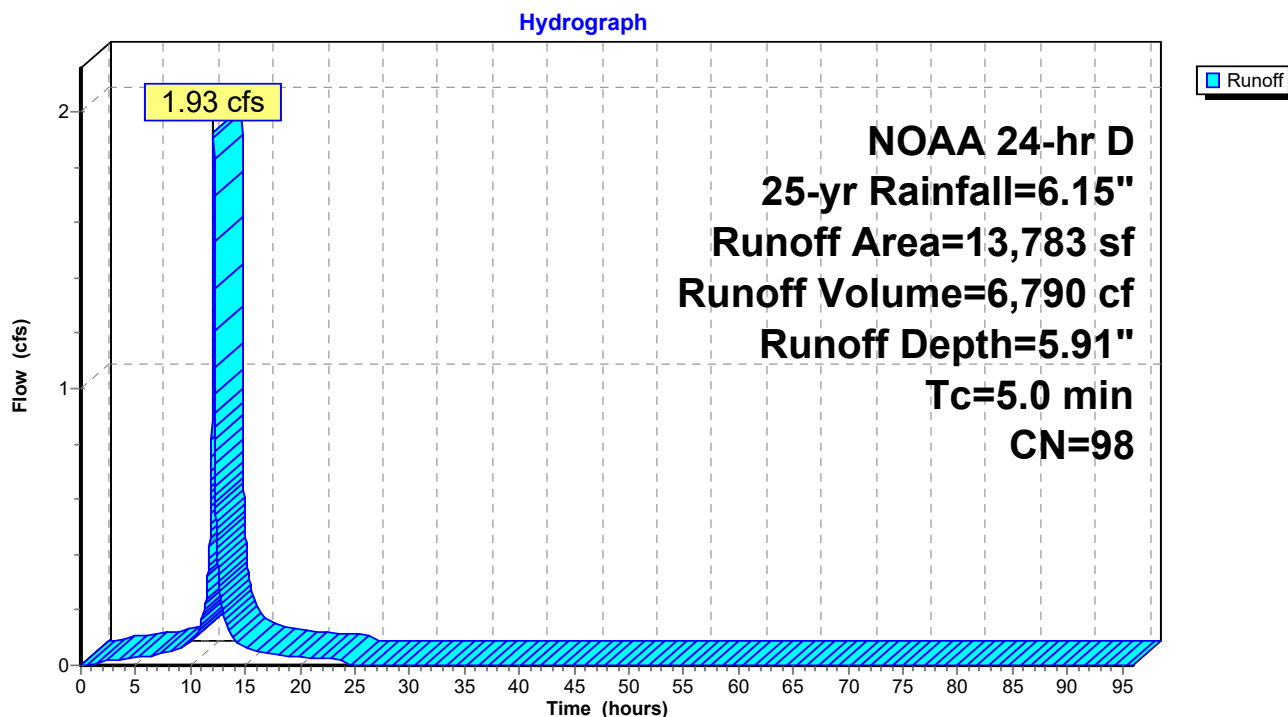
Subcatchment 12: Subcat 12



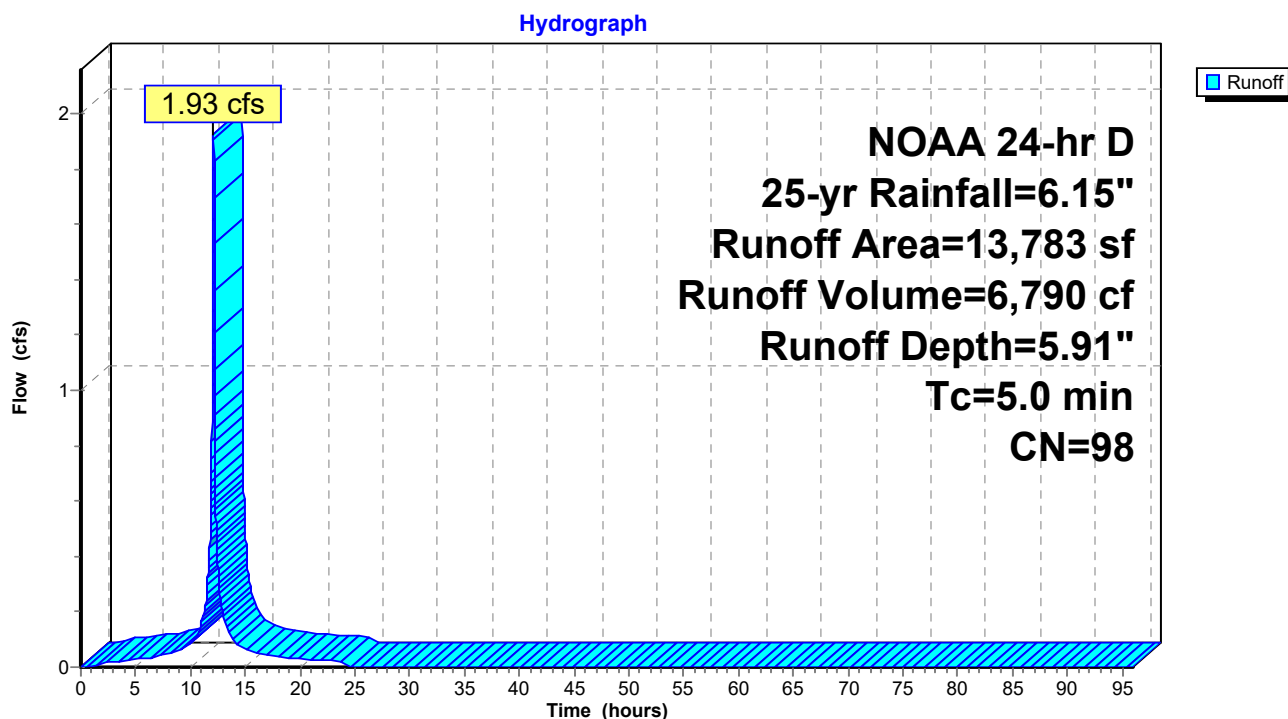
Subcatchment 13: Subcat 13



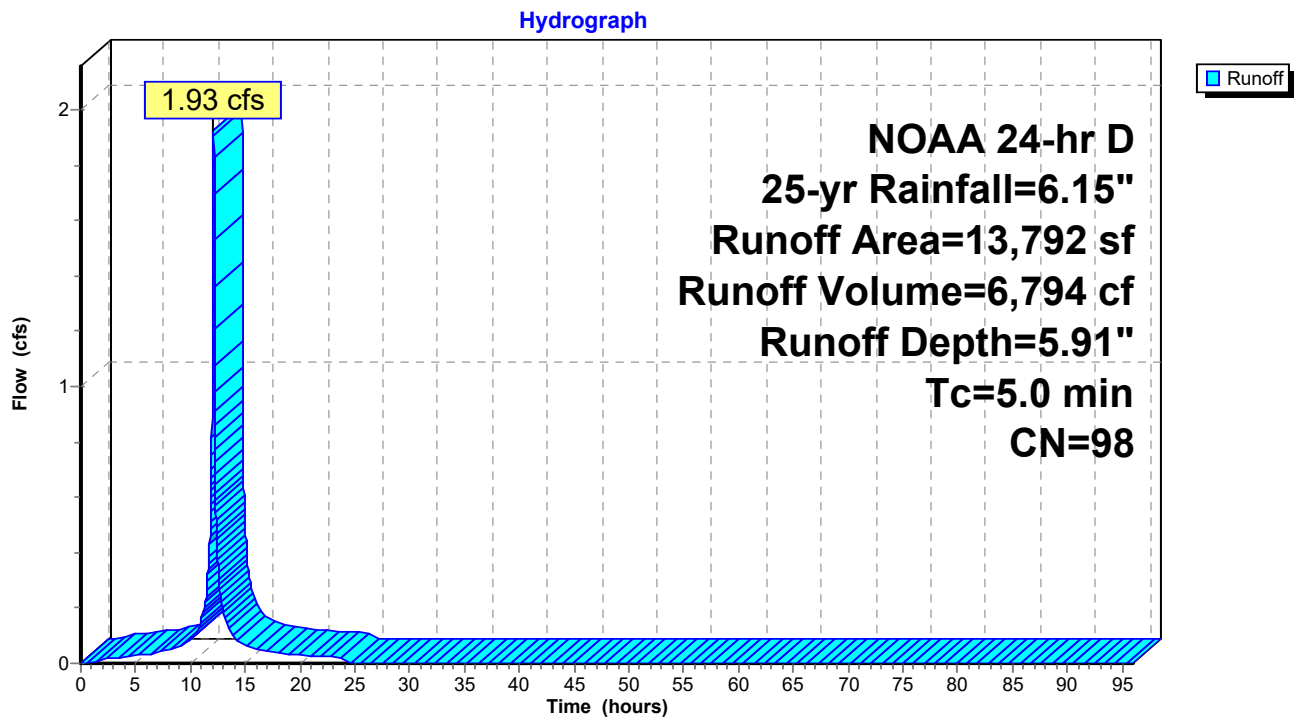
Subcatchment 14: Subcat 14



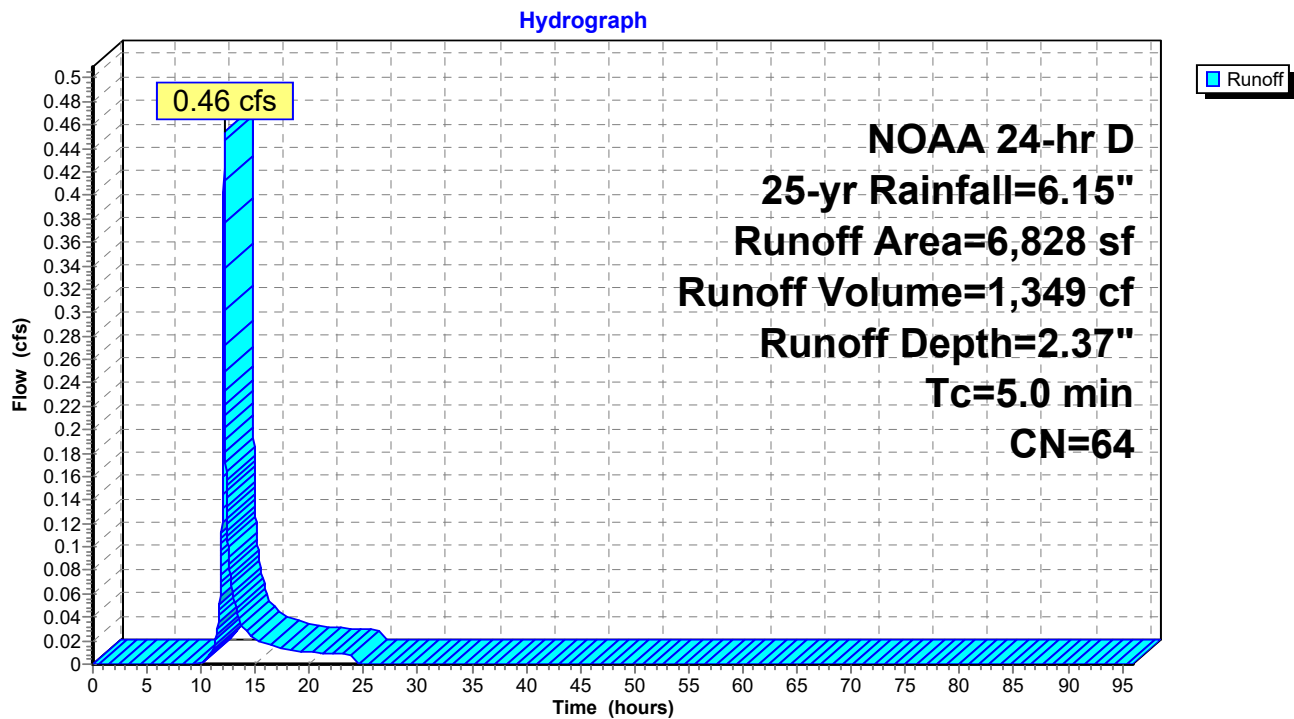
Subcatchment 15: Subcat 15



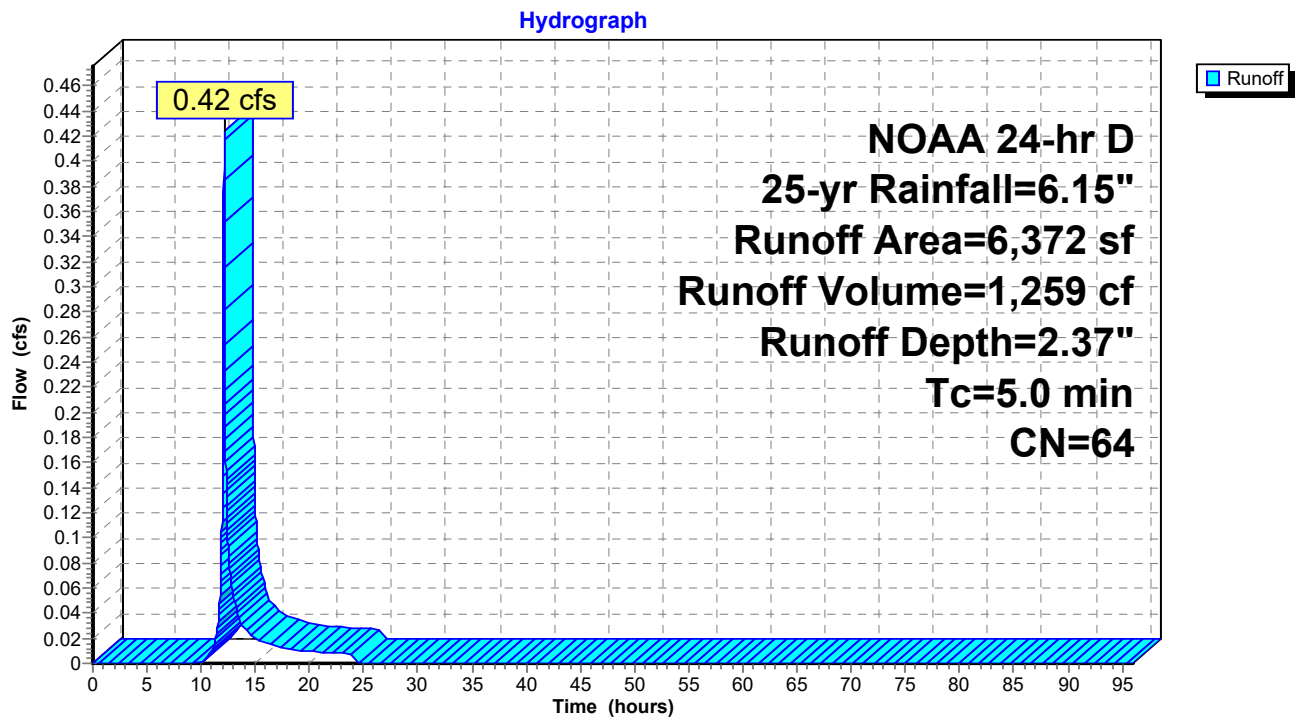
Subcatchment 16: Subcat 16



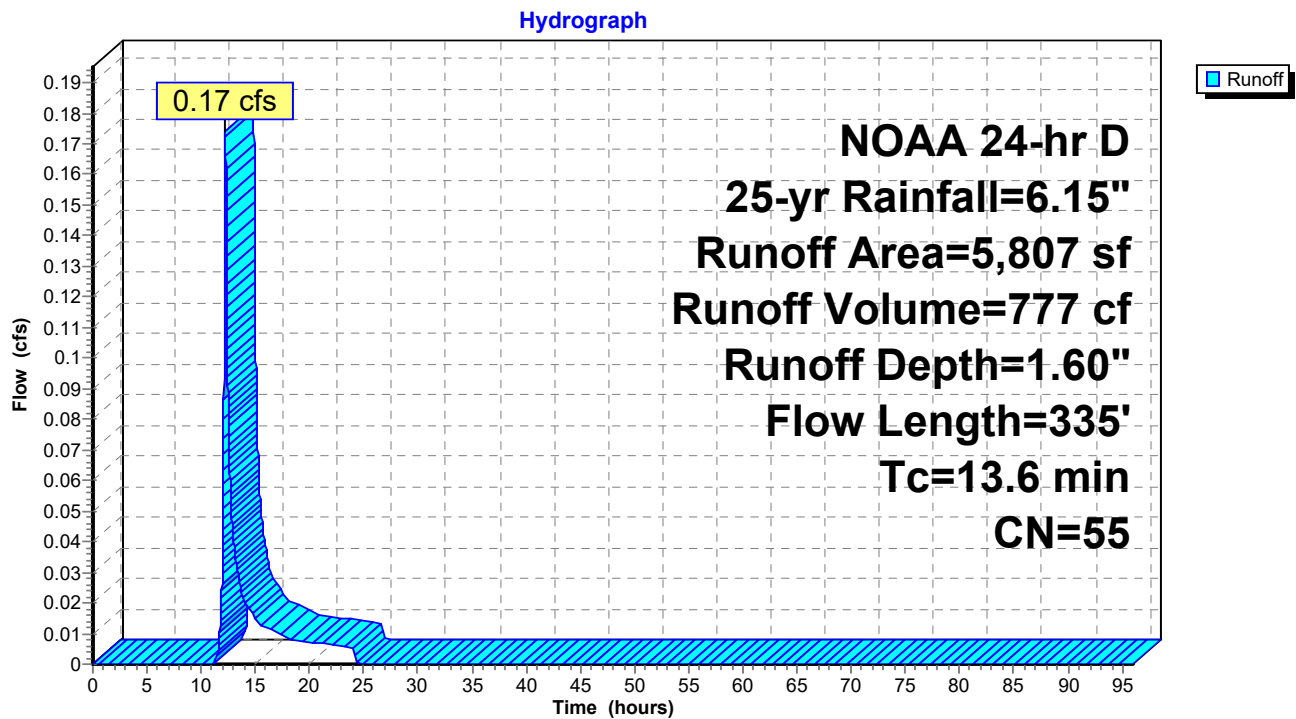
Subcatchment 17: Subcat 17



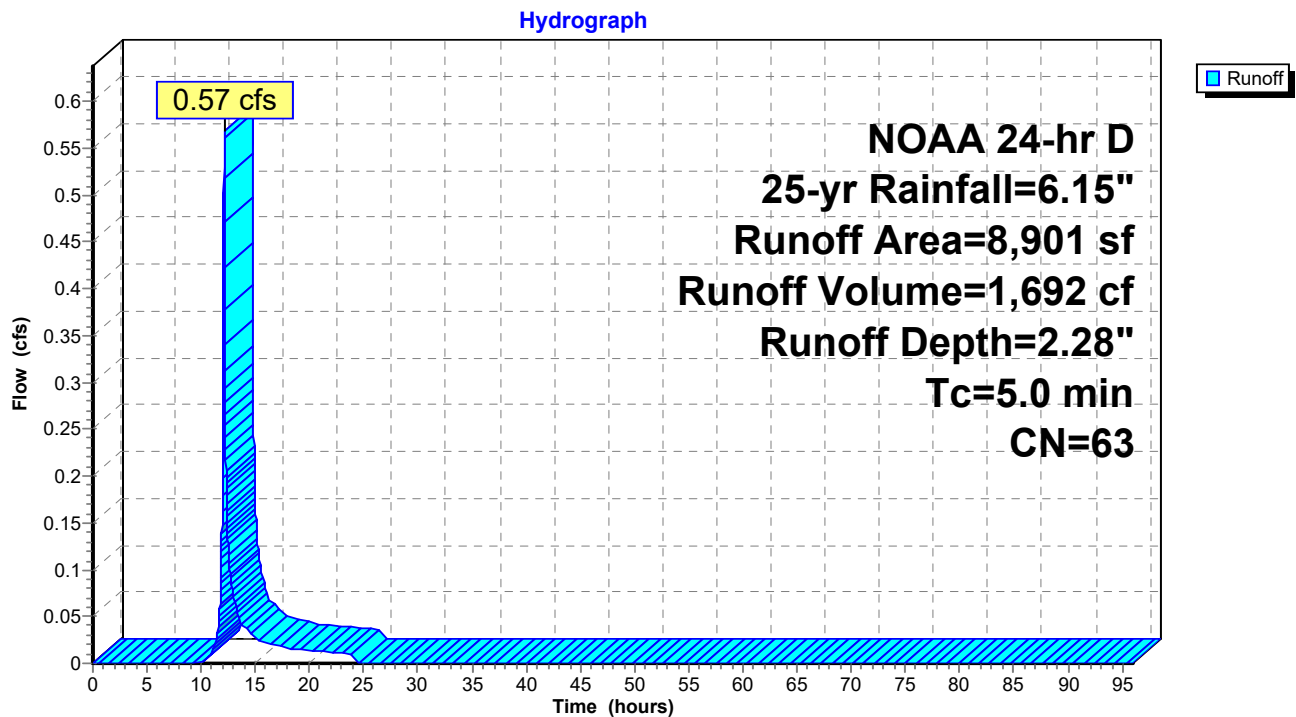
Subcatchment 18: Subcat 18



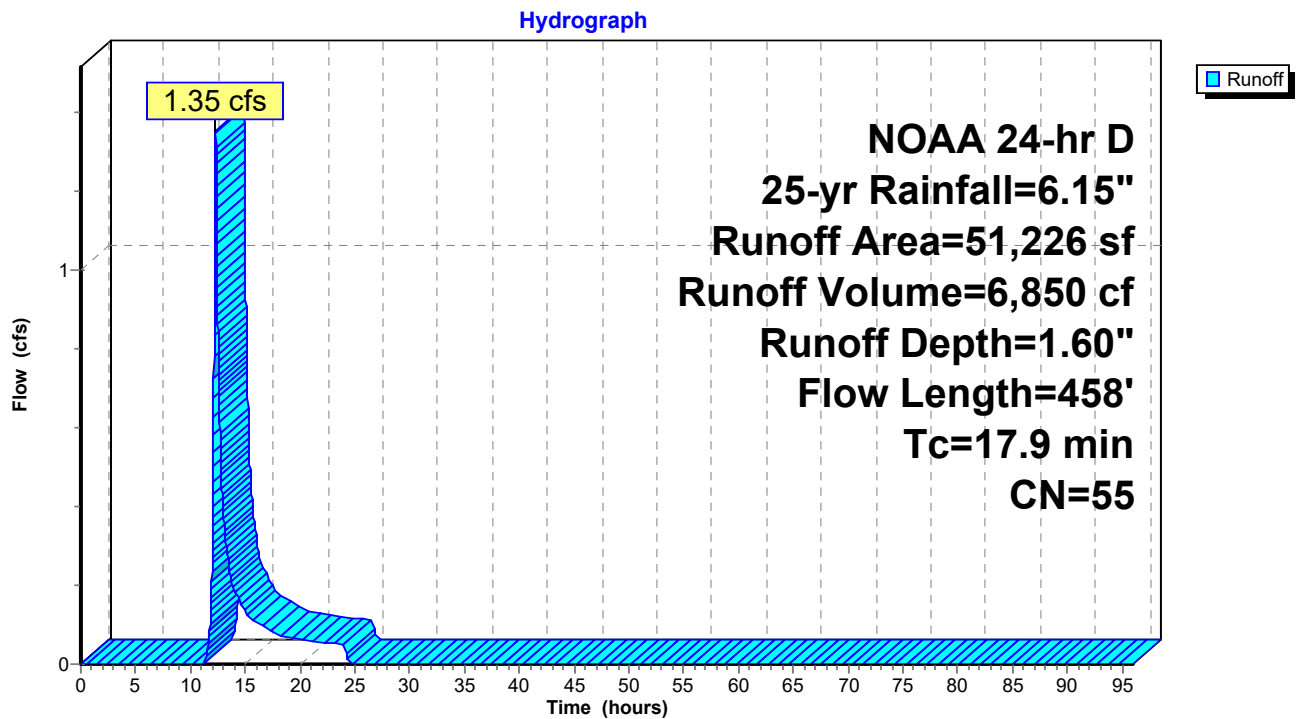
Subcatchment 19: Subcat 19



Subcatchment 21: Subcat 21

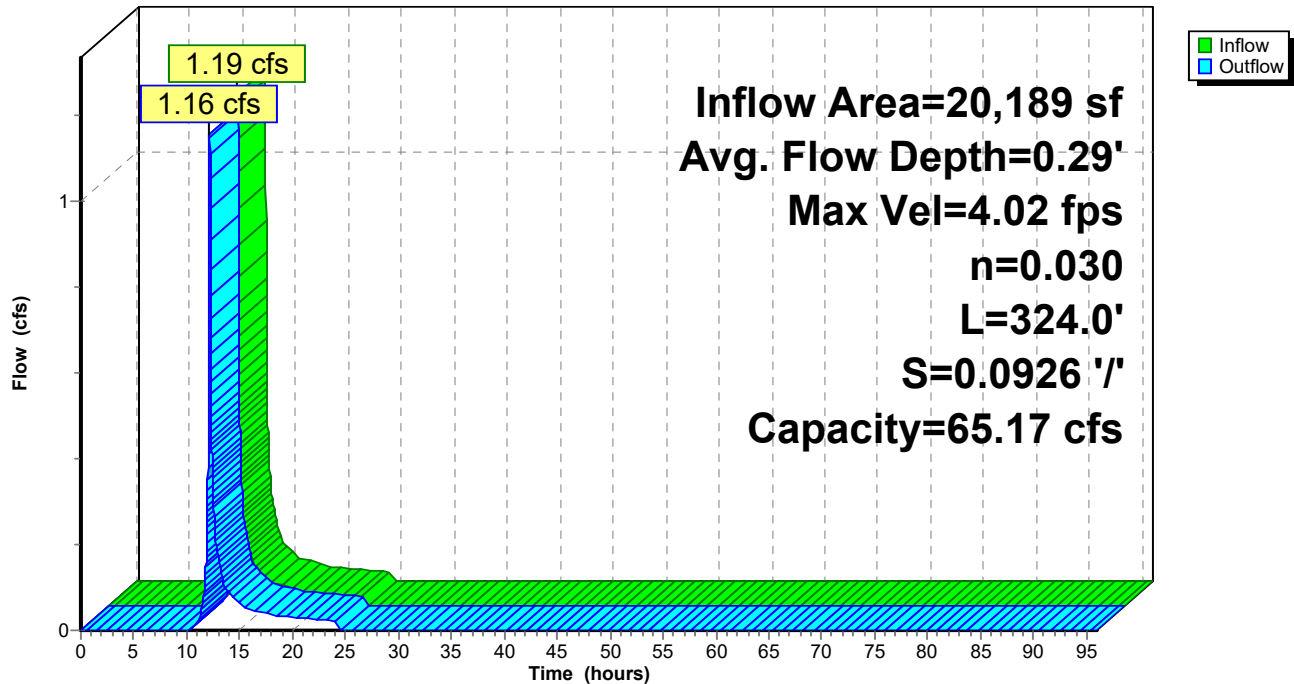


Subcatchment 22: Subcat 22



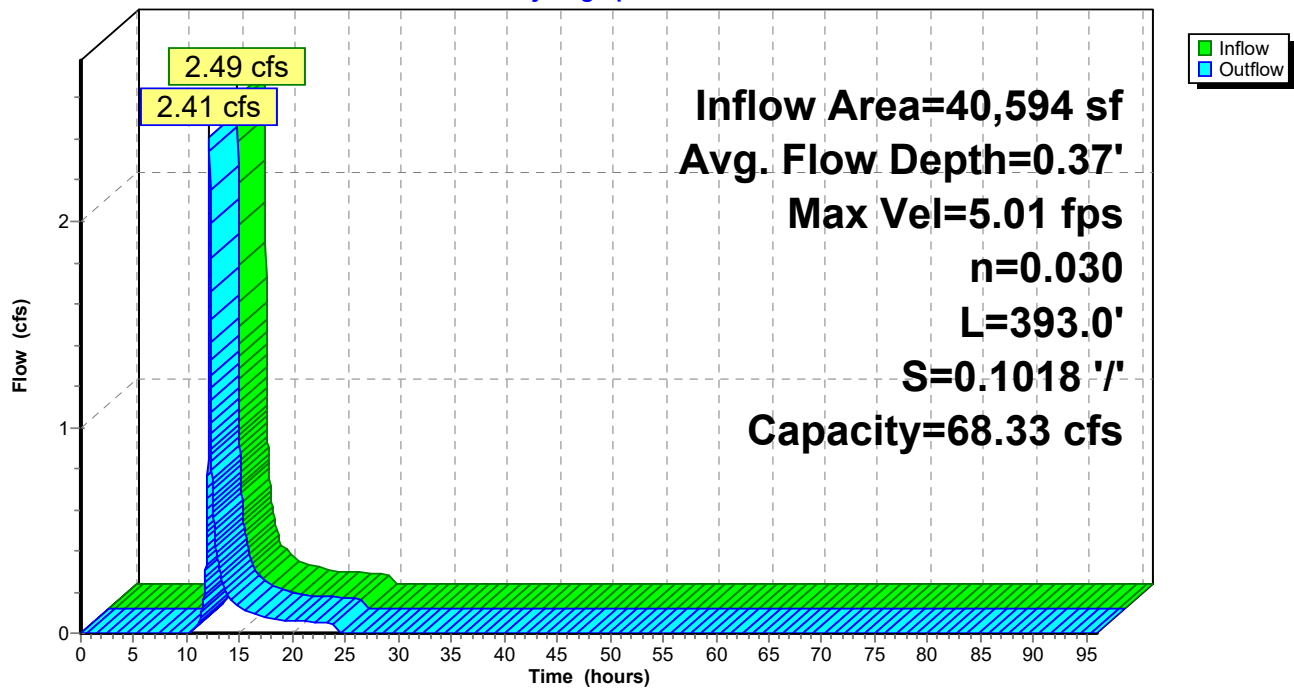
Reach 5R: swale

Hydrograph



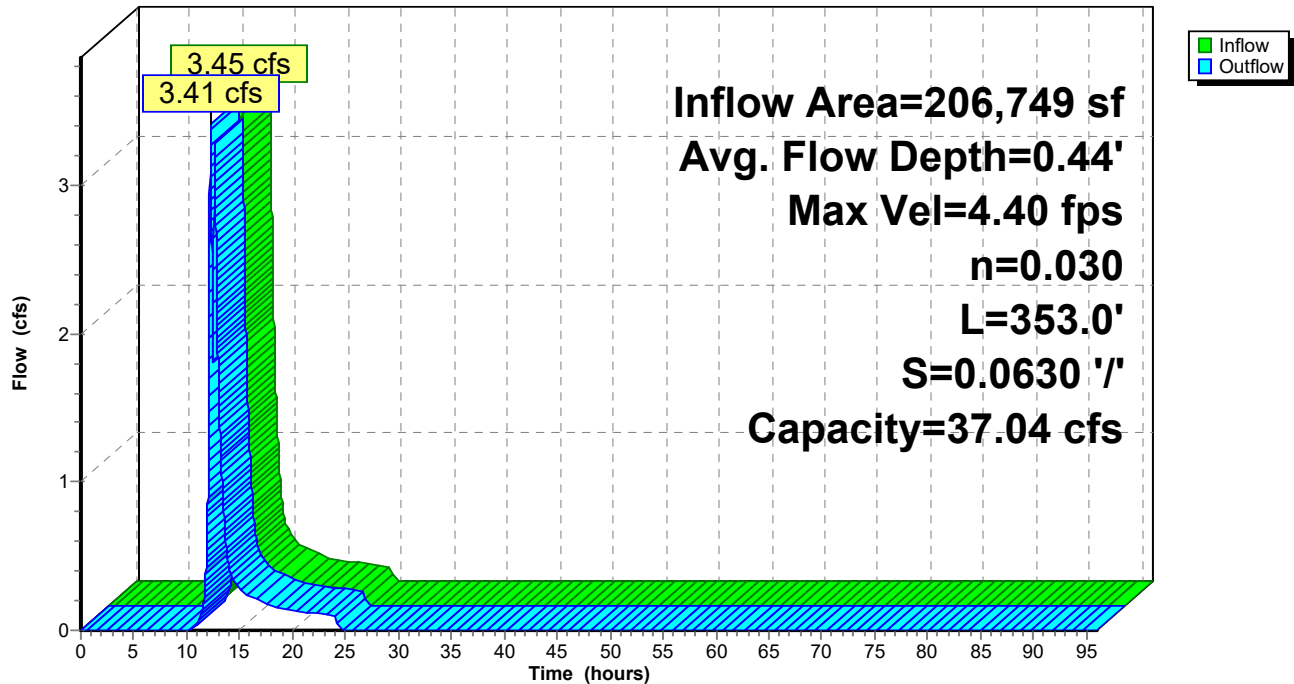
Reach 6R: swale

Hydrograph



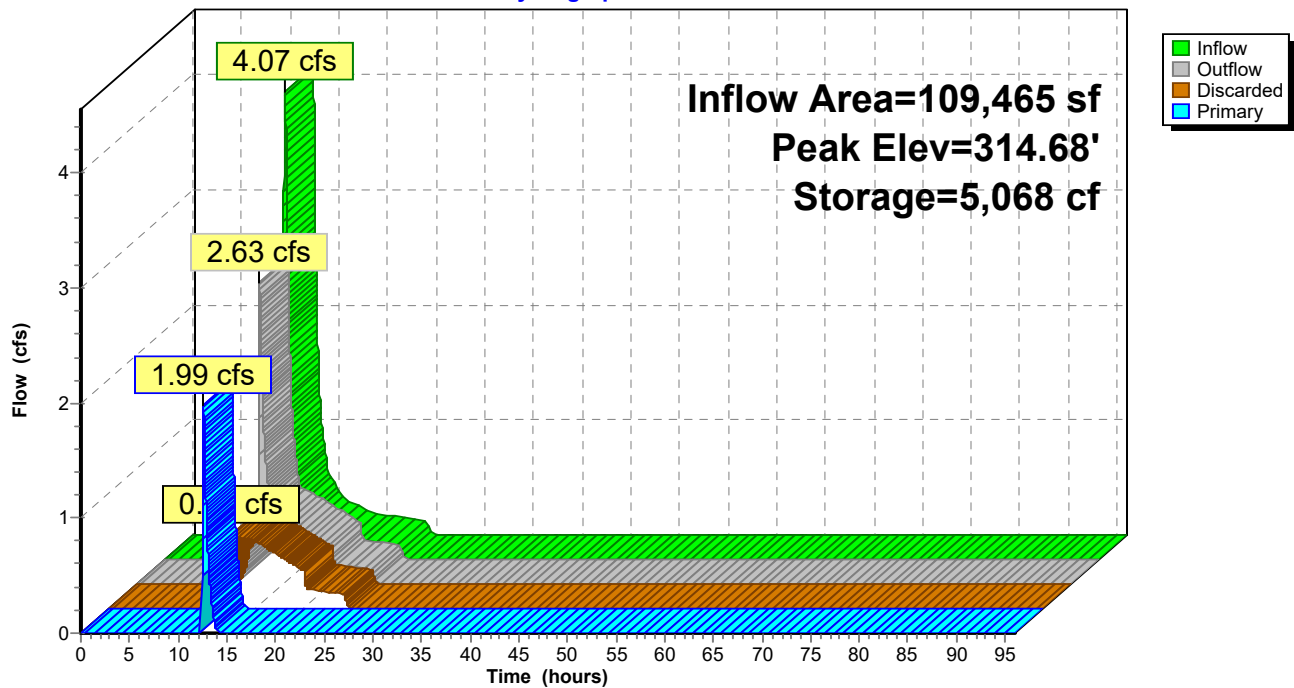
Reach 23R: swale

Hydrograph



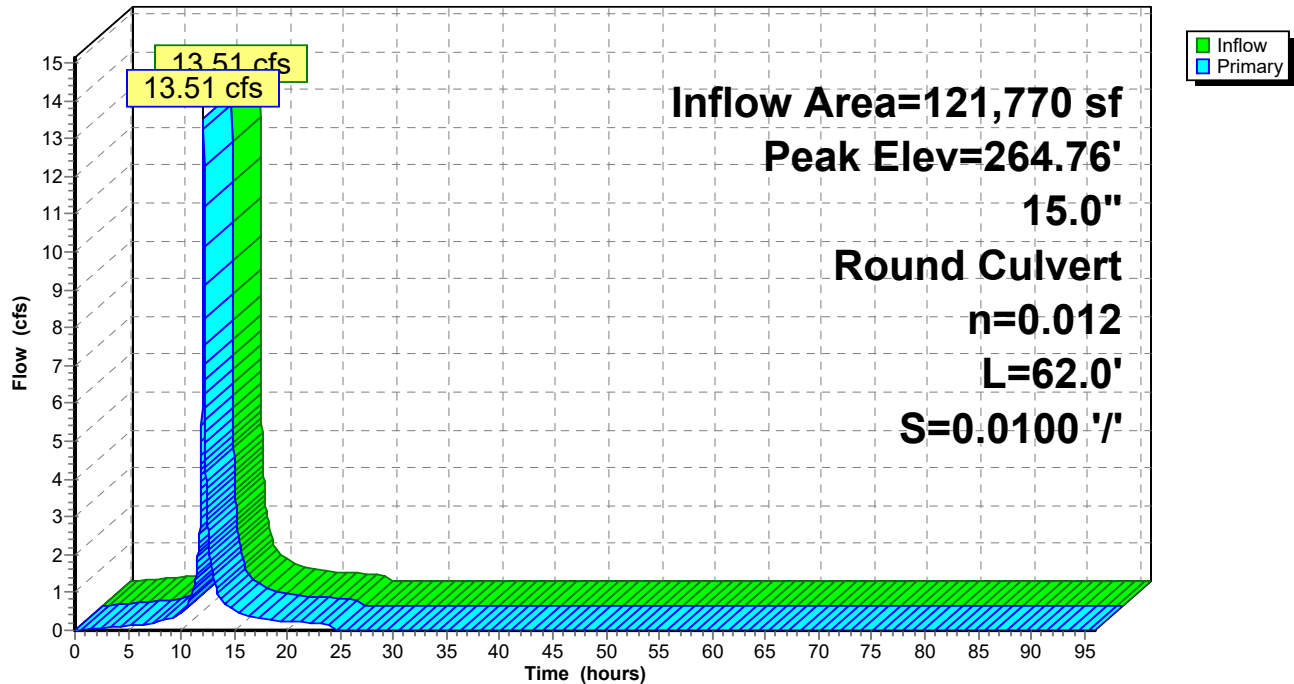
Pond 6P: Infiltration Basin

Hydrograph



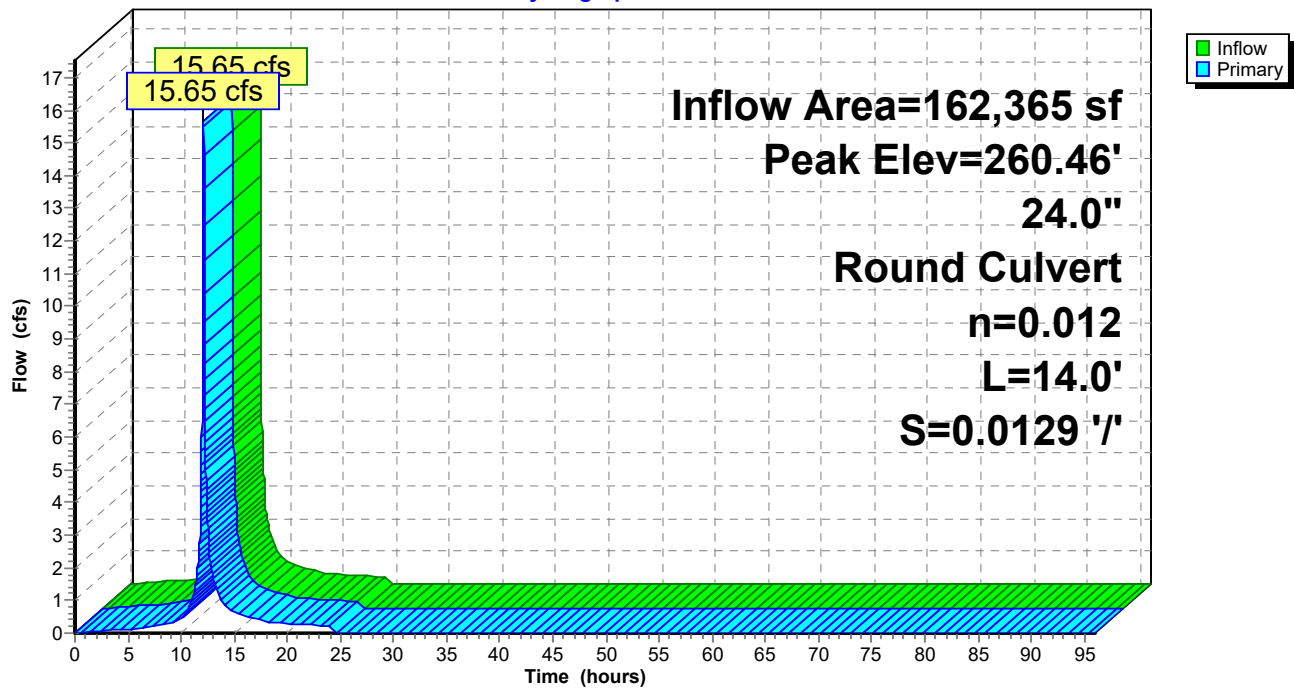
Pond 7P: CB B2

Hydrograph



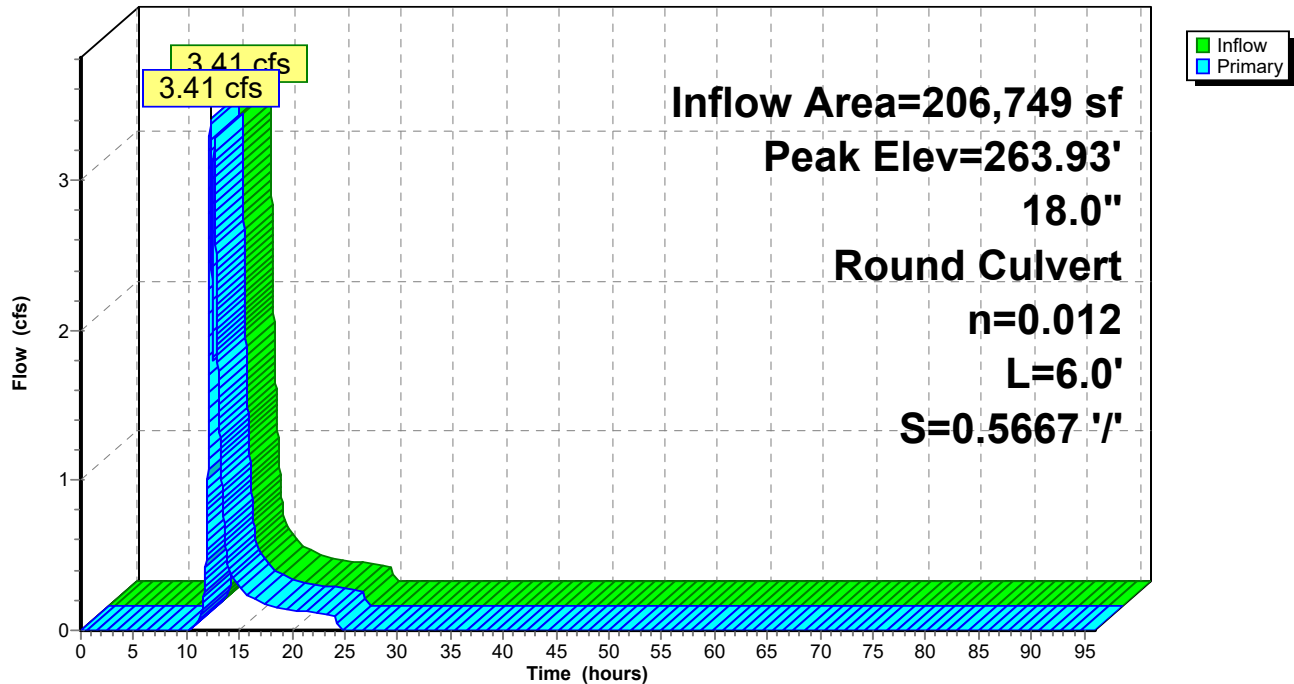
Pond 8P: CB B1

Hydrograph



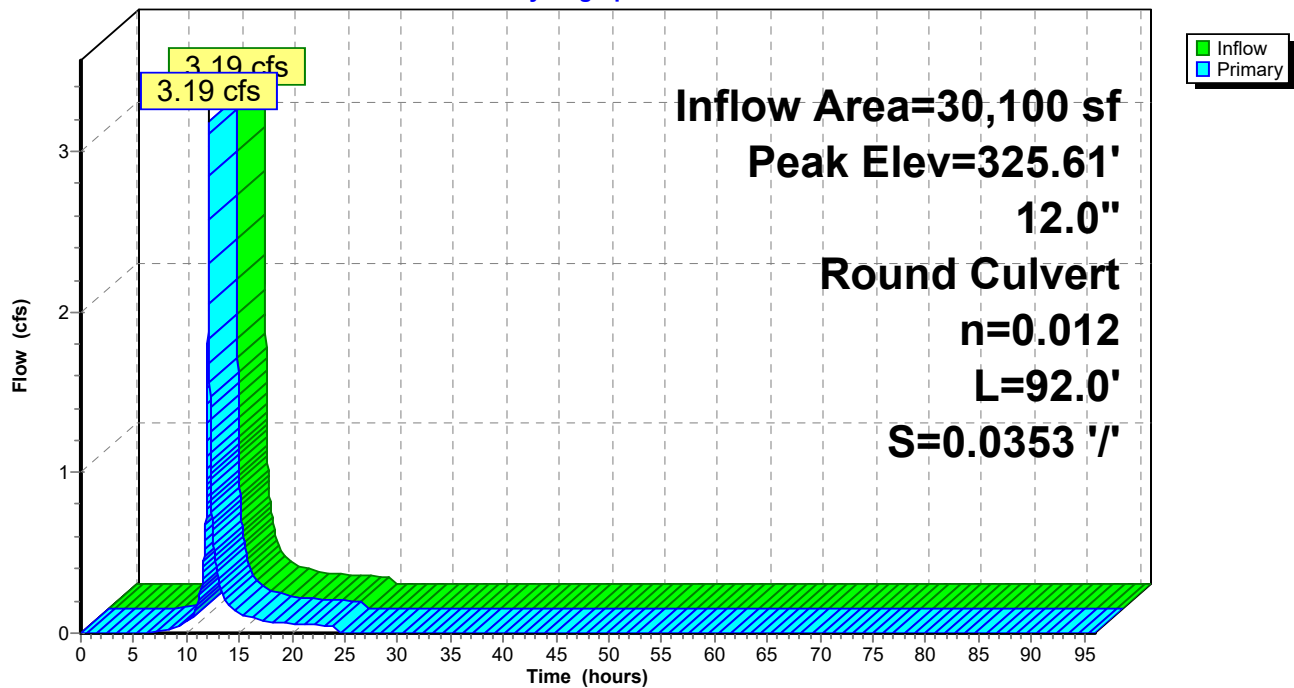
Pond 9P: CB B8

Hydrograph



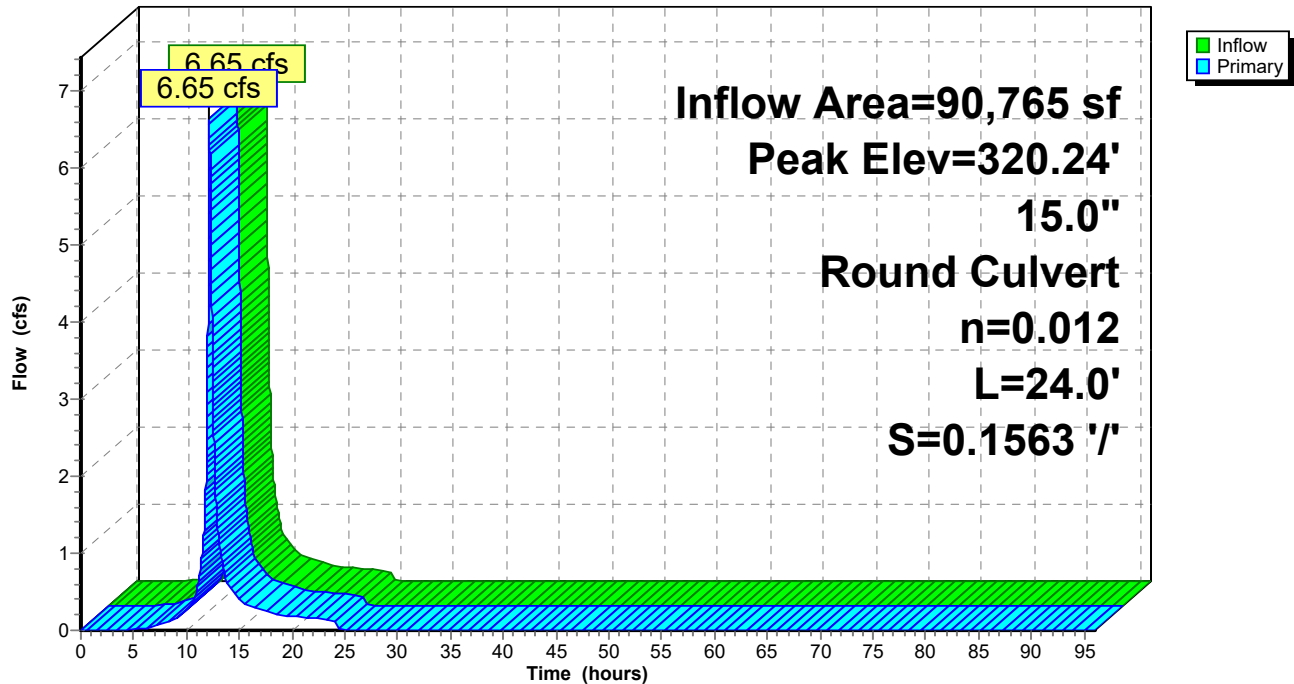
Pond 12P: CB A5.1

Hydrograph



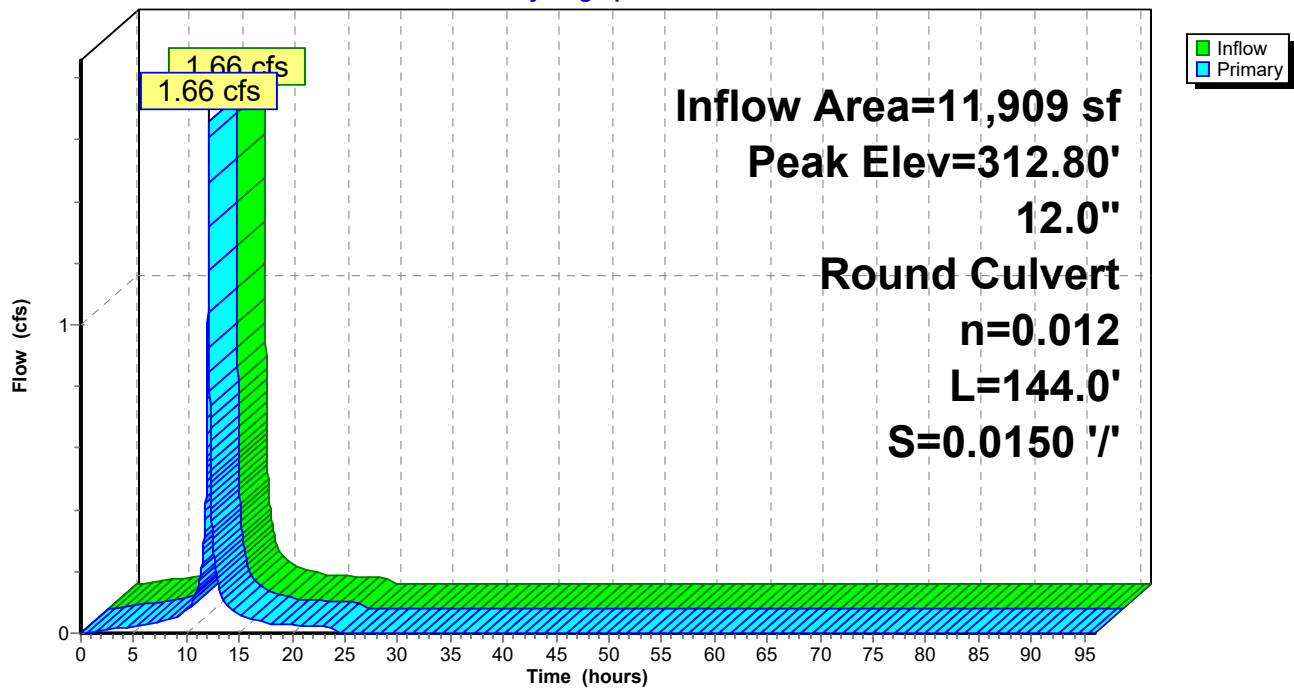
Pond 13P: CB A5

Hydrograph



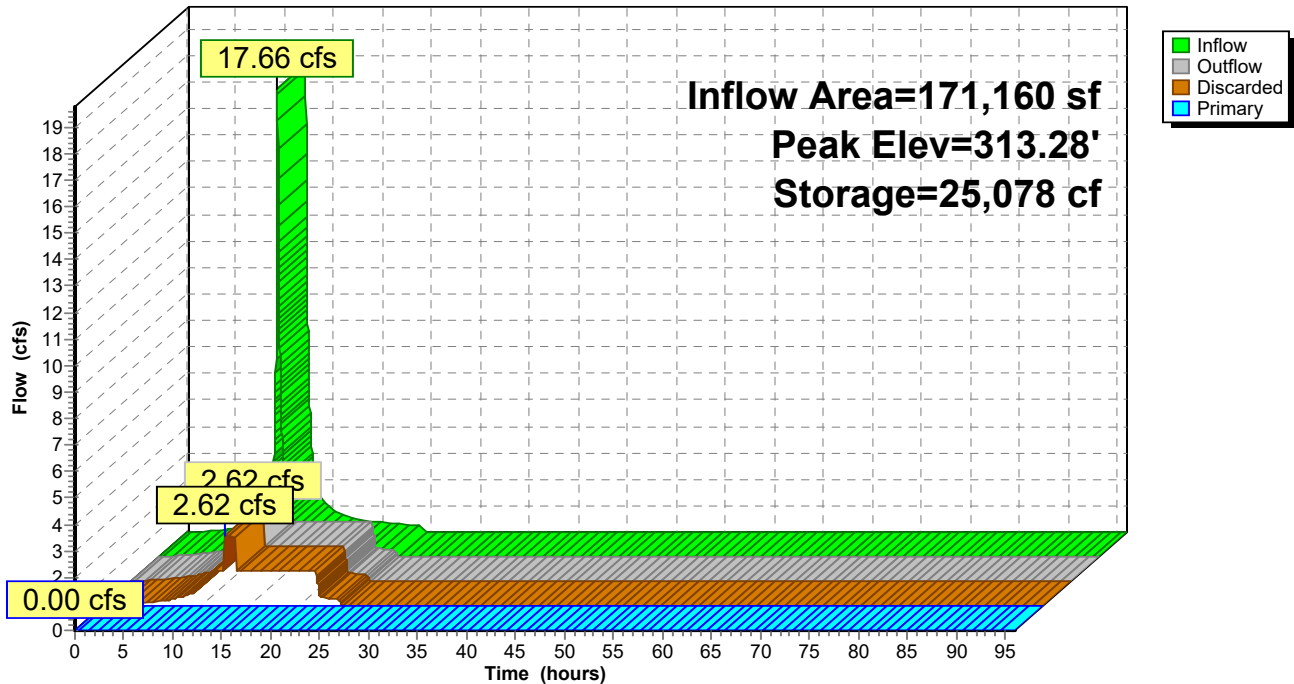
Pond 14P: CB A9

Hydrograph



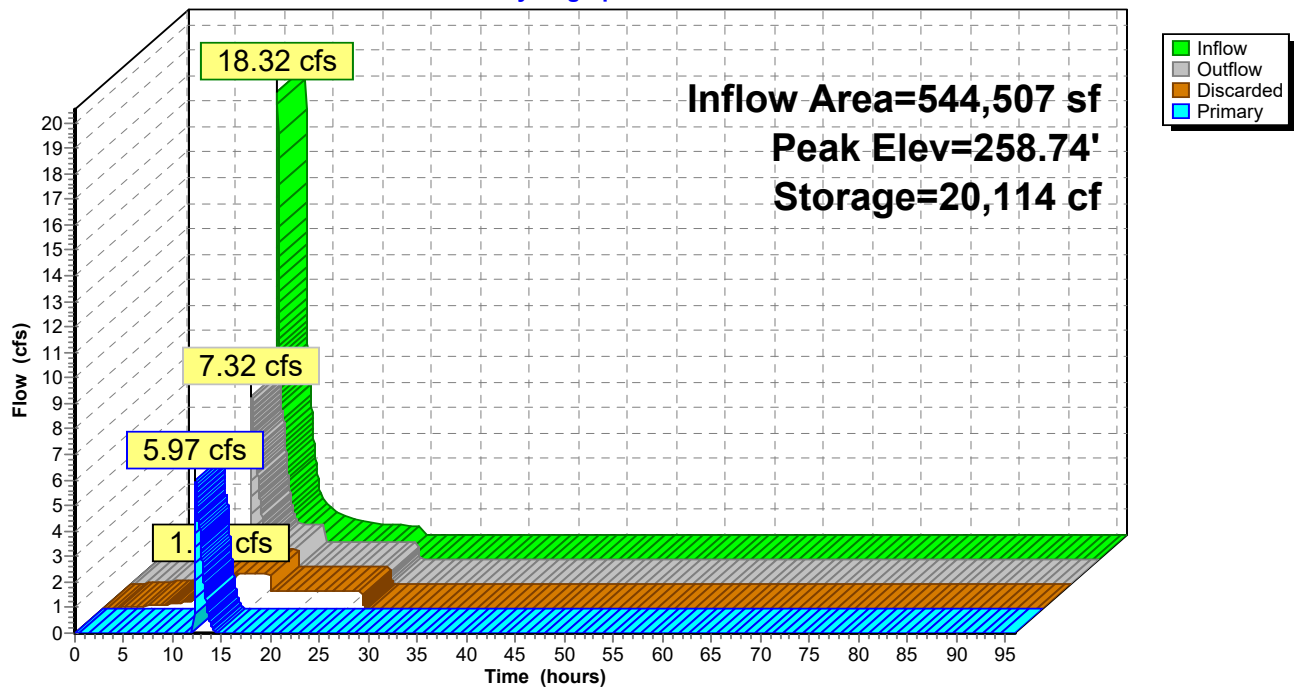
Pond 15P: INF-B

Hydrograph



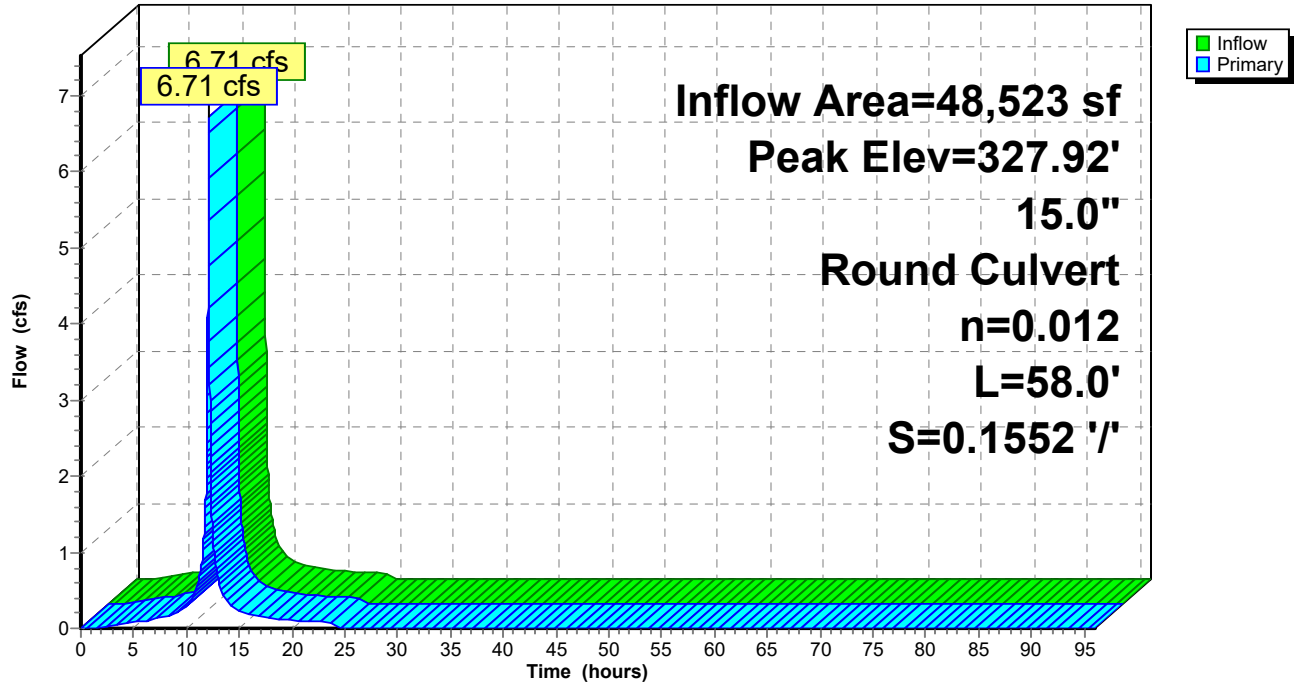
Pond 16P: INF-A

Hydrograph



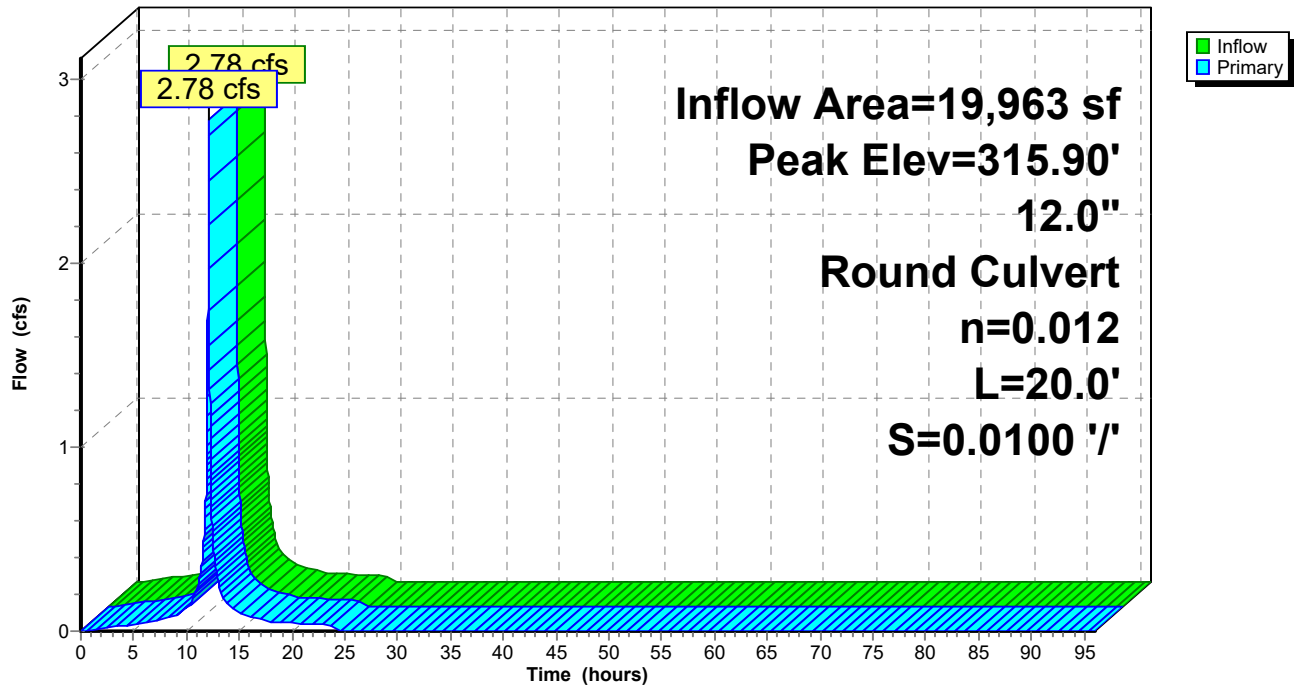
Pond 17P: CB A1

Hydrograph



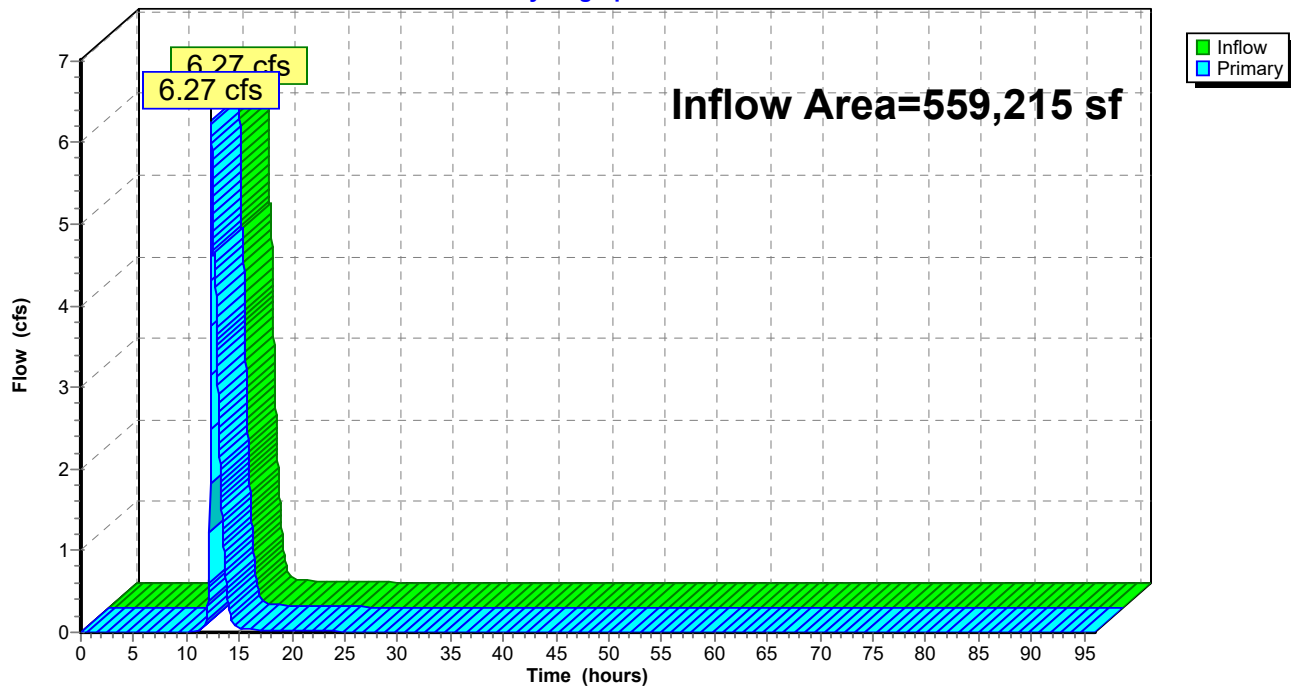
Pond 18P: CB 10

Hydrograph



Link 3L: Rt. 32 Culvert

Hydrograph



2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 50-yr Rainfall=6.92"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: Subcat 1	Runoff Area=46,057 sf 9.58% Impervious Runoff Depth=2.84" Tc=10.0 min UI Adjusted CN=63 Runoff=3.01 cfs 10,905 cf
Subcatchment 2: Subcat 2	Runoff Area=0.097 ac 83.65% Impervious Runoff Depth=5.98" Tc=5.0 min CN=92 Runoff=0.64 cfs 2,108 cf
Subcatchment 3: Subcat 3	Runoff Area=33,237 sf 65.92% Impervious Runoff Depth=5.18" Tc=5.0 min CN=85 Runoff=4.61 cfs 14,337 cf
Subcatchment 4: Subcat 4	Runoff Area=0.463 ac 2.77% Impervious Runoff Depth=2.74" Flow Length=100' Slope=0.1750 '/' Tc=5.8 min CN=62 Runoff=1.50 cfs 4,614 cf
Subcatchment 4.1: Subcat 4.1	Runoff Area=40,594 sf 1.66% Impervious Runoff Depth=2.74" Tc=5.0 min CN=62 Runoff=3.13 cfs 9,277 cf
Subcatchment 6: Subcat 6	Runoff Area=13,786 sf 100.00% Impervious Runoff Depth=6.68" Tc=5.0 min CN=98 Runoff=2.17 cfs 7,675 cf
Subcatchment 10: Subcat 10	Runoff Area=48,523 sf 94.79% Impervious Runoff Depth=6.44" Tc=5.0 min CN=96 Runoff=7.58 cfs 26,057 cf
Subcatchment 11: Subcat 11	Runoff Area=60,665 sf 52.99% Impervious Runoff Depth=5.18" Flow Length=237' Tc=17.3 min CN=85 Runoff=5.67 cfs 26,168 cf
Subcatchment 11.1: Subcat 11.1	Runoff Area=19,963 sf 98.49% Impervious Runoff Depth=6.56" Tc=5.0 min CN=97 Runoff=3.13 cfs 10,917 cf
Subcatchment 11.2: Subcat 11.2	Runoff Area=11,909 sf 96.82% Impervious Runoff Depth=6.56" Tc=5.0 min CN=97 Runoff=1.87 cfs 6,512 cf
Subcatchment 12: Subcat 12	Runoff Area=30,100 sf 48.89% Impervious Runoff Depth=4.51" Tc=5.0 min CN=79 Runoff=3.75 cfs 11,316 cf
Subcatchment 13: Subcat 13	Runoff Area=109,465 sf 0.02% Impervious Runoff Depth=2.94" Flow Length=653' Tc=23.8 min CN=64 Runoff=5.10 cfs 26,825 cf
Subcatchment 14: Subcat 14	Runoff Area=13,783 sf 99.97% Impervious Runoff Depth=6.68" Tc=5.0 min CN=98 Runoff=2.17 cfs 7,673 cf
Subcatchment 15: Subcat 15	Runoff Area=13,783 sf 99.98% Impervious Runoff Depth=6.68" Tc=5.0 min CN=98 Runoff=2.17 cfs 7,674 cf
Subcatchment 16: Subcat 16	Runoff Area=13,792 sf 99.99% Impervious Runoff Depth=6.68" Tc=5.0 min CN=98 Runoff=2.17 cfs 7,679 cf
Subcatchment 17: Subcat 17	Runoff Area=6,828 sf 8.53% Impervious Runoff Depth=2.94" Tc=5.0 min CN=64 Runoff=0.57 cfs 1,673 cf

2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 50-yr Rainfall=6.92"

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Subcatchment 18: Subcat 18	Runoff Area=6,372 sf 7.75% Impervious Runoff Depth=2.94" Tc=5.0 min CN=64 Runoff=0.53 cfs 1,561 cf
Subcatchment 19: Subcat 19	Runoff Area=5,807 sf 0.00% Impervious Runoff Depth=2.07" Flow Length=335' Tc=13.6 min CN=55 Runoff=0.23 cfs 1,003 cf
Subcatchment 21: Subcat 21	Runoff Area=8,901 sf 3.88% Impervious Runoff Depth=2.84" Tc=5.0 min CN=63 Runoff=0.71 cfs 2,107 cf
Subcatchment 22: Subcat 22	Runoff Area=51,226 sf 0.04% Impervious Runoff Depth=2.07" Flow Length=458' Tc=17.9 min CN=55 Runoff=1.81 cfs 8,850 cf
Reach 5R: swale	Avg. Flow Depth=0.31' Max Vel=4.27 fps Inflow=1.50 cfs 4,614 cf n=0.030 L=324.0' S=0.0926 ' Capacity=65.17 cfs Outflow=1.47 cfs 4,614 cf
Reach 6R: swale	Avg. Flow Depth=0.41' Max Vel=5.31 fps Inflow=3.13 cfs 9,277 cf n=0.030 L=393.0' S=0.1018 ' Capacity=68.33 cfs Outflow=3.05 cfs 9,277 cf
Reach 23R: swale	Avg. Flow Depth=0.53' Max Vel=5.01 fps Inflow=5.80 cfs 26,329 cf n=0.030 L=353.0' S=0.0630 ' Capacity=37.04 cfs Outflow=5.74 cfs 26,329 cf
Pond 6P: Infiltration Basin	Peak Elev=314.77' Storage=5,294 cf Inflow=5.10 cfs 26,825 cf Discarded=0.65 cfs 20,251 cf Primary=3.62 cfs 6,574 cf Outflow=4.27 cfs 26,825 cf
Pond 7P: CB B2	Peak Elev=266.49' Inflow=15.60 cfs 52,887 cf 15.0" Round Culvert n=0.012 L=62.0' S=0.0100 ' Outflow=15.60 cfs 52,887 cf
Pond 8P: CB B1	Peak Elev=260.87' Inflow=18.35 cfs 62,164 cf 24.0" Round Culvert n=0.012 L=14.0' S=0.0129 ' Outflow=18.35 cfs 62,164 cf
Pond 9P: CB B8	Peak Elev=264.26' Inflow=5.74 cfs 26,329 cf 18.0" Round Culvert n=0.012 L=6.0' S=0.5667 ' Outflow=5.74 cfs 26,329 cf
Pond 12P: CB A5.1	Peak Elev=325.88' Inflow=3.75 cfs 11,316 cf 12.0" Round Culvert n=0.012 L=92.0' S=0.0353 ' Outflow=3.75 cfs 11,316 cf
Pond 13P: CB A5	Peak Elev=320.70' Inflow=7.76 cfs 37,483 cf 15.0" Round Culvert n=0.012 L=24.0' S=0.1563 ' Outflow=7.76 cfs 37,483 cf
Pond 14P: CB A9	Peak Elev=312.85' Inflow=1.87 cfs 6,512 cf 12.0" Round Culvert n=0.012 L=144.0' S=0.0150 ' Outflow=1.87 cfs 6,512 cf
Pond 15P: INF-B	Peak Elev=314.31' Storage=29,792 cf Inflow=20.18 cfs 80,969 cf Discarded=2.62 cfs 80,969 cf Primary=0.00 cfs 0 cf Outflow=2.62 cfs 80,969 cf
Pond 16P: INF-A	Peak Elev=259.29' Storage=21,431 cf Inflow=21.86 cfs 90,600 cf Discarded=1.34 cfs 62,178 cf Primary=10.81 cfs 28,422 cf Outflow=12.15 cfs 90,600 cf
Pond 17P: CB A1	Peak Elev=328.27' Inflow=7.58 cfs 26,057 cf 15.0" Round Culvert n=0.012 L=58.0' S=0.1552 ' Outflow=7.58 cfs 26,057 cf
Pond 18P: CB 10	Peak Elev=316.04' Inflow=3.13 cfs 10,917 cf 12.0" Round Culvert n=0.012 L=20.0' S=0.0100 ' Outflow=3.13 cfs 10,917 cf

2024-4-30 New Conditions - Rt 32 Culvert*NOAA 24-hr D 50-yr Rainfall=6.92"*

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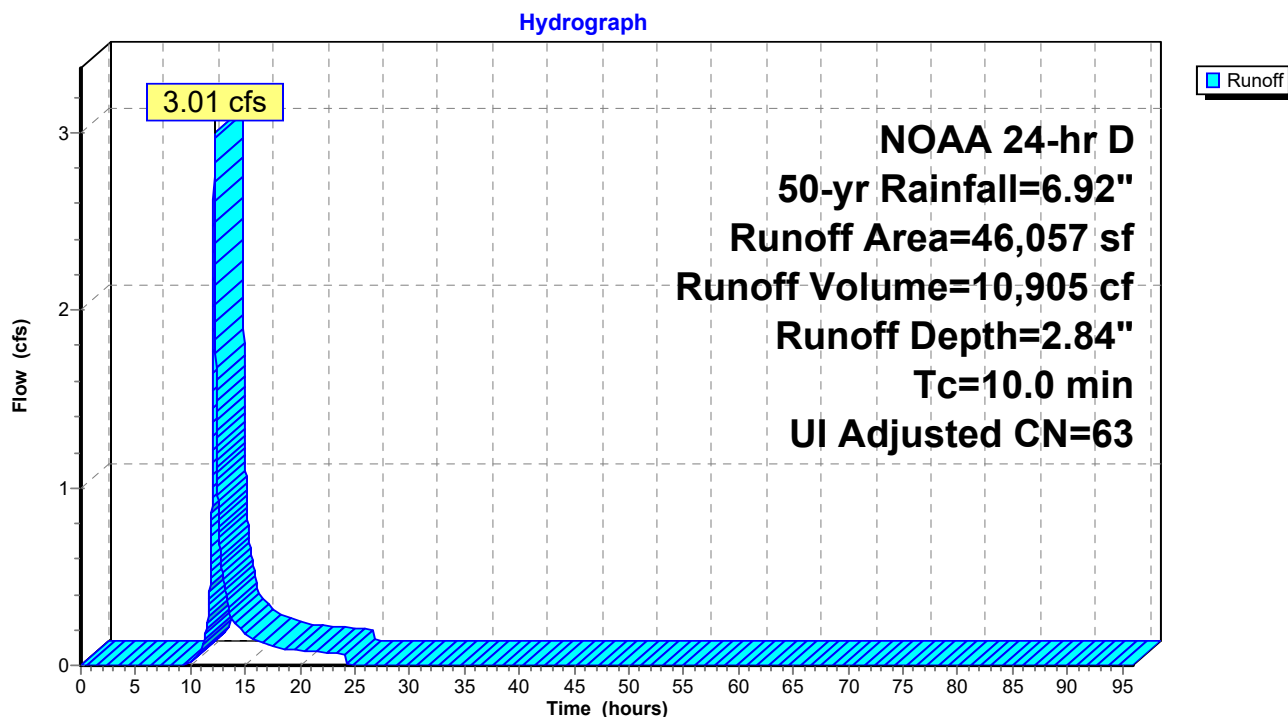
Link 3L: Rt. 32 Culvert

Inflow=11.31 cfs 31,533 cf

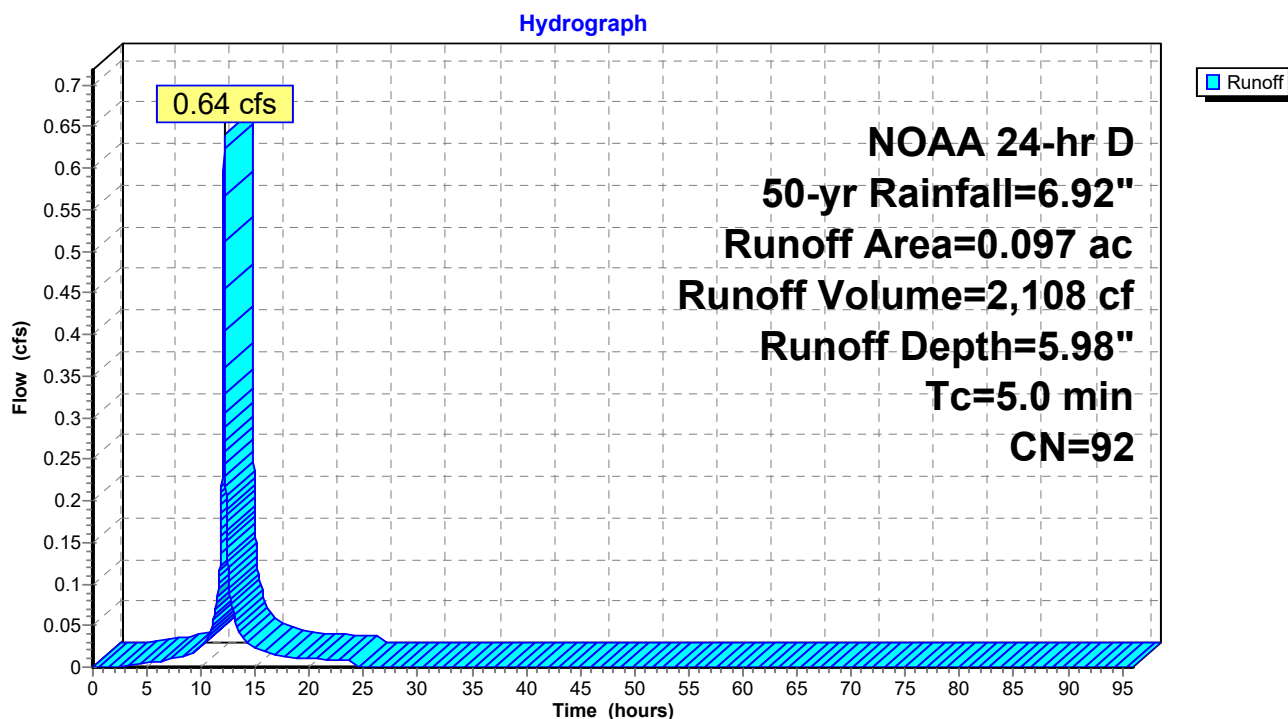
Primary=11.31 cfs 31,533 cf

Total Runoff Area = 559,215 sf Runoff Volume = 194,931 cf Average Runoff Depth = 4.18"
62.14% Pervious = 347,470 sf 37.86% Impervious = 211,744 sf

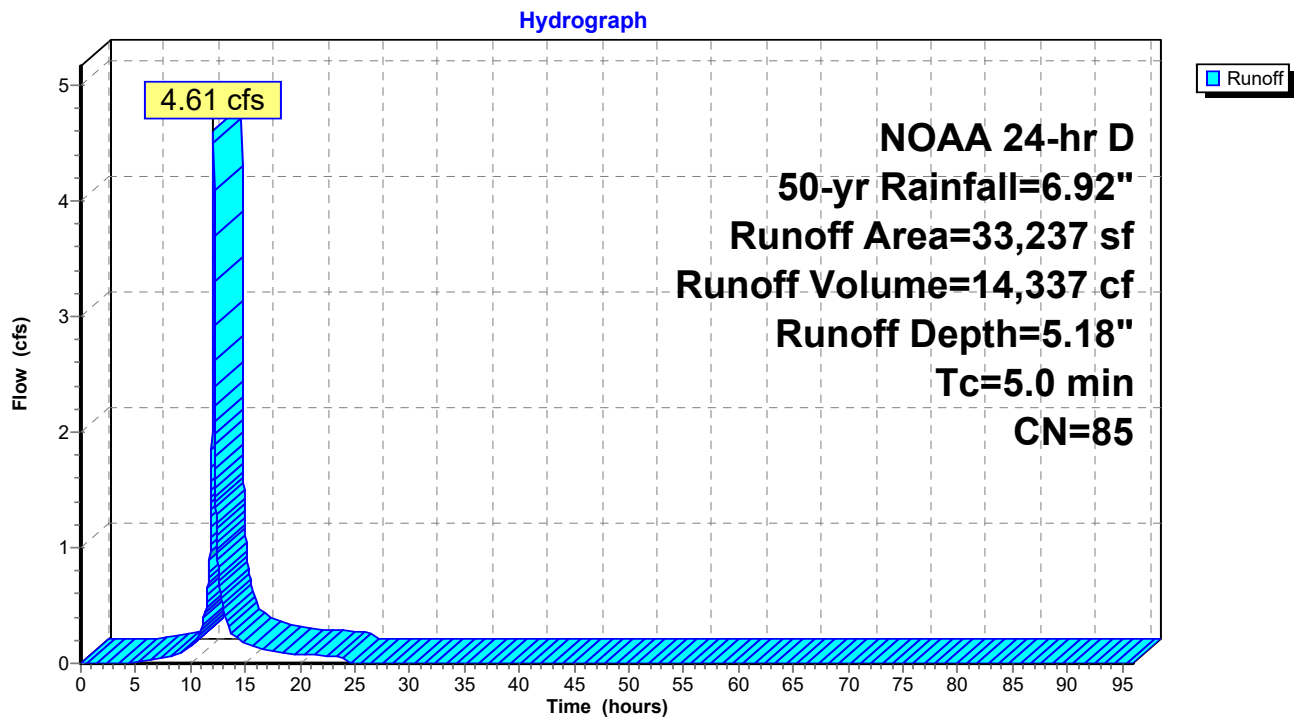
Subcatchment 1: Subcat 1



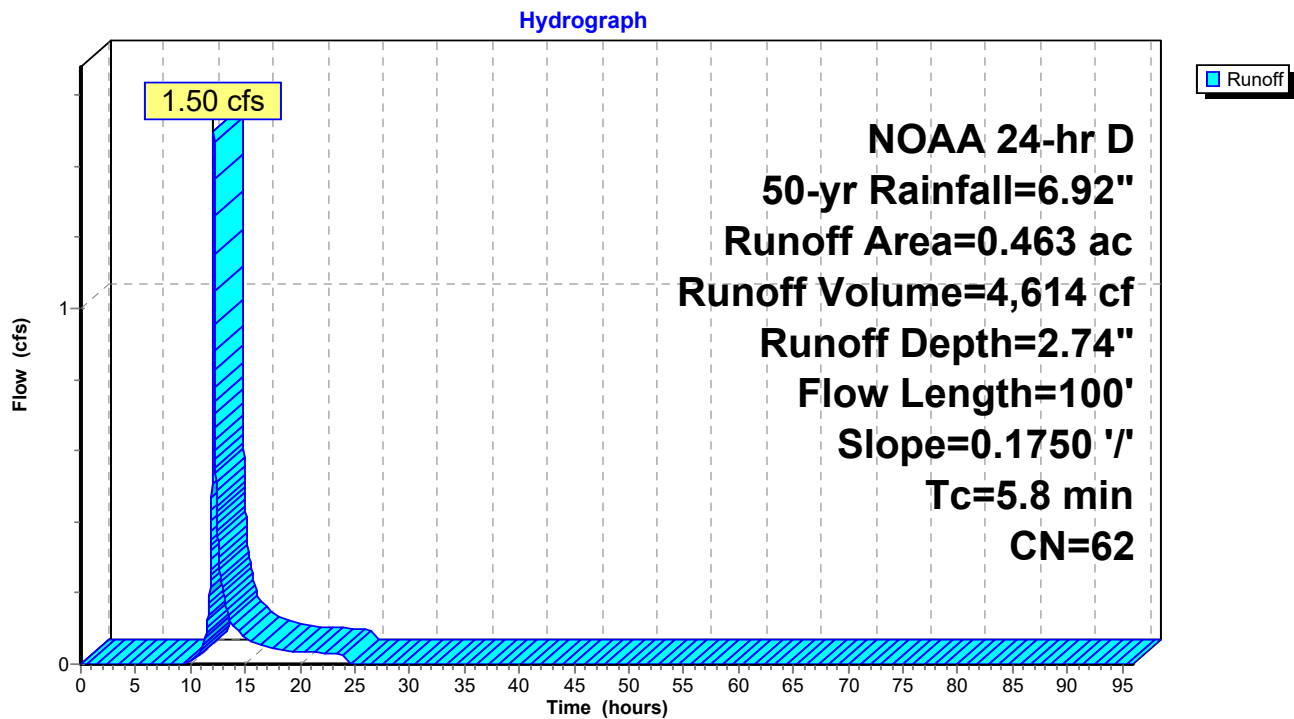
Subcatchment 2: Subcat 2



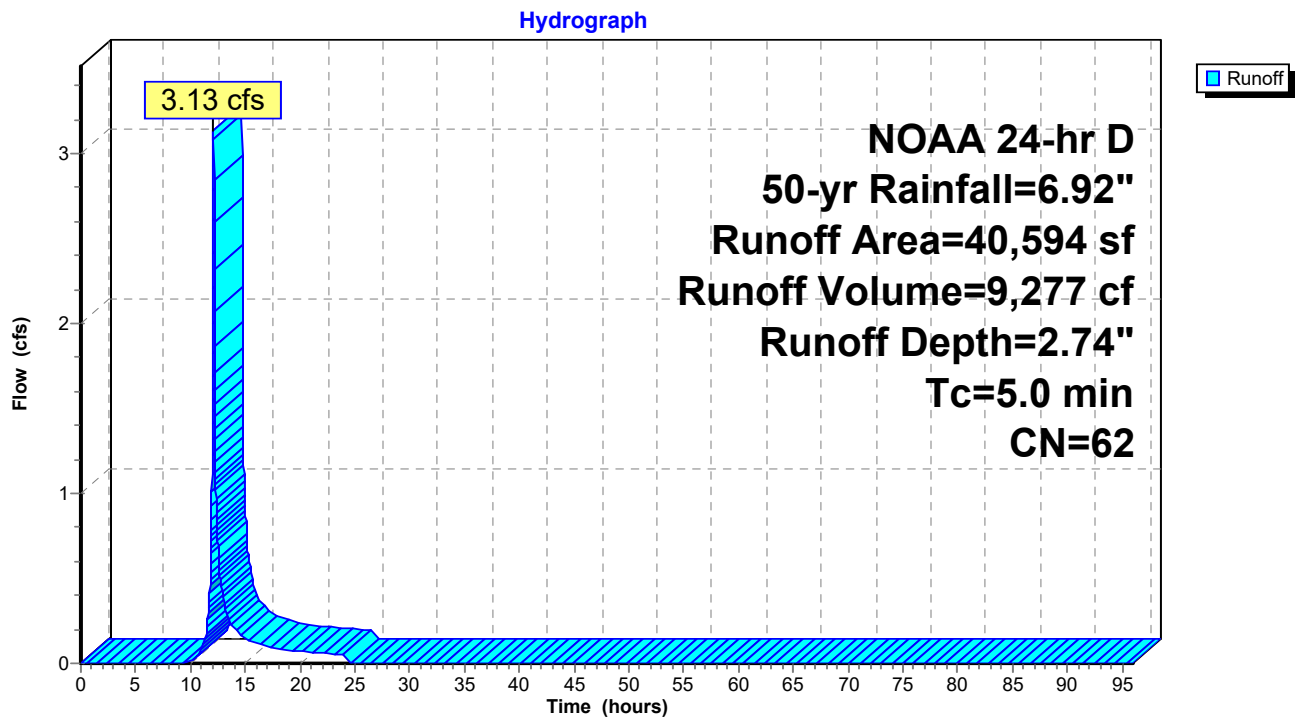
Subcatchment 3: Subcat 3



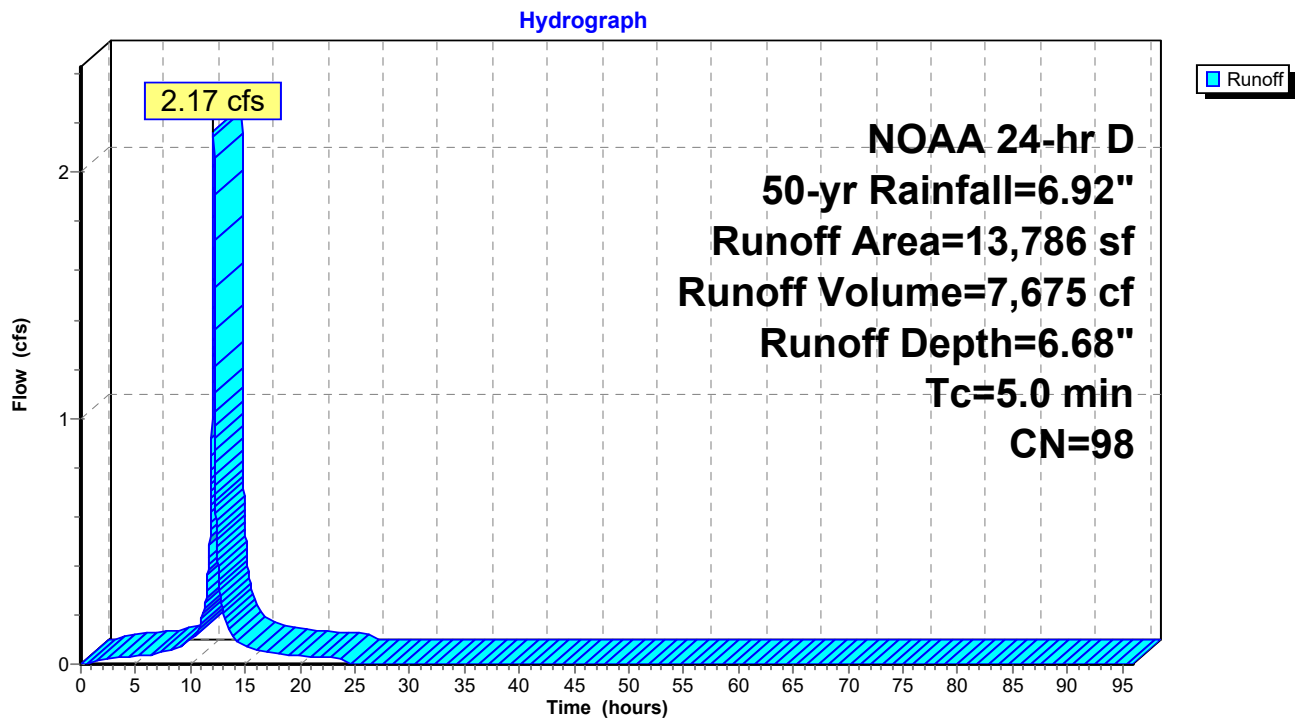
Subcatchment 4: Subcat 4



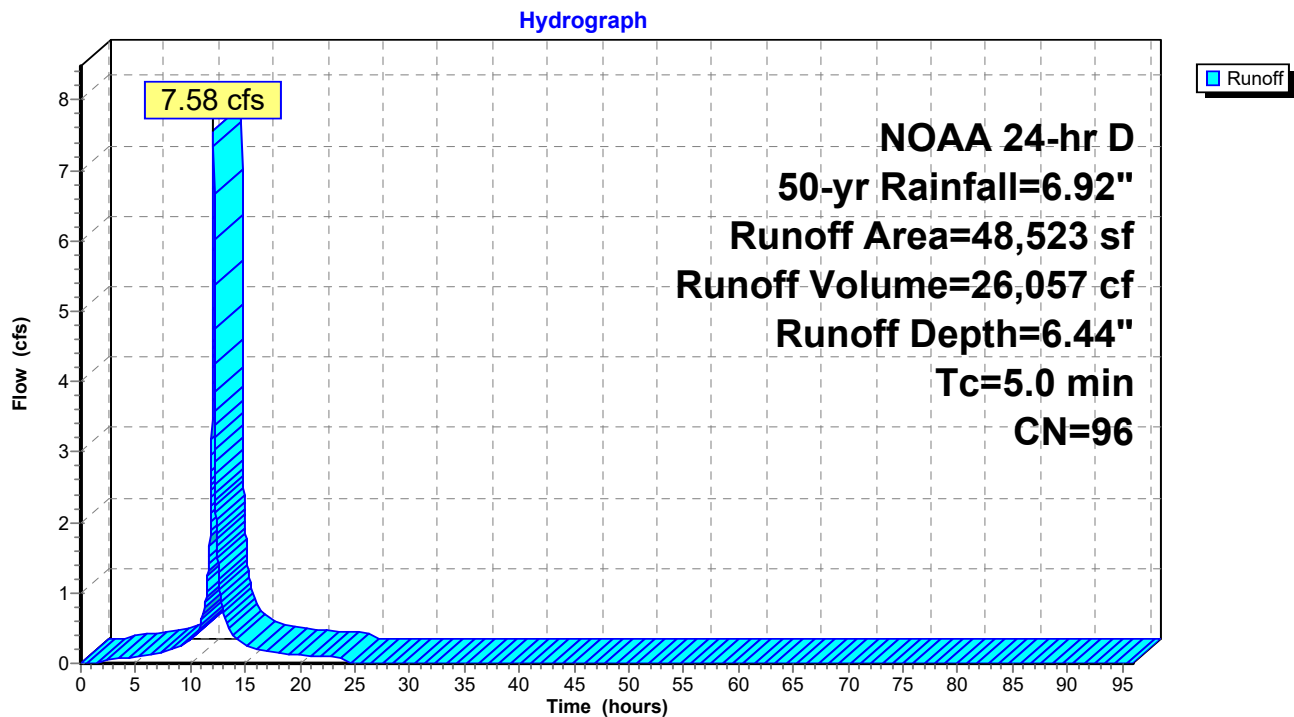
Subcatchment 4.1: Subcat 4.1



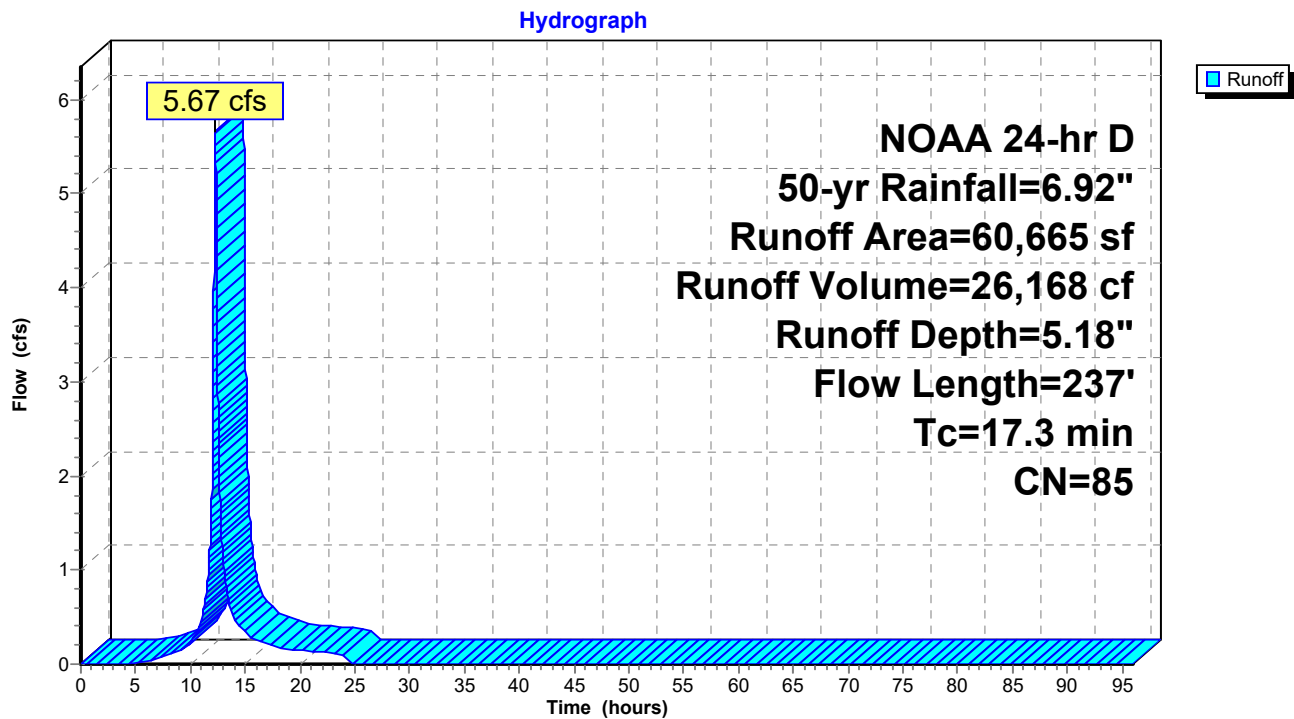
Subcatchment 6: Subcat 6



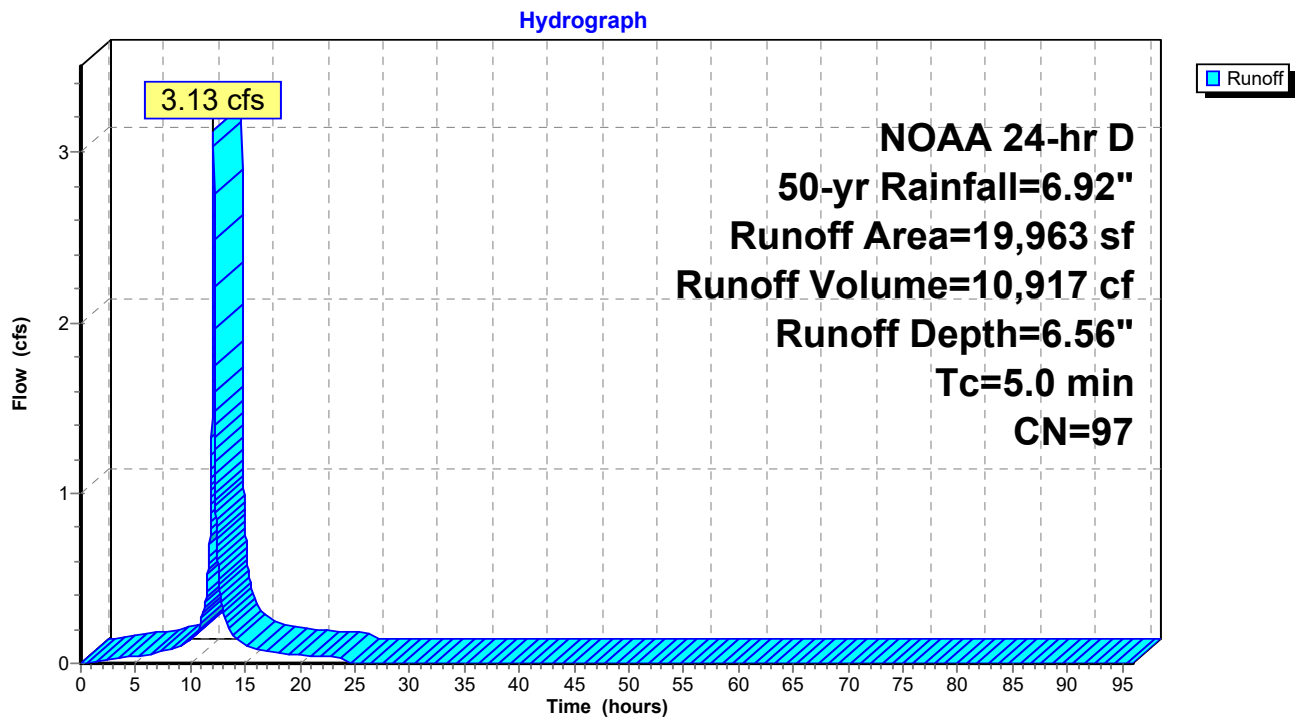
Subcatchment 10: Subcat 10



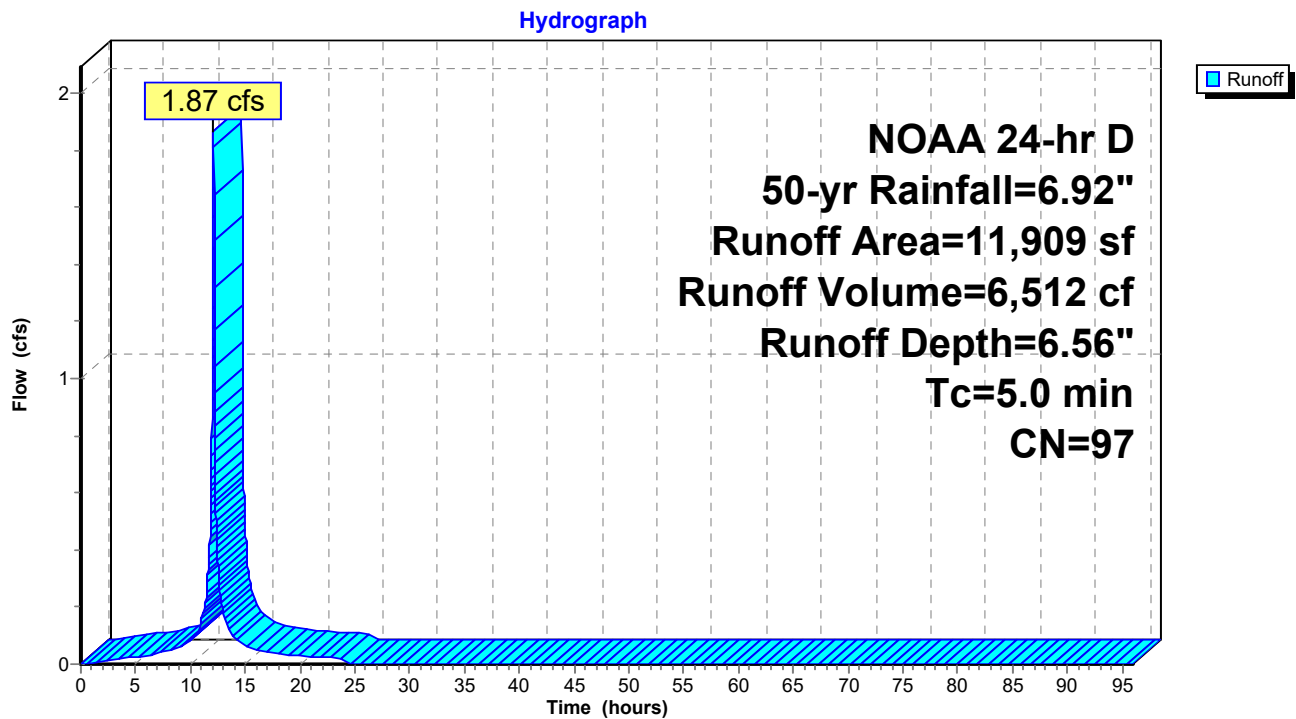
Subcatchment 11: Subcat 11



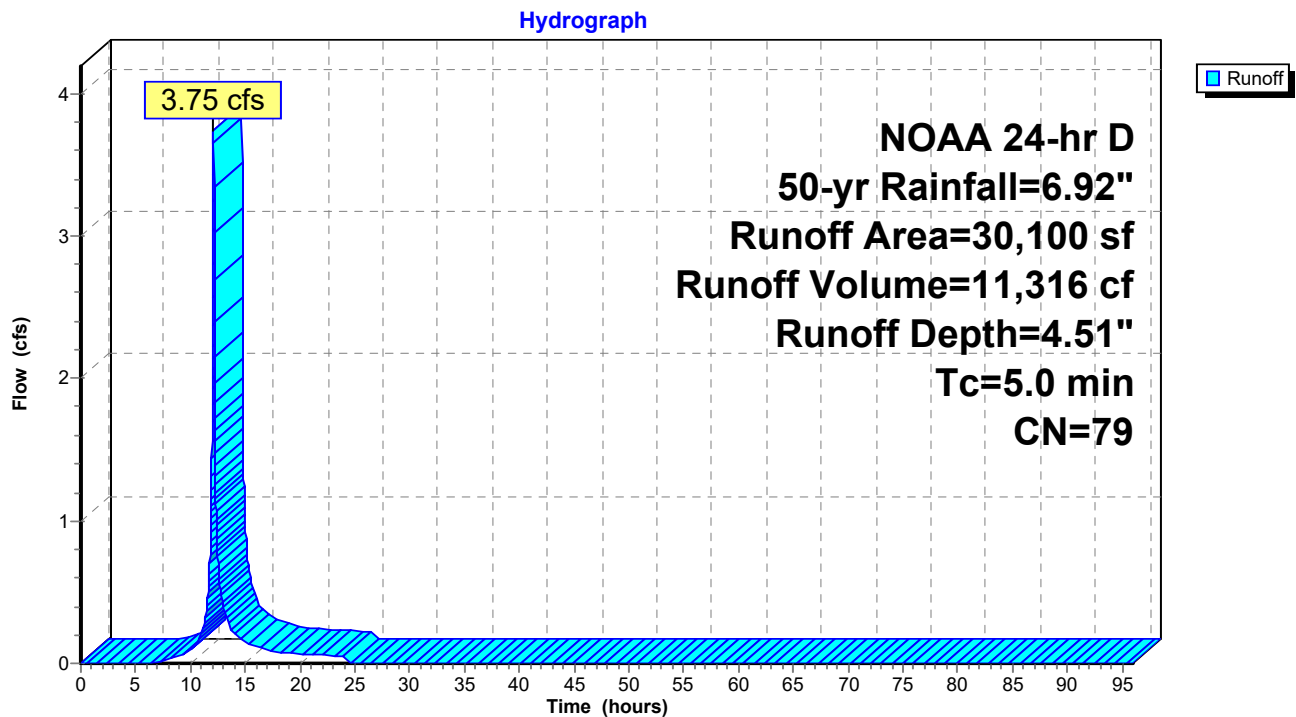
Subcatchment 11.1: Subcat 11.1



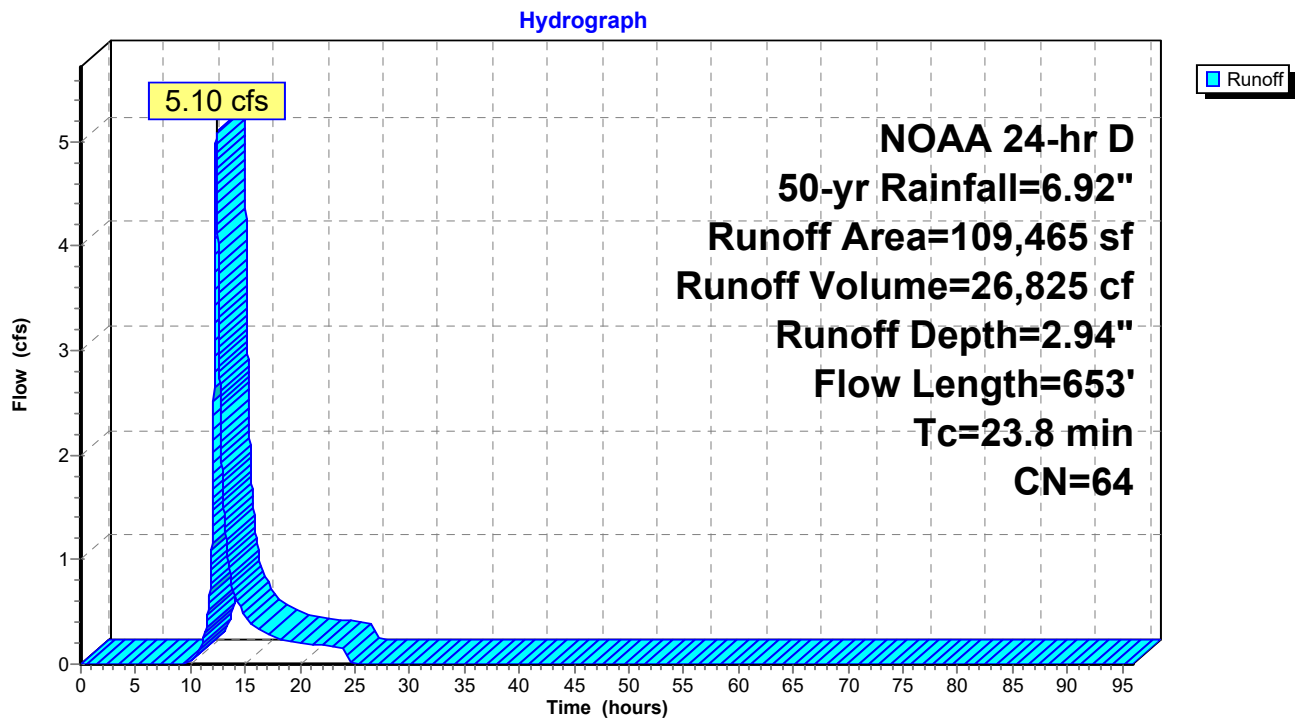
Subcatchment 11.2: Subcat 11.2



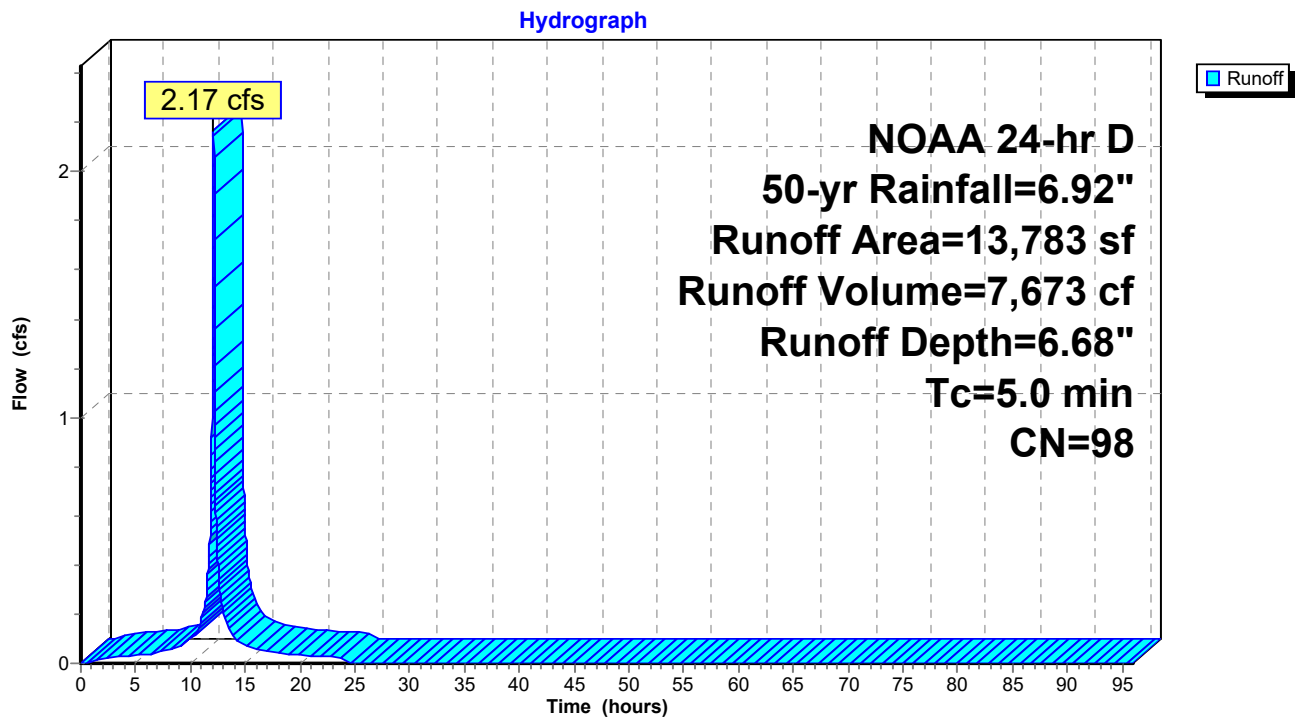
Subcatchment 12: Subcat 12



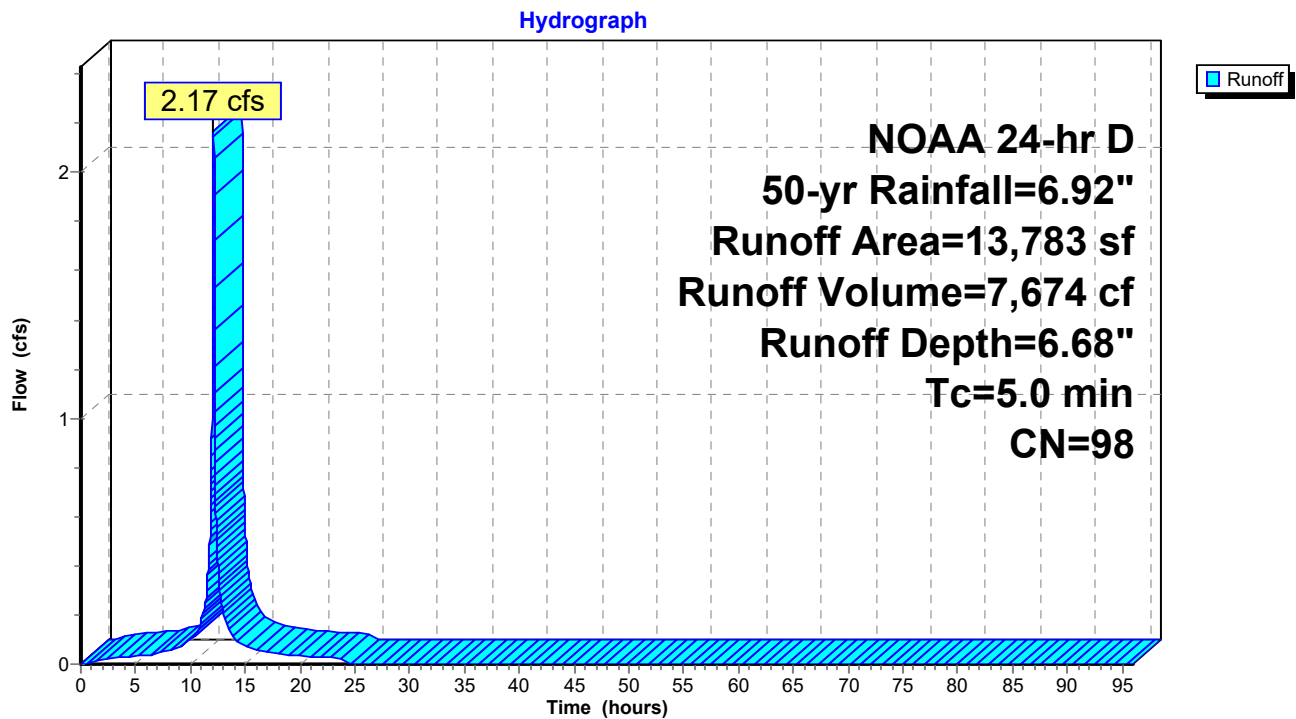
Subcatchment 13: Subcat 13



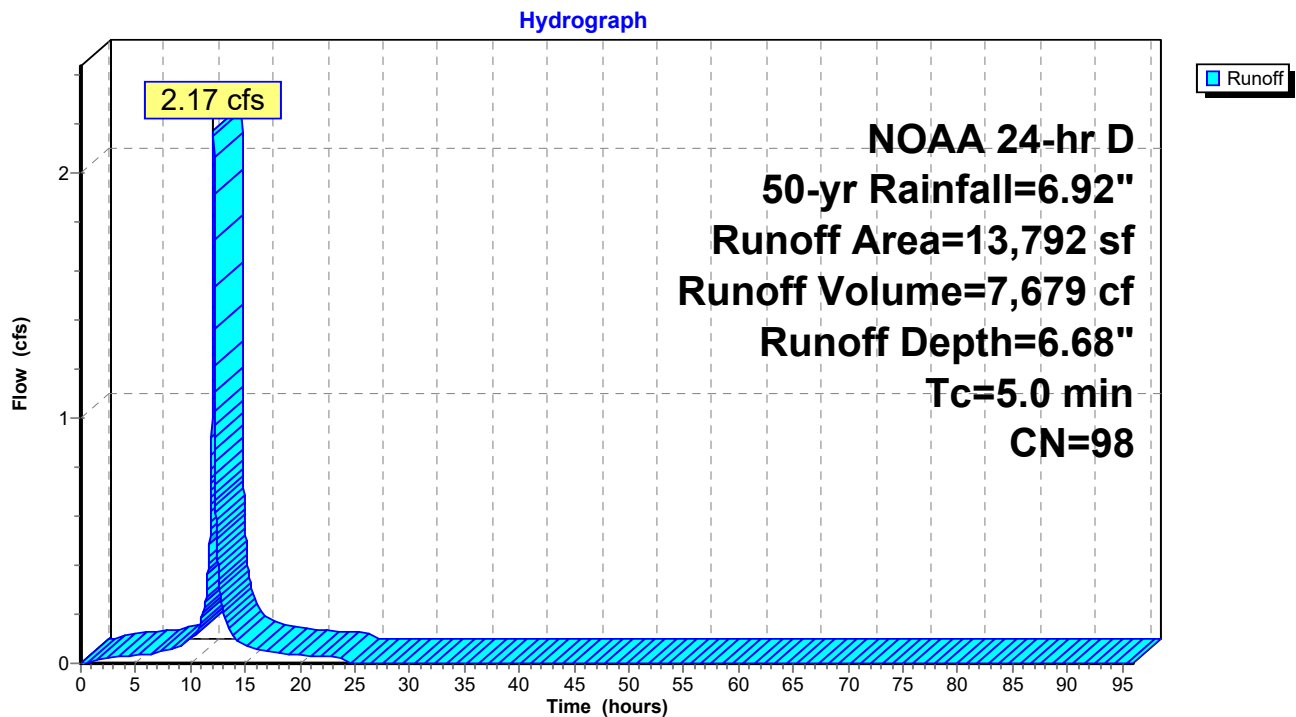
Subcatchment 14: Subcat 14



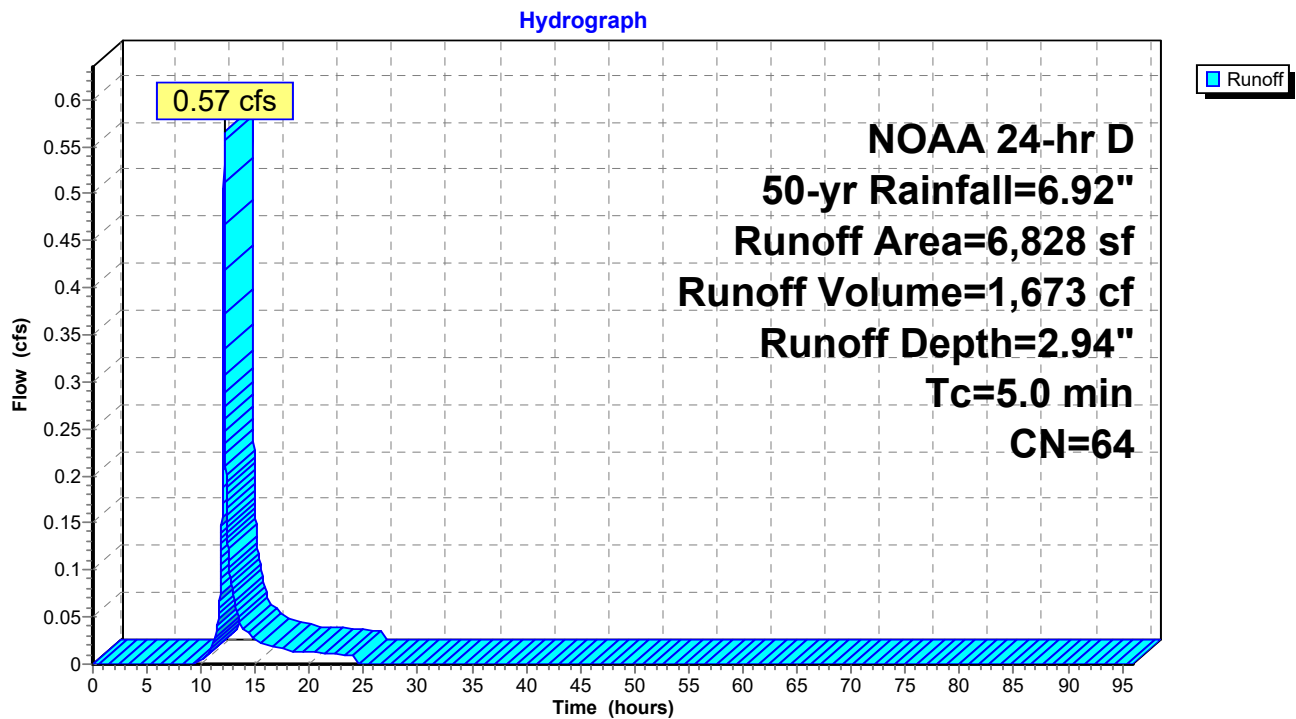
Subcatchment 15: Subcat 15



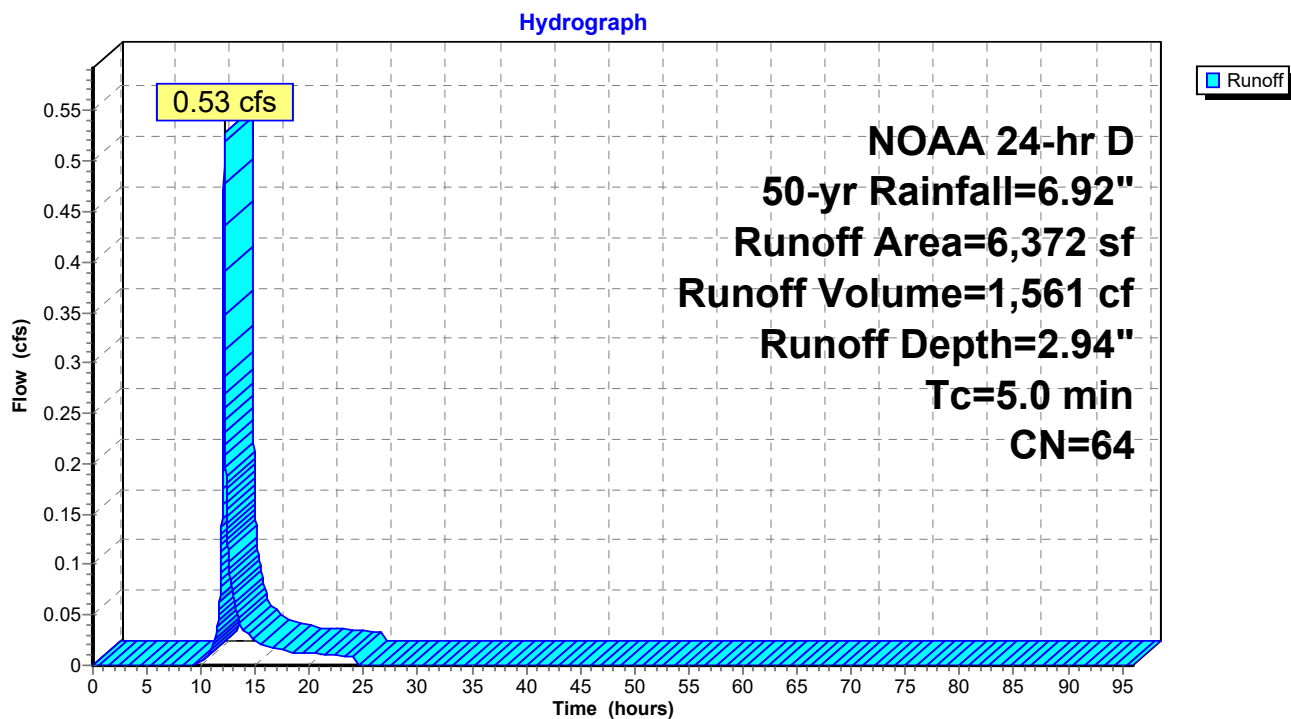
Subcatchment 16: Subcat 16



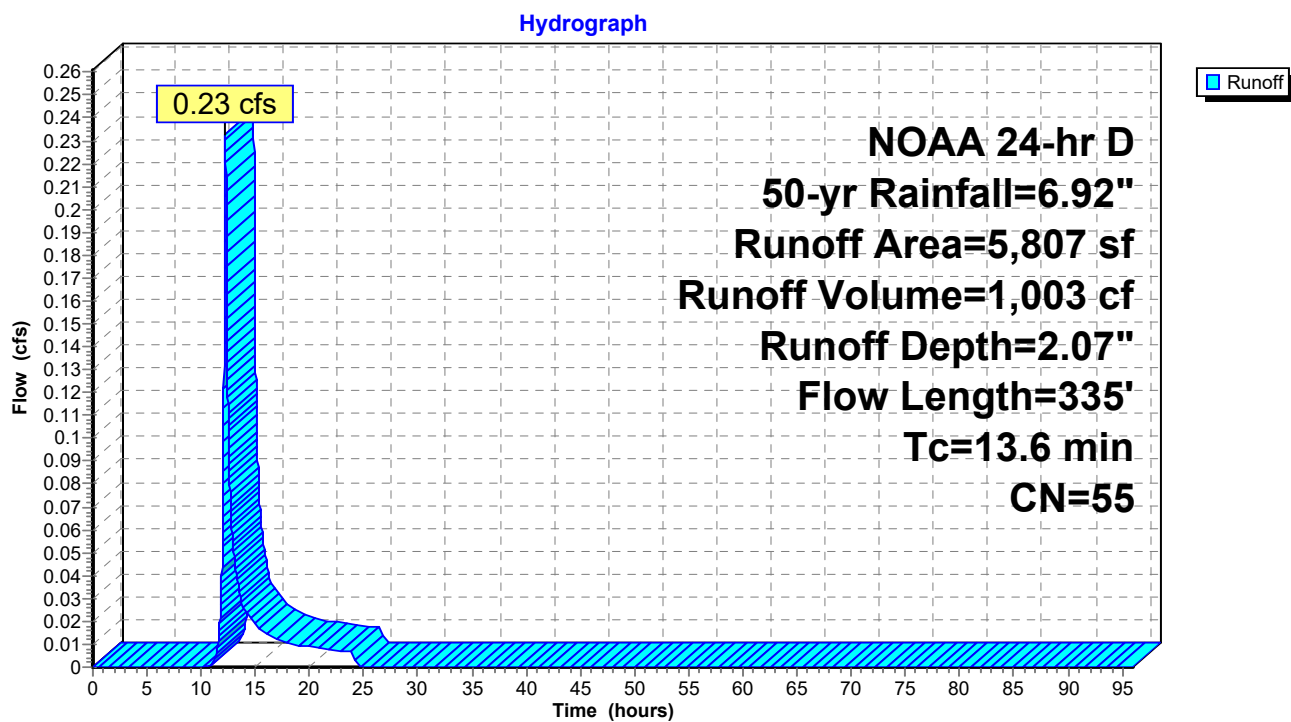
Subcatchment 17: Subcat 17



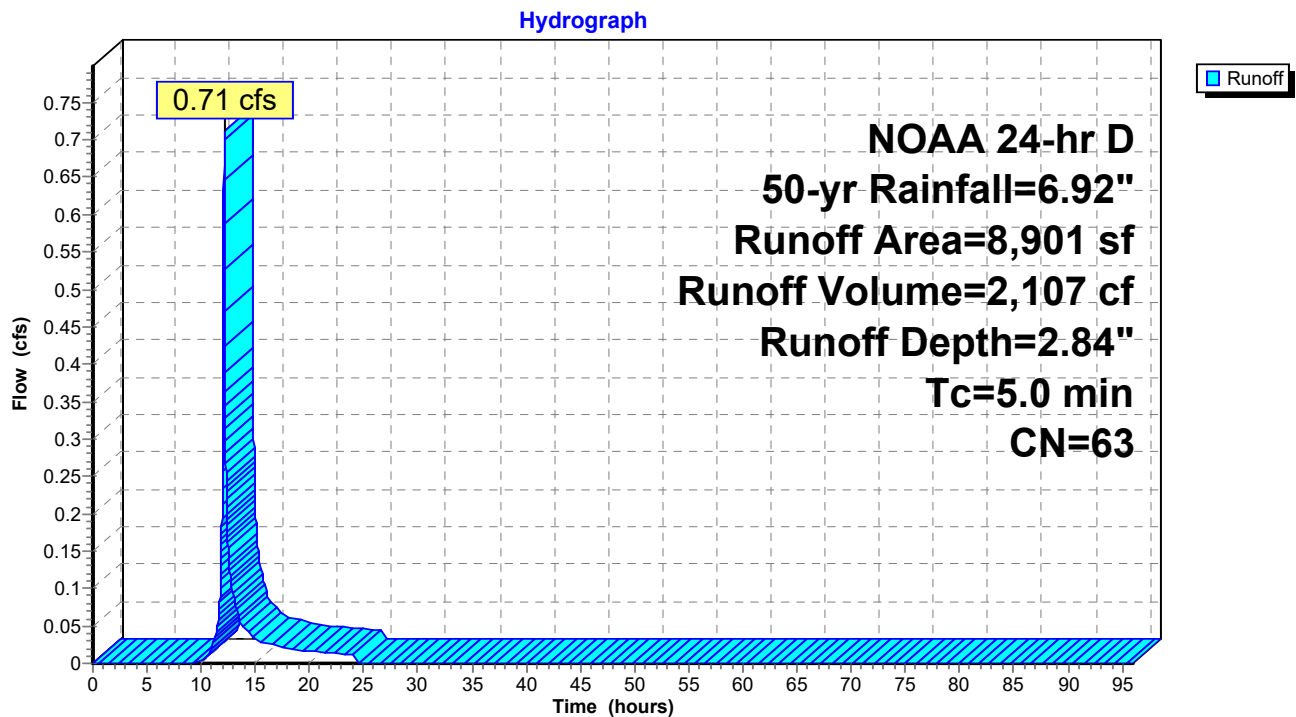
Subcatchment 18: Subcat 18



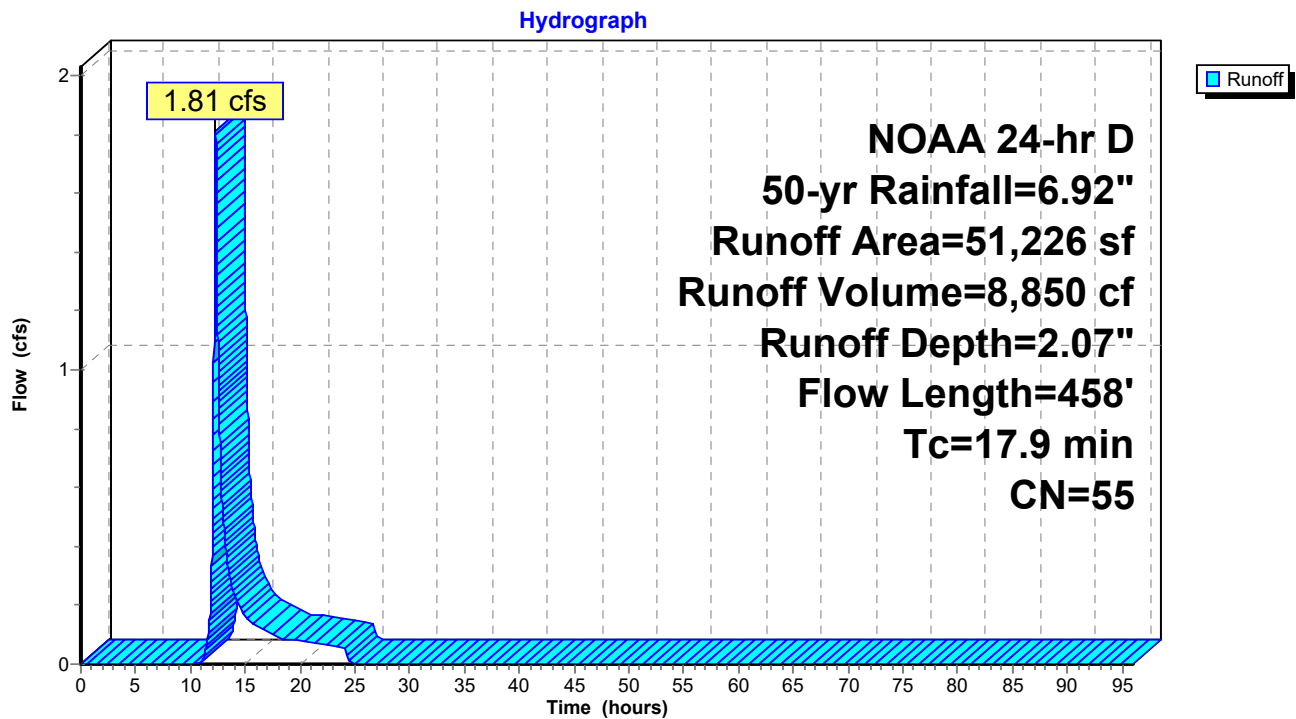
Subcatchment 19: Subcat 19



Subcatchment 21: Subcat 21

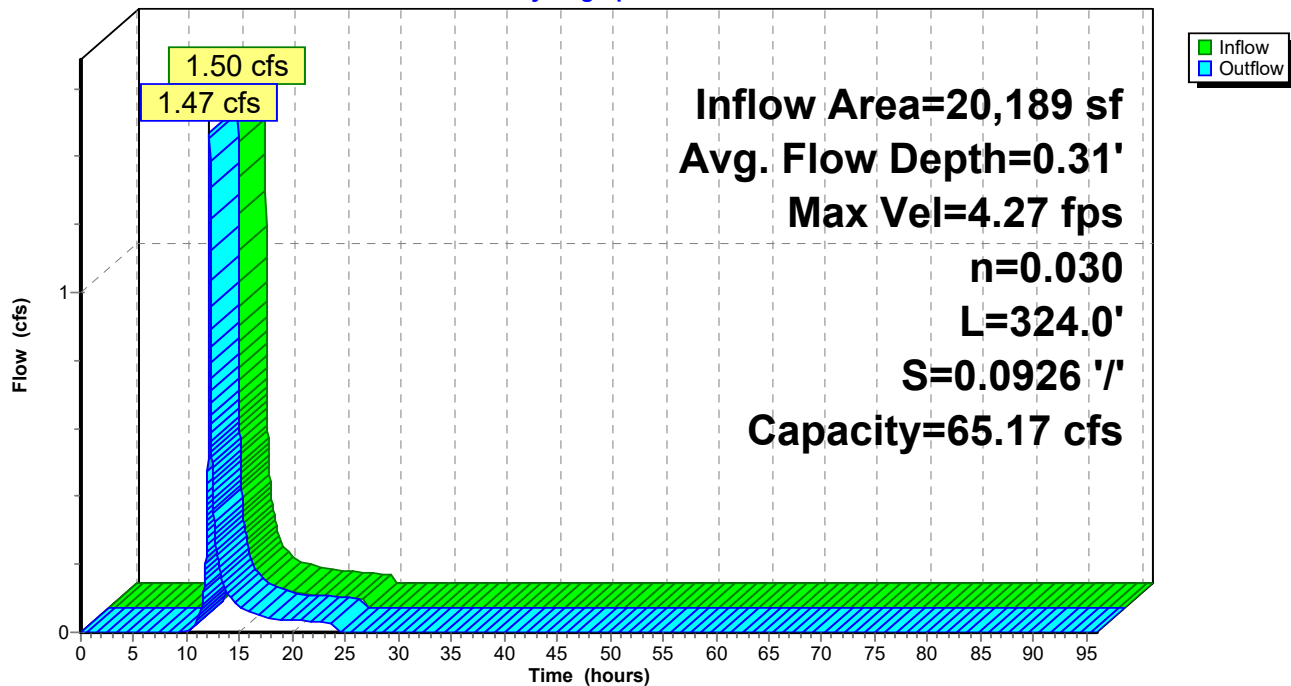


Subcatchment 22: Subcat 22



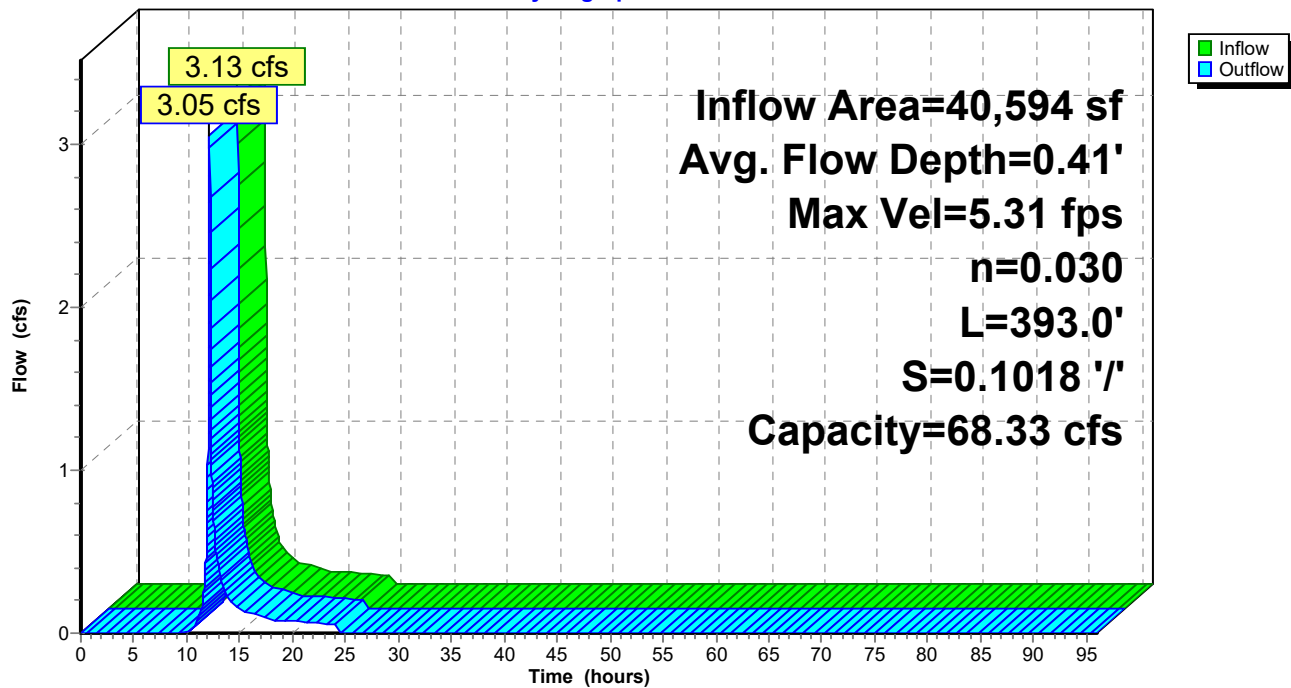
Reach 5R: swale

Hydrograph



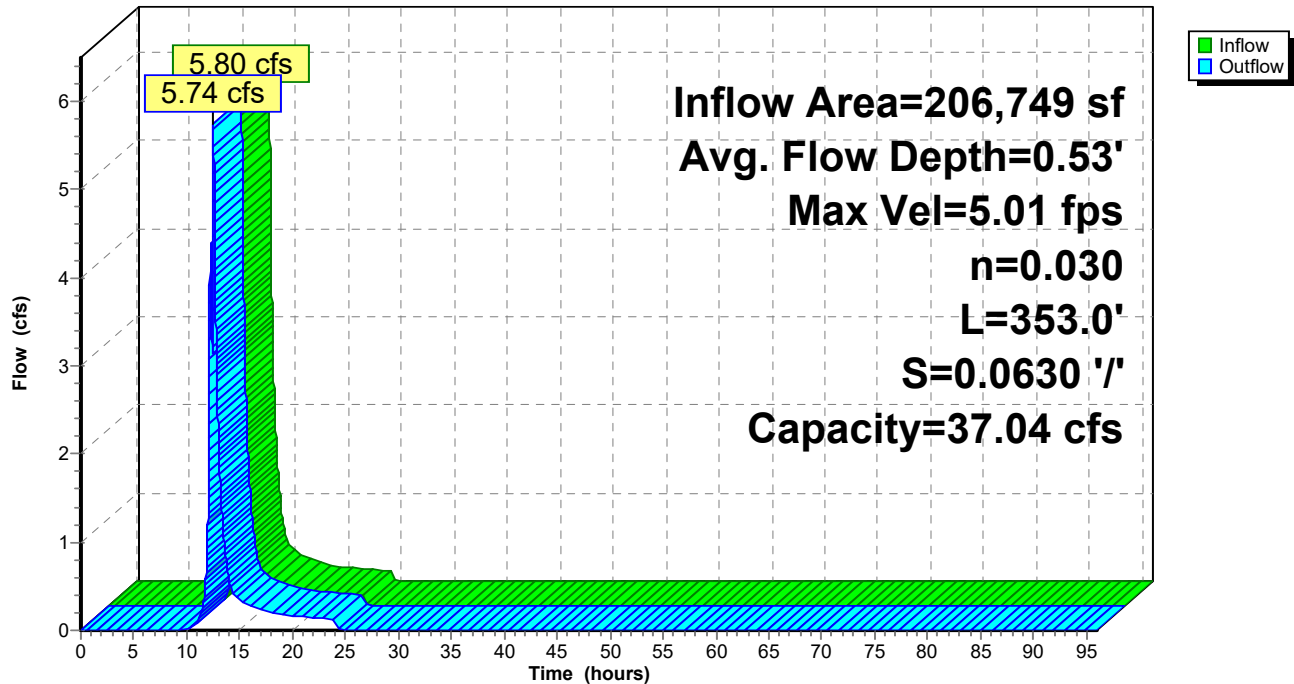
Reach 6R: swale

Hydrograph



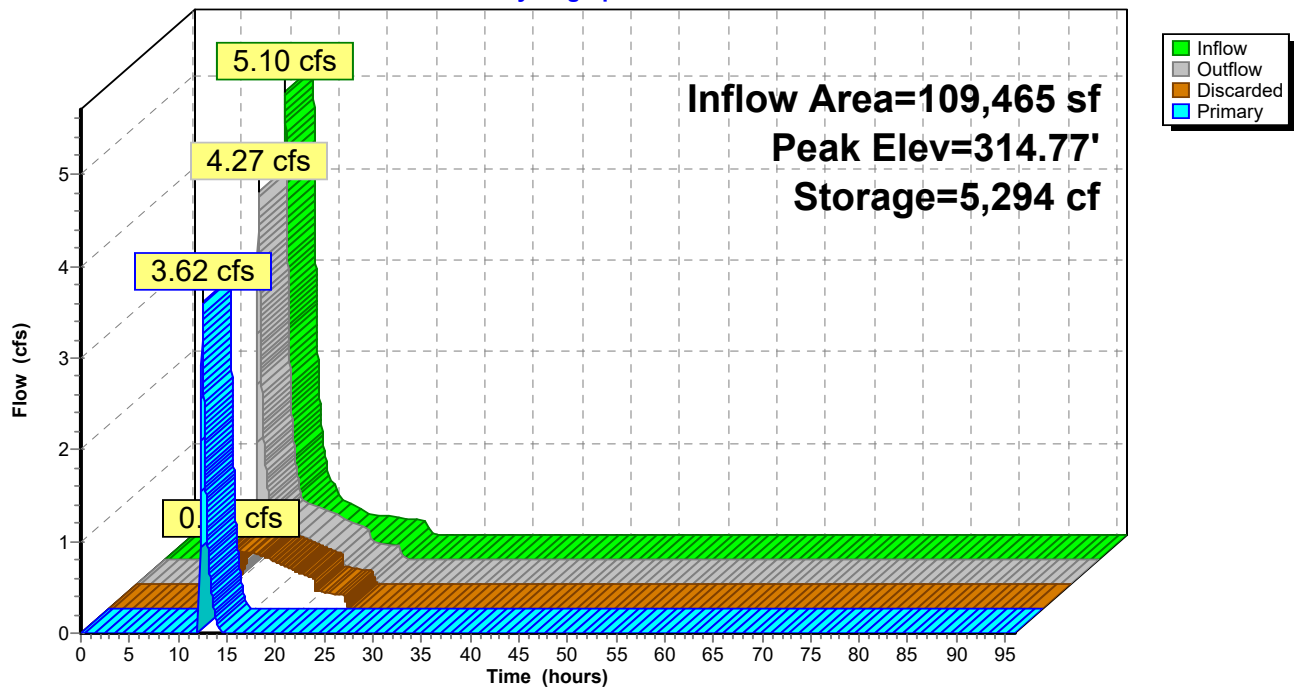
Reach 23R: swale

Hydrograph



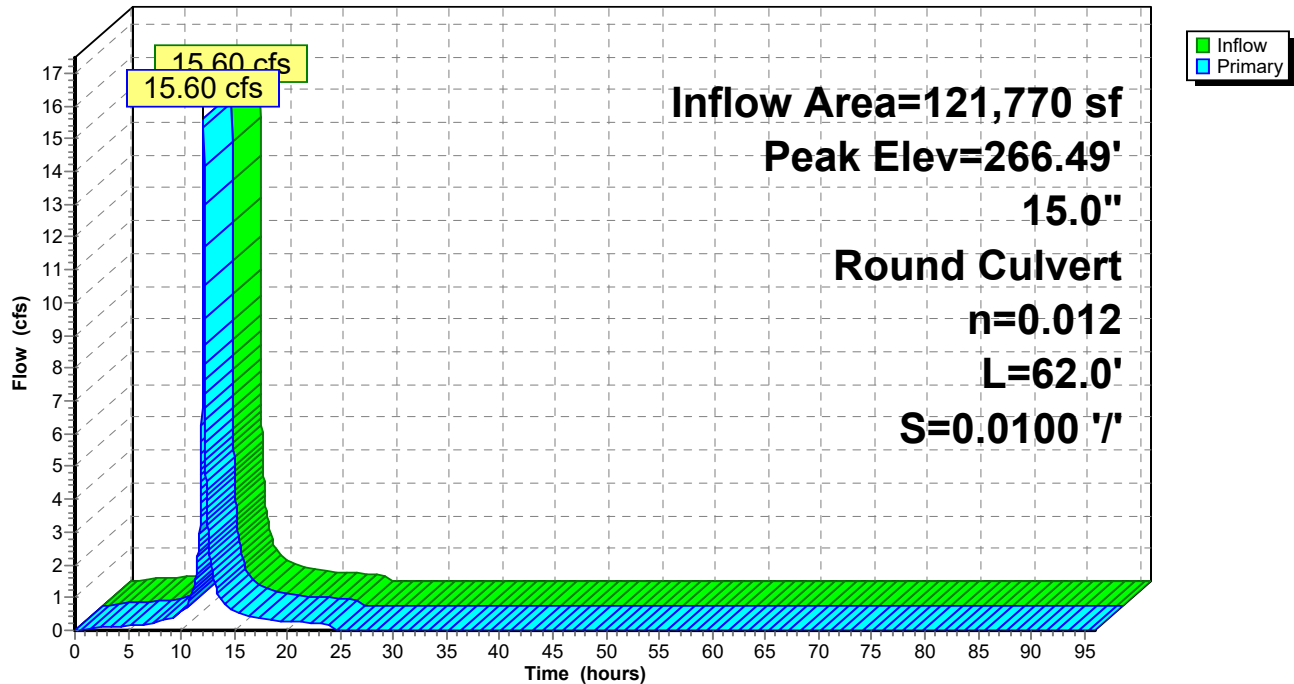
Pond 6P: Infiltration Basin

Hydrograph



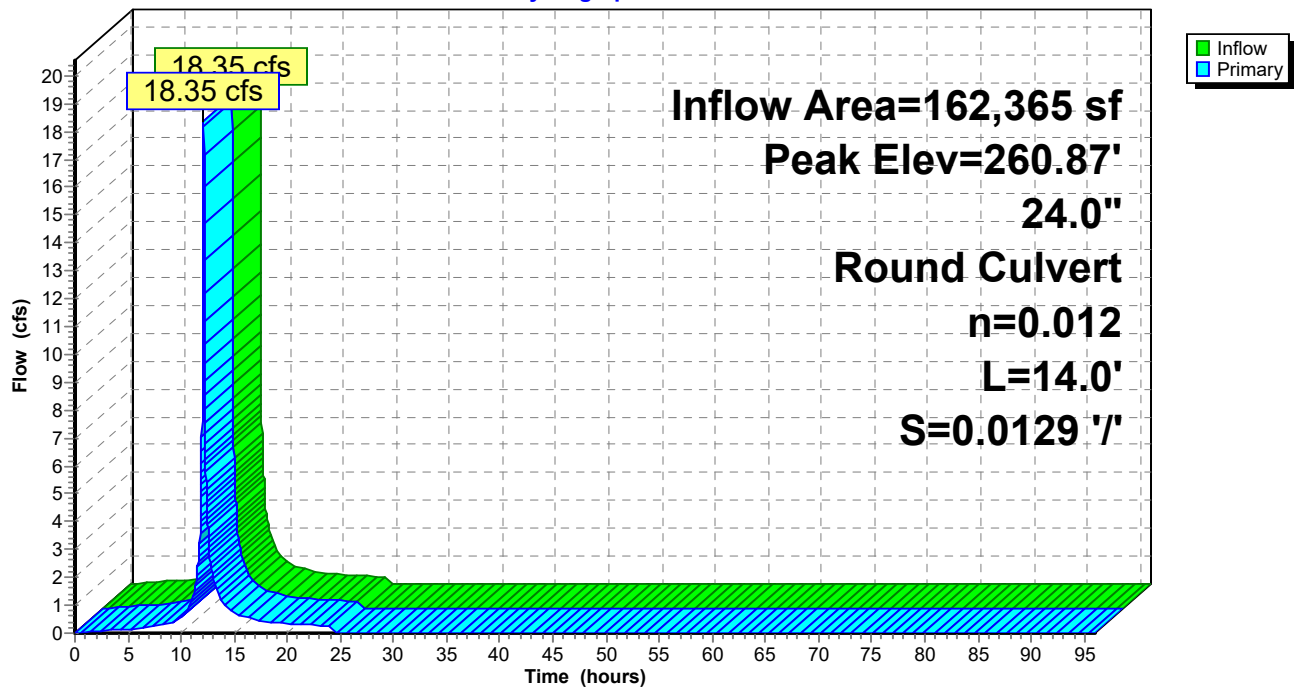
Pond 7P: CB B2

Hydrograph



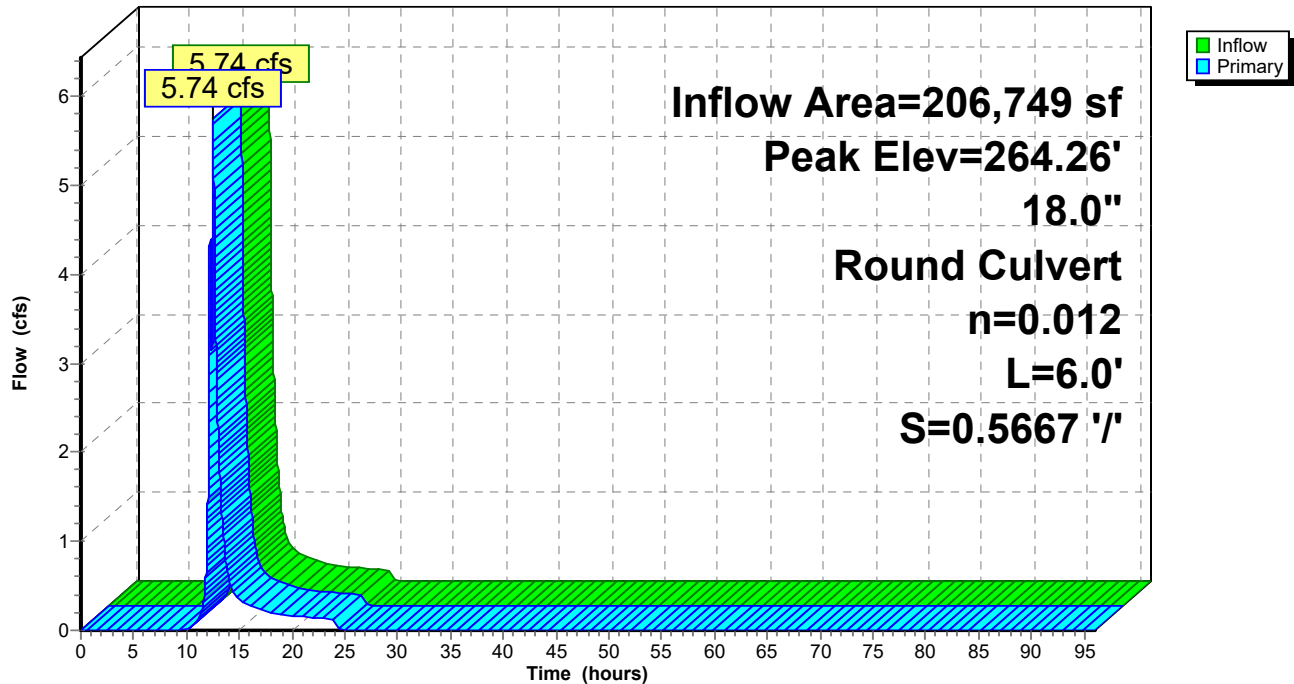
Pond 8P: CB B1

Hydrograph



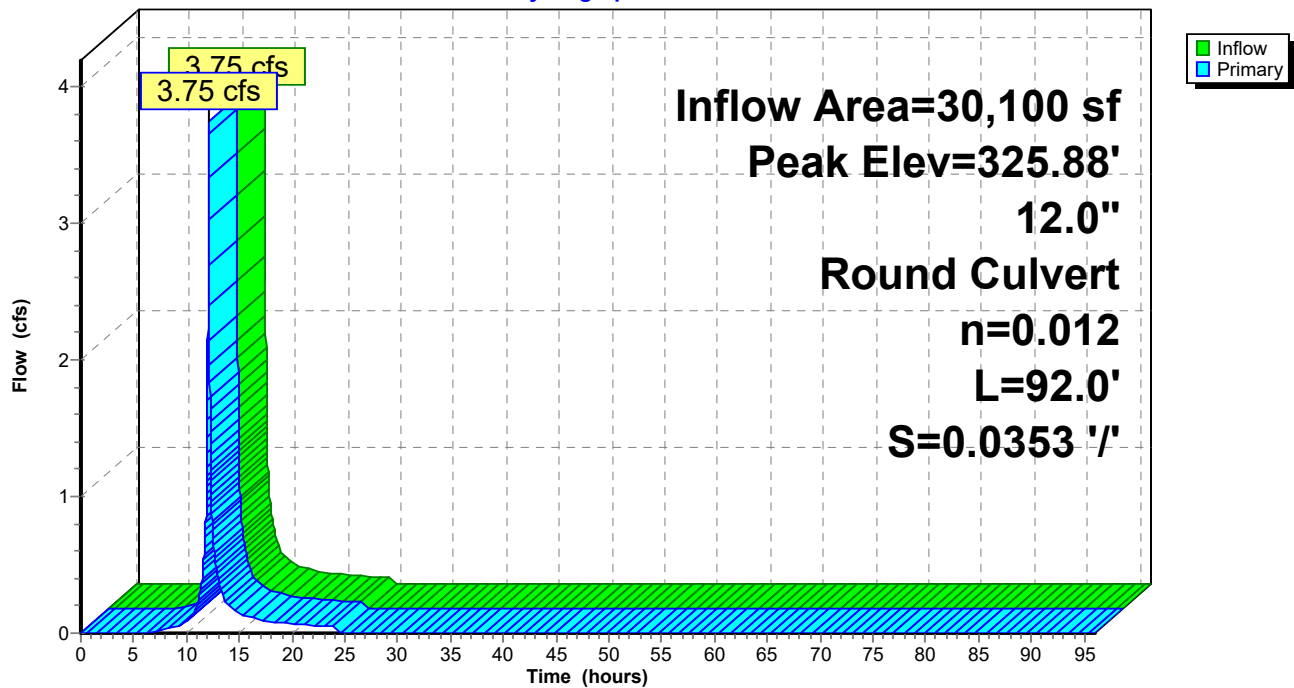
Pond 9P: CB B8

Hydrograph



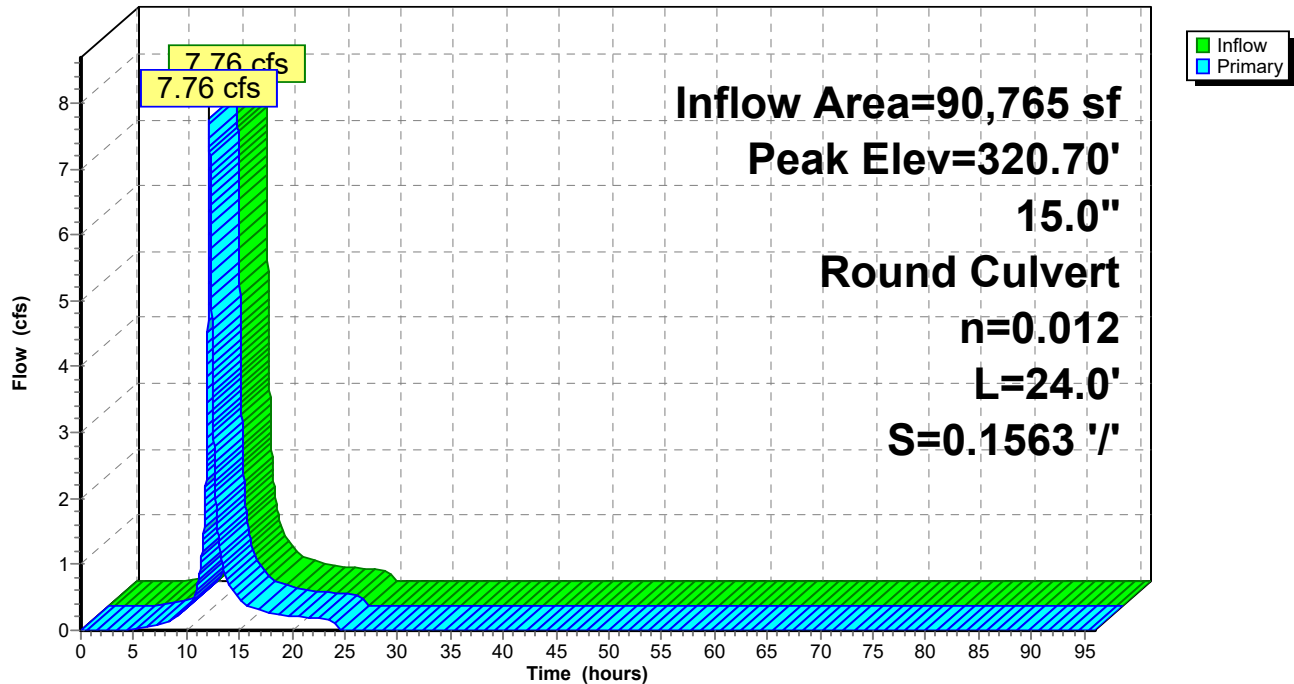
Pond 12P: CB A5.1

Hydrograph



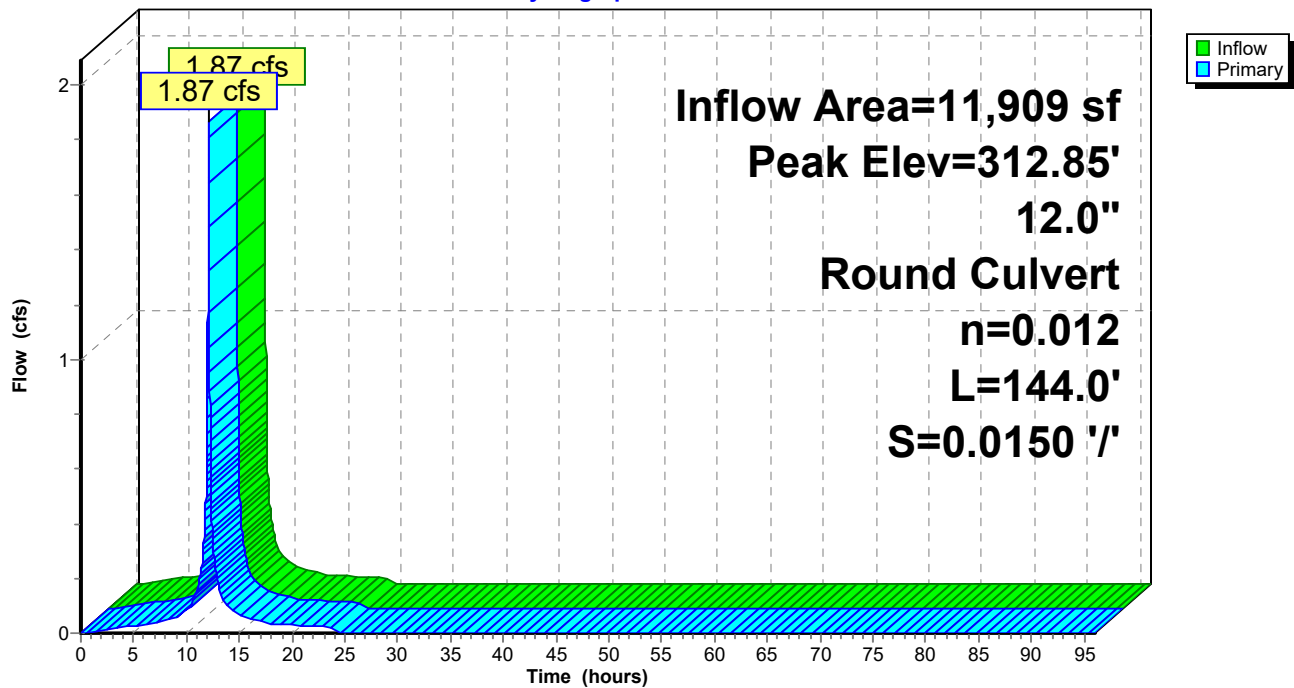
Pond 13P: CB A5

Hydrograph



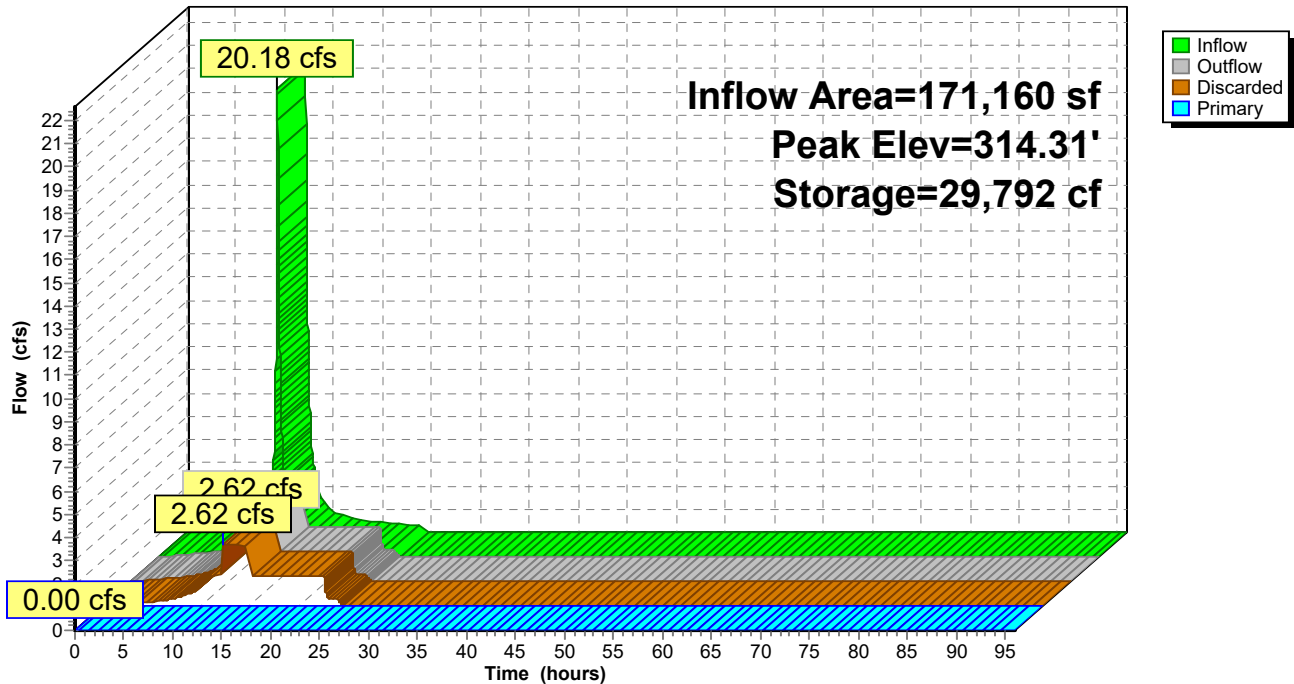
Pond 14P: CB A9

Hydrograph



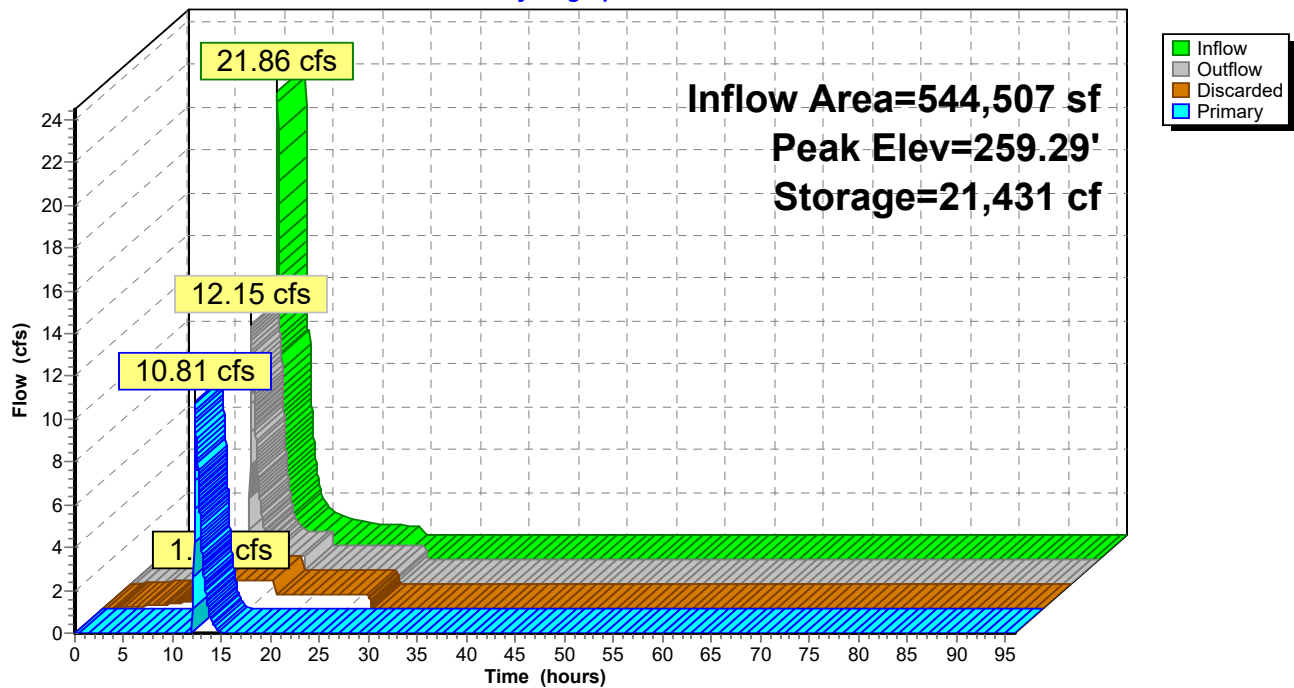
Pond 15P: INF-B

Hydrograph



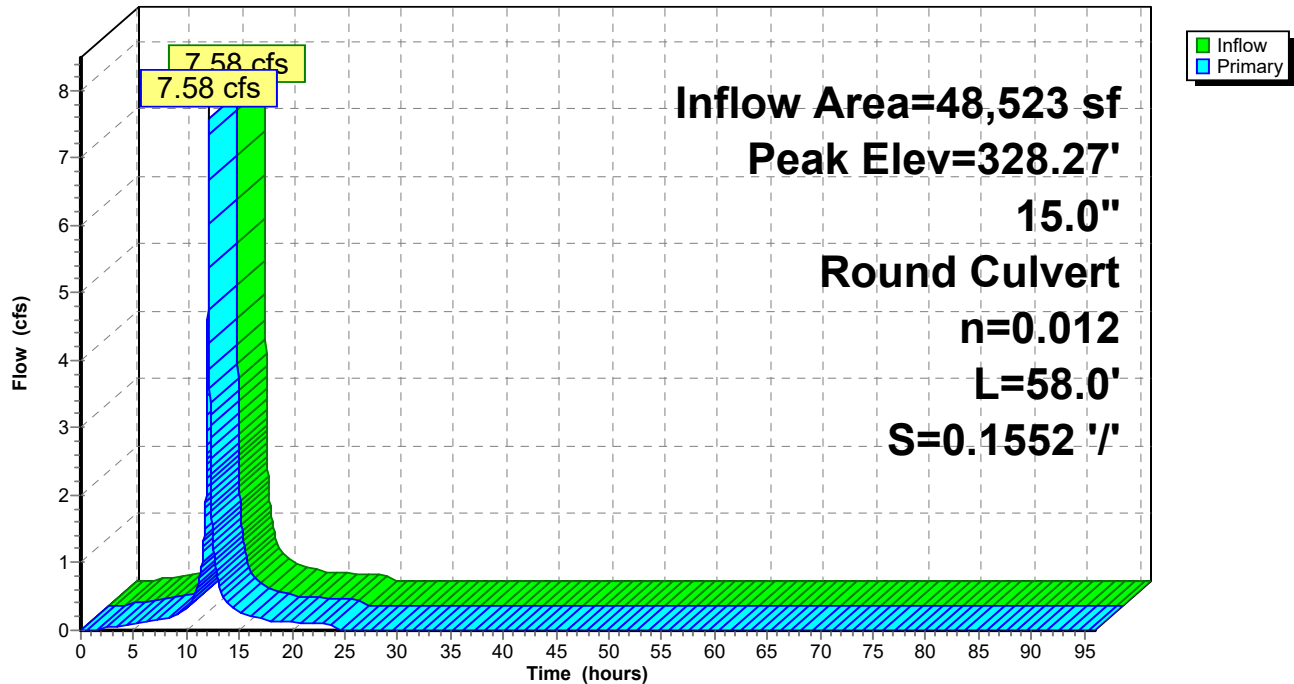
Pond 16P: INF-A

Hydrograph



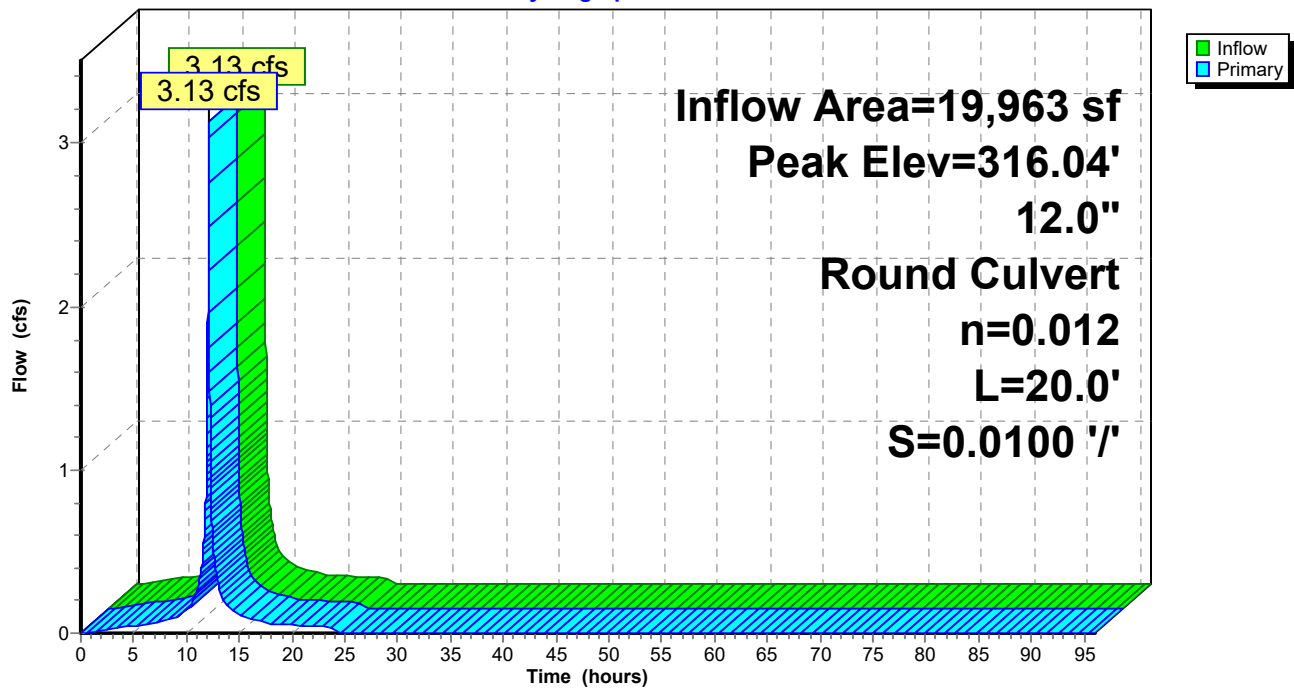
Pond 17P: CB A1

Hydrograph



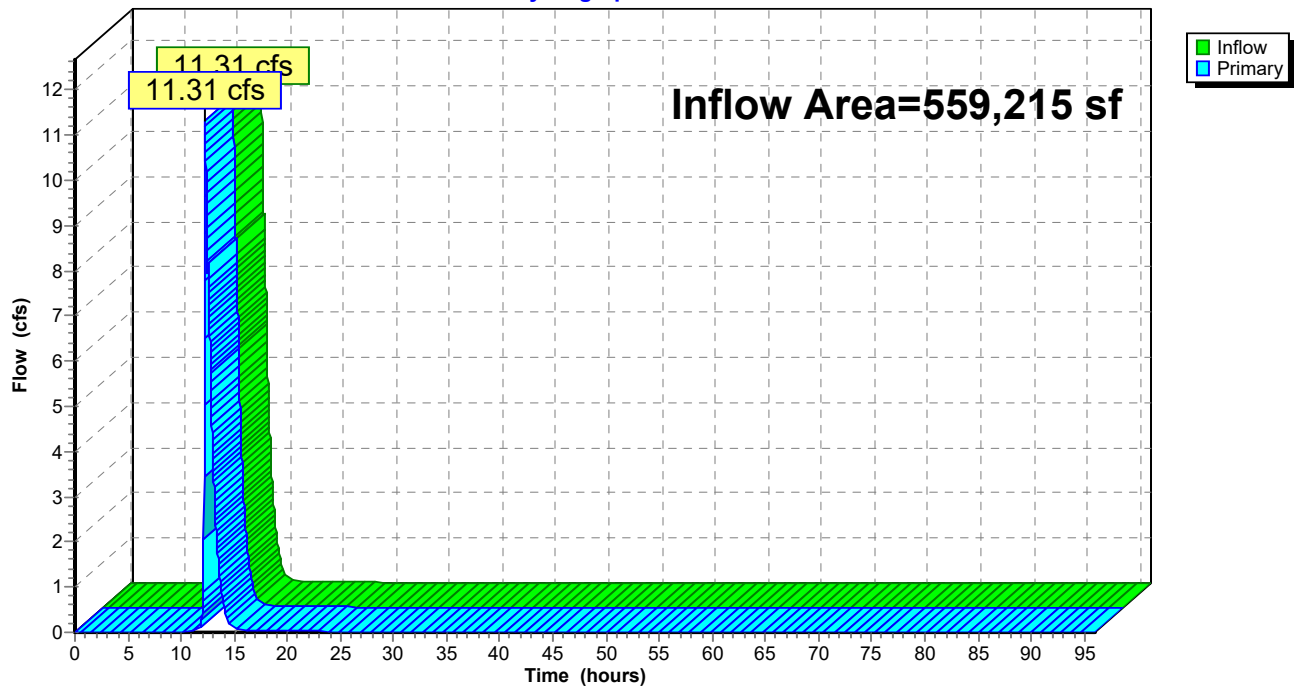
Pond 18P: CB 10

Hydrograph



Link 3L: Rt. 32 Culvert

Hydrograph



2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 100-yr Rainfall=7.74"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: Subcat 1	Runoff Area=46,057 sf 9.58% Impervious Runoff Depth=3.47" Tc=10.0 min UI Adjusted CN=63 Runoff=3.69 cfs 13,301 cf
Subcatchment 2: Subcat 2	Runoff Area=0.097 ac 83.65% Impervious Runoff Depth=6.79" Tc=5.0 min CN=92 Runoff=0.72 cfs 2,394 cf
Subcatchment 3: Subcat 3	Runoff Area=33,237 sf 65.92% Impervious Runoff Depth=5.96" Tc=5.0 min CN=85 Runoff=5.26 cfs 16,515 cf
Subcatchment 4: Subcat 4	Runoff Area=0.463 ac 2.77% Impervious Runoff Depth=3.36" Flow Length=100' Slope=0.1750 '/' Tc=5.8 min CN=62 Runoff=1.85 cfs 5,647 cf
Subcatchment 4.1: Subcat 4.1	Runoff Area=40,594 sf 1.66% Impervious Runoff Depth=3.36" Tc=5.0 min CN=62 Runoff=3.85 cfs 11,354 cf
Subcatchment 6: Subcat 6	Runoff Area=13,786 sf 100.00% Impervious Runoff Depth=7.50" Tc=5.0 min CN=98 Runoff=2.43 cfs 8,617 cf
Subcatchment 10: Subcat 10	Runoff Area=48,523 sf 94.79% Impervious Runoff Depth=7.26" Tc=5.0 min CN=96 Runoff=8.49 cfs 29,363 cf
Subcatchment 11: Subcat 11	Runoff Area=60,665 sf 52.99% Impervious Runoff Depth=5.96" Flow Length=237' Tc=17.3 min CN=85 Runoff=6.49 cfs 30,144 cf
Subcatchment 11.1: Subcat 11.1	Runoff Area=19,963 sf 98.49% Impervious Runoff Depth=7.38" Tc=5.0 min CN=97 Runoff=3.51 cfs 12,279 cf
Subcatchment 11.2: Subcat 11.2	Runoff Area=11,909 sf 96.82% Impervious Runoff Depth=7.38" Tc=5.0 min CN=97 Runoff=2.09 cfs 7,325 cf
Subcatchment 12: Subcat 12	Runoff Area=30,100 sf 48.89% Impervious Runoff Depth=5.27" Tc=5.0 min CN=79 Runoff=4.34 cfs 13,210 cf
Subcatchment 13: Subcat 13	Runoff Area=109,465 sf 0.02% Impervious Runoff Depth=3.58" Flow Length=653' Tc=23.8 min CN=64 Runoff=6.25 cfs 32,612 cf
Subcatchment 14: Subcat 14	Runoff Area=13,783 sf 99.97% Impervious Runoff Depth=7.50" Tc=5.0 min CN=98 Runoff=2.43 cfs 8,615 cf
Subcatchment 15: Subcat 15	Runoff Area=13,783 sf 99.98% Impervious Runoff Depth=7.50" Tc=5.0 min CN=98 Runoff=2.43 cfs 8,615 cf
Subcatchment 16: Subcat 16	Runoff Area=13,792 sf 99.99% Impervious Runoff Depth=7.50" Tc=5.0 min CN=98 Runoff=2.43 cfs 8,620 cf
Subcatchment 17: Subcat 17	Runoff Area=6,828 sf 8.53% Impervious Runoff Depth=3.58" Tc=5.0 min CN=64 Runoff=0.69 cfs 2,034 cf

2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 100-yr Rainfall=7.74"

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Subcatchment 18: Subcat 18	Runoff Area=6,372 sf 7.75% Impervious Runoff Depth=3.58" Tc=5.0 min CN=64 Runoff=0.64 cfs 1,898 cf
Subcatchment 19: Subcat 19	Runoff Area=5,807 sf 0.00% Impervious Runoff Depth=2.61" Flow Length=335' Tc=13.6 min CN=55 Runoff=0.30 cfs 1,262 cf
Subcatchment 21: Subcat 21	Runoff Area=8,901 sf 3.88% Impervious Runoff Depth=3.47" Tc=5.0 min CN=63 Runoff=0.87 cfs 2,570 cf
Subcatchment 22: Subcat 22	Runoff Area=51,226 sf 0.04% Impervious Runoff Depth=2.61" Flow Length=458' Tc=17.9 min CN=55 Runoff=2.34 cfs 11,133 cf
Reach 5R: swale	Avg. Flow Depth=0.34' Max Vel=4.49 fps Inflow=1.85 cfs 5,647 cf n=0.030 L=324.0' S=0.0926 ' Capacity=65.17 cfs Outflow=1.81 cfs 5,647 cf
Reach 6R: swale	Avg. Flow Depth=0.44' Max Vel=5.59 fps Inflow=3.85 cfs 11,354 cf n=0.030 L=393.0' S=0.1018 ' Capacity=68.33 cfs Outflow=3.76 cfs 11,354 cf
Reach 23R: swale	Avg. Flow Depth=0.62' Max Vel=5.52 fps Inflow=8.52 cfs 34,711 cf n=0.030 L=353.0' S=0.0630 ' Capacity=37.04 cfs Outflow=8.46 cfs 34,711 cf
Pond 6P: Infiltration Basin	Peak Elev=314.84' Storage=5,481 cf Inflow=6.25 cfs 32,612 cf Discarded=0.66 cfs 22,334 cf Primary=5.22 cfs 10,278 cf Outflow=5.88 cfs 32,612 cf
Pond 7P: CB B2	Peak Elev=268.64' Inflow=17.84 cfs 60,561 cf 15.0" Round Culvert n=0.012 L=62.0' S=0.0100 ' Outflow=17.84 cfs 60,561 cf
Pond 8P: CB B1	Peak Elev=261.17' Inflow=21.28 cfs 71,915 cf 24.0" Round Culvert n=0.012 L=14.0' S=0.0129 ' Outflow=21.28 cfs 71,915 cf
Pond 9P: CB B8	Peak Elev=264.79' Inflow=8.46 cfs 34,711 cf 18.0" Round Culvert n=0.012 L=6.0' S=0.5667 ' Outflow=8.46 cfs 34,711 cf
Pond 12P: CB A5.1	Peak Elev=326.22' Inflow=4.34 cfs 13,210 cf 12.0" Round Culvert n=0.012 L=92.0' S=0.0353 ' Outflow=4.34 cfs 13,210 cf
Pond 13P: CB A5	Peak Elev=321.26' Inflow=8.94 cfs 43,353 cf 15.0" Round Culvert n=0.012 L=24.0' S=0.1563 ' Outflow=8.94 cfs 43,353 cf
Pond 14P: CB A9	Peak Elev=312.91' Inflow=2.09 cfs 7,325 cf 12.0" Round Culvert n=0.012 L=144.0' S=0.0150 ' Outflow=2.09 cfs 7,325 cf
Pond 15P: INF-B	Peak Elev=315.56' Storage=35,562 cf Inflow=22.86 cfs 92,319 cf Discarded=2.62 cfs 92,319 cf Primary=0.00 cfs 0 cf Outflow=2.62 cfs 92,319 cf
Pond 16P: INF-A	Peak Elev=259.95' Storage=23,015 cf Inflow=25.73 cfs 109,021 cf Discarded=1.34 cfs 66,747 cf Primary=16.05 cfs 42,274 cf Outflow=17.39 cfs 109,021 cf
Pond 17P: CB A1	Peak Elev=328.69' Inflow=8.49 cfs 29,363 cf 15.0" Round Culvert n=0.012 L=58.0' S=0.1552 ' Outflow=8.49 cfs 29,363 cf
Pond 18P: CB 10	Peak Elev=316.23' Inflow=3.51 cfs 12,279 cf 12.0" Round Culvert n=0.012 L=20.0' S=0.0100 ' Outflow=3.51 cfs 12,279 cf

2024-4-30 New Conditions - Rt 32 Culvert*NOAA 24-hr D 100-yr Rainfall=7.74"*

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Link 3L: Rt. 32 Culvert

Inflow=16.78 cfs 46,106 cf

Primary=16.78 cfs 46,106 cf

Total Runoff Area = 559,215 sf Runoff Volume = 227,506 cf Average Runoff Depth = 4.88"
62.14% Pervious = 347,470 sf 37.86% Impervious = 211,744 sf

2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 100-yr Rainfall=7.74"

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Summary for Subcatchment 1: Subcat 1

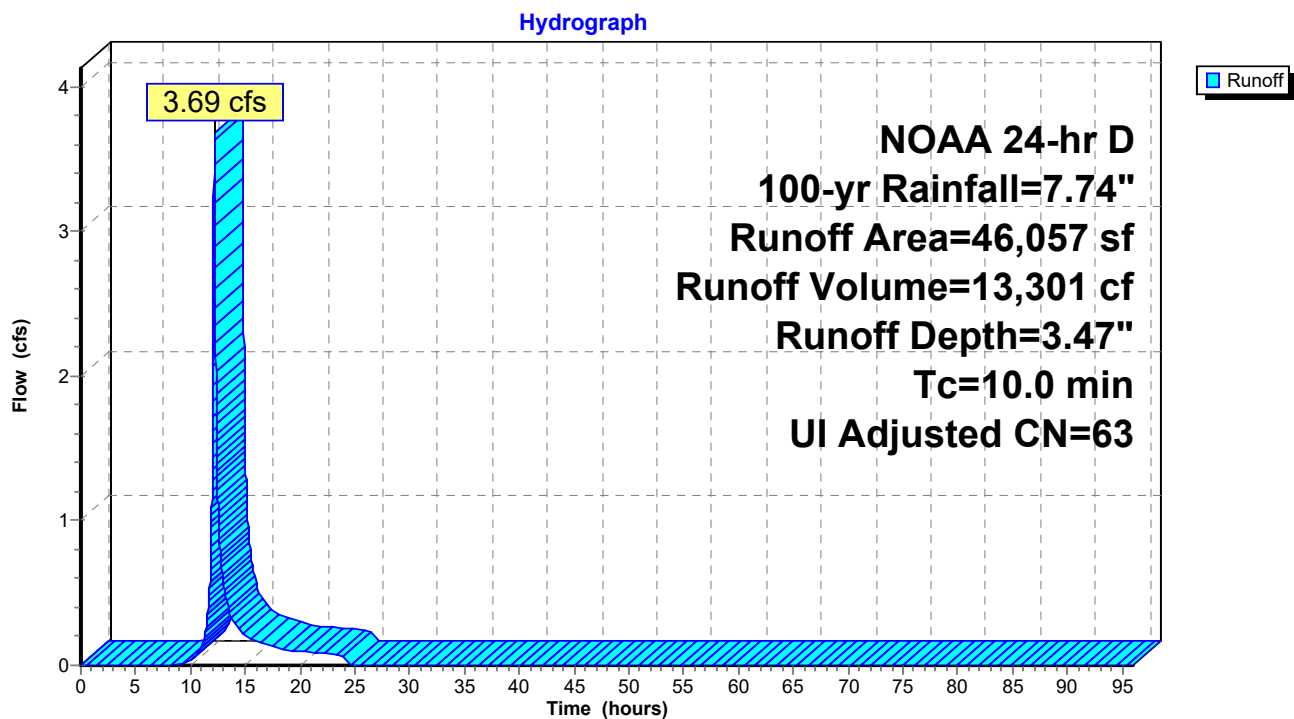
Runoff = 3.69 cfs @ 12.18 hrs, Volume= 13,301 cf, Depth= 3.47"
 Routed to Reach 23R : swale

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Adj	Description
5,044	61		>75% Grass cover, Good, HSG B
1,062	61		>75% Grass cover, Good, HSG B
1,020	61		>75% Grass cover, Good, HSG B
34,196	61		>75% Grass cover, Good, HSG B
323	55		Woods, Good, HSG B
83	98		Unconnected pavement, HSG B
74	98		Unconnected pavement, HSG B
122	98		Unconnected pavement, HSG B
74	98		Unconnected pavement, HSG B
597	98		Roofs, HSG B
3,463	98		Unconnected pavement, HSG B
46,057	65	63	Weighted Average, UI Adjusted
41,645			90.42% Pervious Area
4,412			9.58% Impervious Area
3,816			86.48% Unconnected

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

Subcatchment 1: Subcat 1



2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 100-yr Rainfall=7.74"

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Summary for Subcatchment 2: Subcat 2

Runoff = 0.72 cfs @ 12.12 hrs, Volume= 2,394 cf, Depth= 6.79"
Routed to Pond 16P : INF-A

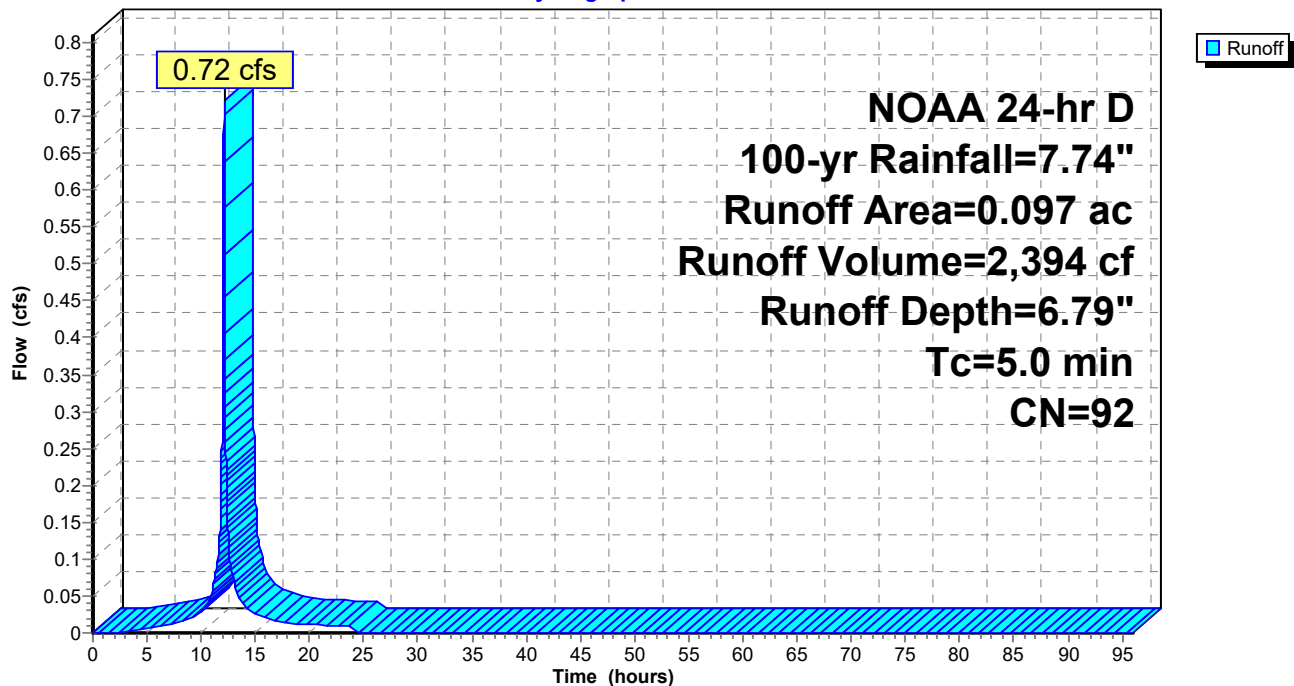
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-yr Rainfall=7.74"

Area (ac)	CN	Description
0.081	98	Paved parking, HSG B
0.016	61	>75% Grass cover, Good, HSG B
0.097	92	Weighted Average
0.016		16.35% Pervious Area
0.081		83.65% Impervious Area

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

Subcatchment 2: Subcat 2

Hydrograph



2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 100-yr Rainfall=7.74"

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Summary for Subcatchment 3: Subcat 3

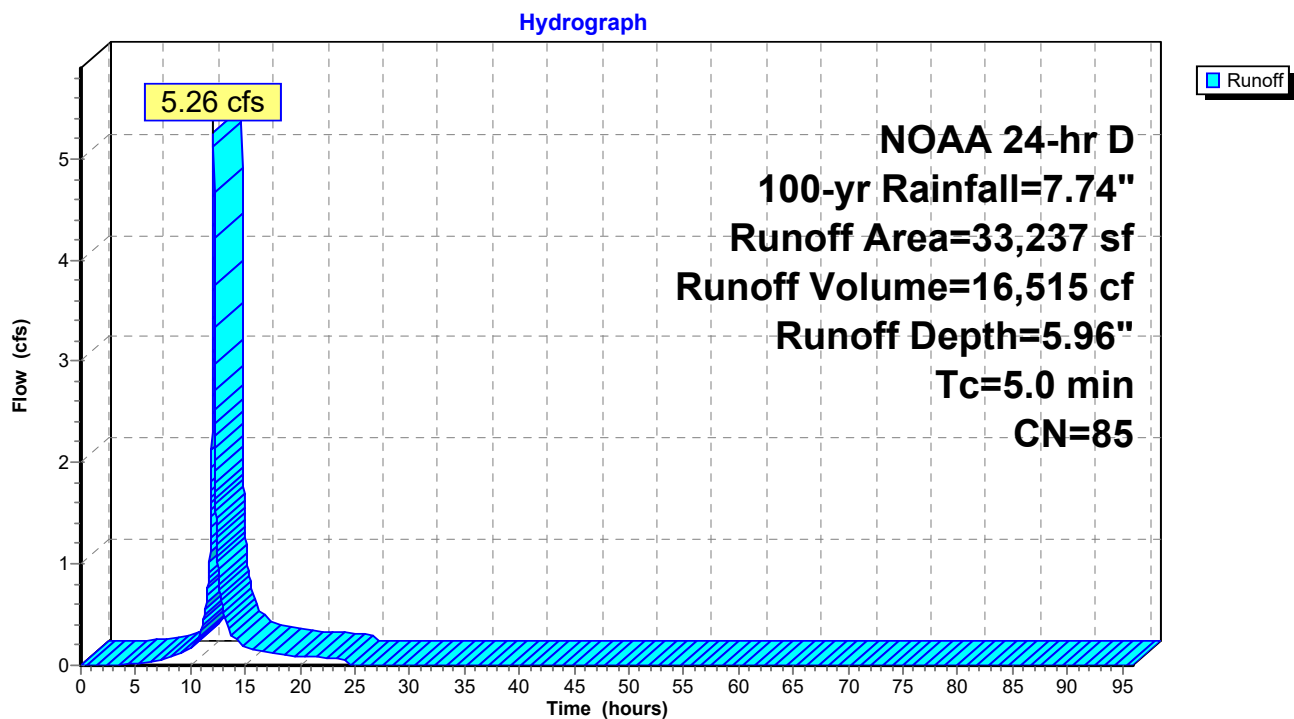
Runoff = 5.26 cfs @ 12.12 hrs, Volume= 16,515 cf, Depth= 5.96"
 Routed to Pond 7P : CB B2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
1	98	Paved parking, HSG D
7,172	61	>75% Grass cover, Good, HSG B
3,976	61	>75% Grass cover, Good, HSG B
126	61	>75% Grass cover, Good, HSG B
7	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
46	61	>75% Grass cover, Good, HSG B
60	98	Roofs, HSG B
49	98	Unconnected pavement, HSG B
372	98	Unconnected pavement, HSG B
21,396	98	Paved parking, HSG B
33	98	Unconnected pavement, HSG B
33,237	85	Weighted Average
11,326		34.08% Pervious Area
21,911		65.92% Impervious Area
454		2.07% Unconnected

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

Subcatchment 3: Subcat 3



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NOAA 24-hr D 100-yr Rainfall=7.74"

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Summary for Subcatchment 4: Subcat 4

Runoff = 1.85 cfs @ 12.13 hrs, Volume= 5,647 cf, Depth= 3.36"
Routed to Reach 5R : swale

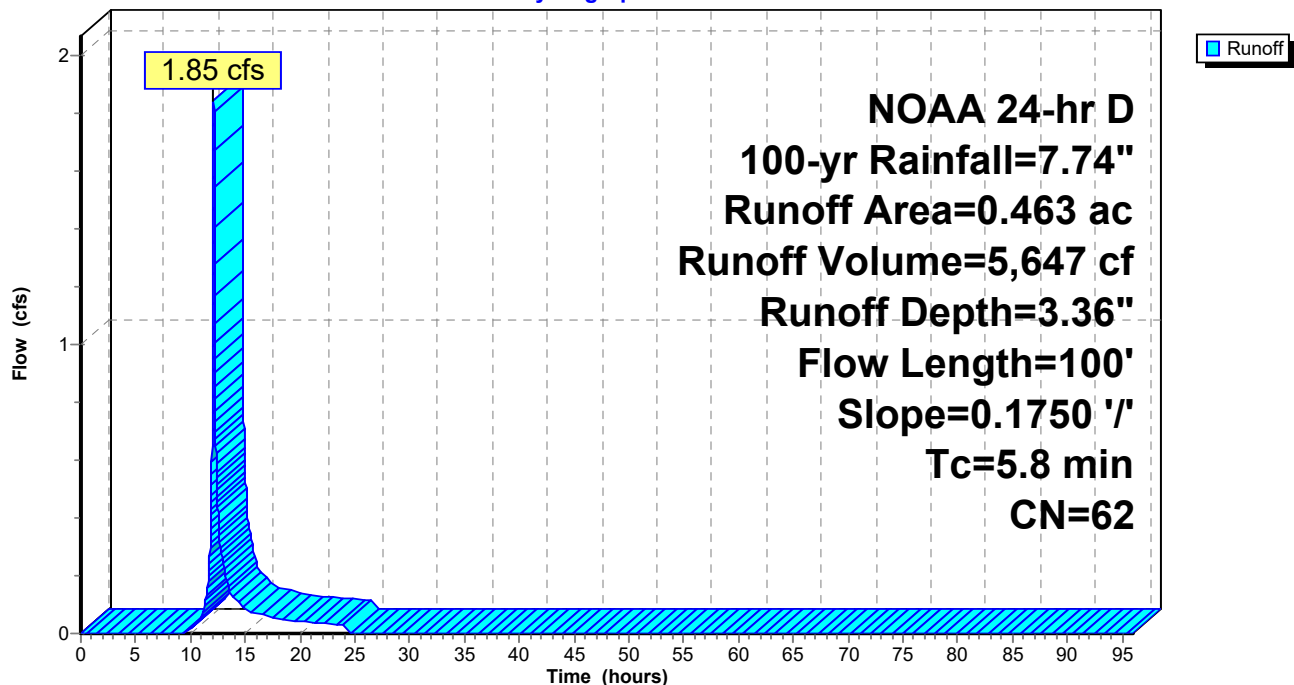
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-yr Rainfall=7.74"

Area (ac)	CN	Description
0.009	98	Roofs, HSG B
0.001	98	Roofs, HSG B
0.003	98	Paved parking, HSG B
0.451	61	>75% Grass cover, Good, HSG B
0.463	62	Weighted Average
0.451		97.23% Pervious Area
0.013		2.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	100	0.1750	0.29		Sheet Flow, sheet Grass: Dense n= 0.240 P2= 3.46"

Subcatchment 4: Subcat 4

Hydrograph



2024-4-30 New Conditions - Rt 32 Culvert

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NOAA 24-hr D 100-yr Rainfall=7.74"

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Summary for Subcatchment 4.1: Subcat 4.1

Runoff = 3.85 cfs @ 12.13 hrs, Volume= 11,354 cf, Depth= 3.36"
Routed to Reach 6R : swale

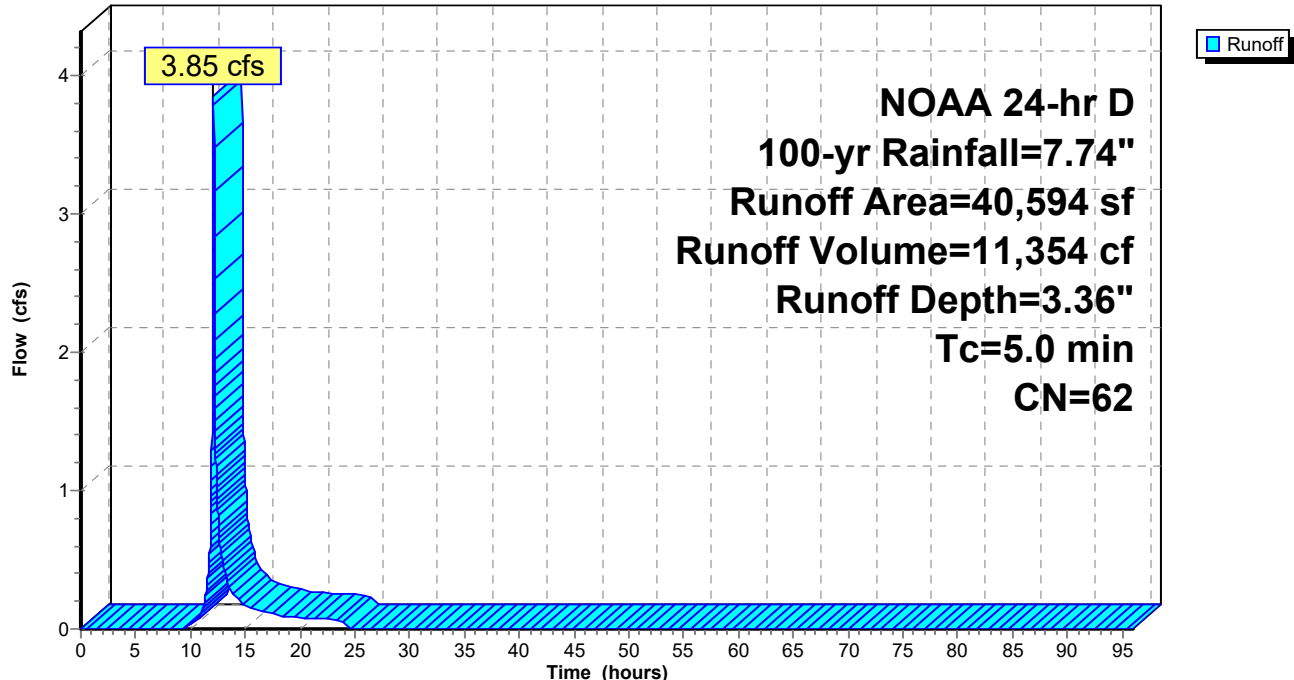
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
177	98	Paved parking, HSG B
186	98	Roofs, HSG B
311	98	Roofs, HSG B
39,921	61	>75% Grass cover, Good, HSG B
40,594	62	Weighted Average
39,921		98.34% Pervious Area
673		1.66% Impervious Area

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

Subcatchment 4.1: Subcat 4.1

Hydrograph



2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 100-yr Rainfall=7.74"

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Summary for Subcatchment 6: Subcat 6

Runoff = 2.43 cfs @ 12.12 hrs, Volume= 8,617 cf, Depth= 7.50"
Routed to Pond 7P : CB B2

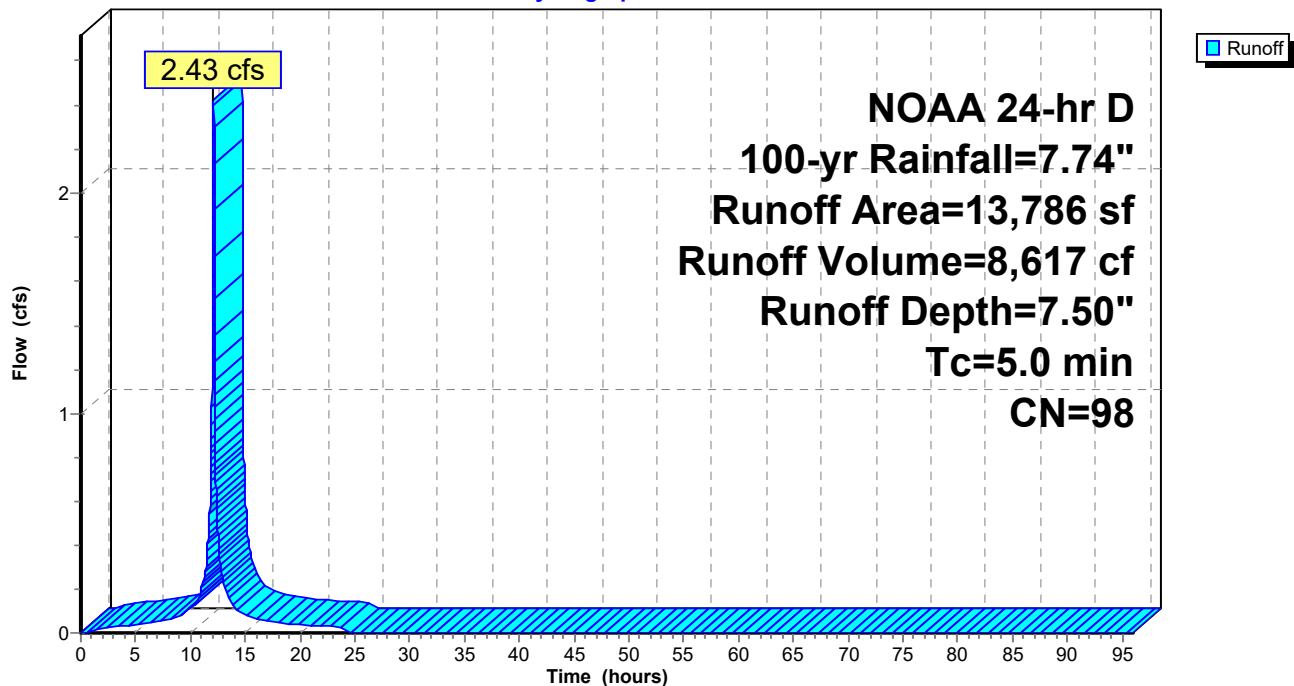
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
13,786	98	Roofs, HSG B
0	61	>75% Grass cover, Good, HSG B
13,786	98	Weighted Average
0		0.00% Pervious Area
13,786		100.00% Impervious Area

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

Subcatchment 6: Subcat 6

Hydrograph



2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 100-yr Rainfall=7.74"

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Summary for Subcatchment 10: Subcat 10

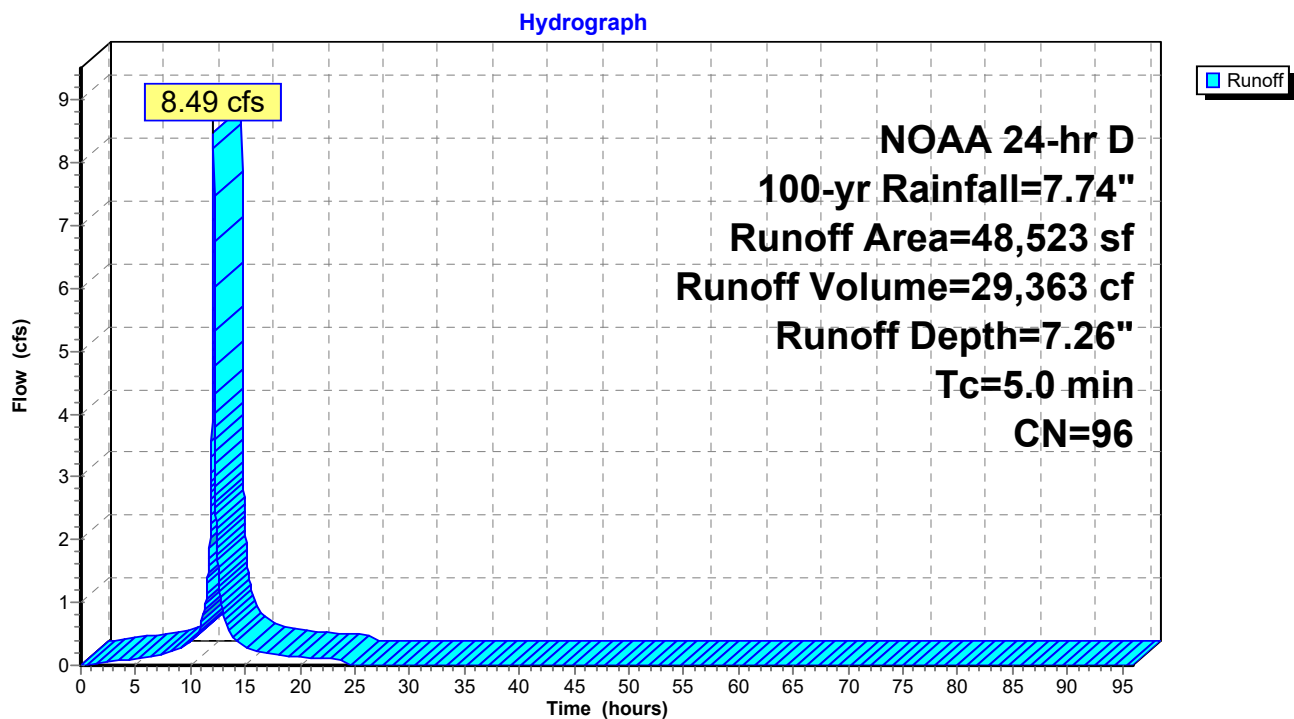
Runoff = 8.49 cfs @ 12.12 hrs, Volume= 29,363 cf, Depth= 7.26"
 Routed to Pond 17P : CB A1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
27,248	98	Paved parking, HSG B
8,405	98	Paved parking, HSG B
4,144	98	Paved parking, HSG D
1,492	61	>75% Grass cover, Good, HSG B
328	61	>75% Grass cover, Good, HSG B
2	61	>75% Grass cover, Good, HSG B
432	80	>75% Grass cover, Good, HSG D
415	98	Unconnected pavement, HSG B
2,899	98	Unconnected pavement, HSG B
619	98	Unconnected pavement, HSG D
132	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
142	61	>75% Grass cover, Good, HSG B
2,266	98	Unconnected pavement, HSG B
48,523	96	Weighted Average
2,528		5.21% Pervious Area
45,995		94.79% Impervious Area
6,198		13.48% Unconnected

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

Subcatchment 10: Subcat 10



2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 100-yr Rainfall=7.74"

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Summary for Subcatchment 11: Subcat 11

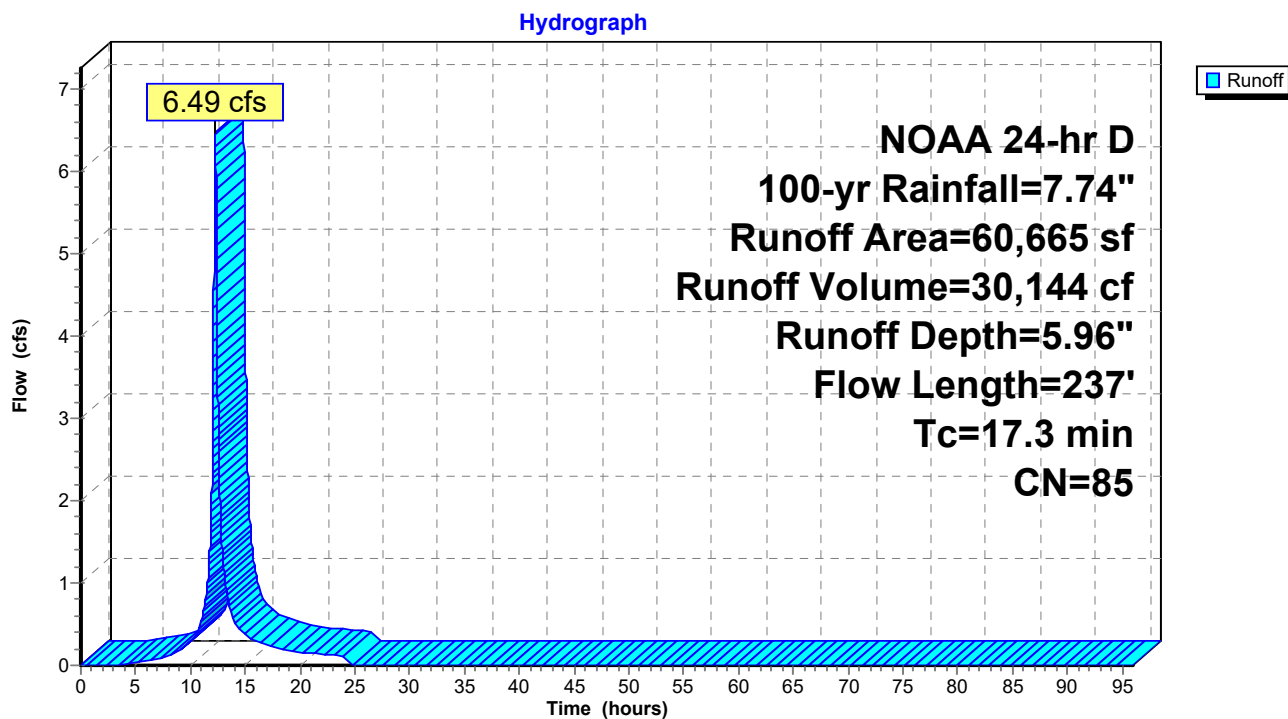
Runoff = 6.49 cfs @ 12.25 hrs, Volume= 30,144 cf, Depth= 5.96"
 Routed to Pond 13P : CB A5

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
7,585	98	Paved parking, HSG D
420	98	Unconnected pavement, HSG D
7,874	77	Woods, Good, HSG D
9,783	80	>75% Grass cover, Good, HSG D
637	61	>75% Grass cover, Good, HSG B
7,556	61	>75% Grass cover, Good, HSG B
2,669	55	Woods, Good, HSG B
1,547	98	Unconnected pavement, HSG B
22,594	98	Paved parking, HSG B
60,665	85	Weighted Average
28,520		47.01% Pervious Area
32,146		52.99% Impervious Area
1,967		6.12% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	68	0.0220	0.08		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.46"
2.2	37	0.2700	0.28		Sheet Flow, sheet grass Grass: Dense n= 0.240 P2= 3.46"
0.5	132	0.0580	4.89		Shallow Concentrated Flow, scf Paved Kv= 20.3 fps
17.3	237	Total			

Subcatchment 11: Subcat 11



2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 100-yr Rainfall=7.74"

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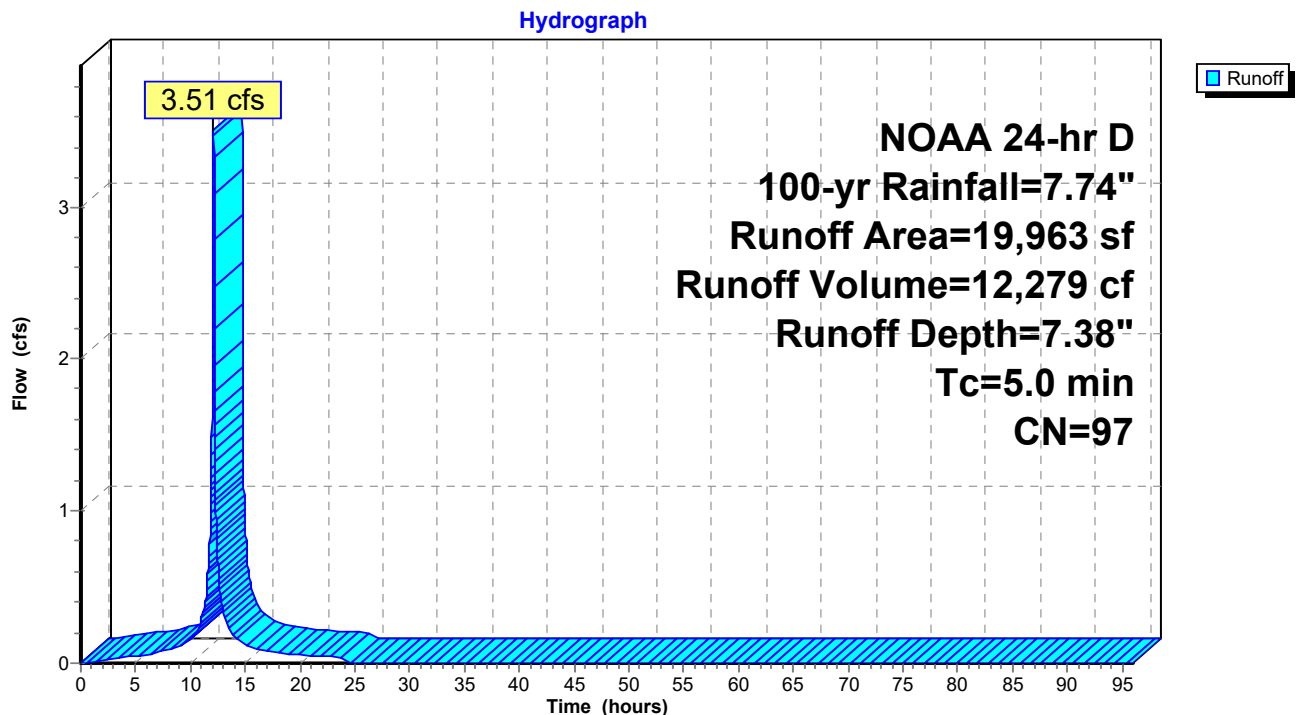
Summary for Subcatchment 11.1: Subcat 11.1

Runoff = 3.51 cfs @ 12.12 hrs, Volume= 12,279 cf, Depth= 7.38"
Routed to Pond 18P : CB 10

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
142	61	>75% Grass cover, Good, HSG B
159	61	>75% Grass cover, Good, HSG B
162	98	Unconnected pavement, HSG B
1,166	98	Unconnected pavement, HSG B
1,280	98	Unconnected pavement, HSG B
169	98	Paved parking, HSG B
16,886	98	Paved parking, HSG B
19,963	97	Weighted Average
300		1.51% Pervious Area
19,663		98.49% Impervious Area
2,608		13.26% Unconnected

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

Subcatchment 11.1: Subcat 11.1

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NOAA 24-hr D 100-yr Rainfall=7.74"

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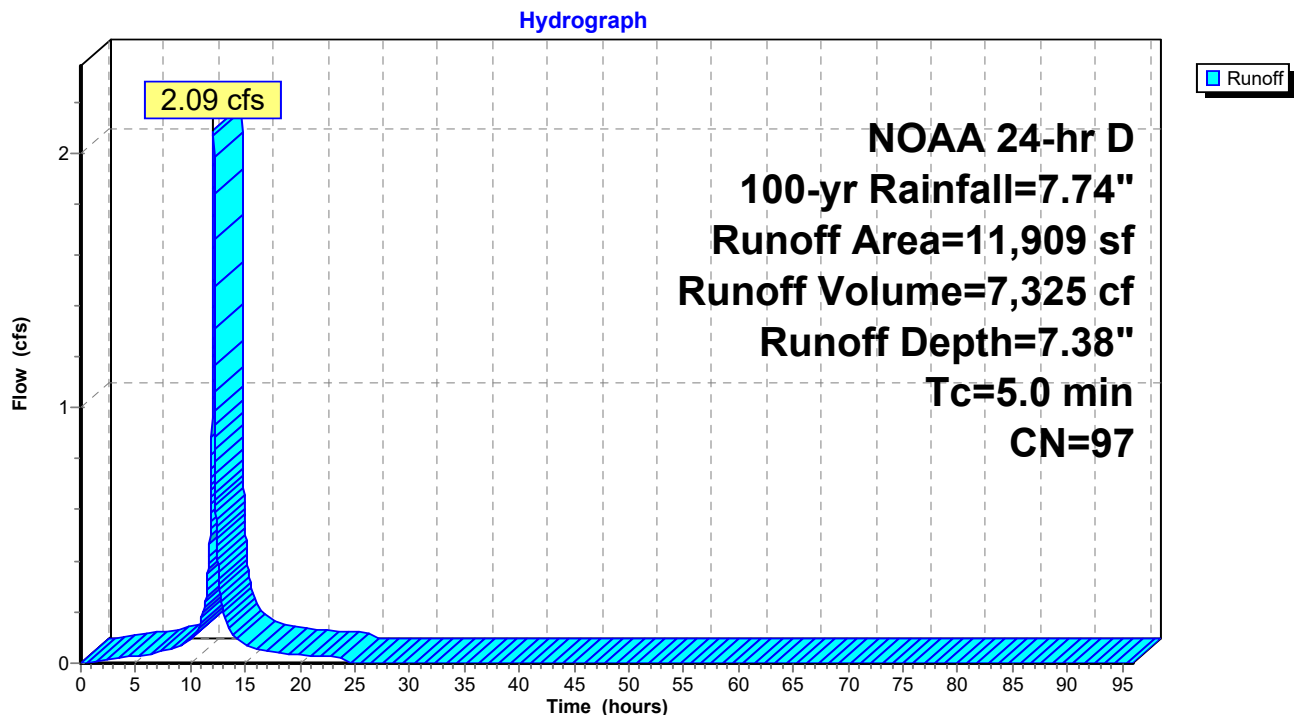
Summary for Subcatchment 11.2: Subcat 11.2

Runoff = 2.09 cfs @ 12.12 hrs, Volume= 7,325 cf, Depth= 7.38"
Routed to Pond 14P : CB A9

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
0	61	>75% Grass cover, Good, HSG B
201	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
178	61	>75% Grass cover, Good, HSG B
852	98	Unconnected pavement, HSG B
744	98	Unconnected pavement, HSG B
9,934	98	Paved parking, HSG B
11,909	97	Weighted Average
379		3.18% Pervious Area
11,530		96.82% Impervious Area
1,596		13.84% Unconnected

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

Subcatchment 11.2: Subcat 11.2

2024-4-30 New Conditions - Rt 32 Culvert

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NOAA 24-hr D 100-yr Rainfall=7.74"

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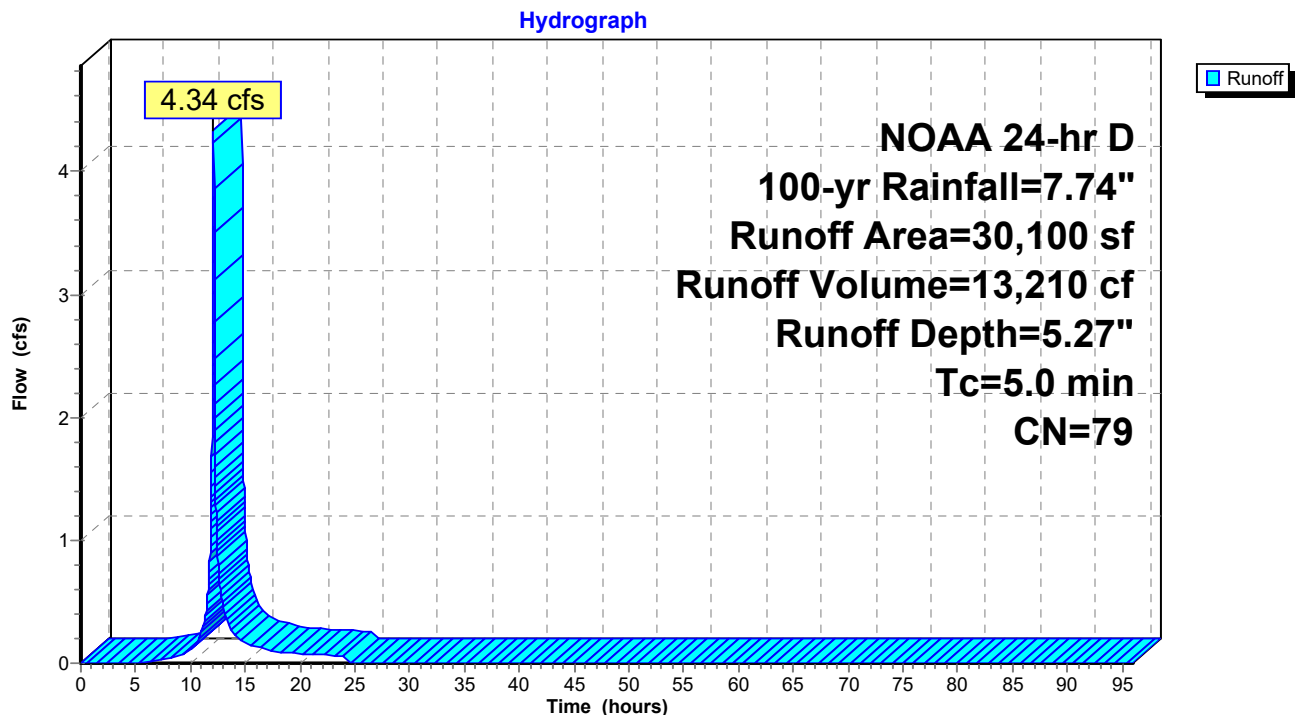
Summary for Subcatchment 12: Subcat 12

Runoff = 4.34 cfs @ 12.12 hrs, Volume= 13,210 cf, Depth= 5.27"
Routed to Pond 12P : CB A5.1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
60	98	Unconnected pavement, HSG B
13,859	61	>75% Grass cover, Good, HSG B
793	61	>75% Grass cover, Good, HSG B
731	61	>75% Grass cover, Good, HSG B
14,657	98	Roofs, HSG B
0	98	Paved parking, HSG B
0	98	Paved parking, HSG B
30,100	79	Weighted Average
15,383		51.11% Pervious Area
14,717		48.89% Impervious Area
60		0.41% Unconnected

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

Subcatchment 12: Subcat 12

2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 100-yr Rainfall=7.74"

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Summary for Subcatchment 13: Subcat 13

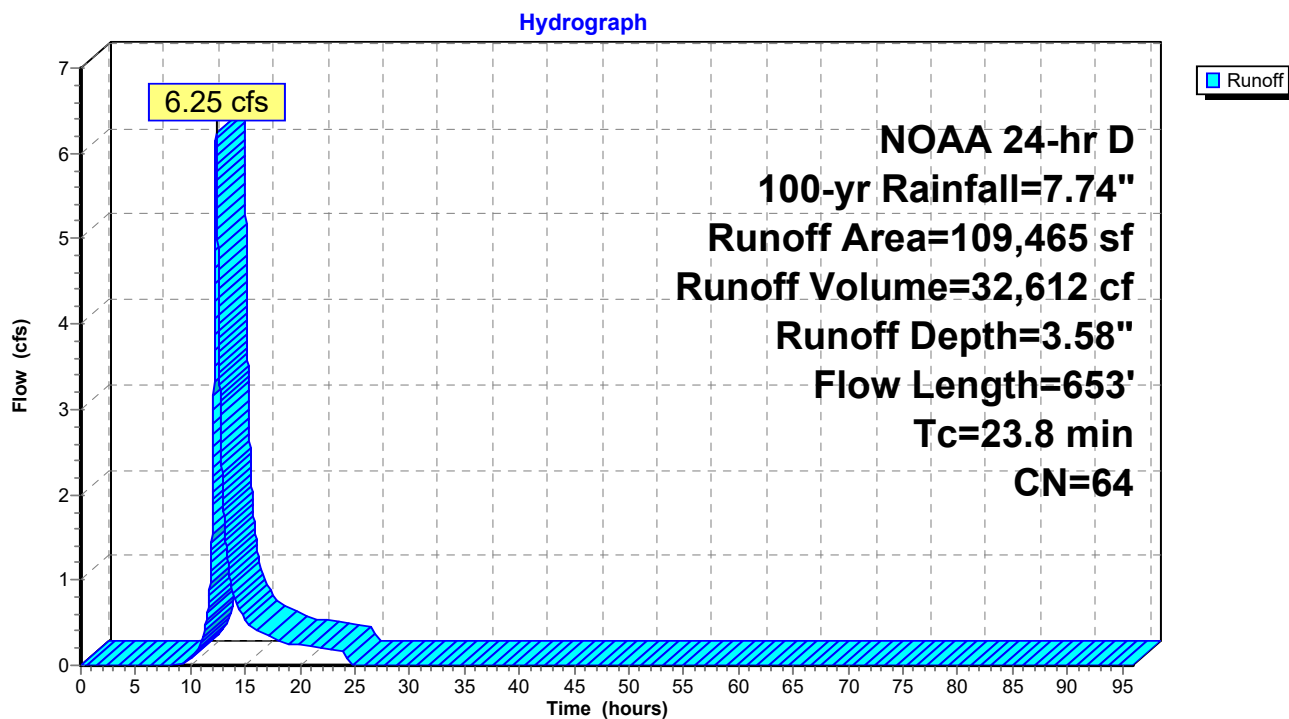
Runoff = 6.25 cfs @ 12.35 hrs, Volume= 32,612 cf, Depth= 3.58"
 Routed to Pond 6P : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
38,039	77	Woods, Good, HSG D
54,684	55	Woods, Good, HSG B
0	98	Paved parking, HSG B
18	98	Paved parking, HSG B
16,724	61	>75% Grass cover, Good, HSG B
109,465	64	Weighted Average
109,447		99.98% Pervious Area
18		0.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0300	0.09		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.46"
5.9	434	0.0600	1.22		Shallow Concentrated Flow, scf Woodland Kv= 5.0 fps
0.3	119	0.1850	6.45		Shallow Concentrated Flow, scf grass Grassed Waterway Kv= 15.0 fps
23.8	653	Total			

Subcatchment 13: Subcat 13



2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 100-yr Rainfall=7.74"

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Summary for Subcatchment 14: Subcat 14

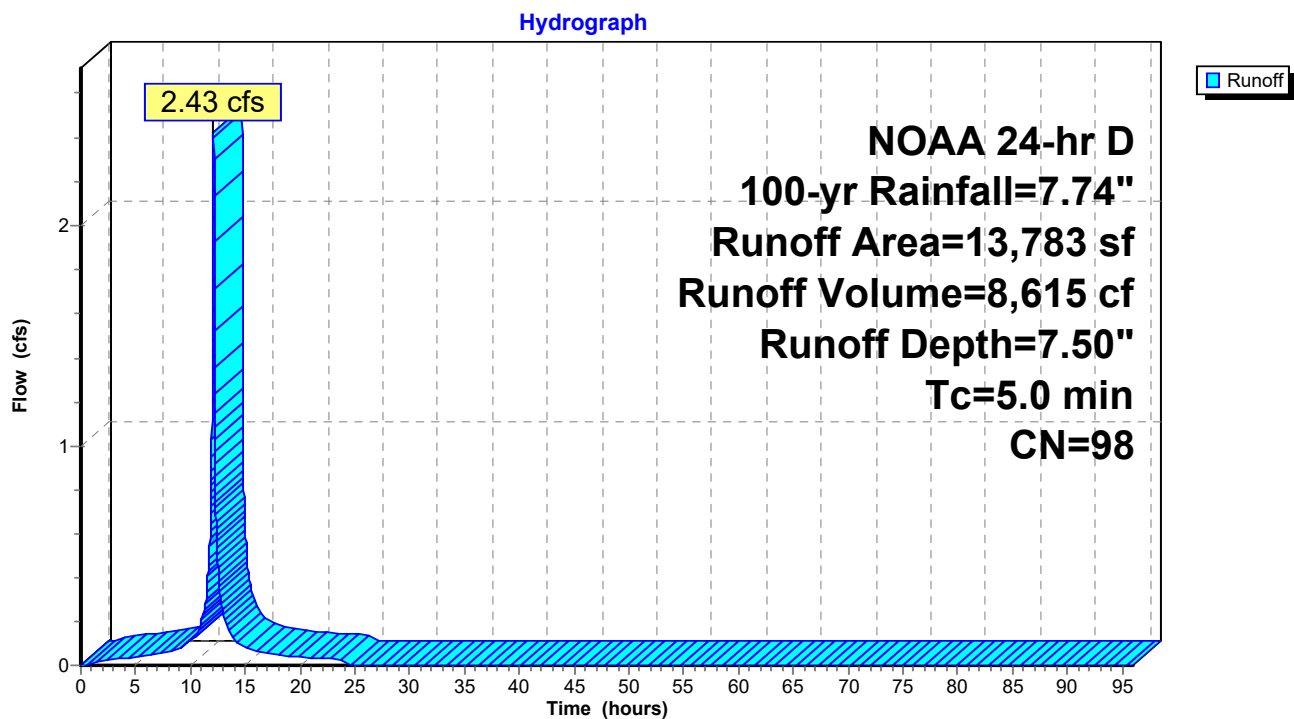
Runoff = 2.43 cfs @ 12.12 hrs, Volume= 8,615 cf, Depth= 7.50"
 Routed to Pond 7P : CB B2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
1	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
1	61	>75% Grass cover, Good, HSG B
13,779	98	Roofs, HSG B
13,783	98	Weighted Average
4		0.03% Pervious Area
13,779		99.97% Impervious Area

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

Subcatchment 14: Subcat 14



2024-4-30 New Conditions - Rt 32 Culvert

NOAA 24-hr D 100-yr Rainfall=7.74"

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Summary for Subcatchment 15: Subcat 15

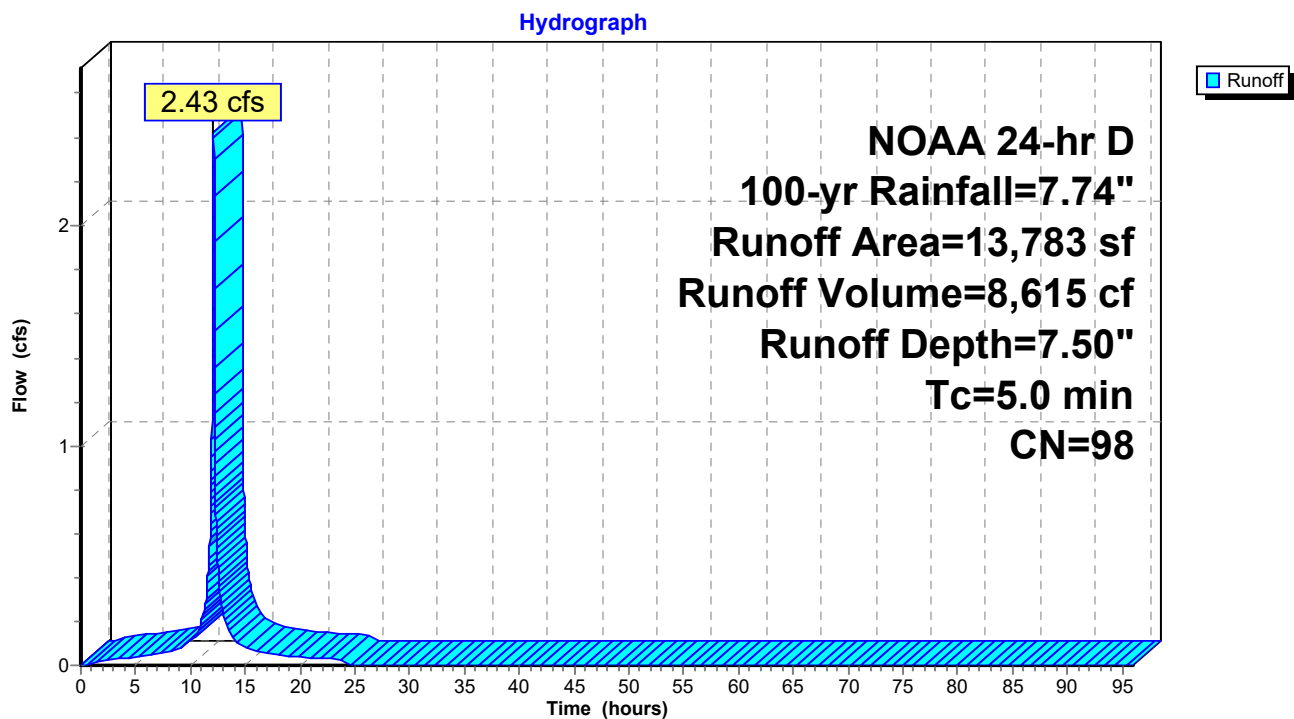
Runoff = 2.43 cfs @ 12.12 hrs, Volume= 8,615 cf, Depth= 7.50"
 Routed to Pond 7P : CB B2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
0	61	>75% Grass cover, Good, HSG B
1	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
1	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
1	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
13,780	98	Roofs, HSG B
13,783	98	Weighted Average
3		0.02% Pervious Area
13,780		99.98% Impervious Area

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

Subcatchment 15: Subcat 15



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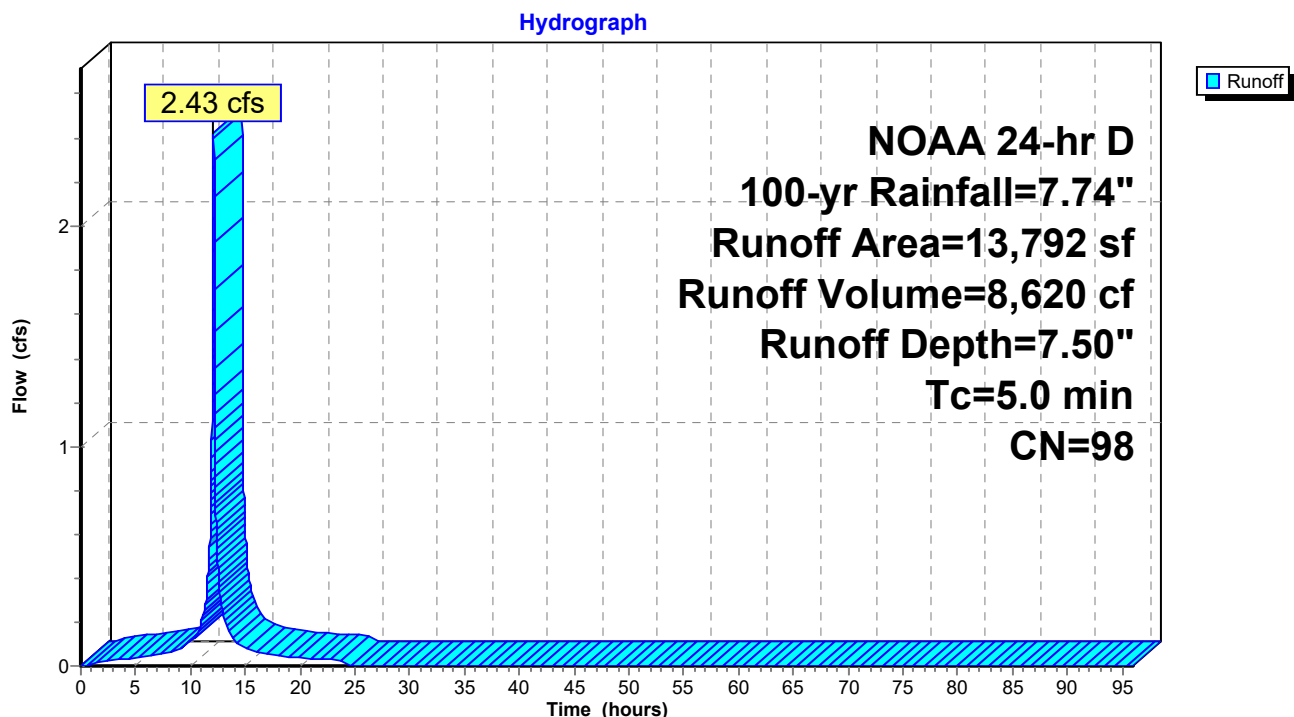
Summary for Subcatchment 16: Subcat 16

Runoff = 2.43 cfs @ 12.12 hrs, Volume= 8,620 cf, Depth= 7.50"
Routed to Pond 7P : CB B2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
1	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
0	61	>75% Grass cover, Good, HSG B
13,791	98	Roofs, HSG B
13,792	98	Weighted Average
1		0.01% Pervious Area
13,791		99.99% Impervious Area

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

Subcatchment 16: Subcat 16

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NOAA 24-hr D 100-yr Rainfall=7.74"

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Summary for Subcatchment 17: Subcat 17

Runoff = 0.69 cfs @ 12.13 hrs, Volume= 2,034 cf, Depth= 3.58"
Routed to Pond 7P : CB B2

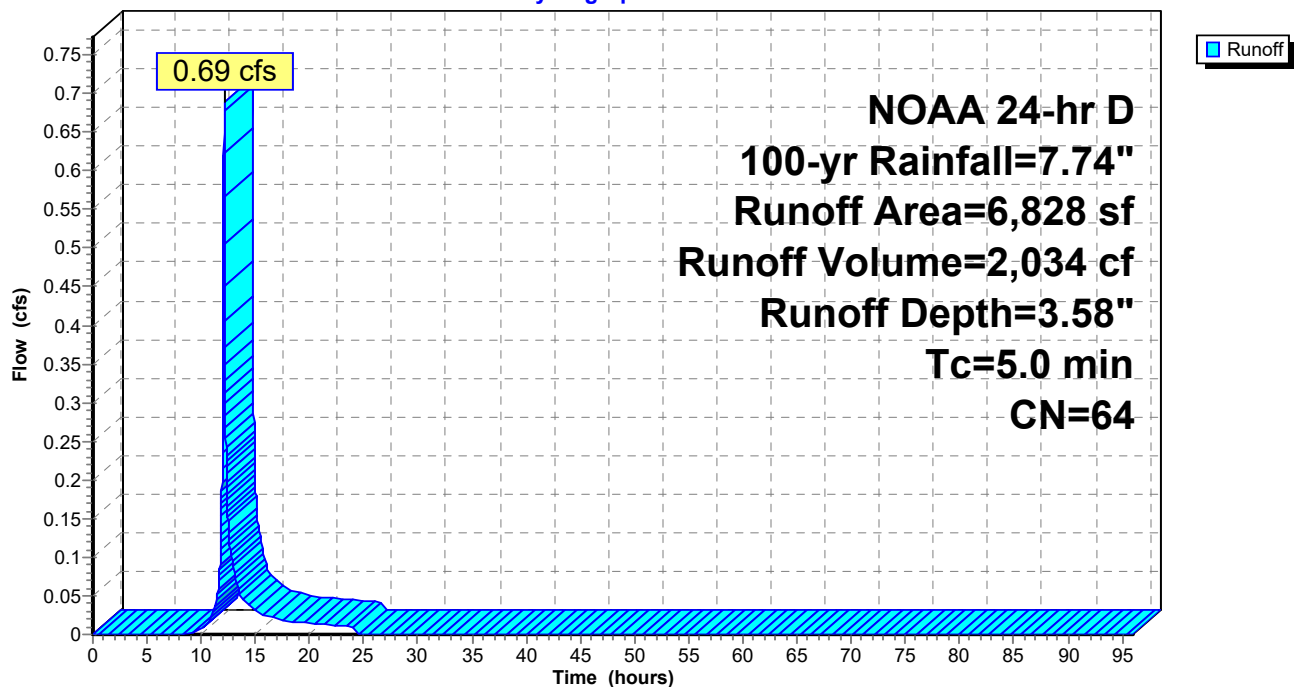
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
491	98	Roofs, HSG B
91	98	Roofs, HSG B
6,246	61	>75% Grass cover, Good, HSG B
6,828	64	Weighted Average
6,246		91.47% Pervious Area
582		8.53% Impervious Area

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

Subcatchment 17: Subcat 17

Hydrograph



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Summary for Subcatchment 18: Subcat 18

Runoff = 0.64 cfs @ 12.13 hrs, Volume= 1,898 cf, Depth= 3.58"
Routed to Pond 7P : CB B2

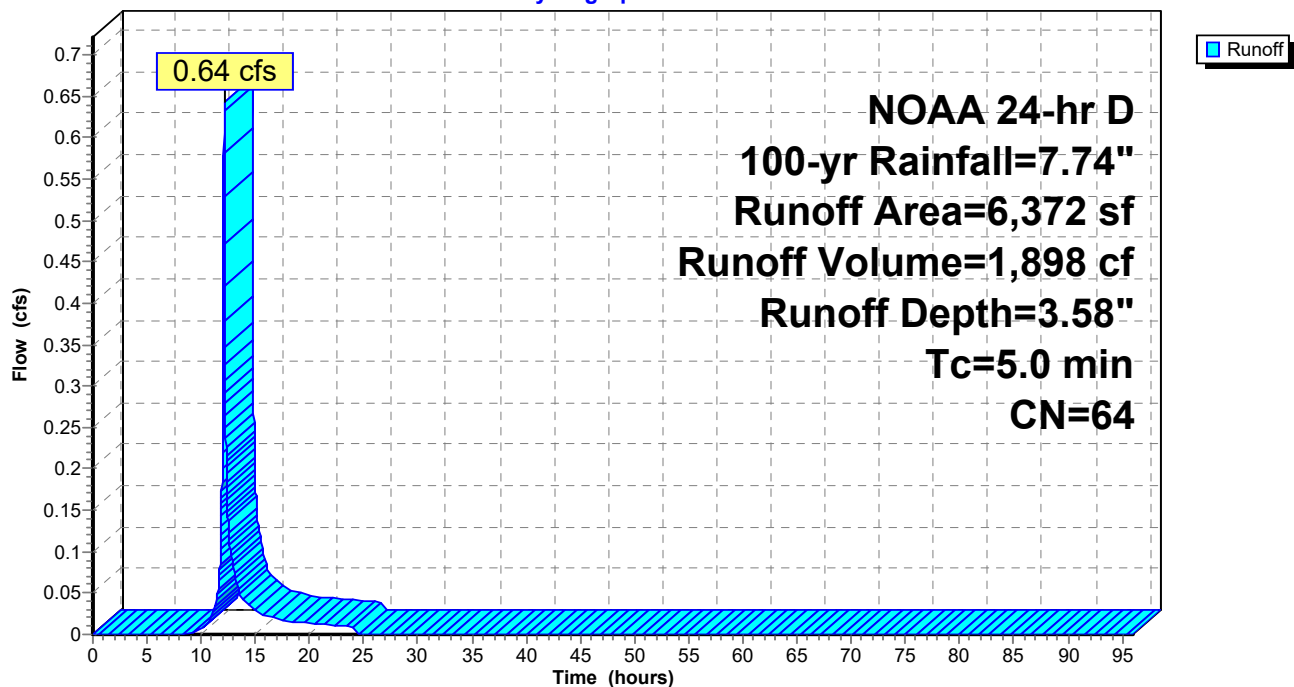
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
91	98	Roofs, HSG B
403	98	Roofs, HSG B
5,878	61	>75% Grass cover, Good, HSG B
6,372	64	Weighted Average
5,878		92.25% Pervious Area
494		7.75% Impervious Area

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

Subcatchment 18: Subcat 18

Hydrograph



2024-4-30 New Conditions - Rt 32 Culvert

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NOAA 24-hr D 100-yr Rainfall=7.74"

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Summary for Subcatchment 19: Subcat 19

Runoff = 0.30 cfs @ 12.22 hrs, Volume= 1,262 cf, Depth= 2.61"
Routed to Link 3L : Rt. 32 Culvert

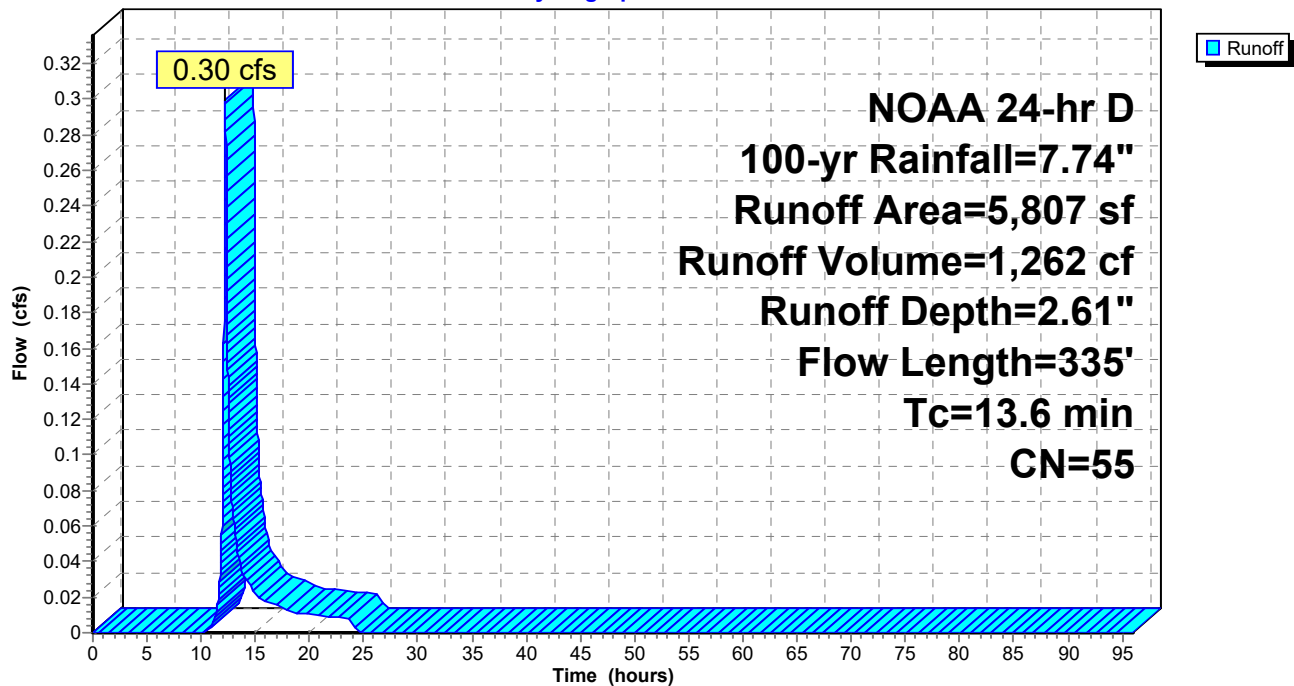
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
5,794	55	Woods, Good, HSG B
13	61	>75% Grass cover, Good, HSG B
5,807	55	Weighted Average
5,807		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9	100	0.0800	0.14		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.46"
1.7	235	0.2250	2.37		Shallow Concentrated Flow, scf Woodland Kv= 5.0 fps
13.6	335	Total			

Subcatchment 19: Subcat 19

Hydrograph



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NOAA 24-hr D 100-yr Rainfall=7.74"

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Summary for Subcatchment 21: Subcat 21

Runoff = 0.87 cfs @ 12.13 hrs, Volume= 2,570 cf, Depth= 3.47"
Routed to Link 3L : Rt. 32 Culvert

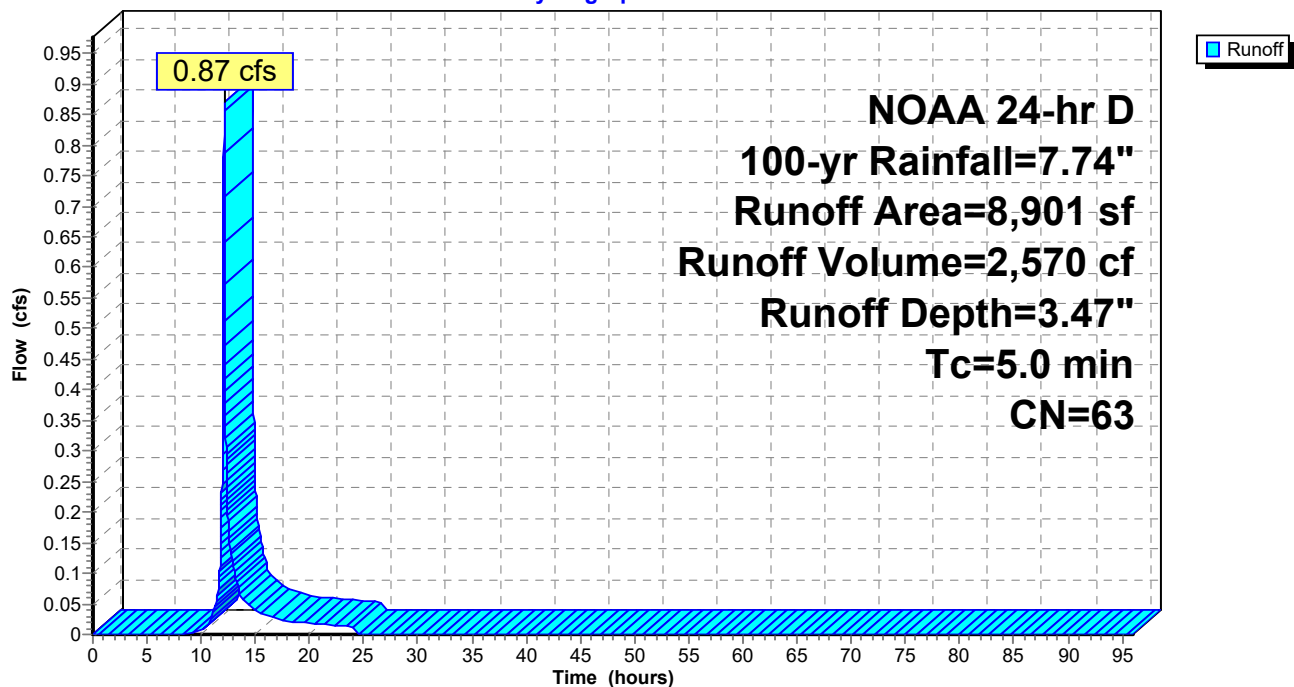
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
83	80	>75% Grass cover, Good, HSG D
345	98	Paved parking, HSG B
8,473	61	>75% Grass cover, Good, HSG B
8,901	63	Weighted Average
8,556		96.12% Pervious Area
345		3.88% Impervious Area

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

Subcatchment 21: Subcat 21

Hydrograph



2024-4-30 New Conditions - Rt 32 Culvert

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Summary for Subcatchment 22: Subcat 22

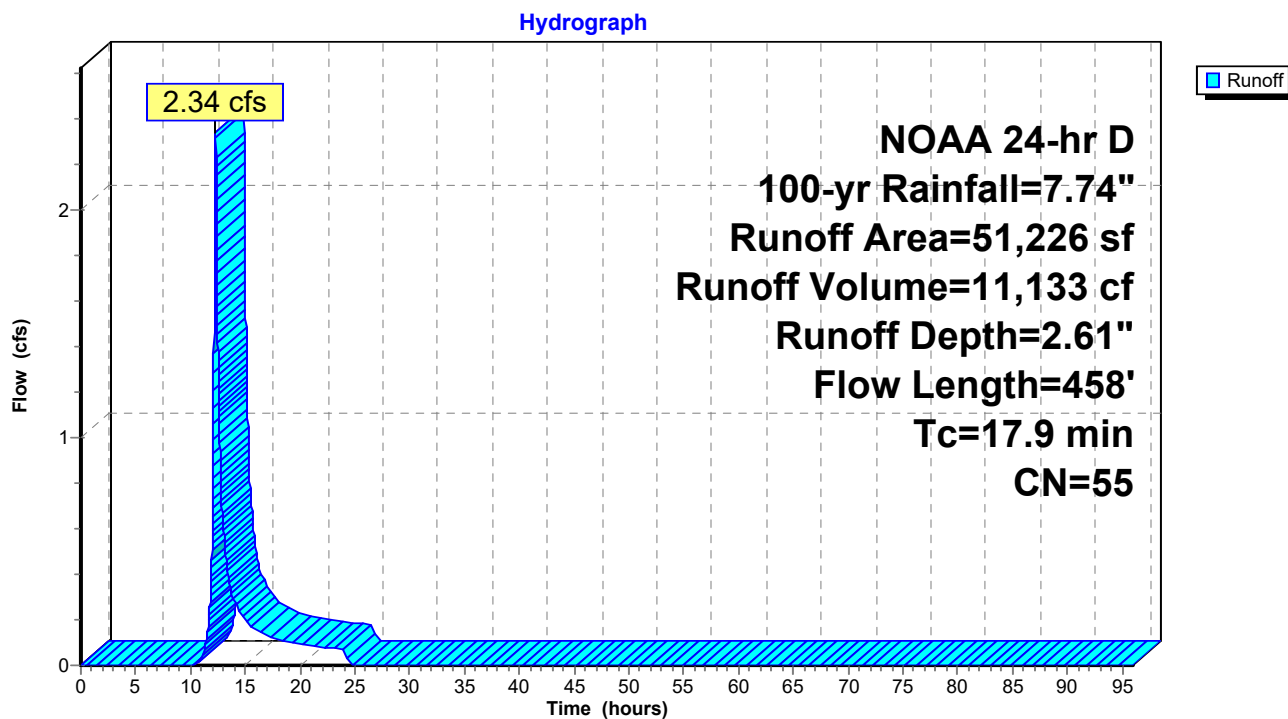
Runoff = 2.34 cfs @ 12.27 hrs, Volume= 11,133 cf, Depth= 2.61"
 Routed to Reach 23R : swale

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
47,884	55	Woods, Good, HSG B
0	98	Unconnected pavement, HSG B
20	98	Paved parking, HSG B
0	98	Unconnected pavement, HSG B
3,322	61	>75% Grass cover, Good, HSG B
51,226	55	Weighted Average
51,206		99.96% Pervious Area
20		0.04% Impervious Area
0		0.01% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.7	100	0.0400	0.11		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.46"
1.8	244	0.2140	2.31		Shallow Concentrated Flow, scf woods Woodland Kv= 5.0 fps
0.4	114	0.0960	4.65		Shallow Concentrated Flow, scf grass Grassed Waterway Kv= 15.0 fps
17.9	458	Total			

Subcatchment 22: Subcat 22



2024-4-30 New Conditions - Rt 32 Culvert

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Summary for Reach 5R: swale

Inflow Area = 20,189 sf, 2.77% Impervious, Inflow Depth = 3.36" for 100-yr event
Inflow = 1.85 cfs @ 12.13 hrs, Volume= 5,647 cf
Outflow = 1.81 cfs @ 12.17 hrs, Volume= 5,647 cf, Atten= 2%, Lag= 2.0 min
Routed to Pond 7P : CB B2

Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Max. Velocity= 4.49 fps, Min. Travel Time= 1.2 min

Avg. Velocity = 1.90 fps, Avg. Travel Time= 2.8 min

Peak Storage= 130 cf @ 12.15 hrs

Average Depth at Peak Storage= 0.34' , Surface Width= 2.37'

Defined Flood Depth= 1.31' Flow Area= 6.0 sf, Capacity= 66.50 cfs

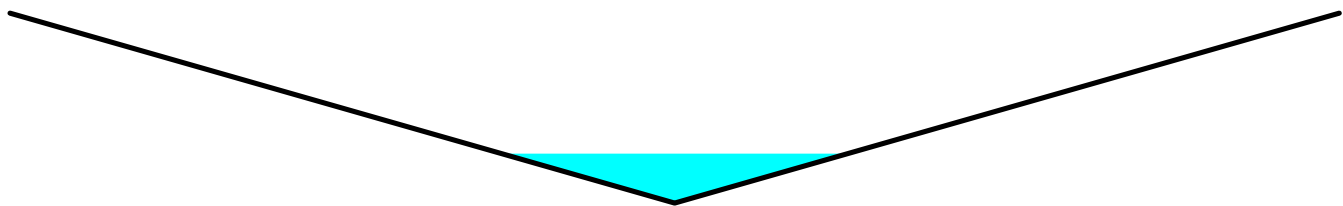
Bank-Full Depth= 1.30' Flow Area= 5.9 sf, Capacity= 65.17 cfs

0.00' x 1.30' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 3.5 ' / ' Top Width= 9.10'

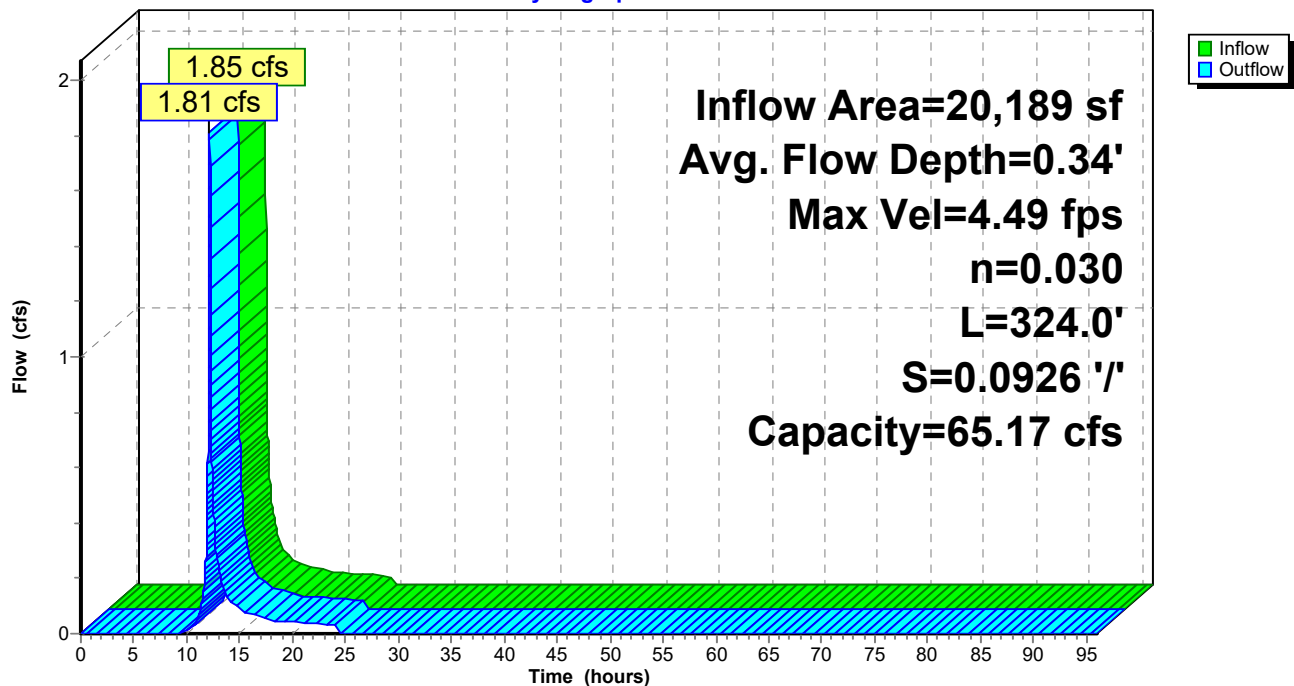
Length= 324.0' Slope= 0.0926 ' / '

Inlet Invert= 335.00', Outlet Invert= 305.00'



Reach 5R: swale

Hydrograph



2024-4-30 New Conditions - Rt 32 Culvert

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Summary for Reach 6R: swale

Inflow Area = 40,594 sf, 1.66% Impervious, Inflow Depth = 3.36" for 100-yr event
Inflow = 3.85 cfs @ 12.13 hrs, Volume= 11,354 cf
Outflow = 3.76 cfs @ 12.16 hrs, Volume= 11,354 cf, Atten= 2%, Lag= 1.9 min
Routed to Pond 8P : CB B1

Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.59 fps, Min. Travel Time= 1.2 min

Avg. Velocity = 2.33 fps, Avg. Travel Time= 2.8 min

Peak Storage= 264 cf @ 12.14 hrs

Average Depth at Peak Storage= 0.44' , Surface Width= 3.07'

Defined Flood Depth= 1.31' Flow Area= 6.0 sf, Capacity= 69.72 cfs

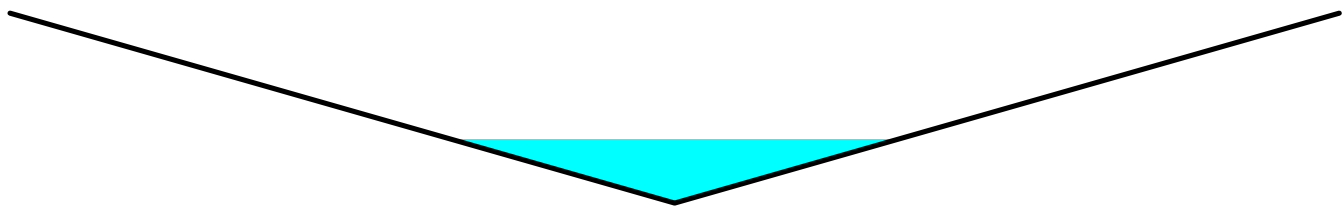
Bank-Full Depth= 1.30' Flow Area= 5.9 sf, Capacity= 68.33 cfs

0.00' x 1.30' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 3.5 ' / ' Top Width= 9.10'

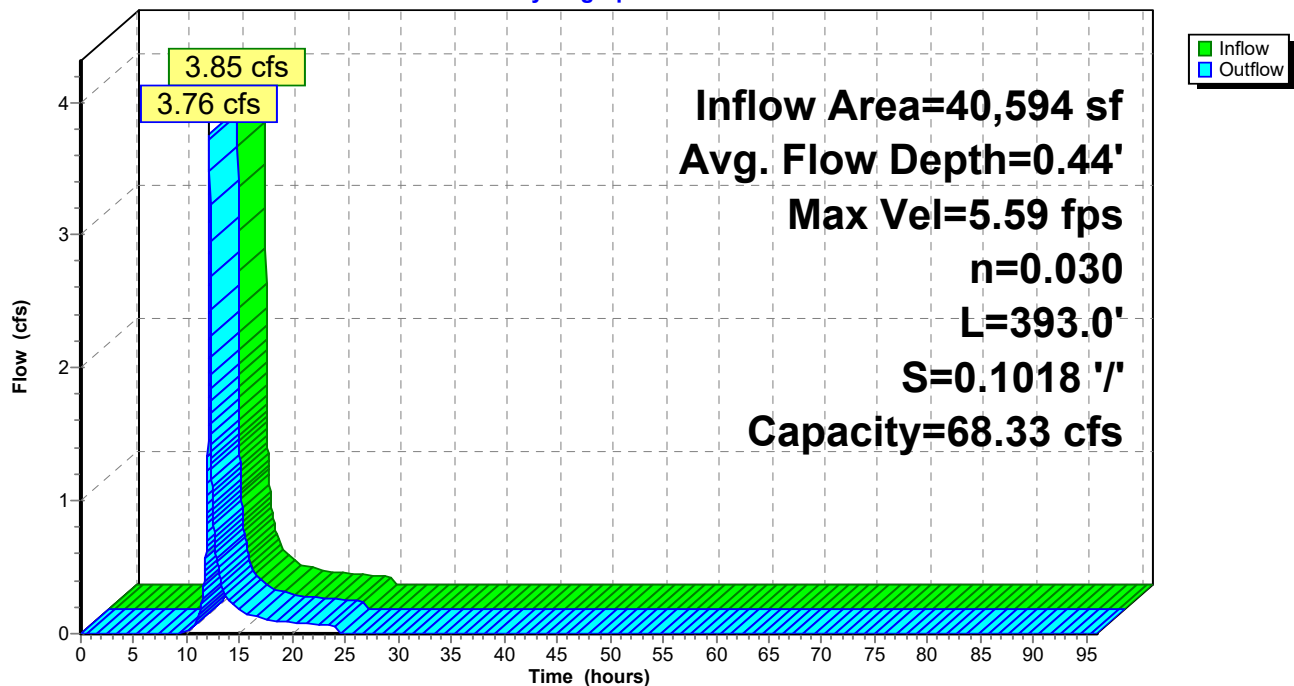
Length= 393.0' Slope= 0.1018 ' / '

Inlet Invert= 305.00', Outlet Invert= 265.00'



Reach 6R: swale

Hydrograph



2024-4-30 New Conditions - Rt 32 Culvert

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Summary for Reach 23R: swale

Inflow Area = 206,749 sf, 2.15% Impervious, Inflow Depth = 2.01" for 100-yr event
Inflow = 8.52 cfs @ 12.39 hrs, Volume= 34,711 cf
Outflow = 8.46 cfs @ 12.43 hrs, Volume= 34,711 cf, Atten= 1%, Lag= 2.1 min
Routed to Pond 9P : CB B8

Routing by Stor-Ind+Trans method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Max. Velocity= 5.52 fps, Min. Travel Time= 1.1 min

Avg. Velocity = 2.27 fps, Avg. Travel Time= 2.6 min

Peak Storage= 541 cf @ 12.41 hrs

Average Depth at Peak Storage= 0.62' , Surface Width= 4.98'

Defined Flood Depth= 1.08' Flow Area= 4.7 sf, Capacity= 37.96 cfs

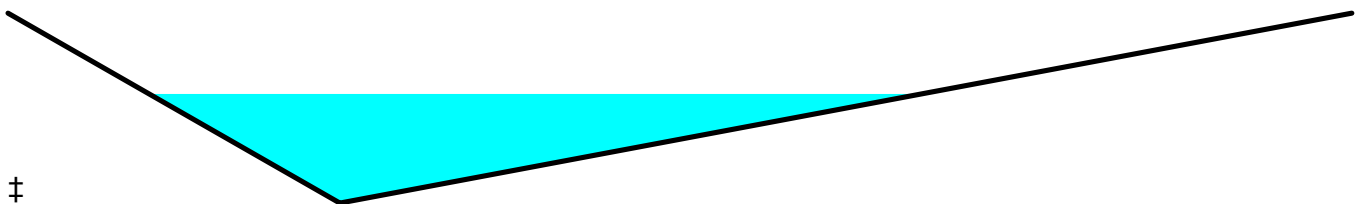
Bank-Full Depth= 1.07' Flow Area= 4.6 sf, Capacity= 37.04 cfs

0.00' x 1.07' deep channel, n= 0.030 Earth, grassed & winding

Side Slope Z-value= 2.0 6.1 '/' Top Width= 8.67'

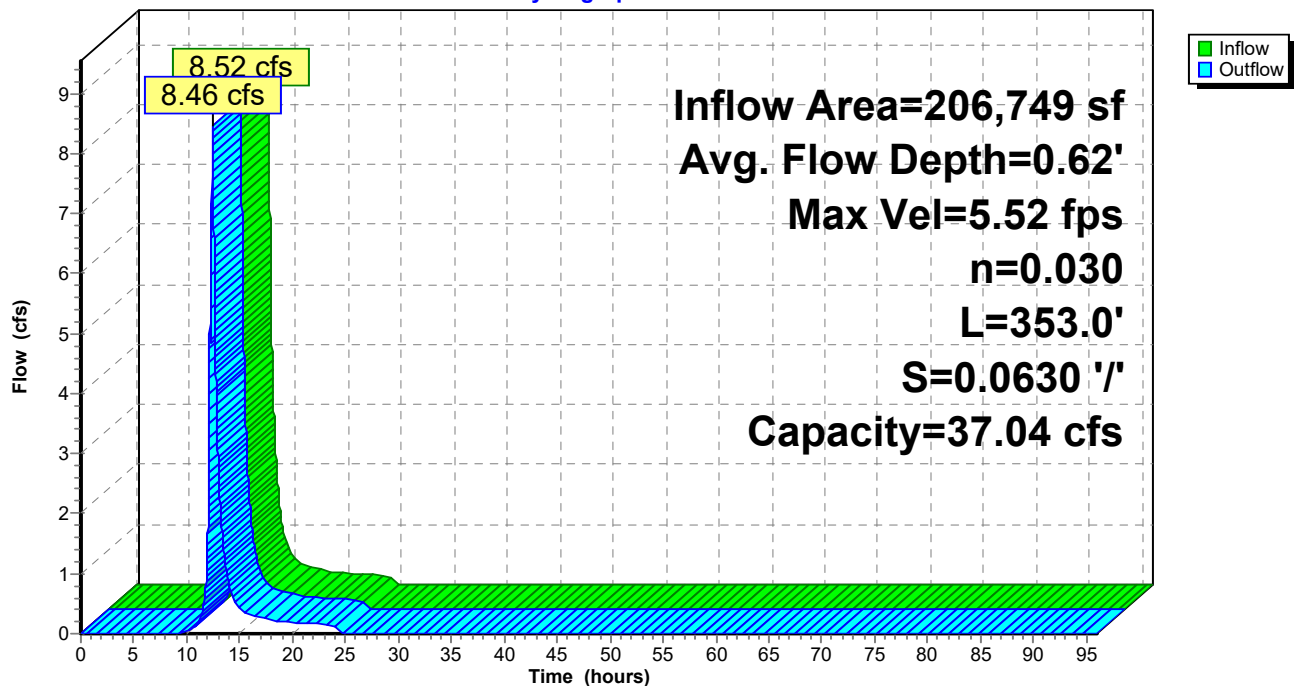
Length= 353.0' Slope= 0.0630 '/'

Inlet Invert= 289.00', Outlet Invert= 266.75'



Reach 23R: swale

Hydrograph



Summary for Pond 6P: Infiltration Basin

Inflow Area = 109,465 sf, 0.02% Impervious, Inflow Depth = 3.58" for 100-yr event
 Inflow = 6.25 cfs @ 12.35 hrs, Volume= 32,612 cf
 Outflow = 5.88 cfs @ 12.42 hrs, Volume= 32,612 cf, Atten= 6%, Lag= 4.3 min
 Discarded = 0.66 cfs @ 12.42 hrs, Volume= 22,334 cf
 Primary = 5.22 cfs @ 12.42 hrs, Volume= 10,278 cf
 Routed to Reach 23R : swale

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 Peak Elev= 314.84' @ 12.42 hrs Surf.Area= 2,650 sf Storage= 5,481 cf

Plug-Flow detention time= 56.4 min calculated for 32,608 cf (100% of inflow)
 Center-of-Mass det. time= 56.4 min (922.8 - 866.4)

Volume	Invert	Avail.Storage	Storage Description
#1	312.00'	5,911 cf	Custom Stage Data (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
312.00	1,287	133.0	0	0	1,287
313.00	1,714	152.0	1,495	1,495	1,741
314.00	2,199	171.0	1,951	3,447	2,255
315.00	2,740	190.0	2,465	5,911	2,830

Device	Routing	Invert	Outlet Devices
#1	Discarded	312.00'	10.800 in/hr Exfiltration over Surface area
#2	Primary	314.50'	10.0' long + 0.5 ' SideZ x 2.0' breadth Broad-Crested Rectangular Weir
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00
			2.50 3.00 3.50
			Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88
			2.85 3.07 3.20 3.32

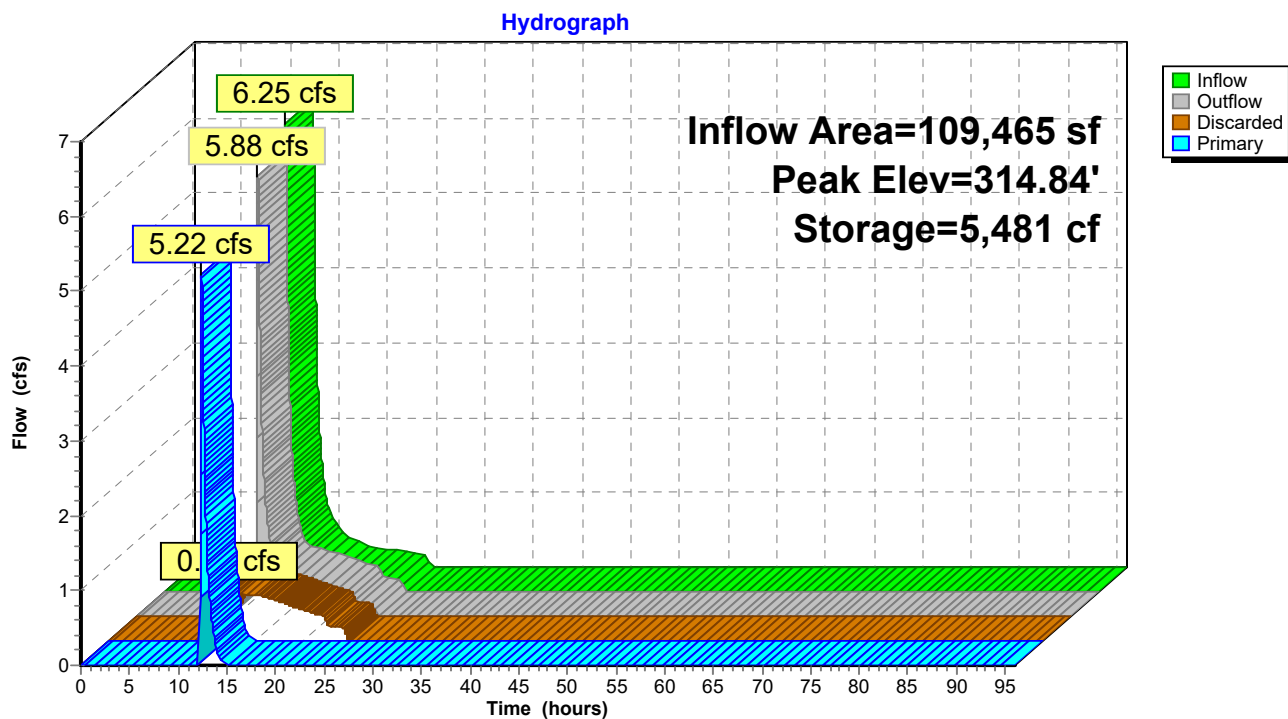
Discarded OutFlow Max=0.66 cfs @ 12.42 hrs HW=314.84' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.66 cfs)

Primary OutFlow Max=5.21 cfs @ 12.42 hrs HW=314.84' (Free Discharge)

↑**2=Broad-Crested Rectangular Weir** (Weir Controls 5.21 cfs @ 1.51 fps)

Pond 6P: Infiltration Basin



Summary for Pond 7P: CB B2

Inflow Area = 121,770 sf, 64.62% Impervious, Inflow Depth = 5.97" for 100-yr event
 Inflow = 17.84 cfs @ 12.12 hrs, Volume= 60,561 cf
 Outflow = 17.84 cfs @ 12.12 hrs, Volume= 60,561 cf, Atten= 0%, Lag= 0.0 min
 Primary = 17.84 cfs @ 12.12 hrs, Volume= 60,561 cf
 Routed to Pond 8P : CB B1

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

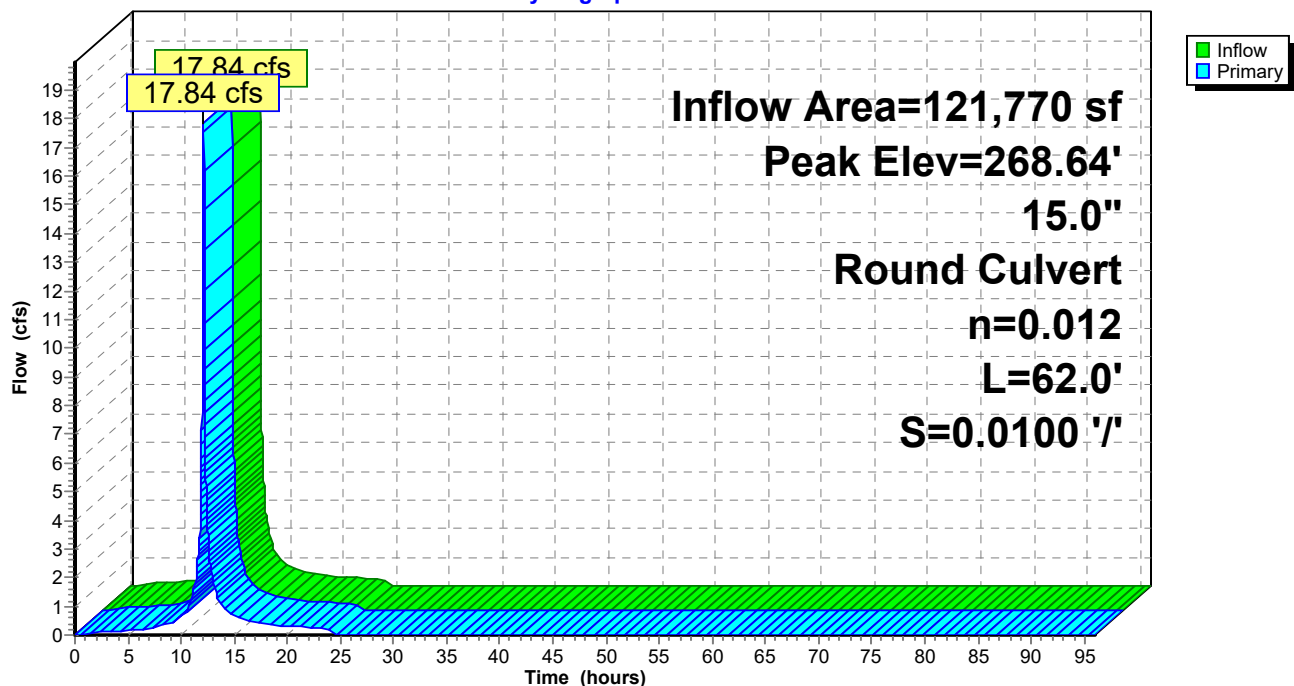
Peak Elev= 268.64' @ 12.12 hrs

Flood Elev= 270.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	258.90'	15.0" Round Culvert L= 62.0' Ke= 0.500 Inlet / Outlet Invert= 258.90' / 258.28' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=17.80 cfs @ 12.12 hrs HW=268.60' (Free Discharge)

↑**1=Culvert** (Inlet Controls 17.80 cfs @ 14.50 fps)

Pond 7P: CB B2**Hydrograph**

Summary for Pond 8P: CB B1

[79] Warning: Submerged Pond 7P Primary device # 1 INLET by 2.27'

Inflow Area = 162,365 sf, 48.87% Impervious, Inflow Depth = 5.32" for 100-yr event
 Inflow = 21.28 cfs @ 12.13 hrs, Volume= 71,915 cf
 Outflow = 21.28 cfs @ 12.13 hrs, Volume= 71,915 cf, Atten= 0%, Lag= 0.0 min
 Primary = 21.28 cfs @ 12.13 hrs, Volume= 71,915 cf
 Routed to Pond 16P : INF-A

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Peak Elev= 261.17' @ 12.13 hrs

Flood Elev= 265.00'

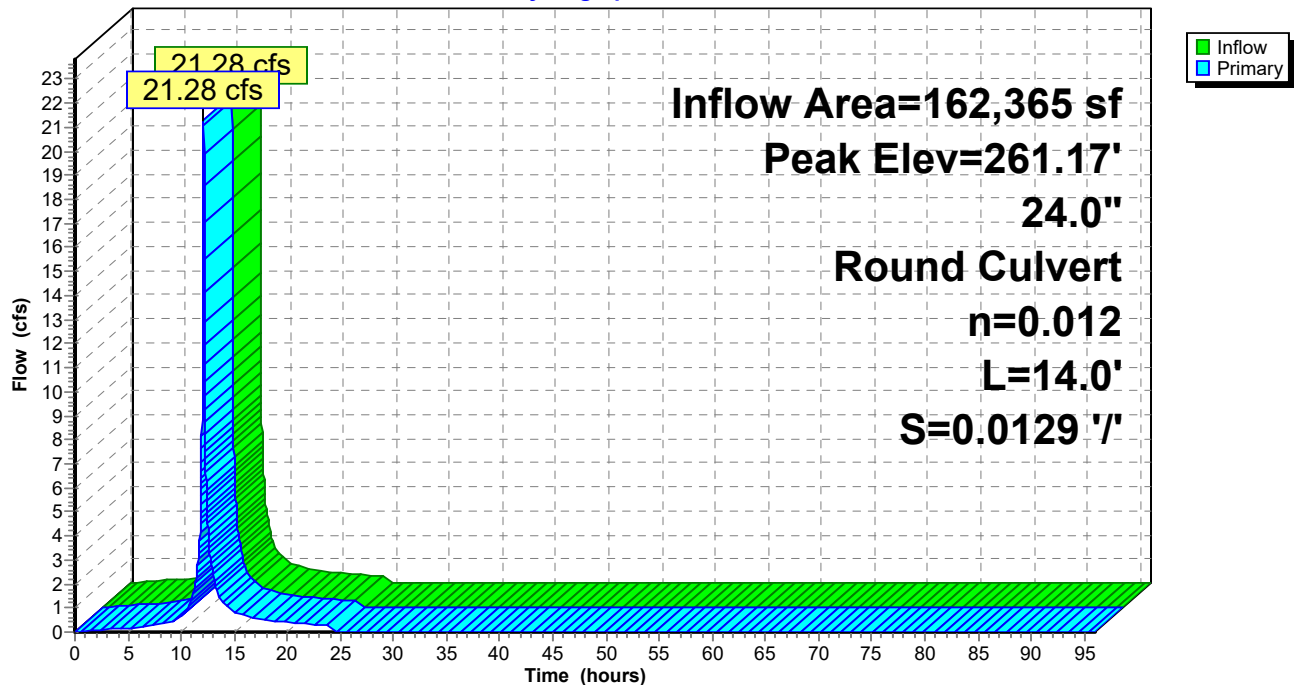
Device	Routing	Invert	Outlet Devices
#1	Primary	258.18'	24.0" Round Culvert L= 14.0' Ke= 0.500 Inlet / Outlet Invert= 258.18' / 258.00' S= 0.0129 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=21.23 cfs @ 12.13 hrs HW=261.17' (Free Discharge)

↑**1=Culvert** (Barrel Controls 21.23 cfs @ 6.76 fps)

Pond 8P: CB B1

Hydrograph



2024-4-30 New Conditions - Rt 32 Culvert

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Summary for Pond 9P: CB B8

Inflow Area = 206,749 sf, 2.15% Impervious, Inflow Depth = 2.01" for 100-yr event
Inflow = 8.46 cfs @ 12.43 hrs, Volume= 34,711 cf
Outflow = 8.46 cfs @ 12.43 hrs, Volume= 34,711 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.46 cfs @ 12.43 hrs, Volume= 34,711 cf
Routed to Pond 16P : INF-A

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

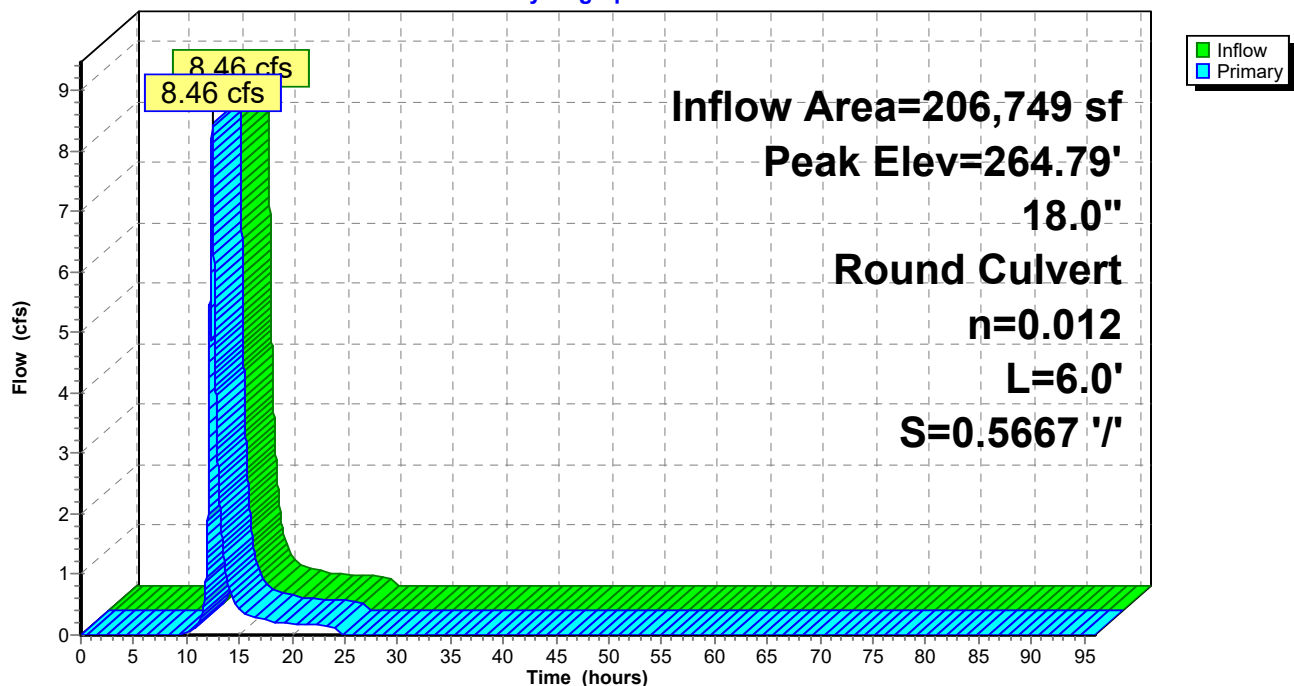
Peak Elev= 264.79' @ 12.43 hrs

Flood Elev= 266.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	263.05'	18.0" Round Culvert L= 6.0' Ke= 0.500 Inlet / Outlet Invert= 263.05' / 259.65' S= 0.5667 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=8.46 cfs @ 12.43 hrs HW=264.79' (Free Discharge)

1=Culvert (Inlet Controls 8.46 cfs @ 4.78 fps)

Pond 9P: CB B8**Hydrograph**

Summary for Pond 12P: CB A5.1

Inflow Area = 30,100 sf, 48.89% Impervious, Inflow Depth = 5.27" for 100-yr event
 Inflow = 4.34 cfs @ 12.12 hrs, Volume= 13,210 cf
 Outflow = 4.34 cfs @ 12.12 hrs, Volume= 13,210 cf, Atten= 0%, Lag= 0.0 min
 Primary = 4.34 cfs @ 12.12 hrs, Volume= 13,210 cf
 Routed to Pond 13P : CB A5

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Peak Elev= 326.22' @ 12.12 hrs

Flood Elev= 327.50'

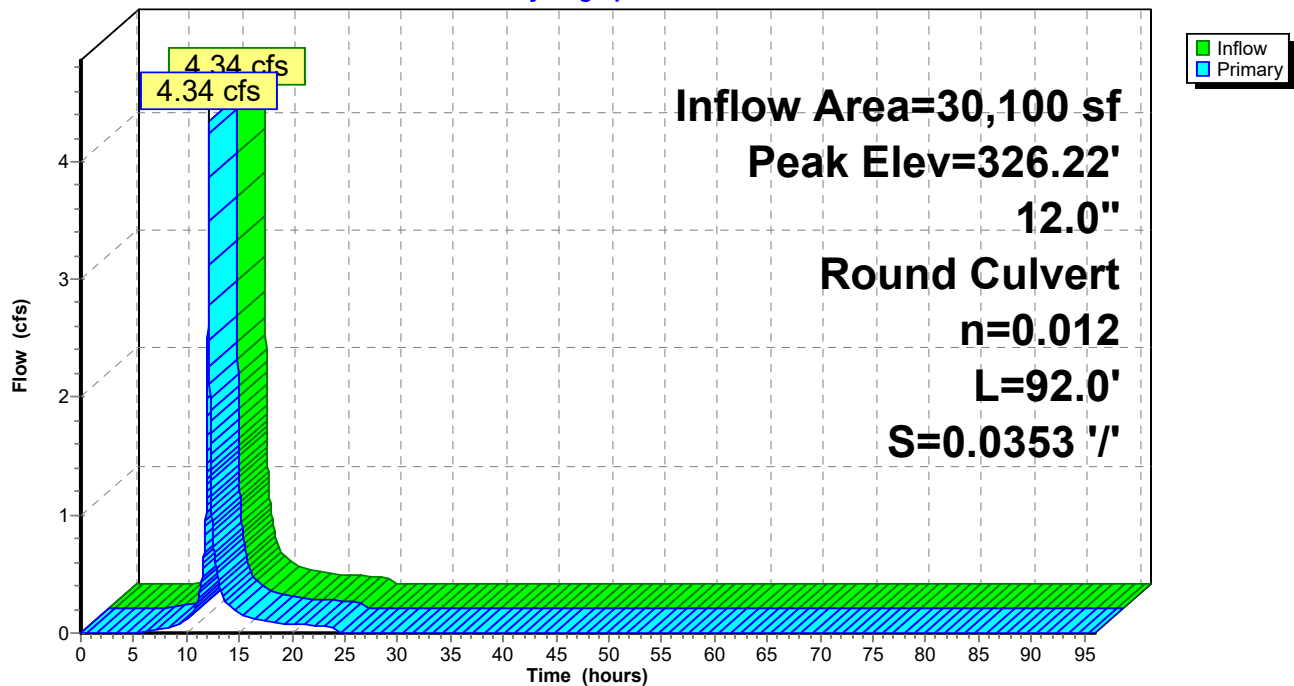
Device	Routing	Invert	Outlet Devices
#1	Primary	324.40'	12.0" Round Culvert L= 92.0' Ke= 0.500 Inlet / Outlet Invert= 324.40' / 321.15' S= 0.0353 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=4.33 cfs @ 12.12 hrs HW=326.21' (Free Discharge)

↑**1=Culvert** (Inlet Controls 4.33 cfs @ 5.52 fps)

Pond 12P: CB A5.1

Hydrograph



Summary for Pond 13P: CB A5

[79] Warning: Submerged Pond 12P Primary device # 1 OUTLET by 0.11'

Inflow Area = 90,765 sf, 51.63% Impervious, Inflow Depth = 5.73" for 100-yr event
 Inflow = 8.94 cfs @ 12.14 hrs, Volume= 43,353 cf
 Outflow = 8.94 cfs @ 12.14 hrs, Volume= 43,353 cf, Atten= 0%, Lag= 0.0 min
 Primary = 8.94 cfs @ 12.14 hrs, Volume= 43,353 cf
 Routed to Pond 15P : INF-B

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Peak Elev= 321.26' @ 12.14 hrs

Flood Elev= 324.25'

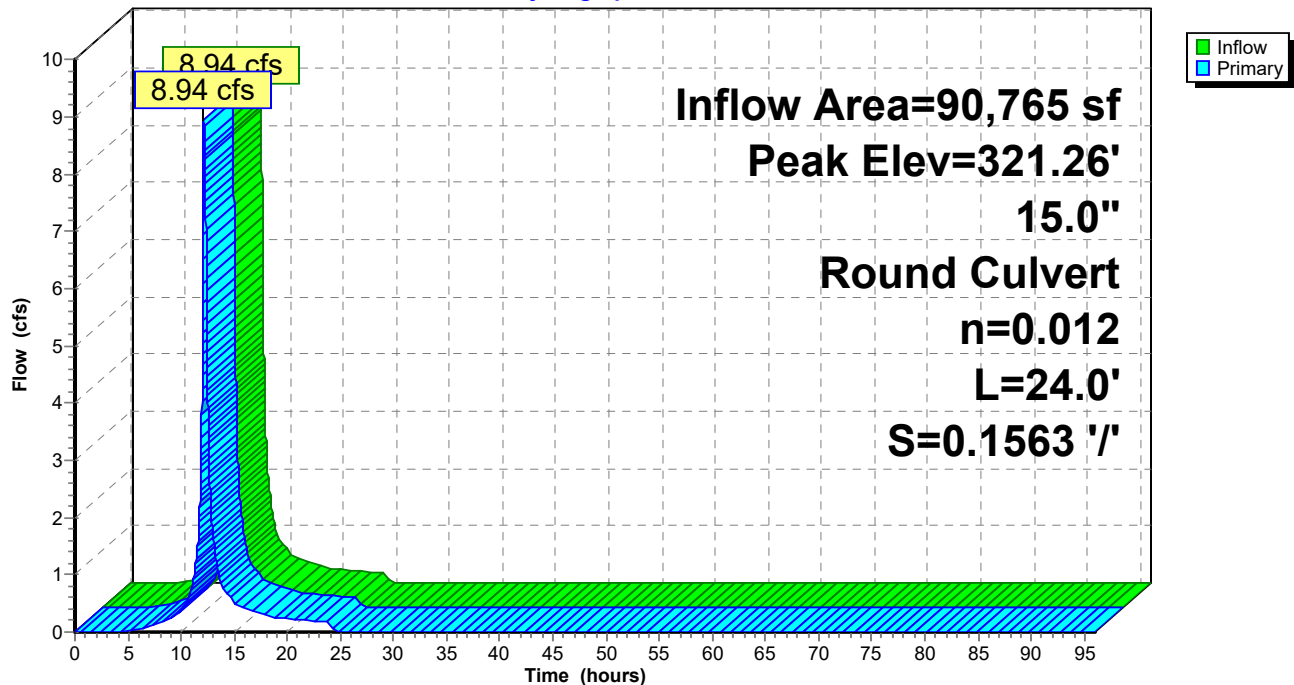
Device	Routing	Invert	Outlet Devices
#1	Primary	318.35'	15.0" Round Culvert L= 24.0' Ke= 0.500 Inlet / Outlet Invert= 318.35' / 314.60' S= 0.1563 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=8.94 cfs @ 12.14 hrs HW=321.26' (Free Discharge)

↑**1=Culvert** (Inlet Controls 8.94 cfs @ 7.28 fps)

Pond 13P: CB A5

Hydrograph



Summary for Pond 14P: CB A9

Inflow Area = 11,909 sf, 96.82% Impervious, Inflow Depth = 7.38" for 100-yr event
 Inflow = 2.09 cfs @ 12.12 hrs, Volume= 7,325 cf
 Outflow = 2.09 cfs @ 12.12 hrs, Volume= 7,325 cf, Atten= 0%, Lag= 0.0 min
 Primary = 2.09 cfs @ 12.12 hrs, Volume= 7,325 cf
 Routed to Pond 15P : INF-B

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Peak Elev= 312.91' @ 12.12 hrs

Flood Elev= 315.20'

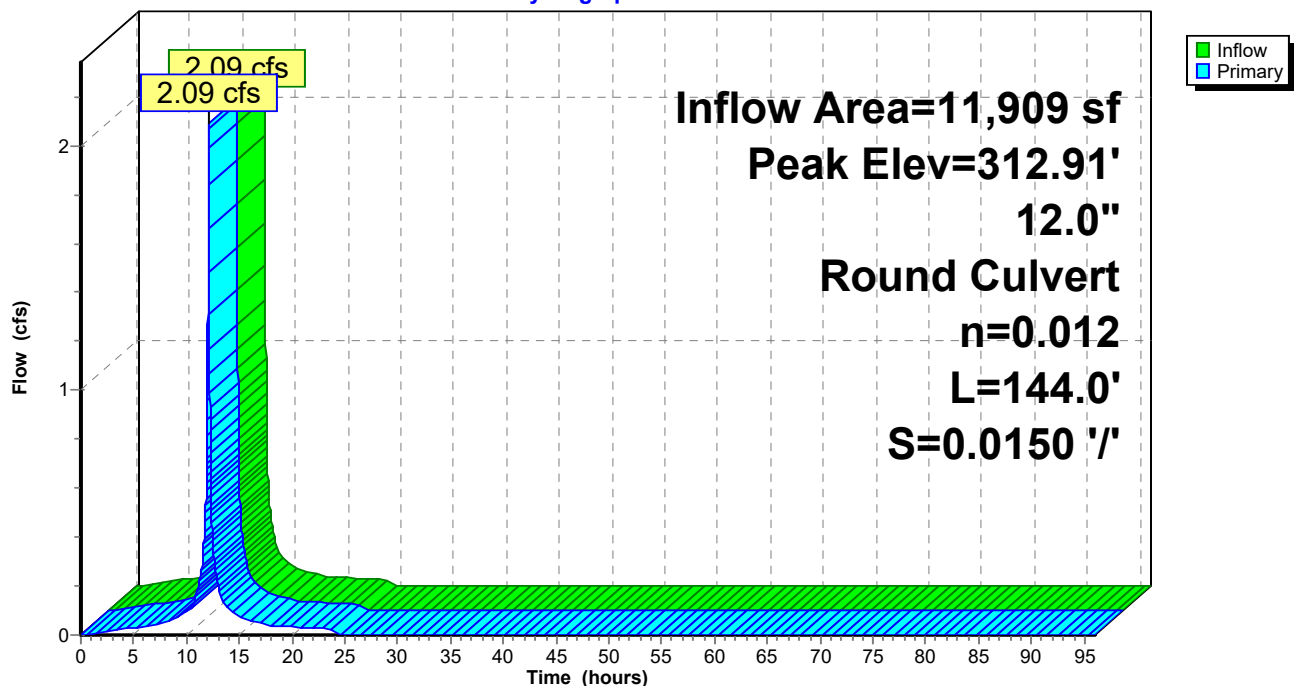
Device	Routing	Invert	Outlet Devices
#1	Primary	312.10'	12.0" Round Culvert L= 144.0' Ke= 0.500 Inlet / Outlet Invert= 312.10' / 309.94' S= 0.0150 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.09 cfs @ 12.12 hrs HW=312.91' (Free Discharge)

↑**1=Culvert** (Inlet Controls 2.09 cfs @ 3.07 fps)

Pond 14P: CB A9

Hydrograph



Summary for Pond 15P: INF-B

[42] Hint: Gap in defined storage above volume #1 at 312.83'

[79] Warning: Submerged Pond 13P Primary device # 1 OUTLET by 0.96'

[81] Warning: Exceeded Pond 14P by 3.26' @ 13.19 hrs

[81] Warning: Exceeded Pond 18P by 0.49' @ 13.19 hrs

Inflow Area = 171,160 sf, 72.48% Impervious, Inflow Depth = 6.47" for 100-yr event
 Inflow = 22.86 cfs @ 12.13 hrs, Volume= 92,319 cf
 Outflow = 2.62 cfs @ 12.19 hrs, Volume= 92,319 cf, Atten= 89%, Lag= 3.8 min
 Discarded = 2.62 cfs @ 12.19 hrs, Volume= 92,319 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Pond 16P : INF-A

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 Peak Elev= 315.56' @ 13.15 hrs Surf.Area= 10,496 sf Storage= 35,562 cf

Plug-Flow detention time= 144.0 min calculated for 92,319 cf (100% of inflow)
 Center-of-Mass det. time= 144.0 min (922.6 - 778.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	307.16'	0 cf	16.00'W x 328.00'L x 5.67'H Field A 29,739 cf Overall - 29,739 cf Embedded = 0 cf x 40.0% Voids
#2A	307.16'	22,991 cf	retain_it retain_it 5.0' x 82 Inside #1 Inside= 84.0"W x 60.0"H => 36.41 sf x 8.00'L = 291.3 cf Outside= 96.0"W x 68.0"H => 45.33 sf x 8.00'L = 362.7 cf 2 Rows adjusted for 893.5 cf perimeter wall
#3B	312.83'	0 cf	16.00'W x 328.00'L x 5.67'H Field B 29,739 cf Overall - 29,739 cf Embedded = 0 cf x 40.0% Voids
#4B	312.83'	22,991 cf	retain_it retain_it 5.0' x 82 Inside #3 Inside= 84.0"W x 60.0"H => 36.41 sf x 8.00'L = 291.3 cf Outside= 96.0"W x 68.0"H => 45.33 sf x 8.00'L = 362.7 cf 2 Rows adjusted for 893.5 cf perimeter wall
		45,983 cf	Total Available Storage

Storage Group A created with Chamber Wizard
 Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	307.16'	10.800 in/hr Exfiltration over Surface area
#2	Primary	316.00'	18.0" Round Culvert L= 106.0' Ke= 0.500 Inlet / Outlet Invert= 316.00' / 285.00' S= 0.2925 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Discarded OutFlow Max=2.62 cfs @ 12.19 hrs HW=312.94' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 2.62 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=307.16' (Free Discharge)

↑2=Culvert (Controls 0.00 cfs)

Pond 15P: INF-B - Chamber Wizard Field A

Chamber Model = retain_it retain_it 5.0' (retain-it®)

Inside= 84.0"W x 60.0"H => 36.41 sf x 8.00'L = 291.3 cf

Outside= 96.0"W x 68.0"H => 45.33 sf x 8.00'L = 362.7 cf

2 Rows adjusted for 893.5 cf perimeter wall

41 Chambers/Row x 8.00' Long = 328.00' Row Length

2 Rows x 96.0" Wide = 16.00' Base Width

68.0" Chamber Height = 5.67' Field Height

10.4 cf Sidewall x 41 x 2 + 10.4 cf Endwall x 2 x 2 = 893.5 cf Perimeter Wall

82 Chambers x 291.3 cf - 893.5 cf Perimeter wall = 22,991.4 cf Chamber Storage

82 Chambers x 362.7 cf = 29,738.7 cf Displacement

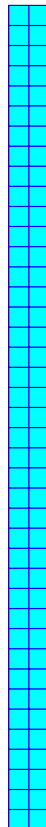
Chamber Storage = 22,991.4 cf = 0.528 af

Overall Storage Efficiency = 77.3%

Overall System Size = 328.00' x 16.00' x 5.67'

82 Chambers

1,101.4 cy Field



Pond 15P: INF-B - Chamber Wizard Field B

Chamber Model = retain_it retain_it 5.0' (retain-it®)

Inside= 84.0"W x 60.0"H => 36.41 sf x 8.00'L = 291.3 cf

Outside= 96.0"W x 68.0"H => 45.33 sf x 8.00'L = 362.7 cf

2 Rows adjusted for 893.5 cf perimeter wall

41 Chambers/Row x 8.00' Long = 328.00' Row Length

2 Rows x 96.0" Wide = 16.00' Base Width

68.0" Chamber Height = 5.67' Field Height

10.4 cf Sidewall x 41 x 2 + 10.4 cf Endwall x 2 x 2 = 893.5 cf Perimeter Wall

82 Chambers x 291.3 cf - 893.5 cf Perimeter wall = 22,991.4 cf Chamber Storage

82 Chambers x 362.7 cf = 29,738.7 cf Displacement

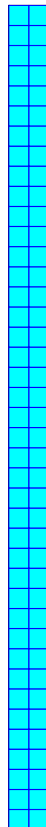
Chamber Storage = 22,991.4 cf = 0.528 af

Overall Storage Efficiency = 77.3%

Overall System Size = 328.00' x 16.00' x 5.67'

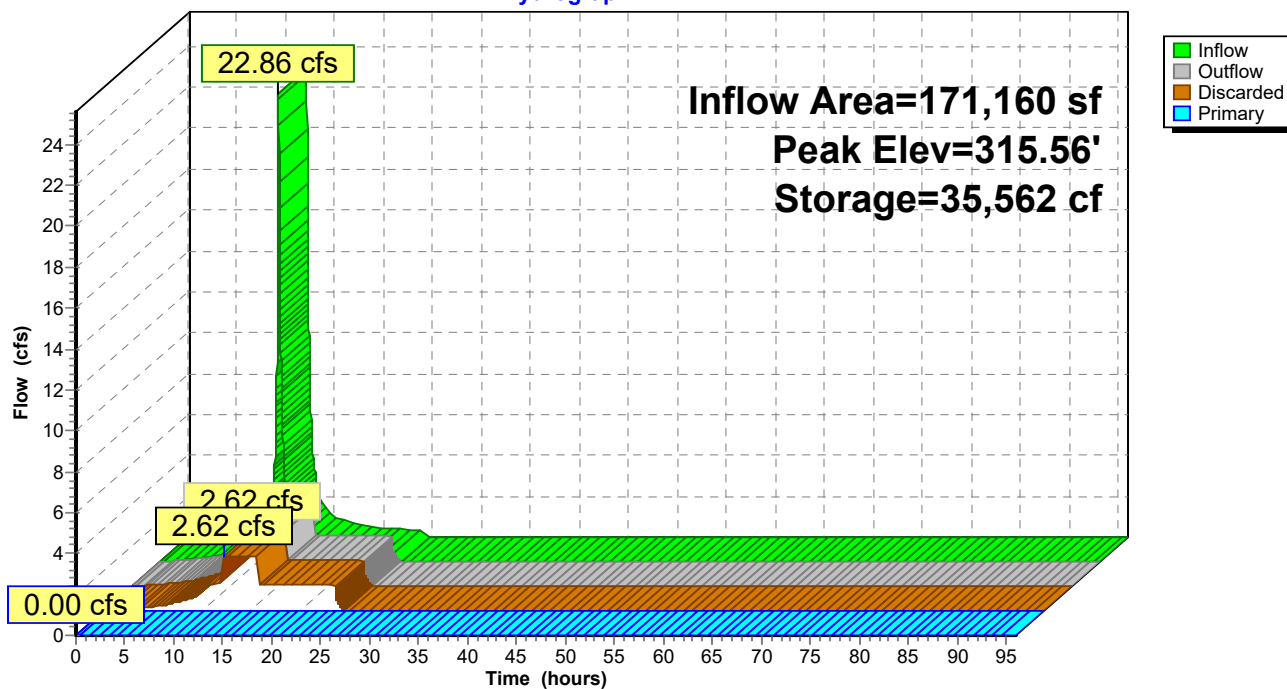
82 Chambers

1,101.4 cy Field



Pond 15P: INF-B

Hydrograph



Summary for Pond 16P: INF-A

[42] Hint: Gap in defined storage above volume #1 at 255.33'

[81] Warning: Exceeded Pond 8P by 0.21' @ 12.47 hrs

[79] Warning: Submerged Pond 9P Primary device # 1 OUTLET by 0.30'

Inflow Area = 544,507 sf, 38.82% Impervious, Inflow Depth = 2.40" for 100-yr event
 Inflow = 25.73 cfs @ 12.13 hrs, Volume= 109,021 cf
 Outflow = 17.39 cfs @ 12.21 hrs, Volume= 109,021 cf, Atten= 32%, Lag= 5.0 min
 Discarded = 1.34 cfs @ 11.97 hrs, Volume= 66,747 cf
 Primary = 16.05 cfs @ 12.21 hrs, Volume= 42,274 cf
 Routed to Link 3L : Rt. 32 Culvert

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 Peak Elev= 259.95' @ 12.21 hrs Surf.Area= 5,376 sf Storage= 23,015 cf

Plug-Flow detention time= 109.2 min calculated for 109,009 cf (100% of inflow)
 Center-of-Mass det. time= 109.2 min (913.4 - 804.2)

Volume	Invert	Avail.Storage	Storage Description
#1B	249.66'	0 cf	48.00'W x 56.00'L x 5.67'H Field B 15,232 cf Overall - 15,232 cf Embedded = 0 cf x 40.0% Voids
#2B	249.66'	11,964 cf	retain_it retain_it 5.0' x 42 Inside #1 Inside= 84.0"W x 60.0"H => 36.41 sf x 8.00'L = 291.3 cf Outside= 96.0"W x 68.0"H => 45.33 sf x 8.00'L = 362.7 cf 6 Rows adjusted for 270.1 cf perimeter wall
#3A	255.33'	0 cf	48.00'W x 56.00'L x 5.67'H Field A 15,232 cf Overall - 15,232 cf Embedded = 0 cf x 40.0% Voids
#4A	255.33'	11,964 cf	retain_it retain_it 5.0' x 42 Inside #3 Inside= 84.0"W x 60.0"H => 36.41 sf x 8.00'L = 291.3 cf Outside= 96.0"W x 68.0"H => 45.33 sf x 8.00'L = 362.7 cf 6 Rows adjusted for 270.1 cf perimeter wall
		23,927 cf	Total Available Storage

Storage Group B created with Chamber Wizard

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	249.66'	10.800 in/hr Exfiltration over Surface area
#2	Primary	257.50'	24.0" Round Culvert L= 69.0' Ke= 0.500 Inlet / Outlet Invert= 257.50' / 257.15' S= 0.0051 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Discarded OutFlow Max=1.34 cfs @ 11.97 hrs HW=255.46' (Free Discharge)↑**1=Exfiltration** (Exfiltration Controls 1.34 cfs)**Primary OutFlow** Max=16.05 cfs @ 12.21 hrs HW=259.95' (Free Discharge)↑**2=Culvert** (Barrel Controls 16.05 cfs @ 5.32 fps)

Pond 16P: INF-A - Chamber Wizard Field B

Chamber Model = retain_it retain_it 5.0' (retain-it®)

Inside= 84.0"W x 60.0"H => 36.41 sf x 8.00'L = 291.3 cf

Outside= 96.0"W x 68.0"H => 45.33 sf x 8.00'L = 362.7 cf

6 Rows adjusted for 270.1 cf perimeter wall

7 Chambers/Row x 8.00' Long = 56.00' Row Length

6 Rows x 96.0" Wide = 48.00' Base Width

68.0" Chamber Height = 5.67' Field Height

10.4 cf Sidewall x 7 x 2 + 10.4 cf Endwall x 6 x 2 = 270.1 cf Perimeter Wall

42 Chambers x 291.3 cf - 270.1 cf Perimeter wall = 11,963.6 cf Chamber Storage

42 Chambers x 362.7 cf = 15,232.0 cf Displacement

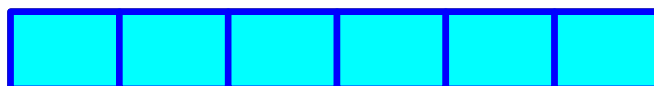
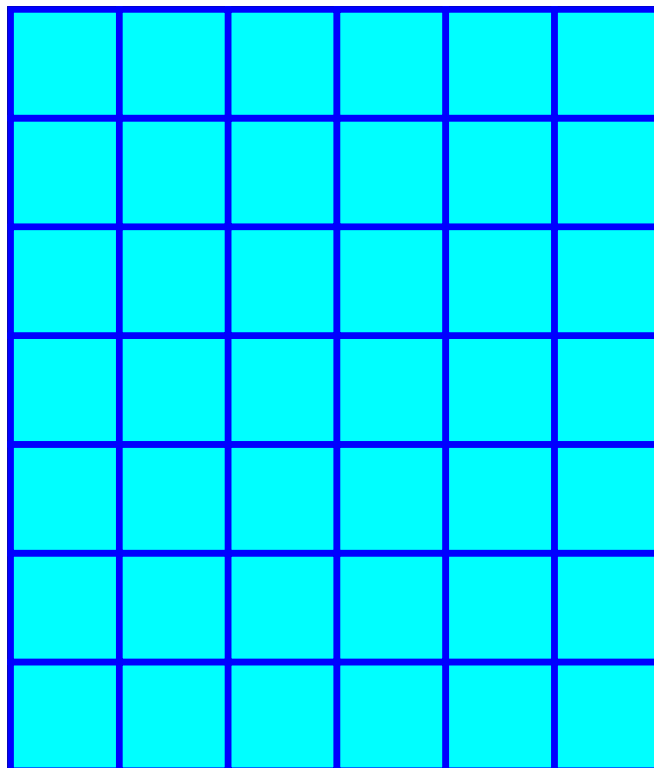
Chamber Storage = 11,963.6 cf = 0.275 af

Overall Storage Efficiency = 78.5%

Overall System Size = 56.00' x 48.00' x 5.67'

42 Chambers

564.1 cy Field



Pond 16P: INF-A - Chamber Wizard Field A

Chamber Model = retain_it retain_it 5.0' (retain-it®)

Inside= 84.0"W x 60.0"H => 36.41 sf x 8.00'L = 291.3 cf

Outside= 96.0"W x 68.0"H => 45.33 sf x 8.00'L = 362.7 cf

6 Rows adjusted for 270.1 cf perimeter wall

7 Chambers/Row x 8.00' Long = 56.00' Row Length

6 Rows x 96.0" Wide = 48.00' Base Width

68.0" Chamber Height = 5.67' Field Height

10.4 cf Sidewall x 7 x 2 + 10.4 cf Endwall x 6 x 2 = 270.1 cf Perimeter Wall

42 Chambers x 291.3 cf - 270.1 cf Perimeter wall = 11,963.6 cf Chamber Storage

42 Chambers x 362.7 cf = 15,232.0 cf Displacement

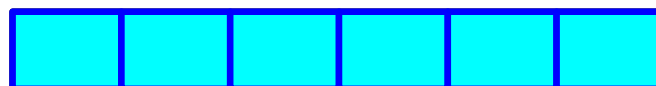
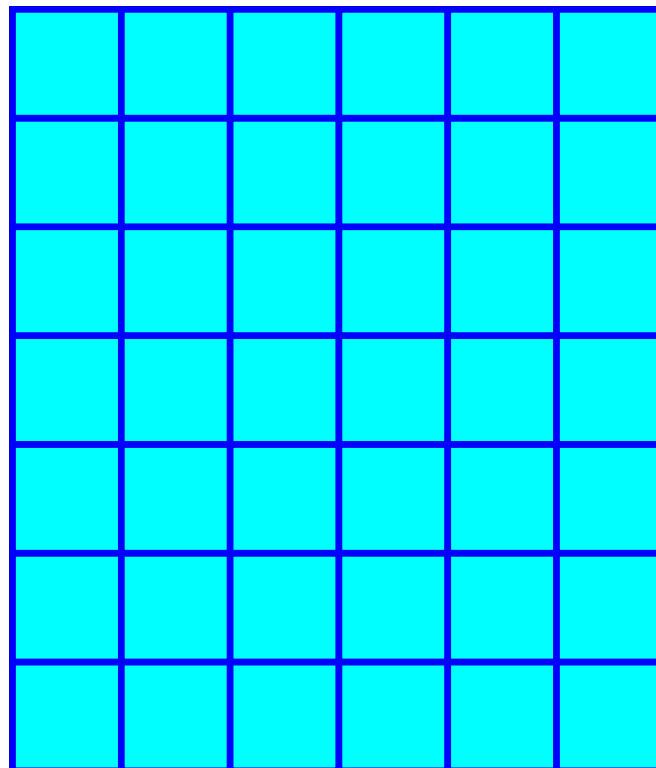
Chamber Storage = 11,963.6 cf = 0.275 af

Overall Storage Efficiency = 78.5%

Overall System Size = 56.00' x 48.00' x 5.67'

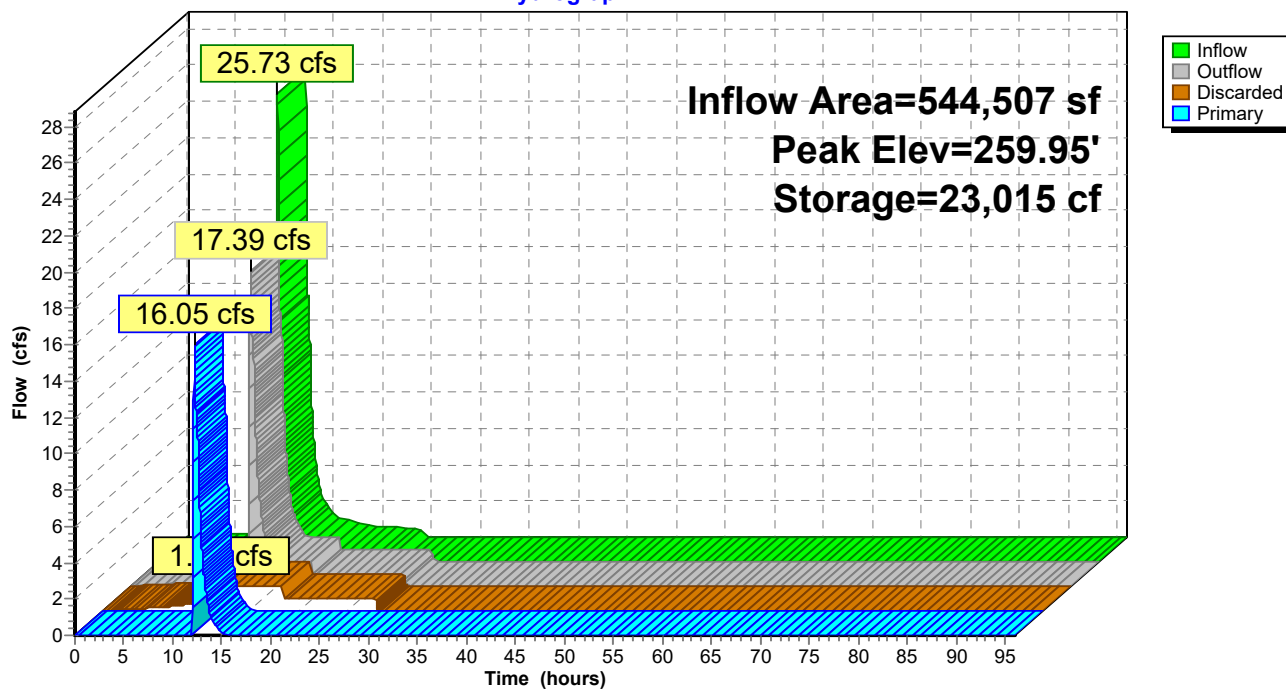
42 Chambers

564.1 cy Field



Pond 16P: INF-A

Hydrograph



2024-4-30 New Conditions - Rt 32 Culvert

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NOAA 24-hr D 100-yr Rainfall=7.74"

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Summary for Pond 17P: CB A1

Inflow Area = 48,523 sf, 94.79% Impervious, Inflow Depth = 7.26" for 100-yr event
Inflow = 8.49 cfs @ 12.12 hrs, Volume= 29,363 cf
Outflow = 8.49 cfs @ 12.12 hrs, Volume= 29,363 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.49 cfs @ 12.12 hrs, Volume= 29,363 cf
Routed to Pond 15P : INF-B

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Peak Elev= 328.69' @ 12.12 hrs

Flood Elev= 329.20'

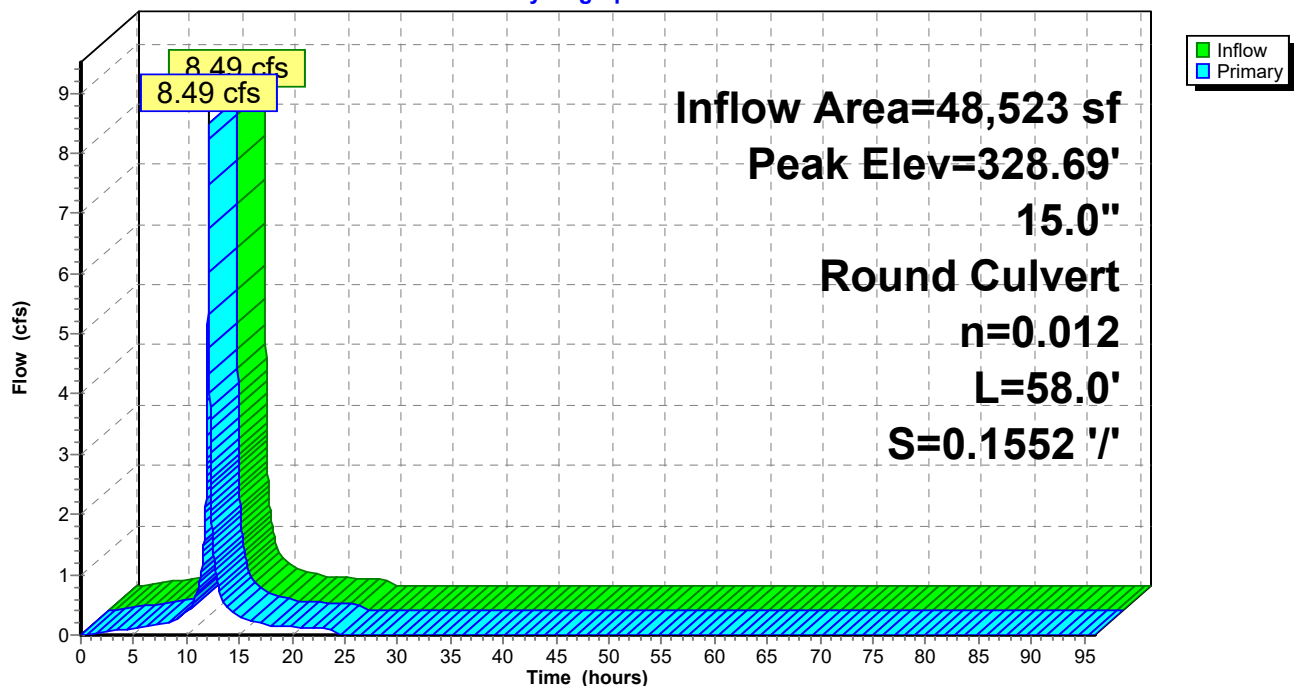
Device	Routing	Invert	Outlet Devices
#1	Primary	326.00'	15.0" Round Culvert L= 58.0' Ke= 0.500 Inlet / Outlet Invert= 326.00' / 317.00' S= 0.1552 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=8.49 cfs @ 12.12 hrs HW=328.69' (Free Discharge)

↑**1=Culvert** (Inlet Controls 8.49 cfs @ 6.92 fps)

Pond 17P: CB A1

Hydrograph



Summary for Pond 18P: CB 10

Inflow Area = 19,963 sf, 98.49% Impervious, Inflow Depth = 7.38" for 100-yr event
 Inflow = 3.51 cfs @ 12.12 hrs, Volume= 12,279 cf
 Outflow = 3.51 cfs @ 12.12 hrs, Volume= 12,279 cf, Atten= 0%, Lag= 0.0 min
 Primary = 3.51 cfs @ 12.12 hrs, Volume= 12,279 cf
 Routed to Pond 15P : INF-B

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Peak Elev= 316.23' @ 12.12 hrs

Flood Elev= 318.60'

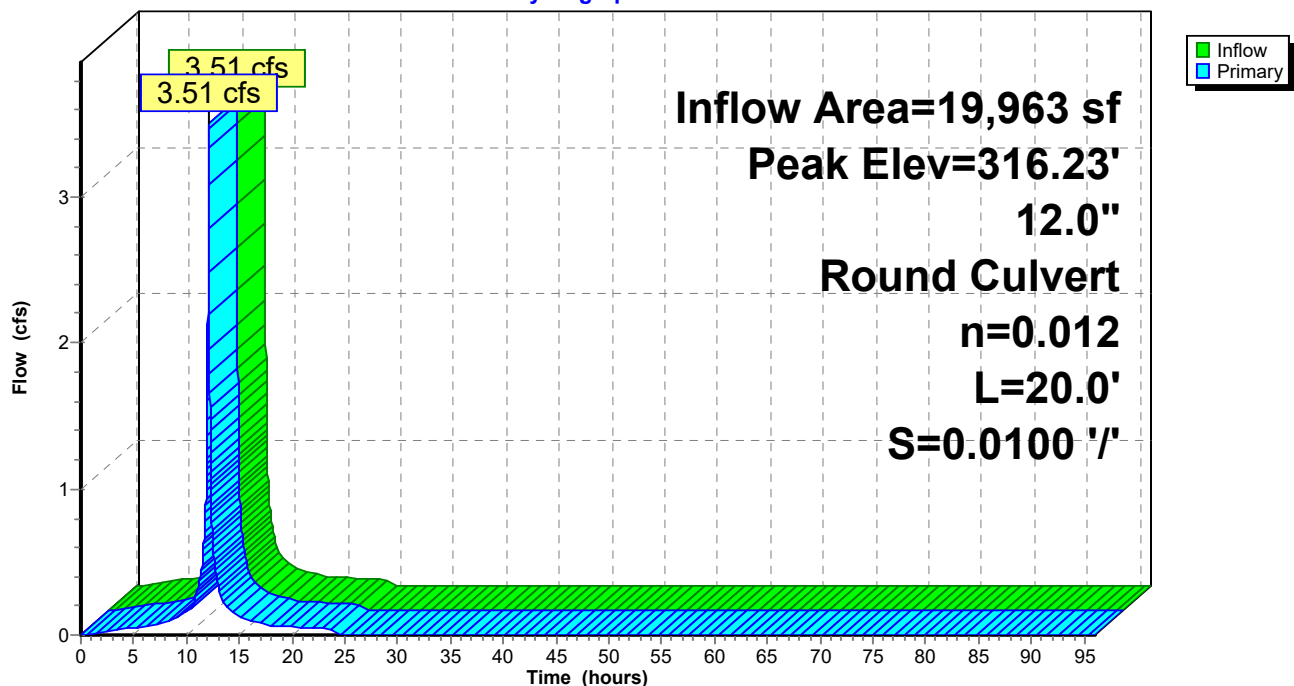
Device	Routing	Invert	Outlet Devices
#1	Primary	314.80'	12.0" Round Culvert L= 20.0' Ke= 0.500 Inlet / Outlet Invert= 314.80' / 314.60' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.51 cfs @ 12.12 hrs HW=316.23' (Free Discharge)

1=Culvert (Barrel Controls 3.51 cfs @ 4.47 fps)

Pond 18P: CB 10

Hydrograph

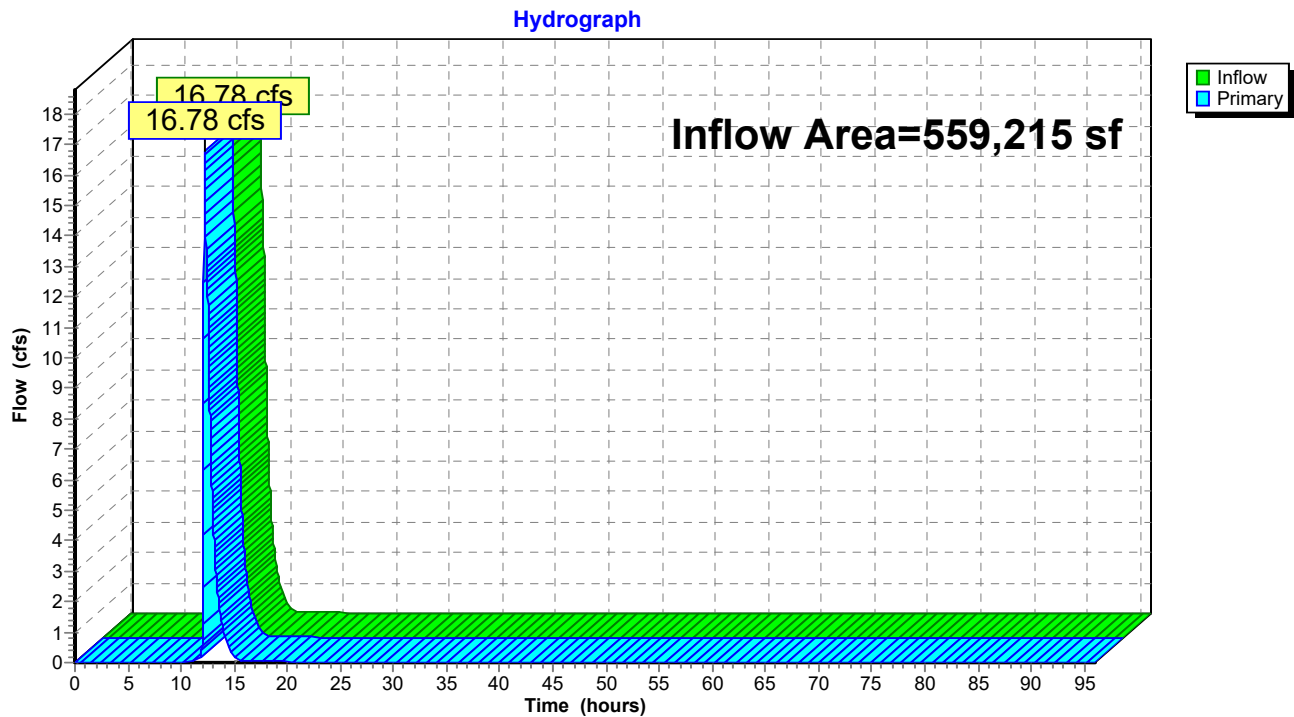


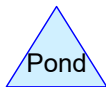
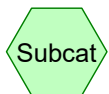
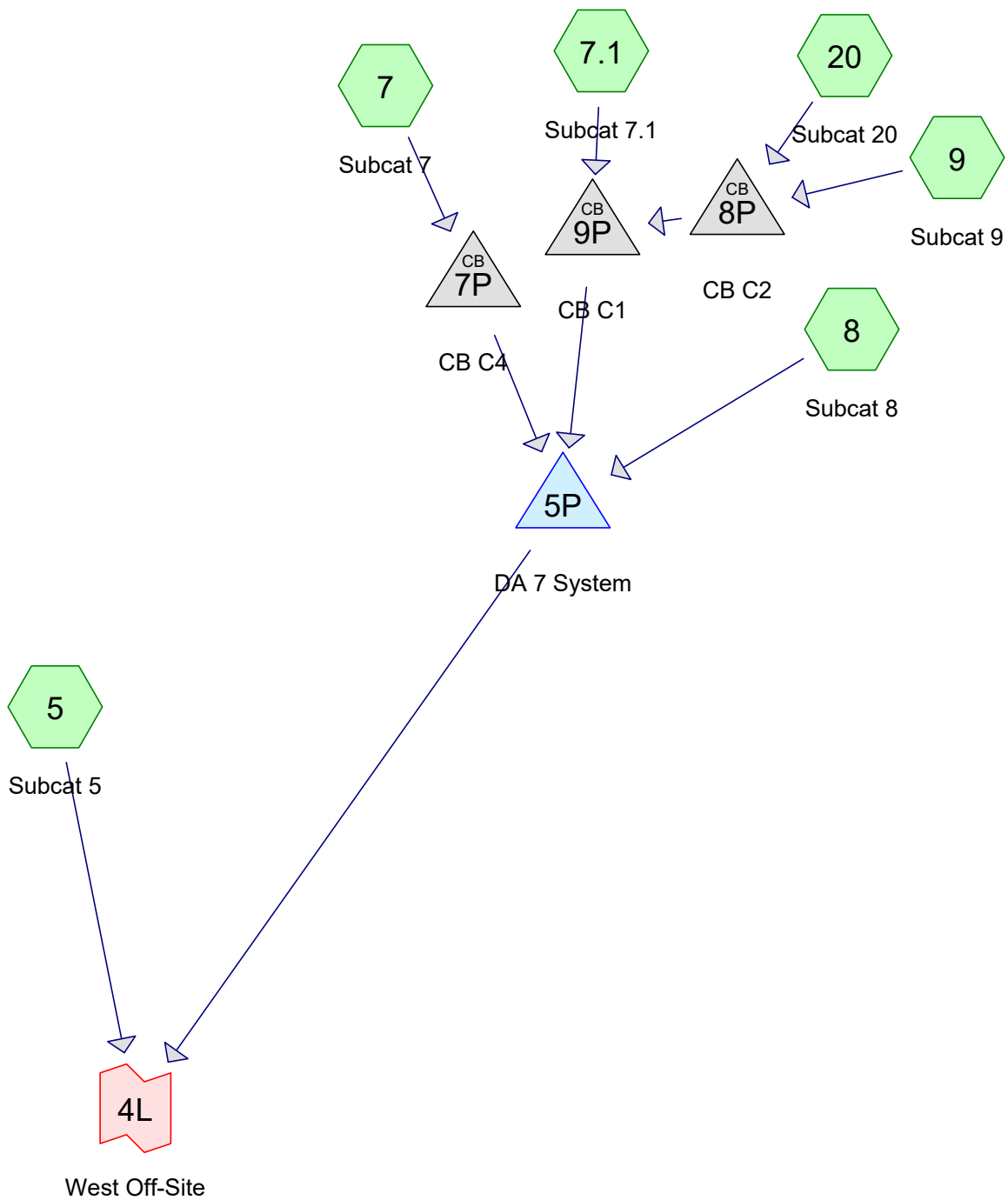
Summary for Link 3L: Rt. 32 Culvert

Inflow Area = 559,215 sf, 37.86% Impervious, Inflow Depth = 0.99" for 100-yr event
 Inflow = 16.78 cfs @ 12.21 hrs, Volume= 46,106 cf
 Primary = 16.78 cfs @ 12.21 hrs, Volume= 46,106 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Link 3L: Rt. 32 Culvert





2024-12-6 New Conditions-West

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	NOAA 24-hr	D	Default	24.00	1	3.46	2
2	5-yr	NOAA 24-hr	D	Default	24.00	1	4.36	2
3	10-yr	NOAA 24-hr	D	Default	24.00	1	5.11	2
4	25-yr	NOAA 24-hr	D	Default	24.00	1	6.15	2
5	50-yr	NOAA 24-hr	D	Default	24.00	1	6.92	2

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
54,283	61	>75% Grass cover, Good, HSG B (5, 7, 7.1, 9, 20)
4,136	80	>75% Grass cover, Good, HSG D (9, 20)
25,752	98	Paved parking, HSG B (5, 7, 7.1, 8, 20)
5,754	98	Paved parking, HSG D (8, 9, 20)
3,006	98	Roofs, HSG B (5, 7, 7.1, 8)
1,294	98	Roofs, HSG D (8)
1,577	98	Unconnected pavement, HSG B (7, 7.1, 9, 20)
605	98	Unconnected pavement, HSG D (9, 20)
73,353	55	Woods, Good, HSG B (5, 7, 7.1, 9)
11,586	77	Woods, Good, HSG D (7, 7.1, 9, 20)
181,345	68	TOTAL AREA

2024-12-6 New Conditions-West

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Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
157,970	HSG B	5, 7, 7.1, 8, 9, 20
0	HSG C	
23,374	HSG D	7, 7.1, 8, 9, 20
0	Other	
181,345		TOTAL AREA

2024-12-6 New Conditions-West

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Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Sub Num
0	54,283	0	4,136	0	58,419	>75% Grass cover, Good	
0	25,752	0	5,754	0	31,505	Paved parking	
0	3,006	0	1,294	0	4,299	Roofs	
0	1,577	0	605	0	2,182	Unconnected pavement	
0	73,353	0	11,586	0	84,939	Woods, Good	
0	157,970	0	23,374	0	181,345	TOTAL AREA	

2024-12-6 New Conditions-West

NOAA 24-hr D 2-yr Rainfall=3.46"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment5: Subcat 5

Runoff Area=69,961 sf 0.73% Impervious Runoff Depth=0.48"
Flow Length=269' Tc=19.3 min CN=59 Runoff=0.37 cfs 2,770 cf

Subcatchment7: Subcat 7

Runoff Area=1.270 ac 23.45% Impervious Runoff Depth=0.73"
Flow Length=262' Tc=18.9 min UI Adjusted CN=65 Runoff=0.60 cfs 3,371 cf

Subcatchment7.1: Subcat 7.1

Runoff Area=36,358 sf 32.67% Impervious Runoff Depth=1.34"
Flow Length=441' Tc=21.9 min CN=76 Runoff=0.79 cfs 4,049 cf

Subcatchment8: Subcat 8

Runoff Area=5,496 sf 100.00% Impervious Runoff Depth=3.23"
Tc=5.0 min CN=98 Runoff=0.43 cfs 1,478 cf

Subcatchment9: Subcat 9

Runoff Area=6,071 sf 49.70% Impervious Runoff Depth=1.98"
Tc=5.0 min CN=85 Runoff=0.34 cfs 1,002 cf

Subcatchment20: Subcat 20

Runoff Area=8,137 sf 50.55% Impervious Runoff Depth=2.15"
Tc=5.0 min CN=87 Runoff=0.49 cfs 1,456 cf

Pond 5P: DA 7 System

Peak Elev=345.56' Storage=4,637 cf Inflow=1.93 cfs 11,355 cf
Outflow=0.48 cfs 11,349 cf

Pond 7P: CB C4

Peak Elev=345.41' Inflow=0.60 cfs 3,371 cf
15.0" Round Culvert n=0.012 L=70.0' S=0.0050 '/' Outflow=0.60 cfs 3,371 cf

Pond 8P: CB C2

Peak Elev=347.46' Inflow=0.82 cfs 2,458 cf
12.0" Round Culvert n=0.012 L=53.0' S=0.0283 '/' Outflow=0.82 cfs 2,458 cf

Pond 9P: CB C1

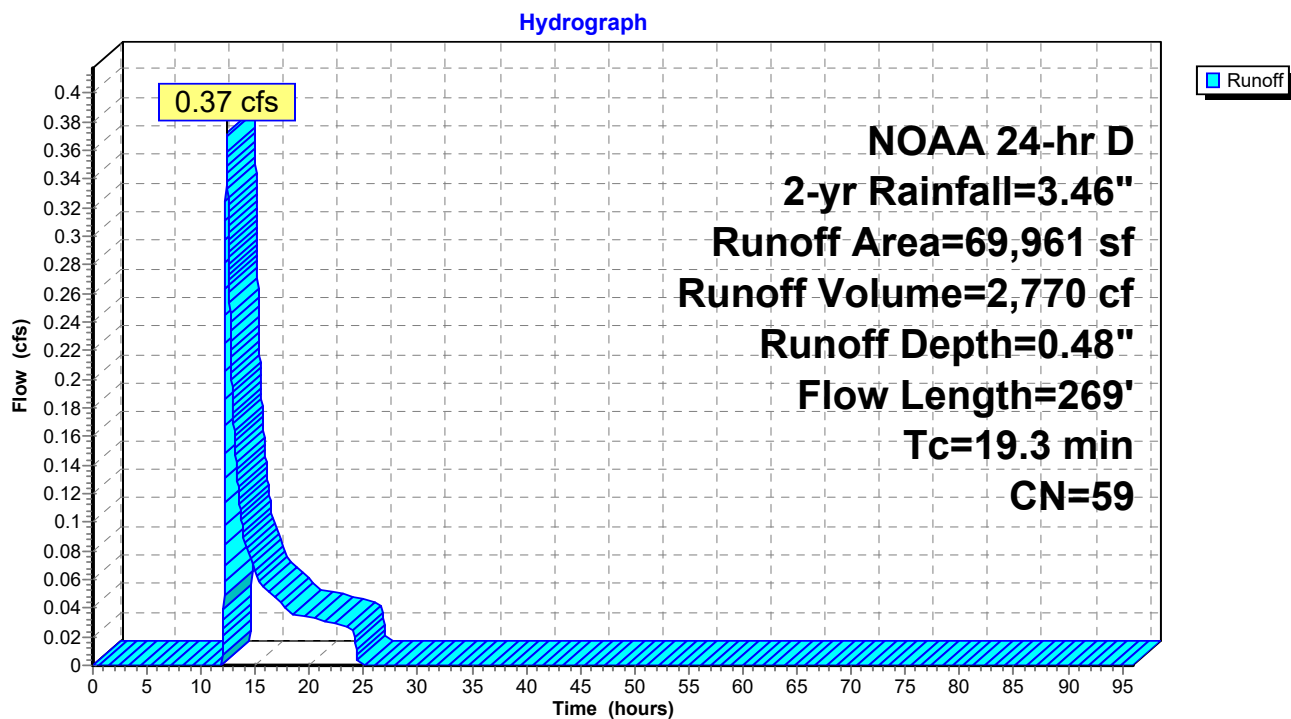
Peak Elev=346.15' Inflow=1.23 cfs 6,507 cf
12.0" Round Culvert n=0.012 L=134.0' S=0.0050 '/' Outflow=1.23 cfs 6,507 cf

Link 4L: West Off-Site

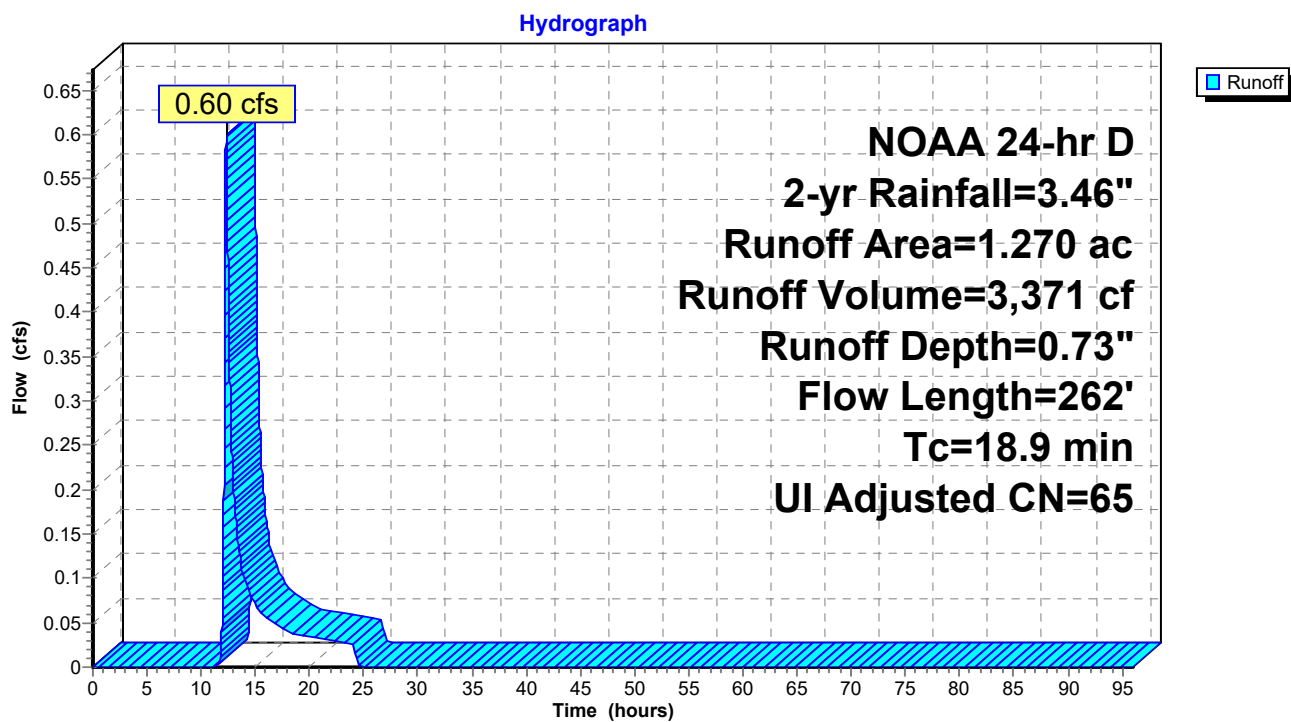
Inflow=0.65 cfs 14,120 cf
Primary=0.65 cfs 14,120 cf

Total Runoff Area = 181,345 sf Runoff Volume = 14,126 cf Average Runoff Depth = 0.93"
79.05% Pervious = 143,358 sf 20.95% Impervious = 37,987 sf

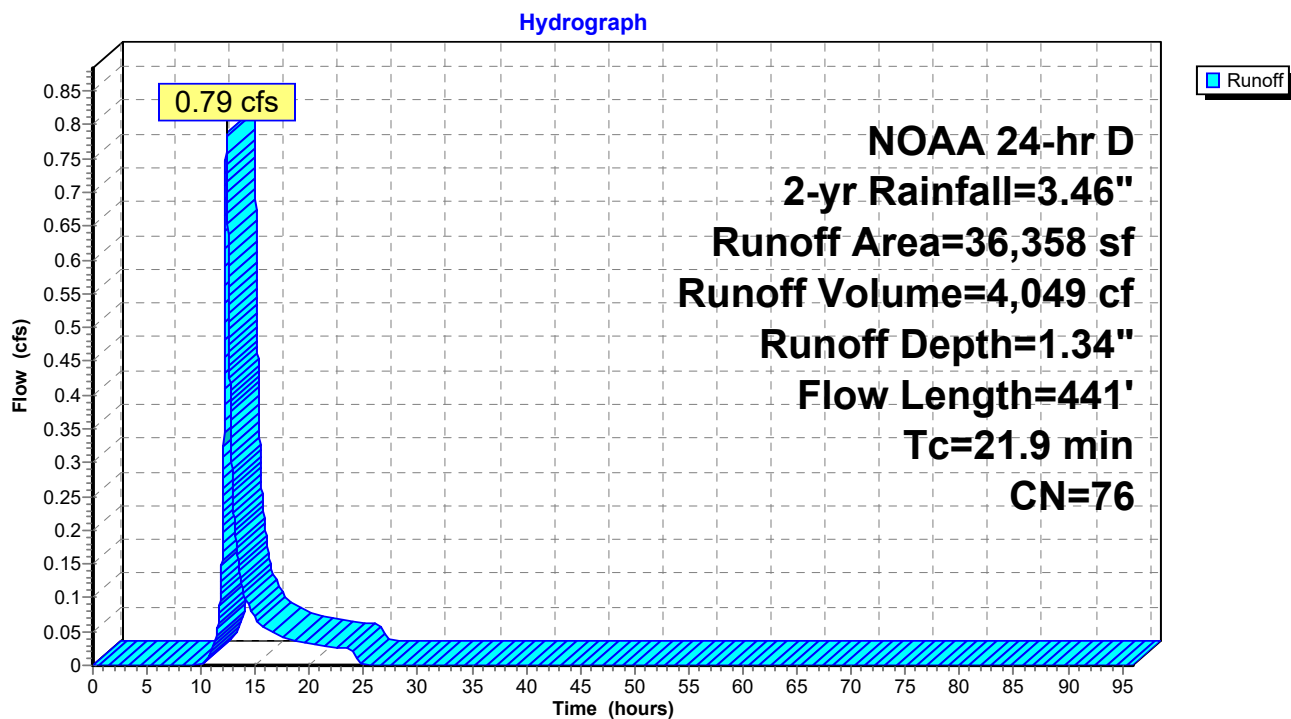
Subcatchment 5: Subcat 5



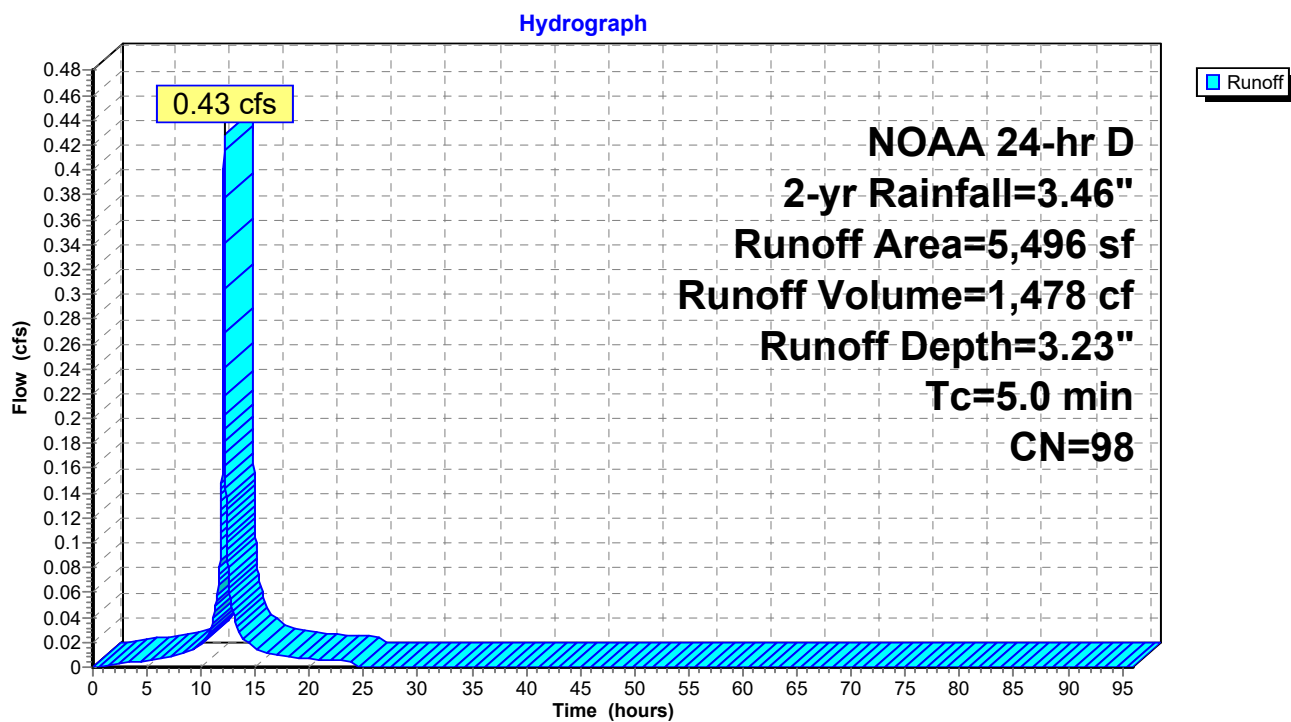
Subcatchment 7: Subcat 7



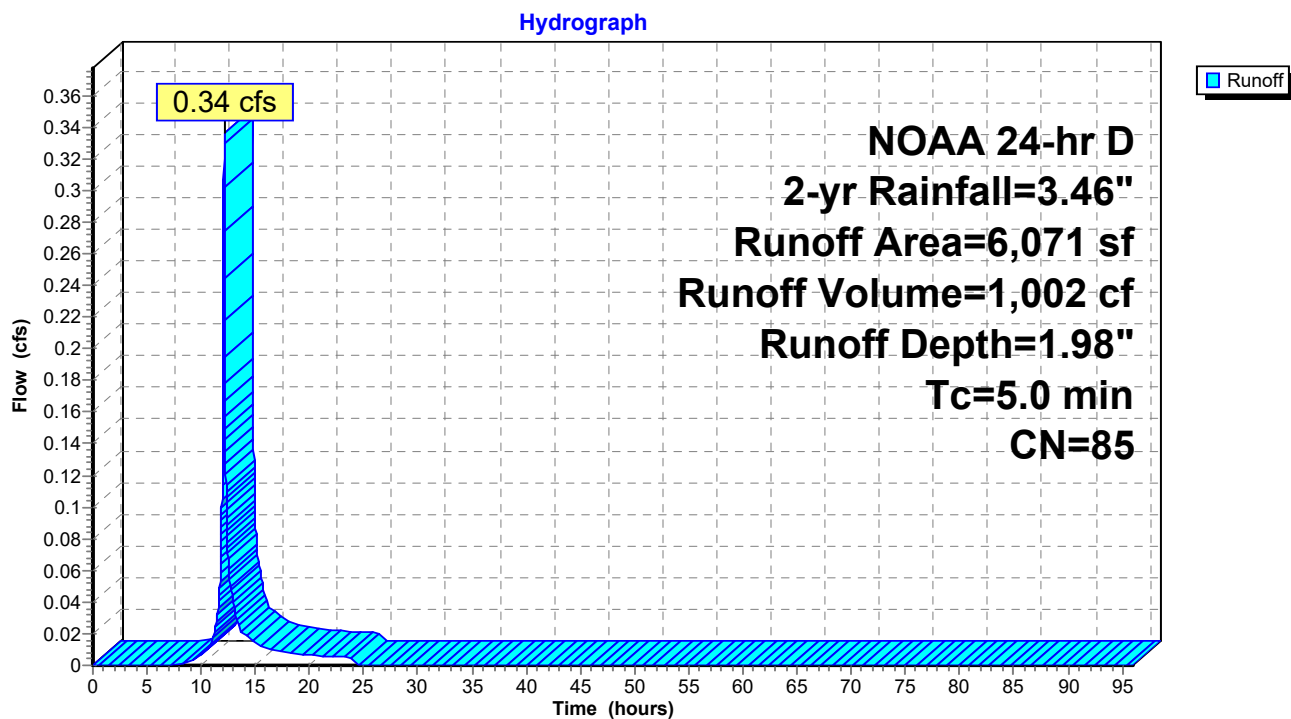
Subcatchment 7.1: Subcat 7.1



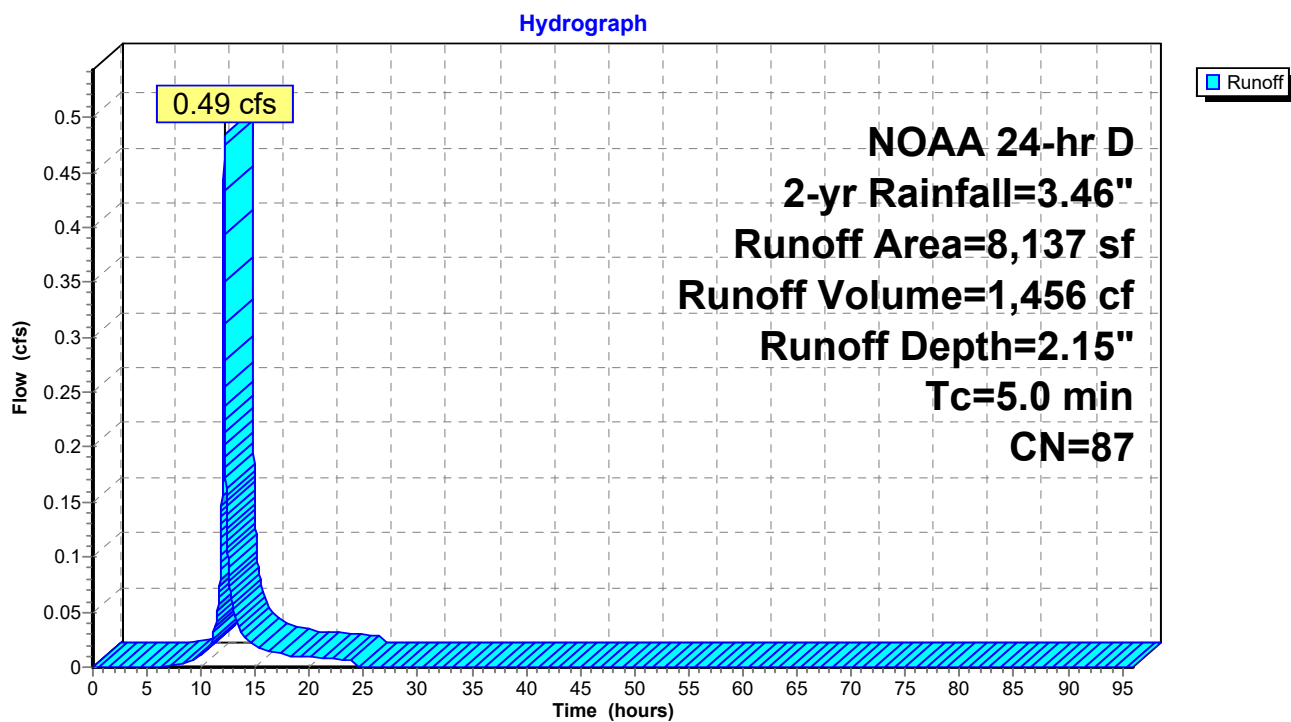
Subcatchment 8: Subcat 8



Subcatchment 9: Subcat 9

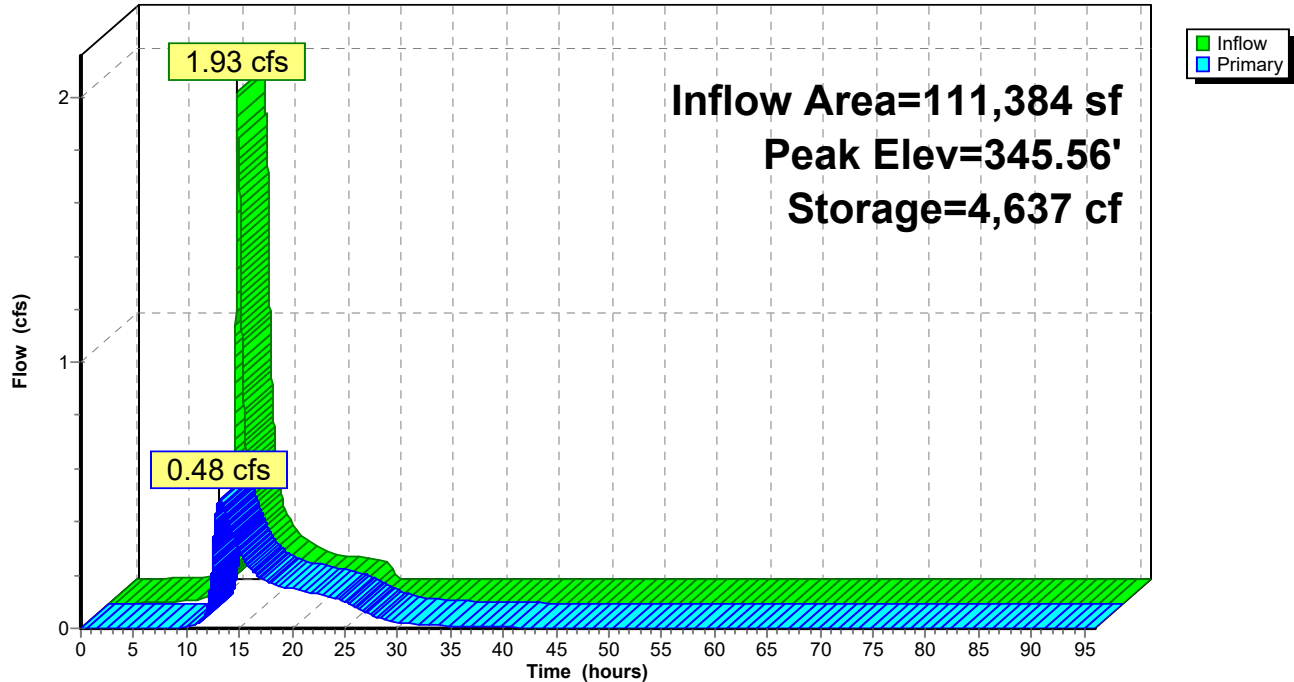


Subcatchment 20: Subcat 20



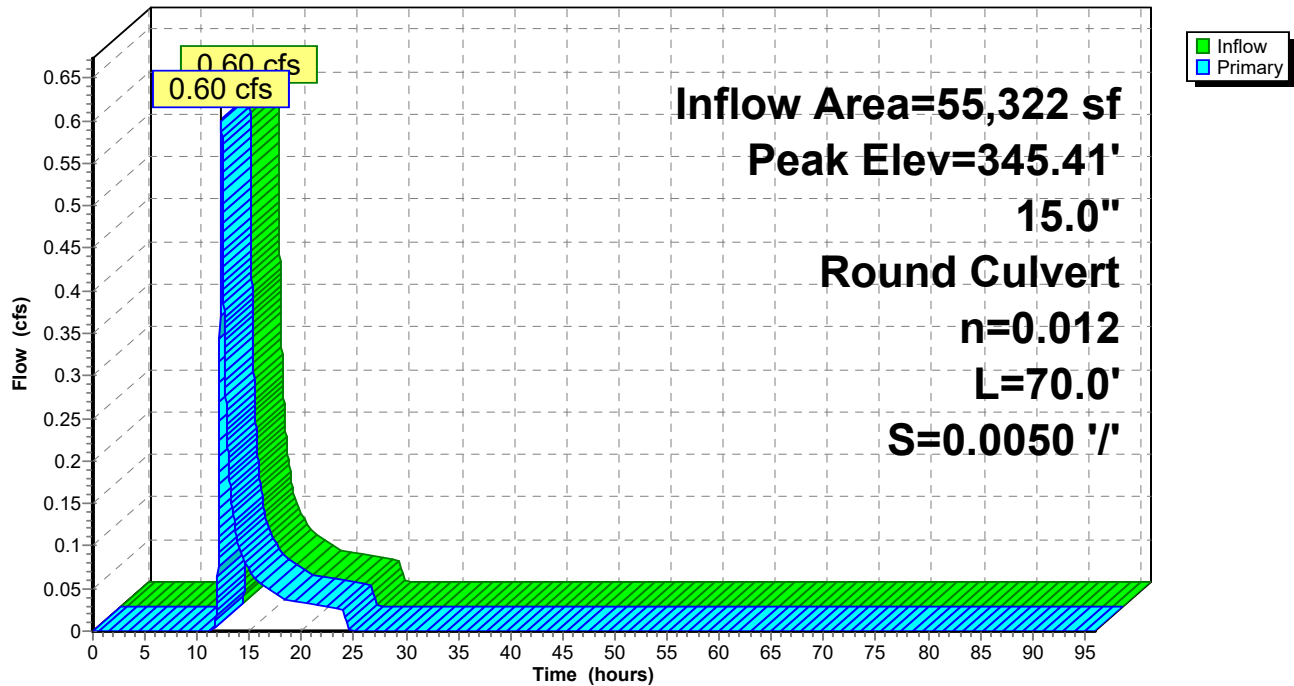
Pond 5P: DA 7 System

Hydrograph



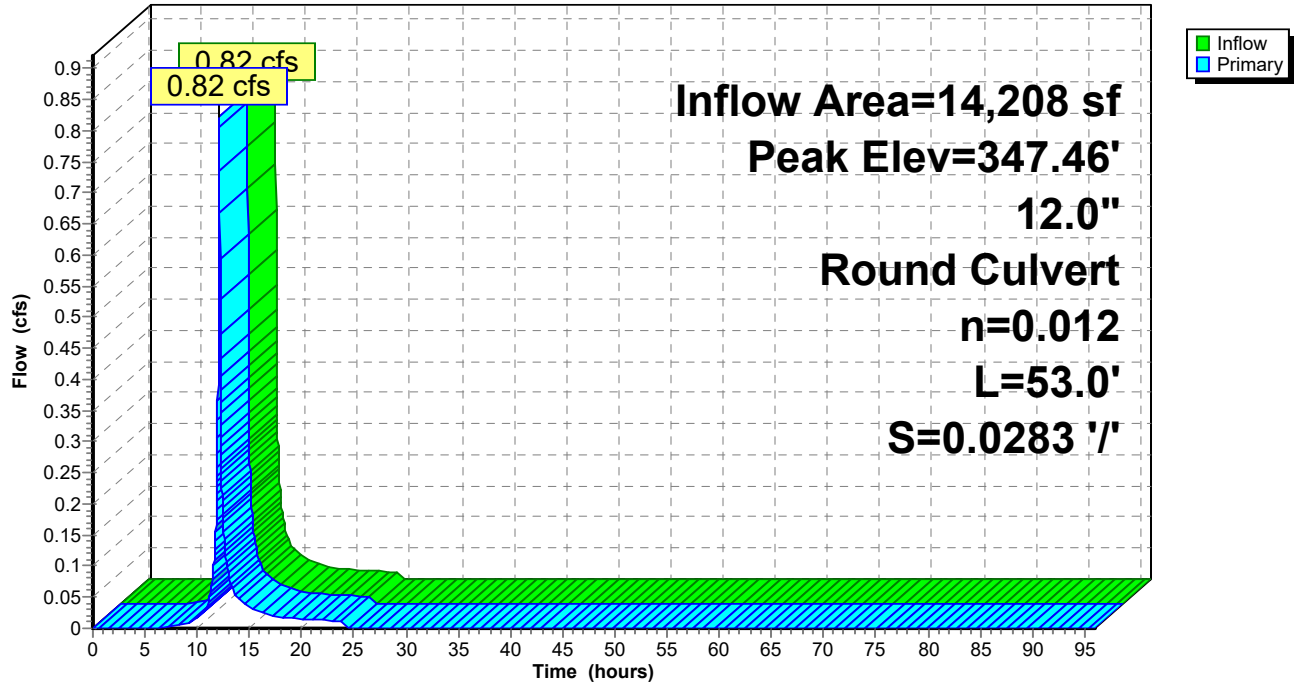
Pond 7P: CB C4

Hydrograph



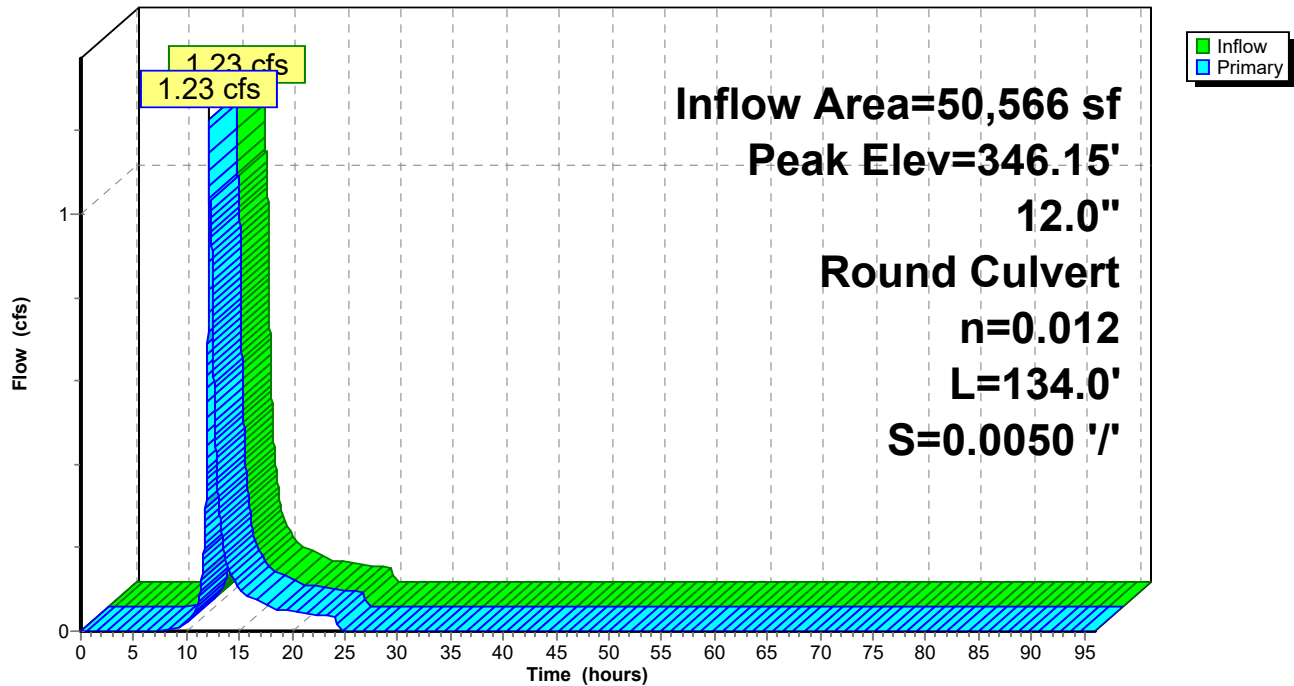
Pond 8P: CB C2

Hydrograph



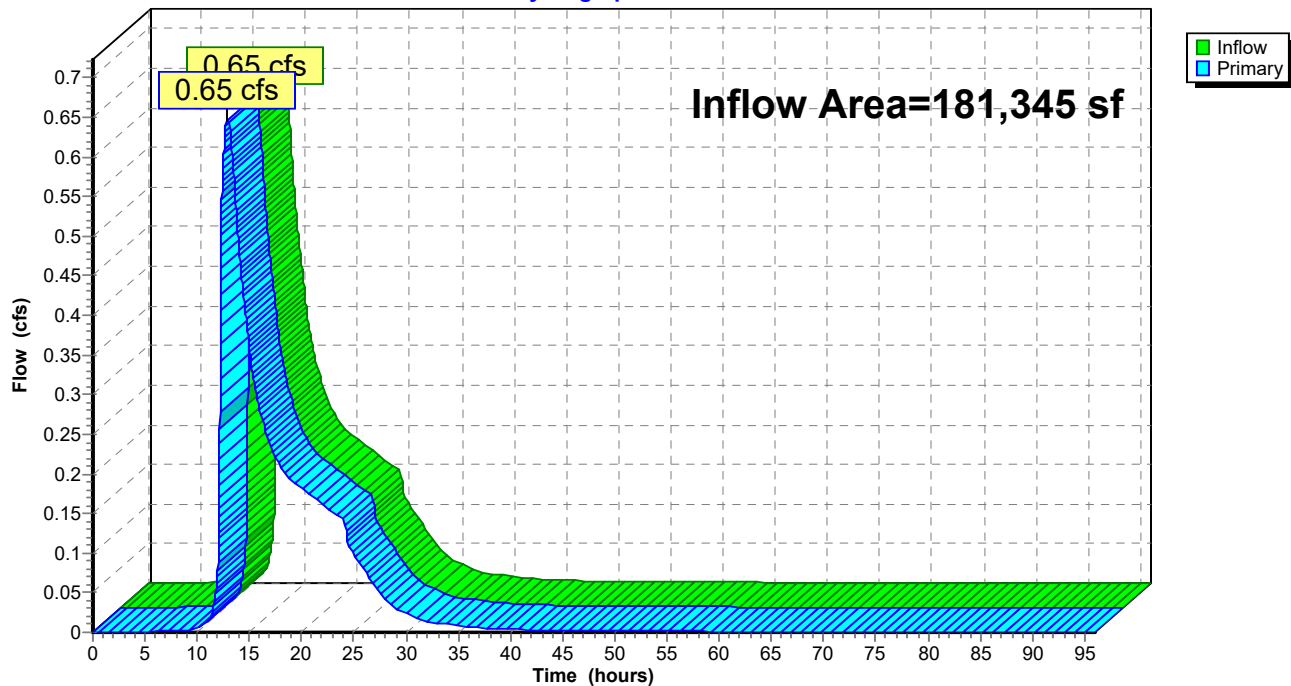
Pond 9P: CB C1

Hydrograph



Link 4L: West Off-Site

Hydrograph



2024-12-6 New Conditions-West

NOAA 24-hr D 5-yr Rainfall=4.36"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment5: Subcat 5

Runoff Area=69,961 sf 0.73% Impervious Runoff Depth=0.89"
Flow Length=269' Tc=19.3 min CN=59 Runoff=0.90 cfs 5,185 cf

Subcatchment7: Subcat 7

Runoff Area=1.270 ac 23.45% Impervious Runoff Depth=1.24"
Flow Length=262' Tc=18.9 min UI Adjusted CN=65 Runoff=1.13 cfs 5,733 cf

Subcatchment7.1: Subcat 7.1

Runoff Area=36,358 sf 32.67% Impervious Runoff Depth=2.02"
Flow Length=441' Tc=21.9 min CN=76 Runoff=1.21 cfs 6,116 cf

Subcatchment8: Subcat 8

Runoff Area=5,496 sf 100.00% Impervious Runoff Depth=4.12"
Tc=5.0 min CN=98 Runoff=0.54 cfs 1,889 cf

Subcatchment9: Subcat 9

Runoff Area=6,071 sf 49.70% Impervious Runoff Depth=2.78"
Tc=5.0 min CN=85 Runoff=0.47 cfs 1,407 cf

Subcatchment20: Subcat 20

Runoff Area=8,137 sf 50.55% Impervious Runoff Depth=2.97"
Tc=5.0 min CN=87 Runoff=0.66 cfs 2,013 cf

Pond 5P: DA 7 System

Peak Elev=345.94' Storage=6,574 cf Inflow=2.94 cfs 17,158 cf
Outflow=0.90 cfs 17,152 cf

Pond 7P: CB C4

Peak Elev=345.57' Inflow=1.13 cfs 5,733 cf
15.0" Round Culvert n=0.012 L=70.0' S=0.0050 ' Outflow=1.13 cfs 5,733 cf

Pond 8P: CB C2

Peak Elev=347.55' Inflow=1.13 cfs 3,421 cf
12.0" Round Culvert n=0.012 L=53.0' S=0.0283 ' Outflow=1.13 cfs 3,421 cf

Pond 9P: CB C1

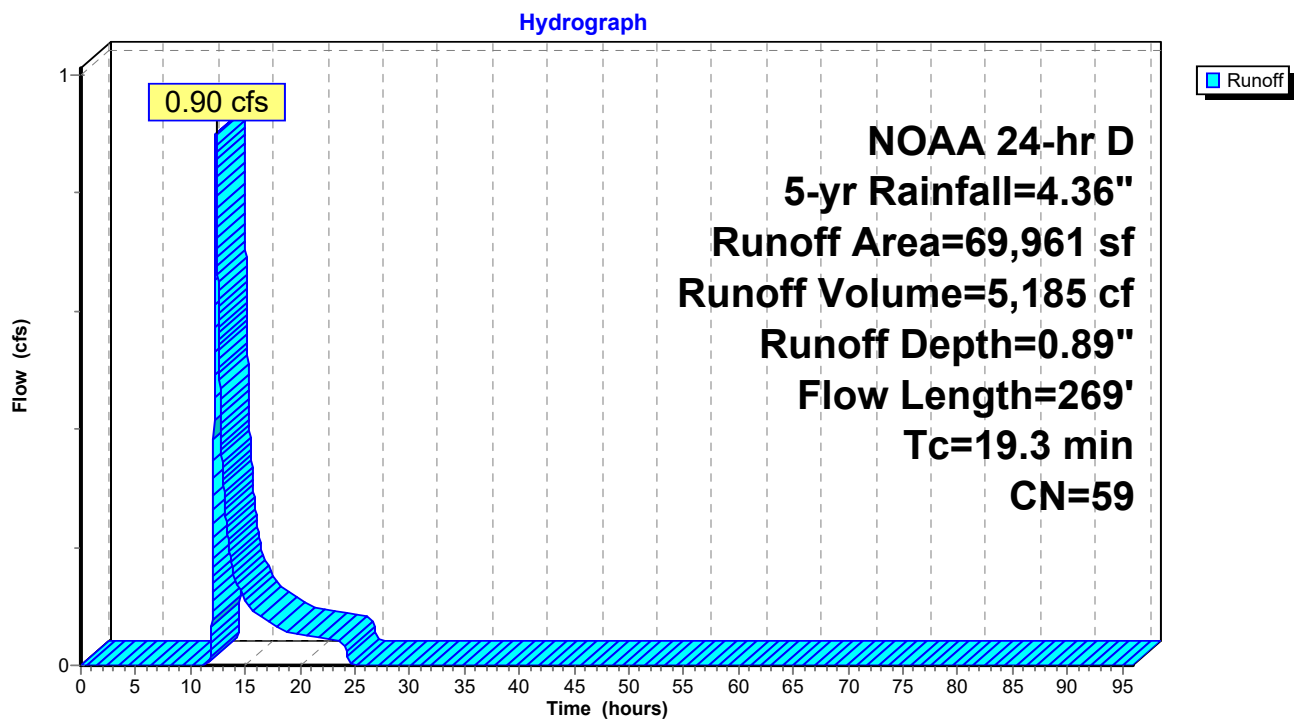
Peak Elev=346.32' Inflow=1.79 cfs 9,537 cf
12.0" Round Culvert n=0.012 L=134.0' S=0.0050 ' Outflow=1.79 cfs 9,537 cf

Link 4L: West Off-Site

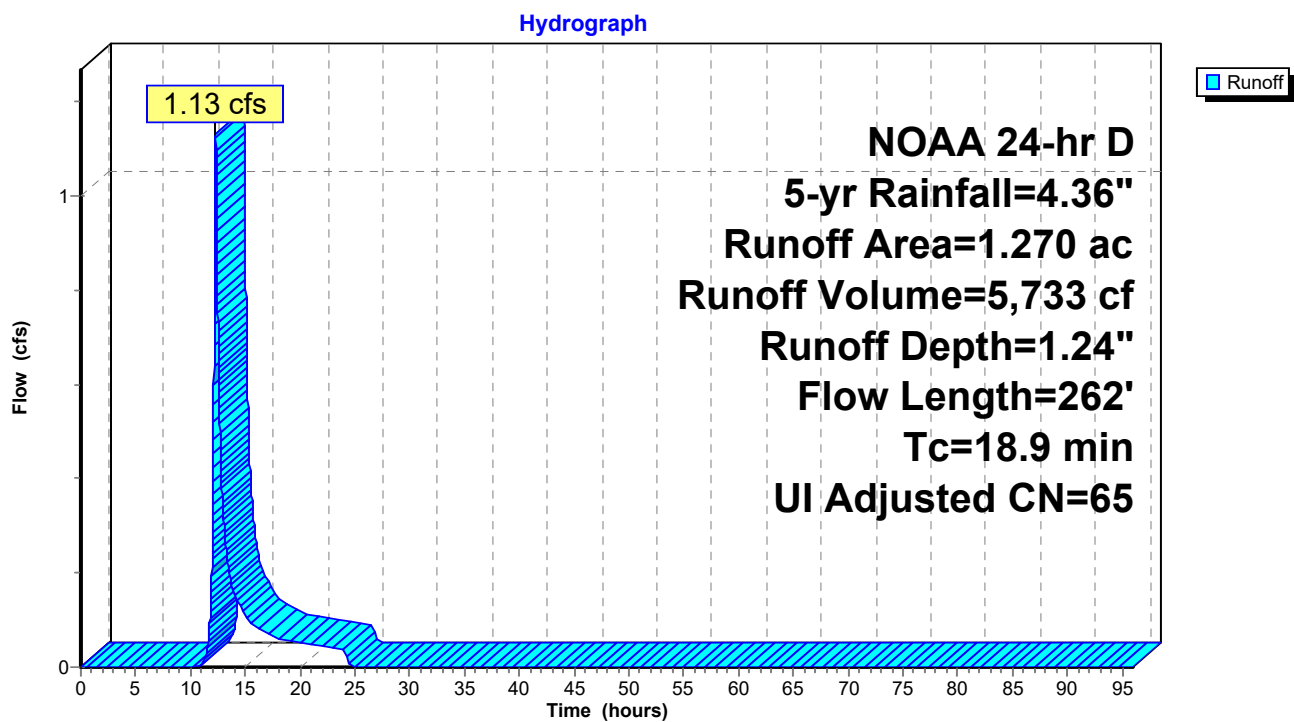
Inflow=1.51 cfs 22,337 cf
Primary=1.51 cfs 22,337 cf

Total Runoff Area = 181,345 sf Runoff Volume = 22,344 cf Average Runoff Depth = 1.48"
79.05% Pervious = 143,358 sf 20.95% Impervious = 37,987 sf

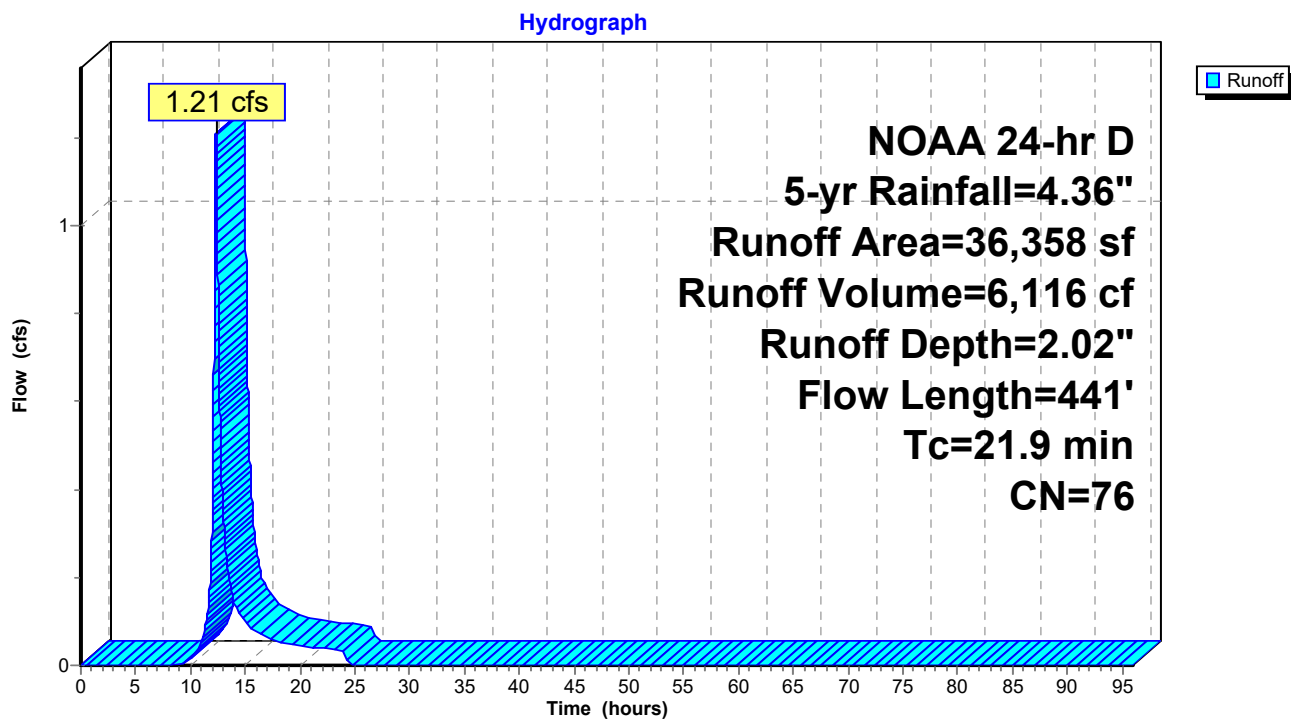
Subcatchment 5: Subcat 5



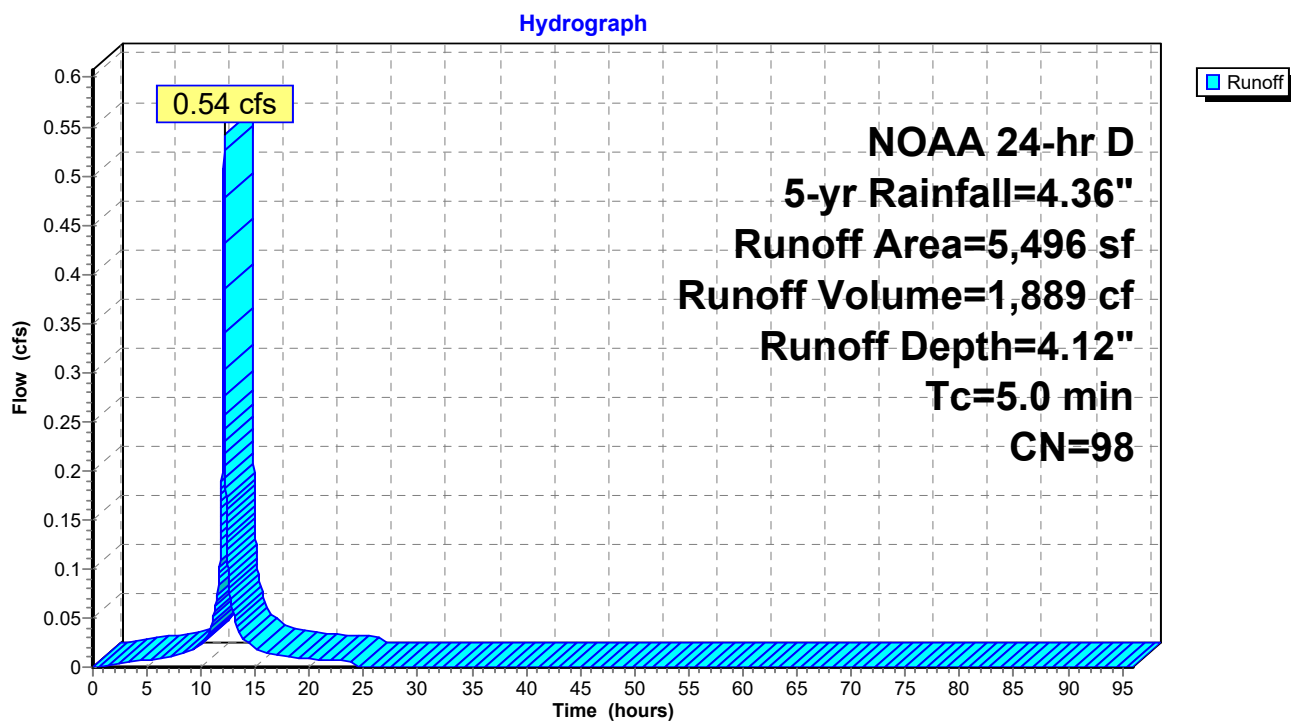
Subcatchment 7: Subcat 7



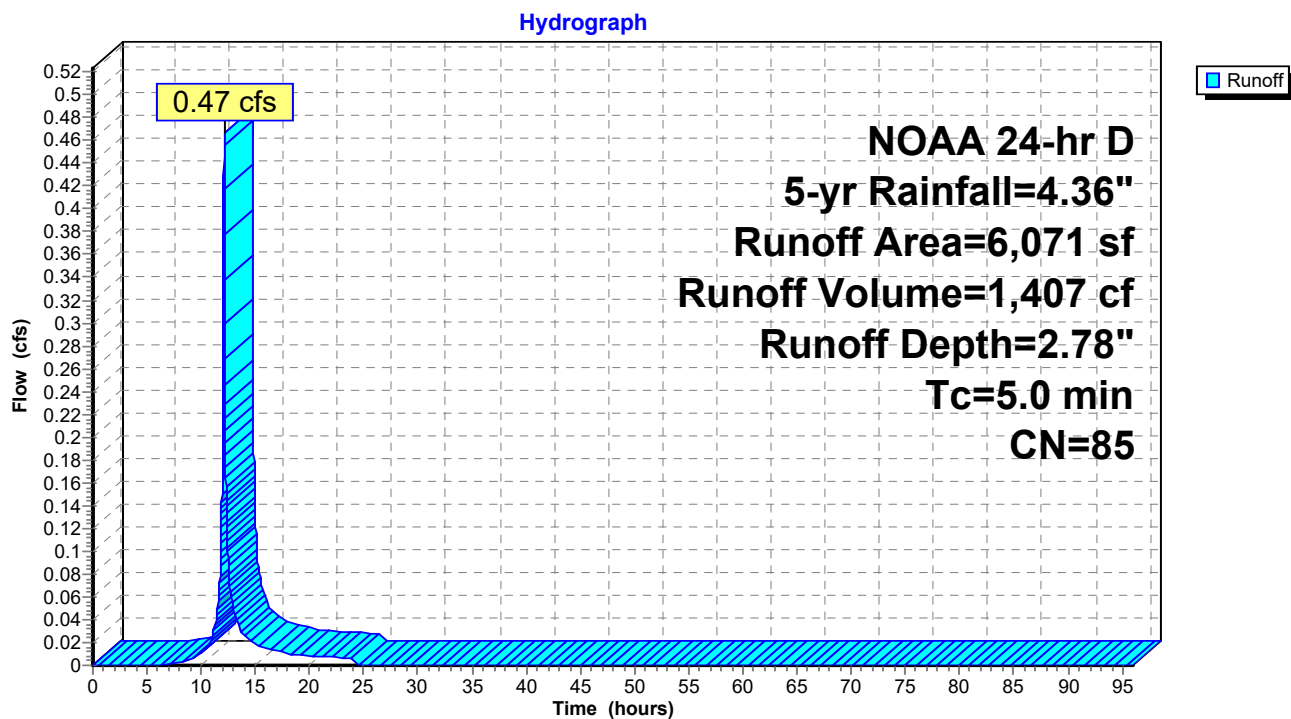
Subcatchment 7.1: Subcat 7.1



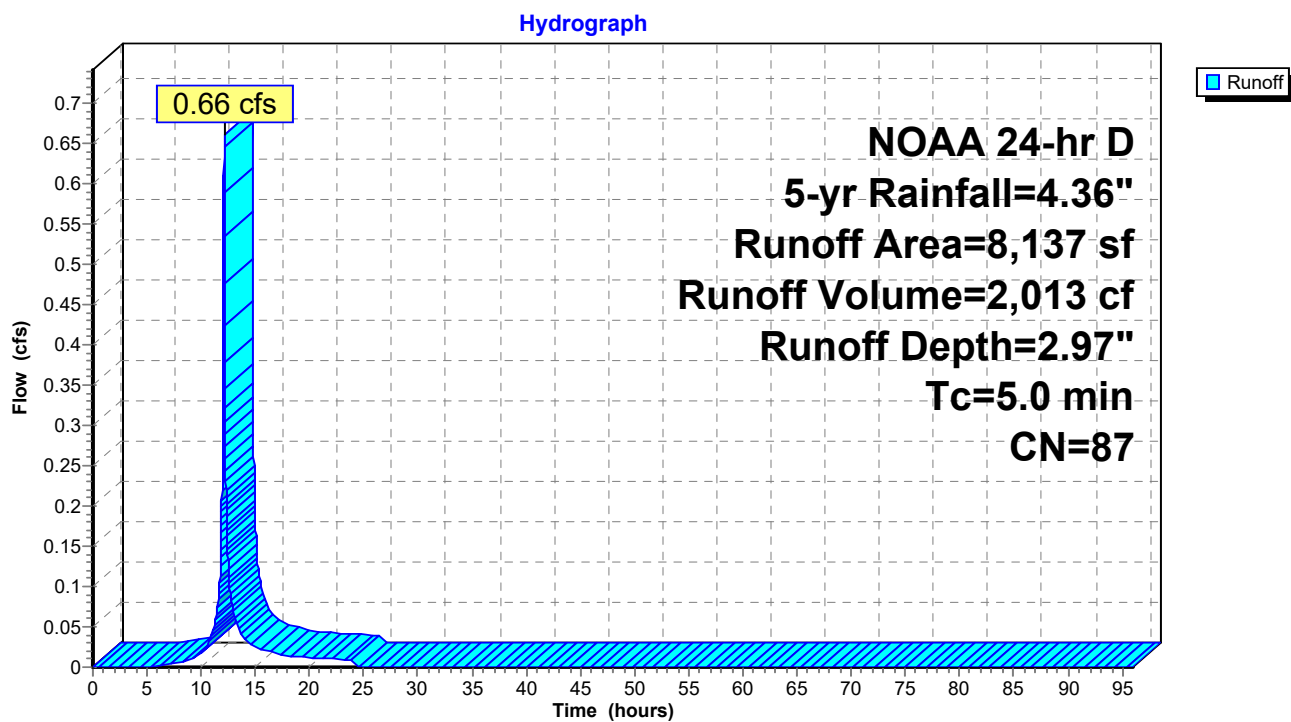
Subcatchment 8: Subcat 8



Subcatchment 9: Subcat 9

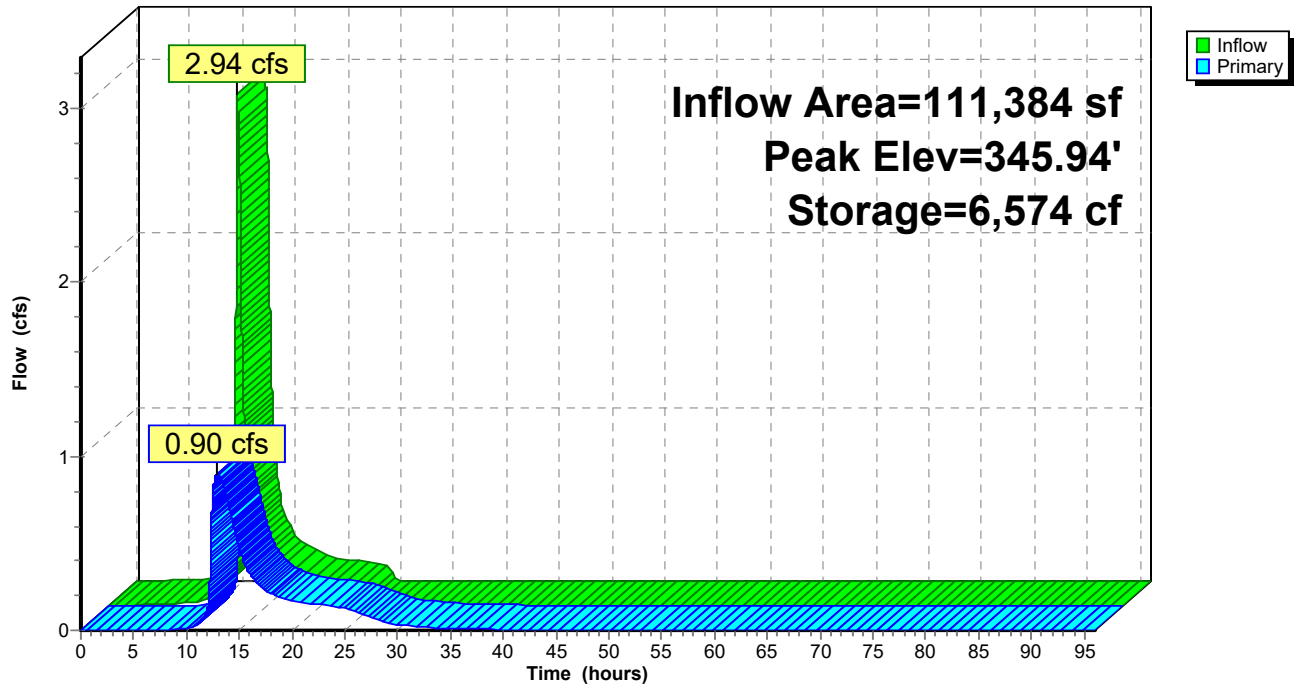


Subcatchment 20: Subcat 20



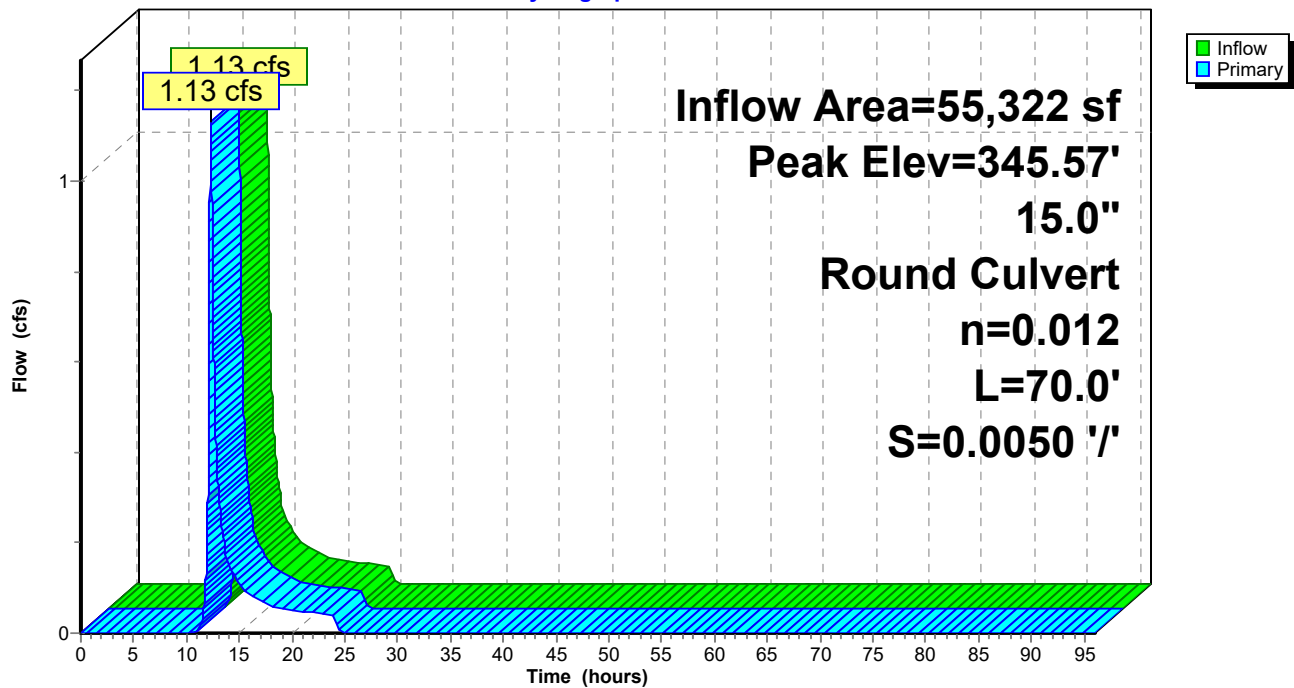
Pond 5P: DA 7 System

Hydrograph



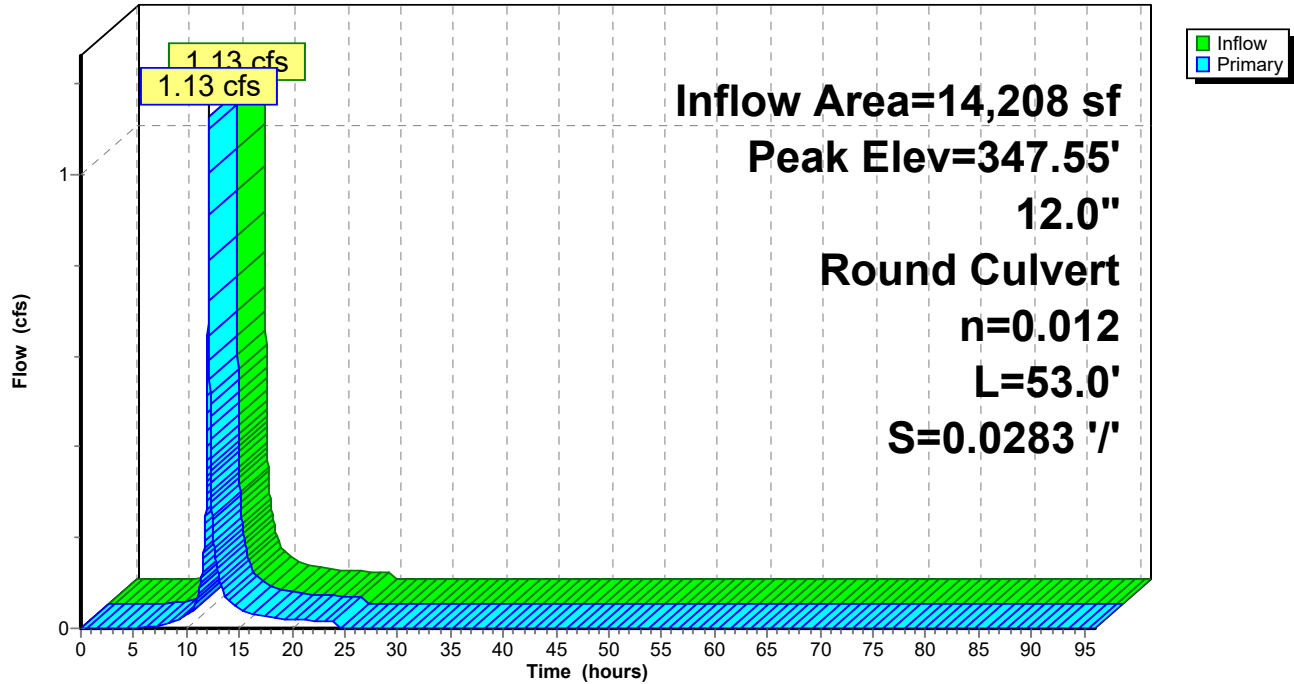
Pond 7P: CB C4

Hydrograph



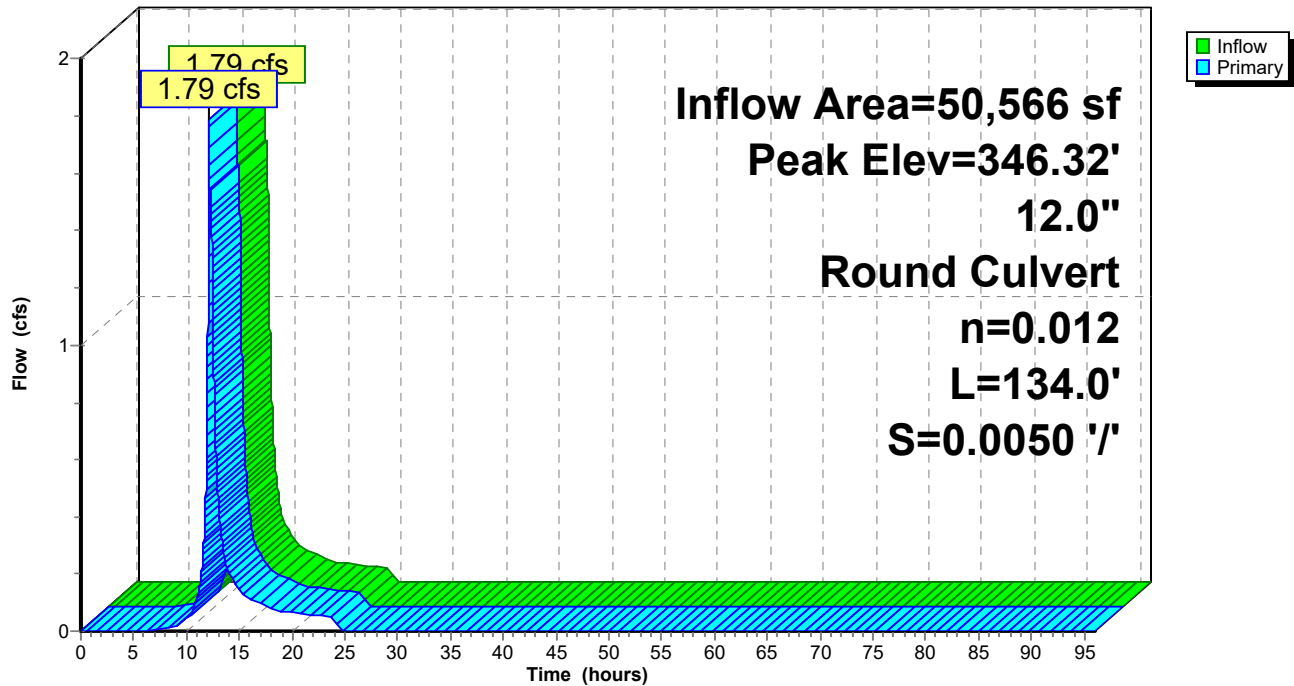
Pond 8P: CB C2

Hydrograph



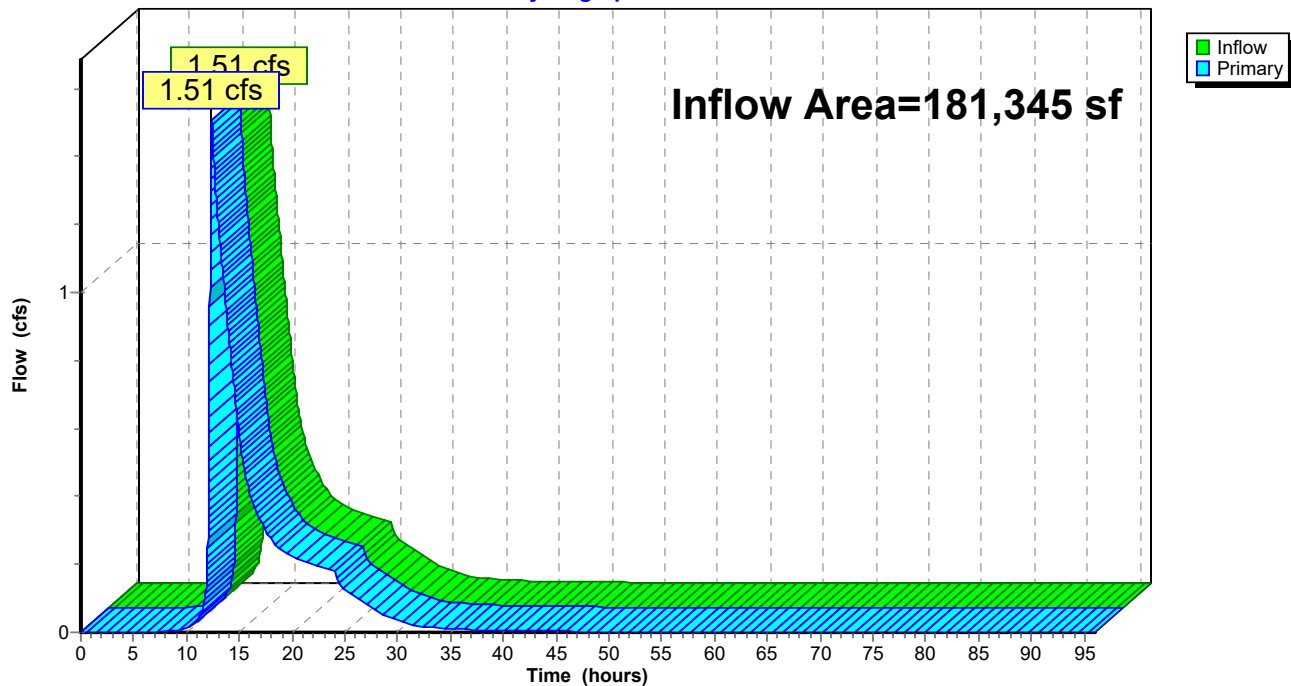
Pond 9P: CB C1

Hydrograph



Link 4L: West Off-Site

Hydrograph



2024-12-6 New Conditions-West

NOAA 24-hr D 10-yr Rainfall=5.11"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment5: Subcat 5

Runoff Area=69,961 sf 0.73% Impervious Runoff Depth=1.30"
Flow Length=269' Tc=19.3 min CN=59 Runoff=1.43 cfs 7,562 cf

Subcatchment7: Subcat 7

Runoff Area=1.270 ac 23.45% Impervious Runoff Depth=1.73"
Flow Length=262' Tc=18.9 min UI Adjusted CN=65 Runoff=1.63 cfs 7,962 cf

Subcatchment7.1: Subcat 7.1

Runoff Area=36,358 sf 32.67% Impervious Runoff Depth=2.63"
Flow Length=441' Tc=21.9 min CN=76 Runoff=1.59 cfs 7,958 cf

Subcatchment8: Subcat 8

Runoff Area=5,496 sf 100.00% Impervious Runoff Depth=4.87"
Tc=5.0 min CN=98 Runoff=0.64 cfs 2,232 cf

Subcatchment9: Subcat 9

Runoff Area=6,071 sf 49.70% Impervious Runoff Depth=3.47"
Tc=5.0 min CN=85 Runoff=0.58 cfs 1,755 cf

Subcatchment20: Subcat 20

Runoff Area=8,137 sf 50.55% Impervious Runoff Depth=3.67"
Tc=5.0 min CN=87 Runoff=0.81 cfs 2,489 cf

Pond 5P: DA 7 System

Peak Elev=346.34' Storage=8,612 cf Inflow=3.84 cfs 22,397 cf
Outflow=1.17 cfs 22,390 cf

Pond 7P: CB C4

Peak Elev=345.71' Inflow=1.63 cfs 7,962 cf
15.0" Round Culvert n=0.012 L=70.0' S=0.0050 ' Outflow=1.63 cfs 7,962 cf

Pond 8P: CB C2

Peak Elev=347.62' Inflow=1.39 cfs 4,245 cf
12.0" Round Culvert n=0.012 L=53.0' S=0.0283 ' Outflow=1.39 cfs 4,245 cf

Pond 9P: CB C1

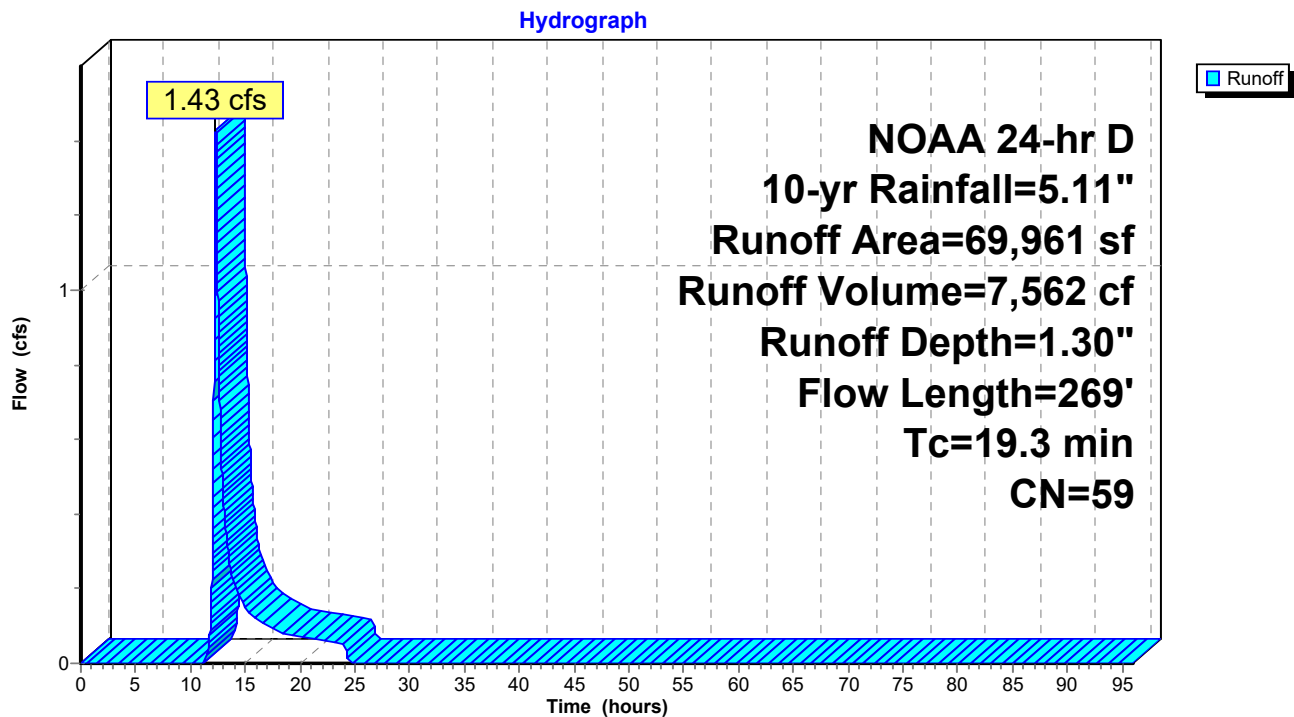
Peak Elev=346.47' Inflow=2.27 cfs 12,202 cf
12.0" Round Culvert n=0.012 L=134.0' S=0.0050 ' Outflow=2.27 cfs 12,202 cf

Link 4L: West Off-Site

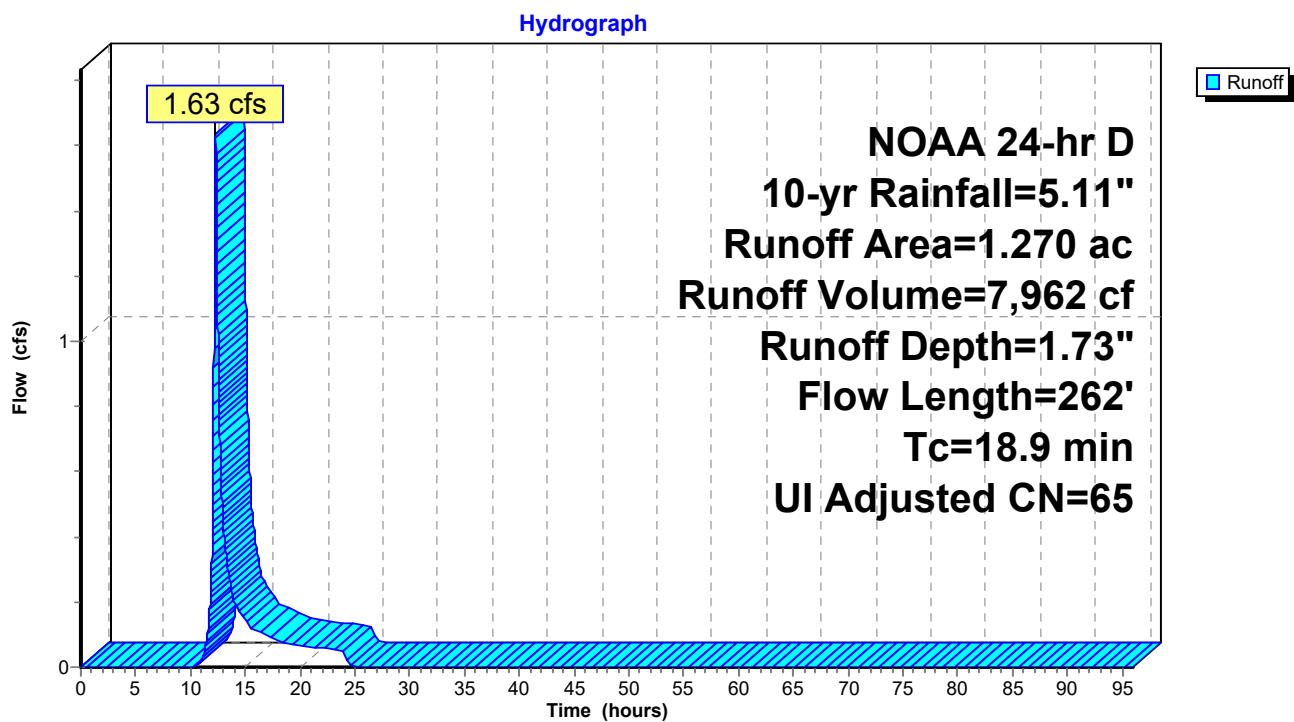
Inflow=2.30 cfs 29,952 cf
Primary=2.30 cfs 29,952 cf

Total Runoff Area = 181,345 sf Runoff Volume = 29,959 cf Average Runoff Depth = 1.98"
79.05% Pervious = 143,358 sf 20.95% Impervious = 37,987 sf

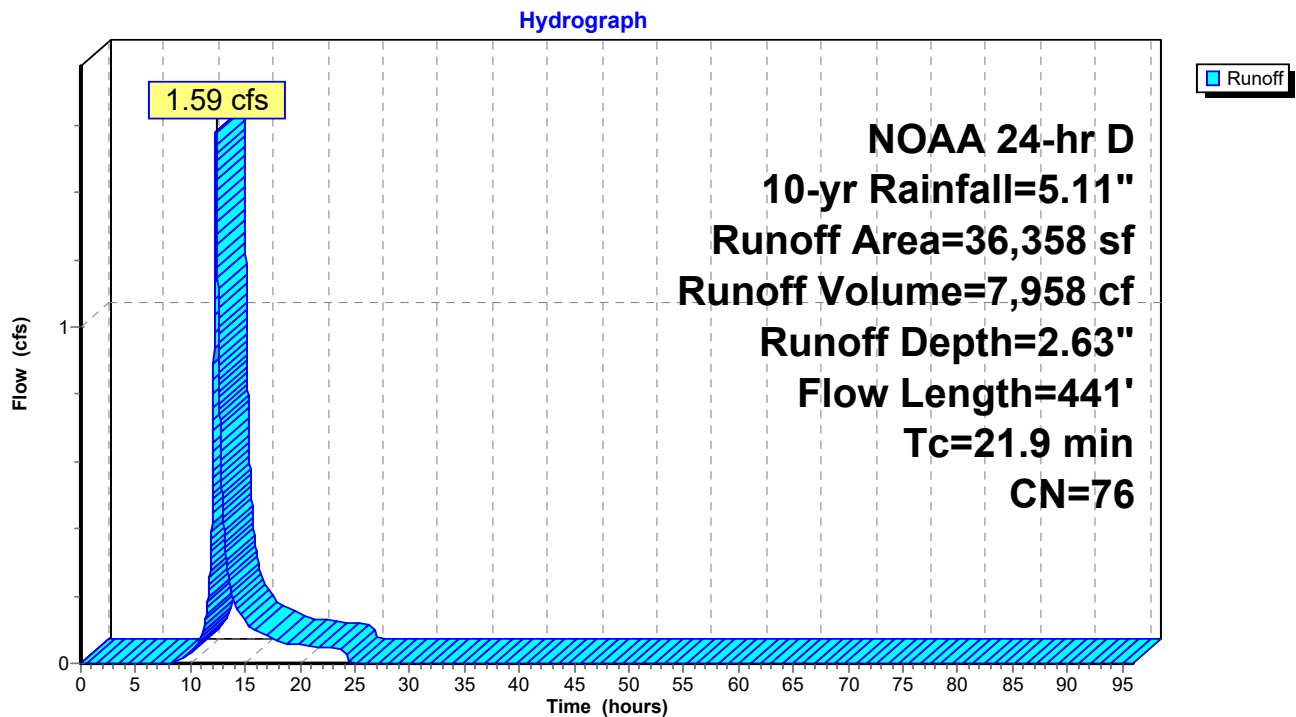
Subcatchment 5: Subcat 5



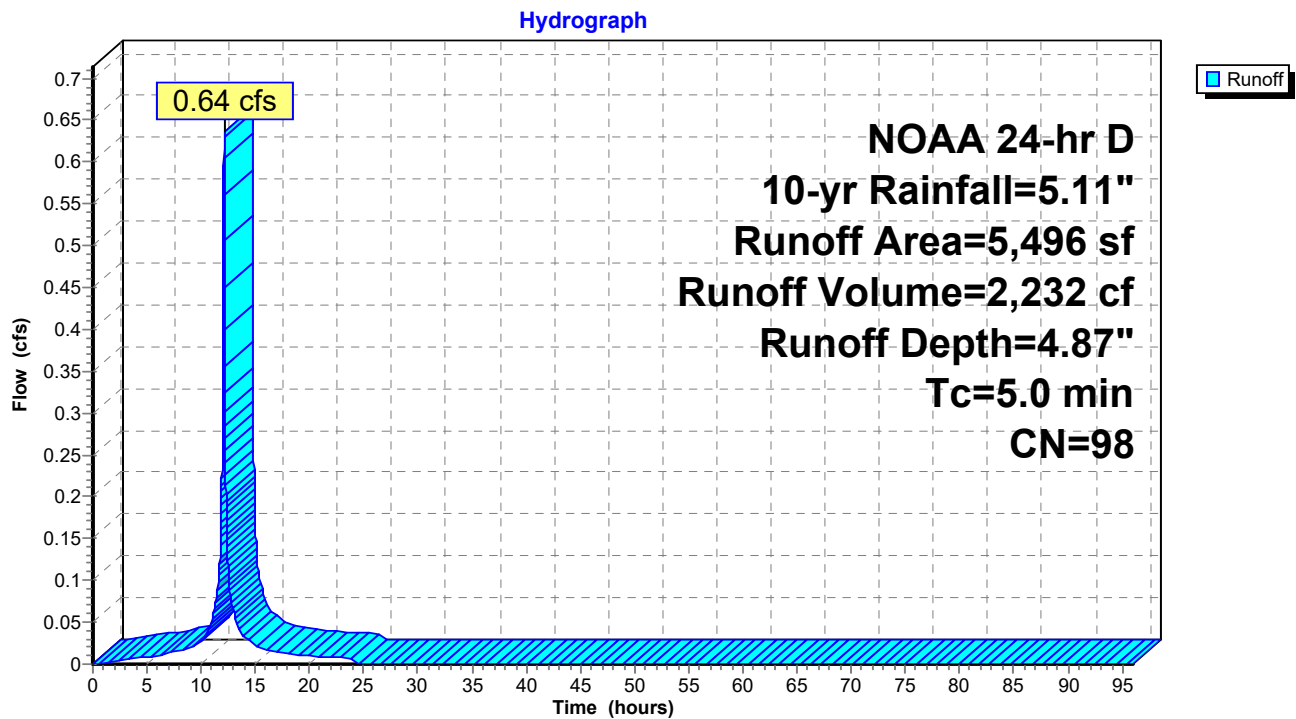
Subcatchment 7: Subcat 7



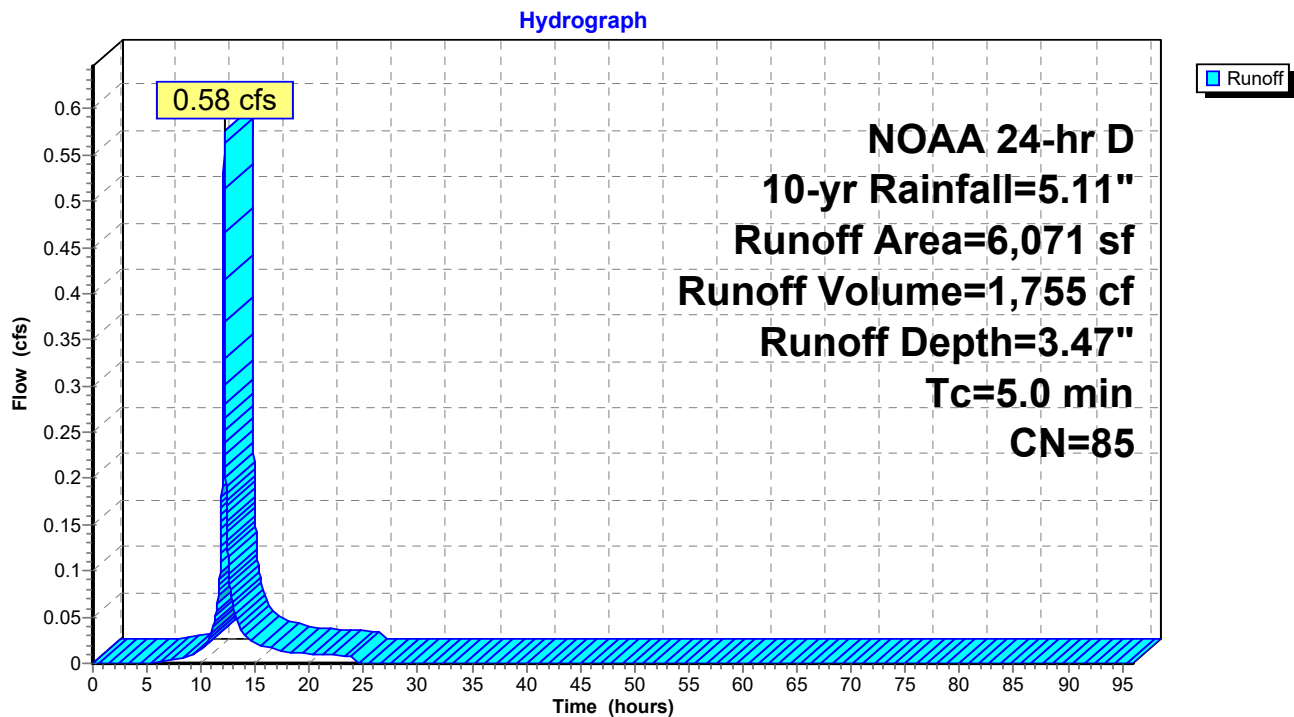
Subcatchment 7.1: Subcat 7.1



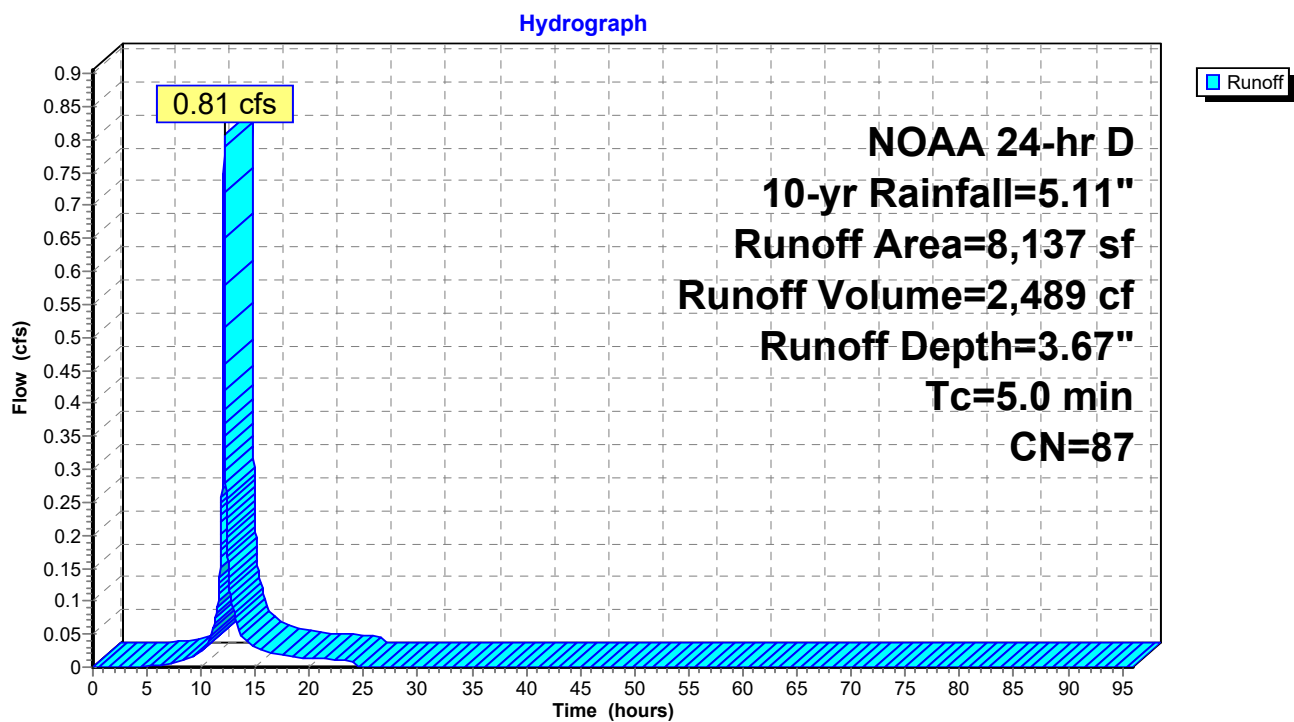
Subcatchment 8: Subcat 8



Subcatchment 9: Subcat 9

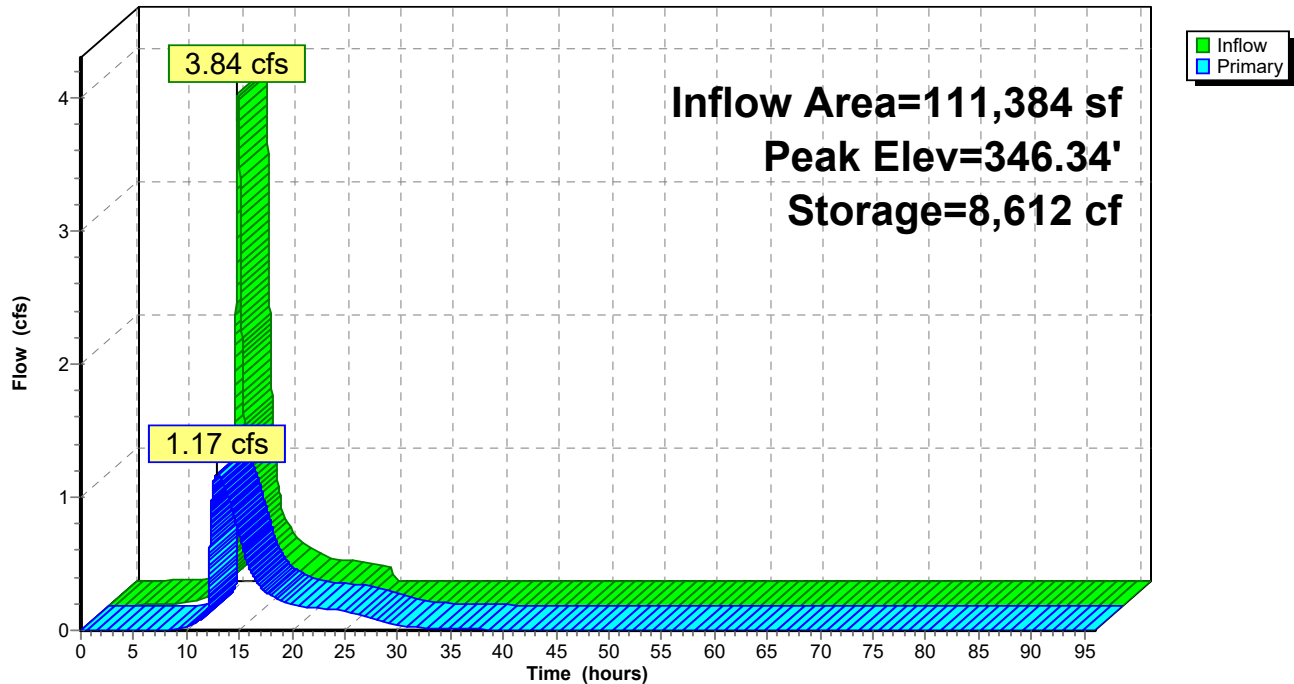


Subcatchment 20: Subcat 20



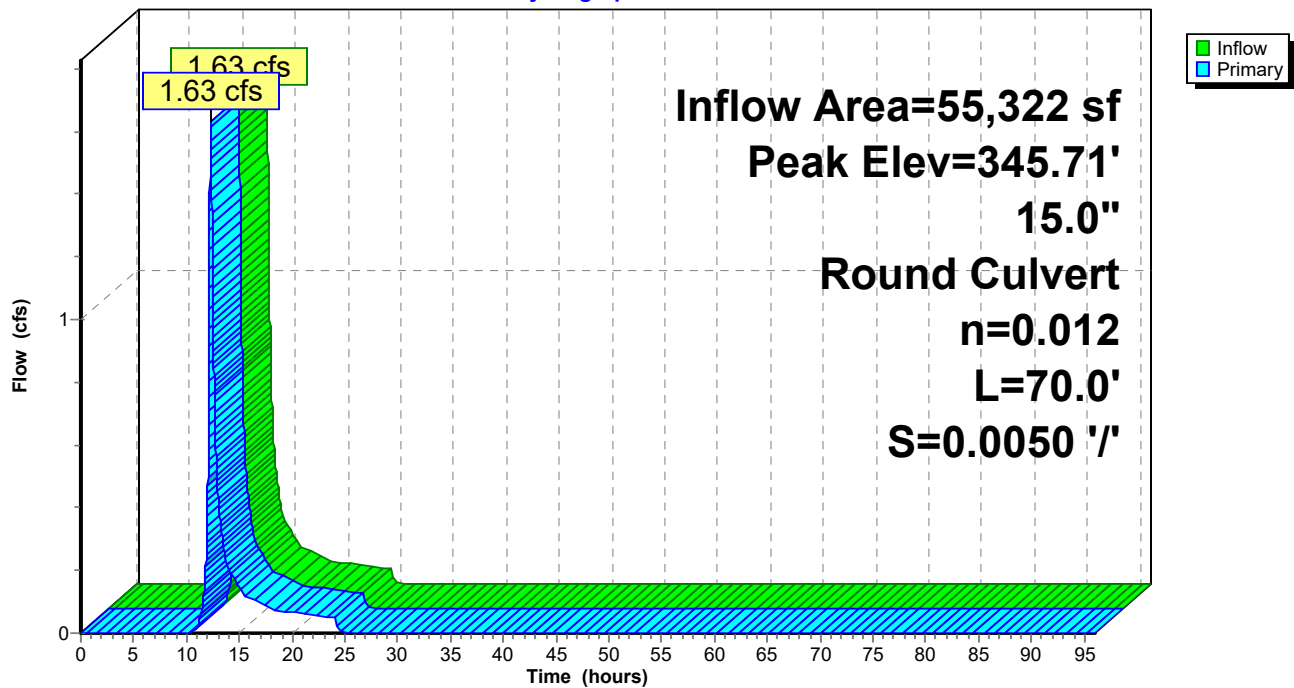
Pond 5P: DA 7 System

Hydrograph



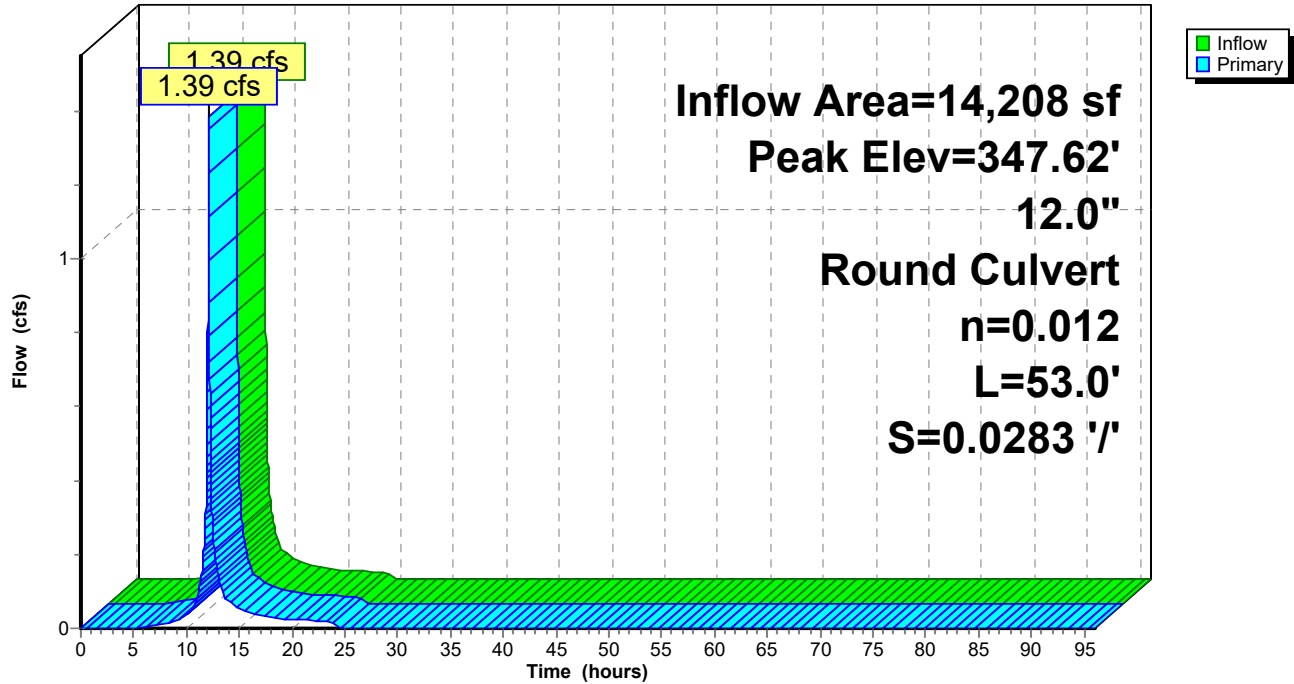
Pond 7P: CB C4

Hydrograph



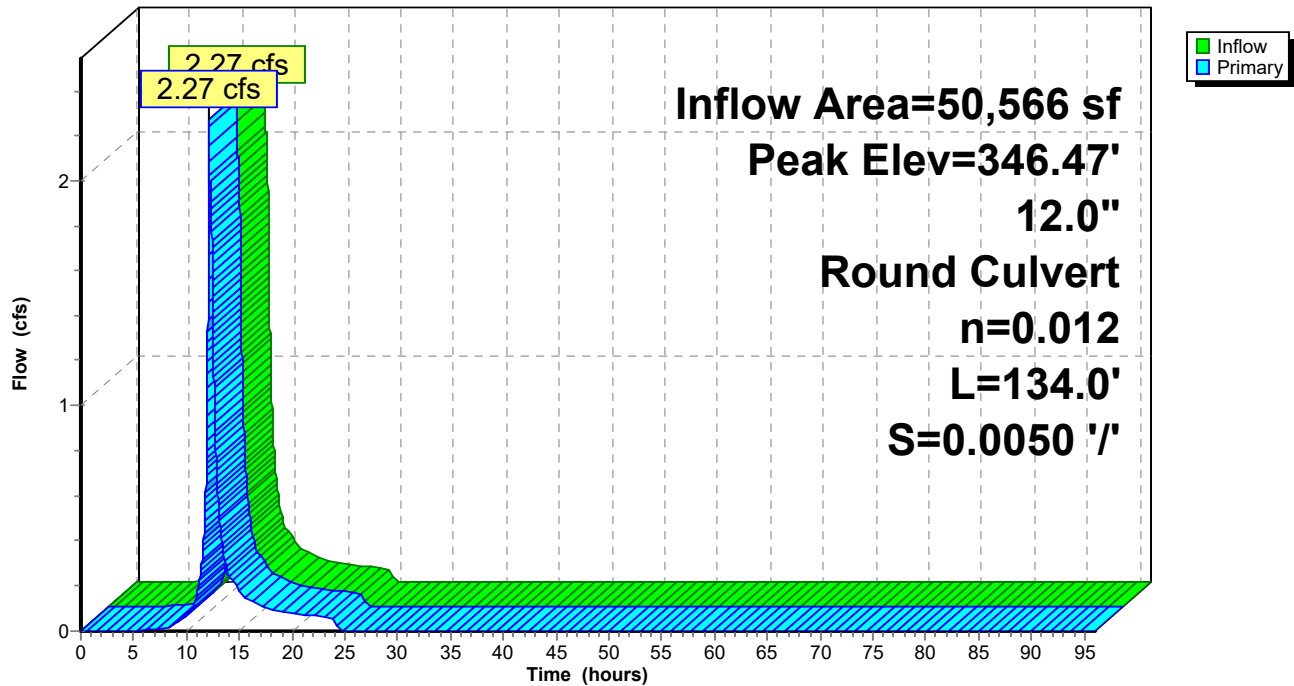
Pond 8P: CB C2

Hydrograph



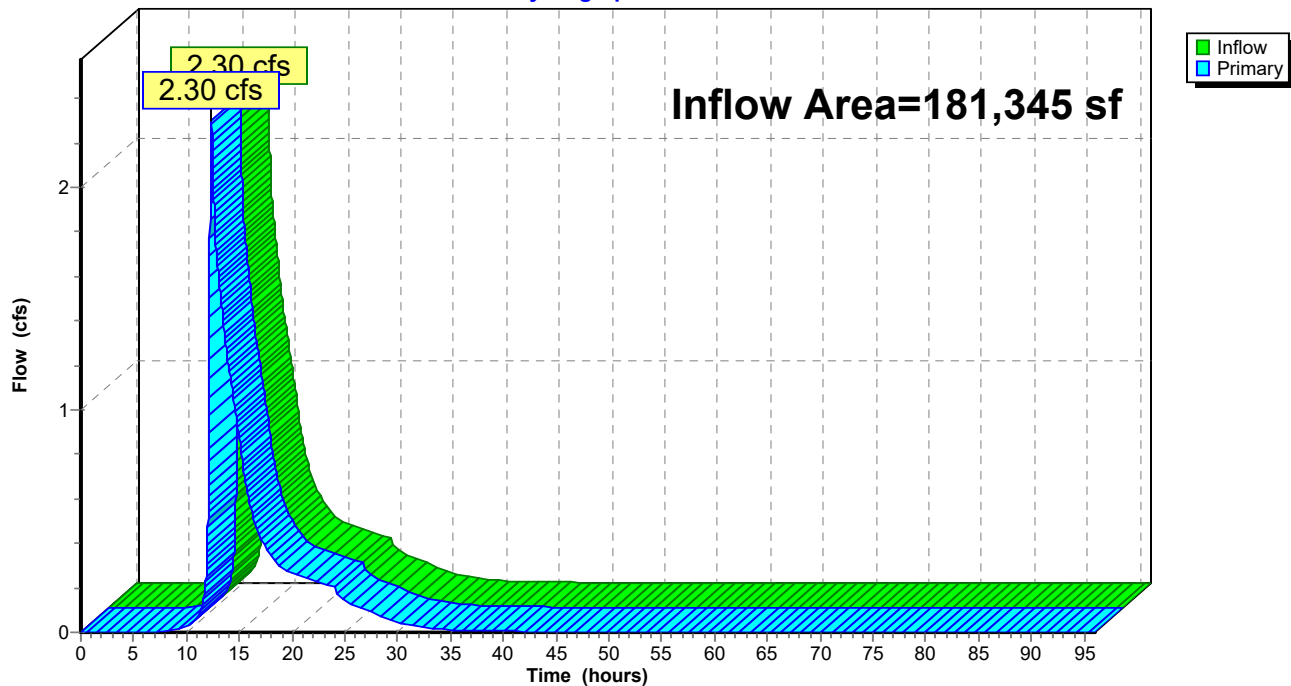
Pond 9P: CB C1

Hydrograph



Link 4L: West Off-Site

Hydrograph



2024-12-6 New Conditions-West

NOAA 24-hr D 25-yr Rainfall=6.15"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment5: Subcat 5

Runoff Area=69,961 sf 0.73% Impervious Runoff Depth=1.94"
Flow Length=269' Tc=19.3 min CN=59 Runoff=2.26 cfs 11,282 cf

Subcatchment7: Subcat 7

Runoff Area=1.270 ac 23.45% Impervious Runoff Depth=2.46"
Flow Length=262' Tc=18.9 min UI Adjusted CN=65 Runoff=2.39 cfs 11,346 cf

Subcatchment7.1: Subcat 7.1

Runoff Area=36,358 sf 32.67% Impervious Runoff Depth=3.51"
Flow Length=441' Tc=21.9 min CN=76 Runoff=2.12 cfs 10,634 cf

Subcatchment8: Subcat 8

Runoff Area=5,496 sf 100.00% Impervious Runoff Depth=5.91"
Tc=5.0 min CN=98 Runoff=0.77 cfs 2,707 cf

Subcatchment9: Subcat 9

Runoff Area=6,071 sf 49.70% Impervious Runoff Depth=4.44"
Tc=5.0 min CN=85 Runoff=0.73 cfs 2,248 cf

Subcatchment20: Subcat 20

Runoff Area=8,137 sf 50.55% Impervious Runoff Depth=4.66"
Tc=5.0 min CN=87 Runoff=1.01 cfs 3,161 cf

Pond 5P: DA 7 System

Peak Elev=346.98' Storage=11,843 cf Inflow=5.28 cfs 30,096 cf
Outflow=1.51 cfs 30,089 cf

Pond 7P: CB C4

Peak Elev=345.88' Inflow=2.39 cfs 11,346 cf
15.0" Round Culvert n=0.012 L=70.0' S=0.0050 ' Outflow=2.39 cfs 11,346 cf

Pond 8P: CB C2

Peak Elev=347.72' Inflow=1.74 cfs 5,409 cf
12.0" Round Culvert n=0.012 L=53.0' S=0.0283 ' Outflow=1.74 cfs 5,409 cf

Pond 9P: CB C1

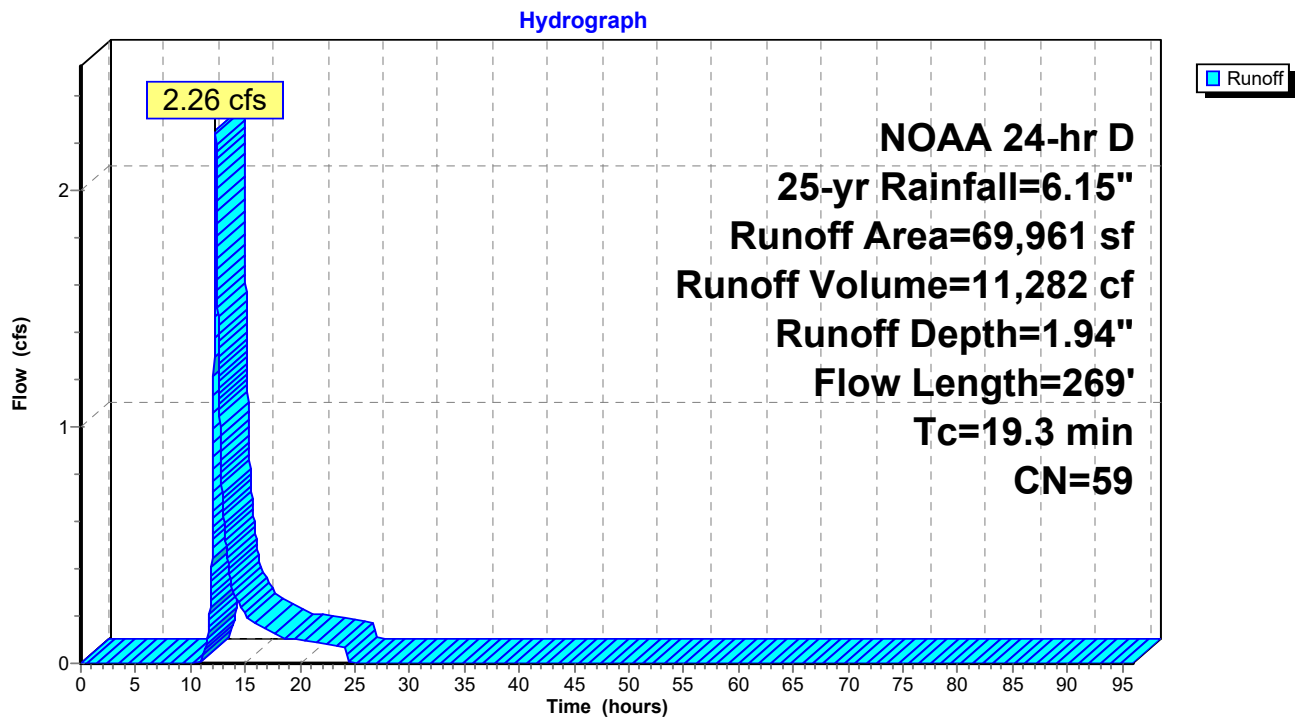
Peak Elev=346.96' Inflow=2.95 cfs 16,043 cf
12.0" Round Culvert n=0.012 L=134.0' S=0.0050 ' Outflow=2.95 cfs 16,043 cf

Link 4L: West Off-Site

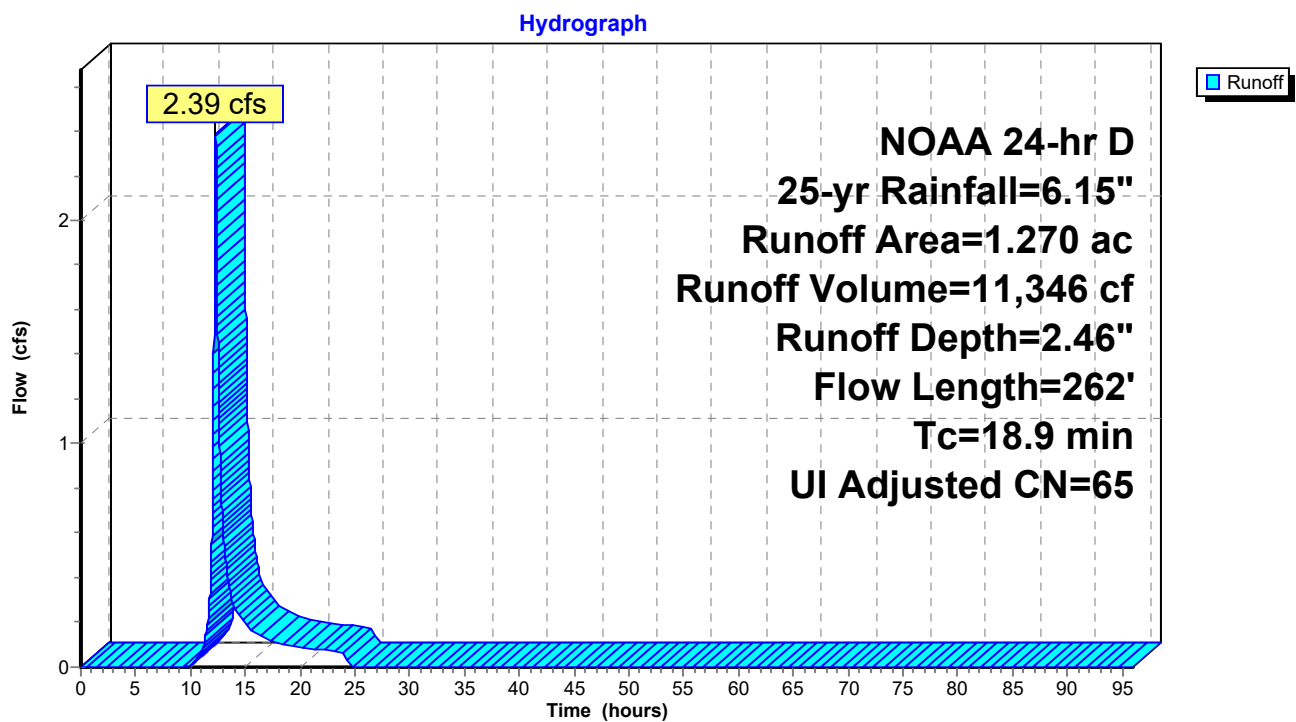
Inflow=3.42 cfs 41,371 cf
Primary=3.42 cfs 41,371 cf

Total Runoff Area = 181,345 sf Runoff Volume = 41,378 cf Average Runoff Depth = 2.74"
79.05% Pervious = 143,358 sf 20.95% Impervious = 37,987 sf

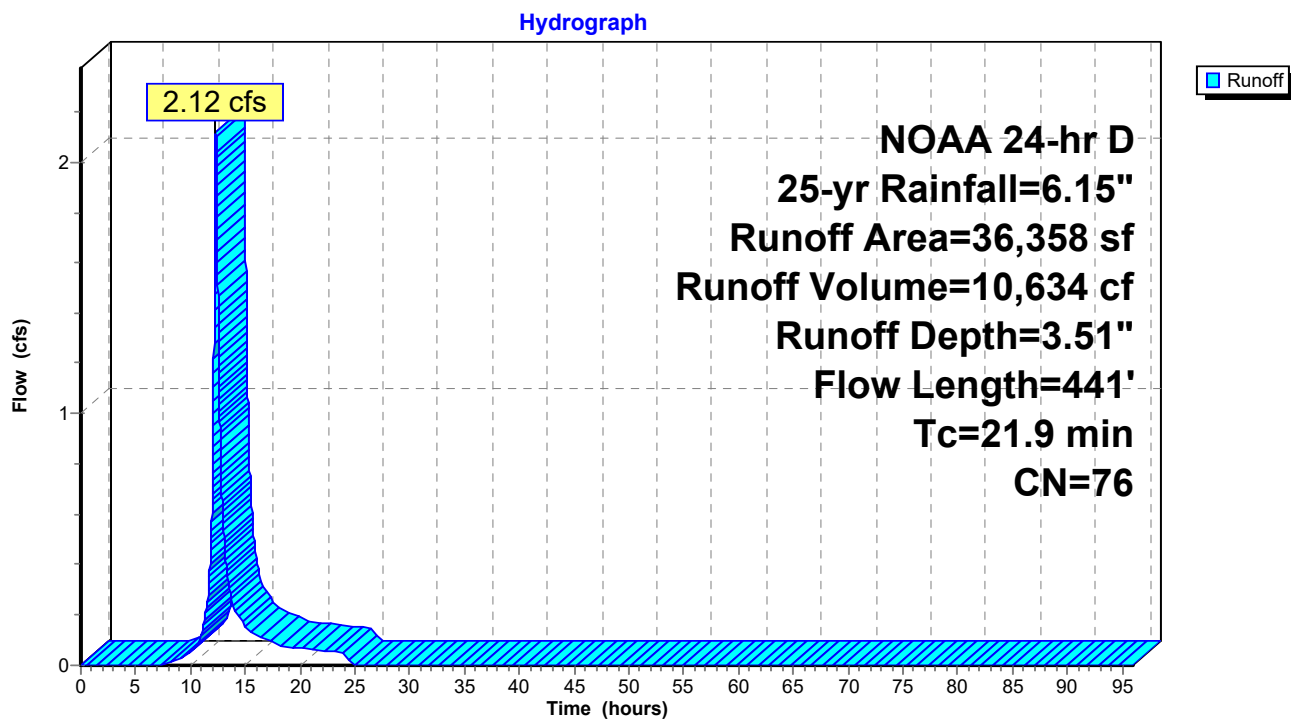
Subcatchment 5: Subcat 5



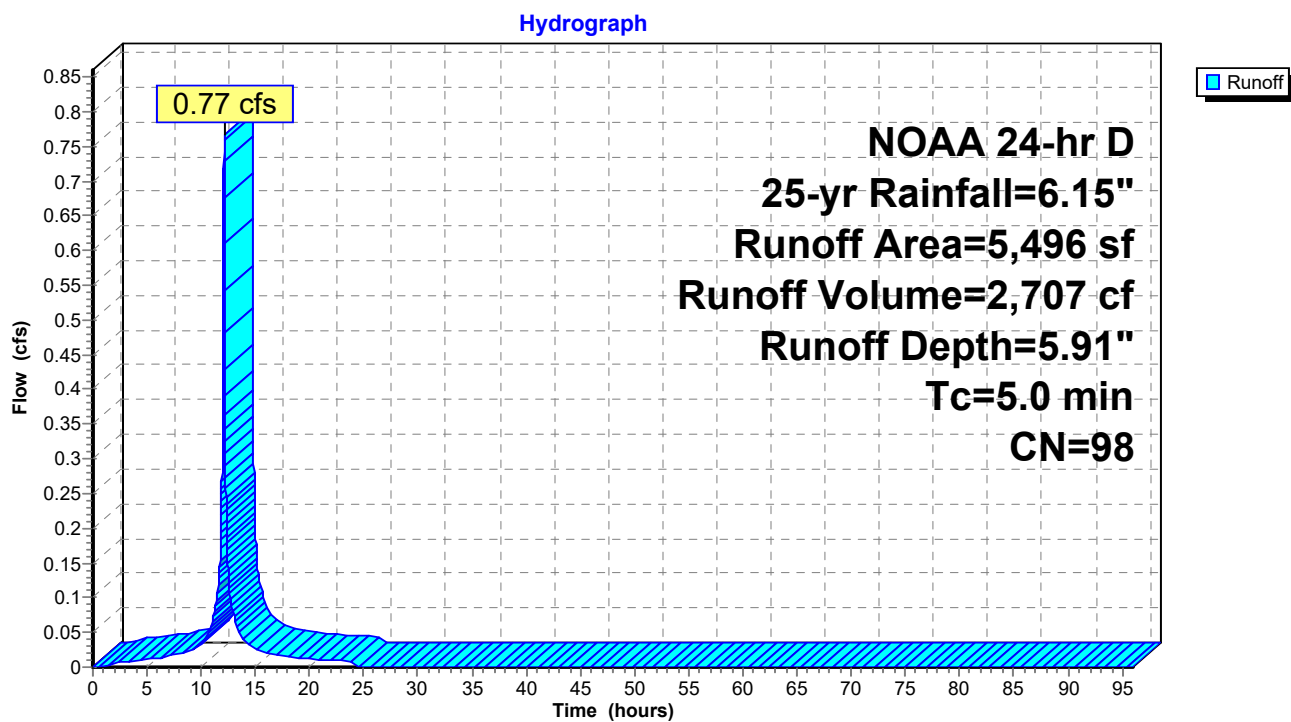
Subcatchment 7: Subcat 7



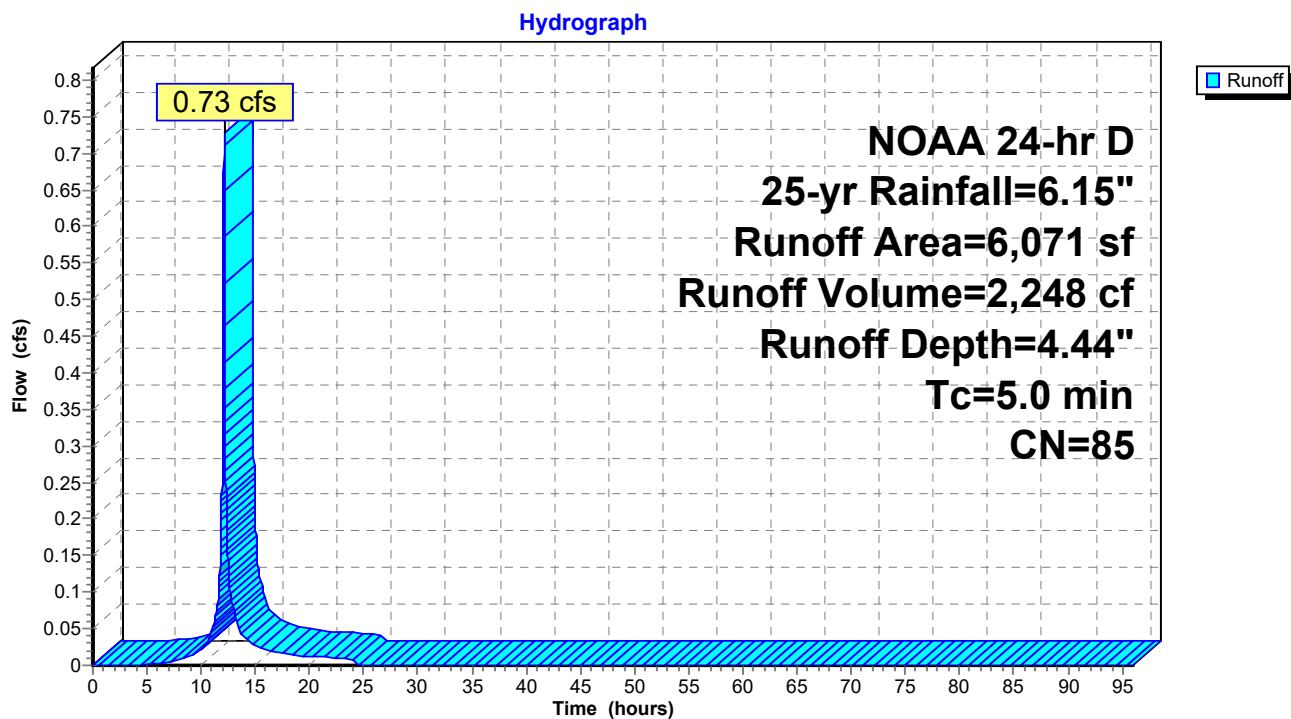
Subcatchment 7.1: Subcat 7.1



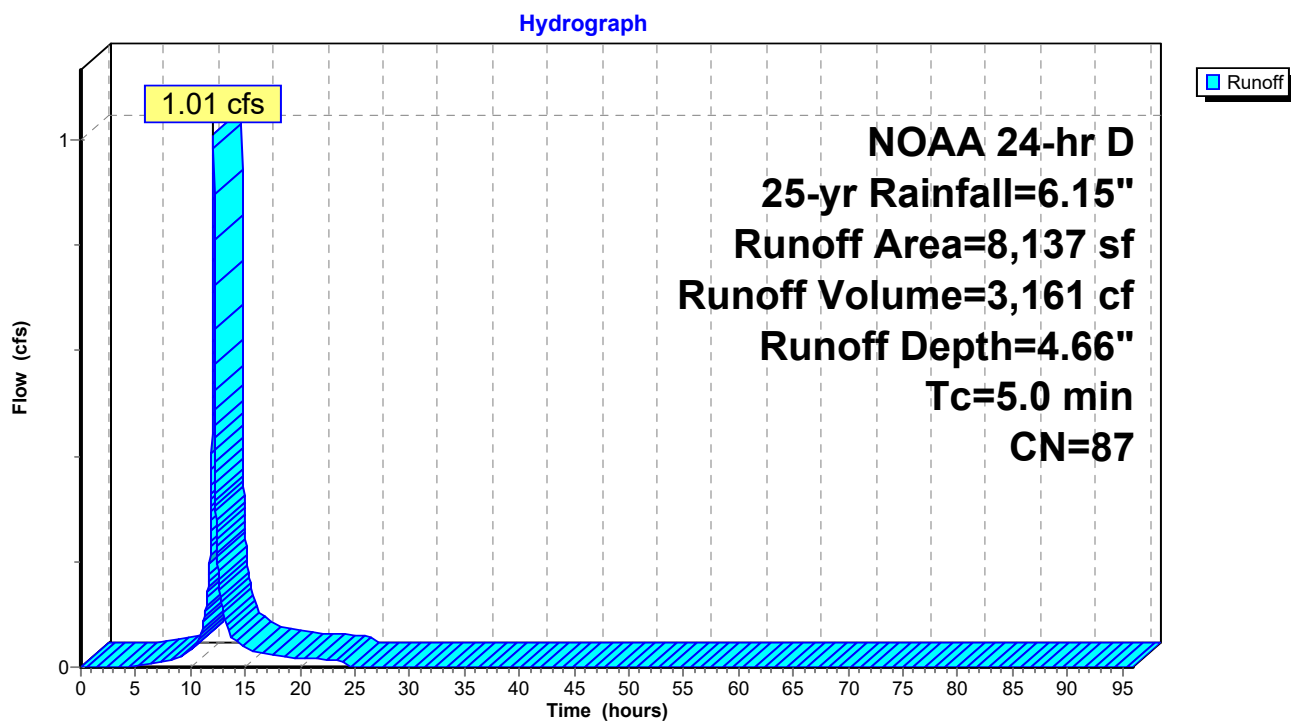
Subcatchment 8: Subcat 8



Subcatchment 9: Subcat 9

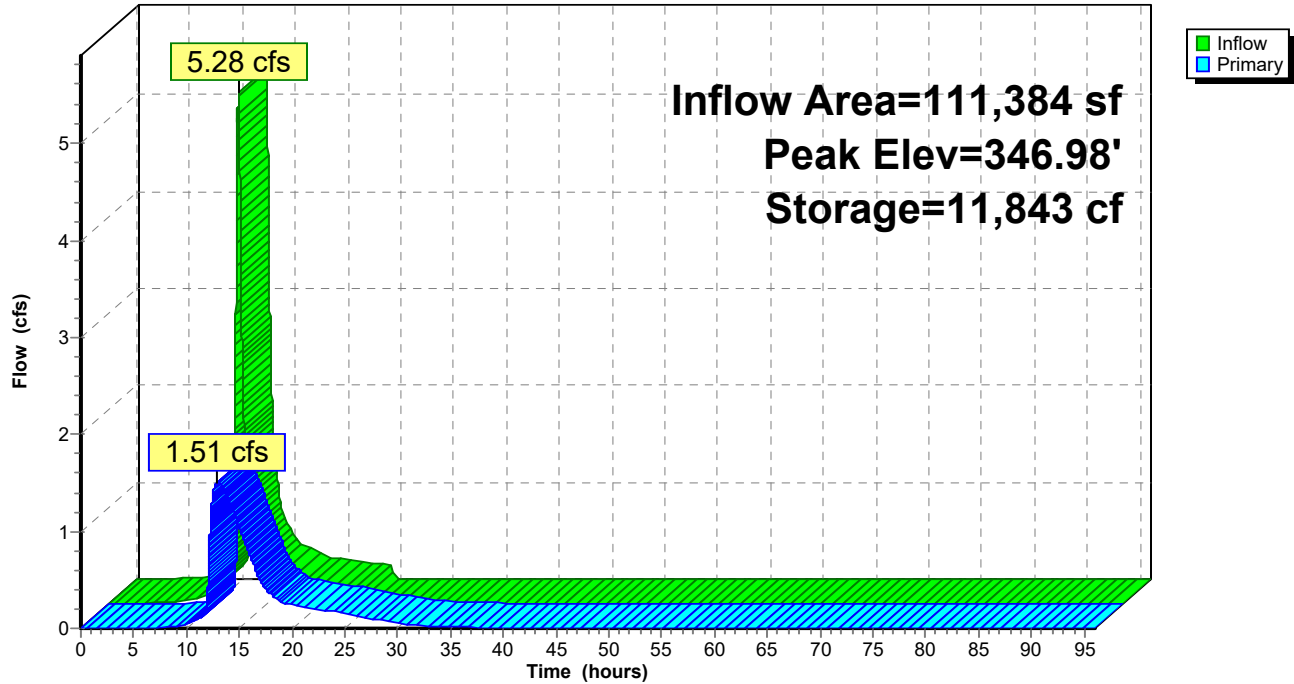


Subcatchment 20: Subcat 20



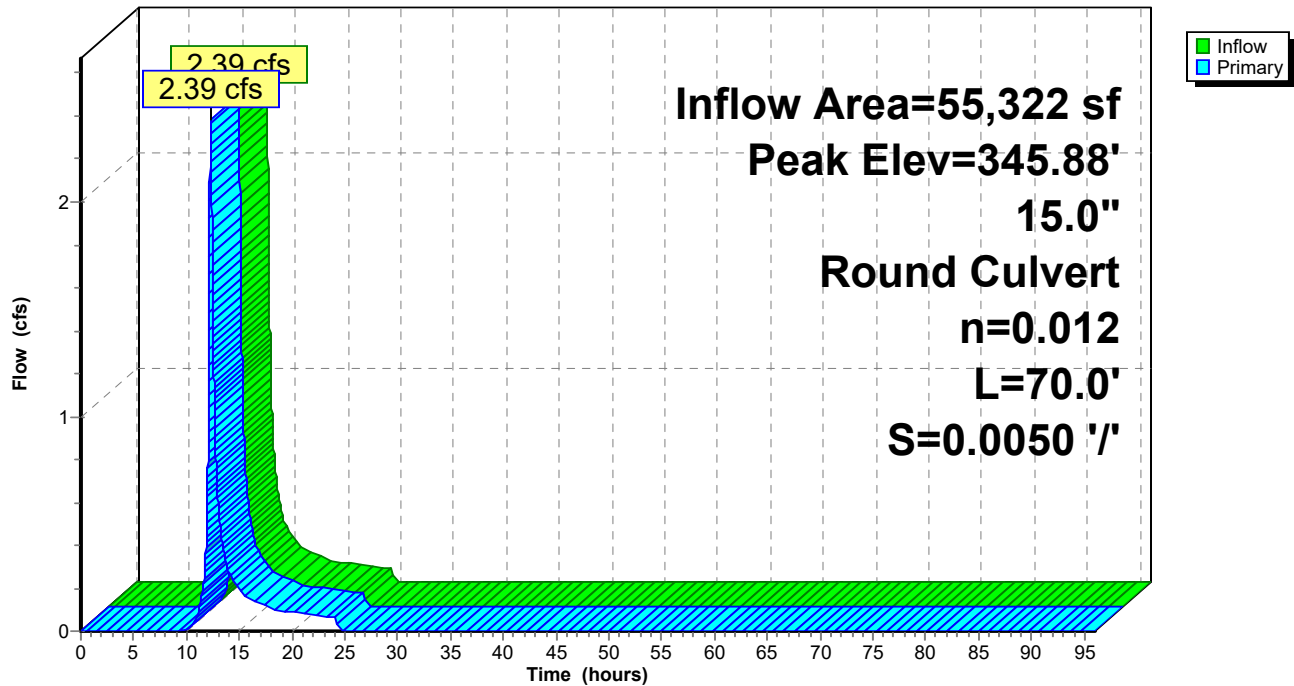
Pond 5P: DA 7 System

Hydrograph



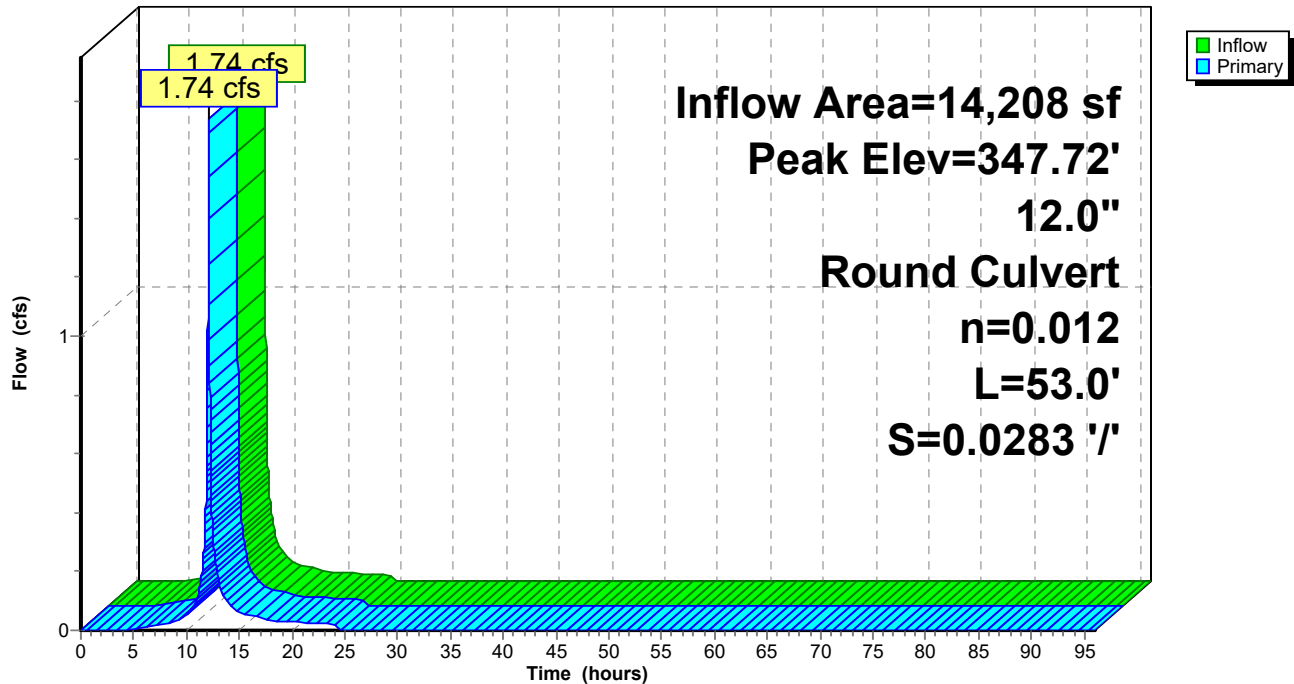
Pond 7P: CB C4

Hydrograph



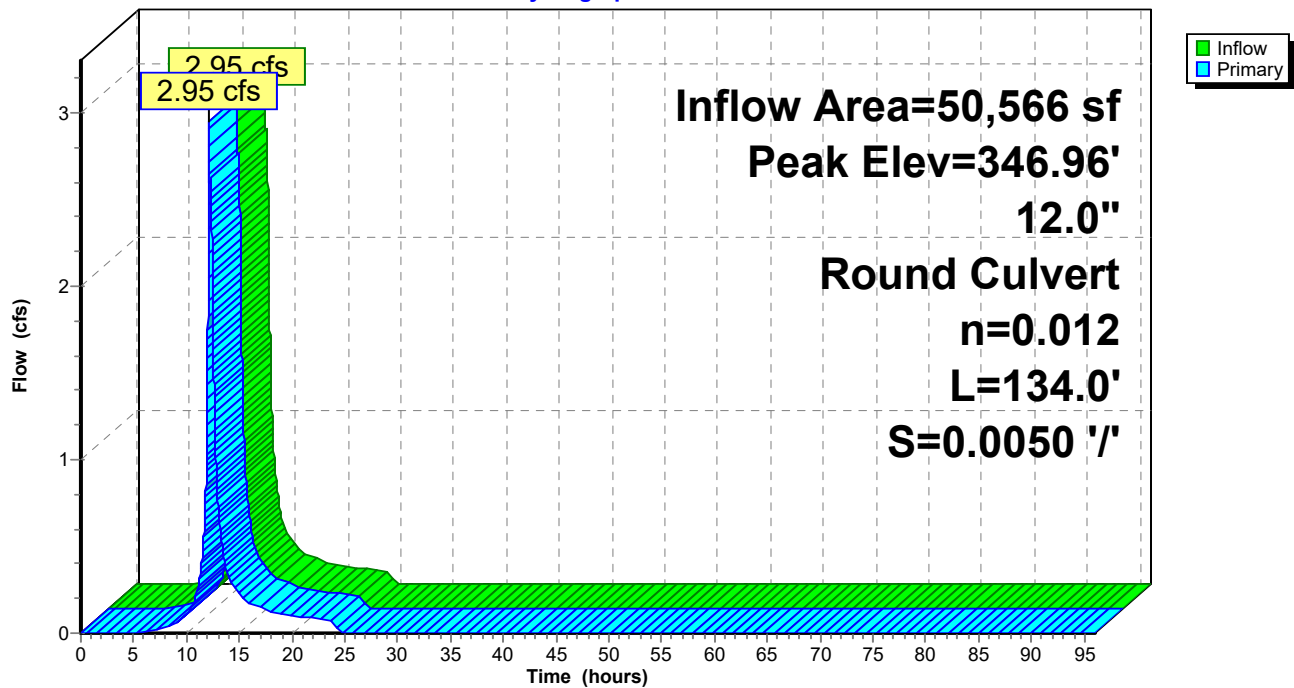
Pond 8P: CB C2

Hydrograph



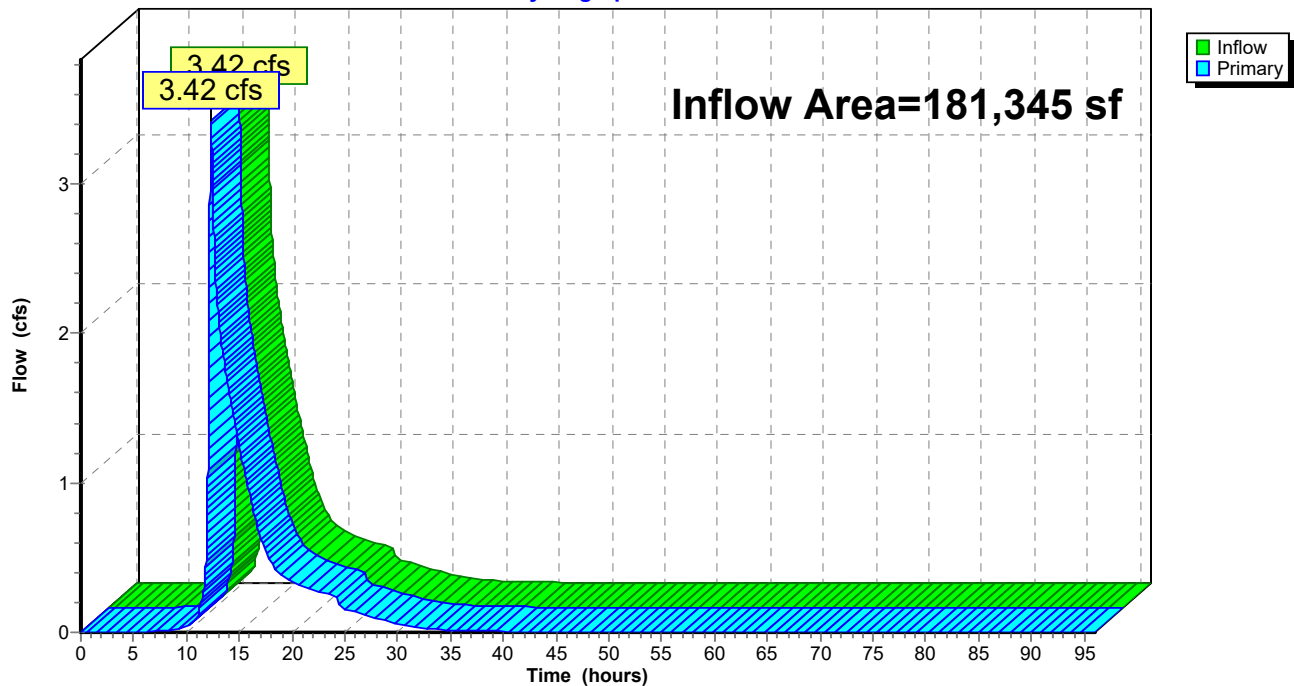
Pond 9P: CB C1

Hydrograph



Link 4L: West Off-Site

Hydrograph



2024-12-6 New Conditions-West

NOAA 24-hr D 50-yr Rainfall=6.92"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment5: Subcat 5

Runoff Area=69,961 sf 0.73% Impervious Runoff Depth=2.45"
Flow Length=269' Tc=19.3 min CN=59 Runoff=2.93 cfs 14,288 cf

Subcatchment7: Subcat 7

Runoff Area=1.270 ac 23.45% Impervious Runoff Depth=3.04"
Flow Length=262' Tc=18.9 min UI Adjusted CN=65 Runoff=2.98 cfs 14,019 cf

Subcatchment7.1: Subcat 7.1

Runoff Area=36,358 sf 32.67% Impervious Runoff Depth=4.19"
Flow Length=441' Tc=21.9 min CN=76 Runoff=2.53 cfs 12,683 cf

Subcatchment8: Subcat 8

Runoff Area=5,496 sf 100.00% Impervious Runoff Depth=6.68"
Tc=5.0 min CN=98 Runoff=0.87 cfs 3,060 cf

Subcatchment9: Subcat 9

Runoff Area=6,071 sf 49.70% Impervious Runoff Depth=5.18"
Tc=5.0 min CN=85 Runoff=0.84 cfs 2,619 cf

Subcatchment20: Subcat 20

Runoff Area=8,137 sf 50.55% Impervious Runoff Depth=5.40"
Tc=5.0 min CN=87 Runoff=1.16 cfs 3,663 cf

Pond 5P: DA 7 System

Peak Elev=347.35' Storage=13,754 cf Inflow=6.38 cfs 36,044 cf
Outflow=2.48 cfs 36,037 cf

Pond 7P: CB C4

Peak Elev=346.02' Inflow=2.98 cfs 14,019 cf
15.0" Round Culvert n=0.012 L=70.0' S=0.0050 ' Outflow=2.98 cfs 14,019 cf

Pond 8P: CB C2

Peak Elev=347.79' Inflow=2.00 cfs 6,282 cf
12.0" Round Culvert n=0.012 L=53.0' S=0.0283 ' Outflow=2.00 cfs 6,282 cf

Pond 9P: CB C1

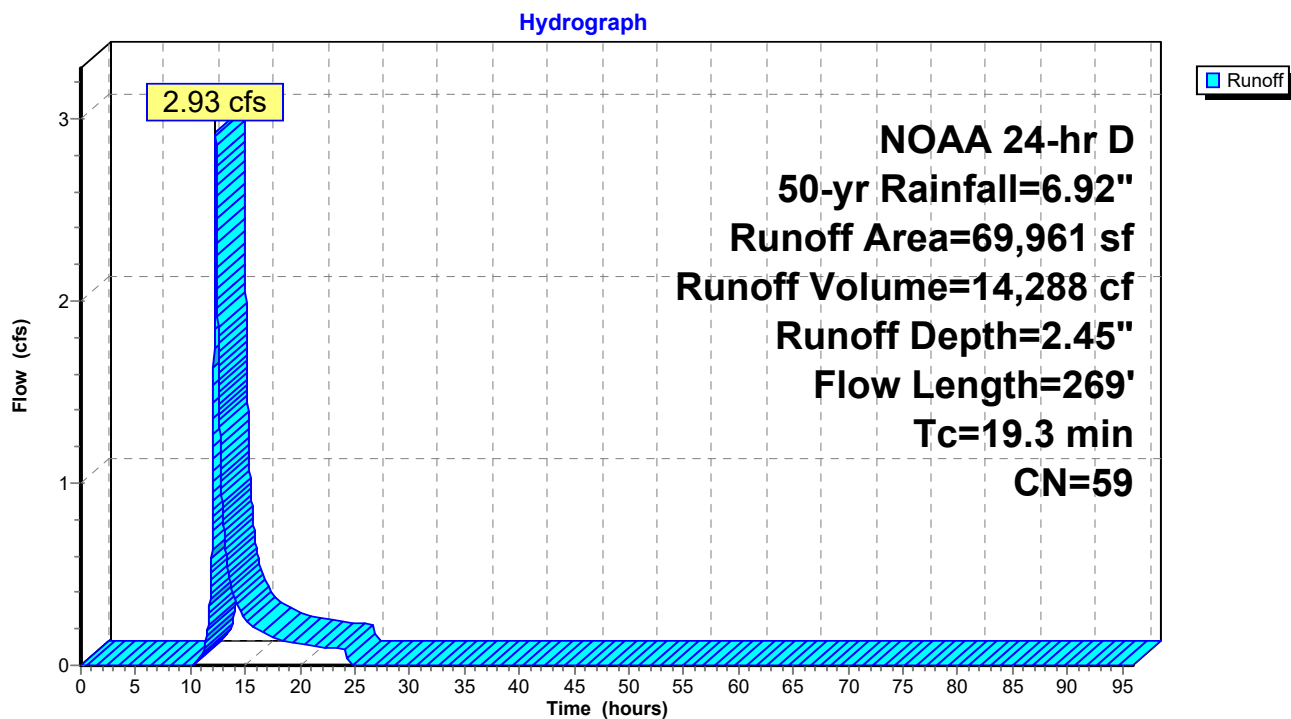
Peak Elev=347.37' Inflow=3.47 cfs 18,965 cf
12.0" Round Culvert n=0.012 L=134.0' S=0.0050 ' Outflow=3.47 cfs 18,965 cf

Link 4L: West Off-Site

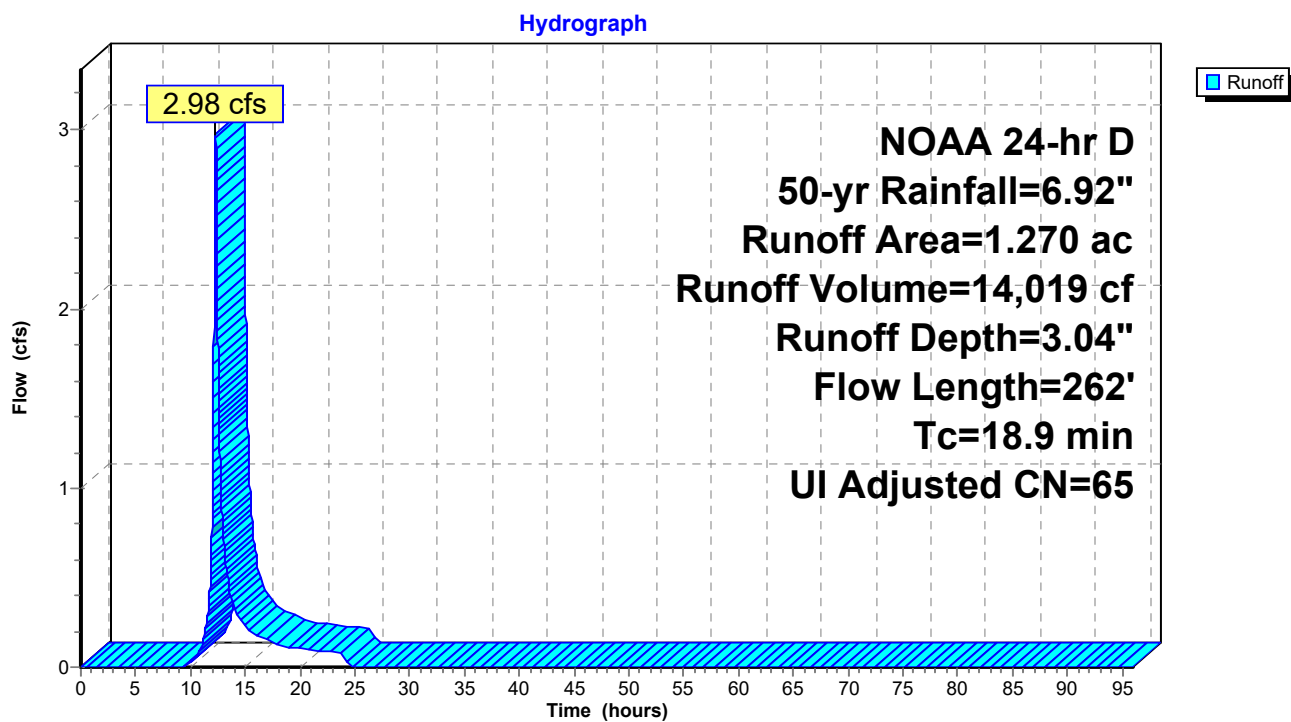
Inflow=4.27 cfs 50,324 cf
Primary=4.27 cfs 50,324 cf

Total Runoff Area = 181,345 sf Runoff Volume = 50,331 cf Average Runoff Depth = 3.33"
79.05% Pervious = 143,358 sf 20.95% Impervious = 37,987 sf

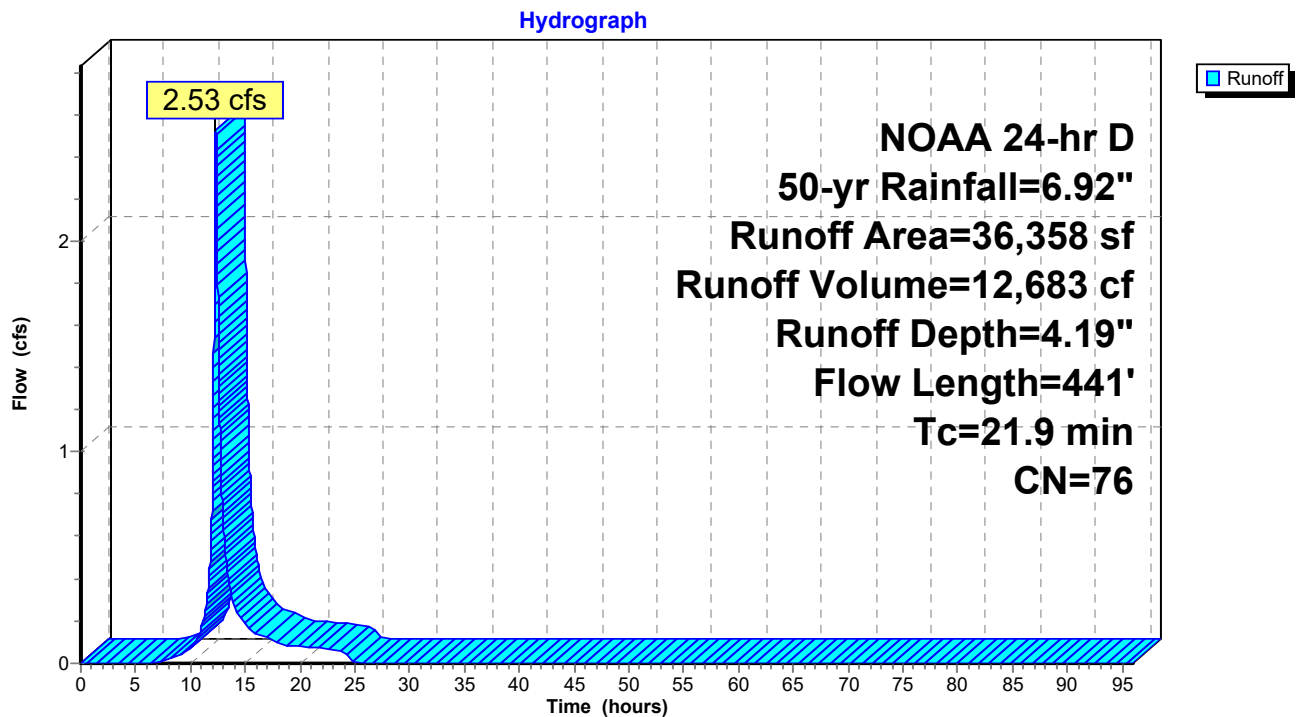
Subcatchment 5: Subcat 5



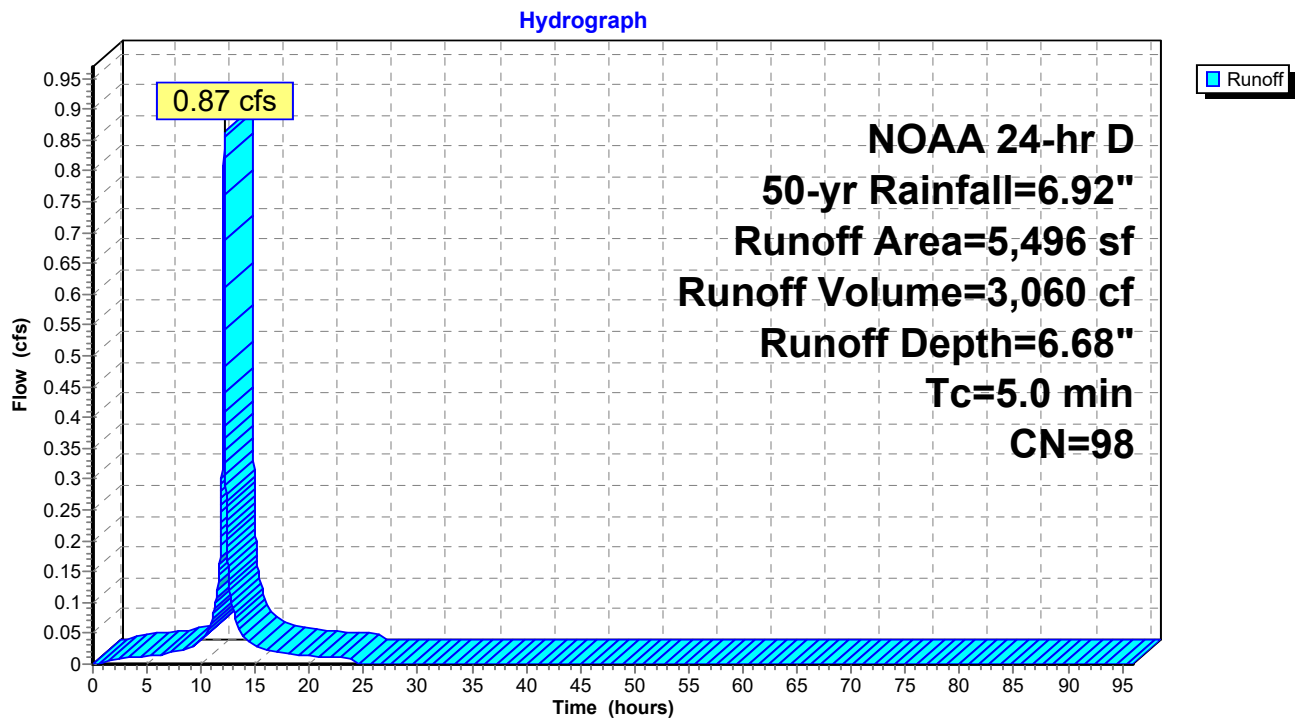
Subcatchment 7: Subcat 7



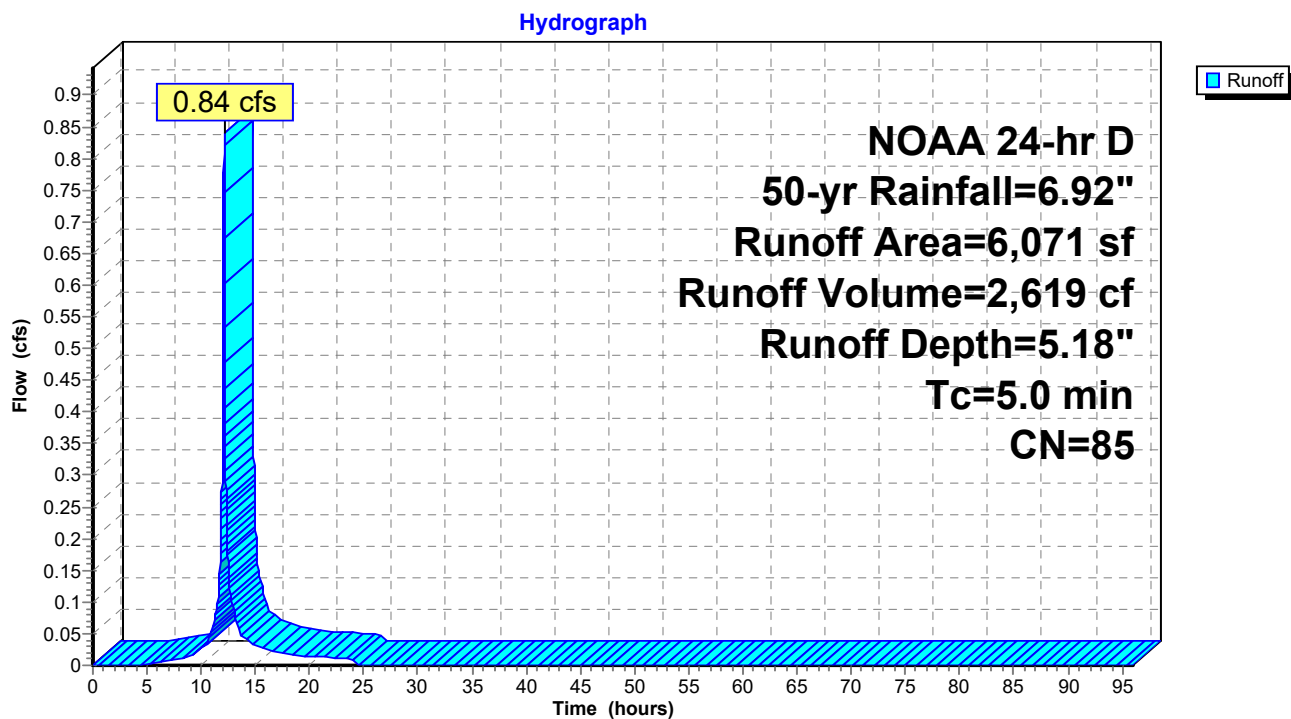
Subcatchment 7.1: Subcat 7.1



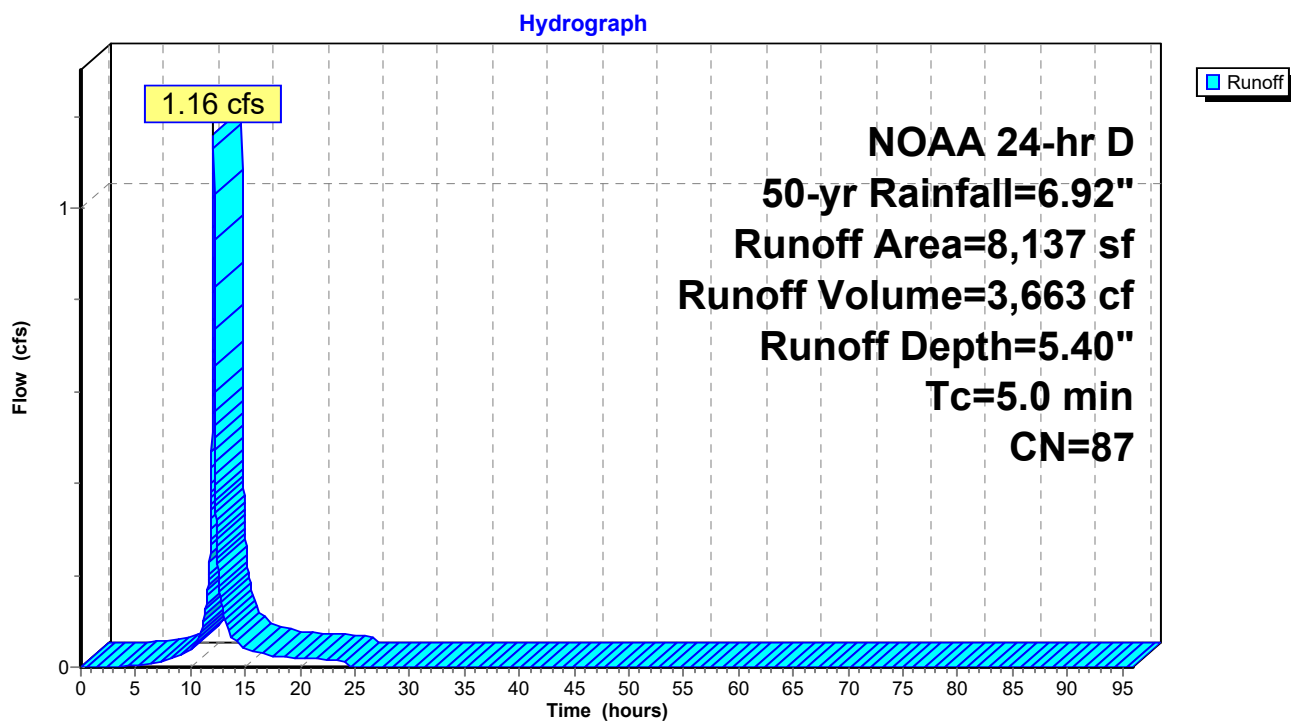
Subcatchment 8: Subcat 8



Subcatchment 9: Subcat 9

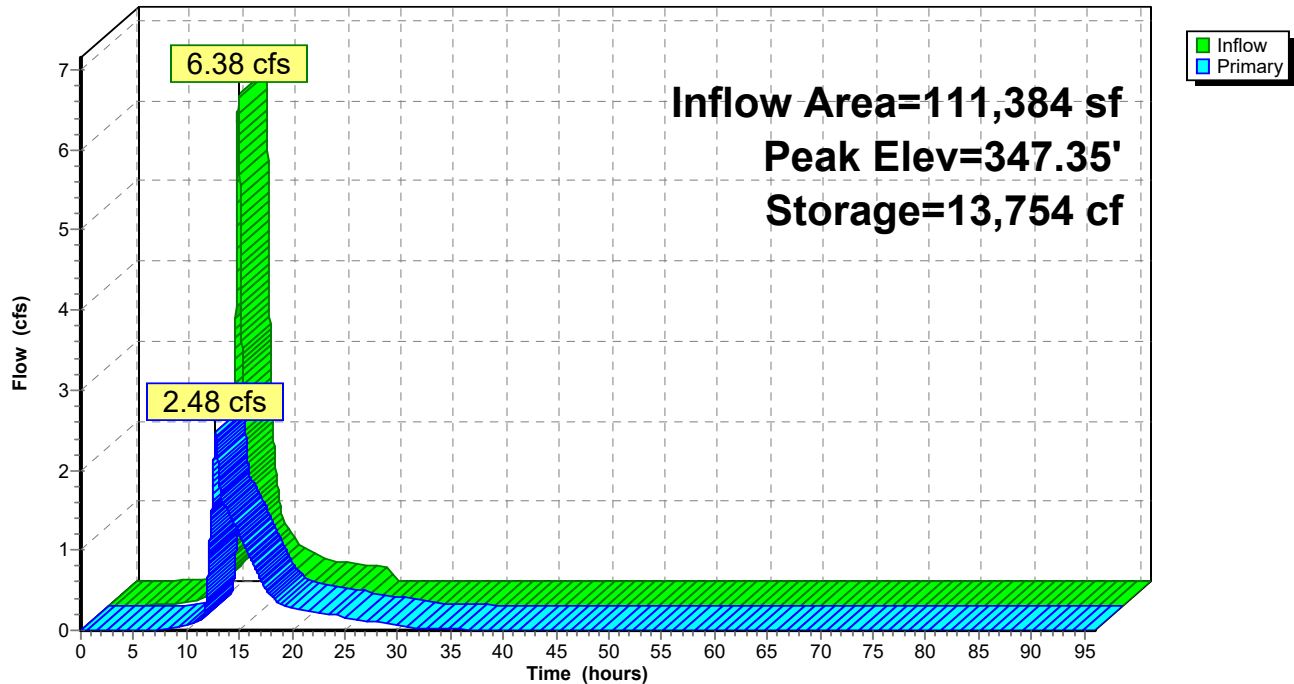


Subcatchment 20: Subcat 20



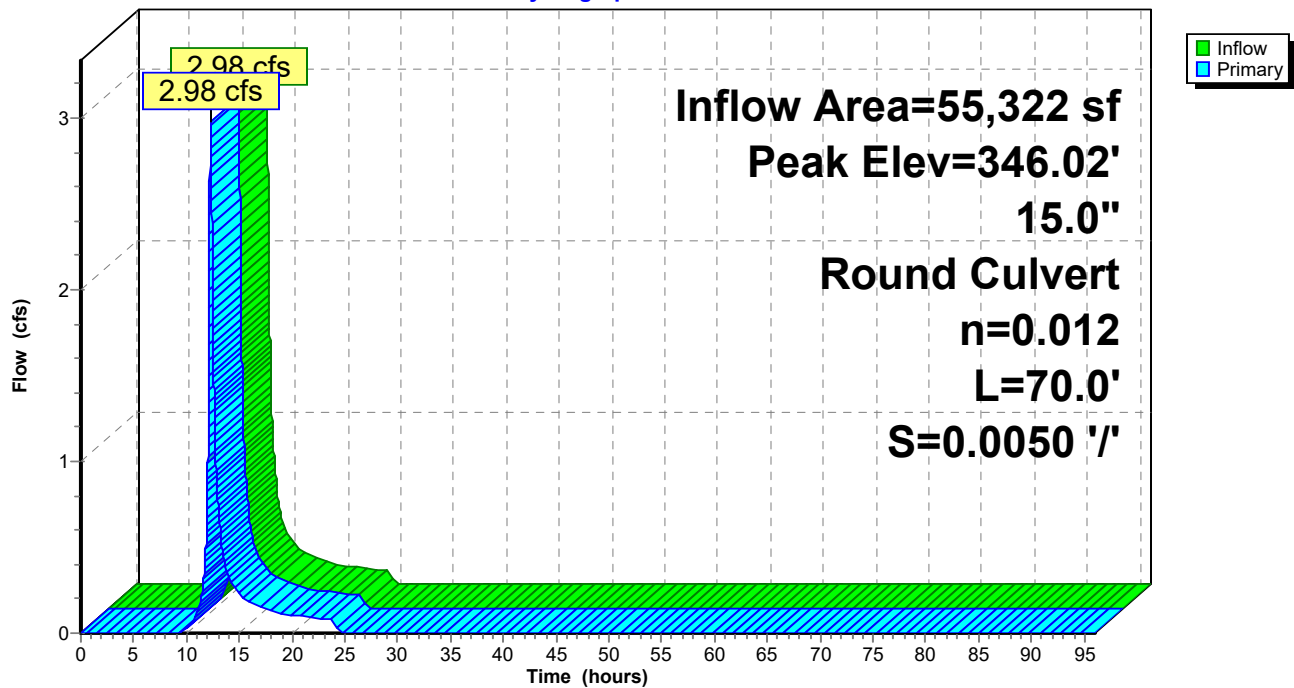
Pond 5P: DA 7 System

Hydrograph



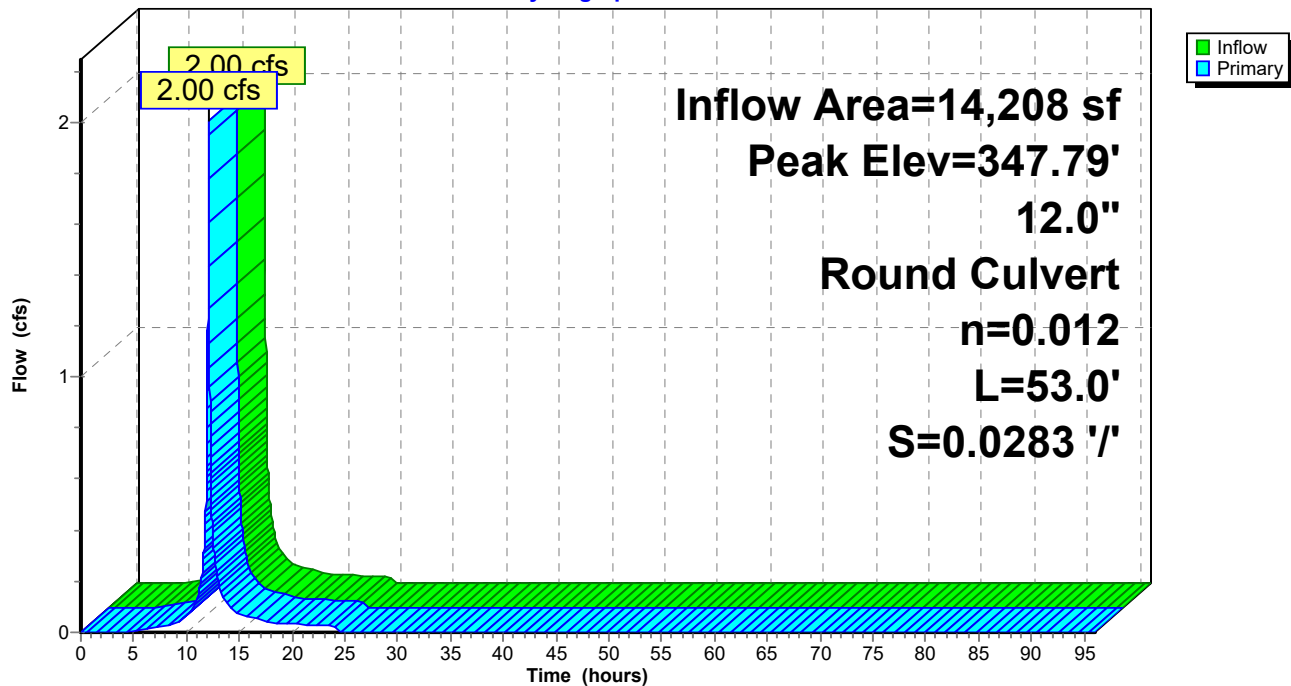
Pond 7P: CB C4

Hydrograph



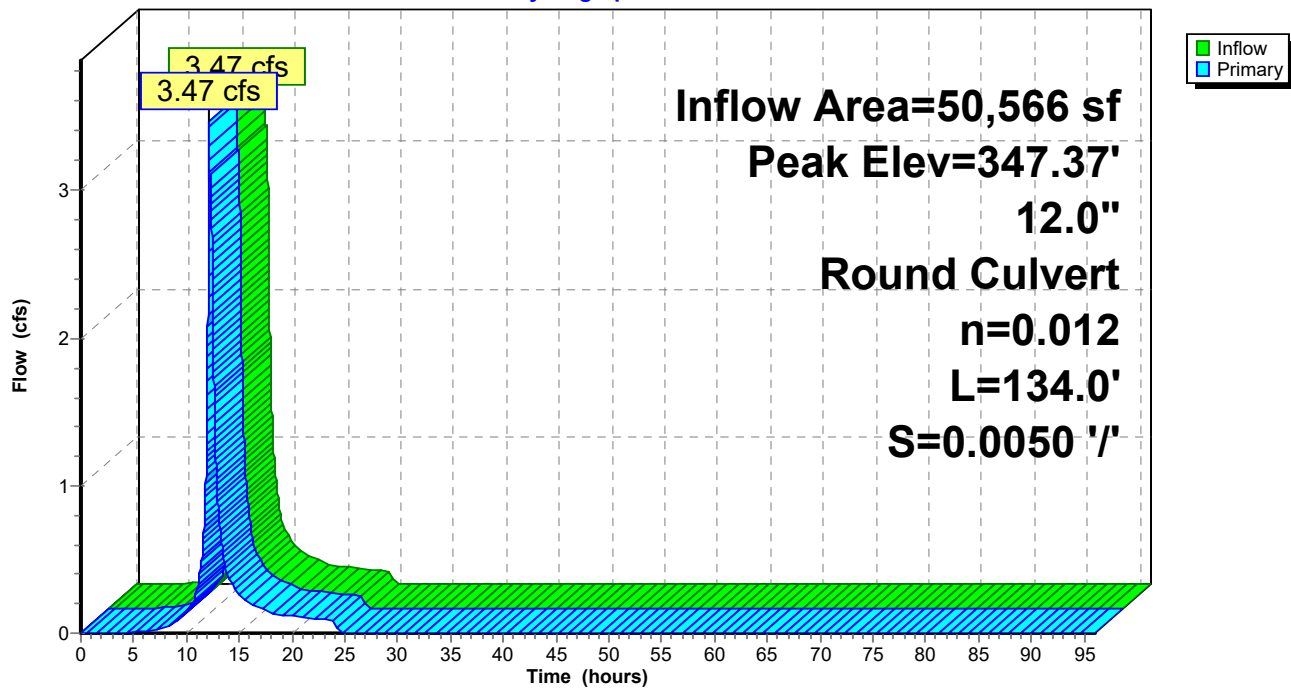
Pond 8P: CB C2

Hydrograph



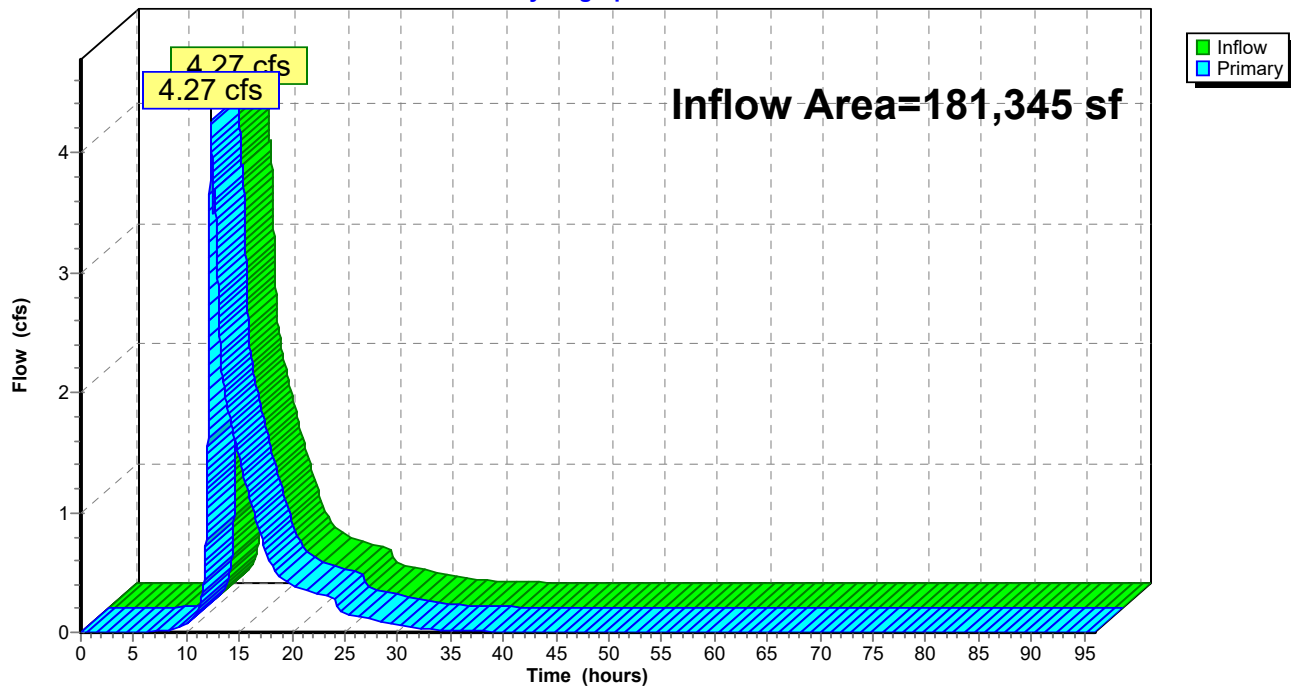
Pond 9P: CB C1

Hydrograph



Link 4L: West Off-Site

Hydrograph



2024-12-6 New Conditions-West

NOAA 24-hr D 100-yr Rainfall=7.74"

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Time span=0.00-96.00 hrs, dt=0.01 hrs, 9601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment5: Subcat 5

Runoff Area=69,961 sf 0.73% Impervious Runoff Depth=3.03"
Flow Length=269' Tc=19.3 min CN=59 Runoff=3.67 cfs 17,677 cf

Subcatchment7: Subcat 7

Runoff Area=1.270 ac 23.45% Impervious Runoff Depth=3.69"
Flow Length=262' Tc=18.9 min UI Adjusted CN=65 Runoff=3.63 cfs 16,989 cf

Subcatchment7.1: Subcat 7.1

Runoff Area=36,358 sf 32.67% Impervious Runoff Depth=4.92"
Flow Length=441' Tc=21.9 min CN=76 Runoff=2.96 cfs 14,912 cf

Subcatchment8: Subcat 8

Runoff Area=5,496 sf 100.00% Impervious Runoff Depth=7.50"
Tc=5.0 min CN=98 Runoff=0.97 cfs 3,435 cf

Subcatchment9: Subcat 9

Runoff Area=6,071 sf 49.70% Impervious Runoff Depth=5.96"
Tc=5.0 min CN=85 Runoff=0.96 cfs 3,016 cf

Subcatchment20: Subcat 20

Runoff Area=8,137 sf 50.55% Impervious Runoff Depth=6.20"
Tc=5.0 min CN=87 Runoff=1.32 cfs 4,202 cf

Pond 5P: DA 7 System

Peak Elev=347.53' Storage=14,671 cf Inflow=7.59 cfs 42,555 cf
Outflow=4.35 cfs 42,548 cf

Pond 7P: CB C4

Peak Elev=346.16' Inflow=3.63 cfs 16,989 cf
15.0" Round Culvert n=0.012 L=70.0' S=0.0050 ' Outflow=3.63 cfs 16,989 cf

Pond 8P: CB C2

Peak Elev=347.86' Inflow=2.28 cfs 7,219 cf
12.0" Round Culvert n=0.012 L=53.0' S=0.0283 ' Outflow=2.28 cfs 7,219 cf

Pond 9P: CB C1

Peak Elev=347.90' Inflow=4.02 cfs 22,131 cf
12.0" Round Culvert n=0.012 L=134.0' S=0.0050 ' Outflow=4.02 cfs 22,131 cf

Link 4L: West Off-Site

Inflow=6.58 cfs 60,225 cf
Primary=6.58 cfs 60,225 cf

Total Runoff Area = 181,345 sf Runoff Volume = 60,232 cf Average Runoff Depth = 3.99"
79.05% Pervious = 143,358 sf 20.95% Impervious = 37,987 sf

2024-12-6 New Conditions-West

Prepared by Loureiro Engineering Assoc, Inc

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NOAA 24-hr D 100-yr Rainfall=7.74"

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Summary for Subcatchment 5: Subcat 5

Runoff = 3.67 cfs @ 12.29 hrs, Volume= 17,677 cf, Depth= 3.03"
Routed to Link 4L : West Off-Site

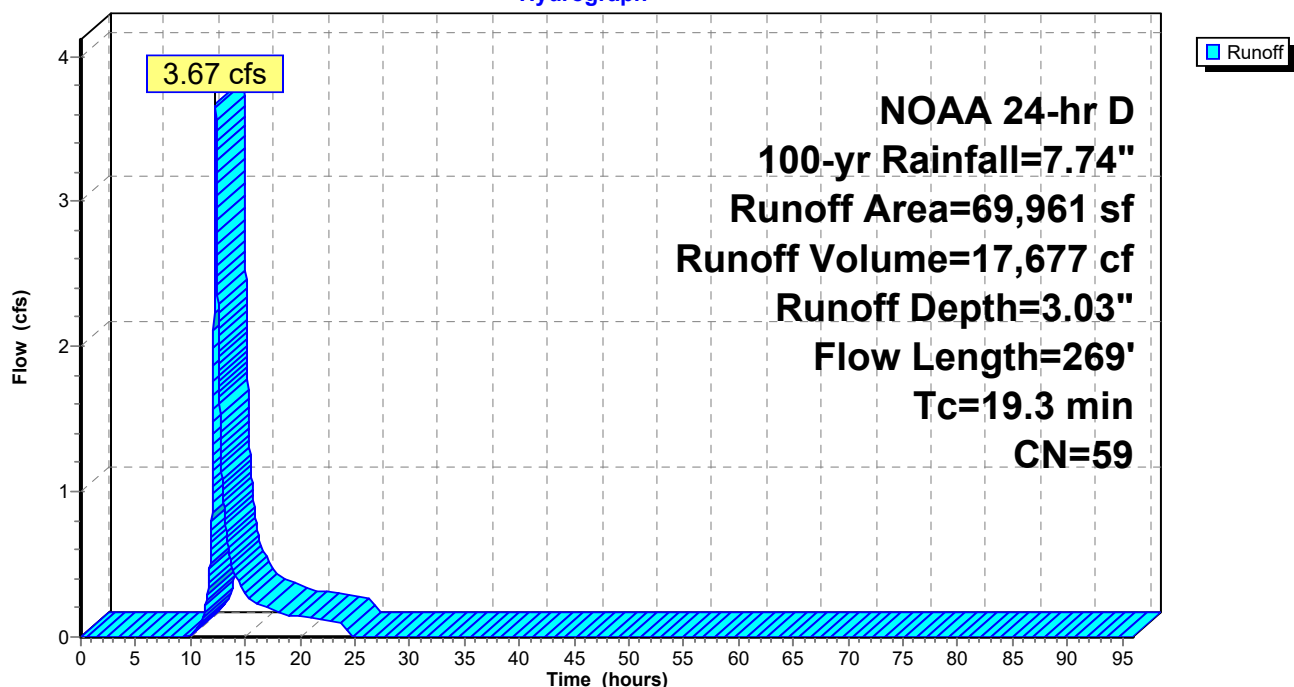
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
25,625	55	Woods, Good, HSG B
373	98	Roofs, HSG B
0	98	Paved parking, HSG B
134	98	Paved parking, HSG B
43,828	61	>75% Grass cover, Good, HSG B
69,961	59	Weighted Average
69,453		99.27% Pervious Area
508		0.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0300	0.09		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.46"
1.7	169	0.1100	1.66		Shallow Concentrated Flow, scf Woodland Kv= 5.0 fps
19.3	269	Total			

Subcatchment 5: Subcat 5

Hydrograph



2024-12-6 New Conditions-West

NOAA 24-hr D 100-yr Rainfall=7.74"

Prepared by Loureiro Engineering Assoc, Inc

Printed 12/5/2024

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Summary for Subcatchment 7: Subcat 7

Runoff = 3.63 cfs @ 12.28 hrs, Volume= 16,989 cf, Depth= 3.69"
 Routed to Pond 7P : CB C4

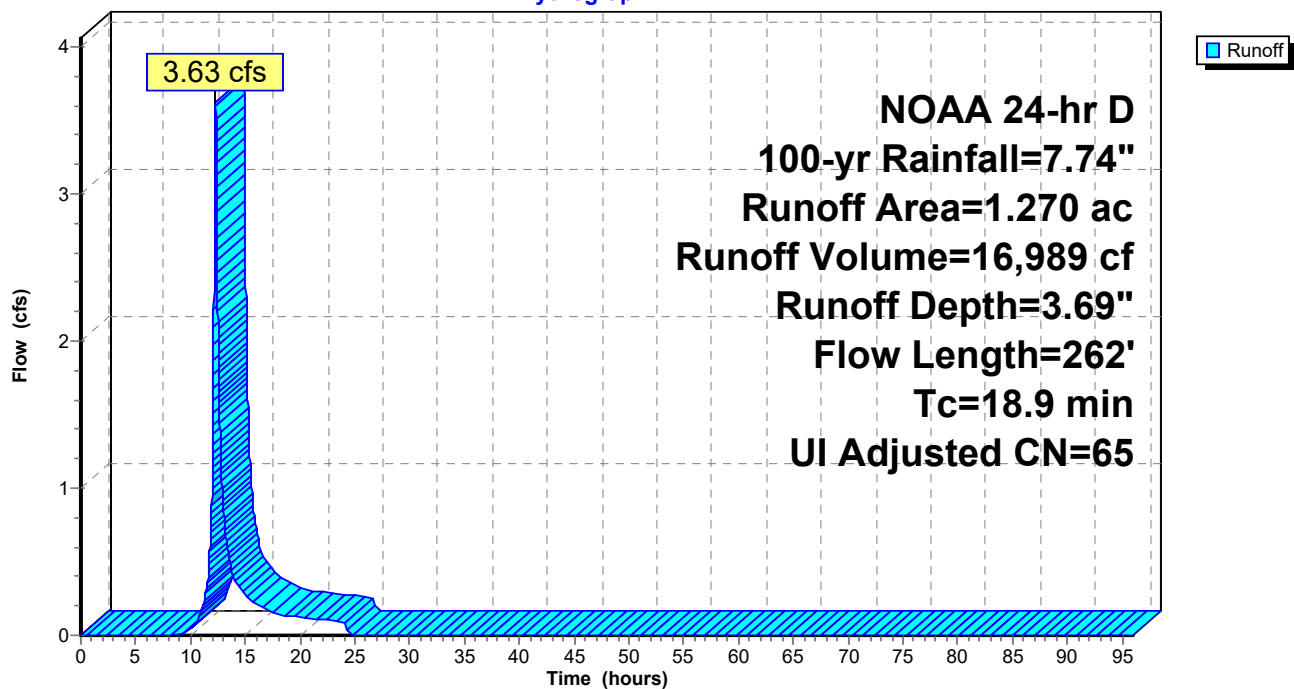
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 100-yr Rainfall=7.74"

Area (ac)	CN	Adj	Description
0.009	77		Woods, Good, HSG D
0.011	61		>75% Grass cover, Good, HSG B
0.000	61		>75% Grass cover, Good, HSG B
0.068	61		>75% Grass cover, Good, HSG B
0.885	55		Woods, Good, HSG B
0.002	98		Roofs, HSG B
0.278	98		Paved parking, HSG B
0.017	98		Unconnected pavement, HSG B
1.270	66	65	Weighted Average, UI Adjusted
0.972			76.55% Pervious Area
0.298			23.45% Impervious Area
0.017			5.86% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	100	0.0300	0.09		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.46"
1.0	101	0.1140	1.69		Shallow Concentrated Flow, scf woods Woodland Kv= 5.0 fps
0.1	12	0.2000	3.13		Shallow Concentrated Flow, scf grass Short Grass Pasture Kv= 7.0 fps
0.2	49	0.0655	5.20		Shallow Concentrated Flow, scf pave Paved Kv= 20.3 fps
18.9	262	Total			

Subcatchment 7: Subcat 7

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Summary for Subcatchment 7.1: Subcat 7.1

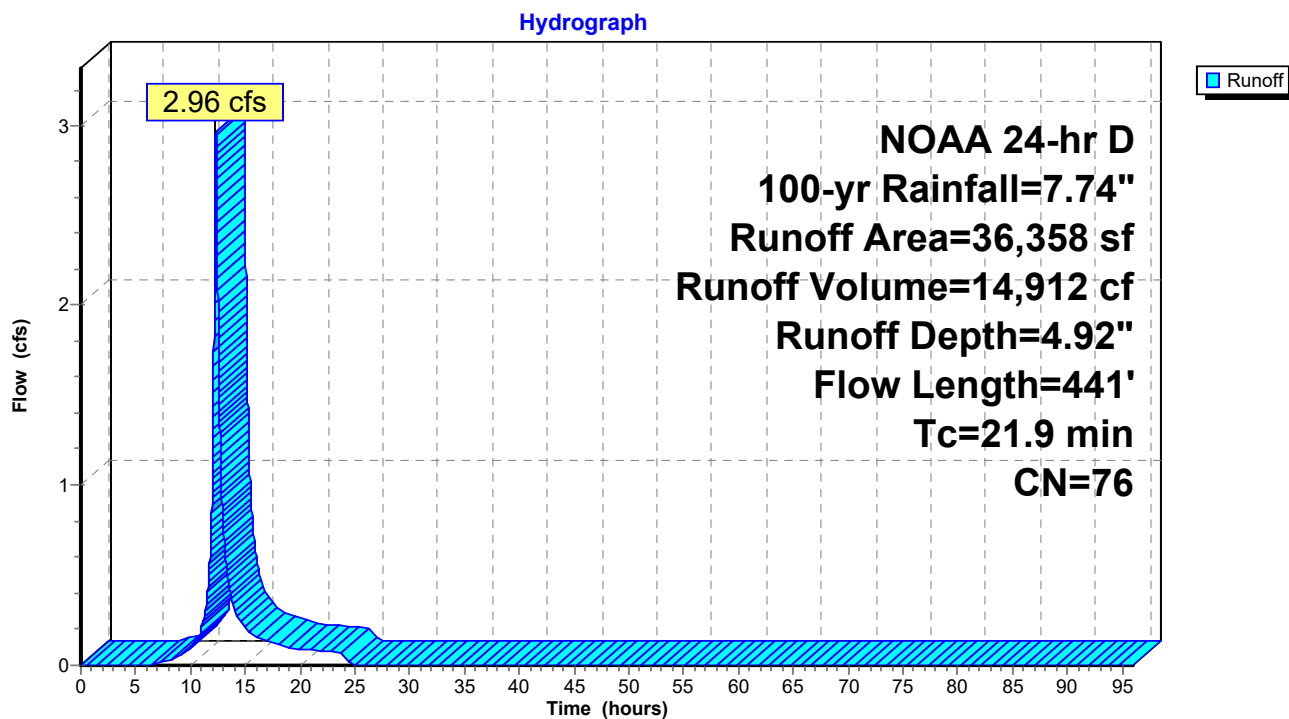
Runoff = 2.96 cfs @ 12.31 hrs, Volume= 14,912 cf, Depth= 4.92"
 Routed to Pond 9P : CB C1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
10,269	77	Woods, Good, HSG D
67	61	>75% Grass cover, Good, HSG B
3,753	61	>75% Grass cover, Good, HSG B
1,579	61	>75% Grass cover, Good, HSG B
8,811	55	Woods, Good, HSG B
584	98	Unconnected pavement, HSG B
0	98	Paved parking, HSG B
331	98	Roofs, HSG B
10,963	98	Paved parking, HSG B
36,358	76	Weighted Average
24,479		67.33% Pervious Area
11,879		32.67% Impervious Area
584		4.92% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.9	100	0.0250	0.09		Sheet Flow, sheet Woods: Light underbrush n= 0.400 P2= 3.46"
1.4	71	0.0280	0.84		Shallow Concentrated Flow, scf woods Woodland Kv= 5.0 fps
0.3	49	0.1480	2.69		Shallow Concentrated Flow, scf grass Short Grass Pasture Kv= 7.0 fps
1.3	221	0.0190	2.80		Shallow Concentrated Flow, scf paved Paved Kv= 20.3 fps
21.9	441	Total			

Subcatchment 7.1: Subcat 7.1



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Summary for Subcatchment 8: Subcat 8

Runoff = 0.97 cfs @ 12.12 hrs, Volume= 3,435 cf, Depth= 7.50"
Routed to Pond 5P : DA 7 System

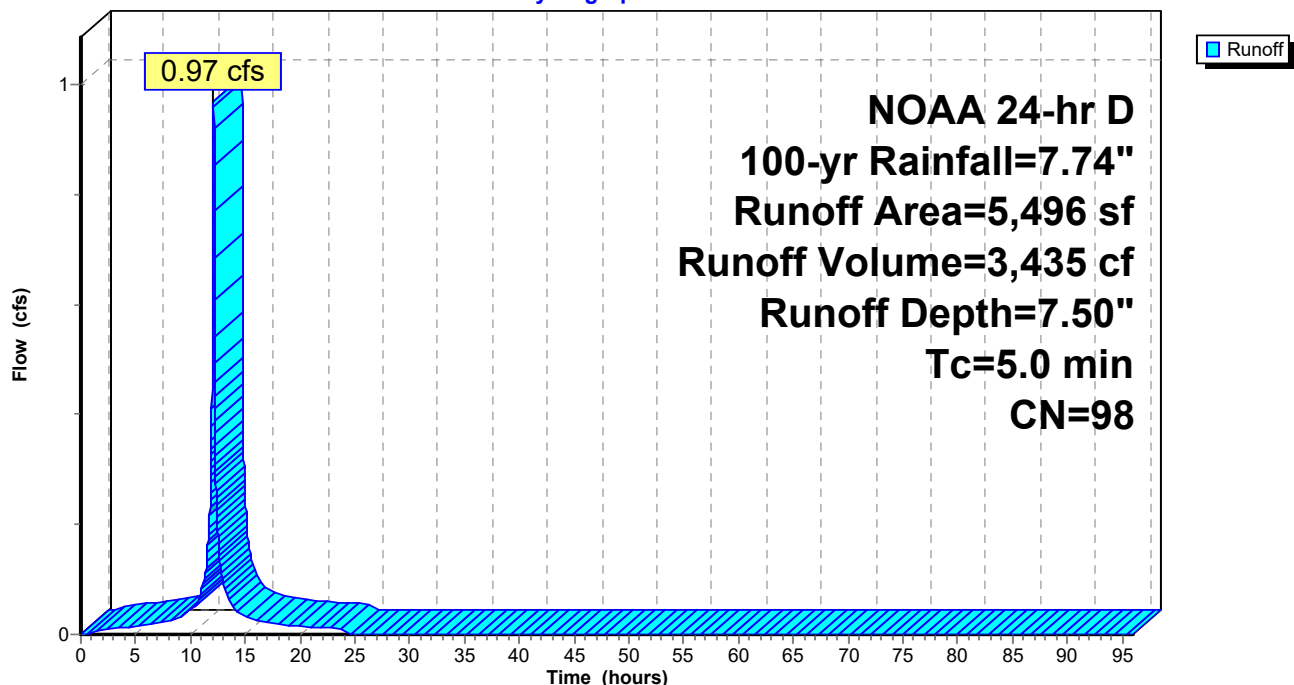
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
1,294	98	Roofs, HSG D
106	98	Paved parking, HSG D
1,891	98	Paved parking, HSG B
2,205	98	Roofs, HSG B
5,496	98	Weighted Average
5,496		100.00% Impervious Area

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

Subcatchment 8: Subcat 8

Hydrograph



2024-12-6 New Conditions-West

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NOAA 24-hr D 100-yr Rainfall=7.74"

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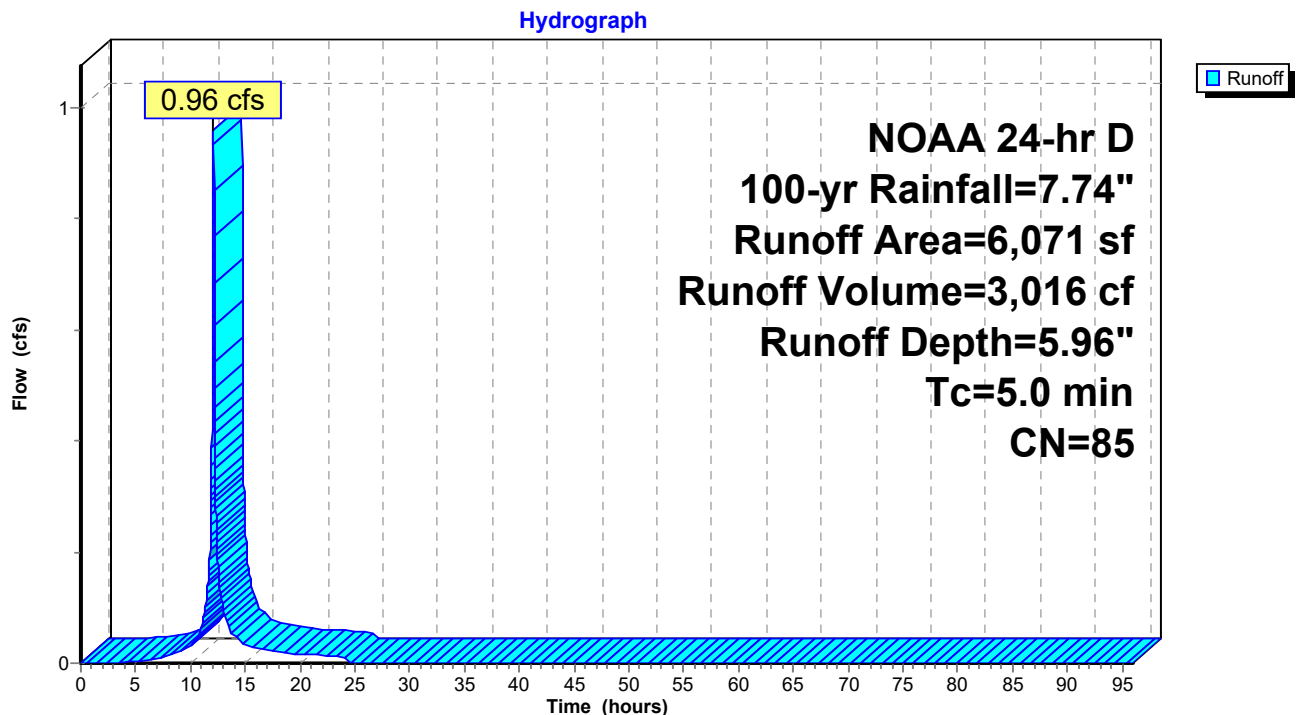
Summary for Subcatchment 9: Subcat 9

Runoff = 0.96 cfs @ 12.12 hrs, Volume= 3,016 cf, Depth= 5.96"
Routed to Pond 8P : CB C2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
1,726	80	>75% Grass cover, Good, HSG D
366	98	Unconnected pavement, HSG D
2,627	98	Paved parking, HSG D
68	77	Woods, Good, HSG D
361	55	Woods, Good, HSG B
25	98	Unconnected pavement, HSG B
898	61	>75% Grass cover, Good, HSG B
6,071	85	Weighted Average
3,054		50.30% Pervious Area
3,017		49.70% Impervious Area
390		12.94% Unconnected

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

Subcatchment 9: Subcat 9

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Summary for Subcatchment 20: Subcat 20

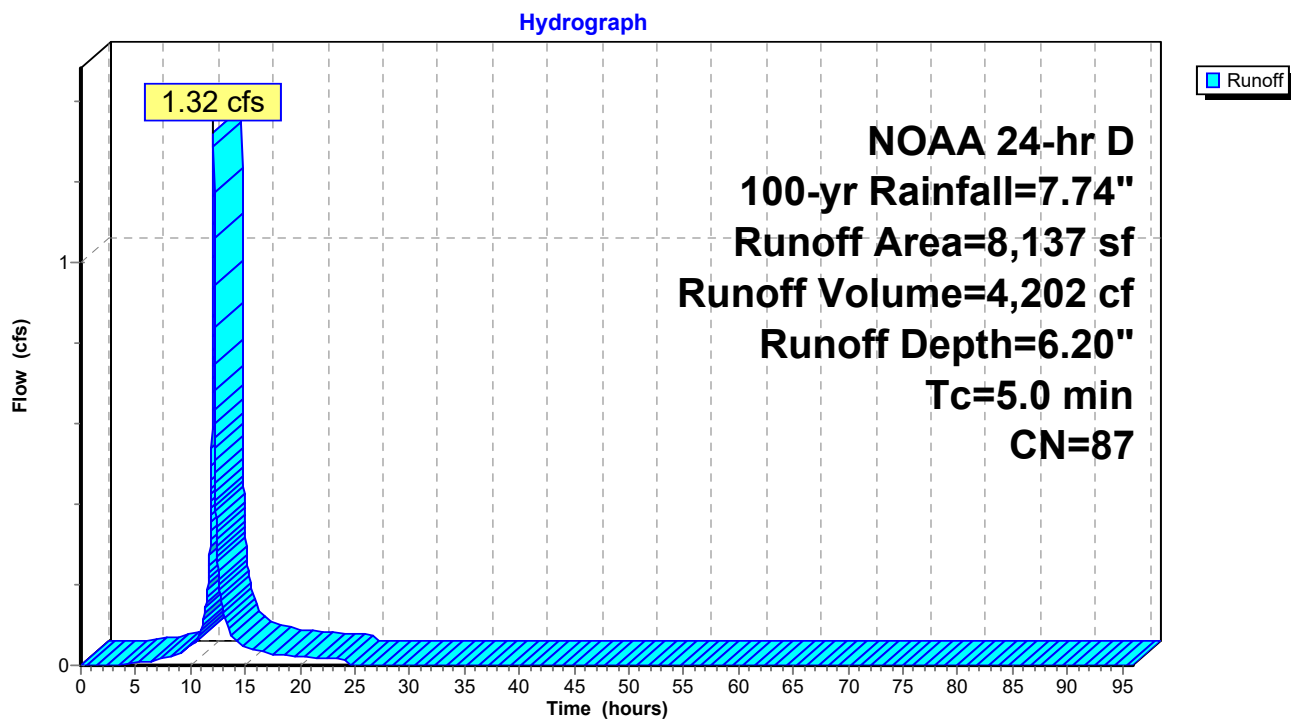
Runoff = 1.32 cfs @ 12.12 hrs, Volume= 4,202 cf, Depth= 6.20"
 Routed to Pond 8P : CB C2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 NOAA 24-hr D 100-yr Rainfall=7.74"

Area (sf)	CN	Description
2,852	98	Paved parking, HSG D
169	98	Paved parking, HSG D
240	98	Unconnected pavement, HSG D
868	77	Woods, Good, HSG D
119	80	>75% Grass cover, Good, HSG D
323	80	>75% Grass cover, Good, HSG D
1,967	80	>75% Grass cover, Good, HSG D
747	61	>75% Grass cover, Good, HSG B
207	98	Unconnected pavement, HSG B
0	98	Paved parking, HSG B
646	98	Paved parking, HSG B
8,137	87	Weighted Average
4,024		49.45% Pervious Area
4,113		50.55% Impervious Area
446		10.85% Unconnected

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

Subcatchment 20: Subcat 20



Summary for Pond 5P: DA 7 System

[81] Warning: Exceeded Pond 7P by 1.86' @ 12.85 hrs

[81] Warning: Exceeded Pond 9P by 1.28' @ 13.09 hrs

Inflow Area = 111,384 sf, 33.65% Impervious, Inflow Depth = 4.58" for 100-yr event
 Inflow = 7.59 cfs @ 12.27 hrs, Volume= 42,555 cf
 Outflow = 4.35 cfs @ 12.55 hrs, Volume= 42,548 cf, Atten= 43%, Lag= 16.5 min
 Primary = 4.35 cfs @ 12.55 hrs, Volume= 42,548 cf
 Routed to Link 4L : West Off-Site

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs
 Peak Elev= 347.53' @ 12.55 hrs Surf.Area= 5,760 sf Storage= 14,671 cf

Plug-Flow detention time= 153.8 min calculated for 42,548 cf (100% of inflow)
 Center-of-Mass det. time= 153.7 min (984.2 - 830.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	344.65'	0 cf	48.00'W x 120.00'L x 4.17'H Field A 24,000 cf Overall - 24,000 cf Embedded = 0 cf x 40.0% Voids
#2A	344.65'	17,812 cf	retain_it retain_it 3.5' x 90 Inside #1 Inside= 84.0"W x 42.0"H => 25.10 sf x 8.00'L = 200.8 cf Outside= 96.0"W x 50.0"H => 33.33 sf x 8.00'L = 266.7 cf 6 Rows adjusted for 257.9 cf perimeter wall
		17,812 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	344.65'	15.0" Round Culvert L= 106.5' Ke= 0.500 Inlet / Outlet Invert= 344.65' / 344.12' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	344.65'	3.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	345.23'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 1	347.20'	5.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=4.35 cfs @ 12.55 hrs HW=347.53' (Free Discharge)

- 1=Culvert (Passes 4.35 cfs of 7.26 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.39 cfs @ 8.00 fps)
- 3=Orifice/Grate (Orifice Controls 1.35 cfs @ 6.90 fps)
- 4=Broad-Crested Rectangular Weir (Weir Controls 2.60 cfs @ 1.56 fps)

Pond 5P: DA 7 System - Chamber Wizard Field A

Chamber Model = retain_it retain_it 3.5' (retain-it®)

Inside= 84.0"W x 42.0"H => 25.10 sf x 8.00'L = 200.8 cf

Outside= 96.0"W x 50.0"H => 33.33 sf x 8.00'L = 266.7 cf

6 Rows adjusted for 257.9 cf perimeter wall

15 Chambers/Row x 8.00' Long = 120.00' Row Length

6 Rows x 96.0" Wide = 48.00' Base Width

50.0" Chamber Height = 4.17' Field Height

6.1 cf Sidewall x 15 x 2 + 6.1 cf Endwall x 6 x 2 = 257.9 cf Perimeter Wall

90 Chambers x 200.8 cf - 257.9 cf Perimeter wall = 17,812.4 cf Chamber Storage

90 Chambers x 266.7 cf = 24,000.0 cf Displacement

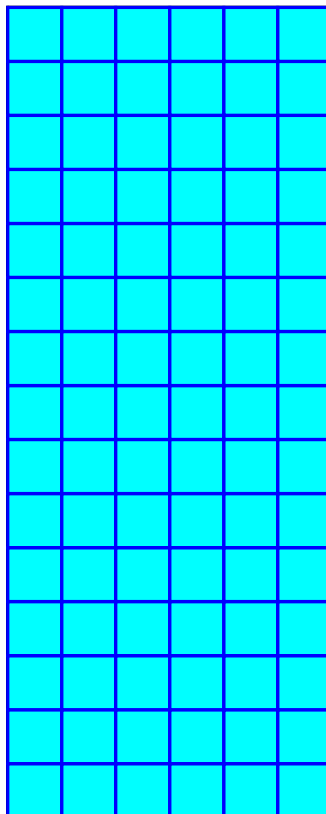
Chamber Storage = 17,812.4 cf = 0.409 af

Overall Storage Efficiency = 74.2%

Overall System Size = 120.00' x 48.00' x 4.17'

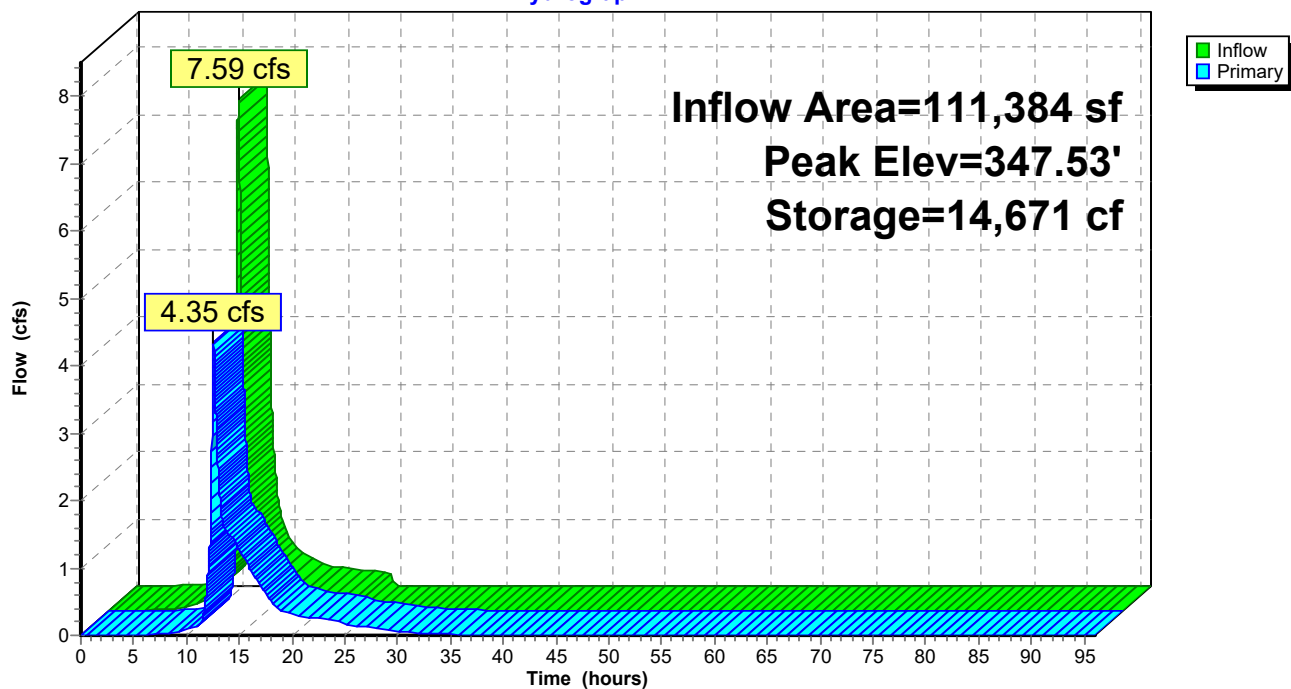
90 Chambers

888.9 cy Field



Pond 5P: DA 7 System

Hydrograph



Summary for Pond 7P: CB C4

Inflow Area = 55,322 sf, 23.45% Impervious, Inflow Depth = 3.69" for 100-yr event
 Inflow = 3.63 cfs @ 12.28 hrs, Volume= 16,989 cf
 Outflow = 3.63 cfs @ 12.28 hrs, Volume= 16,989 cf, Atten= 0%, Lag= 0.0 min
 Primary = 3.63 cfs @ 12.28 hrs, Volume= 16,989 cf
 Routed to Pond 5P : DA 7 System

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

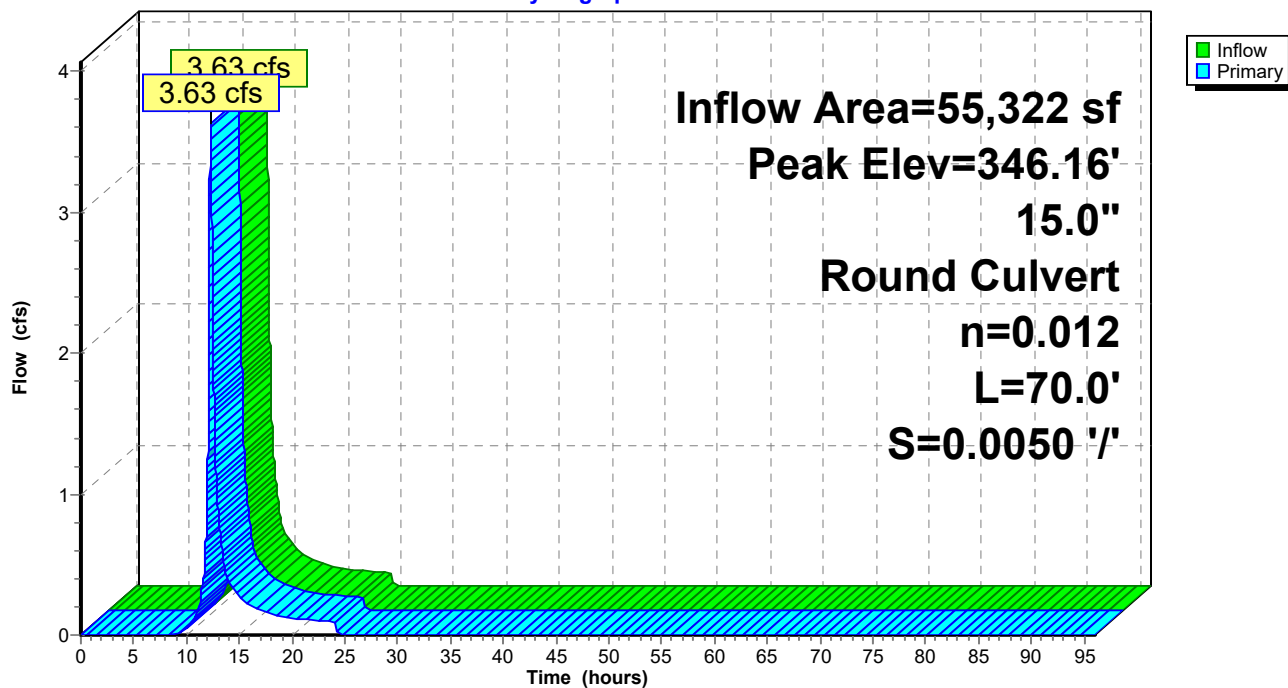
Peak Elev= 346.16' @ 12.28 hrs

Flood Elev= 347.88'

Device	Routing	Invert	Outlet Devices
#1	Primary	345.00'	15.0" Round Culvert L= 70.0' Ke= 0.500 Inlet / Outlet Invert= 345.00' / 344.65' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=3.63 cfs @ 12.28 hrs HW=346.16' (Free Discharge)

1=Culvert (Barrel Controls 3.63 cfs @ 3.97 fps)

Pond 7P: CB C4**Hydrograph**

Summary for Pond 8P: CB C2

Inflow Area = 14,208 sf, 50.18% Impervious, Inflow Depth = 6.10" for 100-yr event
 Inflow = 2.28 cfs @ 12.12 hrs, Volume= 7,219 cf
 Outflow = 2.28 cfs @ 12.12 hrs, Volume= 7,219 cf, Atten= 0%, Lag= 0.0 min
 Primary = 2.28 cfs @ 12.12 hrs, Volume= 7,219 cf
 Routed to Pond 9P : CB C1

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Peak Elev= 347.86' @ 12.12 hrs

Flood Elev= 350.20'

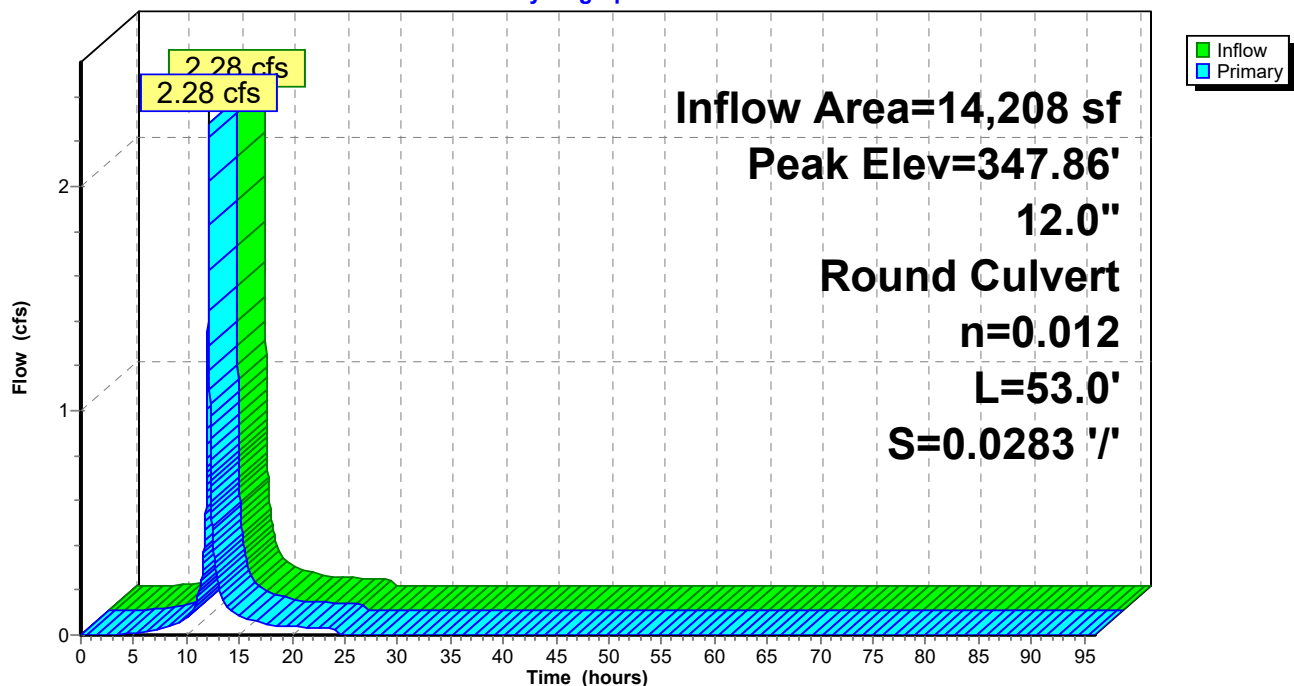
Device	Routing	Invert	Outlet Devices
#1	Primary	347.00'	12.0" Round Culvert L= 53.0' Ke= 0.500 Inlet / Outlet Invert= 347.00' / 345.50' S= 0.0283 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.28 cfs @ 12.12 hrs HW=347.86' (Free Discharge)

1=Culvert (Inlet Controls 2.28 cfs @ 3.16 fps)

Pond 8P: CB C2

Hydrograph



Summary for Pond 9P: CB C1

[81] Warning: Exceeded Pond 8P by 0.11' @ 12.29 hrs

Inflow Area = 50,566 sf, 37.59% Impervious, Inflow Depth = 5.25" for 100-yr event
 Inflow = 4.02 cfs @ 12.13 hrs, Volume= 22,131 cf
 Outflow = 4.02 cfs @ 12.13 hrs, Volume= 22,131 cf, Atten= 0%, Lag= 0.0 min
 Primary = 4.02 cfs @ 12.13 hrs, Volume= 22,131 cf
 Routed to Pond 5P : DA 7 System

Routing by Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Peak Elev= 347.90' @ 12.13 hrs

Flood Elev= 348.50'

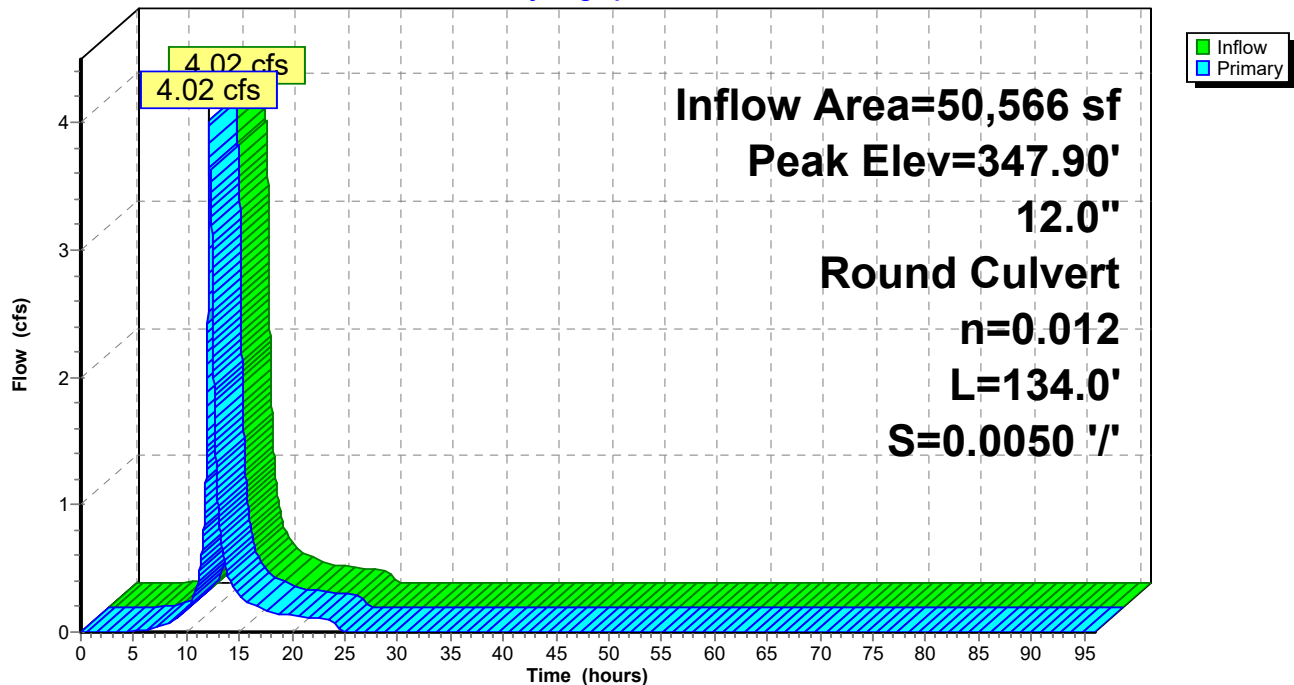
Device	Routing	Invert	Outlet Devices
#1	Primary	345.50'	12.0" Round Culvert L= 134.0' Ke= 0.500 Inlet / Outlet Invert= 345.50' / 344.83' S= 0.0050 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=4.01 cfs @ 12.13 hrs HW=347.89' (Free Discharge)

1=Culvert (Barrel Controls 4.01 cfs @ 5.10 fps)

Pond 9P: CB C1

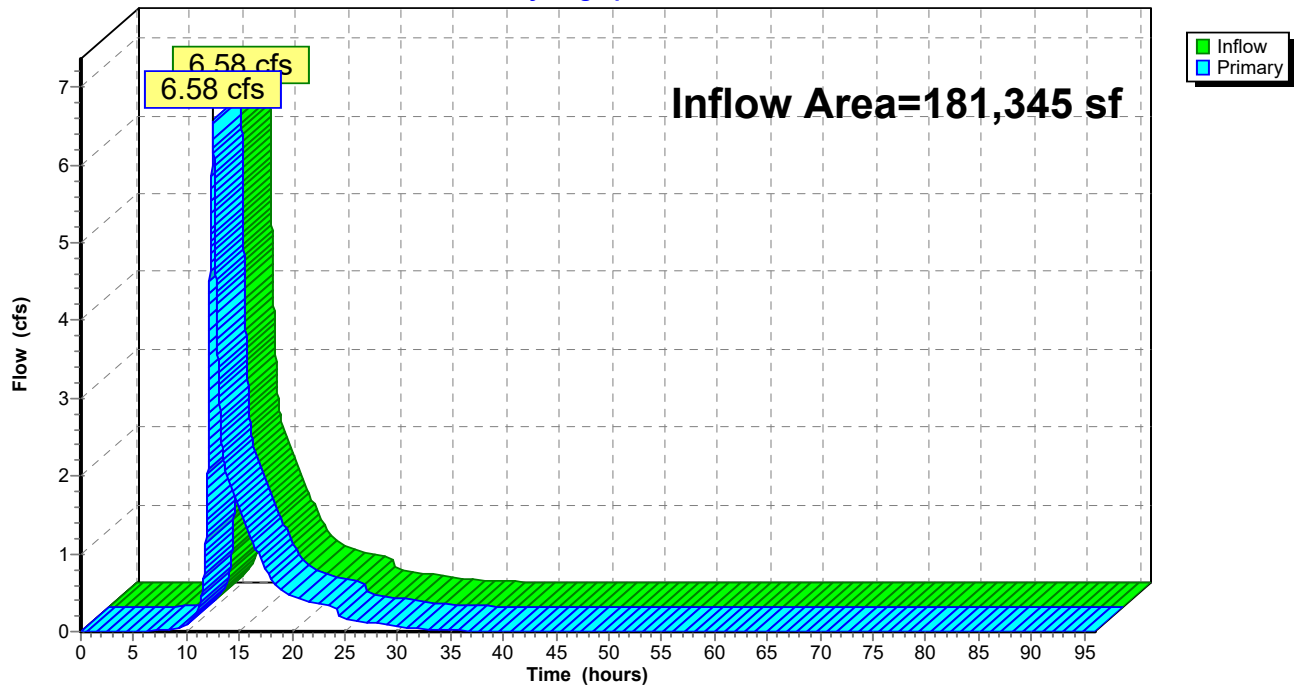
Hydrograph



Summary for Link 4L: West Off-Site

Inflow Area = 181,345 sf, 20.95% Impervious, Inflow Depth = 3.99" for 100-yr event
Inflow = 6.58 cfs @ 12.50 hrs, Volume= 60,225 cf
Primary = 6.58 cfs @ 12.50 hrs, Volume= 60,225 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-96.00 hrs, dt= 0.01 hrs

Link 4L: West Off-Site**Hydrograph**

APPENDIX E

Water Quality Volume and Water Quality Flow Calculations

Water Quality Volume and Water Quality Flow Worksheet

Watershed: DA 2, 3, 4, 4.1, 6, 14, 15, 16, 17, 18
Condition: Post-Construction

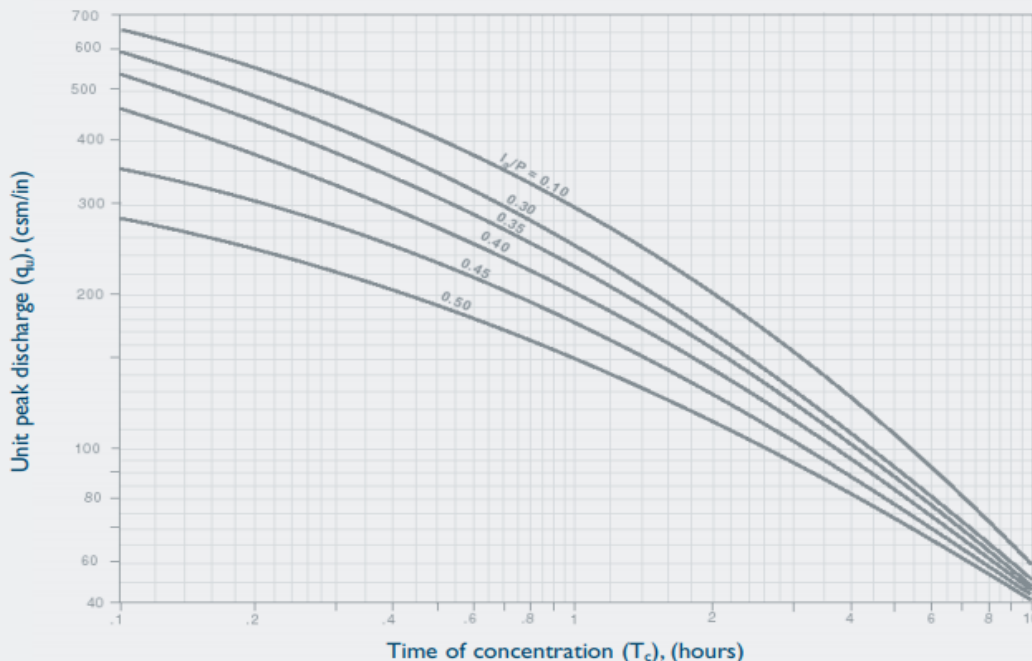
Water Quality Volume

Design Precipitation, P:	1.3	in
Percent Impervious Cover, I:	50%	
Volumetric Runoff Coefficient, R:	0.498	
Area, A:	166,598	S.F.
Water Quality Volume, WQV:	8,985	C.F.

Water Quality Flow

Runoff Depth, Q:	0.647	in
Runoff Curve Number, CN:	92	
Time of Concentration, T _c : (>=10 min)	10.0	min
Time of Concentration, T _c :	0.167	hr
Initial Abstraction, I _a :	0.174	in
I _a /P:	0.133846154	
Unit Peak Discharge, q _u :	590	csm/in (from Exhibit 4-111 below)
Area, A:	0.00598	mi ²
Water Quality Flow, WQF:	2.28	cfs

Exhibit 4-111 Unit peak discharge (q_u) for NRCS (SCS) type III rainfall distribution



Water Quality Volume and Water Quality Flow Worksheet

Watershed: DA 10, 11, 11.1, 11.2, 12

Condition: Post-Construction

Water Quality Volume

Design Precipitation, P:

1.3

in

Percent Impervious Cover, I:

72%

Volumetric Runoff Coefficient, R:

0.702

Area, A:

171,160

S.F.

Water Quality Volume, WQV:

13,023

C.F.

Water Quality Flow

Runoff Depth, Q:

0.913

in

Runoff Curve Number, CN:

96

Time of Concentration, T_c: (>=10 min)

10.0

min

Time of Concentration, T_c:

0.167

hr

Initial Abstraction, I_a:

0.083

in

I_a/P:

0.063846154

Unit Peak Discharge, q_u:

600

csm/in

(from Exhibit 4-111 below)

Area, A:

0.00614

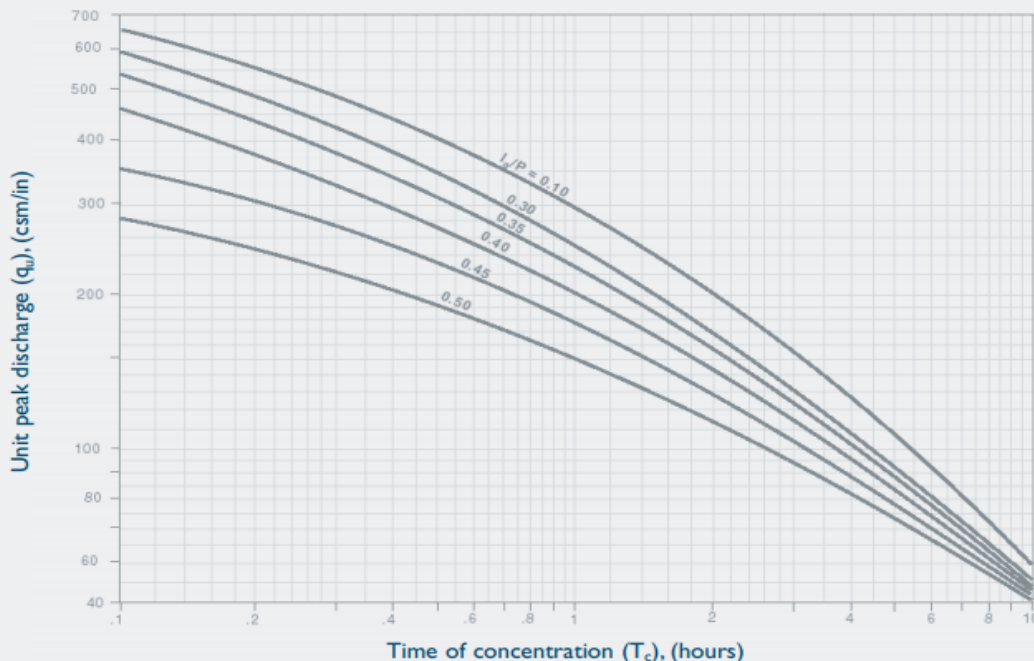
mi²

Water Quality Flow, WQF:

3.36

cfs

Exhibit 4-111 Unit peak discharge (q_u) for NRCS (SCS) type III rainfall distribution



Water Quality Volume and Water Quality Flow Worksheet

Watershed: DA 7, 7.1, 8, 9, 20
Condition: Post-Construction

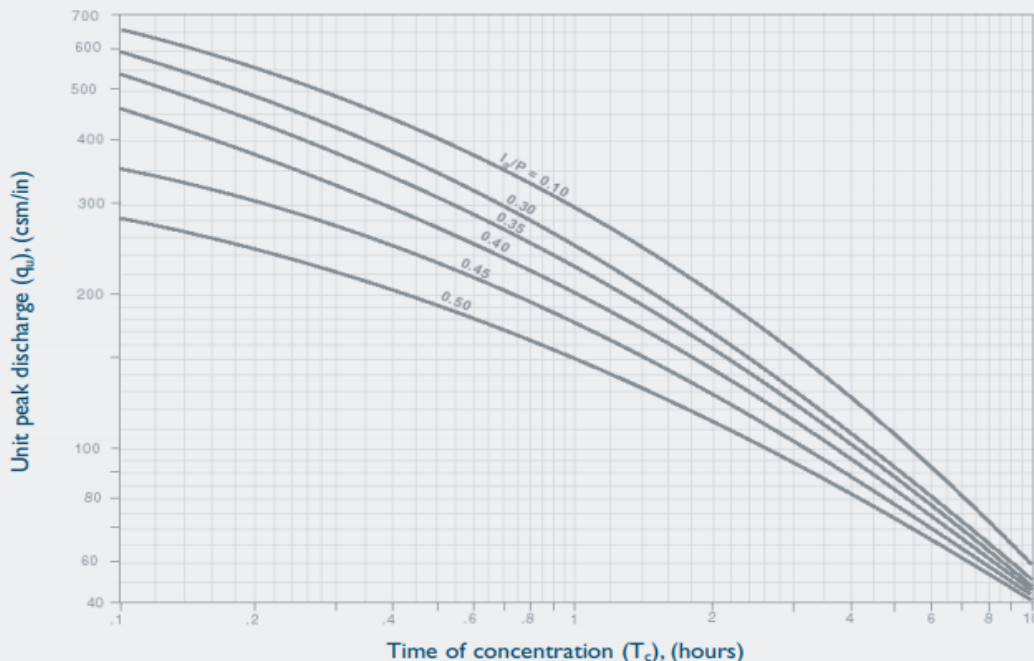
Water Quality Volume

Design Precipitation, P:	1.3	in
Percent Impervious Cover, I:	34%	
Volumetric Runoff Coefficient, R:	0.353	
Area, A:	111,384	S.F.
Water Quality Volume, WQV:	4,258	C.F.

Water Quality Flow

Runoff Depth, Q:	0.459	in
Runoff Curve Number, CN:	88	
Time of Concentration, T _c : (>=10 min)	10.0	min
Time of Concentration, T _c :	0.167	hr
Initial Abstraction, I _a :	0.273	in
I _a /P:	0.21	
Unit Peak Discharge, q _u :	550	csm/in (from Exhibit 4-111 below)
Area, A:	0.00400	mi ²
Water Quality Flow, WQF:	1.01	cfs

Exhibit 4-111 Unit peak discharge (q_u) for NRCS (SCS) type III rainfall distribution



APPENDIX F

Stormwater Maintenance Program and Checklist

Stormwater Management System Maintenance Program

There shall be periodic maintenance of the stormwater systems on the property after installation. In order to ensure effective performance of the system, the following stormwater maintenance program has been established. The property owner will be responsible for implementation of this program. A log and schedule of all inspections, cleanings, and repairs shall be maintained by the property owner. All maintenance documents shall be transferred to any future owners upon sale or transfer of the property.

A. Catch basins/Manholes

Catch basins are designed with sumps for the purpose of collecting coarse sediment. All catch basins should be inspected two times per year, specifically during times for high levels of maintenance around the site. Sediment should be removed when it extends to within 6 inches of the outlet pipe invert or not less than once per year. Cleanout should be facilitated via vacuum truck or other means that accomplish sediment removal. The sediment shall be disposed of in an approved off-site location in accordance with town and state requirements.

B. Asphalt

Asphalt areas should be swept annually. Ideal sweeping timeframe is in the spring after winter sanding or salting for deicing. Deicing chemicals should be kept to a minimum during the winter months.

C. Subsurface detention/infiltration systems

Underground detention/infiltration systems shall be inspected through the surface openings quarterly and sediment/debris shall be removed as needed to ensure proper functioning of structures and inlets/outlets. Areas of disturbance that may be as a result of cleaning shall be seeded and planted in accordance with the original planting plan. Associated structures shall be maintained yearly, or more frequently, as required, by the condition of the site and system. Waste material will be properly disposed of off-site.

D. Lawn and vegetated areas

Vegetated cover shall be maintained on all earth surfaces to minimize soil erosion. Fertilizer use should be minimized and applied using careful application processes.

E. Primary Treatment Units

The primary treatment units shall be inspected and maintained during catch basin inspections and cleaning. An inspection is made by checking the depth of sediment in each manhole with a grade stick or similar device. Maintenance is required when the sediment depth exceeds 20 inches. Minimum inspection is recommended twice a year to maintain operation and function of the unit.

Maintenance Instructions:

1. Remove the manhole cover to provide access to the pollutant storage. Pollutants are stored in the sump, below the bowl assembly visible from the surface. Access this area through the 10" diameter access cylinder.
2. Use a vacuum truck or other similar equipment to remove all water, debris, oils and sediment.
3. Use a high-pressure hose to clean the manhole of all the remaining sediment and debris. Then, use the vacuum truck to remove the water.

Stormwater Management System Maintenance Checklist

4. Fill the cleaned manhole with water until the level reaches the invert of the outlet pipe.
5. Replace the manhole cover.
6. Dispose of the polluted water, oils, sediment and trash at an approved facility.
 - Check with the local sewer authority for authority to discharge the liquid.

F. Outlet control structures

The outlet control structures shall be inspected and maintained during catch basin inspections and cleaning. Maintenance is required when any sediment accumulation is observed at the bottom of the structure. Minimum inspection is recommended twice a year to maintain operation and function of the unit. See stormwater management system maintenance checklist for outlet control structure instructions.

G. At-Grade Stormwater Infiltration Basin

All maintenance activities should be performed with rakes and light-weight equipment rather than heavy construction equipment to avoid compaction of underlying soils. Heavy equipment may be used if the equipment is positioned outside the limits of the system.

- The infiltration basin shall be inspected after major storms (1" or more of precipitation) in the first few months following construction. Subsequently, inspect the infiltration basin annually.
- Remove trash and organic debris in the spring and fall. Remove sediment when sediment accumulation exceeds 2" or when drawdown time exceeds 48 hours after the end of a storm event.
- Weed as necessary. Mow grass within infiltration basin to a height of 3" to 6". Re-seed grass as necessary. Mowing should not be performed when the ground is soft to avoid compaction.

1758 Rt. 32, Montville CT

Stormwater Management System Maintenance Checklist

Inspection Date: _____

Inspector: _____

Maintenance Item	Satisfactory	Unsatisfactory	Comments
Drainage Structures			
Sedimentation Accumulation			
Large Floating Debris			
Inlet/Outlet			
Structure walls			
Riser			
Frame and Cover			
Detention/Infiltration System			
Settling Over System			
Sedimentation Accumulation			
Large Floating Debris			
Inspection Structure Integrity			
Inspection Inlets/Outlets			
Surrounding Lawn and Vegetated Areas			
Signs of Erosion			
Ponding/Settling			
Overgrowth			
Infiltration Basin			
Accumulated Debris			
Damage (e.g. erosion/animal burrowing)			
Overgrown/dead vegetation			
Standing Water			
Condition of vegetation			

Additional Comments: _____
