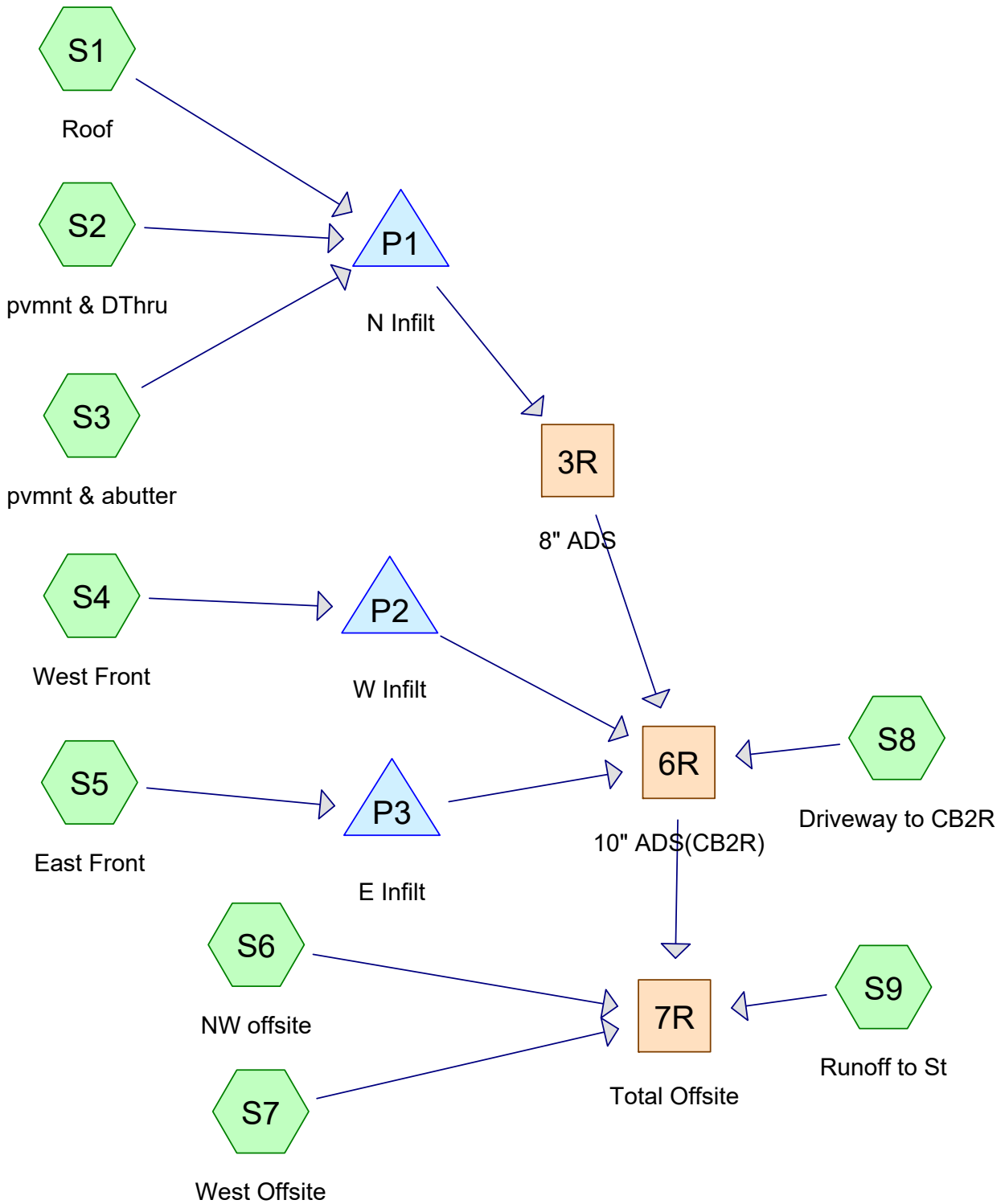


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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2 Yr	Type II 24-hr		Default	24.00	1	3.18	2
2	10 Yr	Type II 24-hr		Default	24.00	1	4.90	2
3	100 Yr	Type II 24-hr		Default	24.00	1	9.10	2

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.436	39	>75% Grass cover, Good, HSG A (S3, S5, S6)
0.166	61	>75% Grass cover, Good, HSG B (S2, S3, S4, S5, S6, S7, S9)
0.698	98	Paved parking, HSG B (S2, S3, S4, S5, S8, S9)
0.193	98	Roofs, HSG B (S1)
0.033	98	Unconnected roofs, HSG B (S5)
1.526	77	TOTAL AREA

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Type II 24-hr 2 Yr Rainfall=3.18"

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Time span=0.00-28.00 hrs, dt=0.02 hrs, 1401 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 S1: Roof	Runoff Area=8,413 sf 100.00% Impervious Runoff Depth=2.95" Tc=6.0 min CN=98 Runoff=0.87 cfs 0.047 af
Subcatchment S2: pvmnt & DThru	Runoff Area=15,340 sf 98.40% Impervious Runoff Depth=2.84" Tc=6.0 min CN=97 Runoff=1.56 cfs 0.083 af
Subcatchment S3: pvmnt & abutter	Runoff Area=8,325 sf 53.37% Impervious Runoff Depth=0.87" Tc=6.0 min CN=71 Runoff=0.29 cfs 0.014 af
Subcatchment S4: West Front	Runoff Area=5,620 sf 78.63% Impervious Runoff Depth=2.15" Tc=6.0 min CN=90 Runoff=0.48 cfs 0.023 af
Subcatchment S5: East Front	Runoff Area=19,617 sf 27.76% Impervious Runoff Depth=0.22" Tc=6.0 min UI Adjusted CN=54 Runoff=0.07 cfs 0.008 af
Subcatchment S6: NW offsite	Runoff Area=4,979 sf 0.00% Impervious Runoff Depth=0.17" Tc=6.0 min CN=52 Runoff=0.01 cfs 0.002 af
Subcatchment S7: West Offsite	Runoff Area=931 sf 0.00% Impervious Runoff Depth=0.44" Tc=6.0 min CN=61 Runoff=0.01 cfs 0.001 af
Subcatchment S8: Driveway to CB2R	Runoff Area=1,074 sf 100.00% Impervious Runoff Depth=2.95" Tc=6.0 min CN=98 Runoff=0.11 cfs 0.006 af
Subcatchment S9: Runoff to St	Runoff Area=2,188 sf 63.12% Impervious Runoff Depth=1.67" Tc=6.0 min CN=84 Runoff=0.15 cfs 0.007 af
Reach 3R: 8" ADS 8.0" Round Pipe n=0.010	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af L=69.0' S=0.0580 ' /' Capacity=3.78 cfs Outflow=0.00 cfs 0.000 af
Reach 6R: 10" ADS(CB2R) 10.0" Round Pipe n=0.010	Avg. Flow Depth=0.09' Max Vel=3.53 fps Inflow=0.11 cfs 0.006 af L=65.0' S=0.0262 ' /' Capacity=4.61 cfs Outflow=0.11 cfs 0.006 af
Reach 7R: Total Offsite	Inflow=0.27 cfs 0.015 af Outflow=0.27 cfs 0.015 af
Pond P1: N Infiltration	Peak Elev=57.88' Storage=3,022 cf Inflow=2.70 cfs 0.144 af Discarded=0.12 cfs 0.144 af Primary=0.00 cfs 0.000 af Outflow=0.12 cfs 0.144 af
Pond P2: W Infiltration	Peak Elev=56.90' Storage=471 cf Inflow=0.48 cfs 0.023 af Discarded=0.02 cfs 0.023 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.023 af
Pond P3: E Infiltration	Peak Elev=57.05' Storage=20 cf Inflow=0.07 cfs 0.008 af Discarded=0.03 cfs 0.008 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.008 af

Total Runoff Area = 1.526 ac Runoff Volume = 0.191 af Average Runoff Depth = 1.50"
39.43% Pervious = 0.602 ac 60.57% Impervious = 0.924 ac

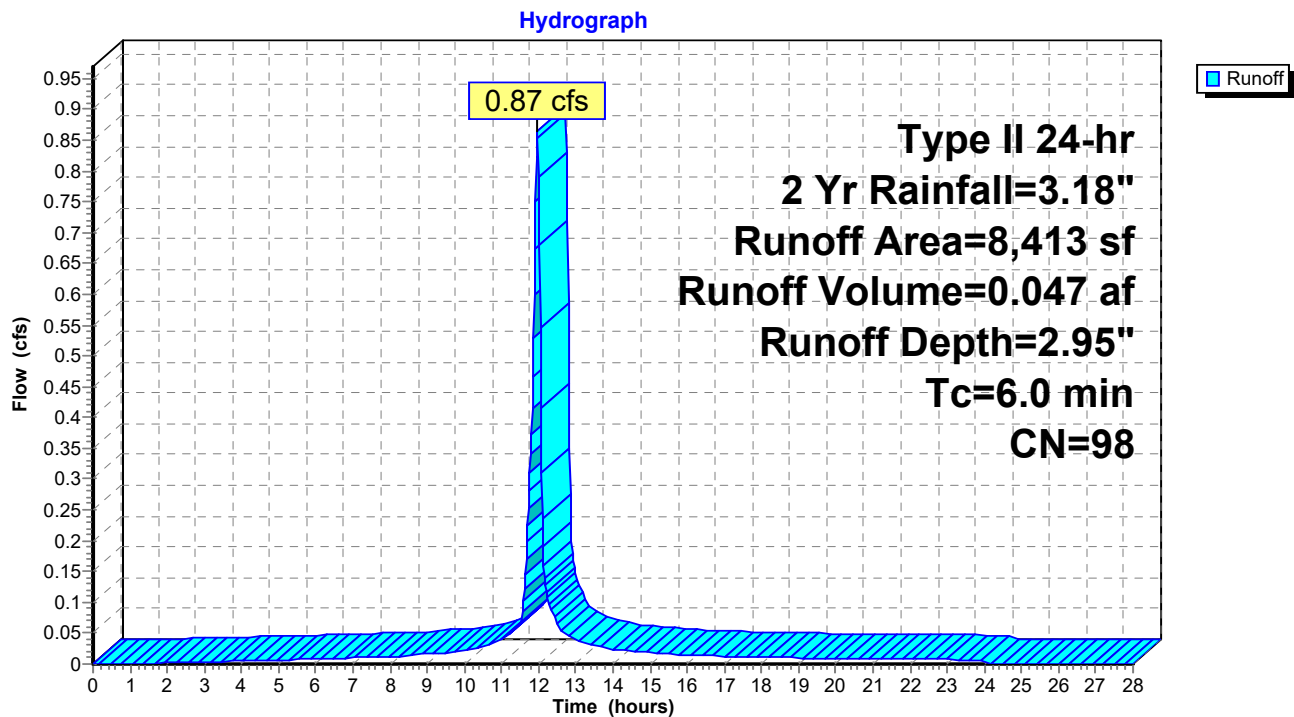
Summary for Subcatchment S1: Roof

Runoff = 0.87 cfs @ 11.97 hrs, Volume= 0.047 af, Depth= 2.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 2 Yr Rainfall=3.18"

Area (sf)	CN	Description
4,845	98	Roofs, HSG B
3,568	98	Roofs, HSG B
8,413	98	Weighted Average
8,413		100.00% Impervious Area

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

Subcatchment S1: Roof

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Type II 24-hr 2 Yr Rainfall=3.18"

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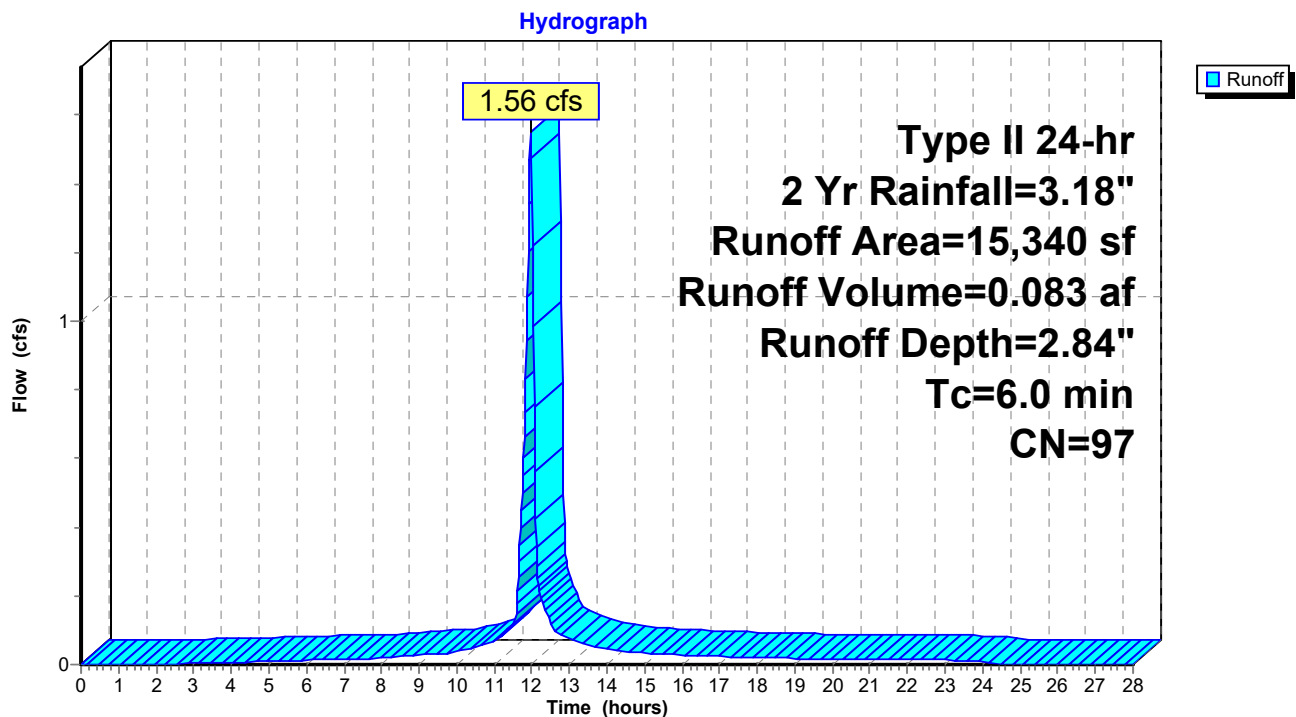
Summary for Subcatchment S2: pvmnt & DThru

Runoff = 1.56 cfs @ 11.97 hrs, Volume= 0.083 af, Depth= 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 2 Yr Rainfall=3.18"

Area (sf)	CN	Description
15,094	98	Paved parking, HSG B
246	61	>75% Grass cover, Good, HSG B
15,340	97	Weighted Average
246		1.60% Pervious Area
15,094		98.40% Impervious Area

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

Subcatchment S2: pvmnt & DThru

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Type II 24-hr 2 Yr Rainfall=3.18"

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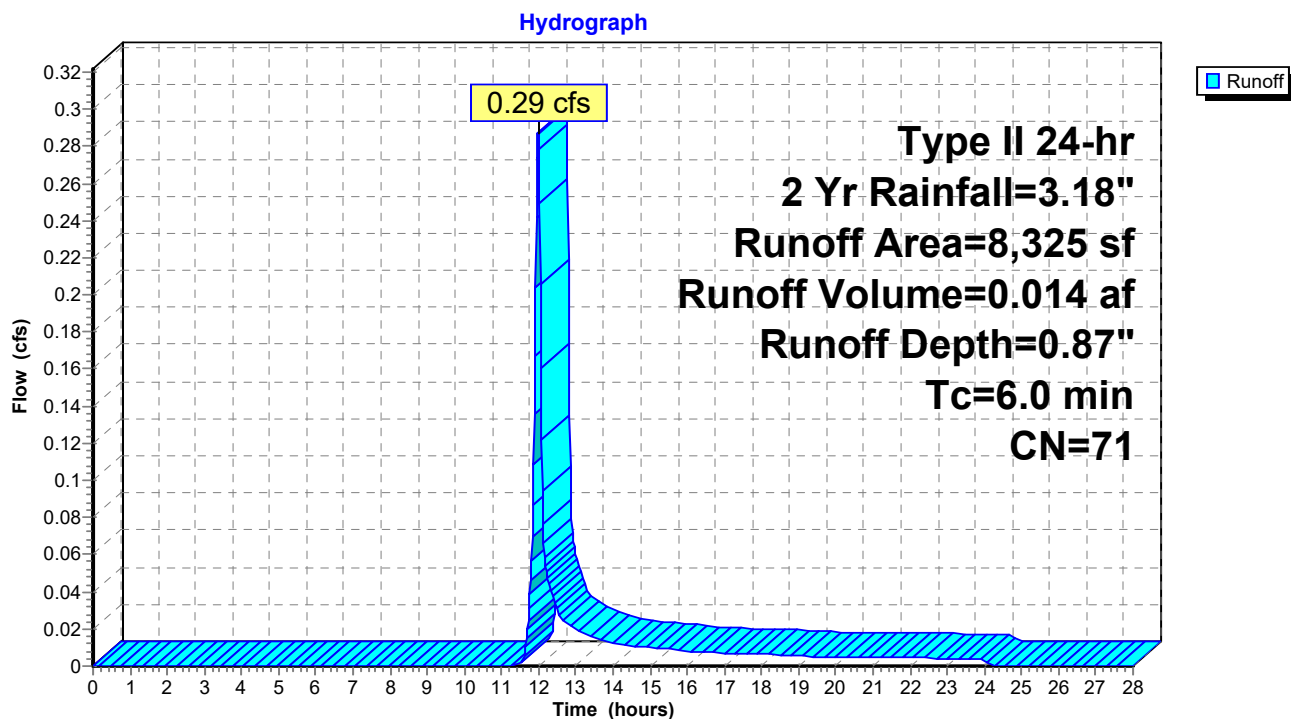
Summary for Subcatchment S3: pvmnt & abutter

Runoff = 0.29 cfs @ 11.98 hrs, Volume= 0.014 af, Depth= 0.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 2 Yr Rainfall=3.18"

Area (sf)	CN	Description
4,443	98	Paved parking, HSG B
360	61	>75% Grass cover, Good, HSG B
3,522	39	>75% Grass cover, Good, HSG A
8,325	71	Weighted Average
3,882		46.63% Pervious Area
4,443		53.37% Impervious Area

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

Subcatchment S3: pvmnt & abutter

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Type II 24-hr 2 Yr Rainfall=3.18"

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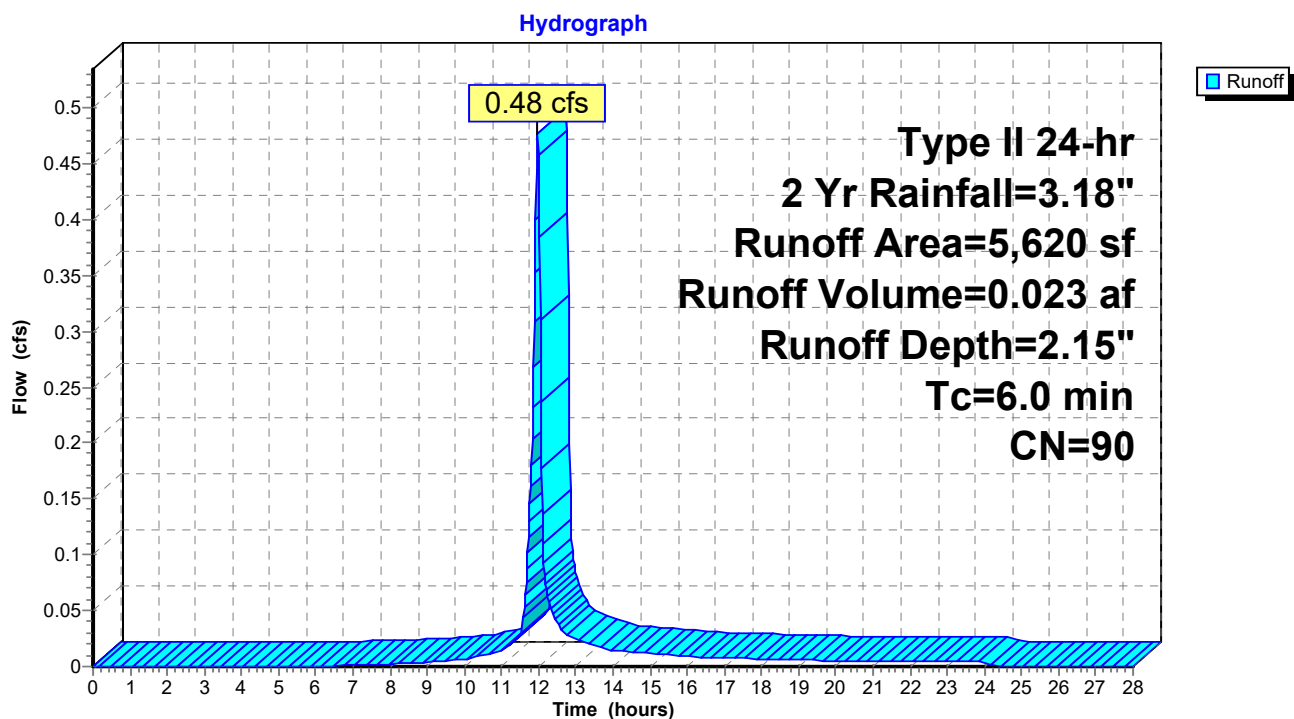
Summary for Subcatchment S4: West Front

Runoff = 0.48 cfs @ 11.97 hrs, Volume= 0.023 af, Depth= 2.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 2 Yr Rainfall=3.18"

Area (sf)	CN	Description
4,419	98	Paved parking, HSG B
1,201	61	>75% Grass cover, Good, HSG B
5,620	90	Weighted Average
1,201		21.37% Pervious Area
4,419		78.63% Impervious Area

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

Subcatchment S4: West Front

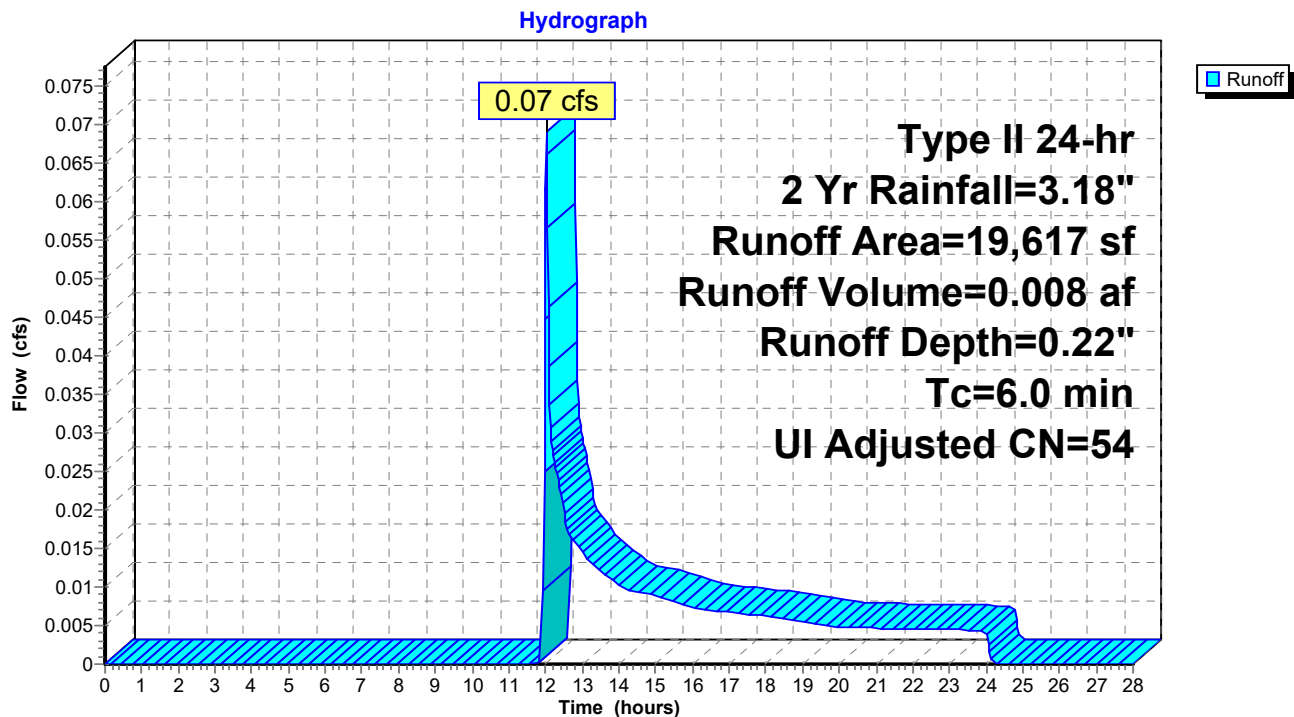
Summary for Subcatchment S5: East Front

Runoff = 0.07 cfs @ 12.02 hrs, Volume= 0.008 af, Depth= 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 2 Yr Rainfall=3.18"

Area (sf)	CN	Adj	Description
4,015	98		Paved parking, HSG B
739	61		>75% Grass cover, Good, HSG B
1,431	98		Unconnected roofs, HSG B
13,432	39		>75% Grass cover, Good, HSG A
19,617	56	54	Weighted Average, UI Adjusted
14,171			72.24% Pervious Area
5,446			27.76% Impervious Area
1,431			26.28% Unconnected

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

Subcatchment S5: East Front

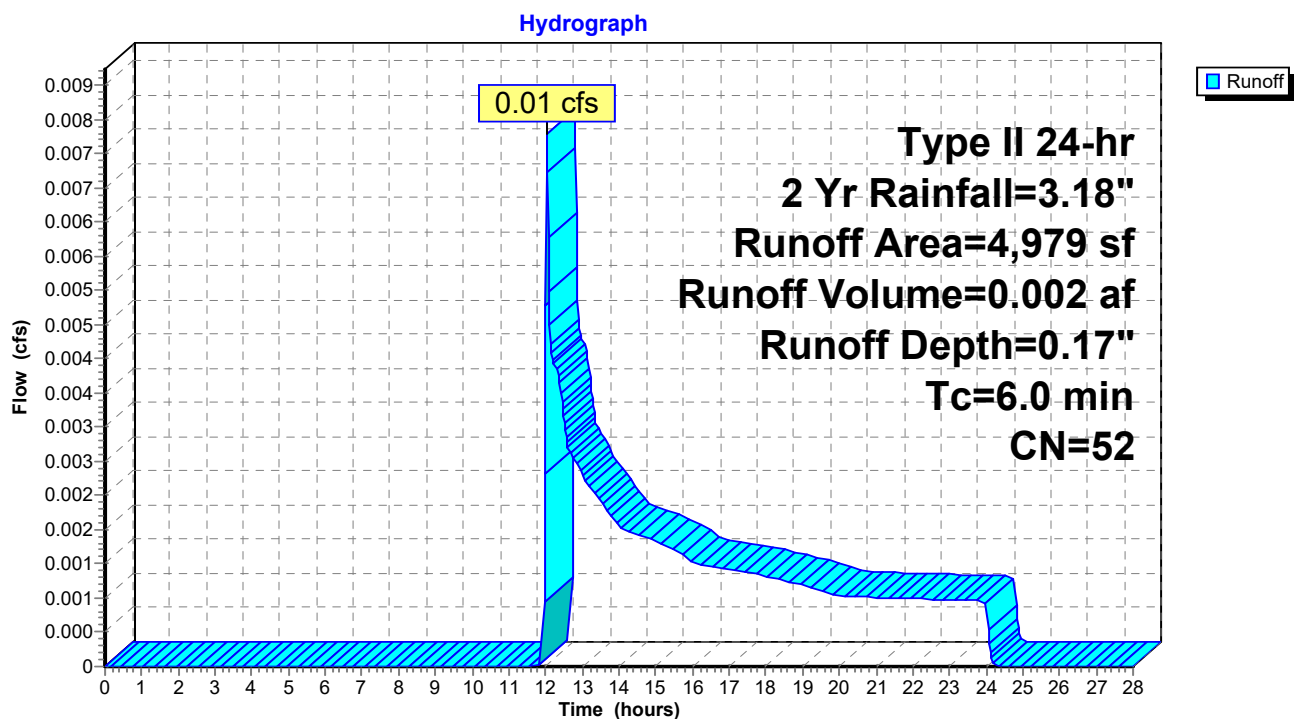
Summary for Subcatchment S6: NW offsite

Runoff = 0.01 cfs @ 12.04 hrs, Volume= 0.002 af, Depth= 0.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 2 Yr Rainfall=3.18"

Area (sf)	CN	Description
949	61	>75% Grass cover, Good, HSG B
1,979	61	>75% Grass cover, Good, HSG B
2,051	39	>75% Grass cover, Good, HSG A
4,979	52	Weighted Average
4,979		100.00% Pervious Area

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

Subcatchment S6: NW offsite

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Type II 24-hr 2 Yr Rainfall=3.18"

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Summary for Subcatchment S7: West Offsite

Runoff = 0.01 cfs @ 12.00 hrs, Volume= 0.001 af, Depth= 0.44"

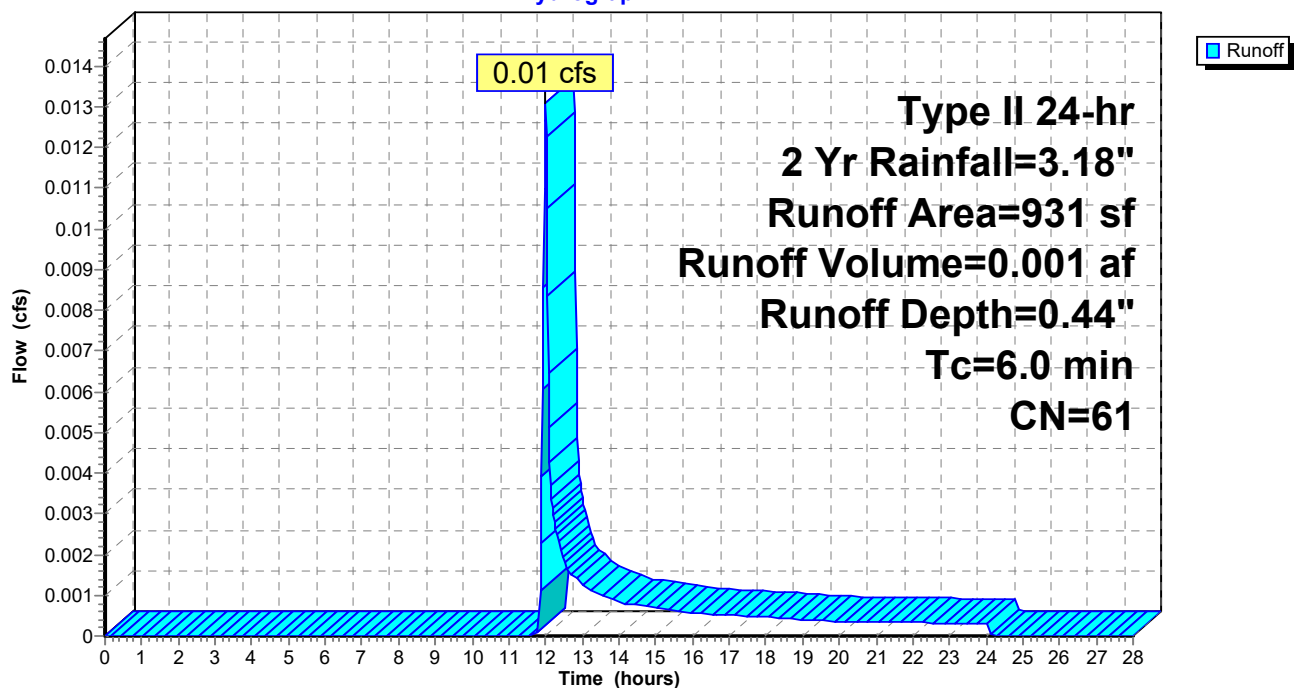
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 2 Yr Rainfall=3.18"

Area (sf)	CN	Description
931	61	>75% Grass cover, Good, HSG B
931		100.00% Pervious Area

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

Subcatchment S7: West Offsite

Hydrograph



Summary for Subcatchment S8: Driveway to CB2R

Runoff = 0.11 cfs @ 11.97 hrs, Volume= 0.006 af, Depth= 2.95"

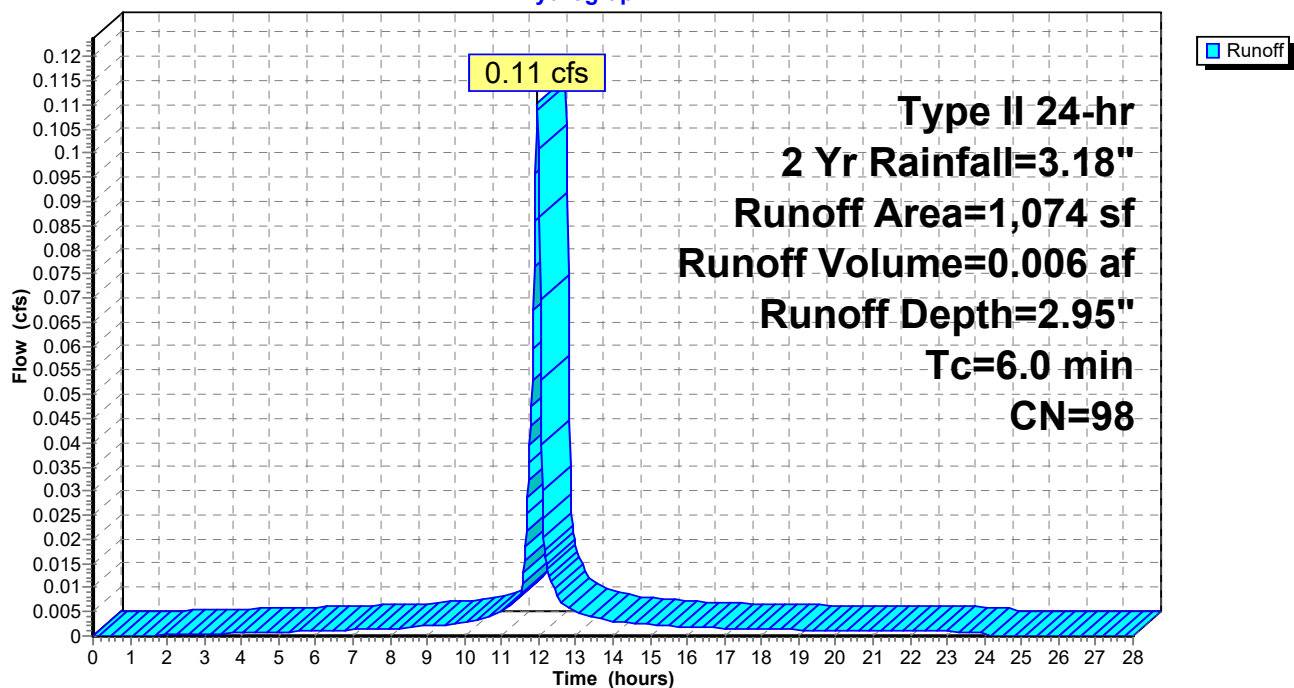
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 2 Yr Rainfall=3.18"

Area (sf)	CN	Description
1,074	98	Paved parking, HSG B
1,074		100.00% Impervious Area

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

Subcatchment S8: Driveway to CB2R

Hydrograph



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Type II 24-hr 2 Yr Rainfall=3.18"

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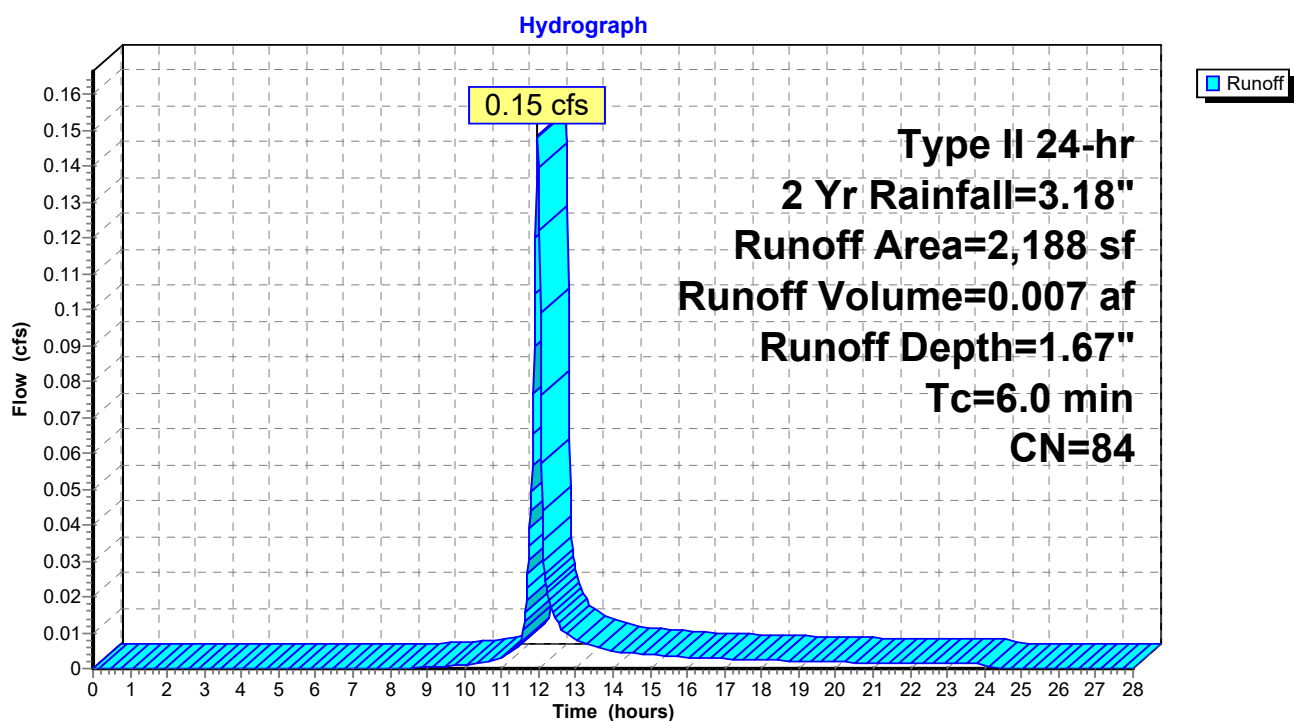
Summary for Subcatchment S9: Runoff to St

Runoff = 0.15 cfs @ 11.97 hrs, Volume= 0.007 af, Depth= 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 2 Yr Rainfall=3.18"

Area (sf)	CN	Description
1,381	98	Paved parking, HSG B
807	61	>75% Grass cover, Good, HSG B
2,188	84	Weighted Average
807		36.88% Pervious Area
1,381		63.12% Impervious Area

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

Subcatchment S9: Runoff to St

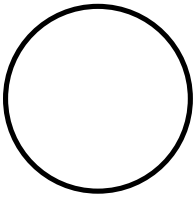
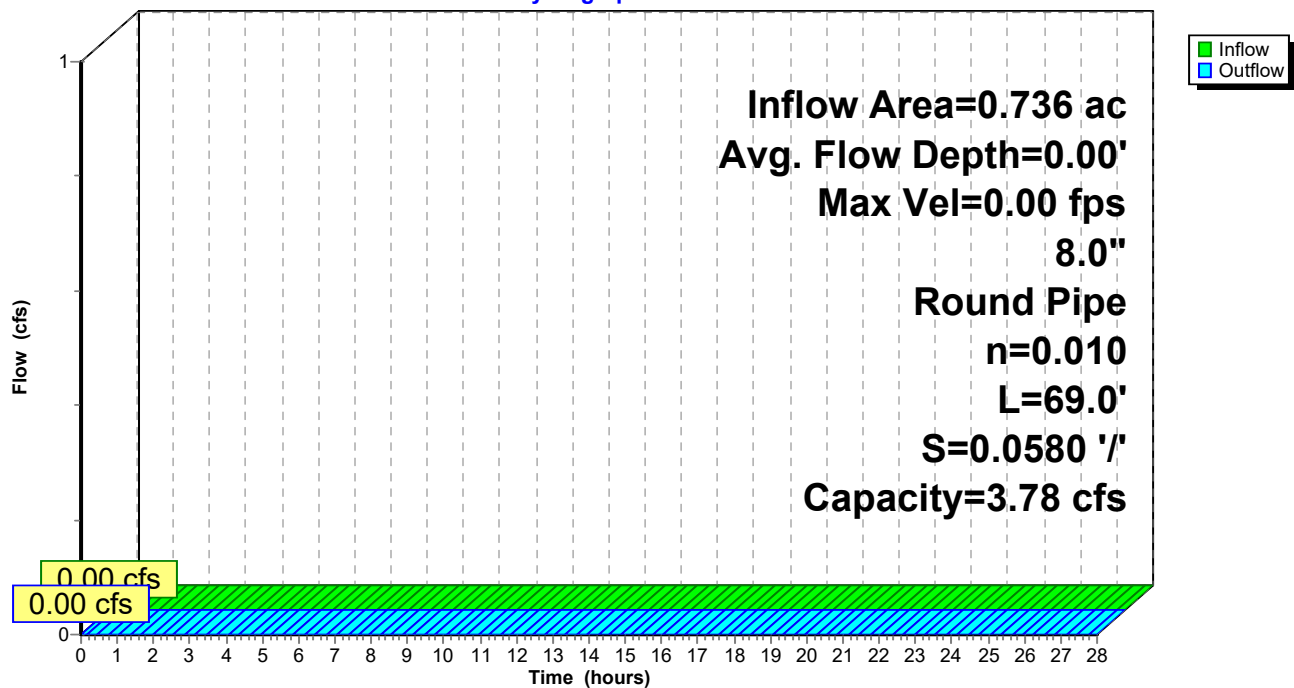
Summary for Reach 3R: 8" ADS

Inflow Area = 0.736 ac, 87.13% Impervious, Inflow Depth = 0.00" for 2 Yr event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
 Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
 Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 0.67' Flow Area= 0.3 sf, Capacity= 3.78 cfs

8.0" Round Pipe
 n= 0.010 PVC, smooth interior
 Length= 69.0' Slope= 0.0580 '/'
 Inlet Invert= 58.90', Outlet Invert= 54.90'

**Reach 3R: 8" ADS****Hydrograph**

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Type II 24-hr 2 Yr Rainfall=3.18"

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Summary for Reach 6R: 10" ADS(CB2R)

Inflow Area = 1.340 ac, 66.60% Impervious, Inflow Depth = 0.05" for 2 Yr event
Inflow = 0.11 cfs @ 11.97 hrs, Volume= 0.006 af
Outflow = 0.11 cfs @ 11.98 hrs, Volume= 0.006 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs

Max. Velocity= 3.53 fps, Min. Travel Time= 0.3 min

Avg. Velocity= 1.05 fps, Avg. Travel Time= 1.0 min

Peak Storage= 2 cf @ 11.97 hrs

Average Depth at Peak Storage= 0.09' , Surface Width= 0.51'

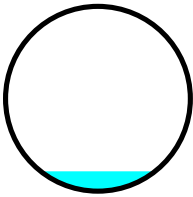
Bank-Full Depth= 0.83' Flow Area= 0.5 sf, Capacity= 4.61 cfs

10.0" Round Pipe

n= 0.010 PVC, smooth interior

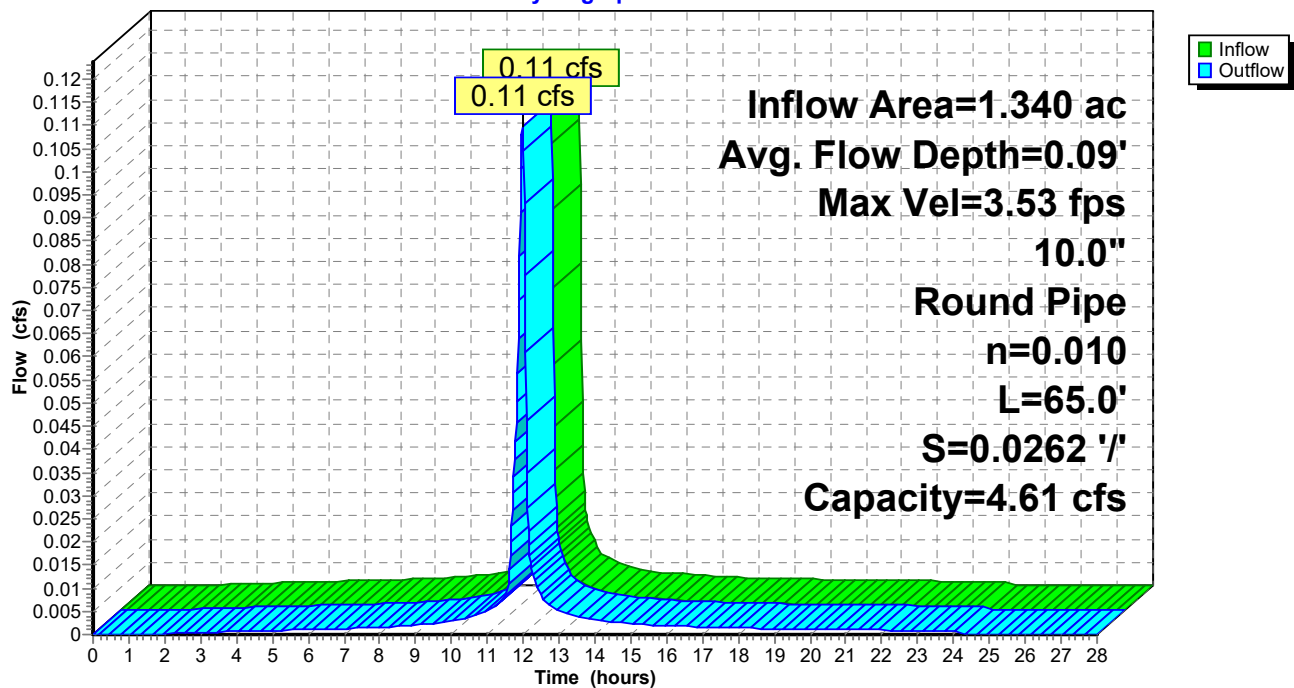
Length= 65.0' Slope= 0.0262 '/'

Inlet Invert= 52.40', Outlet Invert= 50.70'



Reach 6R: 10" ADS(CB2R)

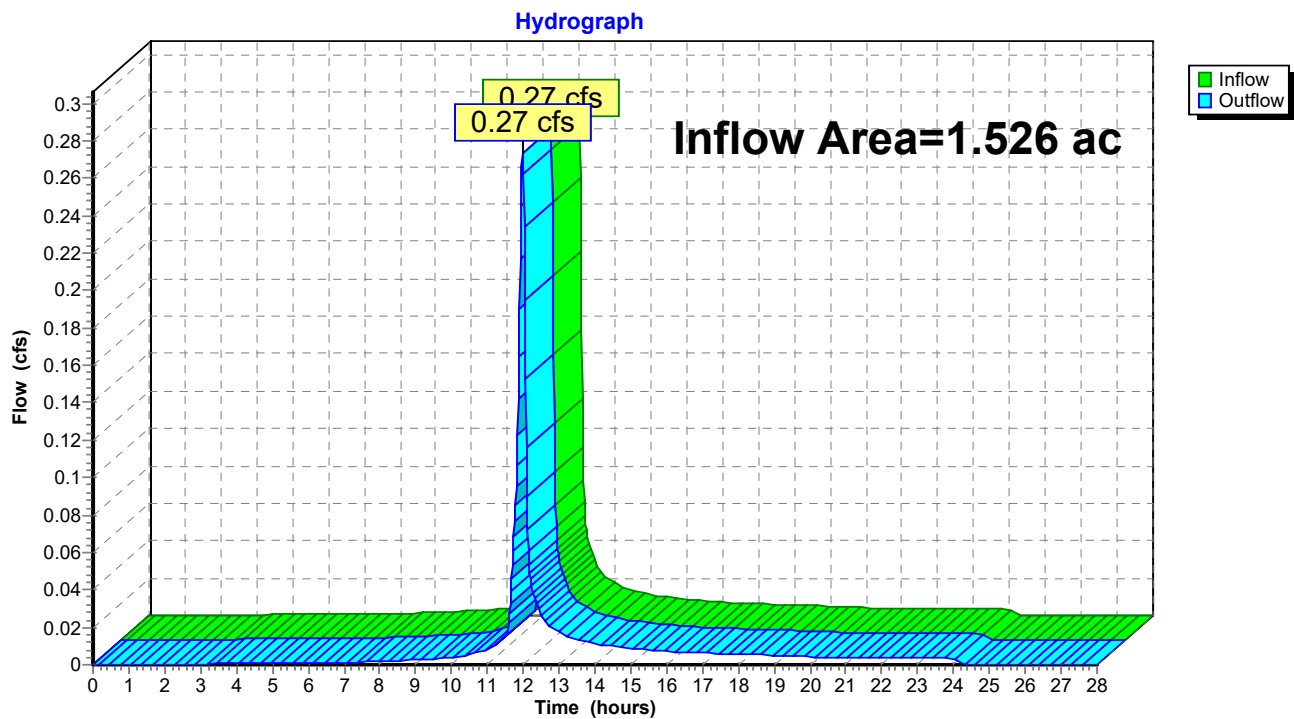
Hydrograph



Summary for Reach 7R: Total Offsite

Inflow Area = 1.526 ac, 60.57% Impervious, Inflow Depth = 0.12" for 2 Yr event
Inflow = 0.27 cfs @ 11.98 hrs, Volume= 0.015 af
Outflow = 0.27 cfs @ 11.98 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs

Reach 7R: Total Offsite

Summary for Pond P1: N Infil

Inflow Area = 0.736 ac, 87.13% Impervious, Inflow Depth = 2.35" for 2 Yr event
 Inflow = 2.70 cfs @ 11.97 hrs, Volume= 0.144 af
 Outflow = 0.12 cfs @ 12.20 hrs, Volume= 0.144 af, Atten= 96%, Lag= 13.9 min
 Discarded = 0.12 cfs @ 12.20 hrs, Volume= 0.144 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
 Peak Elev= 57.88' @ 13.15 hrs Surf.Area= 5,118 sf Storage= 3,022 cf
 Flood Elev= 60.70' Surf.Area= 5,118 sf Storage= 10,497 cf

Plug-Flow detention time= 230.9 min calculated for 0.144 af (100% of inflow)
 Center-of-Mass det. time= 230.8 min (1,000.3 - 769.5)

Volume	Invert	Avail.Storage	Storage Description
#1	56.50'	4,182 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 17,602 cf Overall - 7,148 cf Embedded = 10,454 cf x 40.0% Voids
#2	57.25'	6,316 cf	ISI Rainstore3 8 x 253 Inside #1 Inside= 39.4"W x 31.5"H => 8.09 sf x 3.28'L = 26.6 cf Outside= 39.4"W x 31.5"H => 8.61 sf x 3.28'L = 28.3 cf 7,148 cf Overall x 94.0% Voids
10,497 cf			Total Available Storage

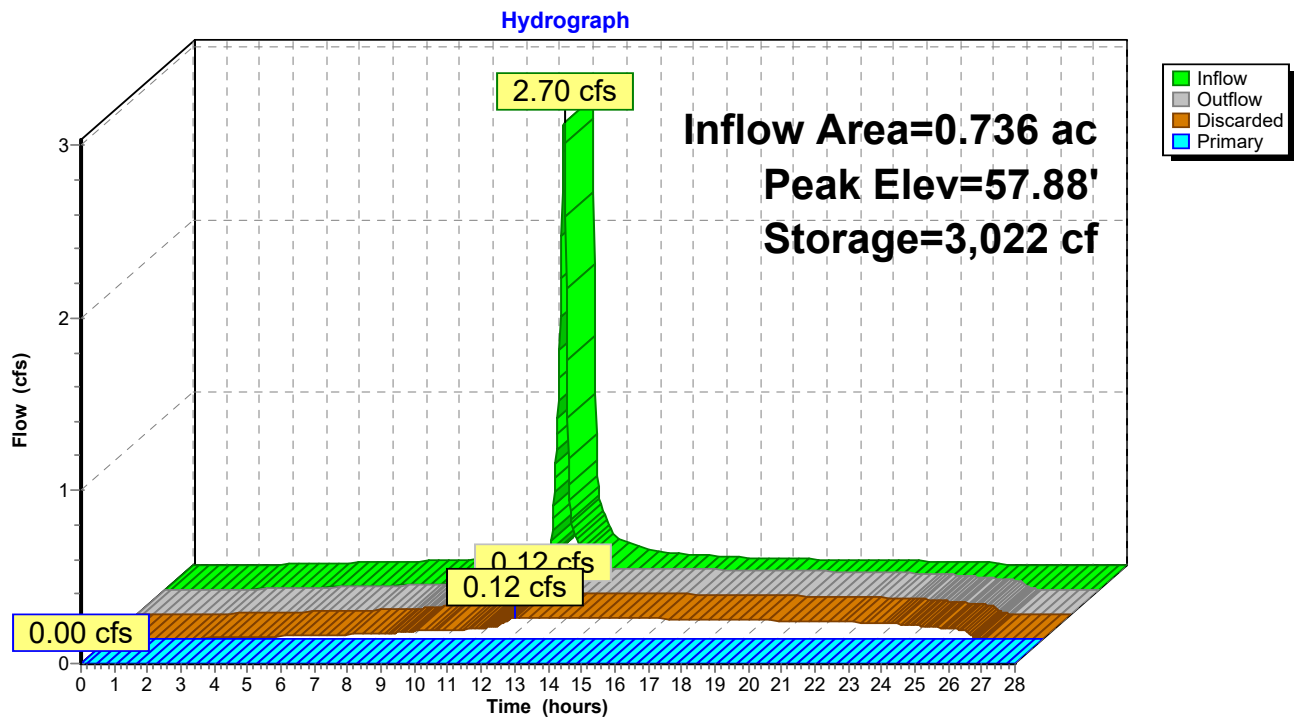
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.50	2,031	0	0
57.00	3,858	1,472	1,472
57.80	5,118	3,590	5,063
60.25	5,118	12,539	17,602

Device	Routing	Invert	Outlet Devices
#1	Discarded	56.50'	1.020 in/hr Exfiltration over Surface area
#2	Primary	58.90'	8.0" Round Culvert L= 69.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 58.90' / 54.90' S= 0.0580 ' / ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.12 cfs @ 12.20 hrs HW=57.80' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=56.50' (Free Discharge)
 ↑2=Culvert (Controls 0.00 cfs)

Pond P1: N Infil



Summary for Pond P2: W Infil

Inflow Area = 0.129 ac, 78.63% Impervious, Inflow Depth = 2.15" for 2 Yr event
 Inflow = 0.48 cfs @ 11.97 hrs, Volume= 0.023 af
 Outflow = 0.02 cfs @ 11.46 hrs, Volume= 0.023 af, Atten= 95%, Lag= 0.0 min
 Discarded = 0.02 cfs @ 11.46 hrs, Volume= 0.023 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
 Peak Elev= 56.90' @ 13.11 hrs Surf.Area= 947 sf Storage= 471 cf

Plug-Flow detention time= 184.8 min calculated for 0.023 af (100% of inflow)
 Center-of-Mass det. time= 184.7 min (988.7 - 804.1)

Volume	Invert	Avail.Storage	Storage Description
#1	56.00'	619 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 2,841 cf Overall - 1,293 cf Embedded = 1,548 cf x 40.0% Voids
#2	56.50'	1,142 cf	ISI Rainstore3 6 x 61 Inside #1 Inside= 39.4"W x 23.6"H => 6.07 sf x 3.28'L = 19.9 cf Outside= 39.4"W x 23.6"H => 6.46 sf x 3.28'L = 21.2 cf 1,293 cf Overall x 94.0% Voids
		1,761 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.00	947	0	0
59.00	947	2,841	2,841

Device	Routing	Invert	Outlet Devices
#1	Discarded	56.00'	1.020 in/hr Exfiltration over Horizontal area
#2	Primary	57.75'	8.0" Round Culvert L= 25.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 57.75' / 55.70' S= 0.0820 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

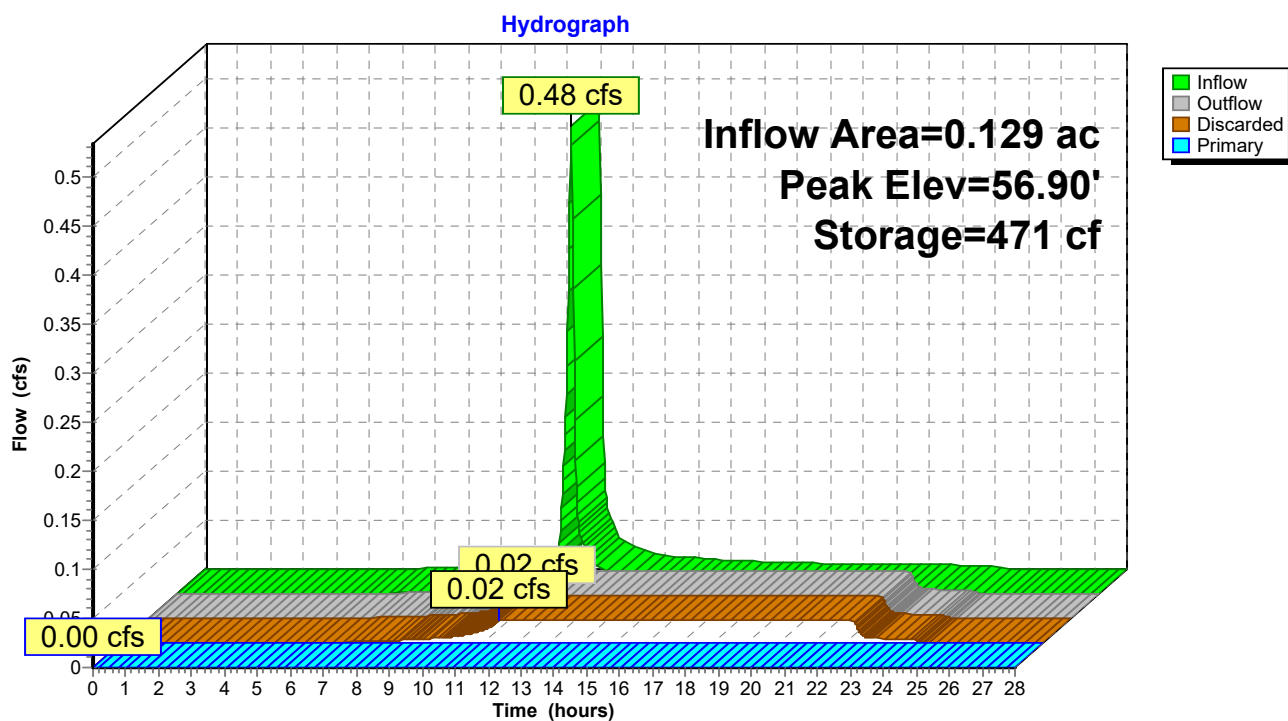
Discarded OutFlow Max=0.02 cfs @ 11.46 hrs HW=56.03' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=56.00' (Free Discharge)

↑**2=Culvert** (Controls 0.00 cfs)

Pond P2: W Infil



Summary for Pond P3: E Infil

Inflow Area = 0.450 ac, 27.76% Impervious, Inflow Depth = 0.22" for 2 Yr event
 Inflow = 0.07 cfs @ 12.02 hrs, Volume= 0.008 af
 Outflow = 0.03 cfs @ 12.04 hrs, Volume= 0.008 af, Atten= 62%, Lag= 0.9 min
 Discarded = 0.03 cfs @ 12.04 hrs, Volume= 0.008 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
 Peak Elev= 57.05' @ 12.24 hrs Surf.Area= 1,103 sf Storage= 20 cf

Plug-Flow detention time= 7.2 min calculated for 0.008 af (100% of inflow)
 Center-of-Mass det. time= 7.2 min (974.8 - 967.6)

Volume	Invert	Avail.Storage	Storage Description
#1	57.00'	382 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 2,482 cf Overall - 1,526 cf Embedded = 956 cf x 40.0% Voids
#2	57.25'	1,348 cf	ISI Rainstore3 6 x 72 Inside #1 Inside= 39.4"W x 23.6"H => 6.07 sf x 3.28'L = 19.9 cf Outside= 39.4"W x 23.6"H => 6.46 sf x 3.28'L = 21.2 cf 1,526 cf Overall x 94.0% Voids
		1,730 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.00	1,103	0	0
59.25	1,103	2,482	2,482

Device	Routing	Invert	Outlet Devices
#1	Discarded	57.00'	1.020 in/hr Exfiltration over Horizontal area
#2	Primary	58.00'	8.0" Round Culvert L= 88.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 58.00' / 55.50' S= 0.0284 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

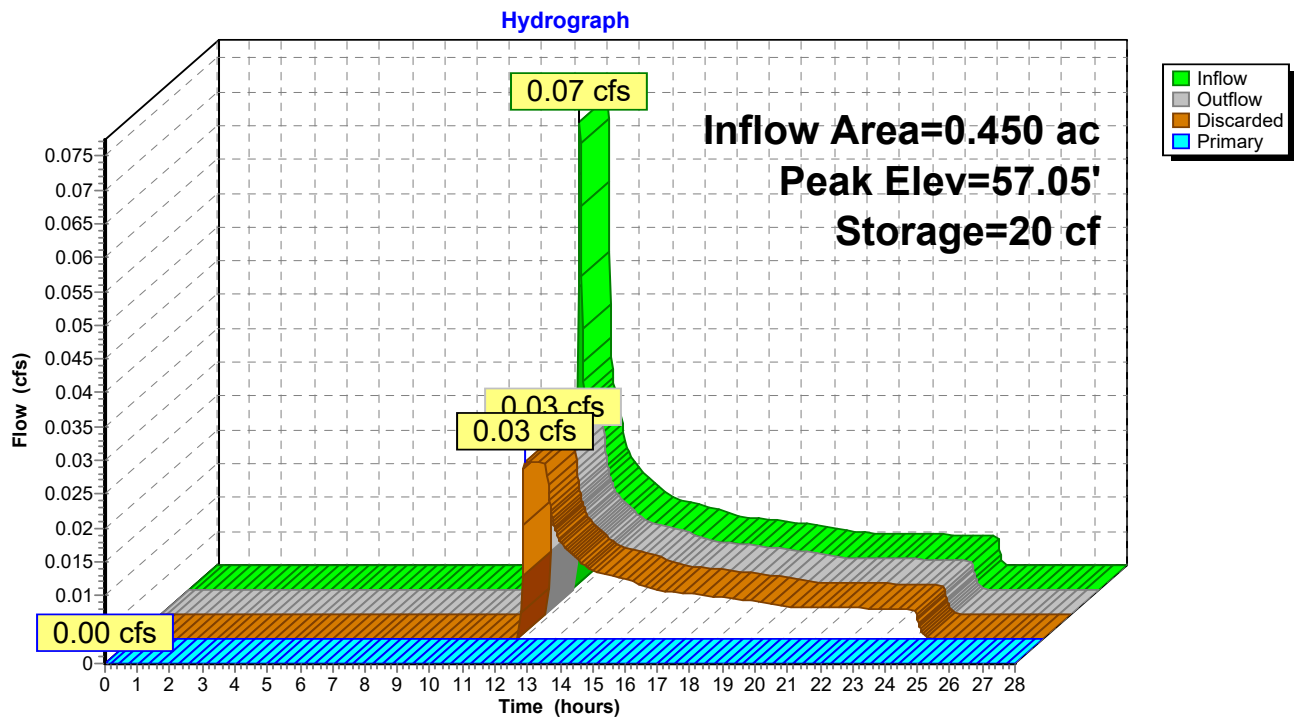
Discarded OutFlow Max=0.03 cfs @ 12.04 hrs HW=57.03' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=57.00' (Free Discharge)

↑**2=Culvert** (Controls 0.00 cfs)

Pond P3: E Infil



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Type II 24-hr 10 Yr Rainfall=4.90"

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Time span=0.00-28.00 hrs, dt=0.02 hrs, 1401 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 S1: Roof	Runoff Area=8,413 sf 100.00% Impervious Runoff Depth=4.66" Tc=6.0 min CN=98 Runoff=1.34 cfs 0.075 af
Subcatchment S2: pvmnt & DThru	Runoff Area=15,340 sf 98.40% Impervious Runoff Depth=4.55" Tc=6.0 min CN=97 Runoff=2.43 cfs 0.133 af
Subcatchment S3: pvmnt & abutter	Runoff Area=8,325 sf 53.37% Impervious Runoff Depth=2.04" Tc=6.0 min CN=71 Runoff=0.70 cfs 0.033 af
Subcatchment S4: West Front	Runoff Area=5,620 sf 78.63% Impervious Runoff Depth=3.78" Tc=6.0 min CN=90 Runoff=0.81 cfs 0.041 af
Subcatchment S5: East Front	Runoff Area=19,617 sf 27.76% Impervious Runoff Depth=0.87" Tc=6.0 min UI Adjusted CN=54 Runoff=0.62 cfs 0.033 af
Subcatchment S6: NW offsite	Runoff Area=4,979 sf 0.00% Impervious Runoff Depth=0.76" Tc=6.0 min CN=52 Runoff=0.13 cfs 0.007 af
Subcatchment S7: West Offsite	Runoff Area=931 sf 0.00% Impervious Runoff Depth=1.31" Tc=6.0 min CN=61 Runoff=0.05 cfs 0.002 af
Subcatchment S8: Driveway to CB2R	Runoff Area=1,074 sf 100.00% Impervious Runoff Depth=4.66" Tc=6.0 min CN=98 Runoff=0.17 cfs 0.010 af
Subcatchment S9: Runoff to St	Runoff Area=2,188 sf 63.12% Impervious Runoff Depth=3.18" Tc=6.0 min CN=84 Runoff=0.28 cfs 0.013 af
Reach 3R: 8" ADS	Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af 8.0" Round Pipe n=0.010 L=69.0' S=0.0580 ' /' Capacity=3.78 cfs Outflow=0.00 cfs 0.000 af
Reach 6R: 10" ADS(CB2R)	Avg. Flow Depth=0.11' Max Vel=4.02 fps Inflow=0.17 cfs 0.010 af 10.0" Round Pipe n=0.010 L=65.0' S=0.0262 ' /' Capacity=4.61 cfs Outflow=0.17 cfs 0.010 af
Reach 7R: Total Offsite	Inflow=0.62 cfs 0.032 af Outflow=0.62 cfs 0.032 af
Pond P1: N Infiltration	Peak Elev=58.69' Storage=5,760 cf Inflow=4.47 cfs 0.241 af Discarded=0.12 cfs 0.197 af Primary=0.00 cfs 0.000 af Outflow=0.12 cfs 0.197 af
Pond P2: W Infiltration	Peak Elev=57.60' Storage=954 cf Inflow=0.81 cfs 0.041 af Discarded=0.02 cfs 0.035 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.035 af
Pond P3: E Infiltration	Peak Elev=57.86' Storage=606 cf Inflow=0.62 cfs 0.033 af Discarded=0.03 cfs 0.033 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.033 af

Total Runoff Area = 1.526 ac Runoff Volume = 0.347 af Average Runoff Depth = 2.73"
39.43% Pervious = 0.602 ac 60.57% Impervious = 0.924 ac

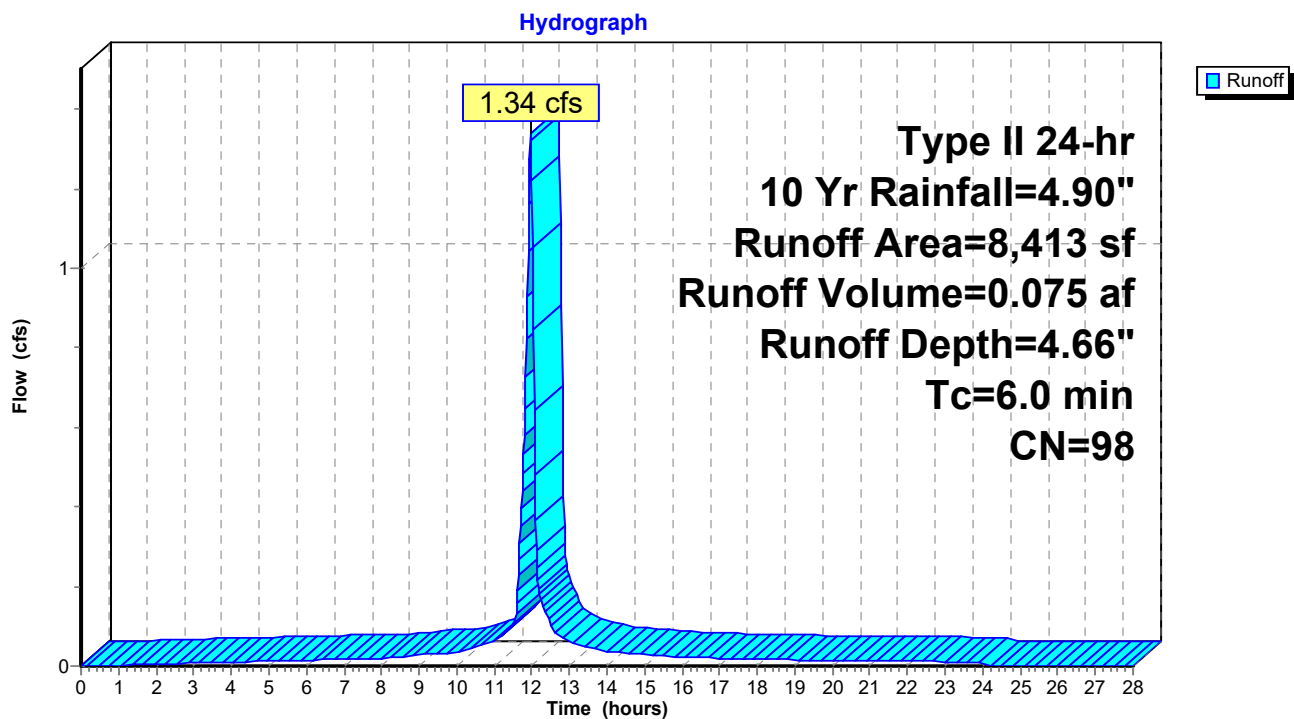
Summary for Subcatchment S1: Roof

Runoff = 1.34 cfs @ 11.97 hrs, Volume= 0.075 af, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 10 Yr Rainfall=4.90"

Area (sf)	CN	Description
4,845	98	Roofs, HSG B
3,568	98	Roofs, HSG B
8,413	98	Weighted Average
8,413		100.00% Impervious Area

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

Subcatchment S1: Roof

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Type II 24-hr 10 Yr Rainfall=4.90"

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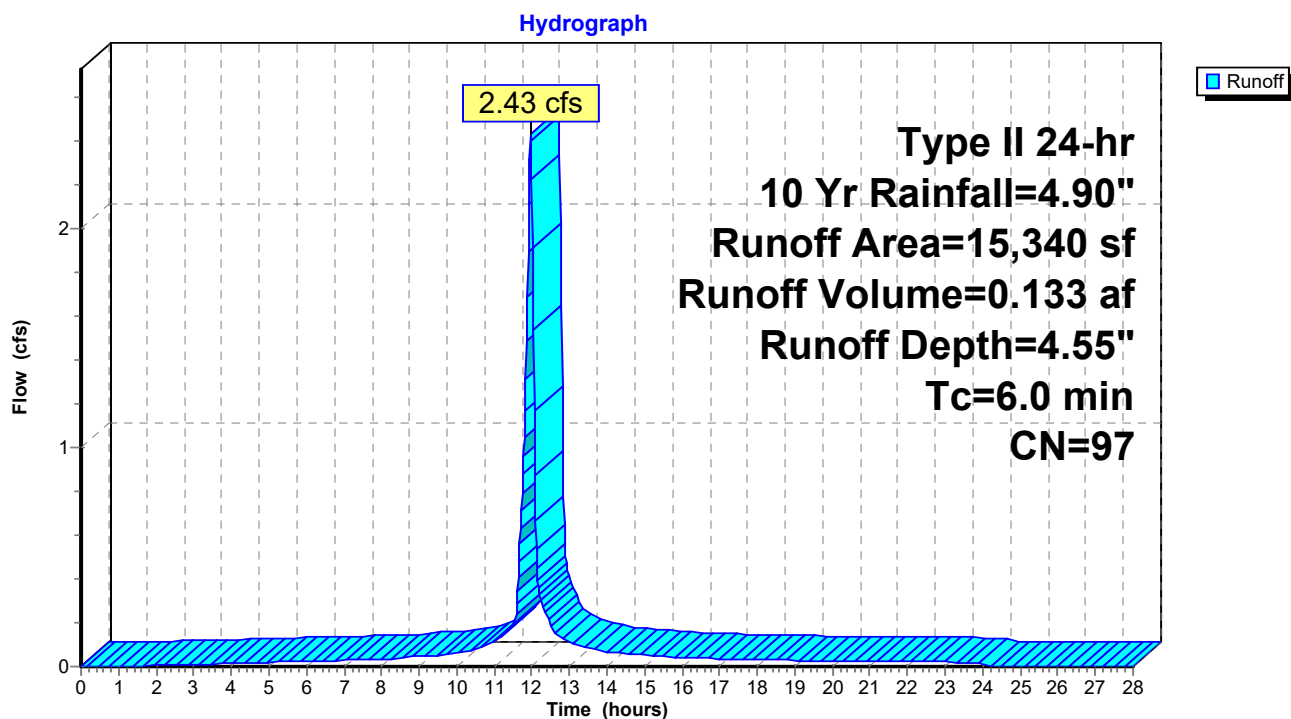
Summary for Subcatchment S2: pvmnt & DThru

Runoff = 2.43 cfs @ 11.97 hrs, Volume= 0.133 af, Depth= 4.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 10 Yr Rainfall=4.90"

Area (sf)	CN	Description
15,094	98	Paved parking, HSG B
246	61	>75% Grass cover, Good, HSG B
15,340	97	Weighted Average
246		1.60% Pervious Area
15,094		98.40% Impervious Area

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

Subcatchment S2: pvmnt & DThru

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Type II 24-hr 10 Yr Rainfall=4.90"

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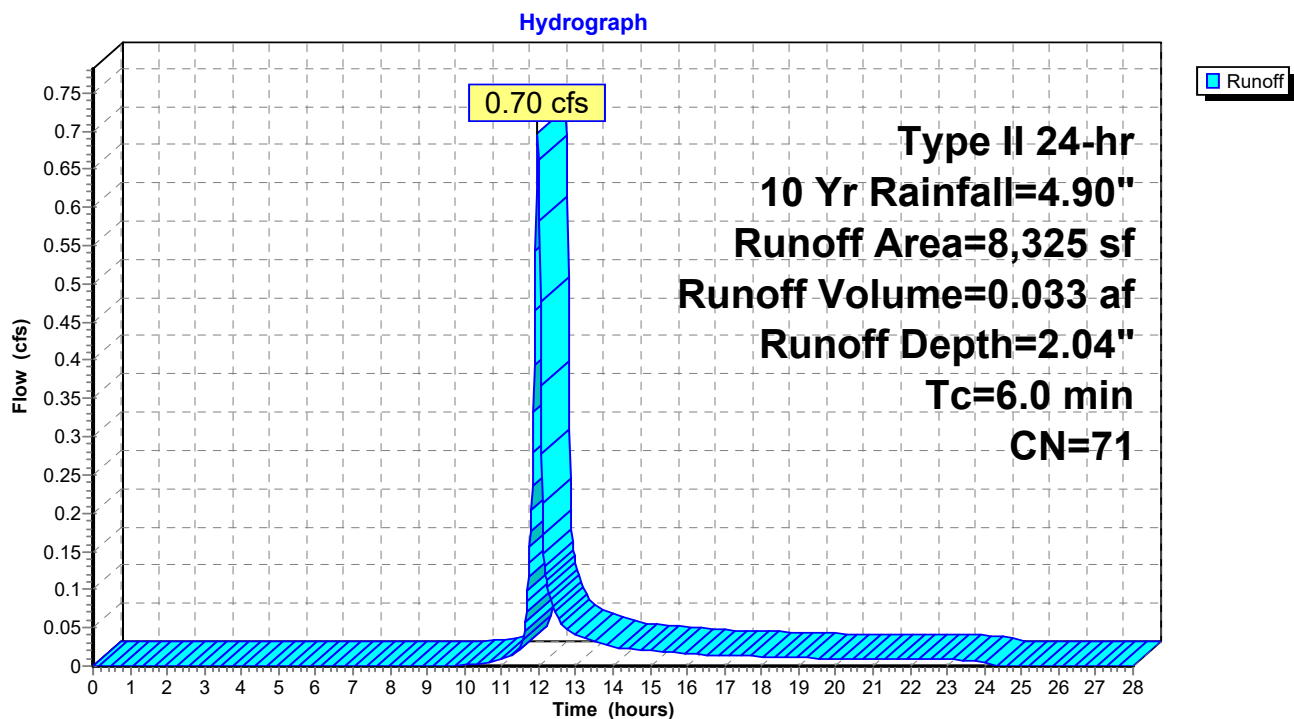
Summary for Subcatchment S3: pvmnt & abutter

Runoff = 0.70 cfs @ 11.98 hrs, Volume= 0.033 af, Depth= 2.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 10 Yr Rainfall=4.90"

Area (sf)	CN	Description
4,443	98	Paved parking, HSG B
360	61	>75% Grass cover, Good, HSG B
3,522	39	>75% Grass cover, Good, HSG A
8,325	71	Weighted Average
3,882		46.63% Pervious Area
4,443		53.37% Impervious Area

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

Subcatchment S3: pvmnt & abutter

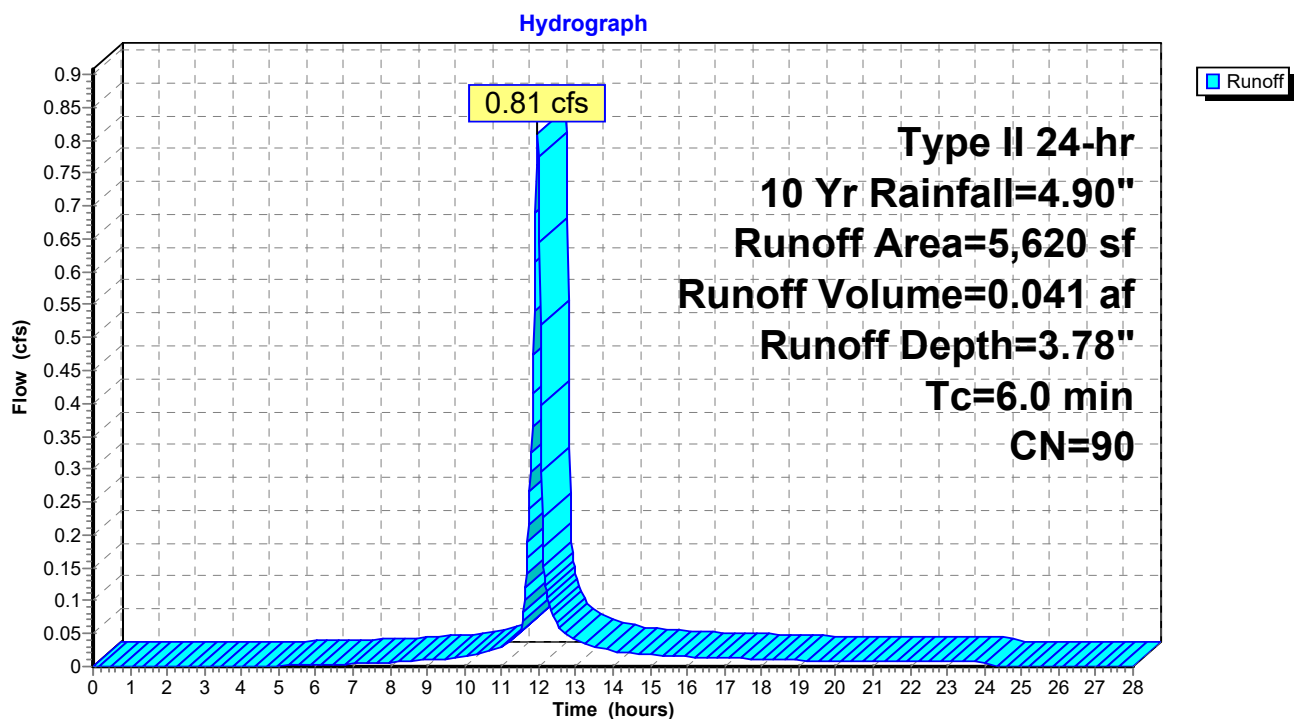
Summary for Subcatchment S4: West Front

Runoff = 0.81 cfs @ 11.97 hrs, Volume= 0.041 af, Depth= 3.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 10 Yr Rainfall=4.90"

Area (sf)	CN	Description
4,419	98	Paved parking, HSG B
1,201	61	>75% Grass cover, Good, HSG B
5,620	90	Weighted Average
1,201		21.37% Pervious Area
4,419		78.63% Impervious Area

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

Subcatchment S4: West Front

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Type II 24-hr 10 Yr Rainfall=4.90"

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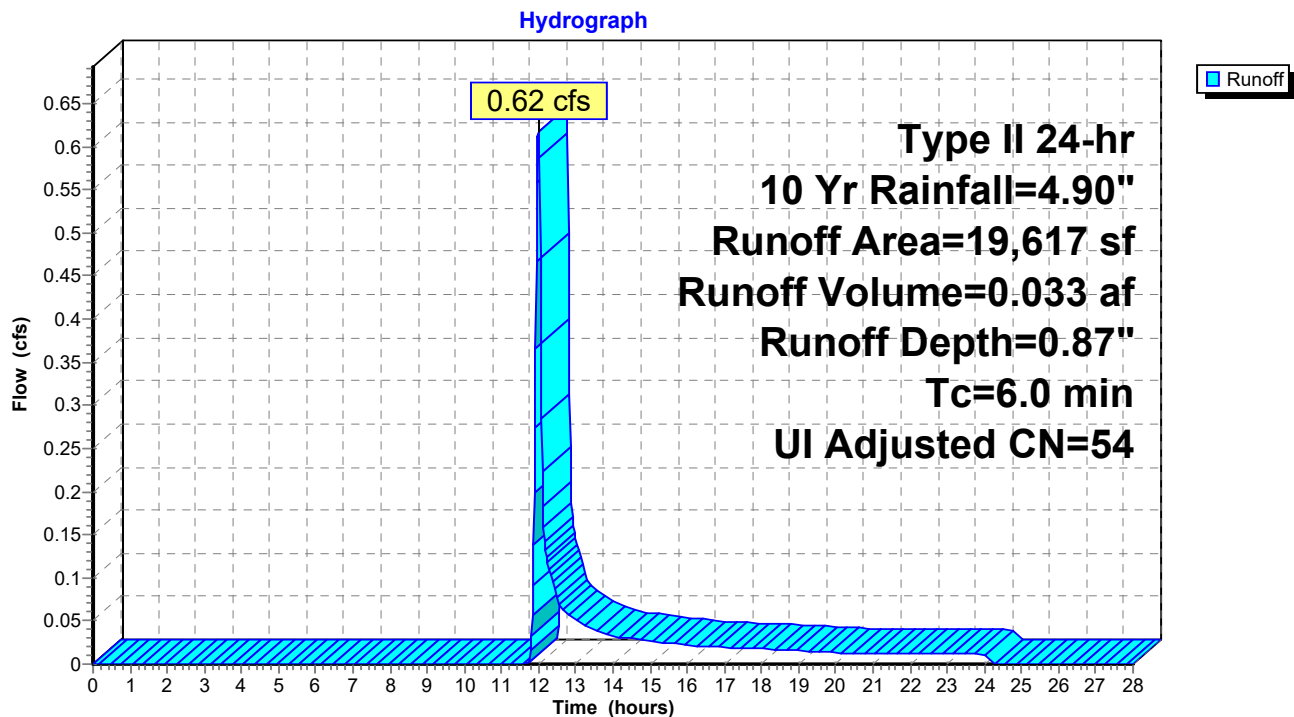
Summary for Subcatchment S5: East Front

Runoff = 0.62 cfs @ 11.99 hrs, Volume= 0.033 af, Depth= 0.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 10 Yr Rainfall=4.90"

Area (sf)	CN	Adj	Description
4,015	98		Paved parking, HSG B
739	61		>75% Grass cover, Good, HSG B
1,431	98		Unconnected roofs, HSG B
13,432	39		>75% Grass cover, Good, HSG A
19,617	56	54	Weighted Average, UI Adjusted
14,171			72.24% Pervious Area
5,446			27.76% Impervious Area
1,431			26.28% Unconnected

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

Subcatchment S5: East Front

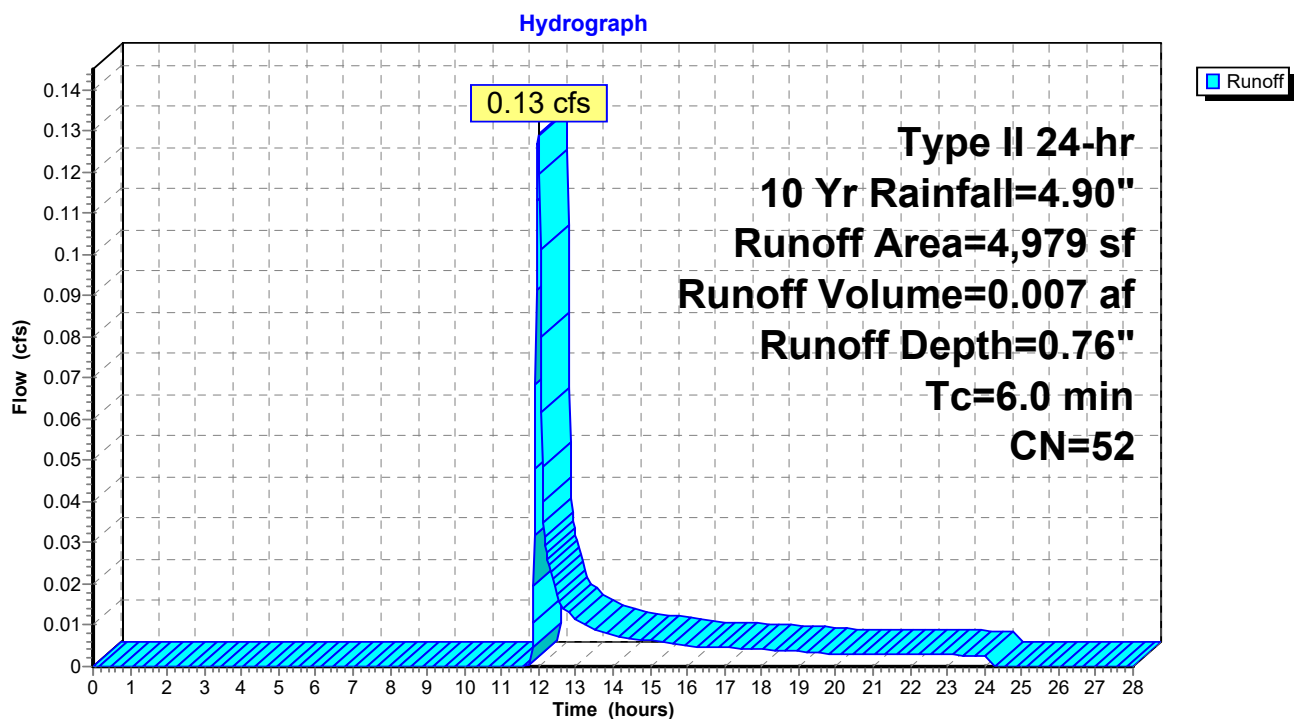
Summary for Subcatchment S6: NW offsite

Runoff = 0.13 cfs @ 11.99 hrs, Volume= 0.007 af, Depth= 0.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 10 Yr Rainfall=4.90"

Area (sf)	CN	Description
949	61	>75% Grass cover, Good, HSG B
1,979	61	>75% Grass cover, Good, HSG B
2,051	39	>75% Grass cover, Good, HSG A
4,979	52	Weighted Average
4,979		100.00% Pervious Area

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

Subcatchment S6: NW offsite

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Type II 24-hr 10 Yr Rainfall=4.90"

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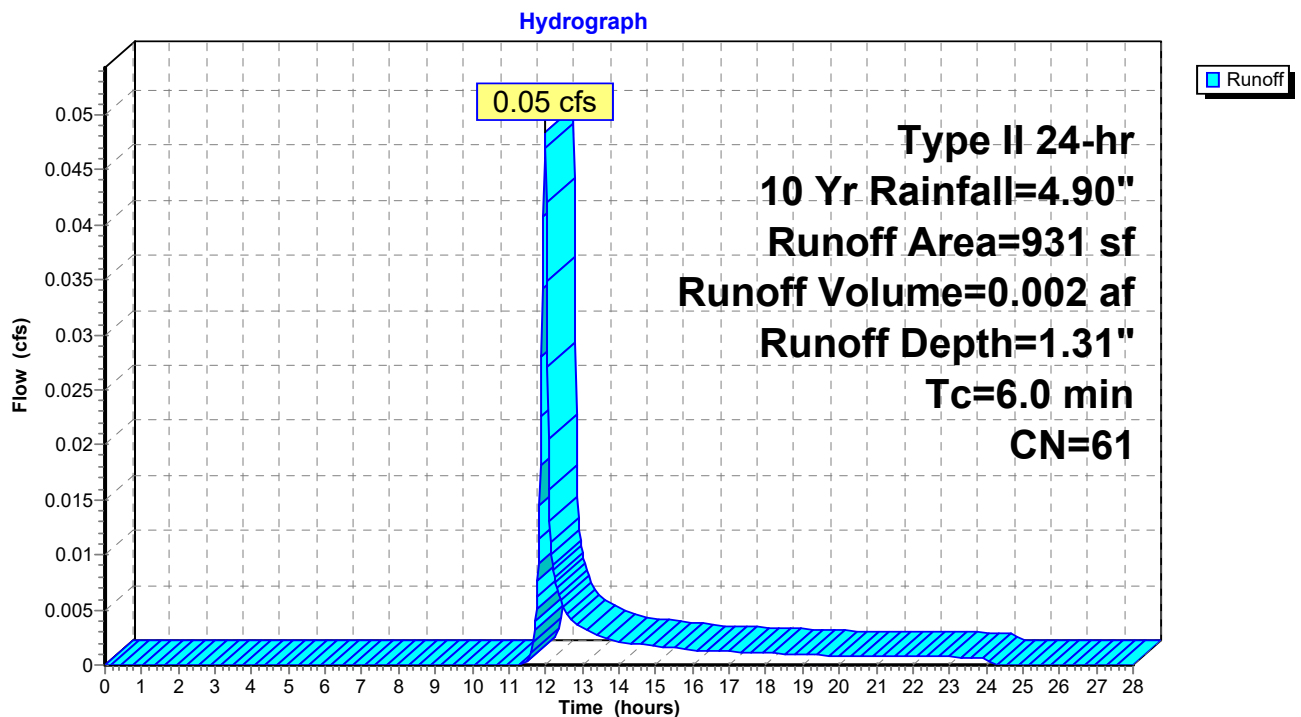
Summary for Subcatchment S7: West Offsite

Runoff = 0.05 cfs @ 11.98 hrs, Volume= 0.002 af, Depth= 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 10 Yr Rainfall=4.90"

Area (sf)	CN	Description
931	61	>75% Grass cover, Good, HSG B
931		100.00% Pervious Area

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

Subcatchment S7: West Offsite

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Type II 24-hr 10 Yr Rainfall=4.90"

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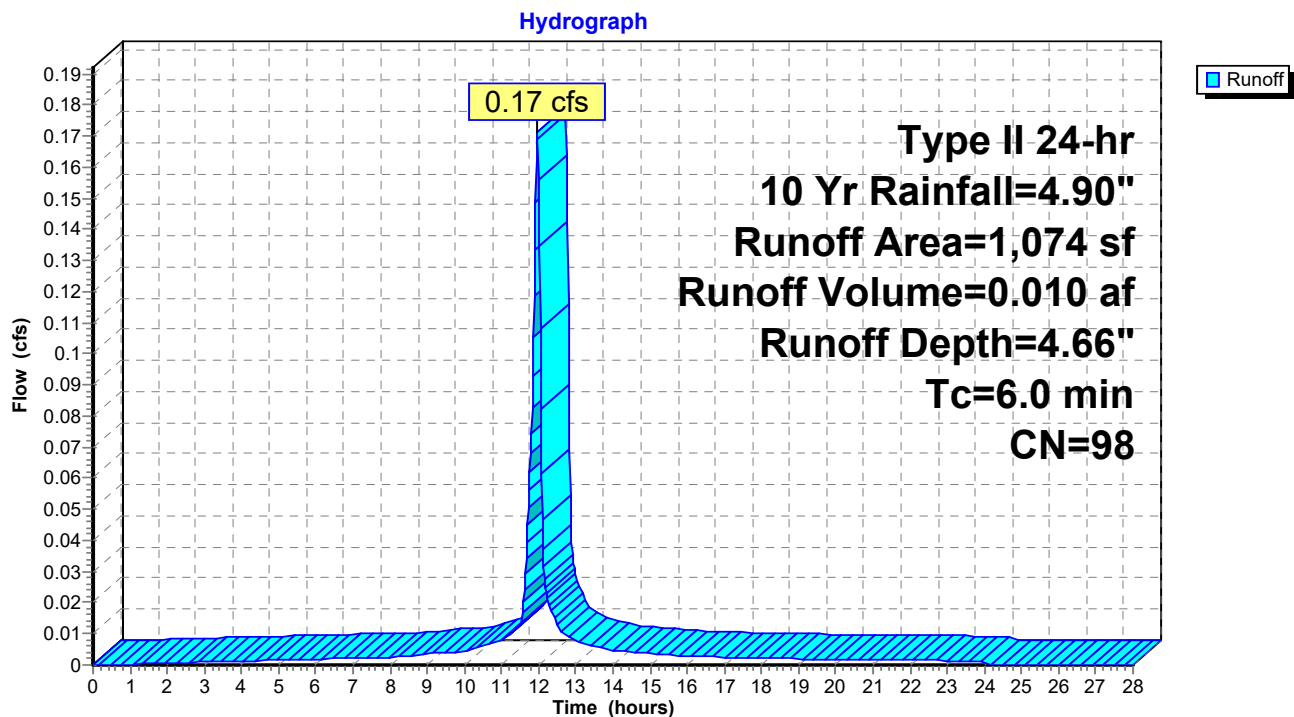
Summary for Subcatchment S8: Driveway to CB2R

Runoff = 0.17 cfs @ 11.97 hrs, Volume= 0.010 af, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 10 Yr Rainfall=4.90"

Area (sf)	CN	Description
1,074	98	Paved parking, HSG B
1,074		100.00% Impervious Area

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

Subcatchment S8: Driveway to CB2R

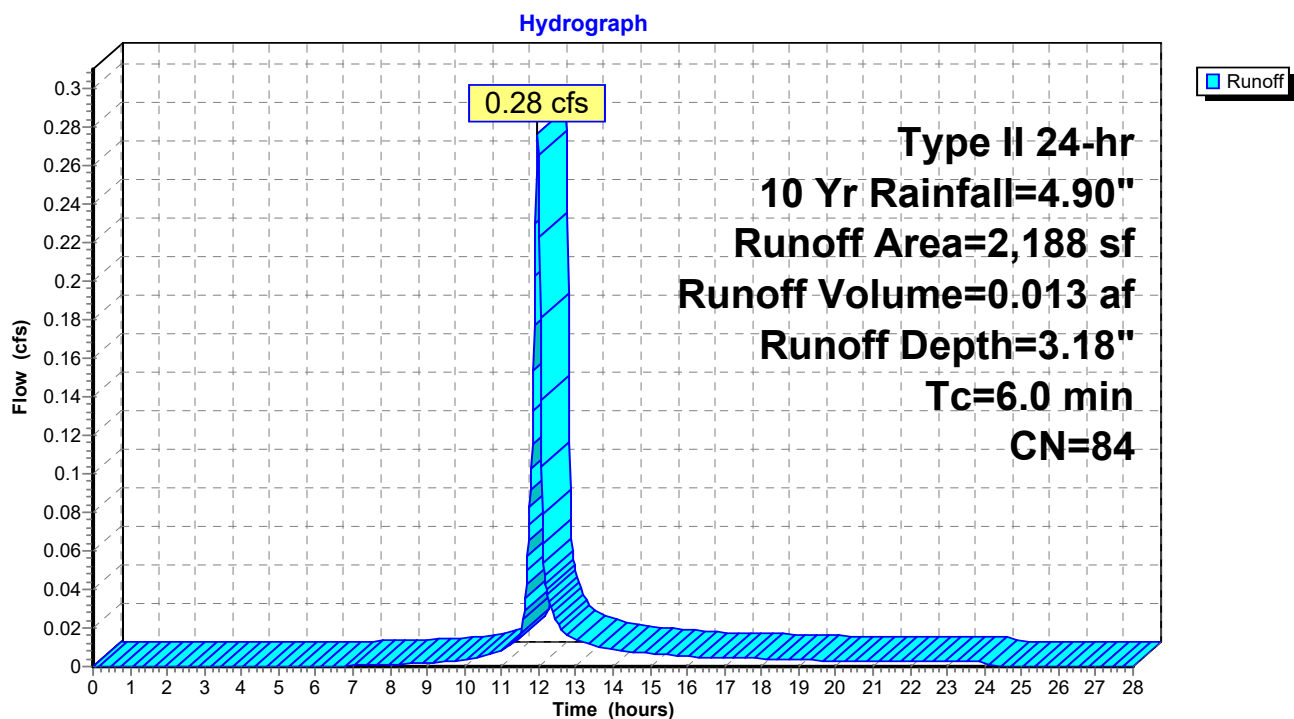
Summary for Subcatchment S9: Runoff to St

Runoff = 0.28 cfs @ 11.97 hrs, Volume= 0.013 af, Depth= 3.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 10 Yr Rainfall=4.90"

Area (sf)	CN	Description
1,381	98	Paved parking, HSG B
807	61	>75% Grass cover, Good, HSG B
2,188	84	Weighted Average
807		36.88% Pervious Area
1,381		63.12% Impervious Area

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

Subcatchment S9: Runoff to St

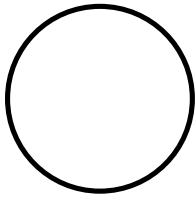
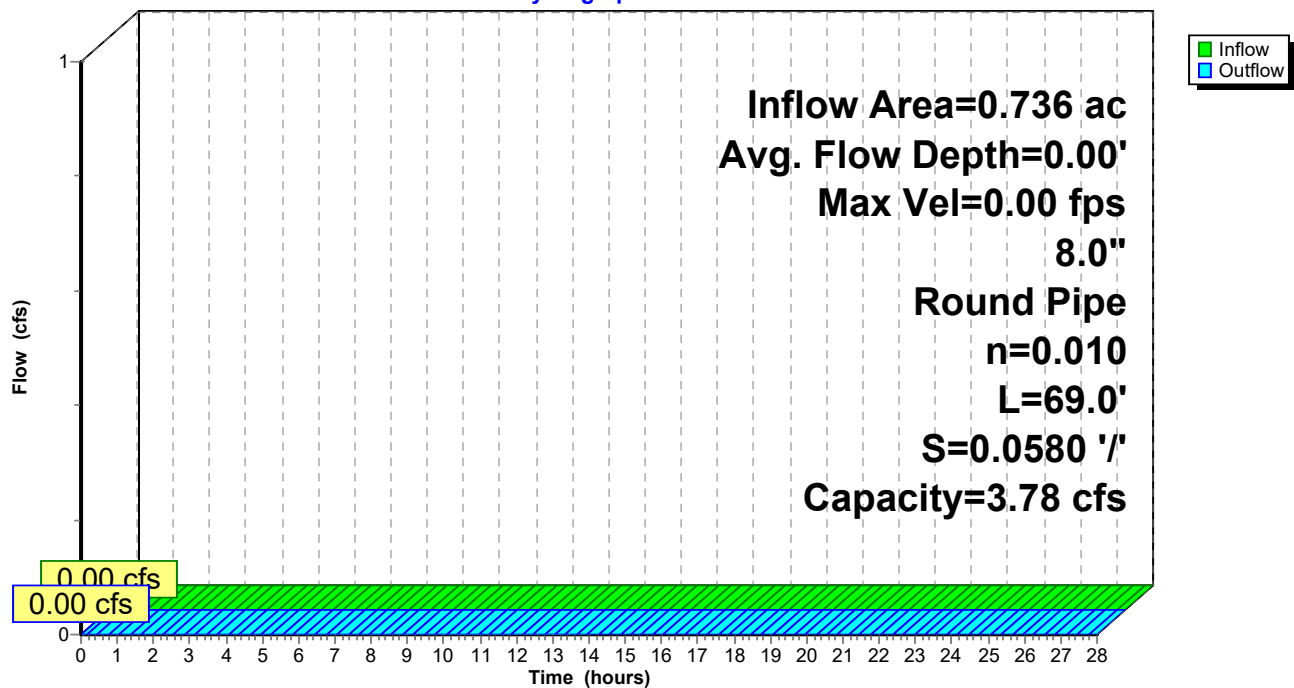
Summary for Reach 3R: 8" ADS

Inflow Area = 0.736 ac, 87.13% Impervious, Inflow Depth = 0.00" for 10 Yr event
 Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
 Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
 Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
 Average Depth at Peak Storage= 0.00'
 Bank-Full Depth= 0.67' Flow Area= 0.3 sf, Capacity= 3.78 cfs

8.0" Round Pipe
 n= 0.010 PVC, smooth interior
 Length= 69.0' Slope= 0.0580 '/'
 Inlet Invert= 58.90', Outlet Invert= 54.90'

**Reach 3R: 8" ADS****Hydrograph**

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Type II 24-hr 10 Yr Rainfall=4.90"

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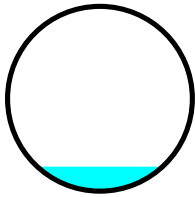
Summary for Reach 6R: 10" ADS(CB2R)

Inflow Area = 1.340 ac, 66.60% Impervious, Inflow Depth = 0.09" for 10 Yr event
Inflow = 0.17 cfs @ 11.97 hrs, Volume= 0.010 af
Outflow = 0.17 cfs @ 11.97 hrs, Volume= 0.010 af, Atten= 1%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Max. Velocity= 4.02 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 1.19 fps, Avg. Travel Time= 0.9 min

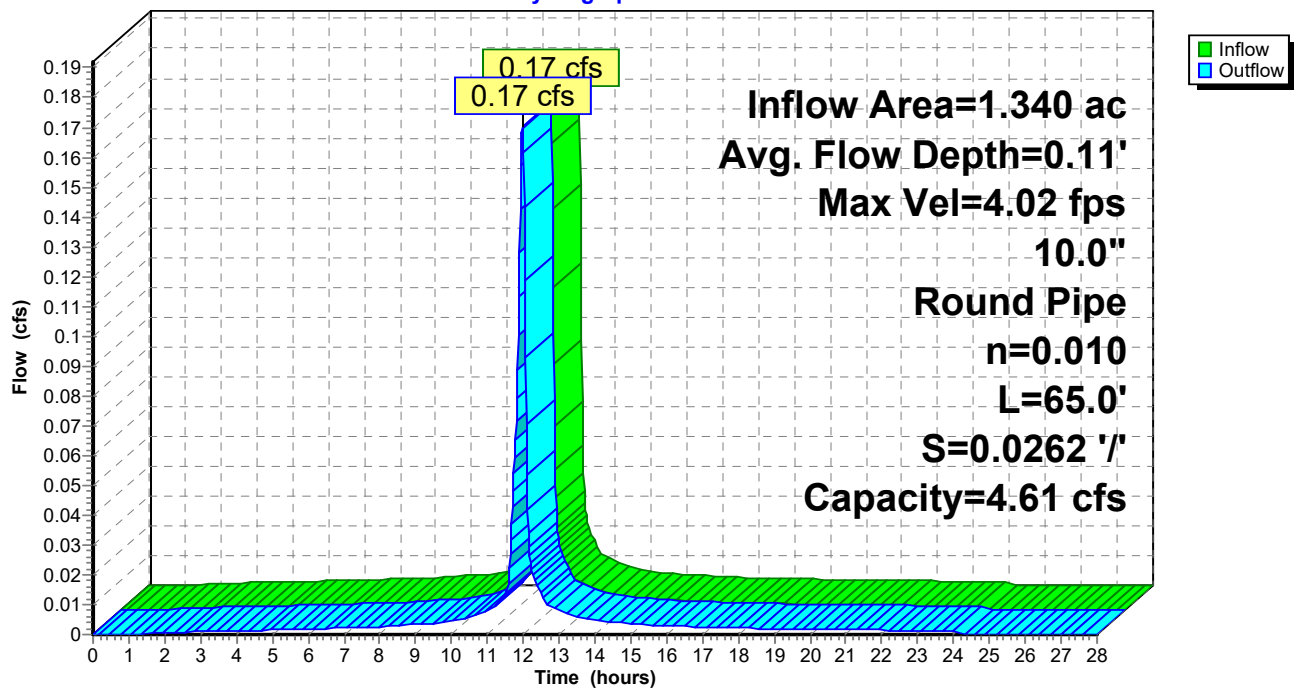
Peak Storage= 3 cf @ 11.97 hrs
Average Depth at Peak Storage= 0.11' , Surface Width= 0.56'
Bank-Full Depth= 0.83' Flow Area= 0.5 sf, Capacity= 4.61 cfs

10.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 65.0' Slope= 0.0262 '/
Inlet Invert= 52.40', Outlet Invert= 50.70'



Reach 6R: 10" ADS(CB2R)

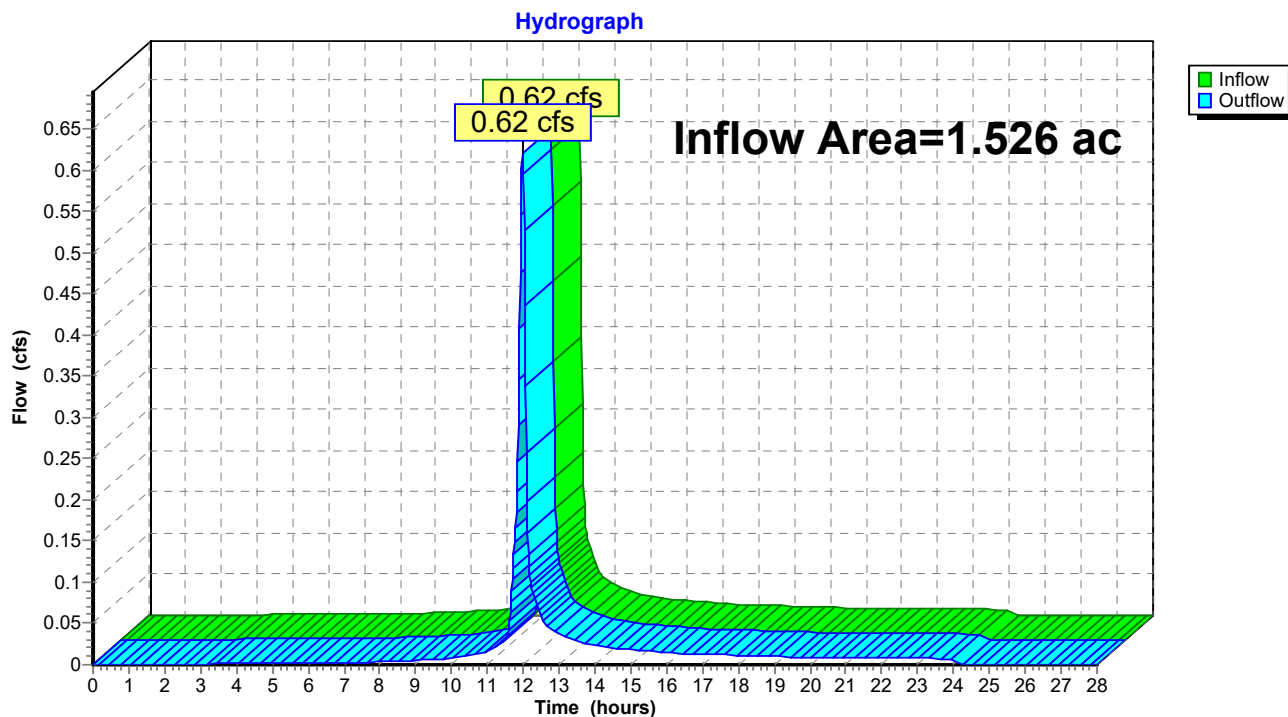
Hydrograph



Summary for Reach 7R: Total Offsite

Inflow Area = 1.526 ac, 60.57% Impervious, Inflow Depth = 0.26" for 10 Yr event
Inflow = 0.62 cfs @ 11.98 hrs, Volume= 0.032 af
Outflow = 0.62 cfs @ 11.98 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs

Reach 7R: Total Offsite

Summary for Pond P1: N Infil

Inflow Area = 0.736 ac, 87.13% Impervious, Inflow Depth = 3.93" for 10 Yr event
 Inflow = 4.47 cfs @ 11.97 hrs, Volume= 0.241 af
 Outflow = 0.12 cfs @ 11.94 hrs, Volume= 0.197 af, Atten= 97%, Lag= 0.0 min
 Discarded = 0.12 cfs @ 11.94 hrs, Volume= 0.197 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
 Peak Elev= 58.69' @ 14.20 hrs Surf.Area= 5,118 sf Storage= 5,760 cf
 Flood Elev= 60.70' Surf.Area= 5,118 sf Storage= 10,497 cf

Plug-Flow detention time= 381.7 min calculated for 0.197 af (82% of inflow)
 Center-of-Mass det. time= 303.3 min (1,065.3 - 762.0)

Volume	Invert	Avail.Storage	Storage Description
#1	56.50'	4,182 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 17,602 cf Overall - 7,148 cf Embedded = 10,454 cf x 40.0% Voids
#2	57.25'	6,316 cf	ISI Rainstore3 8 x 253 Inside #1 Inside= 39.4"W x 31.5"H => 8.09 sf x 3.28'L = 26.6 cf Outside= 39.4"W x 31.5"H => 8.61 sf x 3.28'L = 28.3 cf 7,148 cf Overall x 94.0% Voids
10,497 cf			Total Available Storage

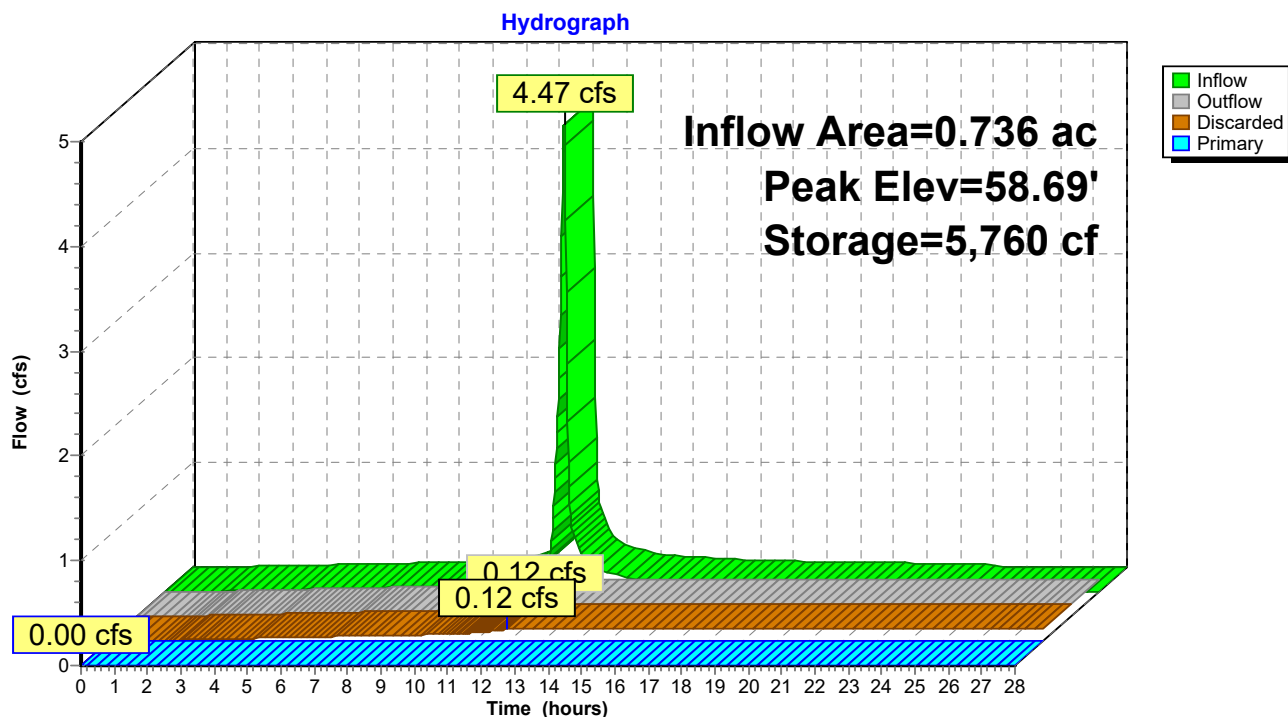
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.50	2,031	0	0
57.00	3,858	1,472	1,472
57.80	5,118	3,590	5,063
60.25	5,118	12,539	17,602

Device	Routing	Invert	Outlet Devices
#1	Discarded	56.50'	1.020 in/hr Exfiltration over Surface area
#2	Primary	58.90'	8.0" Round Culvert L= 69.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 58.90' / 54.90' S= 0.0580 ' / ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.12 cfs @ 11.94 hrs HW=57.84' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=56.50' (Free Discharge)
 ↑2=Culvert (Controls 0.00 cfs)

Pond P1: N Infil



Summary for Pond P2: W Infil

Inflow Area = 0.129 ac, 78.63% Impervious, Inflow Depth = 3.78" for 10 Yr event
 Inflow = 0.81 cfs @ 11.97 hrs, Volume= 0.041 af
 Outflow = 0.02 cfs @ 10.76 hrs, Volume= 0.035 af, Atten= 97%, Lag= 0.0 min
 Discarded = 0.02 cfs @ 10.76 hrs, Volume= 0.035 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
 Peak Elev= 57.60' @ 14.12 hrs Surf.Area= 947 sf Storage= 954 cf

Plug-Flow detention time= 374.3 min calculated for 0.035 af (87% of inflow)
 Center-of-Mass det. time= 312.9 min (1,101.1 - 788.2)

Volume	Invert	Avail.Storage	Storage Description
#1	56.00'	619 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 2,841 cf Overall - 1,293 cf Embedded = 1,548 cf x 40.0% Voids
#2	56.50'	1,142 cf	ISI Rainstore3 6 x 61 Inside #1 Inside= 39.4"W x 23.6"H => 6.07 sf x 3.28'L = 19.9 cf Outside= 39.4"W x 23.6"H => 6.46 sf x 3.28'L = 21.2 cf 1,293 cf Overall x 94.0% Voids
		1,761 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.00	947	0	0
59.00	947	2,841	2,841

Device	Routing	Invert	Outlet Devices
#1	Discarded	56.00'	1.020 in/hr Exfiltration over Horizontal area
#2	Primary	57.75'	8.0" Round Culvert L= 25.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 57.75' / 55.70' S= 0.0820 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

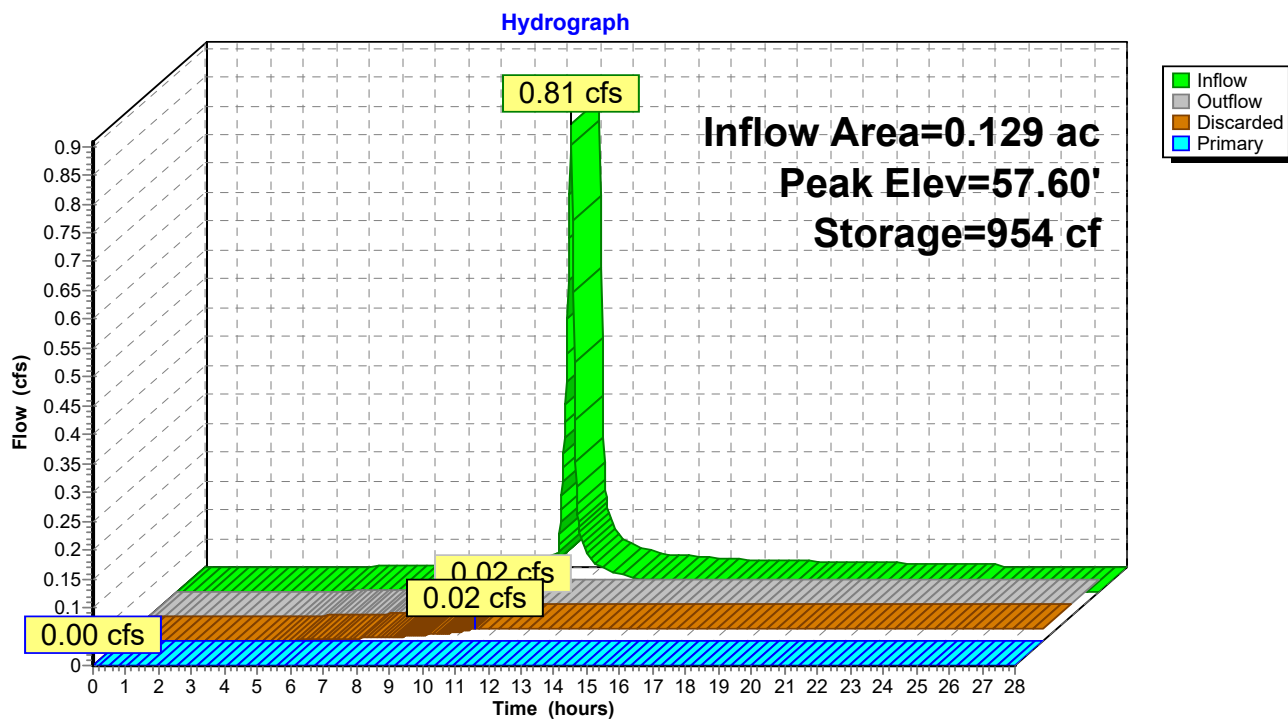
Discarded OutFlow Max=0.02 cfs @ 10.76 hrs HW=56.03' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=56.00' (Free Discharge)

↑**2=Culvert** (Controls 0.00 cfs)

Pond P2: W Infil



Summary for Pond P3: E Infil

Inflow Area = 0.450 ac, 27.76% Impervious, Inflow Depth = 0.87" for 10 Yr event
 Inflow = 0.62 cfs @ 11.99 hrs, Volume= 0.033 af
 Outflow = 0.03 cfs @ 11.86 hrs, Volume= 0.033 af, Atten= 96%, Lag= 0.0 min
 Discarded = 0.03 cfs @ 11.86 hrs, Volume= 0.033 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
 Peak Elev= 57.86' @ 15.22 hrs Surf.Area= 1,103 sf Storage= 606 cf

Plug-Flow detention time= 268.7 min calculated for 0.033 af (100% of inflow)
 Center-of-Mass det. time= 268.6 min (1,165.0 - 896.4)

Volume	Invert	Avail.Storage	Storage Description
#1	57.00'	382 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 2,482 cf Overall - 1,526 cf Embedded = 956 cf x 40.0% Voids
#2	57.25'	1,348 cf	ISI Rainstore3 6 x 72 Inside #1 Inside= 39.4"W x 23.6"H => 6.07 sf x 3.28'L = 19.9 cf Outside= 39.4"W x 23.6"H => 6.46 sf x 3.28'L = 21.2 cf 1,526 cf Overall x 94.0% Voids
		1,730 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.00	1,103	0	0
59.25	1,103	2,482	2,482

Device	Routing	Invert	Outlet Devices
#1	Discarded	57.00'	1.020 in/hr Exfiltration over Horizontal area
#2	Primary	58.00'	8.0" Round Culvert L= 88.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 58.00' / 55.50' S= 0.0284 ' / ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

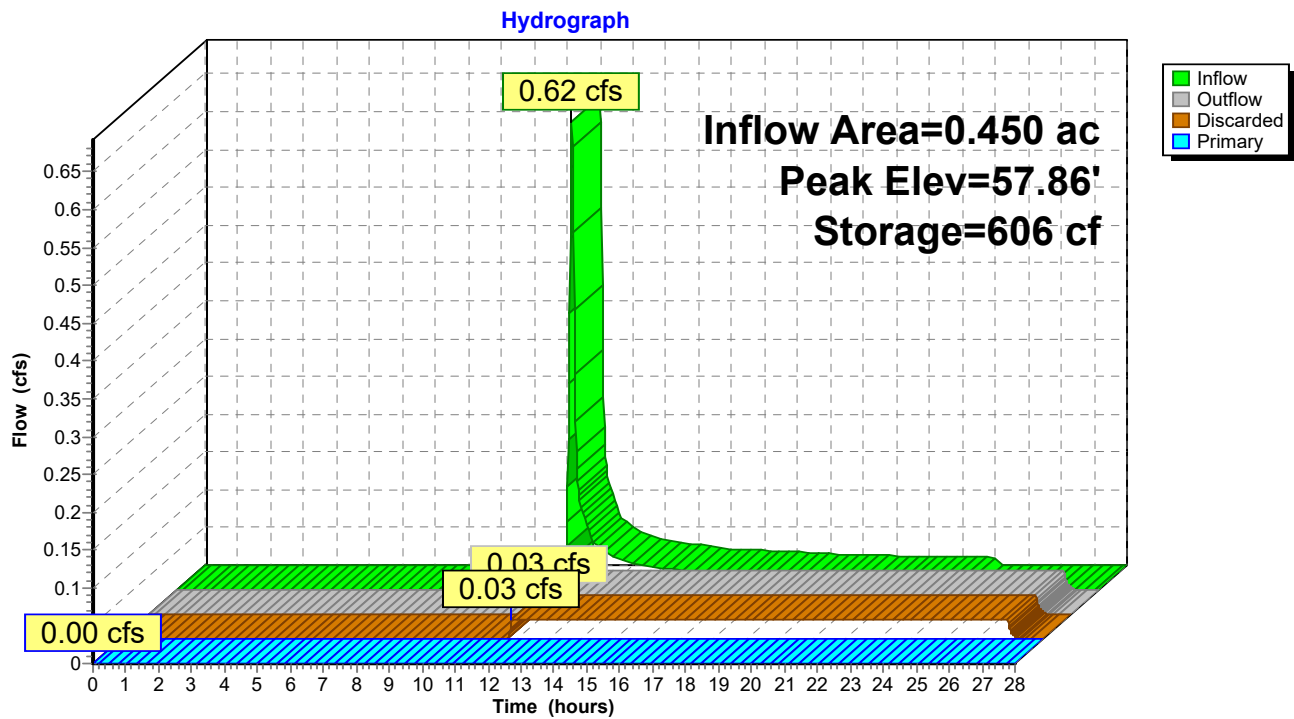
Discarded OutFlow Max=0.03 cfs @ 11.86 hrs HW=57.04' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=57.00' (Free Discharge)

↑**2=Culvert** (Controls 0.00 cfs)

Pond P3: E Infil



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Type II 24-hr 100 Yr Rainfall=9.10"

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Time span=0.00-28.00 hrs, dt=0.02 hrs, 1401 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 S1: Roof	Runoff Area=8,413 sf 100.00% Impervious Runoff Depth=8.86" Tc=6.0 min CN=98 Runoff=2.50 cfs 0.143 af
Subcatchment S2: pvmnt & DThru	Runoff Area=15,340 sf 98.40% Impervious Runoff Depth=8.74" Tc=6.0 min CN=97 Runoff=4.56 cfs 0.256 af
Subcatchment S3: pvmnt & abutter	Runoff Area=8,325 sf 53.37% Impervious Runoff Depth=5.55" Tc=6.0 min CN=71 Runoff=1.86 cfs 0.088 af
Subcatchment S4: West Front	Runoff Area=5,620 sf 78.63% Impervious Runoff Depth=7.89" Tc=6.0 min CN=90 Runoff=1.61 cfs 0.085 af
Subcatchment S5: East Front	Runoff Area=19,617 sf 27.76% Impervious Runoff Depth=3.44" Tc=6.0 min UI Adjusted CN=54 Runoff=2.76 cfs 0.129 af
Subcatchment S6: NW offsite	Runoff Area=4,979 sf 0.00% Impervious Runoff Depth=3.19" Tc=6.0 min CN=52 Runoff=0.65 cfs 0.030 af
Subcatchment S7: West Offsite	Runoff Area=931 sf 0.00% Impervious Runoff Depth=4.30" Tc=6.0 min CN=61 Runoff=0.16 cfs 0.008 af
Subcatchment S8: Driveway to CB2R	Runoff Area=1,074 sf 100.00% Impervious Runoff Depth=8.86" Tc=6.0 min CN=98 Runoff=0.32 cfs 0.018 af
Subcatchment S9: Runoff to St	Runoff Area=2,188 sf 63.12% Impervious Runoff Depth=7.16" Tc=6.0 min CN=84 Runoff=0.59 cfs 0.030 af
Reach 3R: 8" ADS 8.0" Round Pipe n=0.010	Avg. Flow Depth=0.27' Max Vel=9.90 fps Inflow=1.34 cfs 0.170 af L=69.0' S=0.0580 ' /' Capacity=3.78 cfs Outflow=1.34 cfs 0.170 af
Reach 6R: 10" ADS(CB2R) 10.0" Round Pipe n=0.010	Avg. Flow Depth=0.53' Max Vel=9.24 fps Inflow=3.40 cfs 0.301 af L=65.0' S=0.0262 ' /' Capacity=4.61 cfs Outflow=3.40 cfs 0.301 af
Reach 7R: Total Offsite	Inflow=4.22 cfs 0.369 af Outflow=4.22 cfs 0.369 af
Pond P1: N Infiltr	Peak Elev=60.05' Storage=10,084 cf Inflow=8.91 cfs 0.487 af Discarded=0.12 cfs 0.221 af Primary=1.34 cfs 0.170 af Outflow=1.46 cfs 0.391 af
Pond P2: W Infiltr	Peak Elev=58.35' Storage=1,480 cf Inflow=1.61 cfs 0.085 af Discarded=0.02 cfs 0.041 af Primary=0.77 cfs 0.030 af Outflow=0.80 cfs 0.071 af
Pond P3: E Infiltr	Peak Elev=59.09' Storage=1,613 cf Inflow=2.76 cfs 0.129 af Discarded=0.03 cfs 0.037 af Primary=1.29 cfs 0.083 af Outflow=1.32 cfs 0.120 af

Total Runoff Area = 1.526 ac Runoff Volume = 0.787 af Average Runoff Depth = 6.19"
39.43% Pervious = 0.602 ac 60.57% Impervious = 0.924 ac

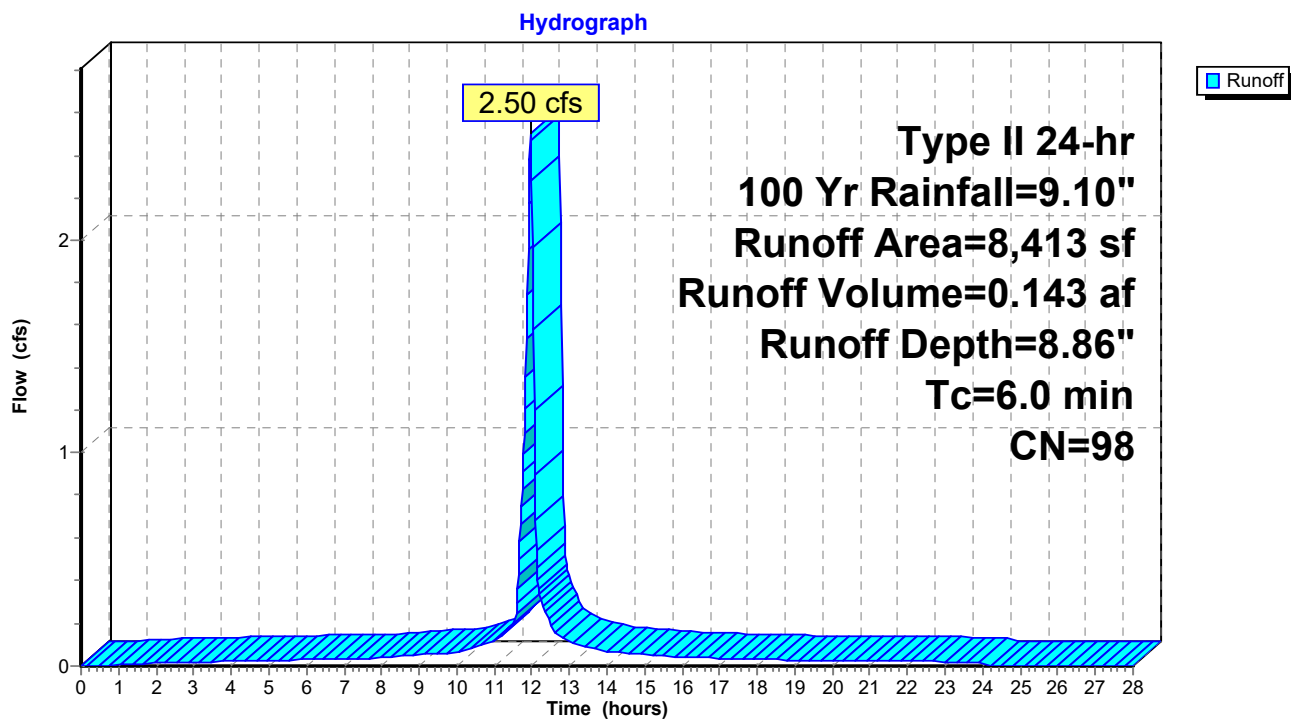
Summary for Subcatchment S1: Roof

Runoff = 2.50 cfs @ 11.97 hrs, Volume= 0.143 af, Depth= 8.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 100 Yr Rainfall=9.10"

Area (sf)	CN	Description
4,845	98	Roofs, HSG B
3,568	98	Roofs, HSG B
8,413	98	Weighted Average
8,413		100.00% Impervious Area

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

Subcatchment S1: Roof

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Type II 24-hr 100 Yr Rainfall=9.10"

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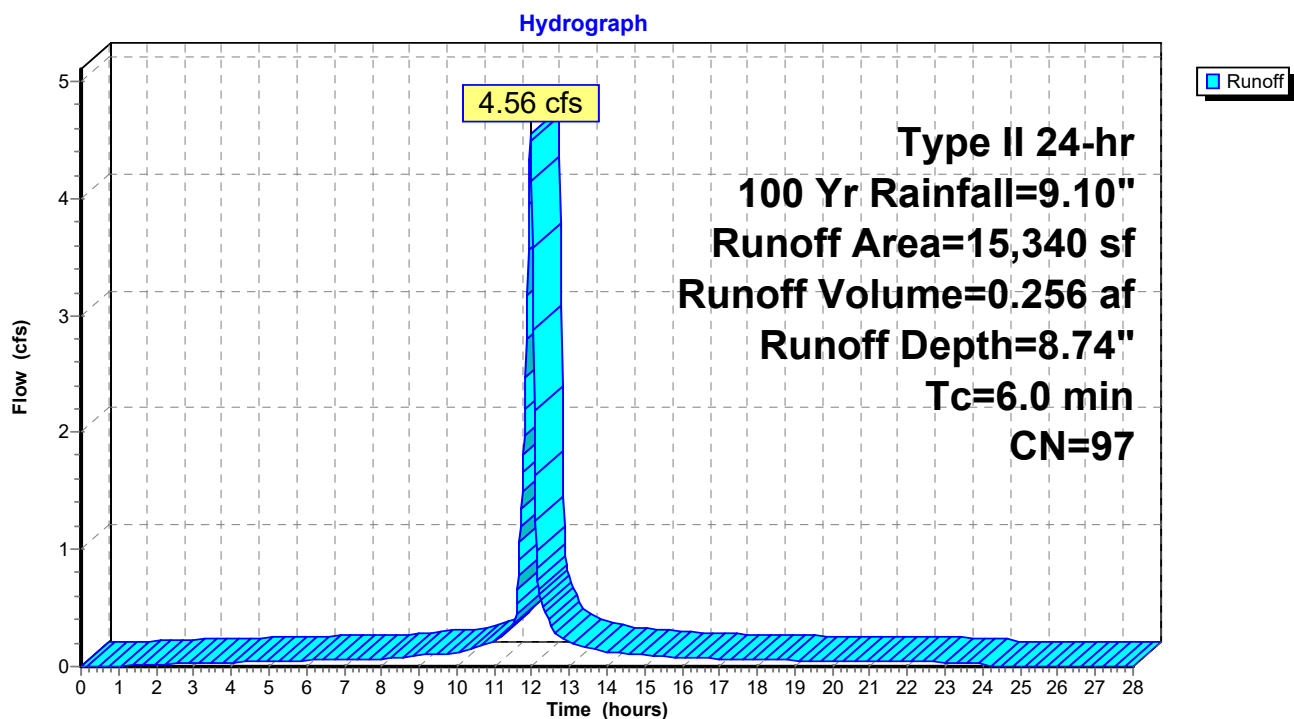
Summary for Subcatchment S2: pvmnt & DThru

Runoff = 4.56 cfs @ 11.97 hrs, Volume= 0.256 af, Depth= 8.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 100 Yr Rainfall=9.10"

Area (sf)	CN	Description
15,094	98	Paved parking, HSG B
246	61	>75% Grass cover, Good, HSG B
15,340	97	Weighted Average
246		1.60% Pervious Area
15,094		98.40% Impervious Area

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

Subcatchment S2: pvmnt & DThru

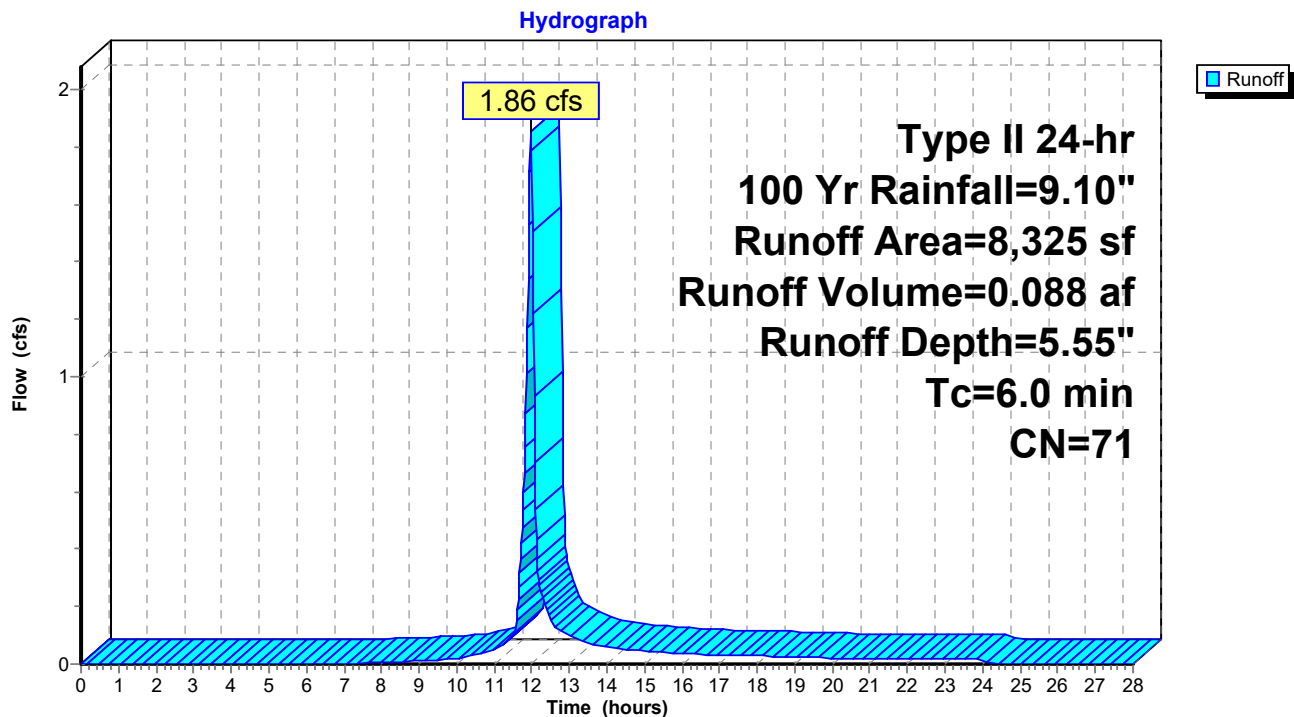
Summary for Subcatchment S3: pvmnt & abutter

Runoff = 1.86 cfs @ 11.97 hrs, Volume= 0.088 af, Depth= 5.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 100 Yr Rainfall=9.10"

Area (sf)	CN	Description
4,443	98	Paved parking, HSG B
360	61	>75% Grass cover, Good, HSG B
3,522	39	>75% Grass cover, Good, HSG A
8,325	71	Weighted Average
3,882		46.63% Pervious Area
4,443		53.37% Impervious Area

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

Subcatchment S3: pvmnt & abutter

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Type II 24-hr 100 Yr Rainfall=9.10"

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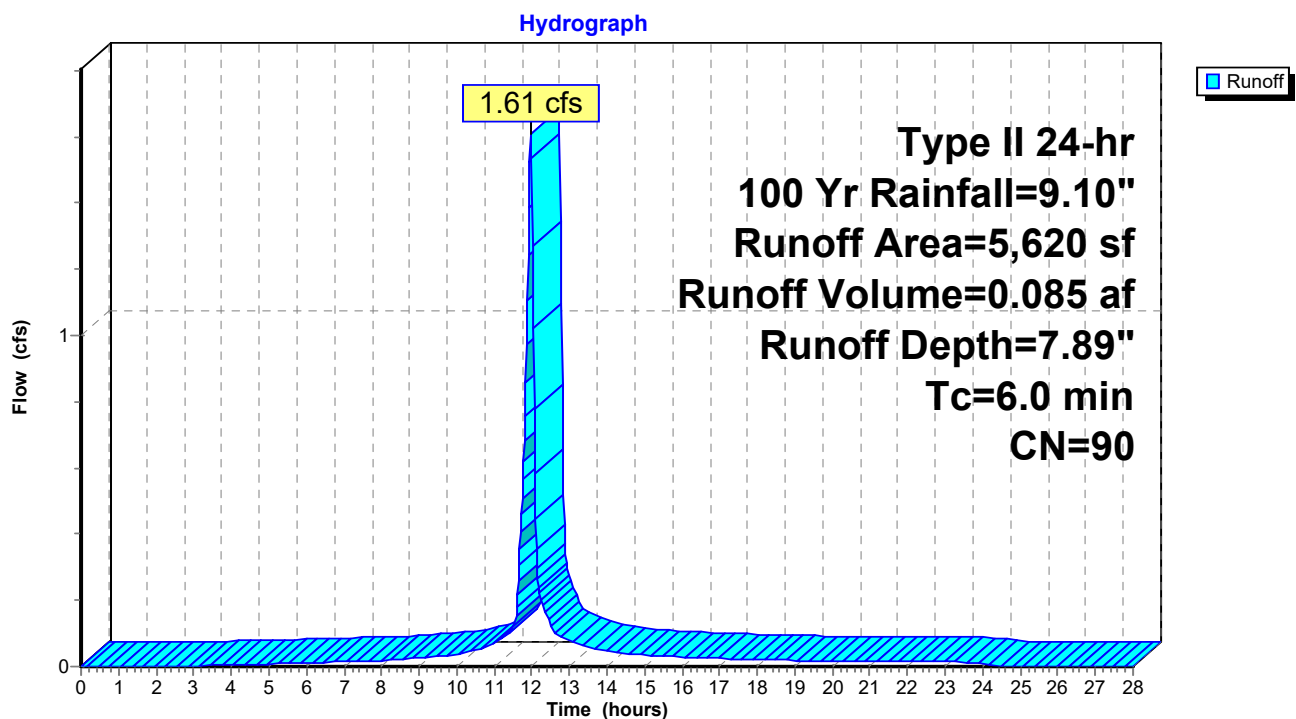
Summary for Subcatchment S4: West Front

Runoff = 1.61 cfs @ 11.97 hrs, Volume= 0.085 af, Depth= 7.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 100 Yr Rainfall=9.10"

Area (sf)	CN	Description
4,419	98	Paved parking, HSG B
1,201	61	>75% Grass cover, Good, HSG B
5,620	90	Weighted Average
1,201		21.37% Pervious Area
4,419		78.63% Impervious Area

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

Subcatchment S4: West Front

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Type II 24-hr 100 Yr Rainfall=9.10"

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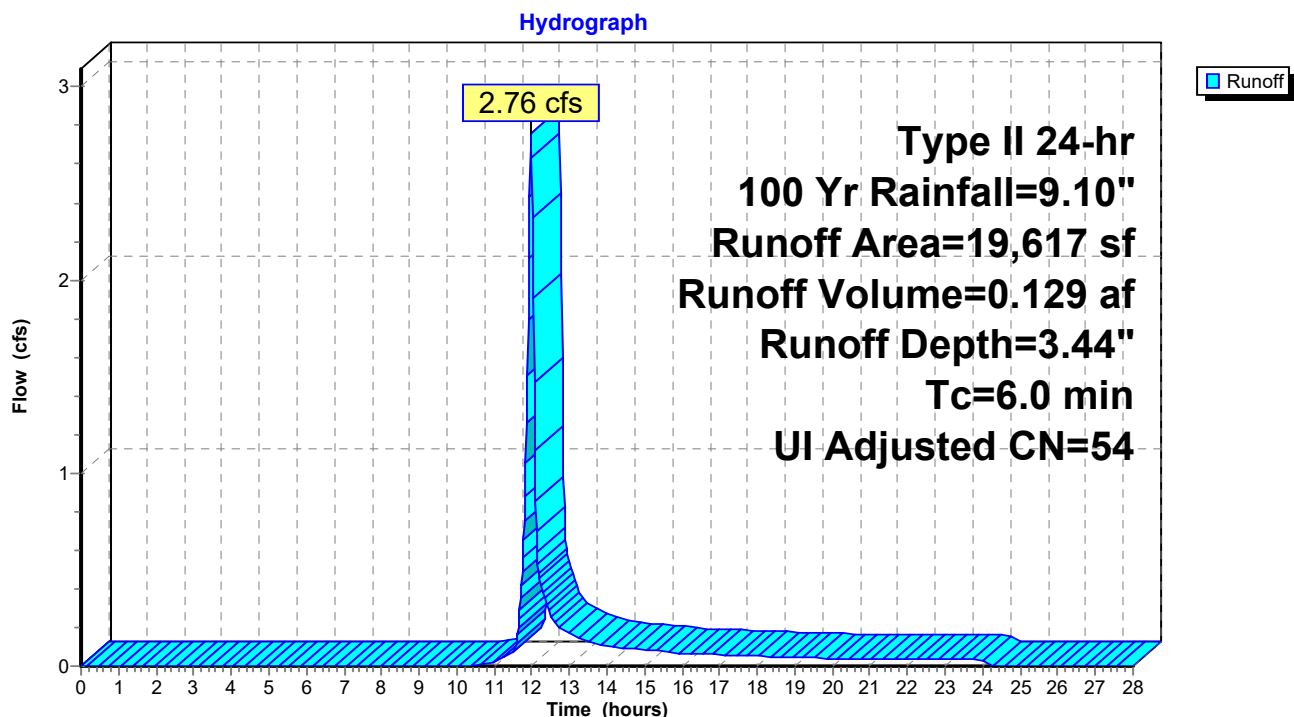
Summary for Subcatchment S5: East Front

Runoff = 2.76 cfs @ 11.98 hrs, Volume= 0.129 af, Depth= 3.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 100 Yr Rainfall=9.10"

Area (sf)	CN	Adj	Description
4,015	98		Paved parking, HSG B
739	61		>75% Grass cover, Good, HSG B
1,431	98		Unconnected roofs, HSG B
13,432	39		>75% Grass cover, Good, HSG A
19,617	56	54	Weighted Average, UI Adjusted
14,171			72.24% Pervious Area
5,446			27.76% Impervious Area
1,431			26.28% Unconnected

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

Subcatchment S5: East Front

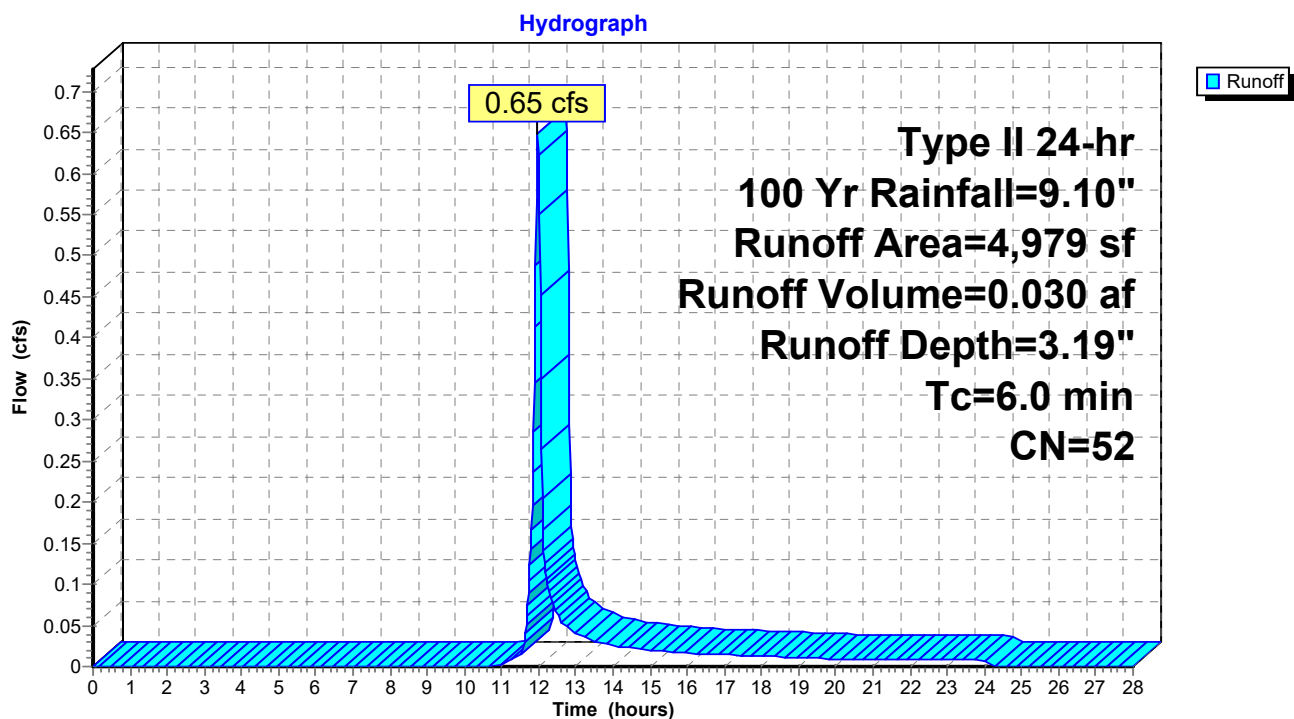
Summary for Subcatchment S6: NW offsite

Runoff = 0.65 cfs @ 11.98 hrs, Volume= 0.030 af, Depth= 3.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 100 Yr Rainfall=9.10"

Area (sf)	CN	Description
949	61	>75% Grass cover, Good, HSG B
1,979	61	>75% Grass cover, Good, HSG B
2,051	39	>75% Grass cover, Good, HSG A
4,979	52	Weighted Average
4,979		100.00% Pervious Area

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

Subcatchment S6: NW offsite

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Type II 24-hr 100 Yr Rainfall=9.10"

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Summary for Subcatchment S7: West Offsite

Runoff = 0.16 cfs @ 11.97 hrs, Volume= 0.008 af, Depth= 4.30"

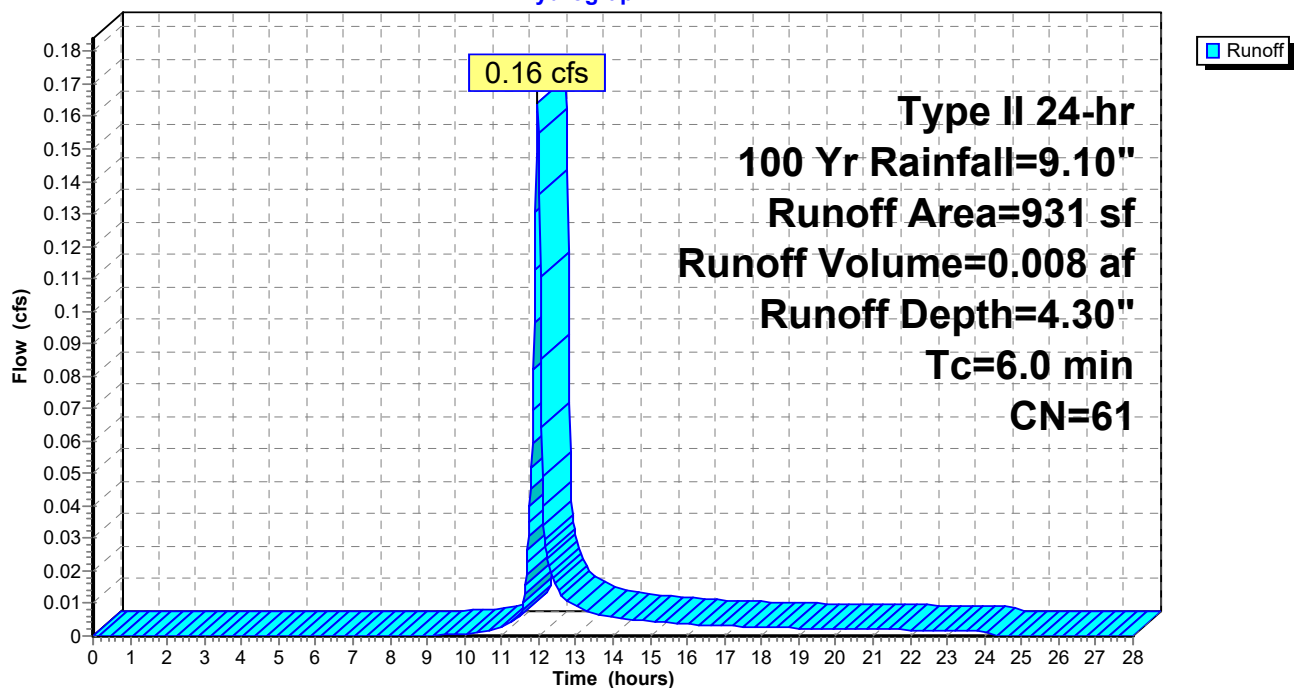
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 100 Yr Rainfall=9.10"

Area (sf)	CN	Description
931	61	>75% Grass cover, Good, HSG B
931		100.00% Pervious Area

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

Subcatchment S7: West Offsite

Hydrograph



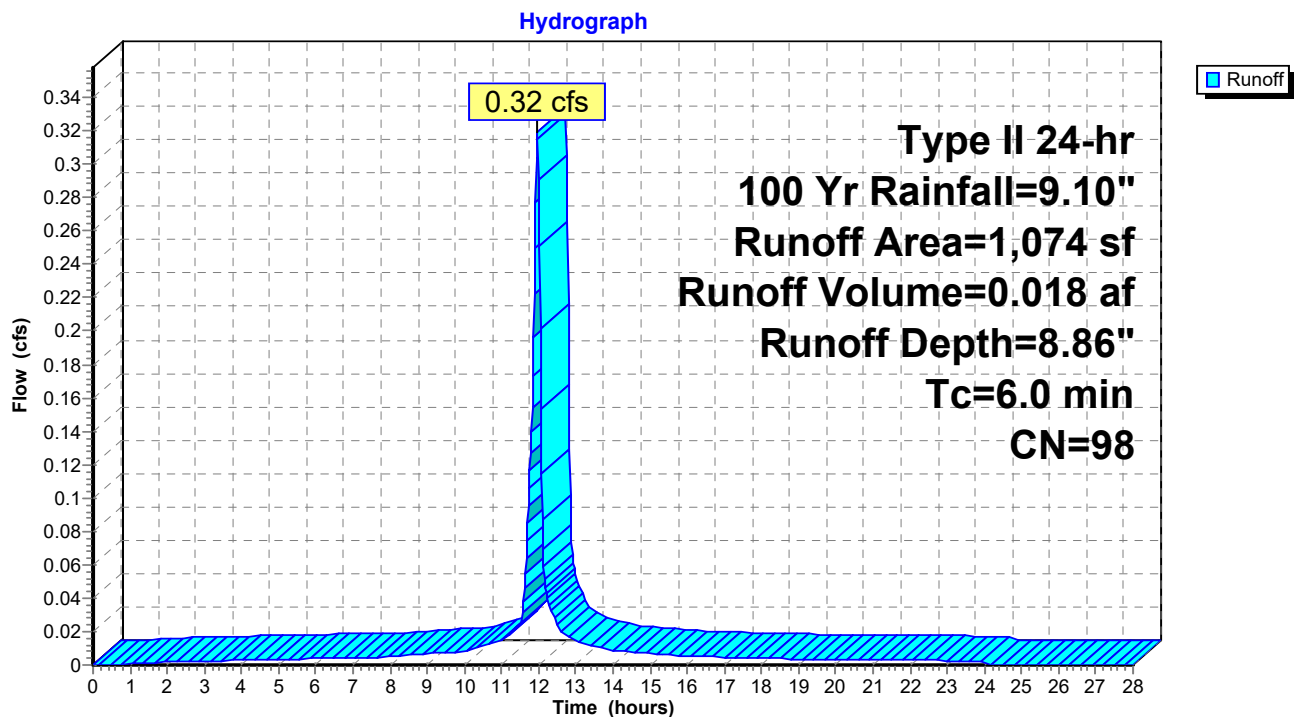
Summary for Subcatchment S8: Driveway to CB2R

Runoff = 0.32 cfs @ 11.97 hrs, Volume= 0.018 af, Depth= 8.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 100 Yr Rainfall=9.10"

Area (sf)	CN	Description
1,074	98	Paved parking, HSG B
1,074		100.00% Impervious Area

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

Subcatchment S8: Driveway to CB2R

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Type II 24-hr 100 Yr Rainfall=9.10"

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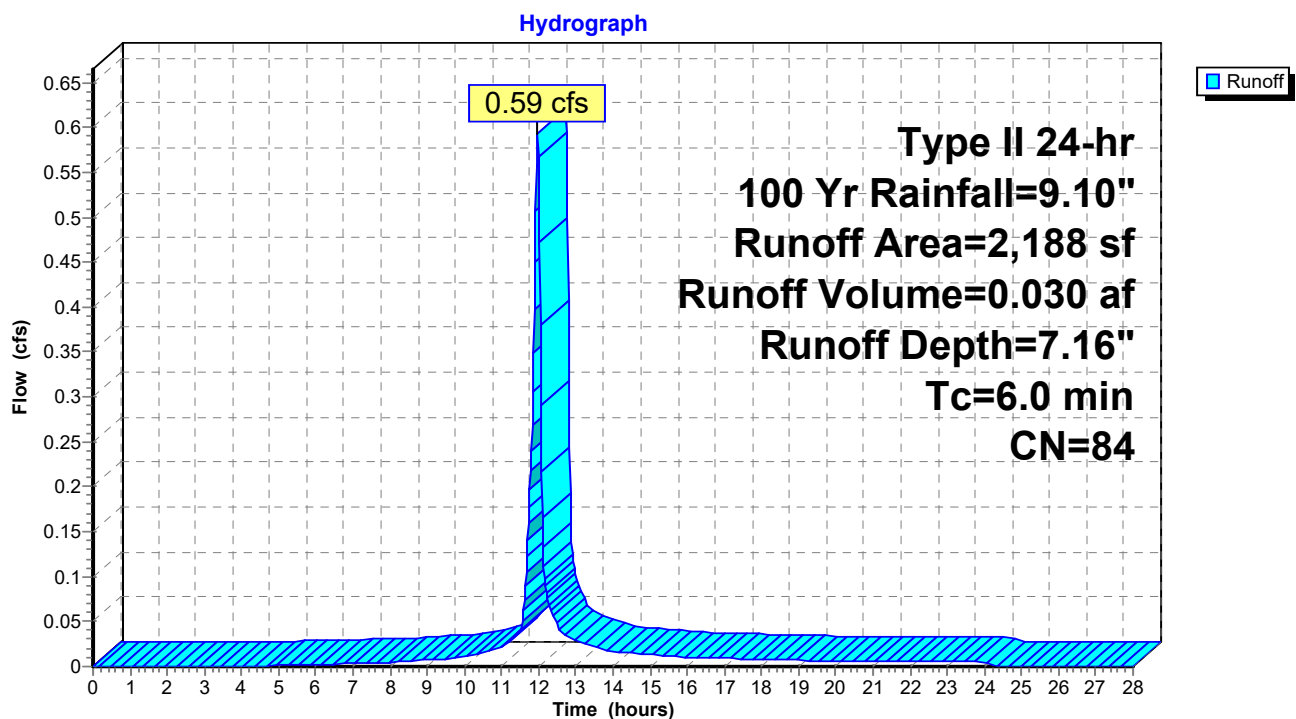
Summary for Subcatchment S9: Runoff to St

Runoff = 0.59 cfs @ 11.97 hrs, Volume= 0.030 af, Depth= 7.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Type II 24-hr 100 Yr Rainfall=9.10"

Area (sf)	CN	Description
1,381	98	Paved parking, HSG B
807	61	>75% Grass cover, Good, HSG B
2,188	84	Weighted Average
807		36.88% Pervious Area
1,381		63.12% Impervious Area

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

Subcatchment S9: Runoff to St

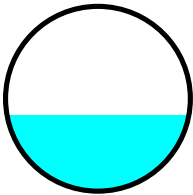
Summary for Reach 3R: 8" ADS

Inflow Area = 0.736 ac, 87.13% Impervious, Inflow Depth = 2.76" for 100 Yr event
Inflow = 1.34 cfs @ 12.16 hrs, Volume= 0.170 af
Outflow = 1.34 cfs @ 12.17 hrs, Volume= 0.170 af, Atten= 0%, Lag= 0.5 min

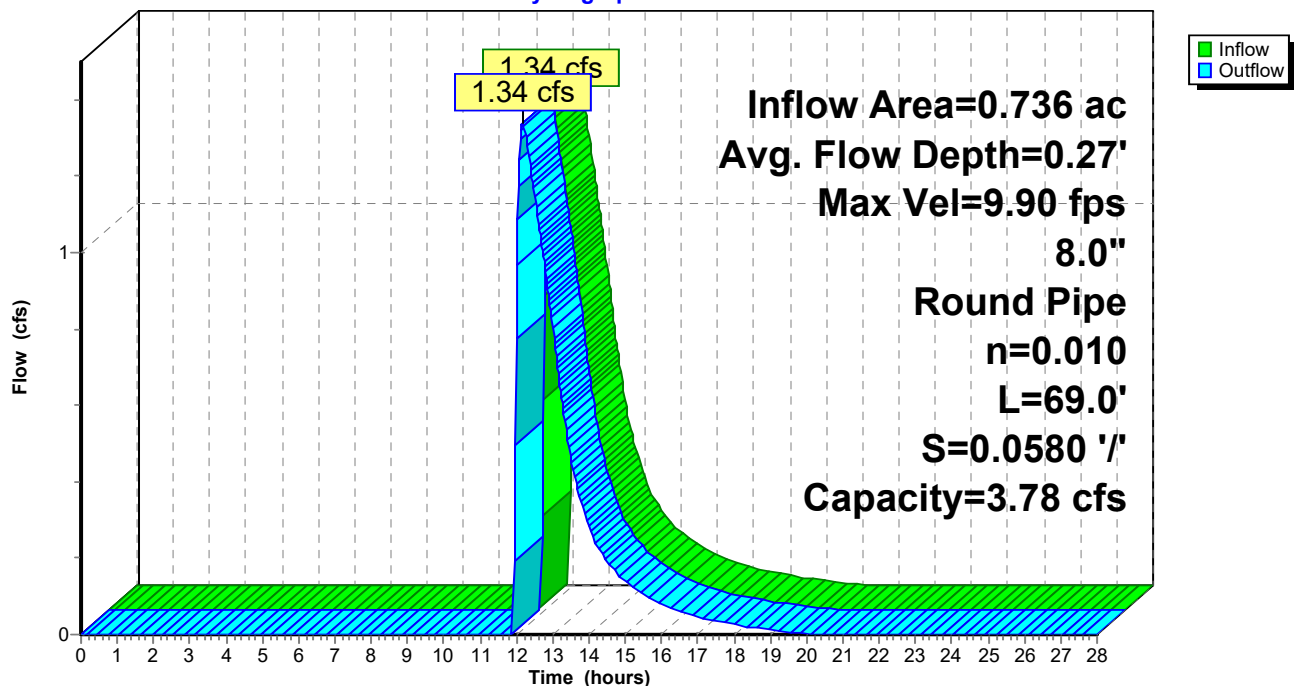
Routing by Stor-Ind+Trans method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
Max. Velocity= 9.90 fps, Min. Travel Time= 0.1 min
Avg. Velocity= 4.70 fps, Avg. Travel Time= 0.2 min

Peak Storage= 9 cf @ 12.17 hrs
Average Depth at Peak Storage= 0.27' , Surface Width= 0.66'
Bank-Full Depth= 0.67' Flow Area= 0.3 sf, Capacity= 3.78 cfs

8.0" Round Pipe
n= 0.010 PVC, smooth interior
Length= 69.0' Slope= 0.0580 '/'
Inlet Invert= 58.90', Outlet Invert= 54.90'

**Reach 3R: 8" ADS**

Hydrograph



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Type II 24-hr 100 Yr Rainfall=9.10"

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Summary for Reach 6R: 10" ADS(CB2R)

Inflow Area = 1.340 ac, 66.60% Impervious, Inflow Depth = 2.70" for 100 Yr event
Inflow = 3.40 cfs @ 12.07 hrs, Volume= 0.301 af
Outflow = 3.40 cfs @ 12.08 hrs, Volume= 0.301 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs

Max. Velocity= 9.24 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 2.47 fps, Avg. Travel Time= 0.4 min

Peak Storage= 24 cf @ 12.08 hrs

Average Depth at Peak Storage= 0.53' , Surface Width= 0.80'

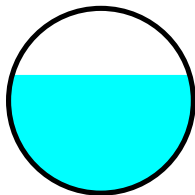
Bank-Full Depth= 0.83' Flow Area= 0.5 sf, Capacity= 4.61 cfs

10.0" Round Pipe

n= 0.010 PVC, smooth interior

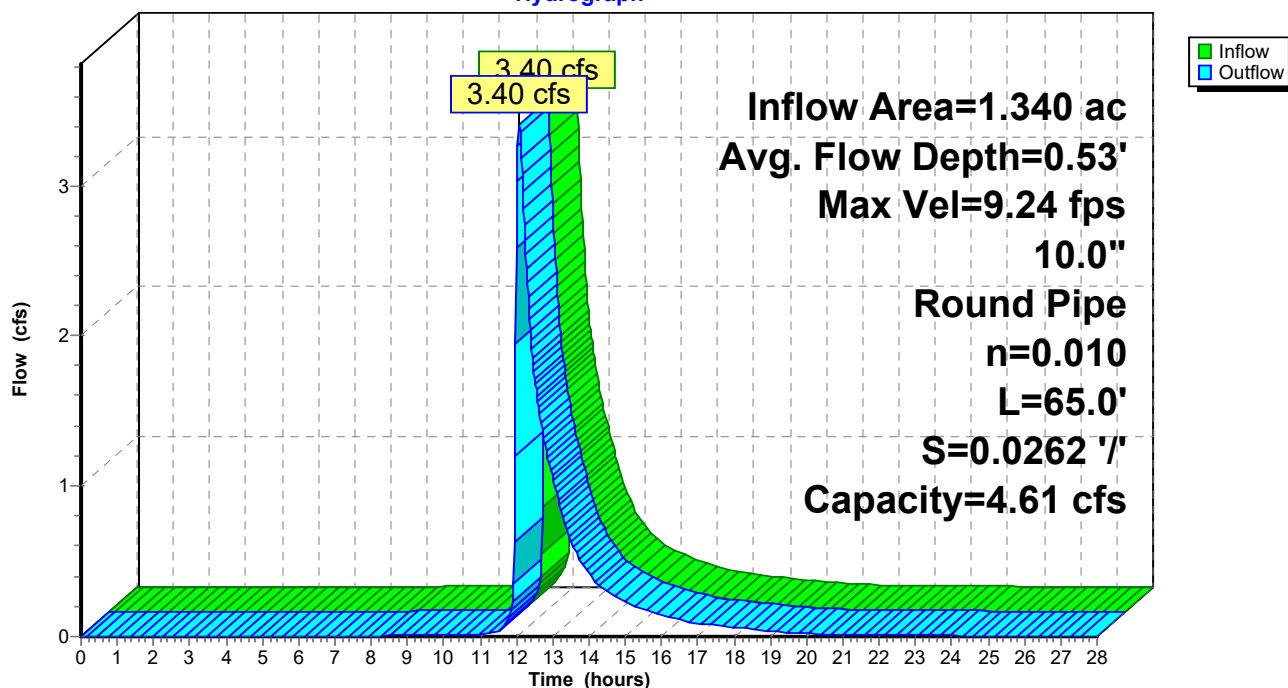
Length= 65.0' Slope= 0.0262 '/

Inlet Invert= 52.40', Outlet Invert= 50.70'



Reach 6R: 10" ADS(CB2R)

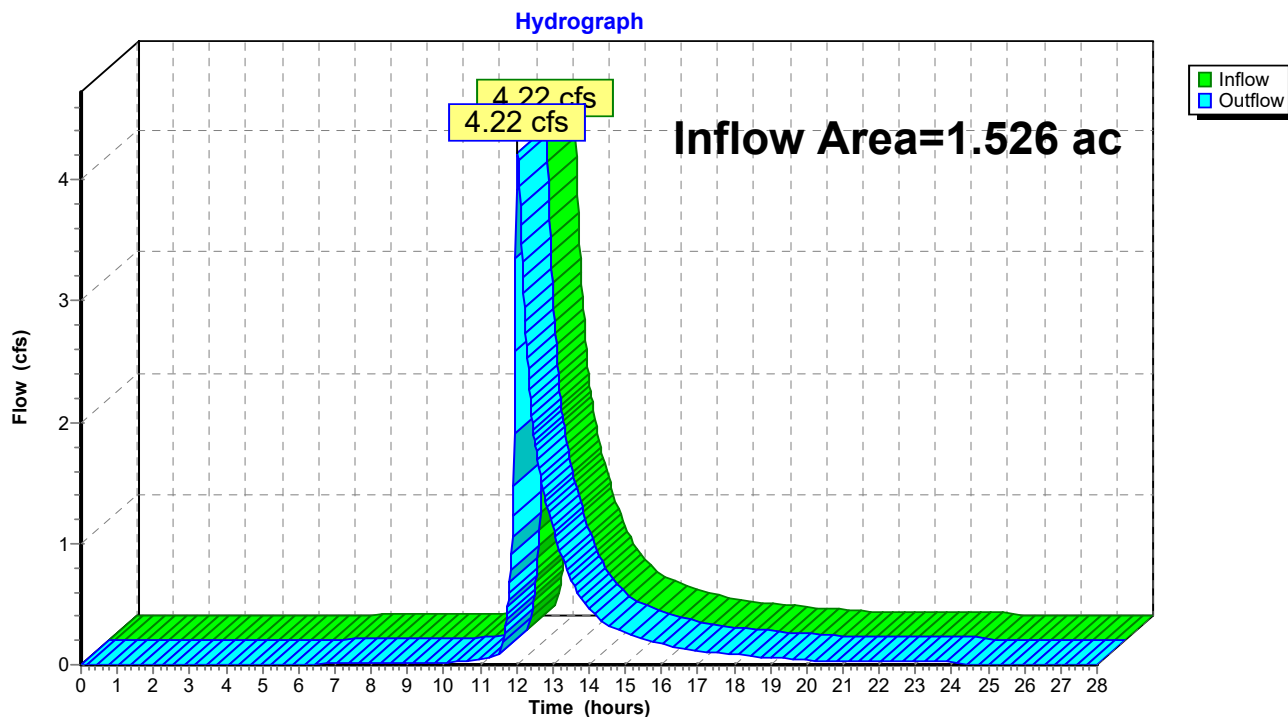
Hydrograph



Summary for Reach 7R: Total Offsite

Inflow Area = 1.526 ac, 60.57% Impervious, Inflow Depth = 2.90" for 100 Yr event
Inflow = 4.22 cfs @ 12.03 hrs, Volume= 0.369 af
Outflow = 4.22 cfs @ 12.03 hrs, Volume= 0.369 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs

Reach 7R: Total Offsite

Summary for Pond P1: N Infil

Inflow Area = 0.736 ac, 87.13% Impervious, Inflow Depth = 7.94" for 100 Yr event
 Inflow = 8.91 cfs @ 11.97 hrs, Volume= 0.487 af
 Outflow = 1.46 cfs @ 12.16 hrs, Volume= 0.391 af, Atten= 84%, Lag= 11.7 min
 Discarded = 0.12 cfs @ 11.68 hrs, Volume= 0.221 af
 Primary = 1.34 cfs @ 12.16 hrs, Volume= 0.170 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
 Peak Elev= 60.05' @ 12.16 hrs Surf.Area= 5,118 sf Storage= 10,084 cf
 Flood Elev= 60.70' Surf.Area= 5,118 sf Storage= 10,497 cf

Plug-Flow detention time= 239.8 min calculated for 0.391 af (80% of inflow)
 Center-of-Mass det. time= 158.2 min (910.8 - 752.6)

Volume	Invert	Avail.Storage	Storage Description
#1	56.50'	4,182 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 17,602 cf Overall - 7,148 cf Embedded = 10,454 cf x 40.0% Voids
#2	57.25'	6,316 cf	ISI Rainstore3 8 x 253 Inside #1 Inside= 39.4"W x 31.5"H => 8.09 sf x 3.28'L = 26.6 cf Outside= 39.4"W x 31.5"H => 8.61 sf x 3.28'L = 28.3 cf 7,148 cf Overall x 94.0% Voids
		10,497 cf	Total Available Storage

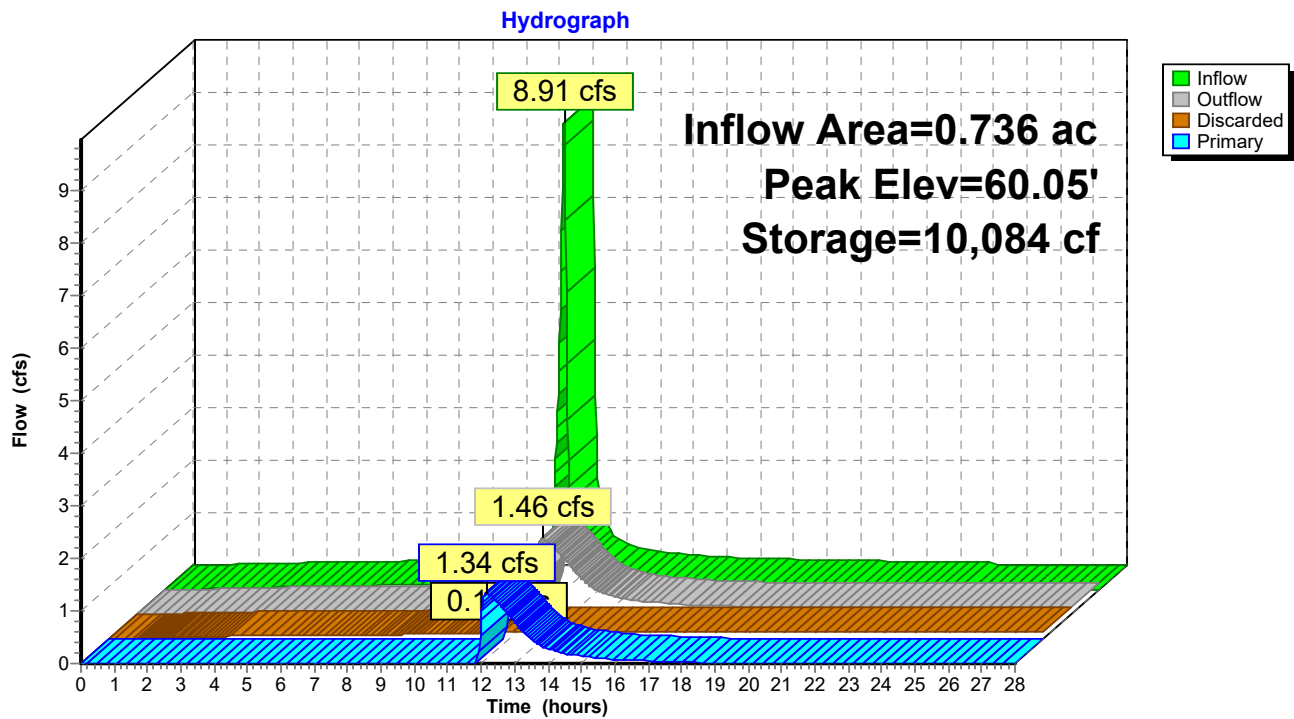
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.50	2,031	0	0
57.00	3,858	1,472	1,472
57.80	5,118	3,590	5,063
60.25	5,118	12,539	17,602

Device	Routing	Invert	Outlet Devices
#1	Discarded	56.50'	1.020 in/hr Exfiltration over Surface area
#2	Primary	58.90'	8.0" Round Culvert L= 69.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 58.90' / 54.90' S= 0.0580 ' / ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.12 cfs @ 11.68 hrs HW=57.81' (Free Discharge)
 ↑ **1=Exfiltration** (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=1.34 cfs @ 12.16 hrs HW=60.05' (Free Discharge)
 ↑ **2=Culvert** (Inlet Controls 1.34 cfs @ 3.83 fps)

Pond P1: N Infilt



Summary for Pond P2: W Infil

Inflow Area = 0.129 ac, 78.63% Impervious, Inflow Depth = 7.89" for 100 Yr event
 Inflow = 1.61 cfs @ 11.97 hrs, Volume= 0.085 af
 Outflow = 0.80 cfs @ 12.06 hrs, Volume= 0.071 af, Atten= 51%, Lag= 5.6 min
 Discarded = 0.02 cfs @ 8.68 hrs, Volume= 0.041 af
 Primary = 0.77 cfs @ 12.06 hrs, Volume= 0.030 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
 Peak Elev= 58.35' @ 12.06 hrs Surf.Area= 947 sf Storage= 1,480 cf

Plug-Flow detention time= 213.1 min calculated for 0.071 af (84% of inflow)
 Center-of-Mass det. time= 141.6 min (910.3 - 768.7)

Volume	Invert	Avail.Storage	Storage Description
#1	56.00'	619 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 2,841 cf Overall - 1,293 cf Embedded = 1,548 cf x 40.0% Voids
#2	56.50'	1,142 cf	ISI Rainstore3 6 x 61 Inside #1 Inside= 39.4"W x 23.6"H => 6.07 sf x 3.28'L = 19.9 cf Outside= 39.4"W x 23.6"H => 6.46 sf x 3.28'L = 21.2 cf 1,293 cf Overall x 94.0% Voids
		1,761 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.00	947	0	0
59.00	947	2,841	2,841

Device	Routing	Invert	Outlet Devices
#1	Discarded	56.00'	1.020 in/hr Exfiltration over Horizontal area
#2	Primary	57.75'	8.0" Round Culvert L= 25.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 57.75' / 55.70' S= 0.0820 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

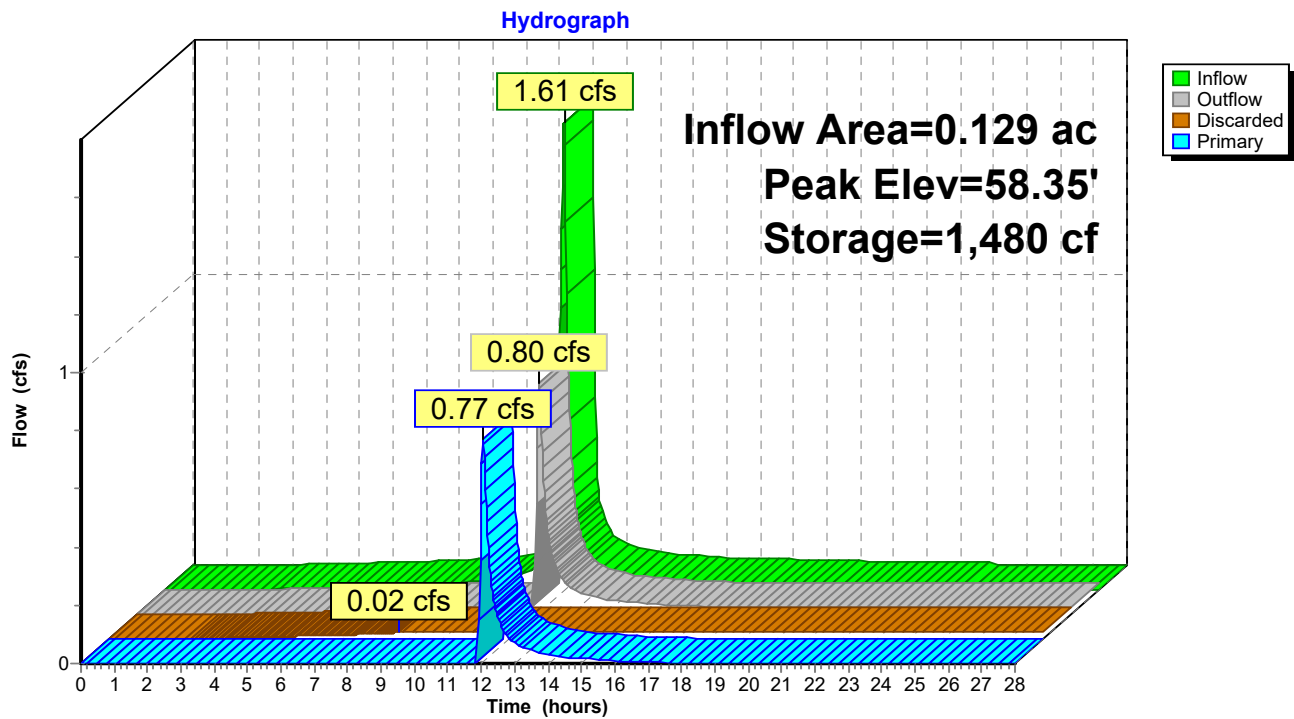
Discarded OutFlow Max=0.02 cfs @ 8.68 hrs HW=56.03' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.78 cfs @ 12.06 hrs HW=58.35' (Free Discharge)

↑**2=Culvert** (Inlet Controls 0.78 cfs @ 2.33 fps)

Pond P2: W Infil



Summary for Pond P3: E Infil

Inflow Area = 0.450 ac, 27.76% Impervious, Inflow Depth = 3.44" for 100 Yr event
 Inflow = 2.76 cfs @ 11.98 hrs, Volume= 0.129 af
 Outflow = 1.32 cfs @ 12.07 hrs, Volume= 0.120 af, Atten= 52%, Lag= 5.5 min
 Discarded = 0.03 cfs @ 11.16 hrs, Volume= 0.037 af
 Primary = 1.29 cfs @ 12.07 hrs, Volume= 0.083 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.02 hrs
 Peak Elev= 59.09' @ 12.07 hrs Surf.Area= 1,103 sf Storage= 1,613 cf

Plug-Flow detention time= 118.6 min calculated for 0.120 af (93% of inflow)
 Center-of-Mass det. time= 81.3 min (930.4 - 849.2)

Volume	Invert	Avail.Storage	Storage Description
#1	57.00'	382 cf	Custom Stage Data (Prismatic) Listed below (Recalc) 2,482 cf Overall - 1,526 cf Embedded = 956 cf x 40.0% Voids
#2	57.25'	1,348 cf	ISI Rainstore3 6 x 72 Inside #1 Inside= 39.4"W x 23.6"H => 6.07 sf x 3.28'L = 19.9 cf Outside= 39.4"W x 23.6"H => 6.46 sf x 3.28'L = 21.2 cf 1,526 cf Overall x 94.0% Voids
		1,730 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
57.00	1,103	0	0
59.25	1,103	2,482	2,482

Device	Routing	Invert	Outlet Devices
#1	Discarded	57.00'	1.020 in/hr Exfiltration over Horizontal area
#2	Primary	58.00'	8.0" Round Culvert L= 88.0' CMP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 58.00' / 55.50' S= 0.0284 ' / ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.03 cfs @ 11.16 hrs HW=57.02' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=1.29 cfs @ 12.07 hrs HW=59.09' (Free Discharge)

↑**2=Culvert** (Inlet Controls 1.29 cfs @ 3.69 fps)

Pond P3: E Infil

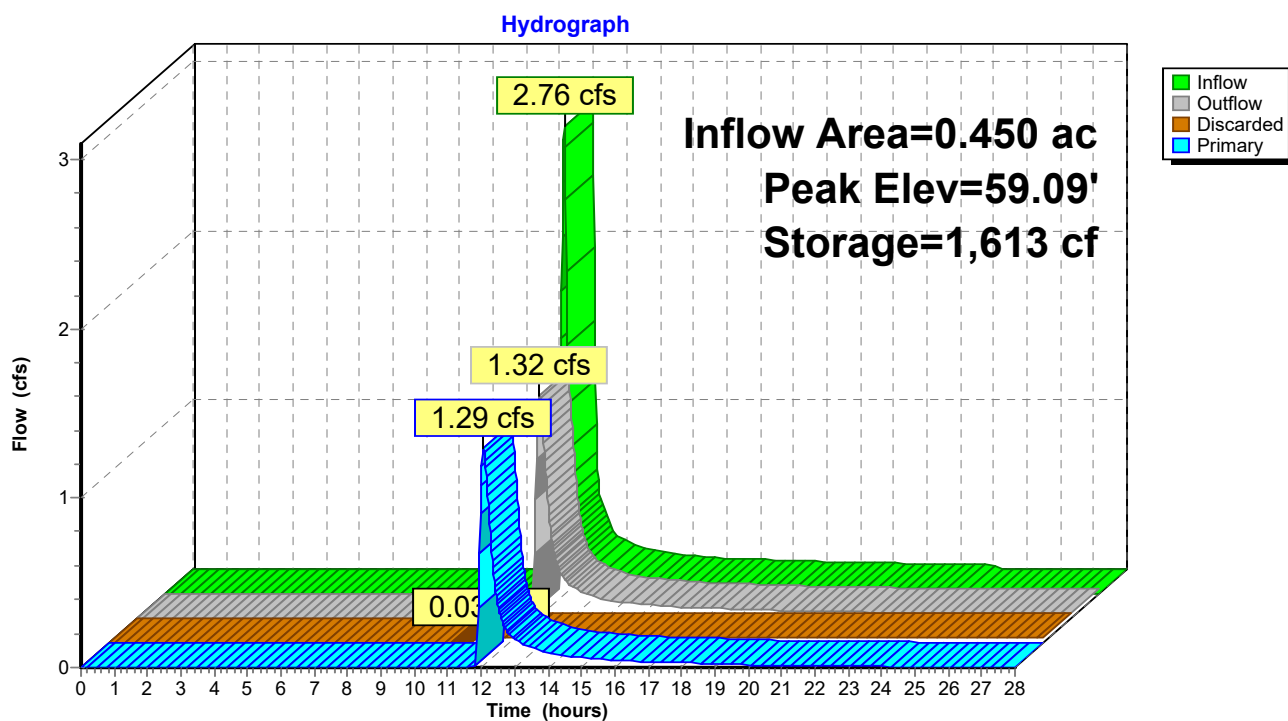


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Byfield 23 Central Post rev3

Prepared by A Guba P.E.

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Printed 12/21/2020

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