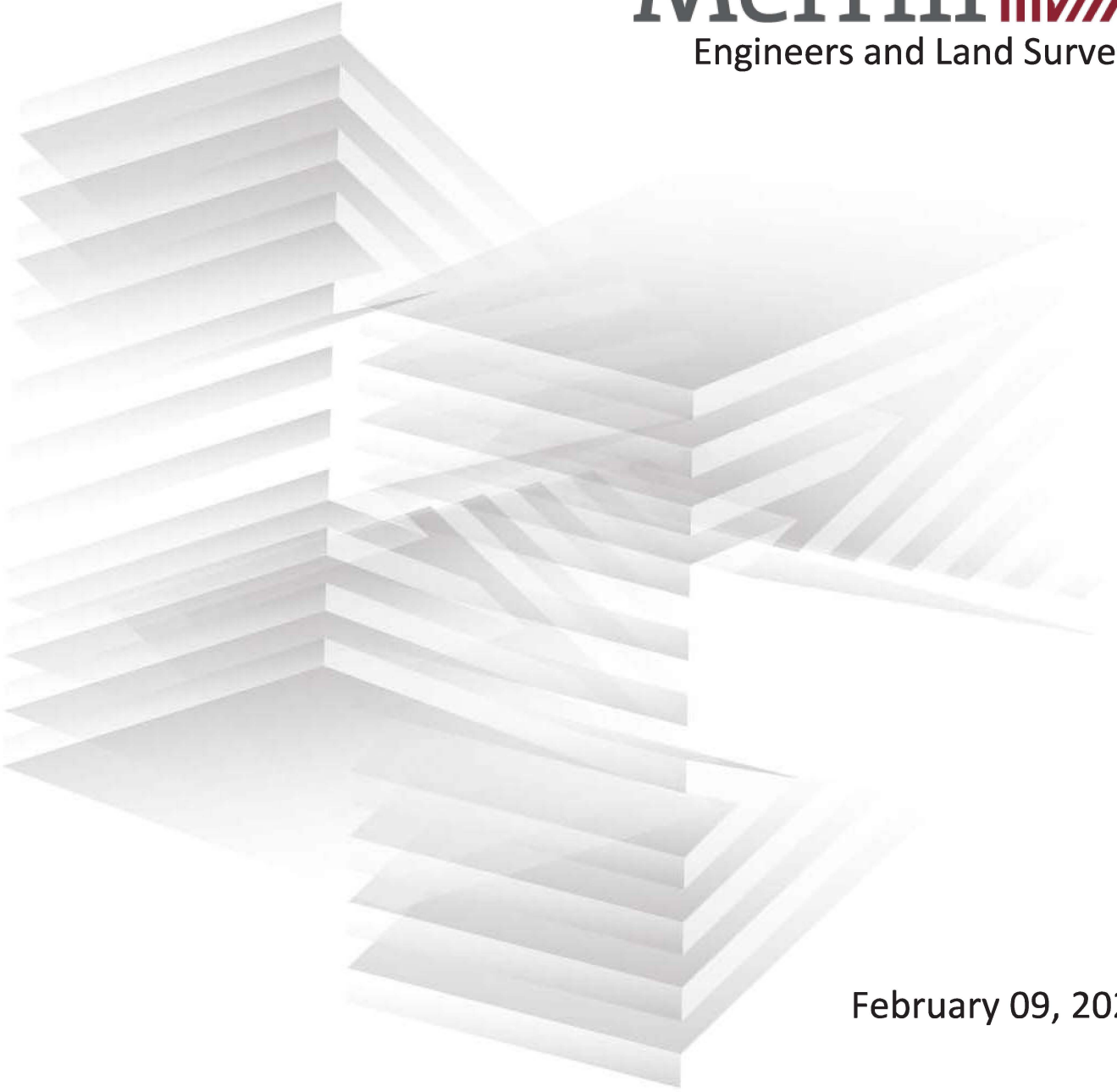




February 09, 2024

Stormwater Management Report

Town of Hanover

#2053, 2055, 2057 & 2103 Washington Street

Supplemental Stormwater Report

Updated Pre- and Post- Drainage Models

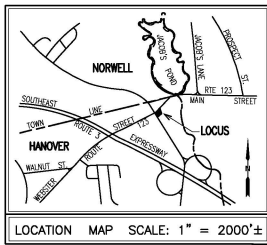
The existing watershed data has been updated to account for more wooded area along the easterly property lines. The proposed subsurface chamber systems within the Post-development drainage model were adjusted to use the conductivity method and associated groundwater. The following is an updated summary of pre- and post-contruction rates of runoff:

	Peak Rates of Runoff	
	Design point 1 (DP-1)	
	EXISTING (cfs)	PROPOSED (cfs)
2-YR	2.30	0.04
10-YR	3.79	0.15
25-YR	4.93	0.25
100-YR	7.23	0.48

Appendix A

Existing Conditions

2, 10, 25 and 100-year return storms



EXISTING WATERSHED DATA

TOTAL SUBCATCHMENT AREA= 38,749 SF±

TOTAL IMPERVIOUS AREA=30,861 SF±

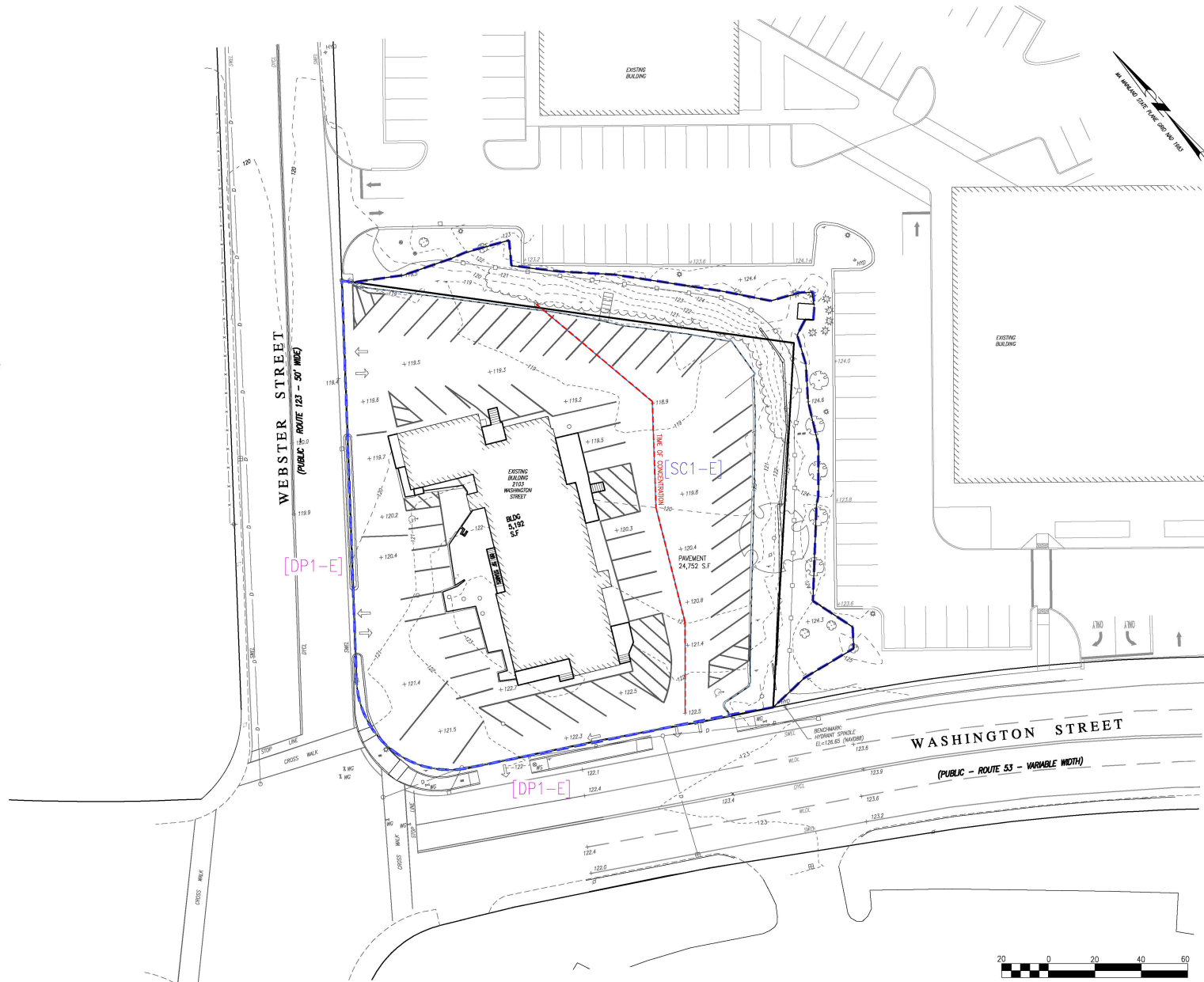
SUBCATCHMENT 1 [SC1-E]

BLOC AREA= 5,192 SF
PAVEMENT= 24,752 SF
OTHER IMPERVIOUS (DECK, PORCH, ETC) = 1,017 SF
TOTAL IMPERVIOUS = 5,192 SF + 24,752 SF + 1,017 SF = 30,961 SF
LAWN (0000)= 923 SF + 7,739 SF + 42 SF + 84 SF = 8,788 SF

DESIGN POINT 1 [DP1-E]

REMOVES ALL FLOW FROM SUBCATCHMENT 1 AT WASHINGTON STREET AND WEBSTER STREET ADJUTING AREAS.

- = LIMIT OF WATERSHED AREA
- = TIME OF CONCENTRATION PATH



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REVISIONS:

DRAWN BY: NC

DESIGNED BY: DMK

CHECKED BY: DMK

SCALE: 1" = 20'

STAMP:



Engineers and Land Surveyors
437 Columbia Road
Norwell, MA 02061
781-825-9200

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Plymouth, MA 02360
508-748-6060

448 N. Falmouth Highway
North Falmouth, MA 02556
508-563-2181

Marble Division:
26 Union Street
Plymouth, MA 02360
508-748-6060

PROJECT #

22-168

PROJECT:

DEFINITIVE

SITE PLAN

2053, 2055, 2057 & 2103

WASHINGTON STREET

HANOVER, MASSACHUSETTS

CLIENT:

2103 WASHINGTON ST LLC

552 ADAMS STREET

MILTON, MA 02168

(781) 982-1144

DRAWING DATE:

11/15/2023 (11/15/2023) (11/15/2023) (11/15/2023)

DATE:

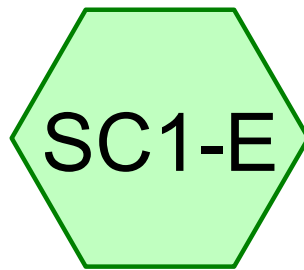
OCTOBER 16, 2023

EXISTING

SUBCATCHMENT

PLAN

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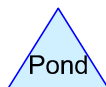
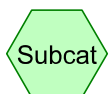


SC1-E



DP1-E

DP1-E



existing sw subcatchmentrev

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.107	61	>75% Grass cover, Good, HSG B (SC1-E)
0.095	55	Woods, Good, HSG B (SC1-E)
0.711	98	all impervious surfaces (SC1-E)
0.913	89	TOTAL AREA

existing sw subcatchmentrev

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Type III 24-hr 2 year Rainfall=3.35"

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Page 3

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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 SC1-E: SC1-E

Runoff Area=39,749 sf 77.89% Impervious Runoff Depth=2.22"

Flow Length=201' Tc=6.0 min CN=89 Runoff=2.30 cfs 0.169 af

Reach DP1-E: DP1-E

Inflow=2.30 cfs 0.169 af

Outflow=2.30 cfs 0.169 af

Total Runoff Area = 0.913 ac Runoff Volume = 0.169 af Average Runoff Depth = 2.22"
22.11% Pervious = 0.202 ac 77.89% Impervious = 0.711 ac

existing sw subcatchmentrev

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Type III 24-hr 2 year Rainfall=3.35"

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Page 4

Summary for Subcatchment SC1-E: SC1-E

Runoff = 2.30 cfs @ 12.09 hrs, Volume= 0.169 af, Depth= 2.22"
Routed to Reach DP1-E : DP1-E

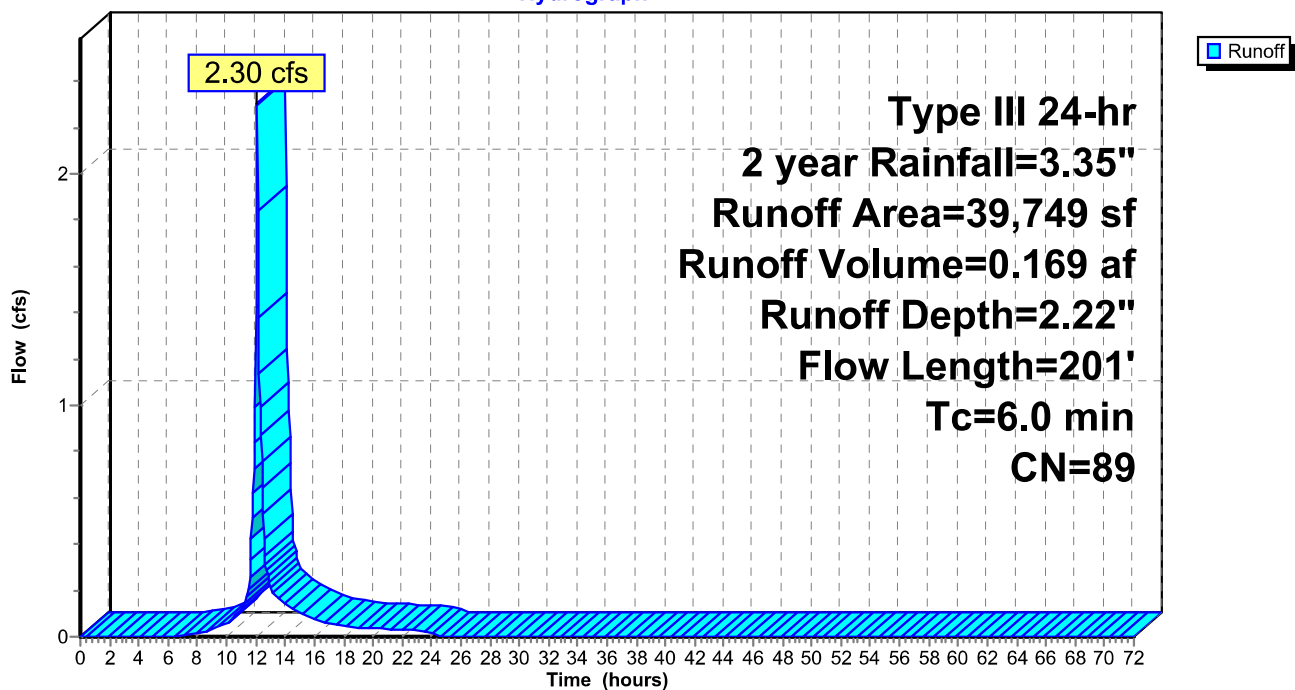
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Rainfall=3.35"

	Area (sf)	CN	Description
*	30,961	98	all impervious surfaces
	4,671	61	>75% Grass cover, Good, HSG B
	4,117	55	Woods, Good, HSG B
	39,749	89	Weighted Average
	8,788		22.11% Pervious Area
	30,961		77.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0340	1.51		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.35"
1.1	151	0.0120	2.22		Shallow Concentrated Flow, Paved Kv= 20.3 fps
1.7	201	Total, Increased to minimum Tc = 6.0 min			

Subcatchment SC1-E: SC1-E

Hydrograph



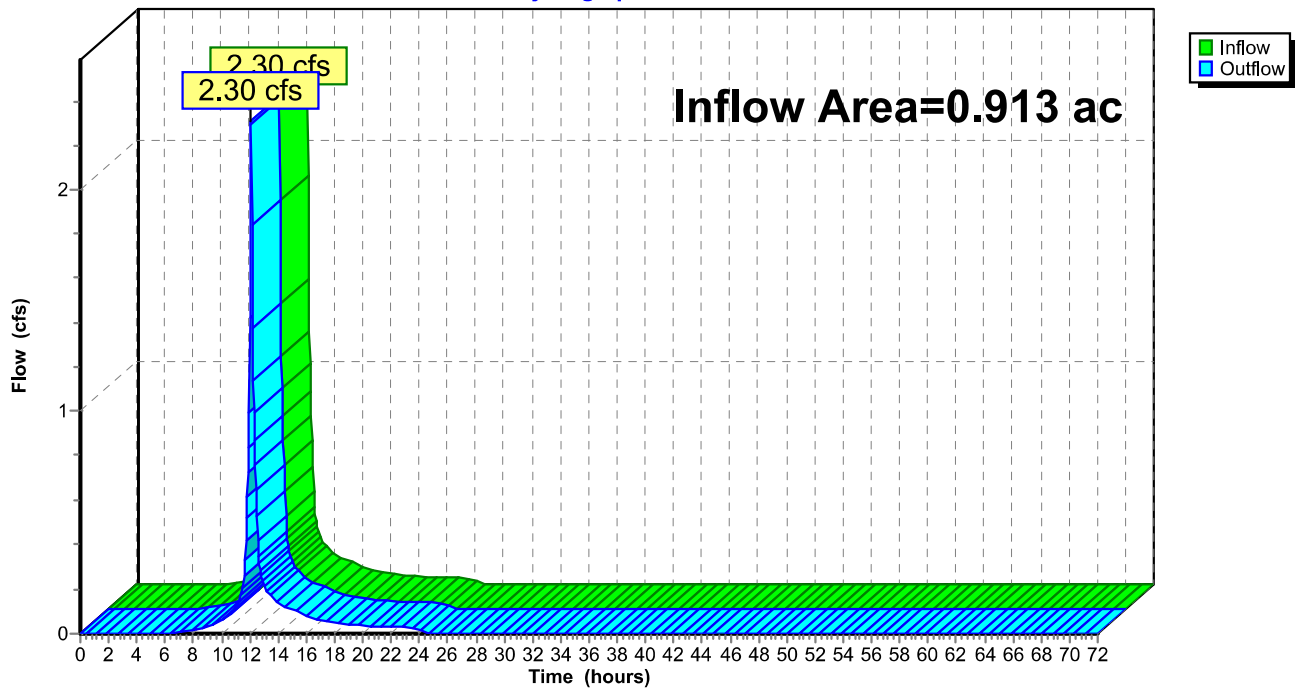
Summary for Reach DP1-E: DP1-E

Inflow Area = 0.913 ac, 77.89% Impervious, Inflow Depth = 2.22" for 2 year event
Inflow = 2.30 cfs @ 12.09 hrs, Volume= 0.169 af
Outflow = 2.30 cfs @ 12.09 hrs, Volume= 0.169 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach DP1-E: DP1-E

Hydrograph



existing sw subcatchmentrev

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Type III 24-hr 10 year Rainfall=4.95"

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Page 6

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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 SC1-E: SC1-E

Runoff Area=39,749 sf 77.89% Impervious Runoff Depth=3.72"

Flow Length=201' Tc=6.0 min CN=89 Runoff=3.79 cfs 0.283 af

Reach DP1-E: DP1-E

Inflow=3.79 cfs 0.283 af

Outflow=3.79 cfs 0.283 af

Total Runoff Area = 0.913 ac Runoff Volume = 0.283 af Average Runoff Depth = 3.72"
22.11% Pervious = 0.202 ac 77.89% Impervious = 0.711 ac

existing sw subcatchmentrev

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Type III 24-hr 10 year Rainfall=4.95"

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Page 7

Summary for Subcatchment SC1-E: SC1-E

Runoff = 3.79 cfs @ 12.09 hrs, Volume= 0.283 af, Depth= 3.72"
Routed to Reach DP1-E : DP1-E

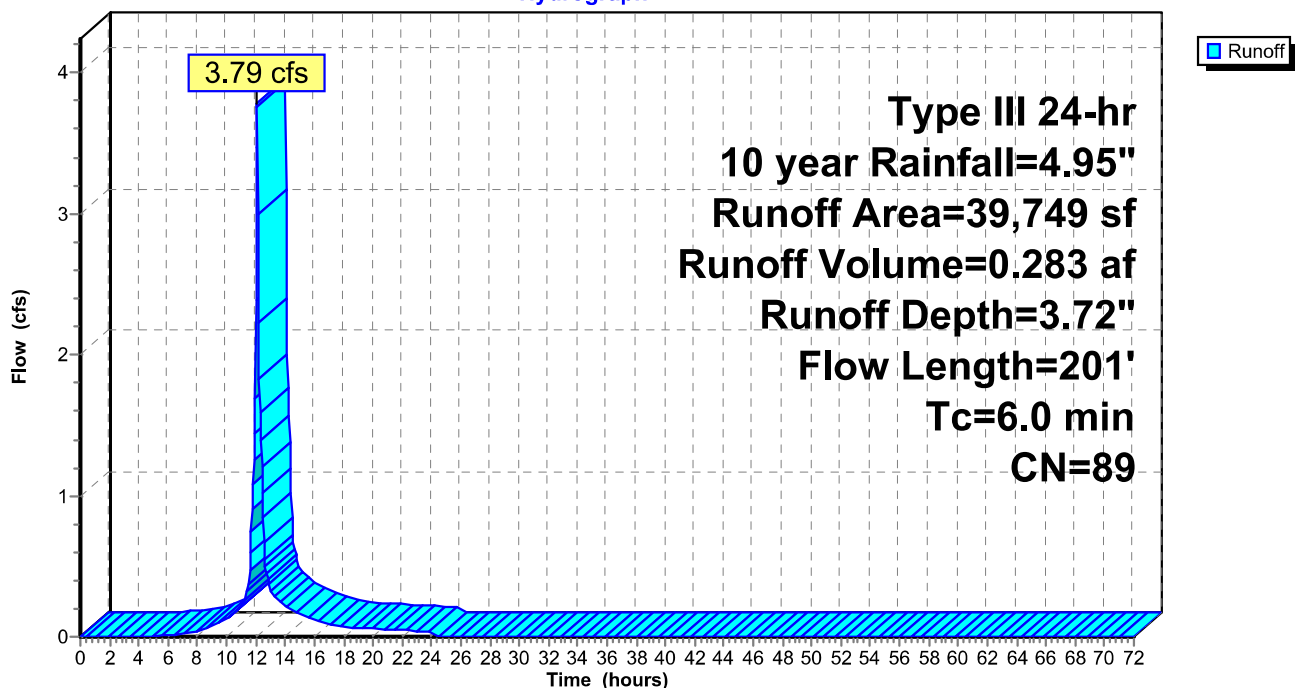
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=4.95"

	Area (sf)	CN	Description
*	30,961	98	all impervious surfaces
	4,671	61	>75% Grass cover, Good, HSG B
	4,117	55	Woods, Good, HSG B
	39,749	89	Weighted Average
	8,788		22.11% Pervious Area
	30,961		77.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0340	1.51		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.35"
1.1	151	0.0120	2.22		Shallow Concentrated Flow, Paved Kv= 20.3 fps
1.7	201	Total, Increased to minimum Tc = 6.0 min			

Subcatchment SC1-E: SC1-E

Hydrograph



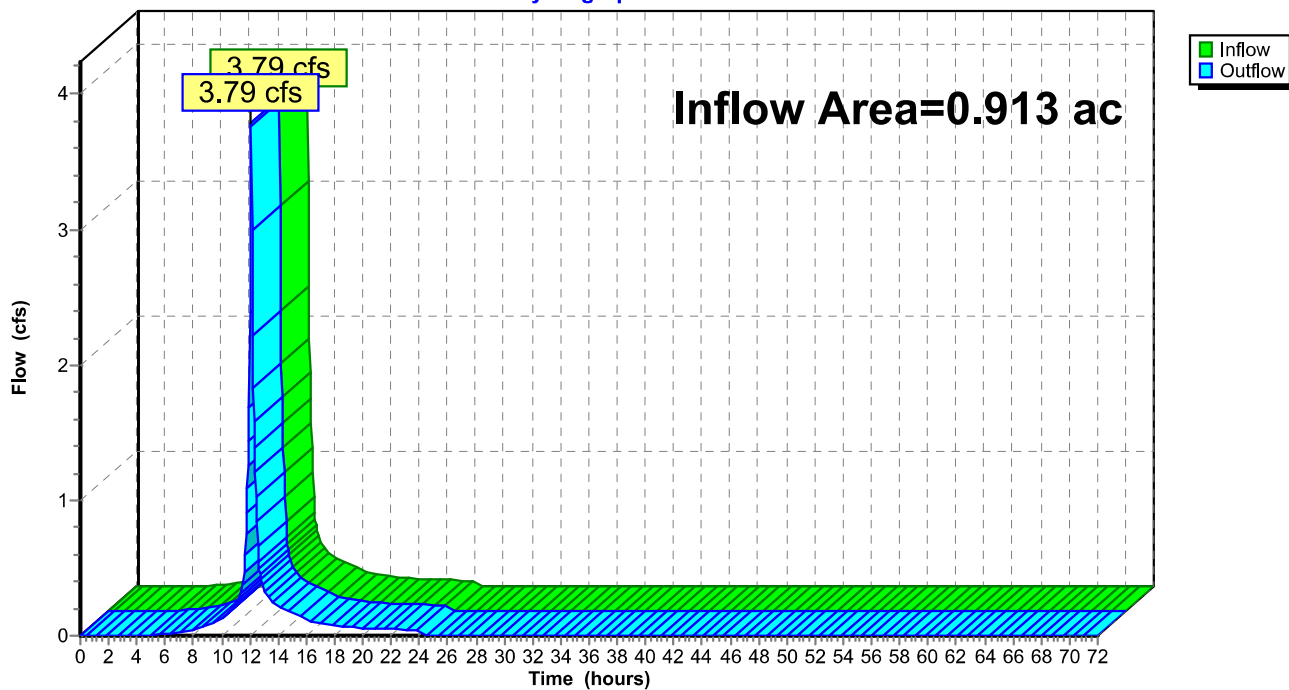
Summary for Reach DP1-E: DP1-E

Inflow Area = 0.913 ac, 77.89% Impervious, Inflow Depth = 3.72" for 10 year event
Inflow = 3.79 cfs @ 12.09 hrs, Volume= 0.283 af
Outflow = 3.79 cfs @ 12.09 hrs, Volume= 0.283 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach DP1-E: DP1-E

Hydrograph



existing sw subcatchmentrev

Type III 24-hr 25 year Rainfall=6.19"

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Page 9

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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 SC1-E: SC1-E

Runoff Area=39,749 sf 77.89% Impervious Runoff Depth=4.92"

Flow Length=201' Tc=6.0 min CN=89 Runoff=4.93 cfs 0.374 af

Reach DP1-E: DP1-E

Inflow=4.93 cfs 0.374 af

Outflow=4.93 cfs 0.374 af

Total Runoff Area = 0.913 ac Runoff Volume = 0.374 af Average Runoff Depth = 4.92"
22.11% Pervious = 0.202 ac 77.89% Impervious = 0.711 ac

existing sw subcatchmentrev

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Type III 24-hr 25 year Rainfall=6.19"

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Summary for Subcatchment SC1-E: SC1-E

Runoff = 4.93 cfs @ 12.09 hrs, Volume= 0.374 af, Depth= 4.92"
Routed to Reach DP1-E : DP1-E

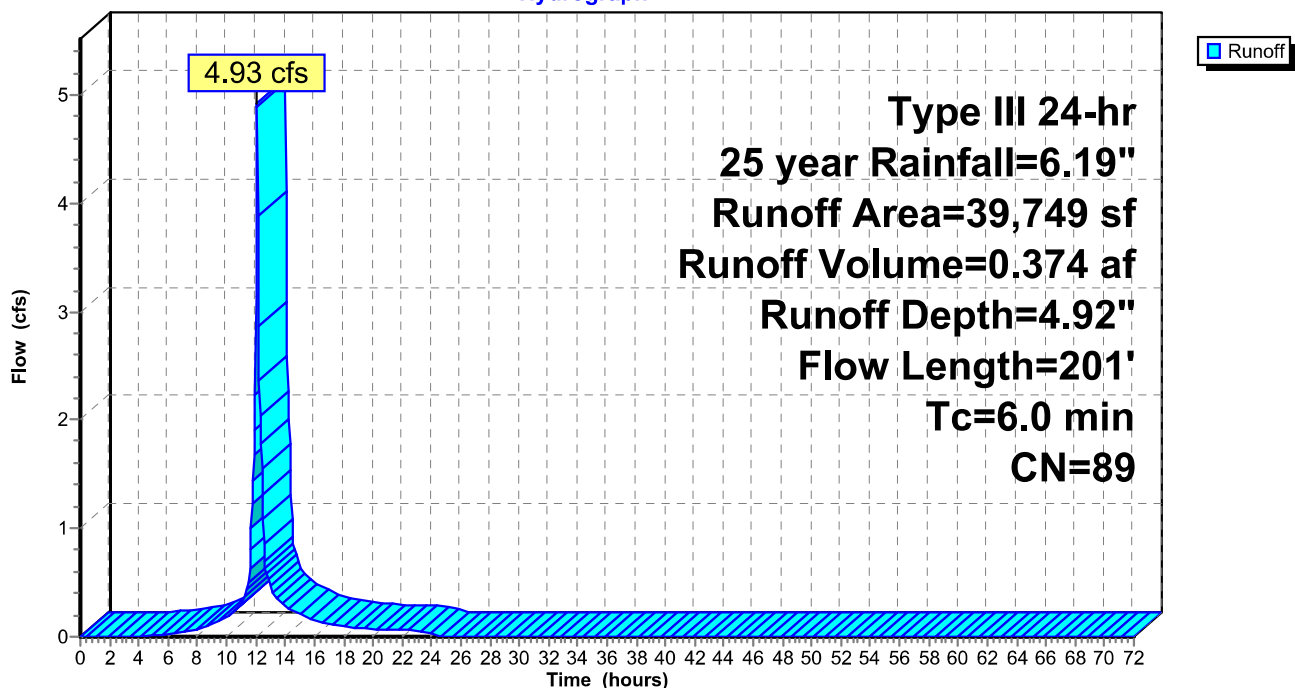
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=6.19"

	Area (sf)	CN	Description
*	30,961	98	all impervious surfaces
	4,671	61	>75% Grass cover, Good, HSG B
	4,117	55	Woods, Good, HSG B
	39,749	89	Weighted Average
	8,788		22.11% Pervious Area
	30,961		77.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0340	1.51		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.35"
1.1	151	0.0120	2.22		Shallow Concentrated Flow, Paved Kv= 20.3 fps
1.7	201	Total, Increased to minimum Tc = 6.0 min			

Subcatchment SC1-E: SC1-E

Hydrograph



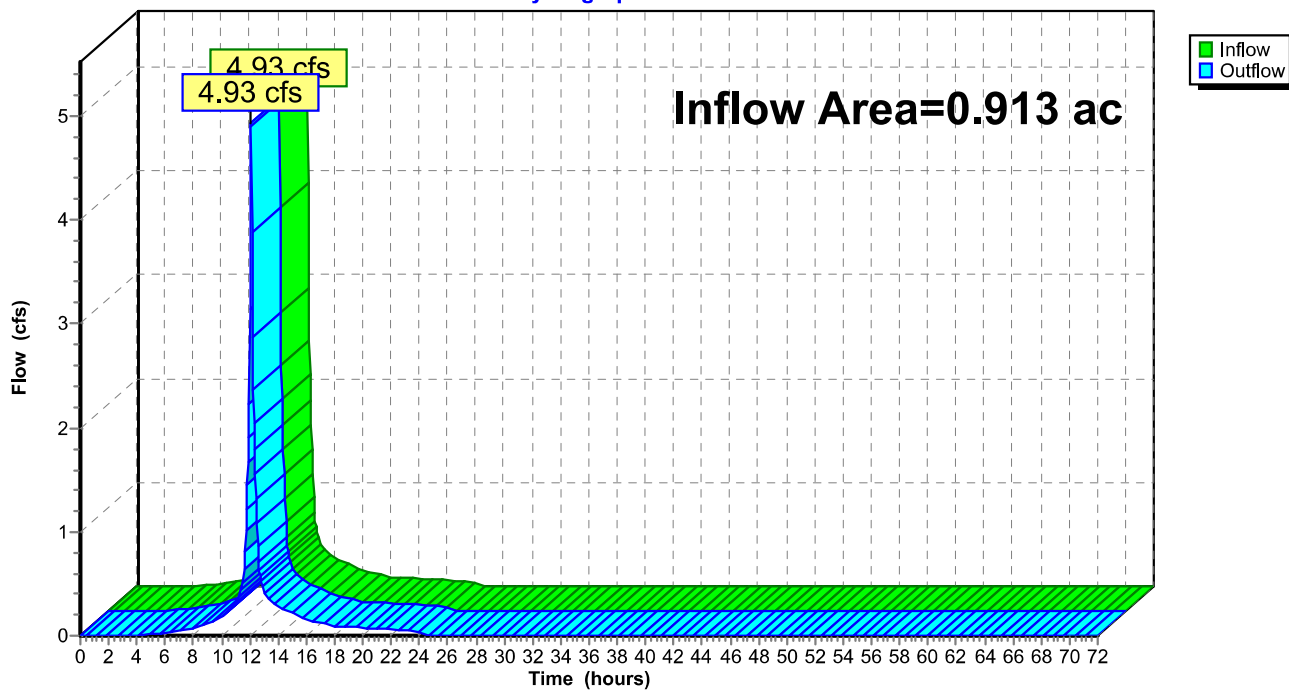
Summary for Reach DP1-E: DP1-E

Inflow Area = 0.913 ac, 77.89% Impervious, Inflow Depth = 4.92" for 25 year event
Inflow = 4.93 cfs @ 12.09 hrs, Volume= 0.374 af
Outflow = 4.93 cfs @ 12.09 hrs, Volume= 0.374 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach DP1-E: DP1-E

Hydrograph



existing sw subcatchmentrev

Type III 24-hr 100 year Rainfall=8.71"

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Page 12

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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 SC1-E: SC1-E

Runoff Area=39,749 sf 77.89% Impervious Runoff Depth=7.38"

Flow Length=201' Tc=6.0 min CN=89 Runoff=7.23 cfs 0.562 af

Reach DP1-E: DP1-E

Inflow=7.23 cfs 0.562 af

Outflow=7.23 cfs 0.562 af

Total Runoff Area = 0.913 ac Runoff Volume = 0.562 af Average Runoff Depth = 7.38"
22.11% Pervious = 0.202 ac 77.89% Impervious = 0.711 ac

existing sw subcatchmentrev

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Type III 24-hr 100 year Rainfall=8.71"

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Page 13

Summary for Subcatchment SC1-E: SC1-E

Runoff = 7.23 cfs @ 12.09 hrs, Volume= 0.562 af, Depth= 7.38"
Routed to Reach DP1-E : DP1-E

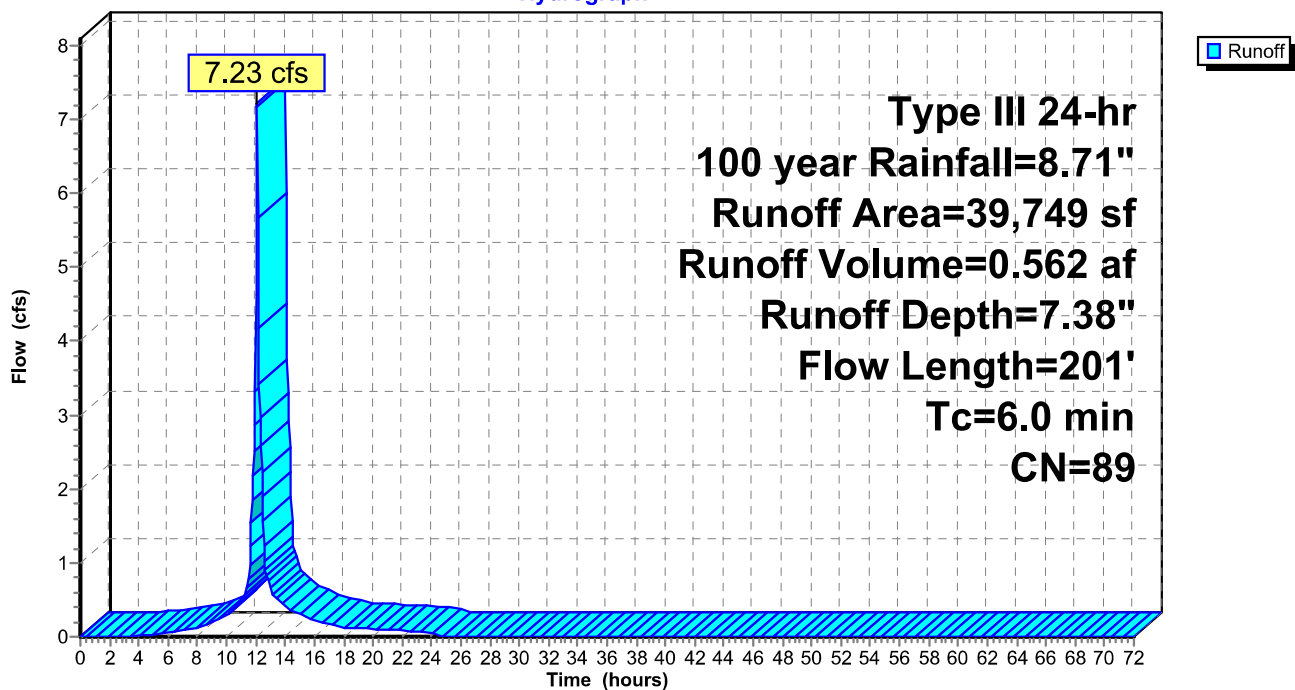
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.71"

	Area (sf)	CN	Description
*	30,961	98	all impervious surfaces
	4,671	61	>75% Grass cover, Good, HSG B
	4,117	55	Woods, Good, HSG B
	39,749	89	Weighted Average
	8,788		22.11% Pervious Area
	30,961		77.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.6	50	0.0340	1.51		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.35"
1.1	151	0.0120	2.22		Shallow Concentrated Flow, Paved Kv= 20.3 fps
1.7	201	Total, Increased to minimum Tc = 6.0 min			

Subcatchment SC1-E: SC1-E

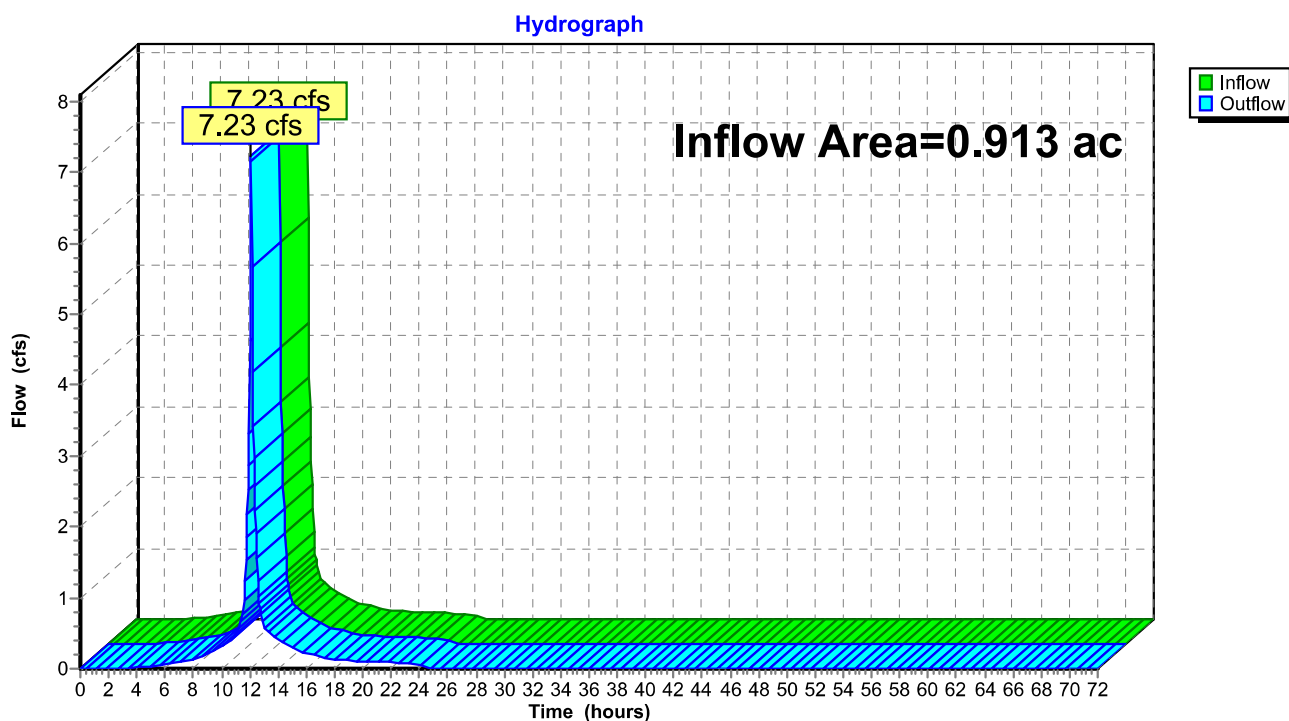
Hydrograph



Summary for Reach DP1-E: DP1-E

Inflow Area = 0.913 ac, 77.89% Impervious, Inflow Depth = 7.38" for 100 year event
Inflow = 7.23 cfs @ 12.09 hrs, Volume= 0.562 af
Outflow = 7.23 cfs @ 12.09 hrs, Volume= 0.562 af, Atten= 0%, Lag= 0.0 min

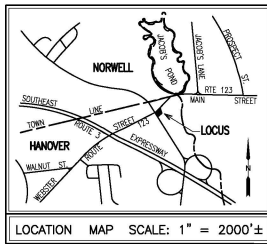
Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach DP1-E: DP1-E

Appendix B

Proposed Conditions

2, 10, 25 and 100-year return storms



PROPOSED WATERSHED DATA

TOTAL SITE CATCHMENT AREA = 39,878 SF±
 PROPOSED INCREASE IN SITE SUBCATCH AREA =
 39,878 SF - 39,749 SF = 129 SF±

TOTAL IMPERVIOUS AREA = 31,960 SF±
 PROPOSED INCREASE IN IMPERVIOUS AREA =
 32,392 SF - 30,961 SF = 1,431 SF±

SUBCATCHMENT 1 AREA [SC-1] = 12,886 SF±

BLDG AREA= 3,750 SF (ROOF DRAIN)
 PAVEMENT AREA= 6,381 SF
 OTHER IMPERVIOUS= 820 SF + 167 = 987 SF
 TOTAL IMPERVIOUS AREA= 3,750 SF + 6,381 SF + 987 SF = 11,118 SF
 LAWN (2000)= 512 SF + 184 SF + 11 SF + 871 SF = 1,578 SF

SUBCATCHMENT 2 AREA [SC-2] = 6,329 SF±

BLDG AREA= 0 SF
 PAVEMENT AREA= 4,872 SF
 OTHER IMPERVIOUS= 405 SF + 303 SF = 708 SF
 TOTAL IMPERVIOUS AREA= 4,872 SF + 708 SF = 5,580 SF
 LAWN (2000)= 114 SF + 635 SF = 749 SF

SUBCATCHMENT 3 AREA [SC-3] = 7,984 SF±

BLDG AREA= 0 SF
 PAVEMENT AREA= 6,031 SF
 OTHER IMPERVIOUS AREA= 401 SF + 784 SF = 1,185 SF
 TOTAL IMPERVIOUS AREA= 6,031 SF + 1,185 SF = 7,216 SF
 LAWN (2000)= 708 SF + 40 SF = 748 SF

SUBCATCHMENT 4 AREA [SC-4] = 8,981 SF±

BLDG AREA= 3,750 SF (ROOF DRAIN)
 PAVEMENT AREA= 4,341 SF
 OTHER IMPERVIOUS AREA= 97 SF + 290 SF = 387 SF
 TOTAL IMPERVIOUS AREA= 3,750 SF + 4,341 SF + 387 SF = 8,478 SF
 LAWN (2000)= 46 SF + 82 SF + 212 SF + 163 SF = 503 SF

SUBCATCHMENT 5 AREA [SC-5] = 2,137 SF±

LAWN (2000) = 1,122 SF + 1,015 SF = 2,137 SF

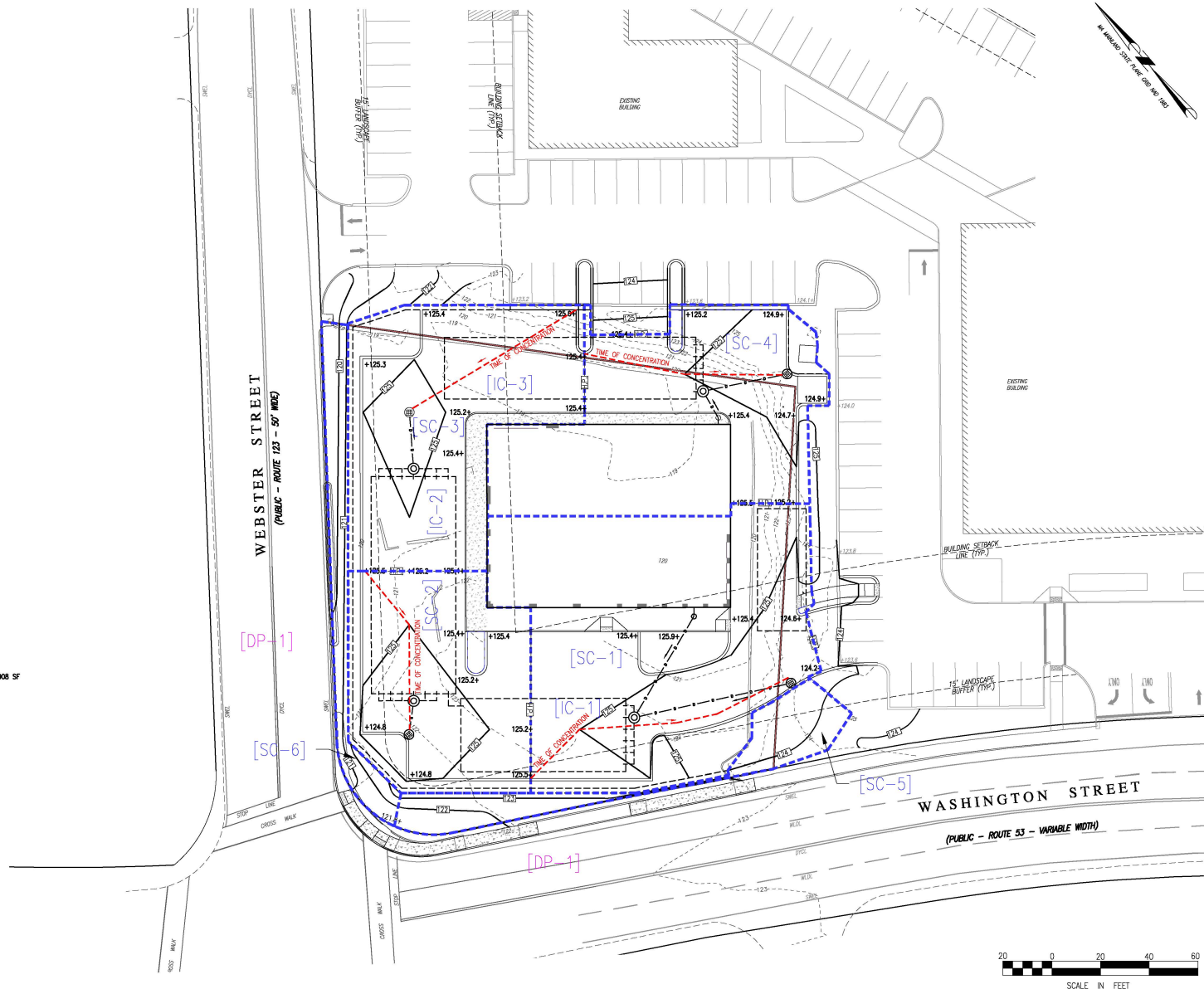
SUBCATCHMENT 6 AREA [SC-6] = 1,771 SF±

LAWN (2000) = 1,771 SF

DESIGN POINT 1 [DP-1] RECEIVES FLOW FROM SC-5, SC-6 = 3,908 SF

ALL LAWN AREA

- LIMIT OF WATERSHED AREA
- TIME OF CONCENTRATION PATH



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REVISIONS:

DRAWN BY: NC

DESIGNED BY: DMK

CHECKED BY: DMK

SCALE: 1" = 20'

STAMP:



Robert W. Keller



Engineers and Land Surveyors
 437 Columbia Road
 Hanover, MA 02339
 781-826-9200

40 Court Street, Suite 2A
 Plymouth, MA 02360
 508-748-6860

448 N. Falmouth Highway
 North Falmouth, MA 02556
 508-563-2181

Martha Division
 26 Union Street
 Plymouth, MA 02360
 508-748-6860

PROJECT #

22-168

PROJECT:

**DEFINITIVE
 SITE PLAN**

2053, 2055, 2057 & 2103
 WASHINGTON STREET
 HANOVER, MASSACHUSETTS

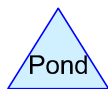
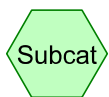
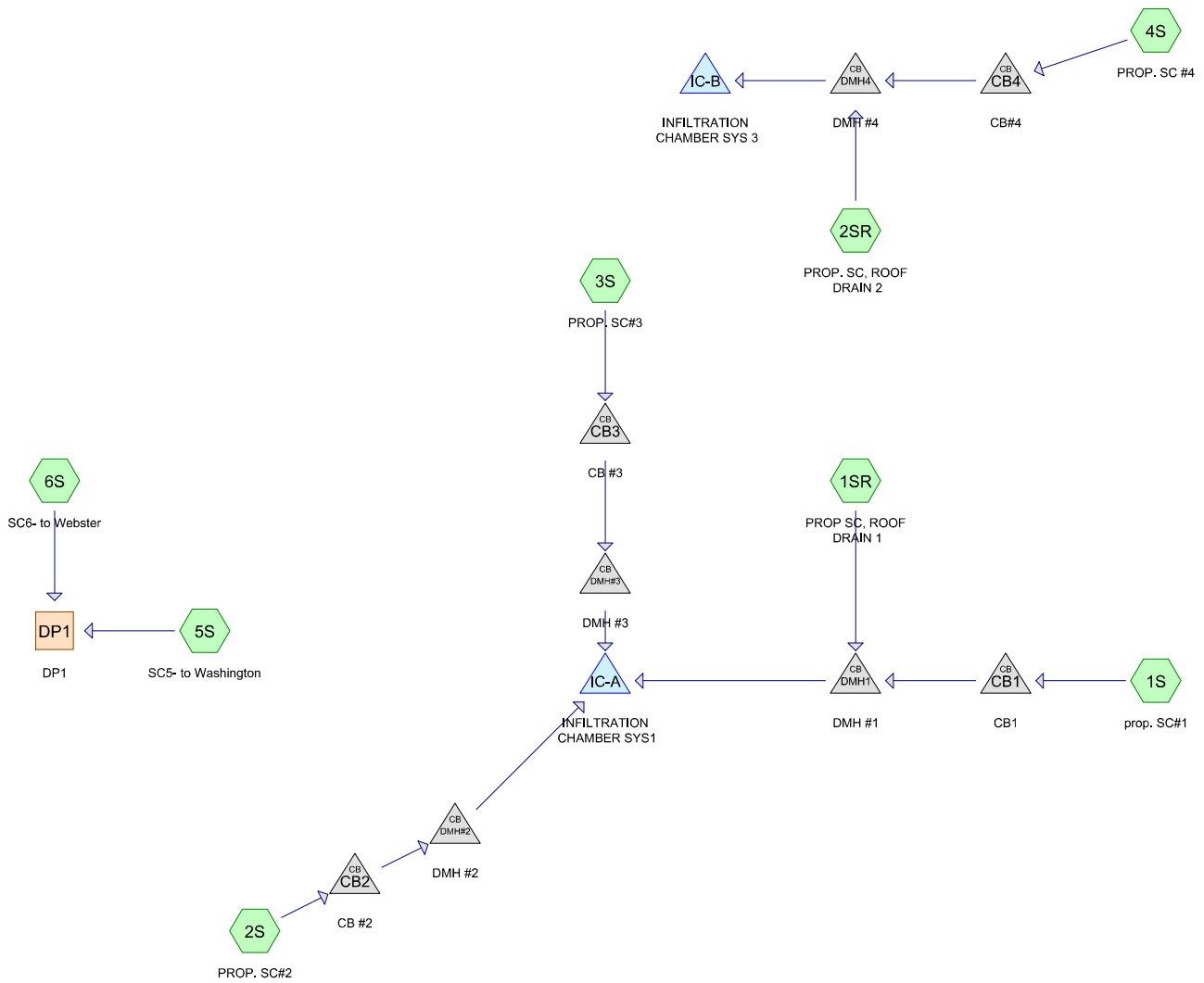
CLIENT:
 2103 WASHINGTON ST LLC
 552 ADAMS STREET
 MILTON, MA 02186
 (781) 982-1144

DRAWING PATH:
 F:\22-168\2053\22-168 DEF. PLOT.DWG

DATE:
 OCTOBER 16, 2023

**PROPOSED
 SUBCATCHMENT
 PLAN**

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Routing Diagram for proposed sw subcatchmentrev
 Prepared by Merrill Associates Inc, Printed 2/12/2024
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proposed sw subcatchmentrev

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Printed 2/12/2024

Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.172	61	>75% Grass cover, Good, HSG B (1S, 2S, 3S, 4S, 5S, 6S)
0.100	98	Paved parking, HSG B (4S)
0.397	98	pavement area (1S, 2S, 3S)
0.172	98	roof area (1SR, 2SR)
0.066	98	sidewalk & retaining wall (1S, 2S, 3S)
0.009	98	sidewalk and other impervious (4S)
0.915	91	TOTAL AREA

proposed sw subcatchmentrev

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Type III 24-hr 2 year Rainfall=3.35"

Printed 2/12/2024

Page 3

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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 1S: prop. SC#1

Runoff Area=8,946 sf 82.36% Impervious Runoff Depth=2.40"
Flow Length=152' Tc=6.0 min CN=91 Runoff=0.55 cfs 0.041 af

Subcatchment 1SR: PROP SC, ROOF

Runoff Area=3,750 sf 100.00% Impervious Runoff Depth=3.12"
Tc=0.0 min CN=98 Runoff=0.32 cfs 0.022 af

Subcatchment 2S: PROP. SC#2

Runoff Area=6,329 sf 88.17% Impervious Runoff Depth=2.69"
Flow Length=152' Tc=6.0 min CN=94 Runoff=0.43 cfs 0.033 af

Subcatchment 2SR: PROP. SC, ROOF

Runoff Area=3,750 sf 100.00% Impervious Runoff Depth=3.12"
Tc=0.0 min CN=98 Runoff=0.32 cfs 0.022 af

Subcatchment 3S: PROP. SC#3

Runoff Area=7,964 sf 90.61% Impervious Runoff Depth=2.79"
Flow Length=152' Tc=6.0 min CN=95 Runoff=0.55 cfs 0.043 af

Subcatchment 4S: PROP. SC #4

Runoff Area=5,231 sf 90.38% Impervious Runoff Depth=2.69"
Flow Length=81' Tc=6.0 min CN=94 Runoff=0.35 cfs 0.027 af

Subcatchment 5S: SC5- to Washington

Runoff Area=2,137 sf 0.00% Impervious Runoff Depth=0.51"
Tc=0.0 min CN=61 Runoff=0.02 cfs 0.002 af

Subcatchment 6S: SC6- to Webster

Runoff Area=1,770 sf 0.00% Impervious Runoff Depth=0.51"
Tc=0.0 min CN=61 Runoff=0.02 cfs 0.002 af

Reach DP1: DP1

Inflow=0.04 cfs 0.004 af
Outflow=0.04 cfs 0.004 af

Pond CB1: CB1

Peak Elev=121.72' Inflow=0.55 cfs 0.041 af
12.0" Round Culvert n=0.013 L=62.0' S=0.0065 ' Outflow=0.55 cfs 0.041 af

Pond CB2: CB #2

Peak Elev=121.47' Inflow=0.43 cfs 0.033 af
12.0" Round Culvert n=0.013 L=10.0' S=0.0200 ' Outflow=0.43 cfs 0.033 af

Pond CB3: CB #3

Peak Elev=121.52' Inflow=0.55 cfs 0.043 af
12.0" Round Culvert n=0.013 L=20.0' S=0.0100 ' Outflow=0.55 cfs 0.043 af

Pond CB4: CB#4

Peak Elev=121.59' Inflow=0.35 cfs 0.027 af
12.0" Round Culvert n=0.013 L=32.0' S=0.0125 ' Outflow=0.35 cfs 0.027 af

Pond DMH#2: DMH #2

Peak Elev=121.25' Inflow=0.43 cfs 0.033 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 ' Outflow=0.43 cfs 0.033 af

Pond DMH#3: DMH #3

Peak Elev=121.31' Inflow=0.55 cfs 0.043 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 ' Outflow=0.55 cfs 0.043 af

Pond DMH1: DMH #1

Peak Elev=121.39' Inflow=0.75 cfs 0.063 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 ' Outflow=0.75 cfs 0.063 af

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Type III 24-hr 2 year Rainfall=3.35"

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Pond DMH4: DMH #4

Peak Elev=121.21' Inflow=0.57 cfs 0.049 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 '/ Outflow=0.57 cfs 0.049 af

Pond IC-A: INFILTRATION CHAMBER SYS1

Peak Elev=120.78' Storage=2,328 cf Inflow=1.70 cfs 0.139 af
Outflow=0.18 cfs 0.139 af

Pond IC-B: INFILTRATION CHAMBER SYS 3

Peak Elev=120.60' Storage=744 cf Inflow=0.57 cfs 0.049 af
Outflow=0.07 cfs 0.049 af

Total Runoff Area = 0.915 ac Runoff Volume = 0.192 af Average Runoff Depth = 2.51"
18.77% Pervious = 0.172 ac 81.23% Impervious = 0.744 ac

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Type III 24-hr 2 year Rainfall=3.35"

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Summary for Subcatchment 1S: prop. SC#1

Runoff = 0.55 cfs @ 12.09 hrs, Volume= 0.041 af, Depth= 2.40"
Routed to Pond CB1 : CB1

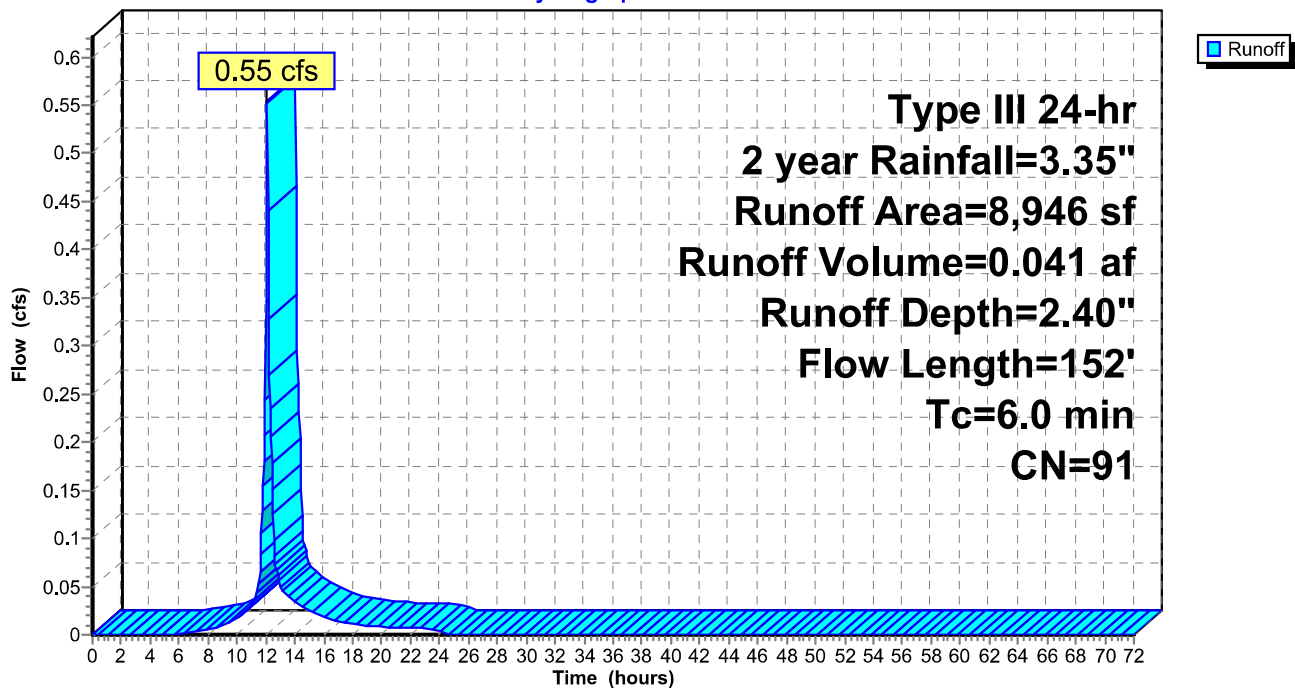
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Rainfall=3.35"

	Area (sf)	CN	Description
*	6,381	98	pavement area
*	987	98	sidewalk & retaining wall
	1,578	61	>75% Grass cover, Good, HSG B
	8,946	91	Weighted Average
	1,578		17.64% Pervious Area
	7,368		82.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0110	0.97		Sheet Flow, 50 ft Sheet Smooth surfaces n= 0.011 P2= 3.40"
0.6	102	0.0170	2.65		Shallow Concentrated Flow, shallow conc flow Paved Kv= 20.3 fps
1.5	152	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 1S: prop. SC#1

Hydrograph



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Type III 24-hr 2 year Rainfall=3.35"

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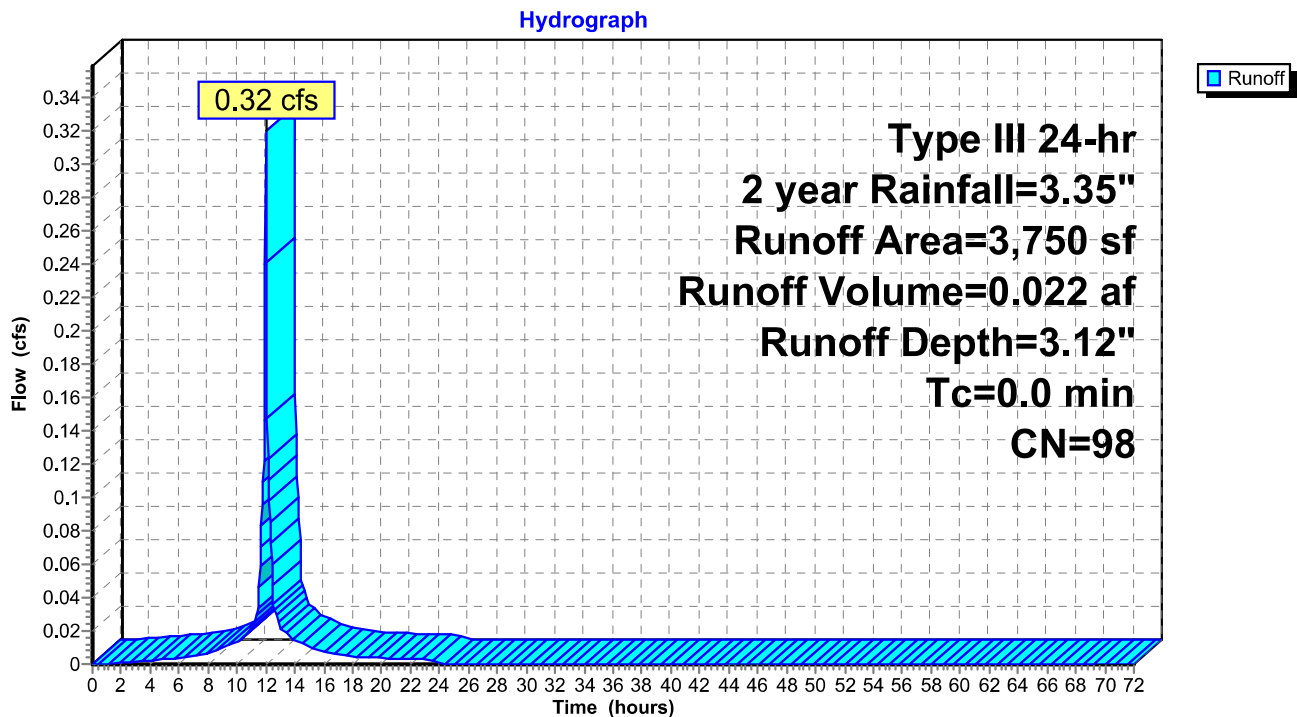
Summary for Subcatchment 1SR: PROP SC, ROOF DRAIN 1

Runoff = 0.32 cfs @ 12.00 hrs, Volume= 0.022 af, Depth= 3.12"
Routed to Pond DMH1 : DMH #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Rainfall=3.35"

	Area (sf)	CN	Description
*	3,750	98	roof area
	3,750		100.00% Impervious Area

Subcatchment 1SR: PROP SC, ROOF DRAIN 1



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Type III 24-hr 2 year Rainfall=3.35"

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Summary for Subcatchment 2S: PROP. SC#2

Runoff = 0.43 cfs @ 12.09 hrs, Volume= 0.033 af, Depth= 2.69"
Routed to Pond CB2 : CB #2

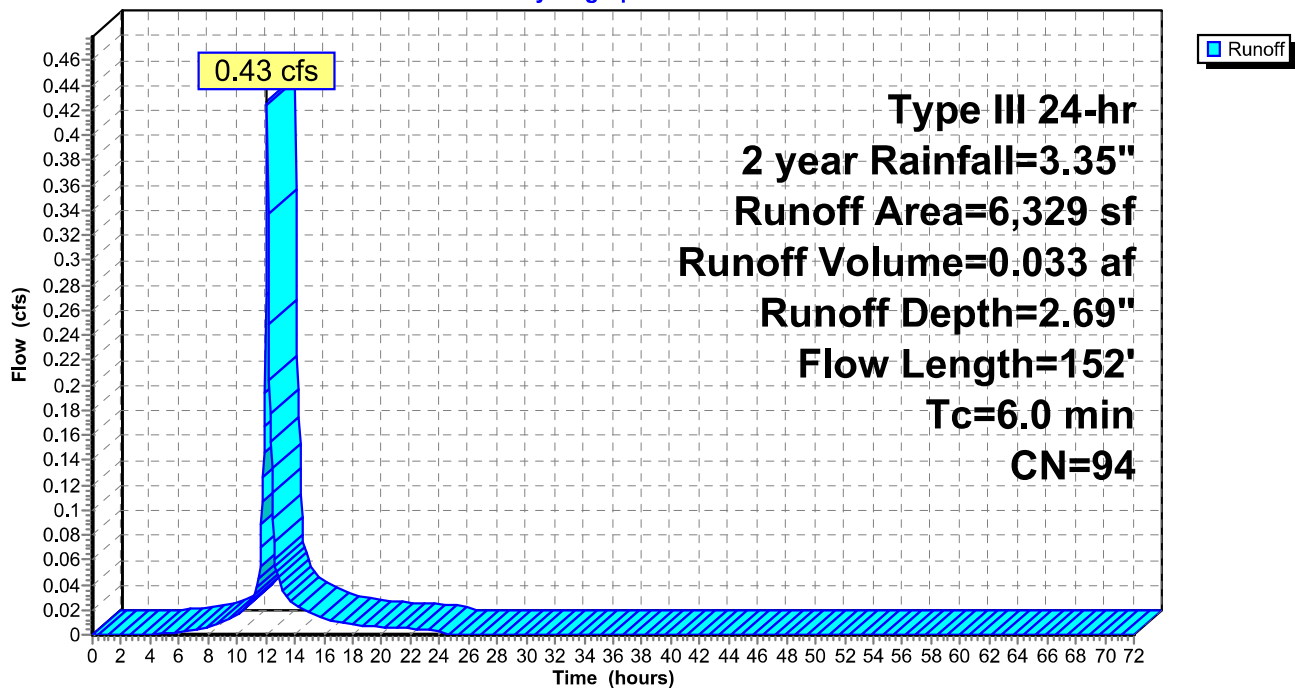
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Rainfall=3.35"

	Area (sf)	CN	Description
*	4,872	98	pavement area
*	708	98	sidewalk & retaining wall
	749	61	>75% Grass cover, Good, HSG B
	6,329	94	Weighted Average
	749		11.83% Pervious Area
	5,580		88.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0110	0.97		Sheet Flow, 50 ft Sheet Smooth surfaces n= 0.011 P2= 3.40"
0.6	102	0.0170	2.65		Shallow Concentrated Flow, shallow conc flow Paved Kv= 20.3 fps
1.5	152	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 2S: PROP. SC#2

Hydrograph



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Type III 24-hr 2 year Rainfall=3.35"

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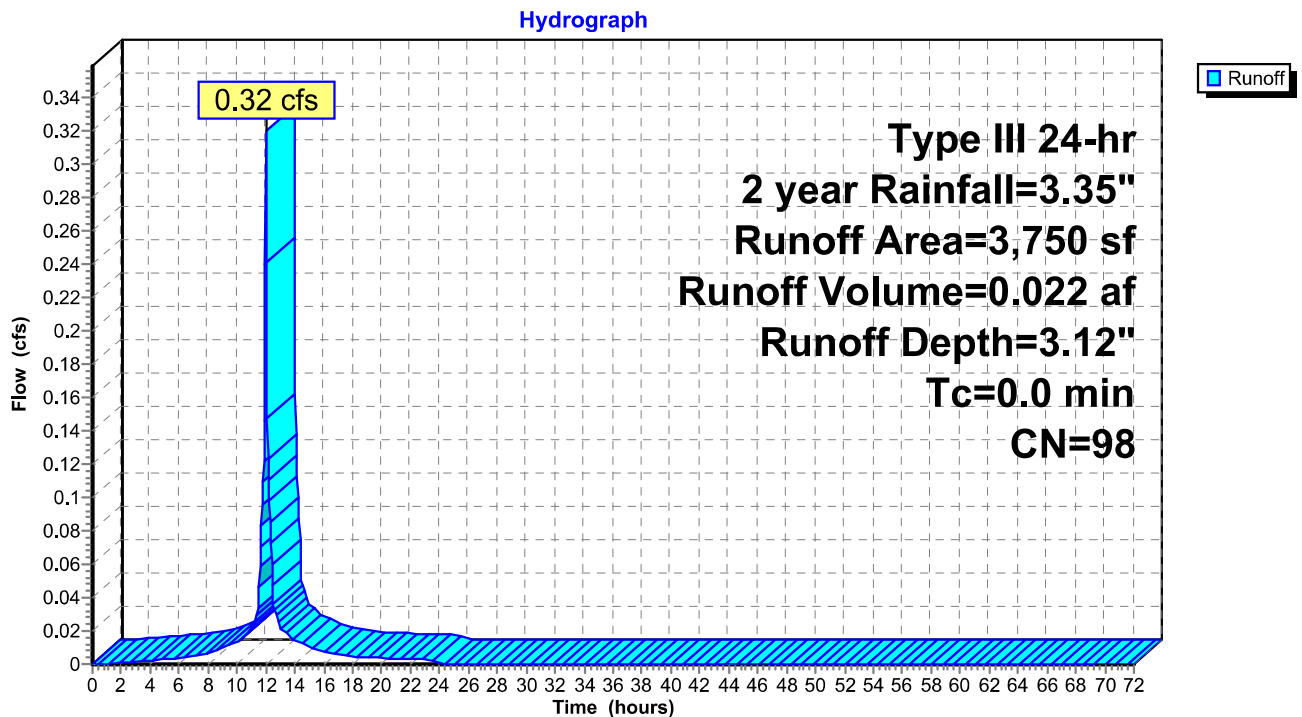
Summary for Subcatchment 2SR: PROP. SC, ROOF DRAIN 2

Runoff = 0.32 cfs @ 12.00 hrs, Volume= 0.022 af, Depth= 3.12"
Routed to Pond DMH4 : DMH #4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Rainfall=3.35"

	Area (sf)	CN	Description
*	3,750	98	roof area
	3,750		100.00% Impervious Area

Subcatchment 2SR: PROP. SC, ROOF DRAIN 2



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Type III 24-hr 2 year Rainfall=3.35"

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Summary for Subcatchment 3S: PROP. SC#3

Runoff = 0.55 cfs @ 12.09 hrs, Volume= 0.043 af, Depth= 2.79"
Routed to Pond CB3 : CB #3

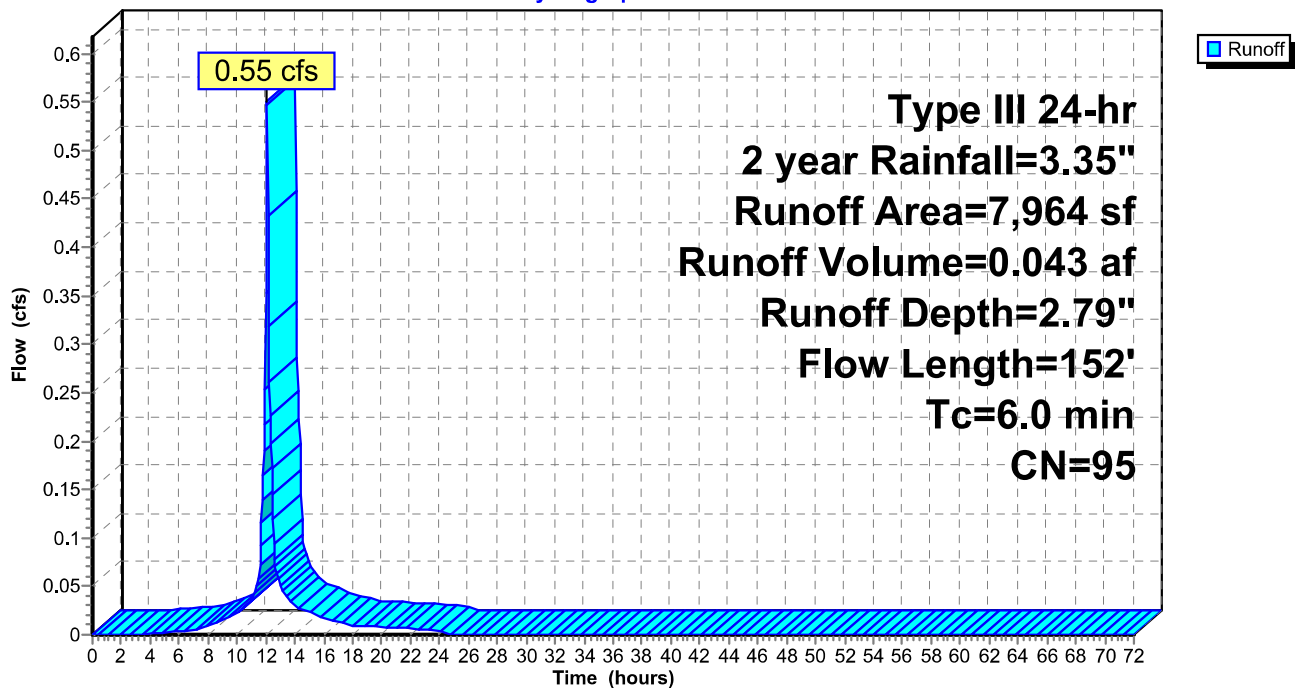
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Rainfall=3.35"

	Area (sf)	CN	Description
*	6,031	98	pavement area
*	1,185	98	sidewalk & retaining wall
	748	61	>75% Grass cover, Good, HSG B
	7,964	95	Weighted Average
	748		9.39% Pervious Area
	7,216		90.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0110	0.97		Sheet Flow, 50 ft Sheet Smooth surfaces n= 0.011 P2= 3.40"
0.6	102	0.0170	2.65		Shallow Concentrated Flow, shallow conc flow Paved Kv= 20.3 fps
1.5	152	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 3S: PROP. SC#3

Hydrograph



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Type III 24-hr 2 year Rainfall=3.35"

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Summary for Subcatchment 4S: PROP. SC #4

Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.027 af, Depth= 2.69"
Routed to Pond CB4 : CB#4

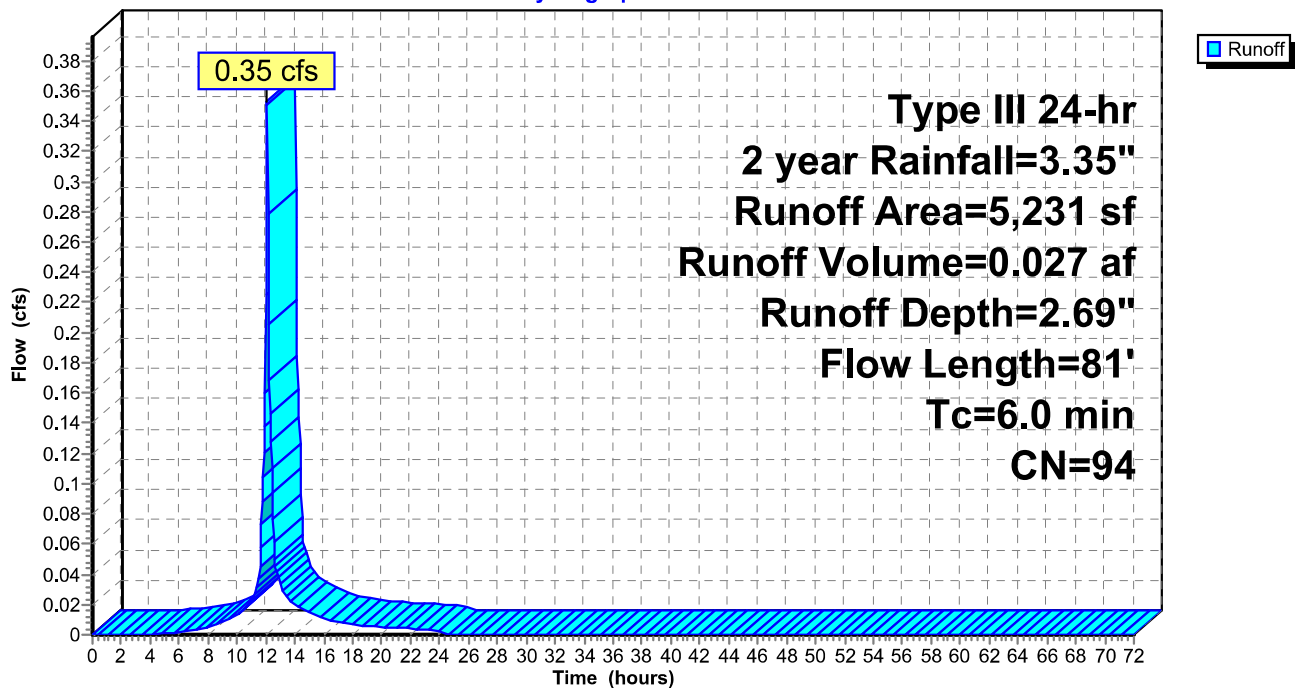
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Rainfall=3.35"

Area (sf)	CN	Description
4,341	98	Paved parking, HSG B
* 387	98	sidewalk and other impervious
503	61	>75% Grass cover, Good, HSG B
5,231	94	Weighted Average
503		9.62% Pervious Area
4,728		90.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	50	0.1350	2.65		Sheet Flow, sheet flow 50 ft Smooth surfaces n= 0.011 P2= 3.40"
0.3	31	0.0100	2.03		Shallow Concentrated Flow, shallow conc flow Paved Kv= 20.3 fps
0.6	81	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 4S: PROP. SC #4

Hydrograph



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Type III 24-hr 2 year Rainfall=3.35"

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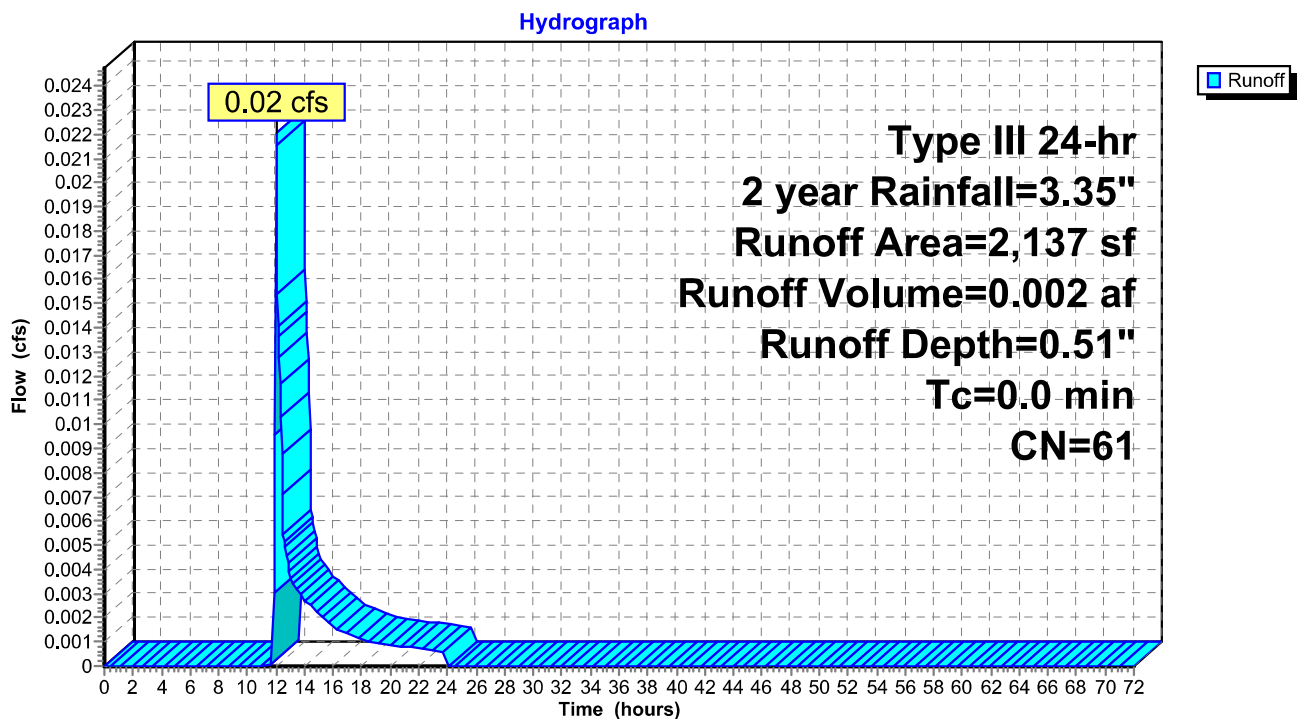
Summary for Subcatchment 5S: SC5- to Washington

Runoff = 0.02 cfs @ 12.03 hrs, Volume= 0.002 af, Depth= 0.51"
Routed to Reach DP1 : DP1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Rainfall=3.35"

Area (sf)	CN	Description
2,137	61	>75% Grass cover, Good, HSG B
2,137		100.00% Pervious Area

Subcatchment 5S: SC5- to Washington



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Type III 24-hr 2 year Rainfall=3.35"

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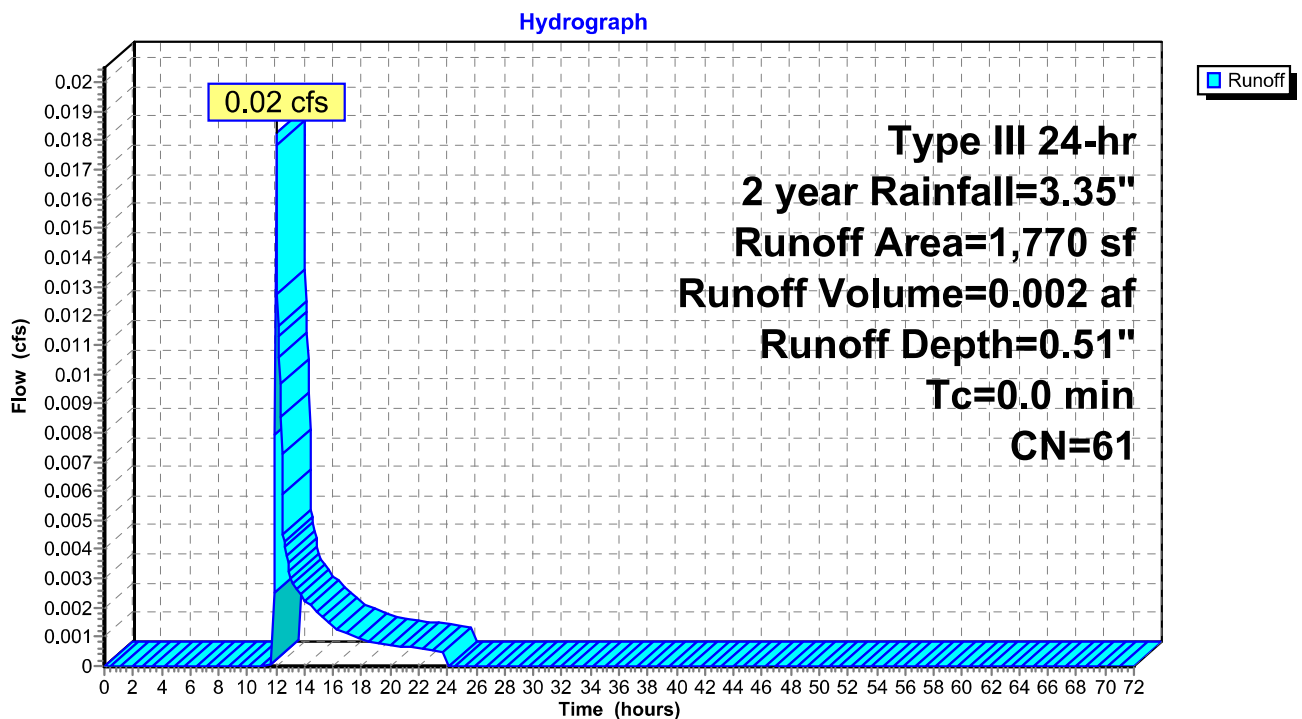
Summary for Subcatchment 6S: SC6- to Webster

Runoff = 0.02 cfs @ 12.03 hrs, Volume= 0.002 af, Depth= 0.51"
Routed to Reach DP1 : DP1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 year Rainfall=3.35"

Area (sf)	CN	Description
1,770	61	>75% Grass cover, Good, HSG B
1,770		100.00% Pervious Area

Subcatchment 6S: SC6- to Webster



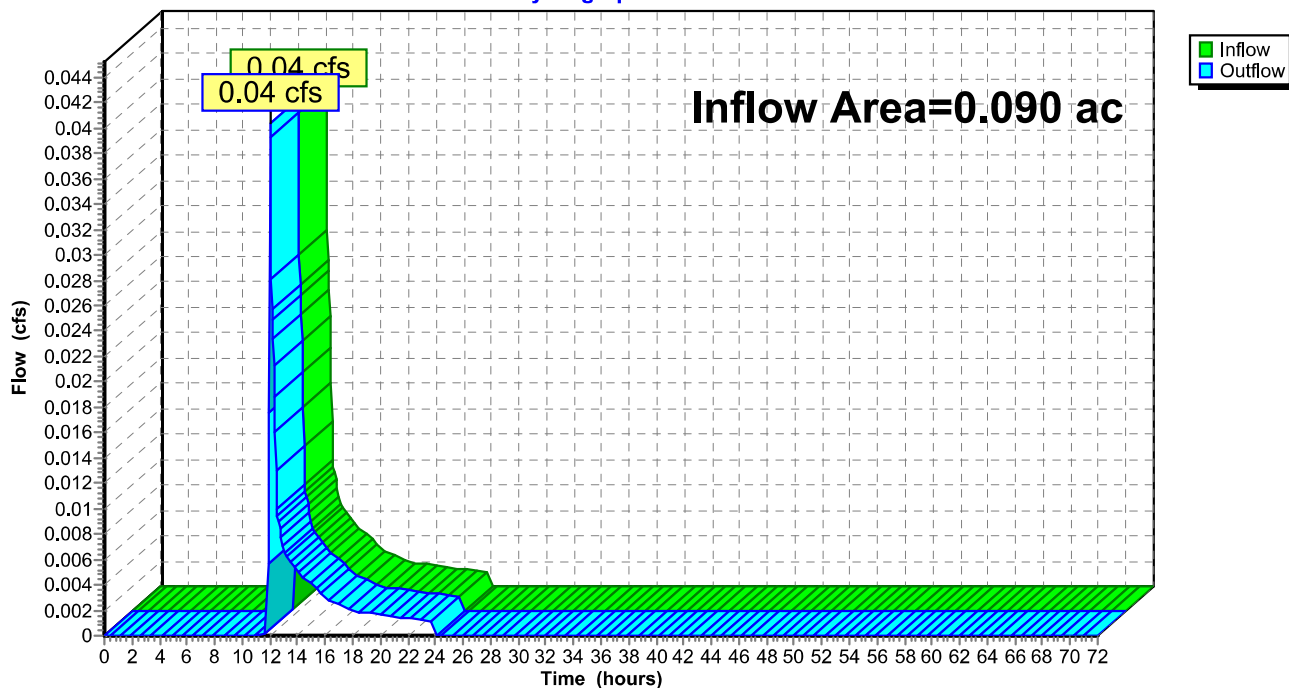
Summary for Reach DP1: DP1

Inflow Area = 0.090 ac, 0.00% Impervious, Inflow Depth = 0.51" for 2 year event
 Inflow = 0.04 cfs @ 12.03 hrs, Volume= 0.004 af
 Outflow = 0.04 cfs @ 12.03 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach DP1: DP1

Hydrograph



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Type III 24-hr 2 year Rainfall=3.35"

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Summary for Pond CB1: CB1

Inflow Area = 0.205 ac, 82.36% Impervious, Inflow Depth = 2.40" for 2 year event
Inflow = 0.55 cfs @ 12.09 hrs, Volume= 0.041 af
Outflow = 0.55 cfs @ 12.09 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min
Primary = 0.55 cfs @ 12.09 hrs, Volume= 0.041 af
Routed to Pond DMH1 : DMH #1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.72' @ 12.09 hrs

Flood Elev= 124.00'

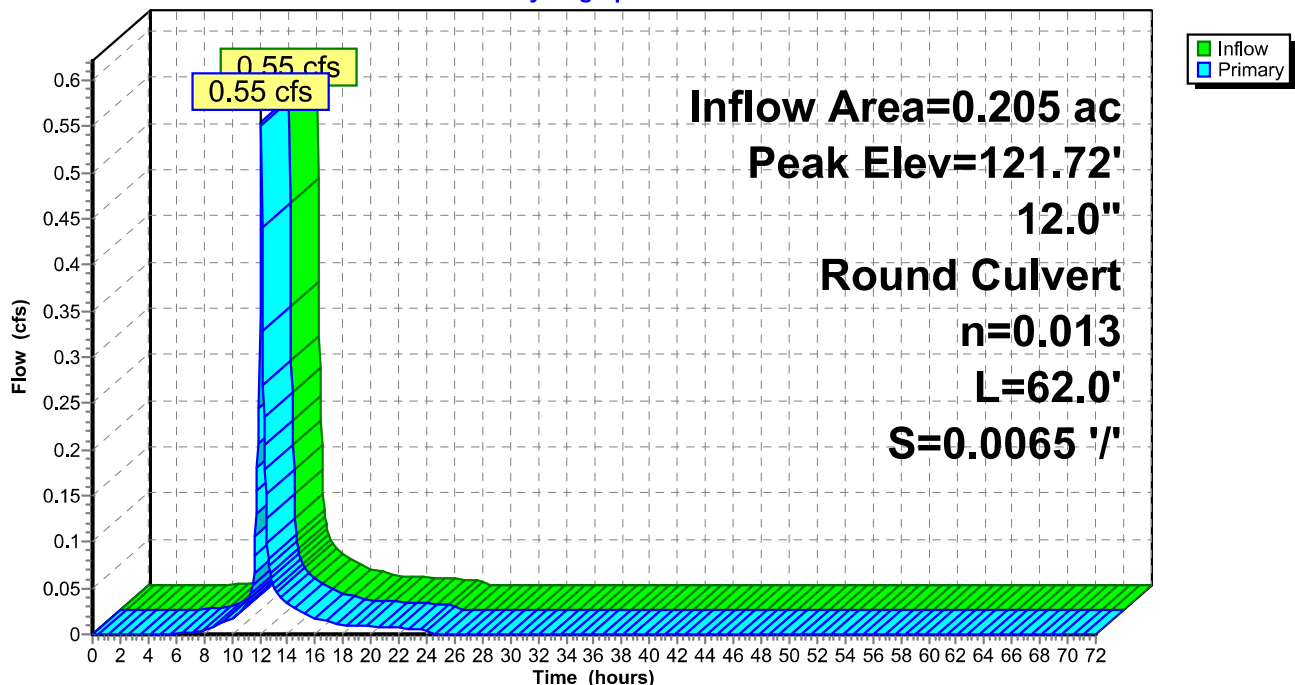
Device	Routing	Invert	Outlet Devices
#1	Primary	121.30'	12.0" Round Culvert L= 62.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 121.30' / 120.90' S= 0.0065 '/ S= 0.0065 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.54 cfs @ 12.09 hrs HW=121.71' (Free Discharge)

1=Culvert (Barrel Controls 0.54 cfs @ 2.64 fps)

Pond CB1: CB1

Hydrograph



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Type III 24-hr 2 year Rainfall=3.35"

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Summary for Pond CB2: CB #2

Inflow Area = 0.145 ac, 88.17% Impervious, Inflow Depth = 2.69" for 2 year event
Inflow = 0.43 cfs @ 12.09 hrs, Volume= 0.033 af
Outflow = 0.43 cfs @ 12.09 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min
Primary = 0.43 cfs @ 12.09 hrs, Volume= 0.033 af
Routed to Pond DMH#2 : DMH #2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.47' @ 12.09 hrs

Flood Elev= 124.60'

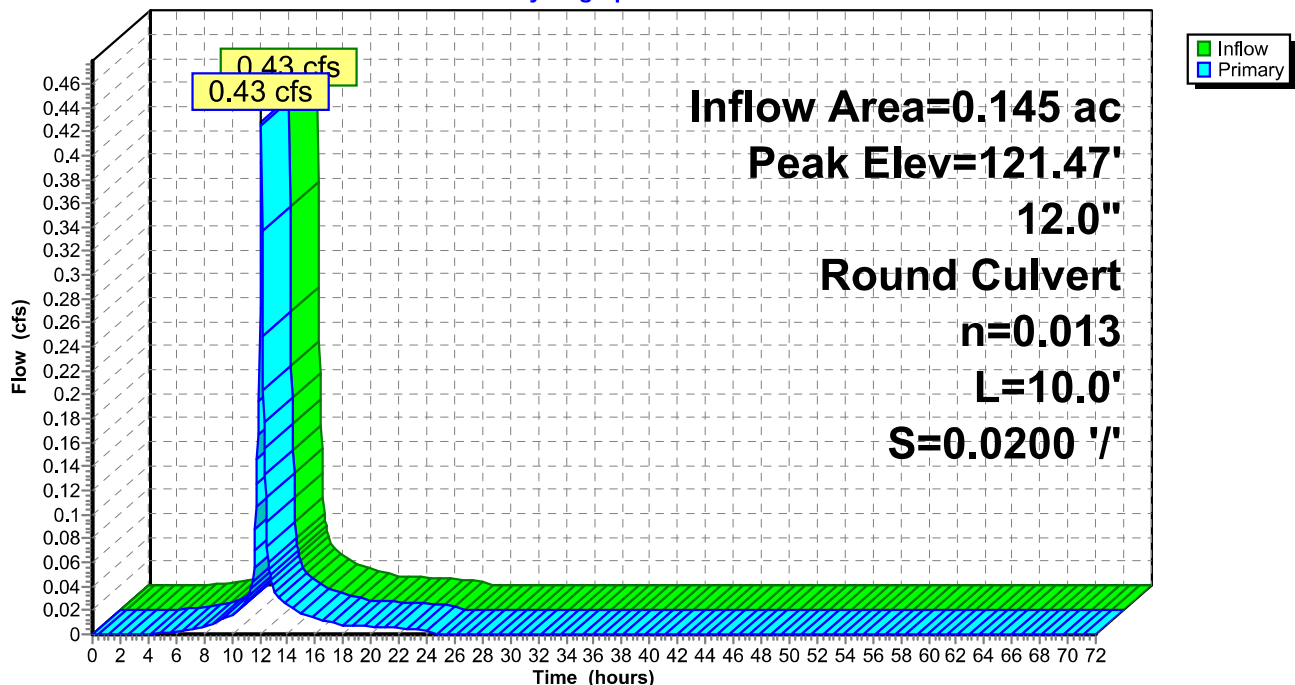
Device	Routing	Invert	Outlet Devices
#1	Primary	121.10'	12.0" Round PIPE L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 121.10' / 120.90' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.42 cfs @ 12.09 hrs HW=121.46' (Free Discharge)

1=PIPE (Inlet Controls 0.42 cfs @ 1.62 fps)

Pond CB2: CB #2

Hydrograph



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Type III 24-hr 2 year Rainfall=3.35"

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Summary for Pond CB3: CB #3

Inflow Area = 0.183 ac, 90.61% Impervious, Inflow Depth = 2.79" for 2 year event
Inflow = 0.55 cfs @ 12.09 hrs, Volume= 0.043 af
Outflow = 0.55 cfs @ 12.09 hrs, Volume= 0.043 af, Atten= 0%, Lag= 0.0 min
Primary = 0.55 cfs @ 12.09 hrs, Volume= 0.043 af
Routed to Pond DMH#3 : DMH #3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.52' @ 12.09 hrs

Flood Elev= 124.60'

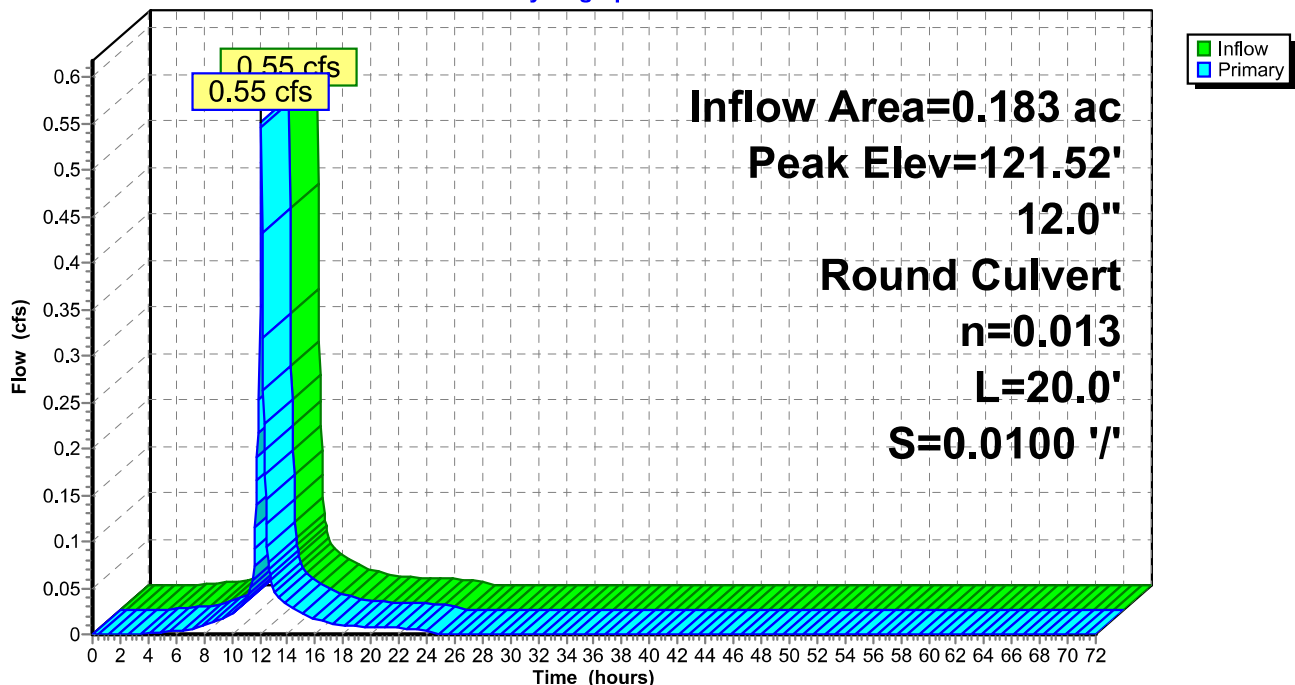
Device	Routing	Invert	Outlet Devices
#1	Primary	121.10'	12.0" Round PIPE L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 121.10' / 120.90' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.54 cfs @ 12.09 hrs HW=121.52' (Free Discharge)

1=PIPE (Inlet Controls 0.54 cfs @ 1.73 fps)

Pond CB3: CB #3

Hydrograph



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Summary for Pond CB4: CB#4

Inflow Area = 0.120 ac, 90.38% Impervious, Inflow Depth = 2.69" for 2 year event
Inflow = 0.35 cfs @ 12.09 hrs, Volume= 0.027 af
Outflow = 0.35 cfs @ 12.09 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.0 min
Primary = 0.35 cfs @ 12.09 hrs, Volume= 0.027 af
Routed to Pond DMH4 : DMH #4

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.59' @ 12.09 hrs

Flood Elev= 124.50'

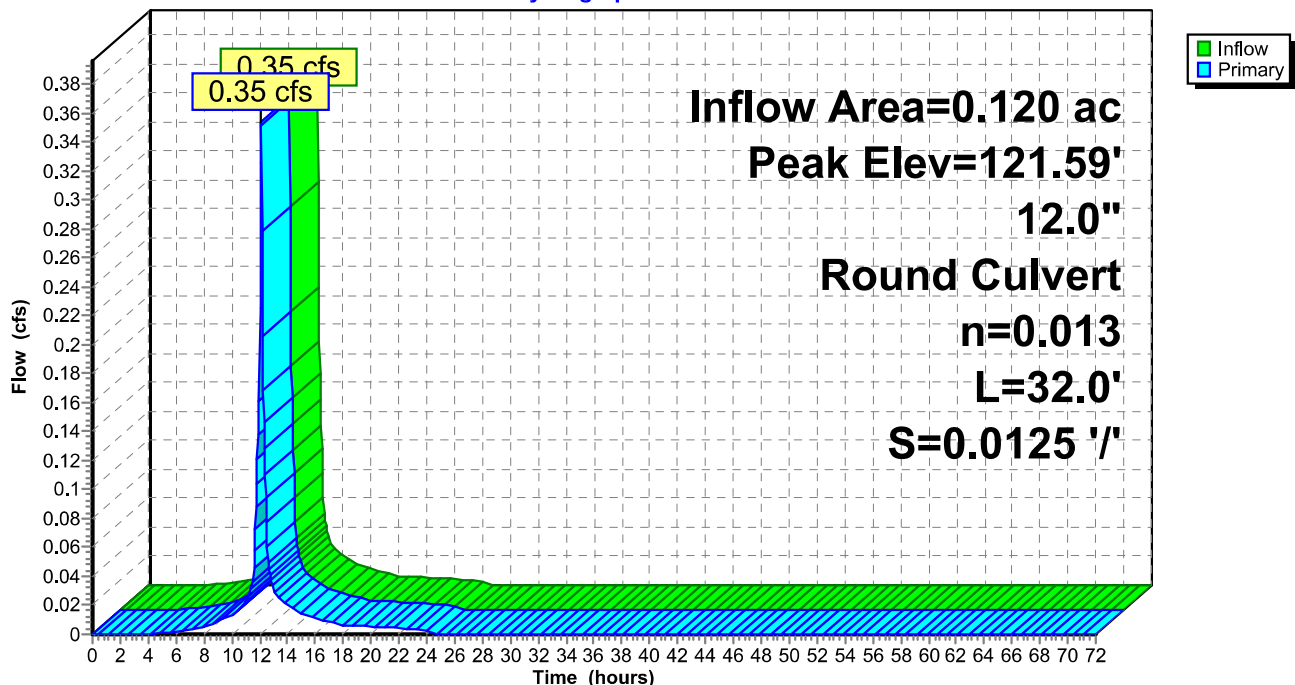
Device	Routing	Invert	Outlet Devices
#1	Primary	121.30'	12.0" Round PIPE L= 32.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 121.30' / 120.90' S= 0.0125 '/ S= 0.0125 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.34 cfs @ 12.09 hrs HW=121.59' (Free Discharge)

1=PIPE (Inlet Controls 0.34 cfs @ 1.83 fps)

Pond CB4: CB#4

Hydrograph



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Type III 24-hr 2 year Rainfall=3.35"

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Summary for Pond DMH#2: DMH #2

Inflow Area = 0.145 ac, 88.17% Impervious, Inflow Depth = 2.69" for 2 year event
Inflow = 0.43 cfs @ 12.09 hrs, Volume= 0.033 af
Outflow = 0.43 cfs @ 12.09 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min
Primary = 0.43 cfs @ 12.09 hrs, Volume= 0.033 af
Routed to Pond IC-A : INFILTRATION CHAMBER SYS1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.25' @ 12.09 hrs

Flood Elev= 124.60'

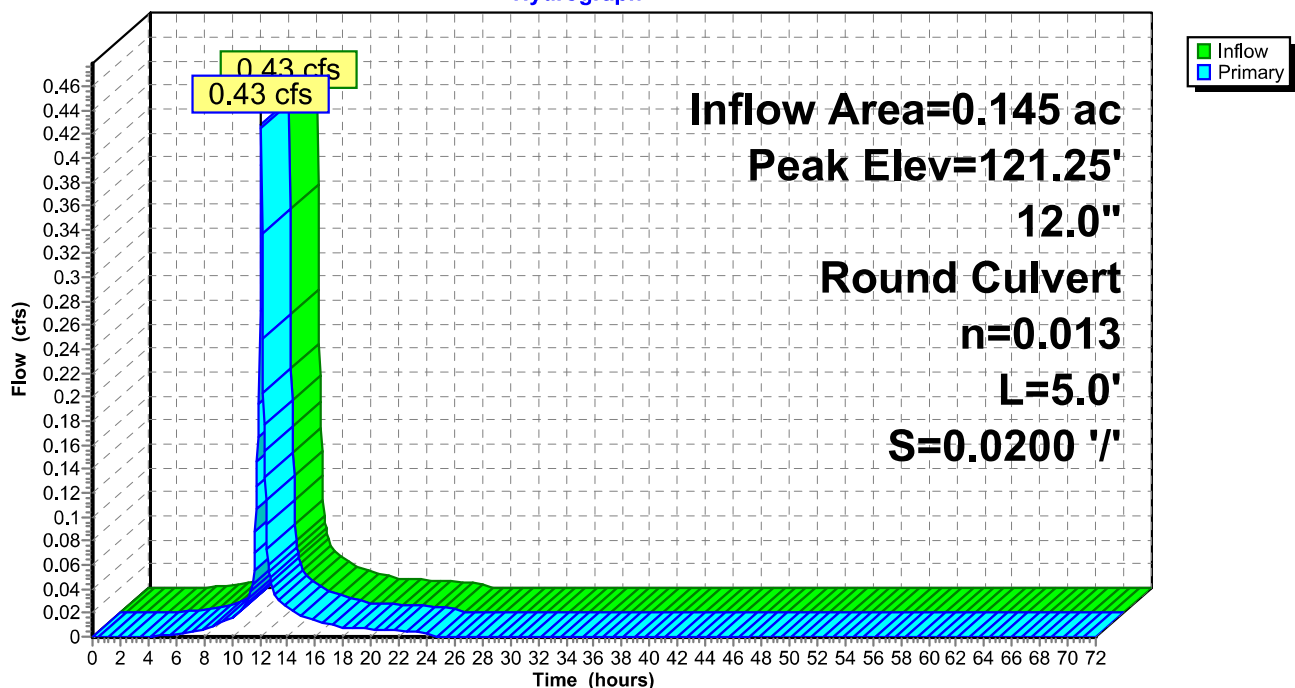
Device	Routing	Invert	Outlet Devices
#1	Primary	120.90'	12.0" Round PIPE L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.90' / 120.80' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.42 cfs @ 12.09 hrs HW=121.25' (Free Discharge)

1=PIPE (Barrel Controls 0.42 cfs @ 2.58 fps)

Pond DMH#2: DMH #2

Hydrograph



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Type III 24-hr 2 year Rainfall=3.35"

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Summary for Pond DMH#3: DMH #3

Inflow Area = 0.183 ac, 90.61% Impervious, Inflow Depth = 2.79" for 2 year event
Inflow = 0.55 cfs @ 12.09 hrs, Volume= 0.043 af
Outflow = 0.55 cfs @ 12.09 hrs, Volume= 0.043 af, Atten= 0%, Lag= 0.0 min
Primary = 0.55 cfs @ 12.09 hrs, Volume= 0.043 af
Routed to Pond IC-A : INFILTRATION CHAMBER SYS1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.31' @ 12.09 hrs

Flood Elev= 124.60'

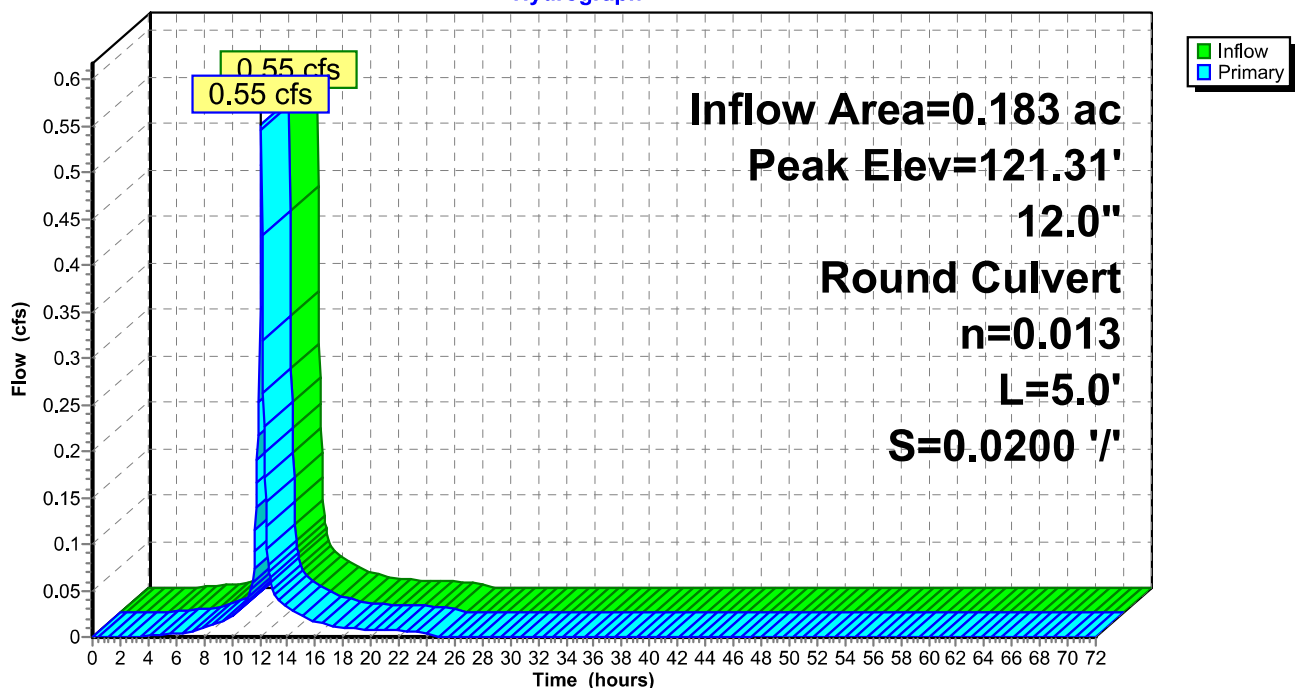
Device	Routing	Invert	Outlet Devices
#1	Primary	120.90'	12.0" Round PIPE L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.90' / 120.80' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.54 cfs @ 12.09 hrs HW=121.30' (Free Discharge)

1=PIPE (Barrel Controls 0.54 cfs @ 2.71 fps)

Pond DMH#3: DMH #3

Hydrograph



Summary for Pond DMH1: DMH #1

Inflow Area = 0.291 ac, 87.57% Impervious, Inflow Depth = 2.61" for 2 year event
 Inflow = 0.75 cfs @ 12.06 hrs, Volume= 0.063 af
 Outflow = 0.75 cfs @ 12.06 hrs, Volume= 0.063 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.75 cfs @ 12.06 hrs, Volume= 0.063 af
 Routed to Pond IC-A : INFILTRATION CHAMBER SYS1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.39' @ 12.06 hrs

Flood Elev= 124.00'

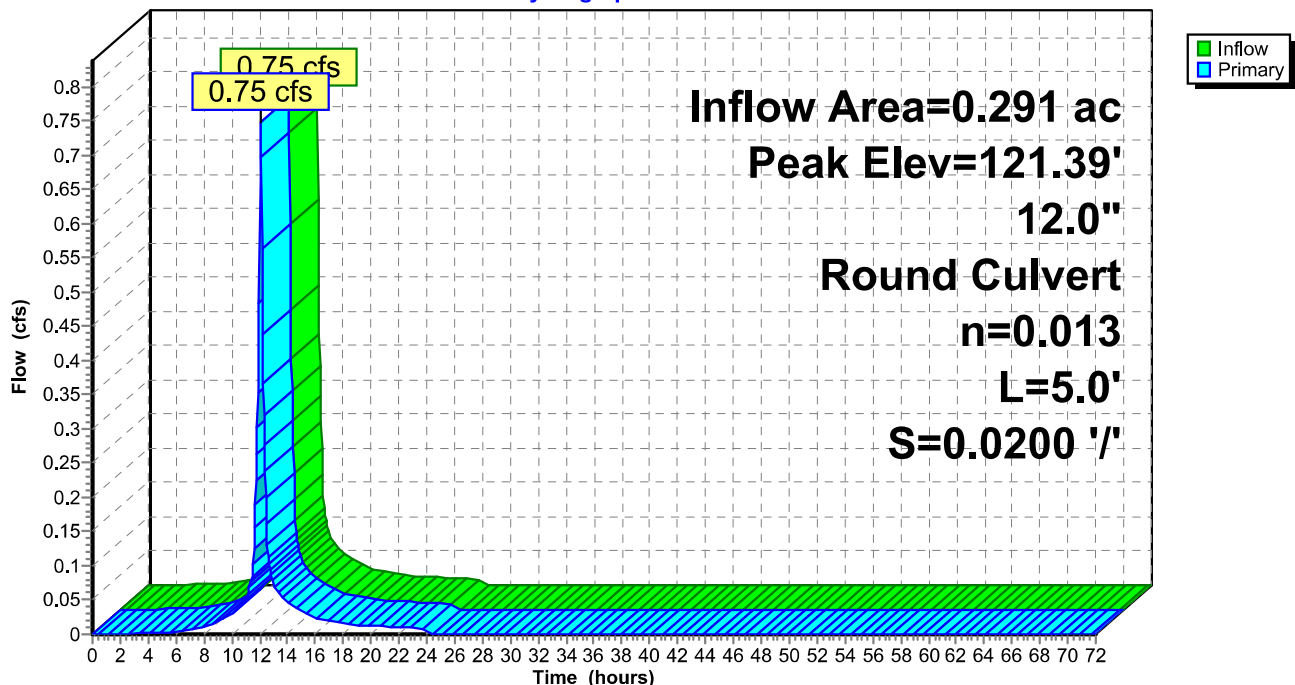
Device	Routing	Invert	Outlet Devices
#1	Primary	120.90'	12.0" Round DMH 1 OUTLET L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.90' / 120.80' S= 0.0200 '/ S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.74 cfs @ 12.06 hrs HW=121.38' (Free Discharge)

1=DMH 1 OUTLET (Barrel Controls 0.74 cfs @ 2.88 fps)

Pond DMH1: DMH #1

Hydrograph



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Type III 24-hr 2 year Rainfall=3.35"

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Summary for Pond DMH4: DMH #4

Inflow Area = 0.206 ac, 94.40% Impervious, Inflow Depth = 2.87" for 2 year event
Inflow = 0.57 cfs @ 12.04 hrs, Volume= 0.049 af
Outflow = 0.57 cfs @ 12.04 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min
Primary = 0.57 cfs @ 12.04 hrs, Volume= 0.049 af
Routed to Pond IC-B : INFILTRATION CHAMBER SYS 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.21' @ 12.04 hrs

Flood Elev= 124.50'

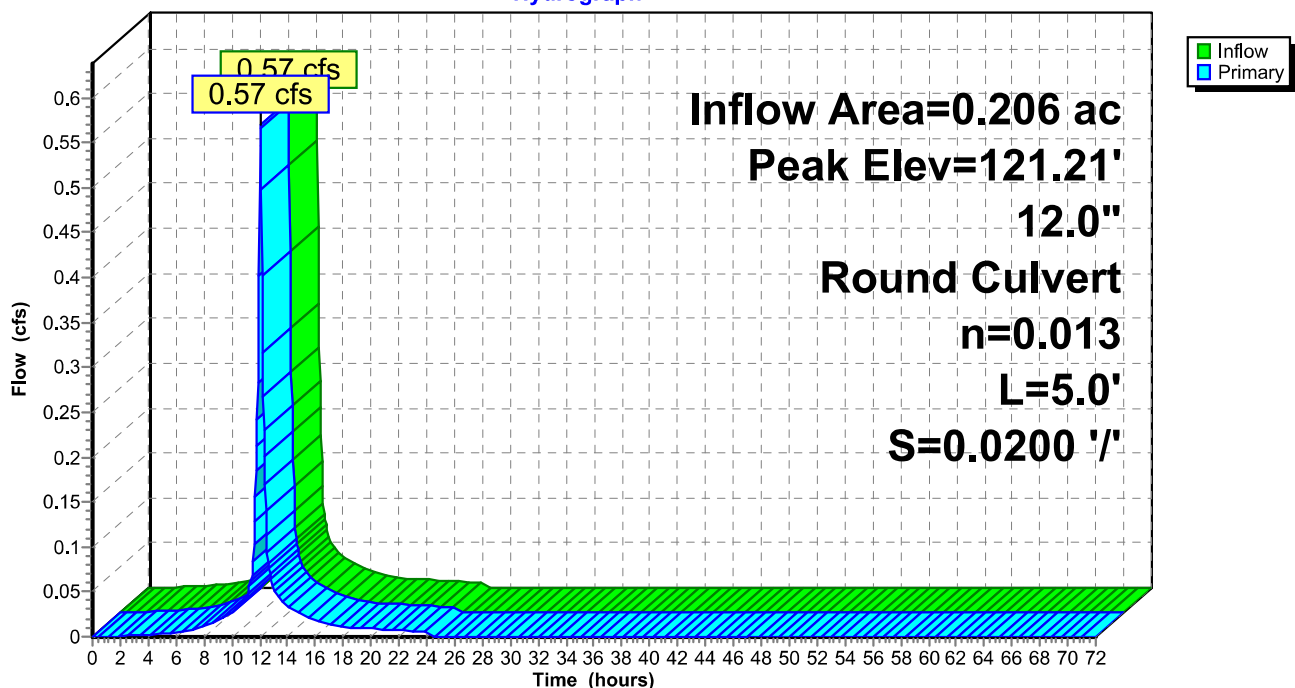
Device	Routing	Invert	Outlet Devices
#1	Primary	120.80'	12.0" Round PIPE L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.80' / 120.70' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.56 cfs @ 12.04 hrs HW=121.21' (Free Discharge)

1=PIPE (Barrel Controls 0.56 cfs @ 2.73 fps)

Pond DMH4: DMH #4

Hydrograph



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Type III 24-hr 2 year Rainfall=3.35"

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Summary for Pond IC-A: INFILTRATION CHAMBER SYS1

Inflow Area = 0.620 ac, 88.61% Impervious, Inflow Depth = 2.68" for 2 year event
 Inflow = 1.70 cfs @ 12.08 hrs, Volume= 0.139 af
 Outflow = 0.18 cfs @ 12.91 hrs, Volume= 0.139 af, Atten= 90%, Lag= 49.7 min
 Discarded = 0.18 cfs @ 12.91 hrs, Volume= 0.139 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 120.78' @ 12.91 hrs Surf.Area= 5,373 sf Storage= 2,328 cf

Plug-Flow detention time= 109.9 min calculated for 0.138 af (100% of inflow)
 Center-of-Mass det. time= 109.8 min (892.3 - 782.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	120.00'	3,007 cf	34.75'W x 96.18'L x 3.50'H Field A 11,697 cf Overall - 4,181 cf Embedded = 7,517 cf x 40.0% Voids
#2A	120.50'	4,181 cf	ADS_StormTech SC-740 +Cap x 91 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 91 Chambers in 7 Rows
#3B	120.00'	1,851 cf	30.00'W x 67.70'L x 3.50'H Field B 7,108 cf Overall - 2,481 cf Embedded = 4,627 cf x 40.0% Voids
#4B	120.50'	2,481 cf	ADS_StormTech SC-740 +Cap x 54 Inside #3 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 54 Chambers in 6 Rows
		11,519 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	120.00'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 118.00'

Discarded OutFlow Max=0.18 cfs @ 12.91 hrs HW=120.78' (Free Discharge)**↑1=Exfiltration** (Controls 0.18 cfs)

Pond IC-A: INFILTRATION CHAMBER SYS1 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

13 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 94.18' Row Length +12.0" End Stone x 2 = 96.18' Base Length

7 Rows x 51.0" Wide + 6.0" Spacing x 6 + 12.0" Side Stone x 2 = 34.75' Base Width

6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

91 Chambers x 45.9 cf = 4,180.5 cf Chamber Storage

11,697.5 cf Field - 4,180.5 cf Chambers = 7,516.9 cf Stone x 40.0% Voids = 3,006.8 cf Stone Storage

Chamber Storage + Stone Storage = 7,187.3 cf = 0.165 af

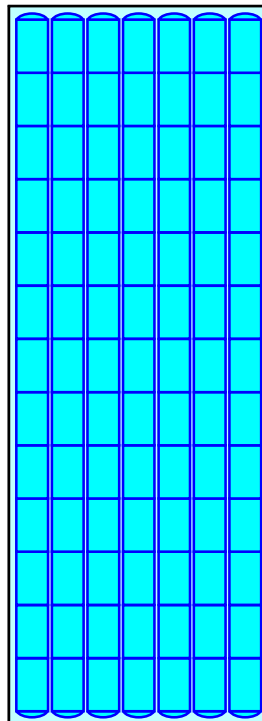
Overall Storage Efficiency = 61.4%

Overall System Size = 96.18' x 34.75' x 3.50'

91 Chambers

433.2 cy Field

278.4 cy Stone



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Pond IC-A: INFILTRATION CHAMBER SYS1 - Chamber Wizard Field B

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

9 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 65.70' Row Length +12.0" End Stone x 2 = 67.70' Base Length

6 Rows x 51.0" Wide + 6.0" Spacing x 5 + 12.0" Side Stone x 2 = 30.00' Base Width

6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

54 Chambers x 45.9 cf = 2,480.8 cf Chamber Storage

7,108.2 cf Field - 2,480.8 cf Chambers = 4,627.4 cf Stone x 40.0% Voids = 1,851.0 cf Stone Storage

Chamber Storage + Stone Storage = 4,331.7 cf = 0.099 af

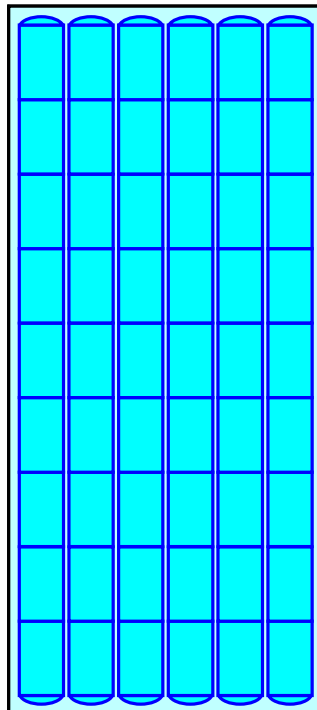
Overall Storage Efficiency = 60.9%

Overall System Size = 67.70' x 30.00' x 3.50'

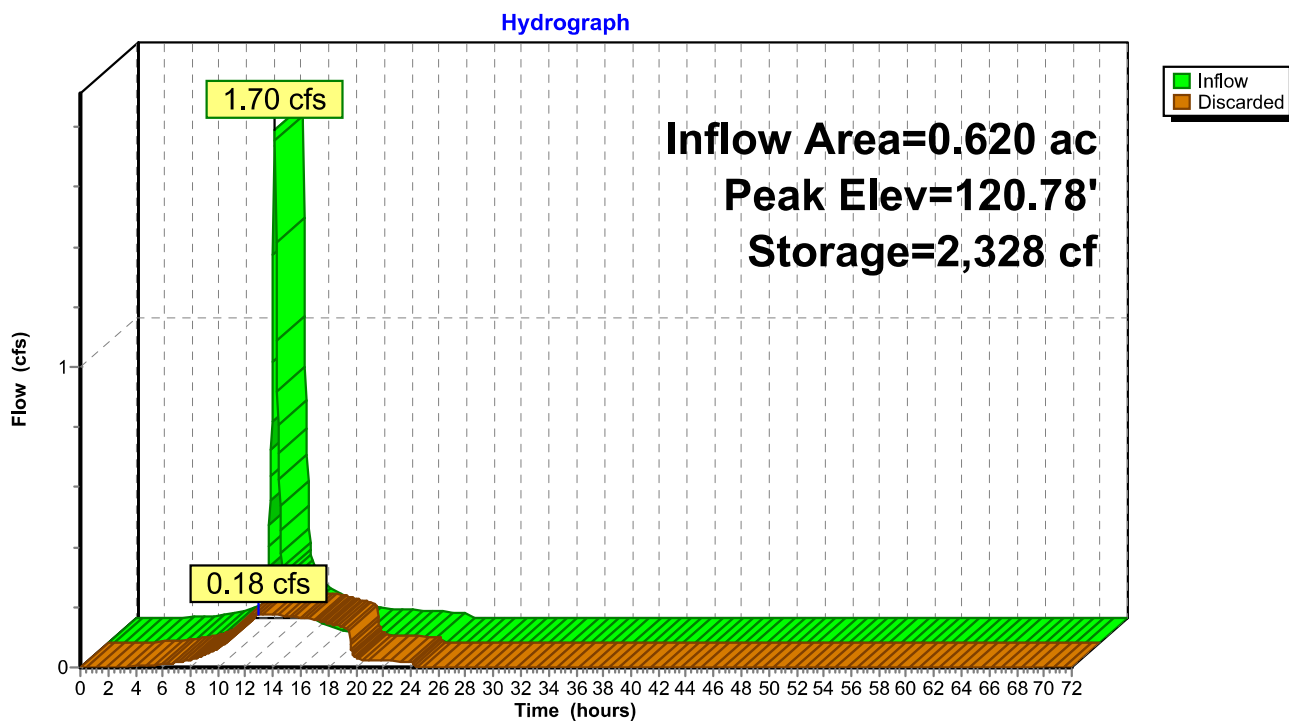
54 Chambers

263.3 cy Field

171.4 cy Stone



Pond IC-A: INFILTRATION CHAMBER SYS1



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Type III 24-hr 2 year Rainfall=3.35"

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Summary for Pond IC-B: INFILTRATION CHAMBER SYS 3

Inflow Area = 0.206 ac, 94.40% Impervious, Inflow Depth = 2.87" for 2 year event
 Inflow = 0.57 cfs @ 12.04 hrs, Volume= 0.049 af
 Outflow = 0.07 cfs @ 12.68 hrs, Volume= 0.049 af, Atten= 87%, Lag= 38.9 min
 Discarded = 0.07 cfs @ 12.68 hrs, Volume= 0.049 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 120.60' @ 12.68 hrs Surf.Area= 2,608 sf Storage= 744 cf

Plug-Flow detention time= 76.1 min calculated for 0.049 af (100% of inflow)
 Center-of-Mass det. time= 76.1 min (845.5 - 769.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	120.00'	2,365 cf	25.25'W x 103.30'L x 3.50'H Field A 9,129 cf Overall - 3,216 cf Embedded = 5,913 cf x 40.0% Voids
#2A	120.50'	3,216 cf	ADS_StormTech SC-740 +Cap x 70 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 70 Chambers in 5 Rows
		5,581 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	120.00'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 116.70'

Discarded OutFlow Max=0.07 cfs @ 12.68 hrs HW=120.60' (Free Discharge)
 ↑**1=Exfiltration** (Controls 0.07 cfs)

Pond IC-B: INFILTRATION CHAMBER SYS 3 - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

14 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 101.30' Row Length +12.0" End Stone x 2 = 103.30' Base Length

5 Rows x 51.0" Wide + 6.0" Spacing x 4 + 12.0" Side Stone x 2 = 25.25' Base Width

6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

70 Chambers x 45.9 cf = 3,215.8 cf Chamber Storage

9,128.8 cf Field - 3,215.8 cf Chambers = 5,913.0 cf Stone x 40.0% Voids = 2,365.2 cf Stone Storage

Chamber Storage + Stone Storage = 5,581.0 cf = 0.128 af

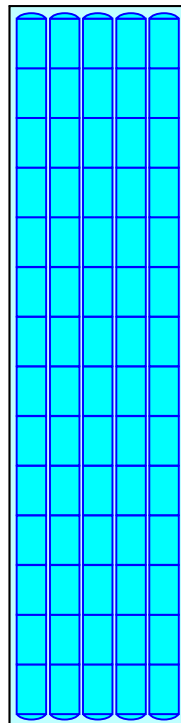
Overall Storage Efficiency = 61.1%

Overall System Size = 103.30' x 25.25' x 3.50'

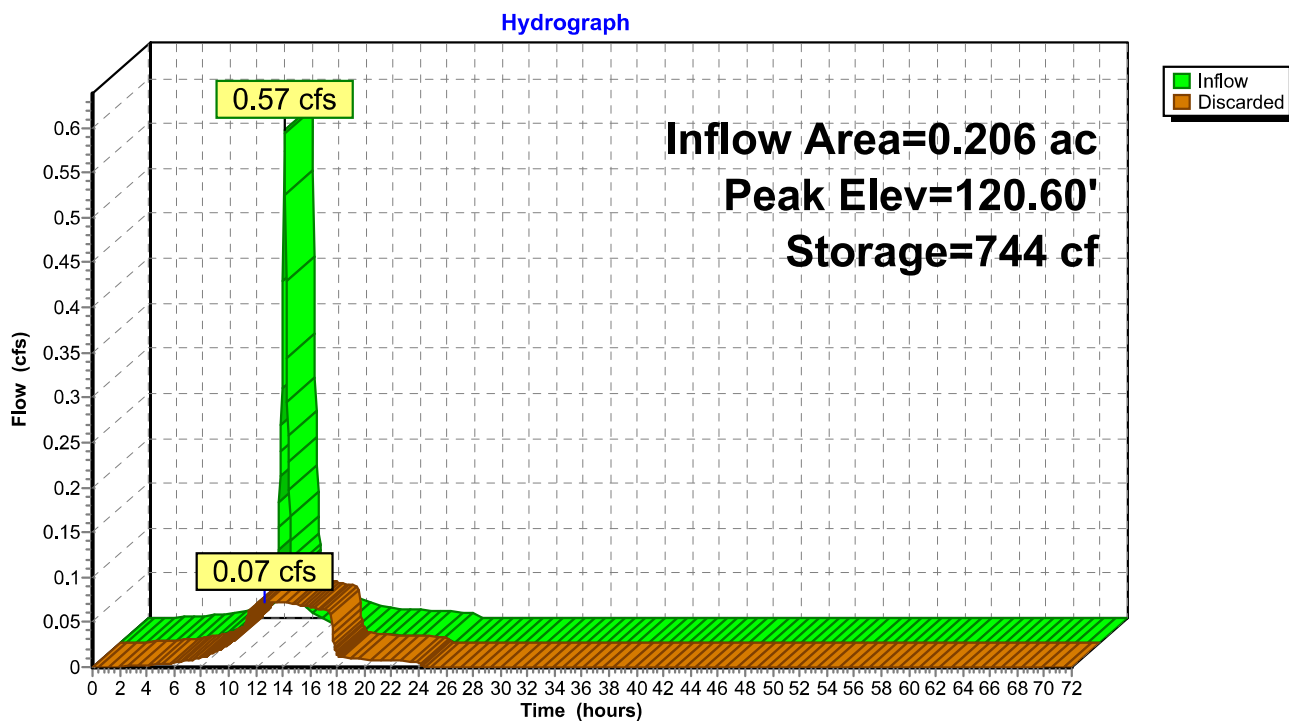
70 Chambers

338.1 cy Field

219.0 cy Stone



Pond IC-B: INFILTRATION CHAMBER SYS 3



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Type III 24-hr 10 year Rainfall=4.95"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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 1S: prop. SC#1

Runoff Area=8,946 sf 82.36% Impervious Runoff Depth=3.93"
Flow Length=152' Tc=6.0 min CN=91 Runoff=0.89 cfs 0.067 af

Subcatchment 1SR: PROP SC, ROOF

Runoff Area=3,750 sf 100.00% Impervious Runoff Depth=4.71"
Tc=0.0 min CN=98 Runoff=0.48 cfs 0.034 af

Subcatchment 2S: PROP. SC#2

Runoff Area=6,329 sf 88.17% Impervious Runoff Depth=4.26"
Flow Length=152' Tc=6.0 min CN=94 Runoff=0.66 cfs 0.052 af

Subcatchment 2SR: PROP. SC, ROOF

Runoff Area=3,750 sf 100.00% Impervious Runoff Depth=4.71"
Tc=0.0 min CN=98 Runoff=0.48 cfs 0.034 af

Subcatchment 3S: PROP. SC#3

Runoff Area=7,964 sf 90.61% Impervious Runoff Depth=4.37"
Flow Length=152' Tc=6.0 min CN=95 Runoff=0.84 cfs 0.067 af

Subcatchment 4S: PROP. SC #4

Runoff Area=5,231 sf 90.38% Impervious Runoff Depth=4.26"
Flow Length=81' Tc=6.0 min CN=94 Runoff=0.54 cfs 0.043 af

Subcatchment 5S: SC5- to Washington

Runoff Area=2,137 sf 0.00% Impervious Runoff Depth=1.34"
Tc=0.0 min CN=61 Runoff=0.08 cfs 0.005 af

Subcatchment 6S: SC6- to Webster

Runoff Area=1,770 sf 0.00% Impervious Runoff Depth=1.34"
Tc=0.0 min CN=61 Runoff=0.07 cfs 0.005 af

Reach DP1: DP1

Inflow=0.15 cfs 0.010 af
Outflow=0.15 cfs 0.010 af

Pond CB1: CB1

Peak Elev=121.84' Inflow=0.89 cfs 0.067 af
12.0" Round Culvert n=0.013 L=62.0' S=0.0065 ' Outflow=0.89 cfs 0.067 af

Pond CB2: CB #2

Peak Elev=121.57' Inflow=0.66 cfs 0.052 af
12.0" Round Culvert n=0.013 L=10.0' S=0.0200 ' Outflow=0.66 cfs 0.052 af

Pond CB3: CB #3

Peak Elev=121.64' Inflow=0.84 cfs 0.067 af
12.0" Round Culvert n=0.013 L=20.0' S=0.0100 ' Outflow=0.84 cfs 0.067 af

Pond CB4: CB#4

Peak Elev=121.67' Inflow=0.54 cfs 0.043 af
12.0" Round Culvert n=0.013 L=32.0' S=0.0125 ' Outflow=0.54 cfs 0.043 af

Pond DMH#2: DMH #2

Peak Elev=121.35' Inflow=0.66 cfs 0.052 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 ' Outflow=0.66 cfs 0.052 af

Pond DMH#3: DMH #3

Peak Elev=121.42' Inflow=0.84 cfs 0.067 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 ' Outflow=0.84 cfs 0.067 af

Pond DMH1: DMH #1

Peak Elev=121.54' Inflow=1.18 cfs 0.101 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 ' Outflow=1.18 cfs 0.101 af

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Type III 24-hr 10 year Rainfall=4.95"

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Pond DMH4: DMH #4

Peak Elev=121.33' Inflow=0.87 cfs 0.076 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 '/ Outflow=0.87 cfs 0.076 af

Pond IC-A: INFILTRATION CHAMBER SYS1

Peak Elev=121.21' Storage=4,170 cf Inflow=2.64 cfs 0.219 af
Outflow=0.20 cfs 0.219 af

Pond IC-B: INFILTRATION CHAMBER SYS 3

Peak Elev=120.87' Storage=1,315 cf Inflow=0.87 cfs 0.076 af
Outflow=0.08 cfs 0.076 af

Total Runoff Area = 0.915 ac Runoff Volume = 0.306 af Average Runoff Depth = 4.01"
18.77% Pervious = 0.172 ac 81.23% Impervious = 0.744 ac

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Type III 24-hr 10 year Rainfall=4.95"

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Summary for Subcatchment 1S: prop. SC#1

Runoff = 0.89 cfs @ 12.09 hrs, Volume= 0.067 af, Depth= 3.93"
Routed to Pond CB1 : CB1

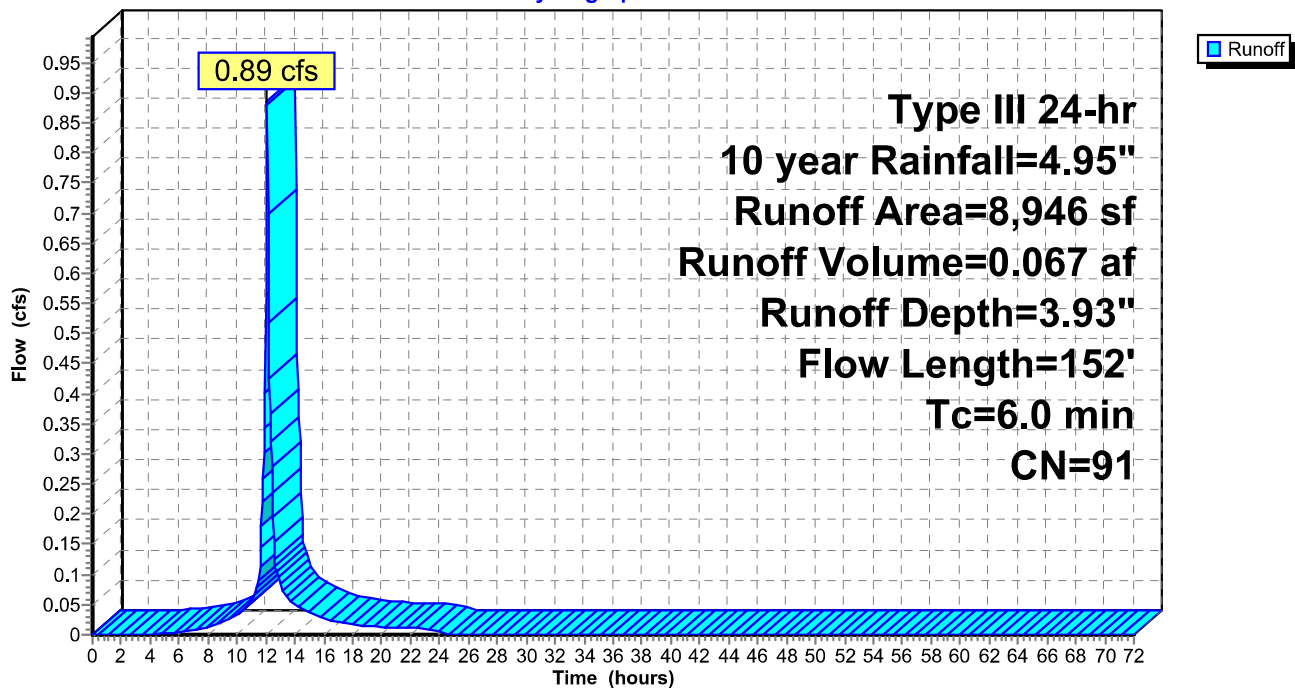
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=4.95"

	Area (sf)	CN	Description
*	6,381	98	pavement area
*	987	98	sidewalk & retaining wall
	1,578	61	>75% Grass cover, Good, HSG B
	8,946	91	Weighted Average
	1,578		17.64% Pervious Area
	7,368		82.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0110	0.97		Sheet Flow, 50 ft Sheet Smooth surfaces n= 0.011 P2= 3.40"
0.6	102	0.0170	2.65		Shallow Concentrated Flow, shallow conc flow Paved Kv= 20.3 fps
1.5	152	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 1S: prop. SC#1

Hydrograph



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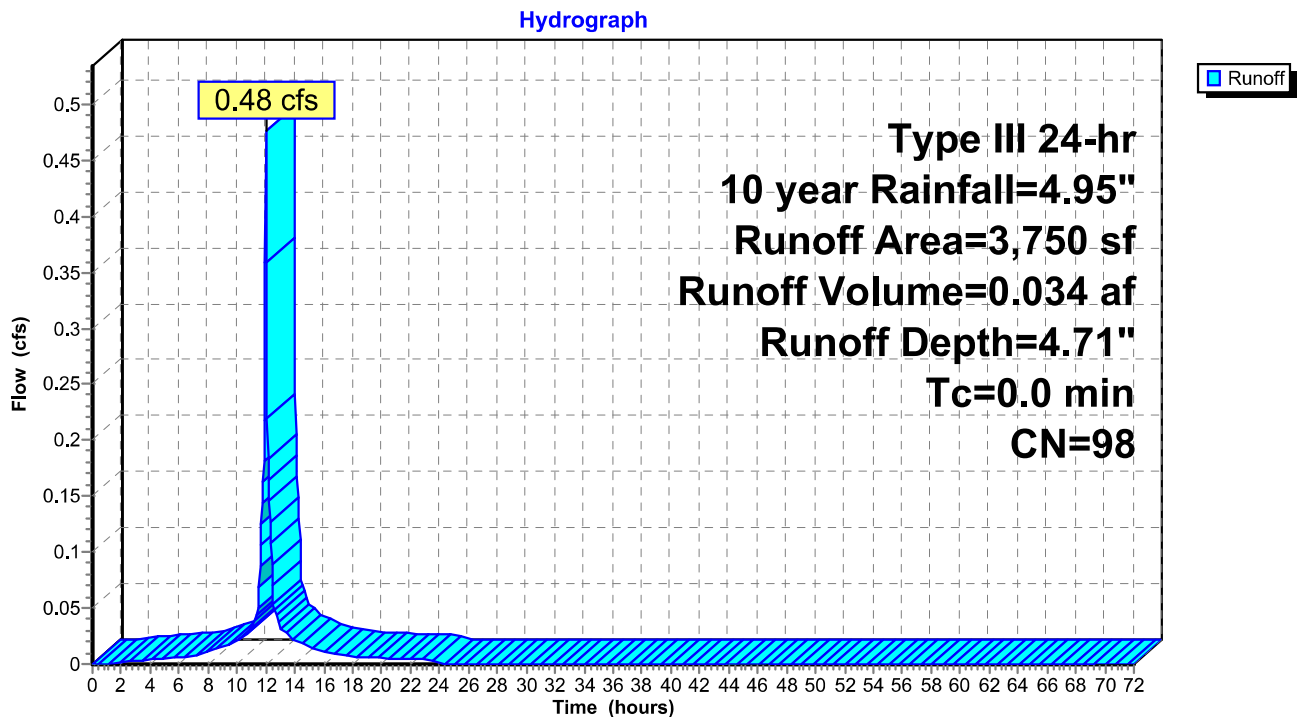
Summary for Subcatchment 1SR: PROP SC, ROOF DRAIN 1

Runoff = 0.48 cfs @ 12.00 hrs, Volume= 0.034 af, Depth= 4.71"
Routed to Pond DMH1 : DMH #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=4.95"

	Area (sf)	CN	Description
*	3,750	98	roof area
	3,750		100.00% Impervious Area

Subcatchment 1SR: PROP SC, ROOF DRAIN 1



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Type III 24-hr 10 year Rainfall=4.95"

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Summary for Subcatchment 2S: PROP. SC#2

Runoff = 0.66 cfs @ 12.09 hrs, Volume= 0.052 af, Depth= 4.26"
Routed to Pond CB2 : CB #2

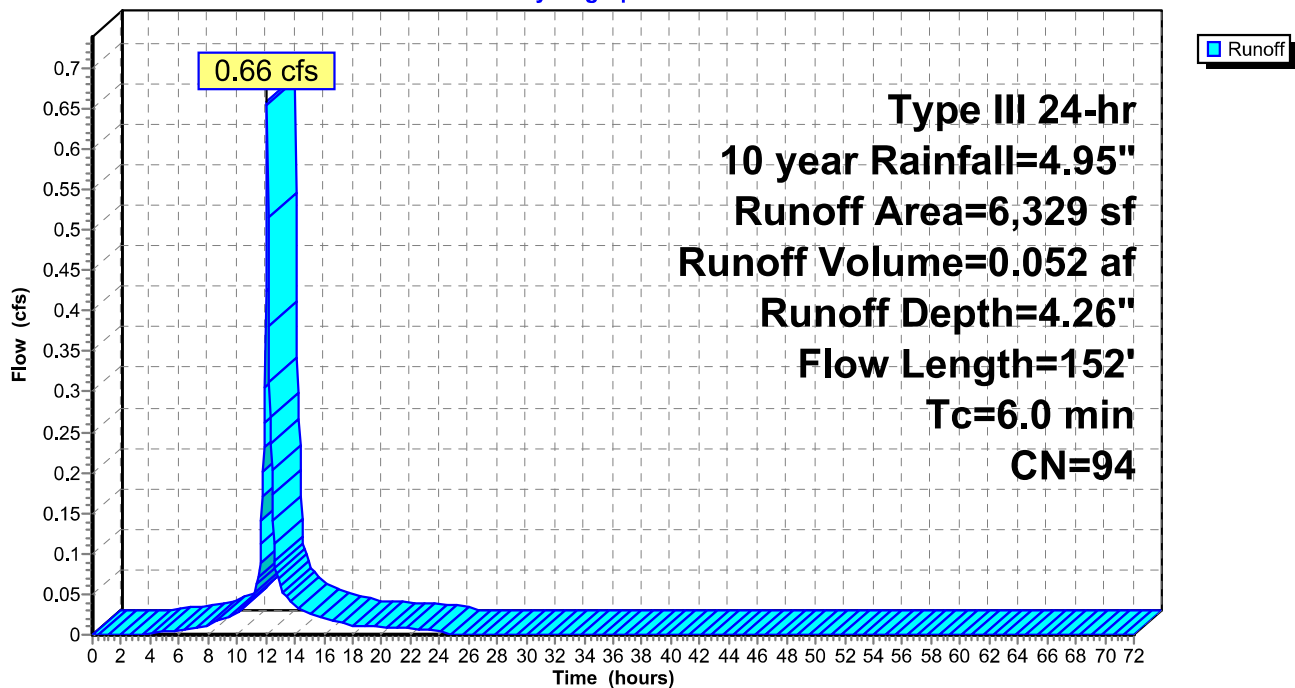
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=4.95"

	Area (sf)	CN	Description
*	4,872	98	pavement area
*	708	98	sidewalk & retaining wall
	749	61	>75% Grass cover, Good, HSG B
	6,329	94	Weighted Average
	749		11.83% Pervious Area
	5,580		88.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0110	0.97		Sheet Flow, 50 ft Sheet Smooth surfaces n= 0.011 P2= 3.40"
0.6	102	0.0170	2.65		Shallow Concentrated Flow, shallow conc flow Paved Kv= 20.3 fps
1.5	152	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 2S: PROP. SC#2

Hydrograph



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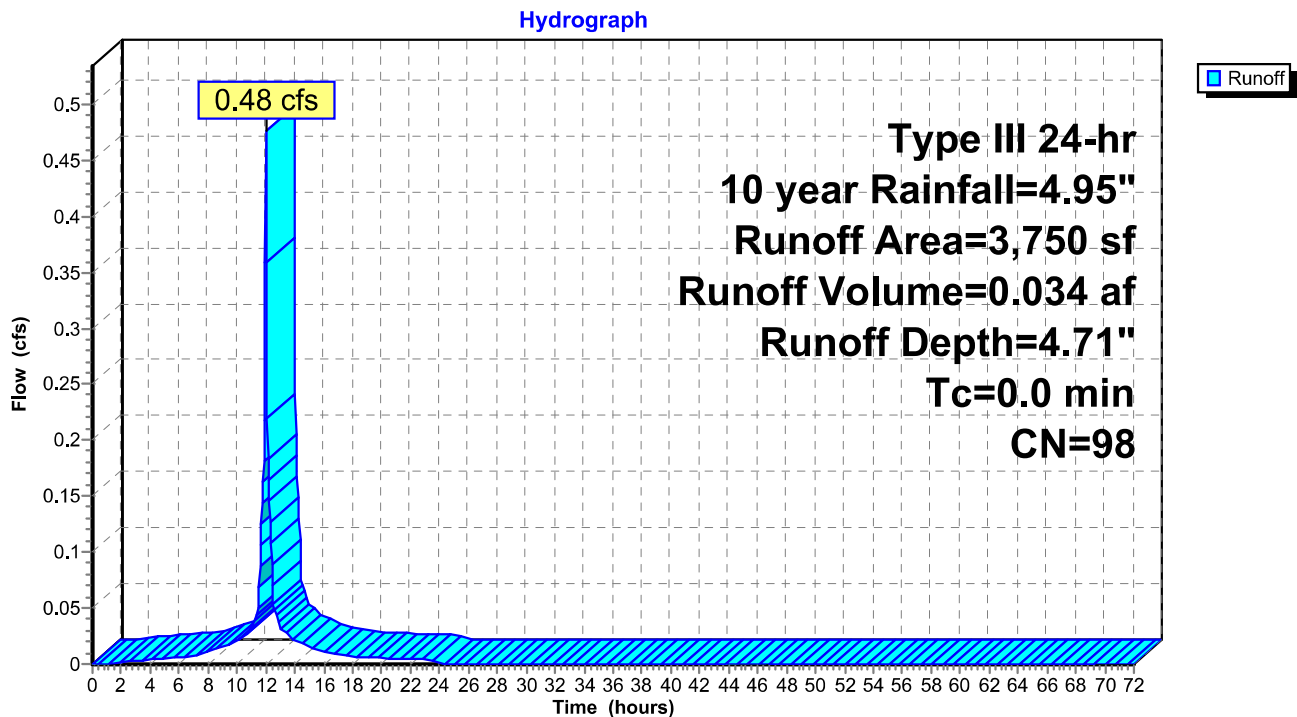
Summary for Subcatchment 2SR: PROP. SC, ROOF DRAIN 2

Runoff = 0.48 cfs @ 12.00 hrs, Volume= 0.034 af, Depth= 4.71"
Routed to Pond DMH4 : DMH #4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=4.95"

	Area (sf)	CN	Description
*	3,750	98	roof area
	3,750		100.00% Impervious Area

Subcatchment 2SR: PROP. SC, ROOF DRAIN 2



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Type III 24-hr 10 year Rainfall=4.95"

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Summary for Subcatchment 3S: PROP. SC#3

Runoff = 0.84 cfs @ 12.09 hrs, Volume= 0.067 af, Depth= 4.37"
Routed to Pond CB3 : CB #3

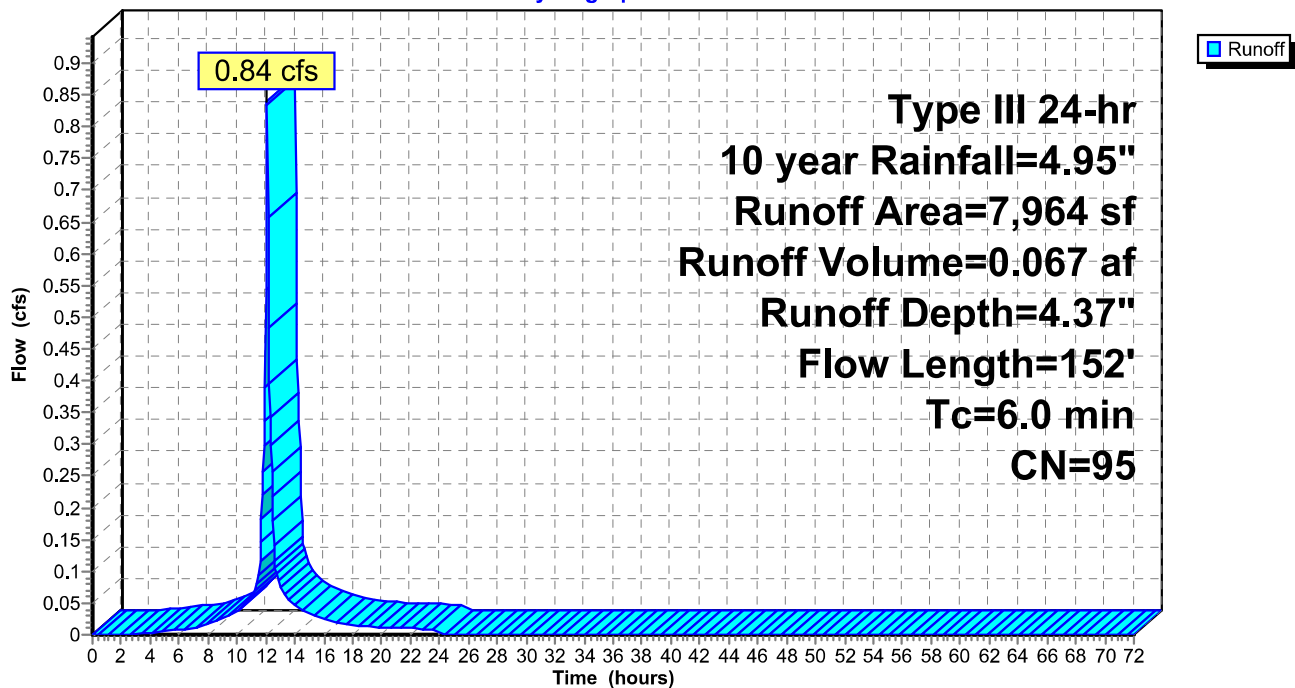
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=4.95"

	Area (sf)	CN	Description
*	6,031	98	pavement area
*	1,185	98	sidewalk & retaining wall
	748	61	>75% Grass cover, Good, HSG B
	7,964	95	Weighted Average
	748		9.39% Pervious Area
	7,216		90.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0110	0.97		Sheet Flow, 50 ft Sheet Smooth surfaces n= 0.011 P2= 3.40"
0.6	102	0.0170	2.65		Shallow Concentrated Flow, shallow conc flow Paved Kv= 20.3 fps
1.5	152	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 3S: PROP. SC#3

Hydrograph



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Type III 24-hr 10 year Rainfall=4.95"

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Summary for Subcatchment 4S: PROP. SC #4

Runoff = 0.54 cfs @ 12.09 hrs, Volume= 0.043 af, Depth= 4.26"
Routed to Pond CB4 : CB#4

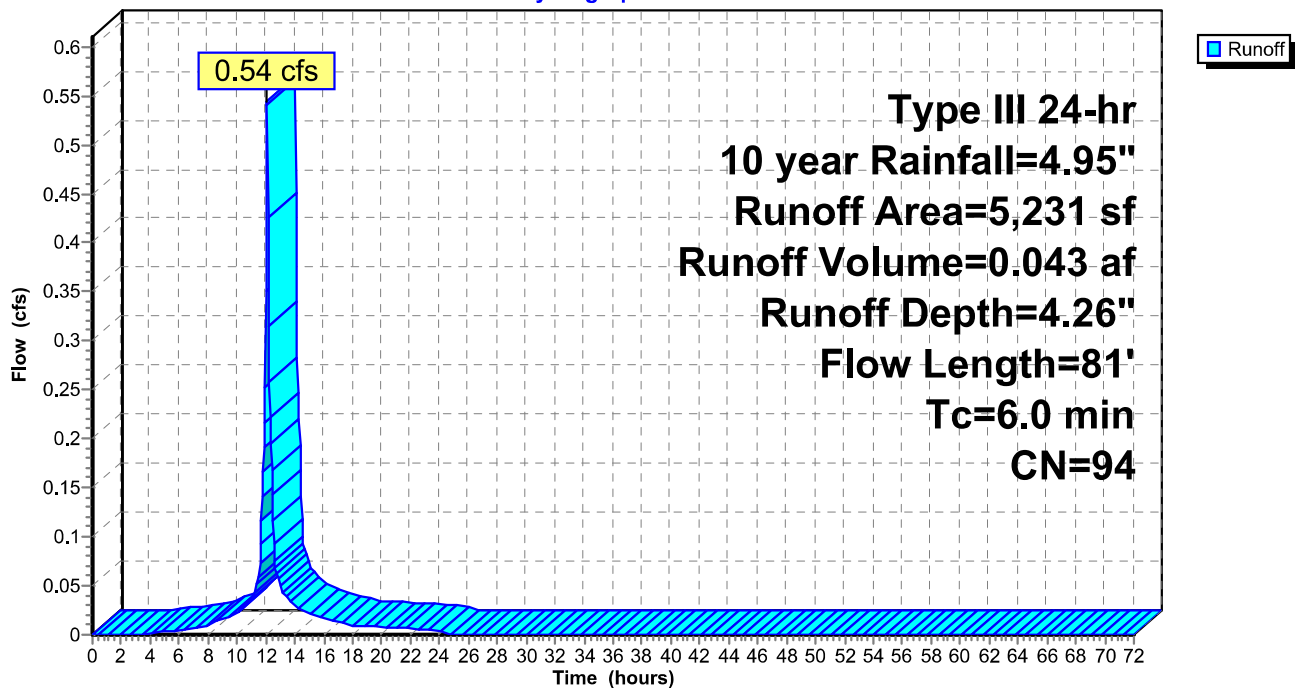
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=4.95"

Area (sf)	CN	Description
4,341	98	Paved parking, HSG B
* 387	98	sidewalk and other impervious
503	61	>75% Grass cover, Good, HSG B
5,231	94	Weighted Average
503		9.62% Pervious Area
4,728		90.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	50	0.1350	2.65		Sheet Flow, sheet flow 50 ft Smooth surfaces n= 0.011 P2= 3.40"
0.3	31	0.0100	2.03		Shallow Concentrated Flow, shallow conc flow Paved Kv= 20.3 fps
0.6	81	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 4S: PROP. SC #4

Hydrograph



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Type III 24-hr 10 year Rainfall=4.95"

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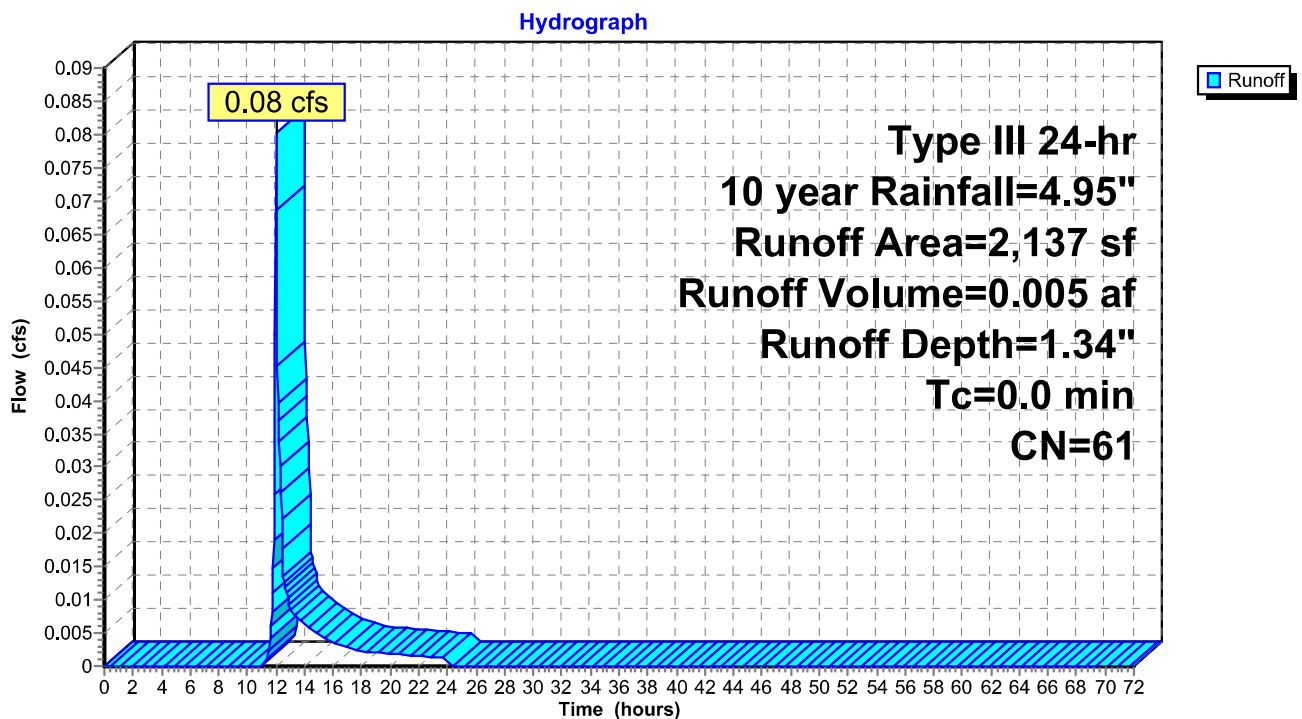
Summary for Subcatchment 5S: SC5- to Washington

Runoff = 0.08 cfs @ 12.01 hrs, Volume= 0.005 af, Depth= 1.34"
Routed to Reach DP1 : DP1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=4.95"

Area (sf)	CN	Description
2,137	61	>75% Grass cover, Good, HSG B
2,137		100.00% Pervious Area

Subcatchment 5S: SC5- to Washington



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Type III 24-hr 10 year Rainfall=4.95"

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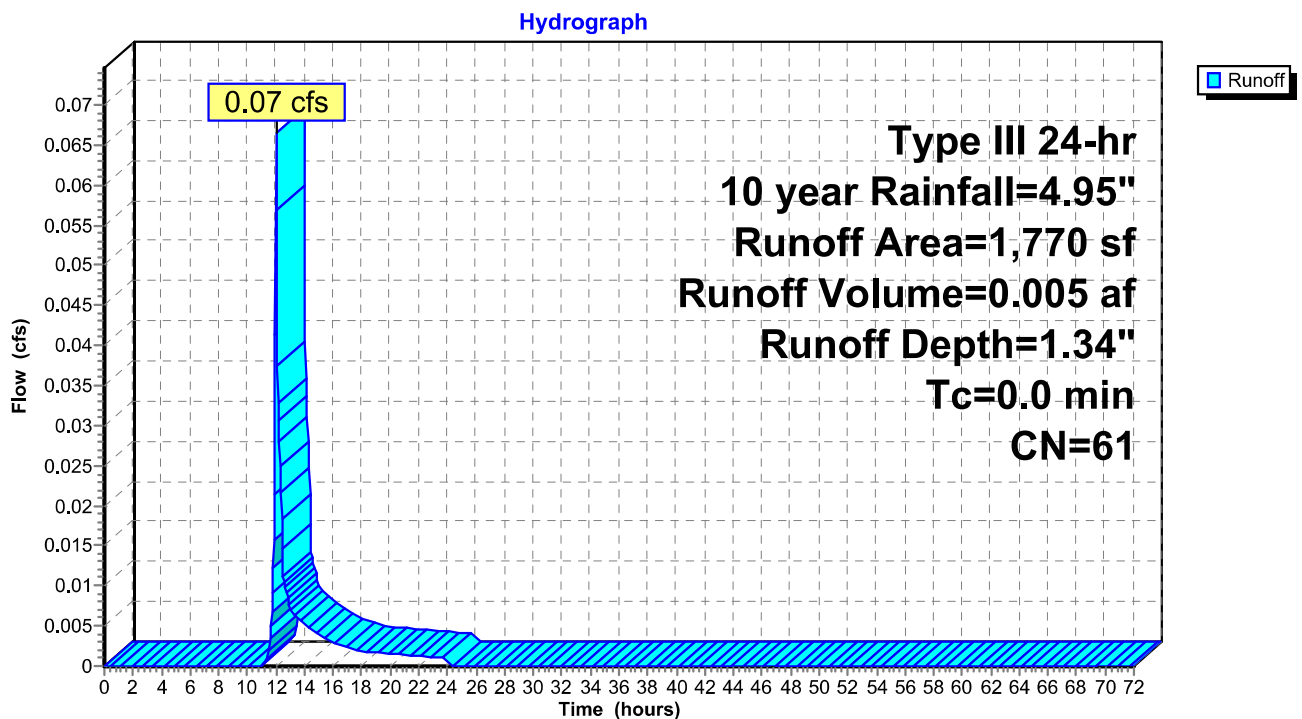
Summary for Subcatchment 6S: SC6- to Webster

Runoff = 0.07 cfs @ 12.01 hrs, Volume= 0.005 af, Depth= 1.34"
Routed to Reach DP1 : DP1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 year Rainfall=4.95"

Area (sf)	CN	Description
1,770	61	>75% Grass cover, Good, HSG B
1,770		100.00% Pervious Area

Subcatchment 6S: SC6- to Webster



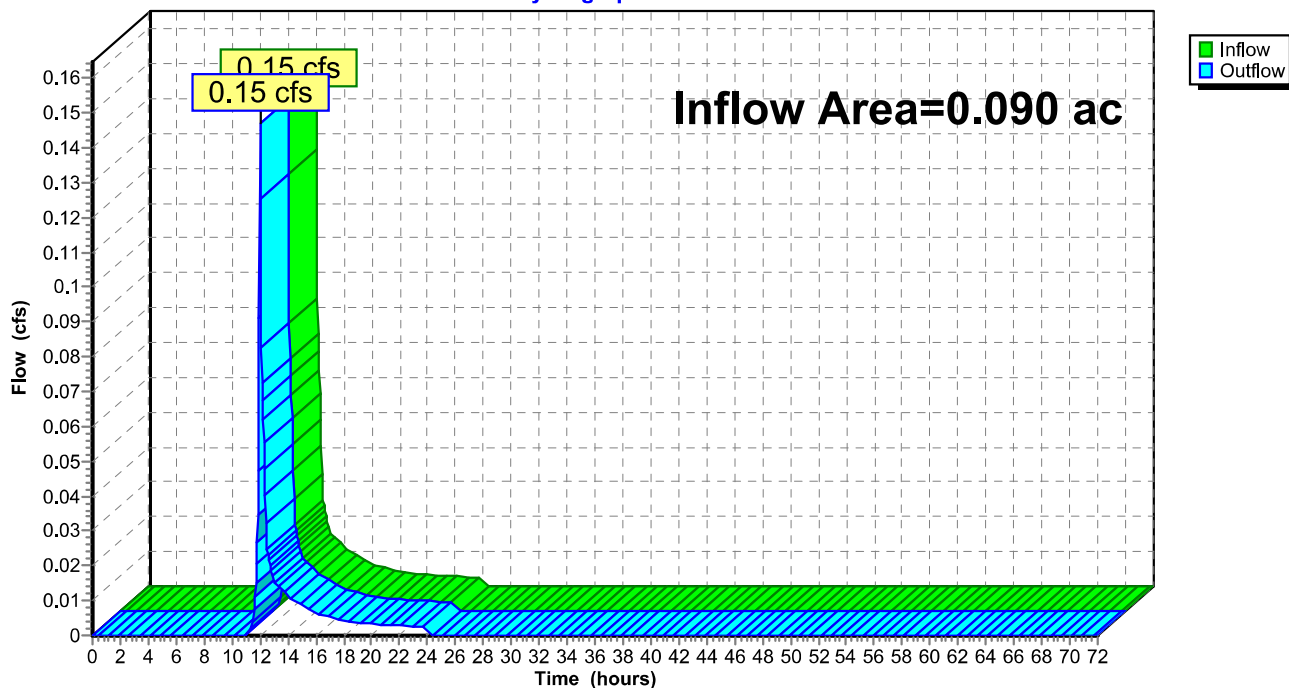
Summary for Reach DP1: DP1

Inflow Area = 0.090 ac, 0.00% Impervious, Inflow Depth = 1.34" for 10 year event
 Inflow = 0.15 cfs @ 12.01 hrs, Volume= 0.010 af
 Outflow = 0.15 cfs @ 12.01 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach DP1: DP1

Hydrograph



Summary for Pond CB1: CB1

Inflow Area = 0.205 ac, 82.36% Impervious, Inflow Depth = 3.93" for 10 year event
 Inflow = 0.89 cfs @ 12.09 hrs, Volume= 0.067 af
 Outflow = 0.89 cfs @ 12.09 hrs, Volume= 0.067 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.89 cfs @ 12.09 hrs, Volume= 0.067 af
 Routed to Pond DMH1 : DMH #1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

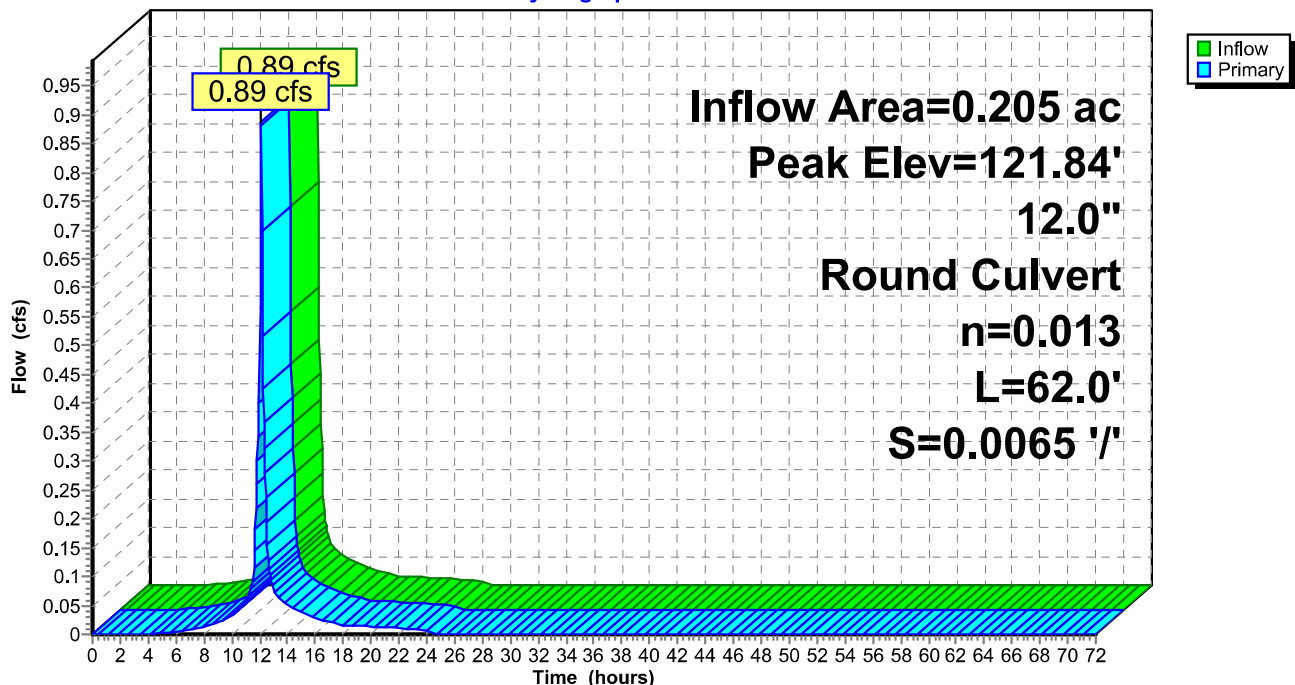
Peak Elev= 121.84' @ 12.09 hrs

Flood Elev= 124.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	121.30'	12.0" Round Culvert L= 62.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 121.30' / 120.90' S= 0.0065 '/ S= 0.0065 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.86 cfs @ 12.09 hrs HW=121.83' (Free Discharge)

1=Culvert (Barrel Controls 0.86 cfs @ 2.96 fps)

Pond CB1: CB1**Hydrograph**

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Type III 24-hr 10 year Rainfall=4.95"

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Summary for Pond CB2: CB #2

Inflow Area = 0.145 ac, 88.17% Impervious, Inflow Depth = 4.26" for 10 year event
Inflow = 0.66 cfs @ 12.09 hrs, Volume= 0.052 af
Outflow = 0.66 cfs @ 12.09 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.0 min
Primary = 0.66 cfs @ 12.09 hrs, Volume= 0.052 af
Routed to Pond DMH#2 : DMH #2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.57' @ 12.09 hrs

Flood Elev= 124.60'

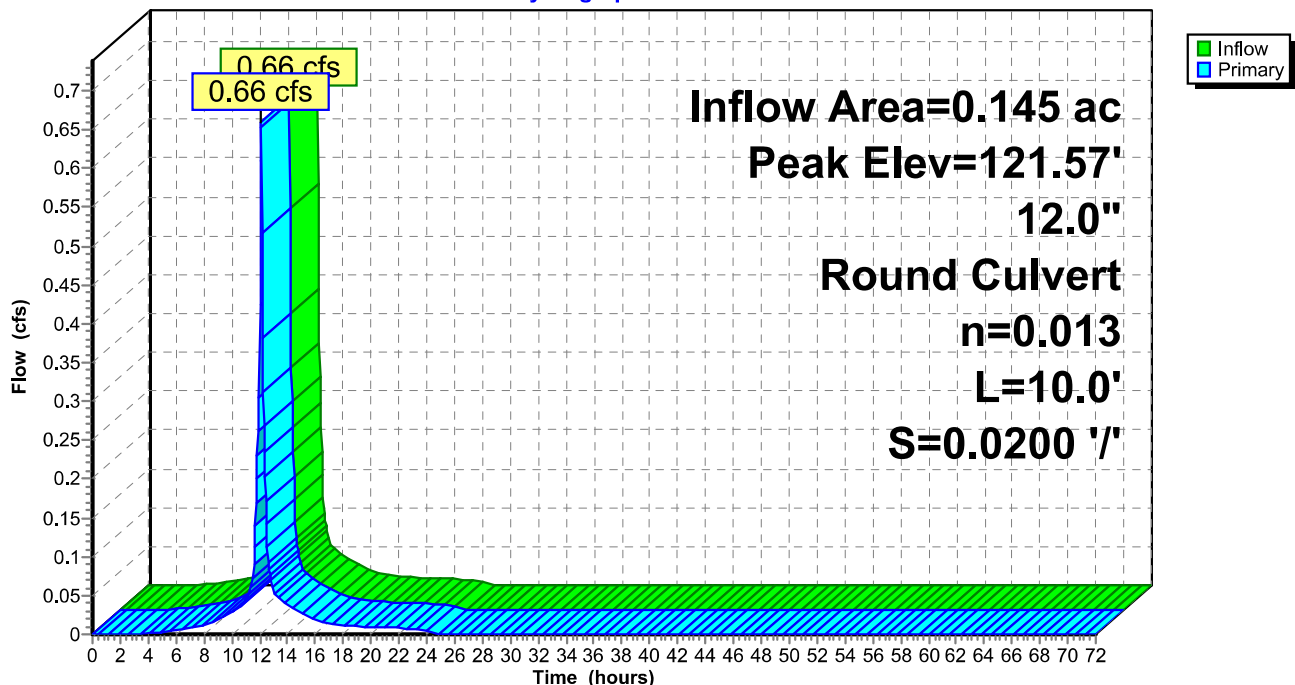
Device	Routing	Invert	Outlet Devices
#1	Primary	121.10'	12.0" Round PIPE L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 121.10' / 120.90' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.64 cfs @ 12.09 hrs HW=121.56' (Free Discharge)

1=PIPE (Inlet Controls 0.64 cfs @ 1.82 fps)

Pond CB2: CB #2

Hydrograph



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Type III 24-hr 10 year Rainfall=4.95"

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Summary for Pond CB3: CB #3

Inflow Area = 0.183 ac, 90.61% Impervious, Inflow Depth = 4.37" for 10 year event
Inflow = 0.84 cfs @ 12.09 hrs, Volume= 0.067 af
Outflow = 0.84 cfs @ 12.09 hrs, Volume= 0.067 af, Atten= 0%, Lag= 0.0 min
Primary = 0.84 cfs @ 12.09 hrs, Volume= 0.067 af
Routed to Pond DMH#3 : DMH #3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.64' @ 12.09 hrs

Flood Elev= 124.60'

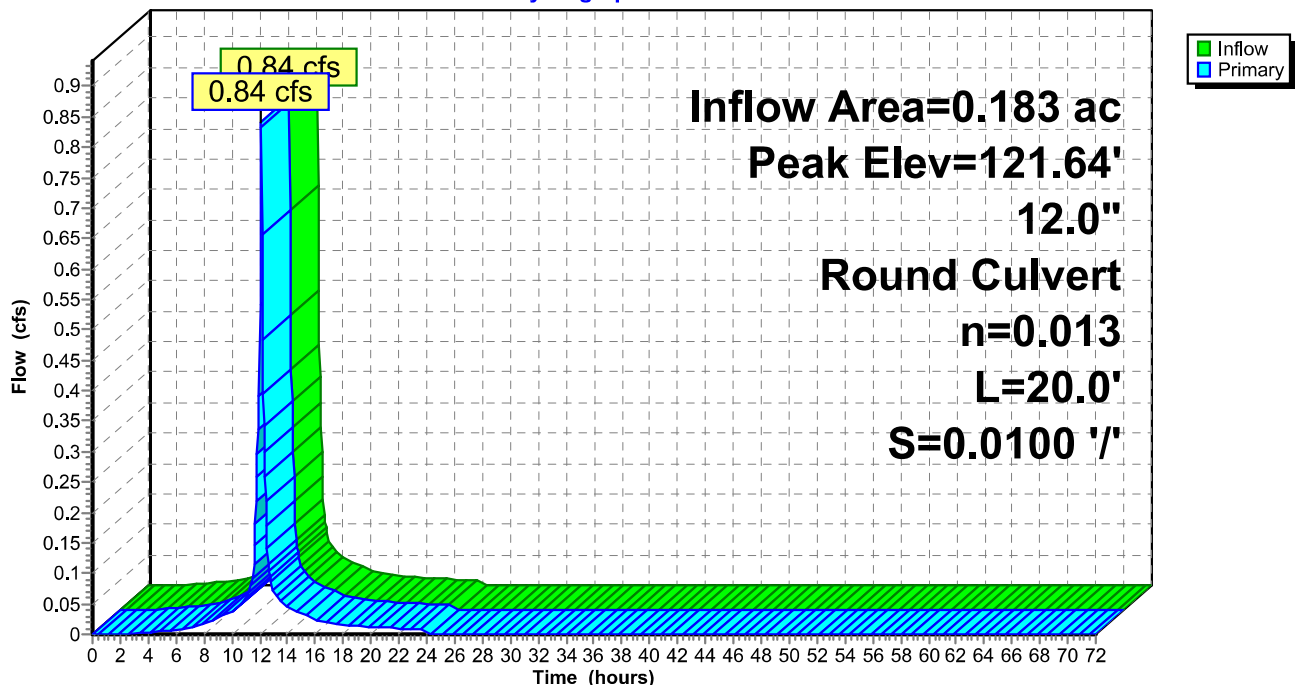
Device	Routing	Invert	Outlet Devices
#1	Primary	121.10'	12.0" Round PIPE L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 121.10' / 120.90' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.82 cfs @ 12.09 hrs HW=121.63' (Free Discharge)

1=PIPE (Barrel Controls 0.82 cfs @ 2.83 fps)

Pond CB3: CB #3

Hydrograph



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Type III 24-hr 10 year Rainfall=4.95"

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Summary for Pond CB4: CB#4

Inflow Area = 0.120 ac, 90.38% Impervious, Inflow Depth = 4.26" for 10 year event
Inflow = 0.54 cfs @ 12.09 hrs, Volume= 0.043 af
Outflow = 0.54 cfs @ 12.09 hrs, Volume= 0.043 af, Atten= 0%, Lag= 0.0 min
Primary = 0.54 cfs @ 12.09 hrs, Volume= 0.043 af
Routed to Pond DMH4 : DMH #4

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.67' @ 12.09 hrs

Flood Elev= 124.50'

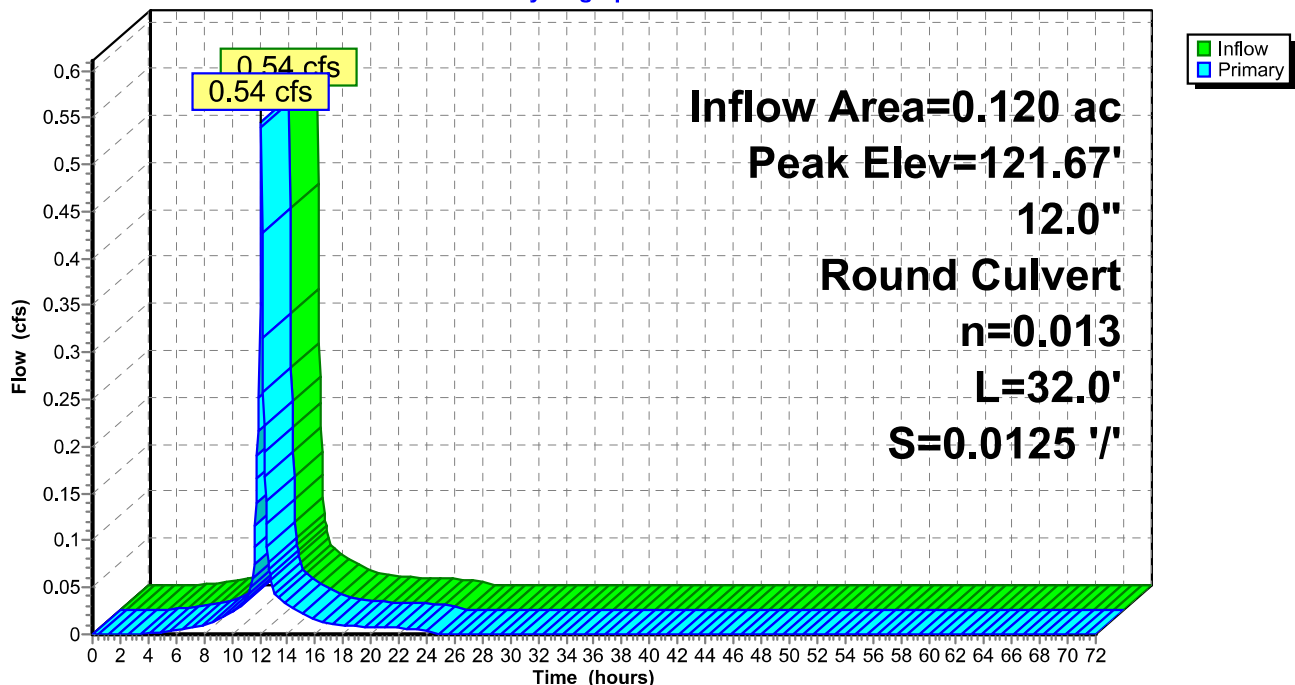
Device	Routing	Invert	Outlet Devices
#1	Primary	121.30'	12.0" Round PIPE L= 32.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 121.30' / 120.90' S= 0.0125 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.53 cfs @ 12.09 hrs HW=121.66' (Free Discharge)

1=PIPE (Inlet Controls 0.53 cfs @ 2.05 fps)

Pond CB4: CB#4

Hydrograph



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Type III 24-hr 10 year Rainfall=4.95"

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Summary for Pond DMH#2: DMH #2

Inflow Area = 0.145 ac, 88.17% Impervious, Inflow Depth = 4.26" for 10 year event
Inflow = 0.66 cfs @ 12.09 hrs, Volume= 0.052 af
Outflow = 0.66 cfs @ 12.09 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.0 min
Primary = 0.66 cfs @ 12.09 hrs, Volume= 0.052 af
Routed to Pond IC-A : INFILTRATION CHAMBER SYS1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.35' @ 12.09 hrs

Flood Elev= 124.60'

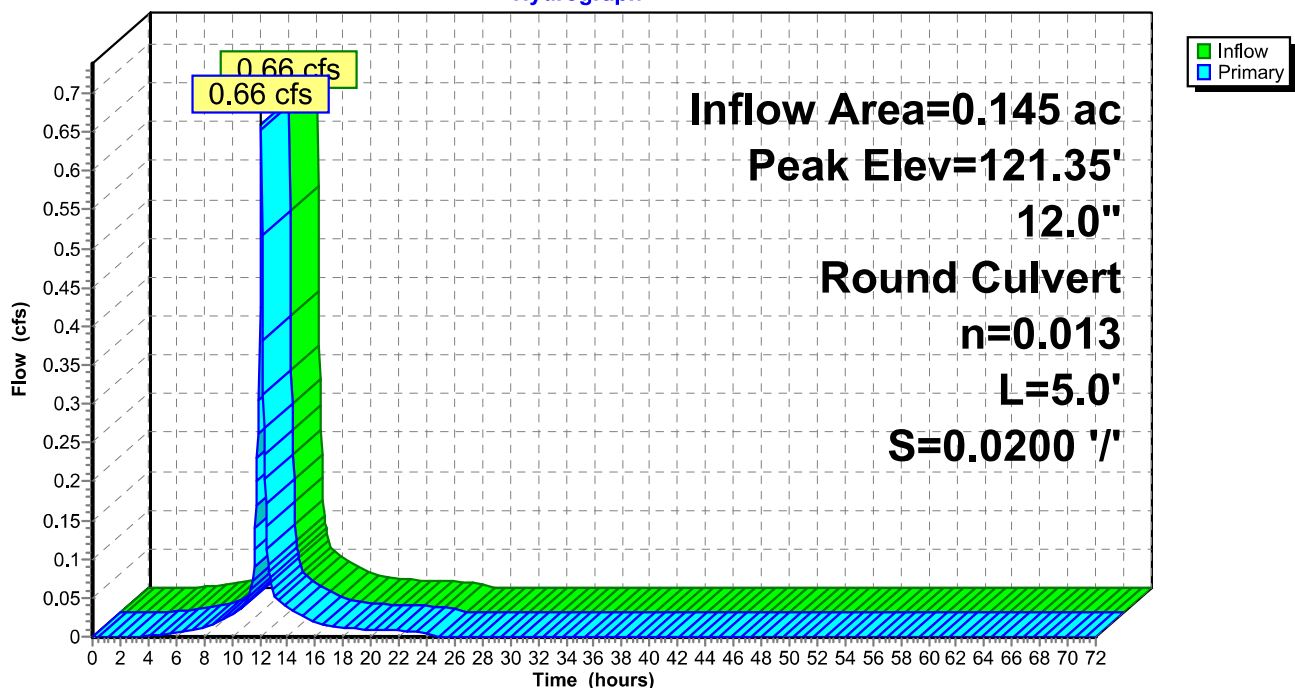
Device	Routing	Invert	Outlet Devices
#1	Primary	120.90'	12.0" Round PIPE L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.90' / 120.80' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.64 cfs @ 12.09 hrs HW=121.34' (Free Discharge)

1=PIPE (Barrel Controls 0.64 cfs @ 2.80 fps)

Pond DMH#2: DMH #2

Hydrograph



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Type III 24-hr 10 year Rainfall=4.95"

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Summary for Pond DMH#3: DMH #3

Inflow Area = 0.183 ac, 90.61% Impervious, Inflow Depth = 4.37" for 10 year event
Inflow = 0.84 cfs @ 12.09 hrs, Volume= 0.067 af
Outflow = 0.84 cfs @ 12.09 hrs, Volume= 0.067 af, Atten= 0%, Lag= 0.0 min
Primary = 0.84 cfs @ 12.09 hrs, Volume= 0.067 af
Routed to Pond IC-A : INFILTRATION CHAMBER SYS1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.42' @ 12.09 hrs

Flood Elev= 124.60'

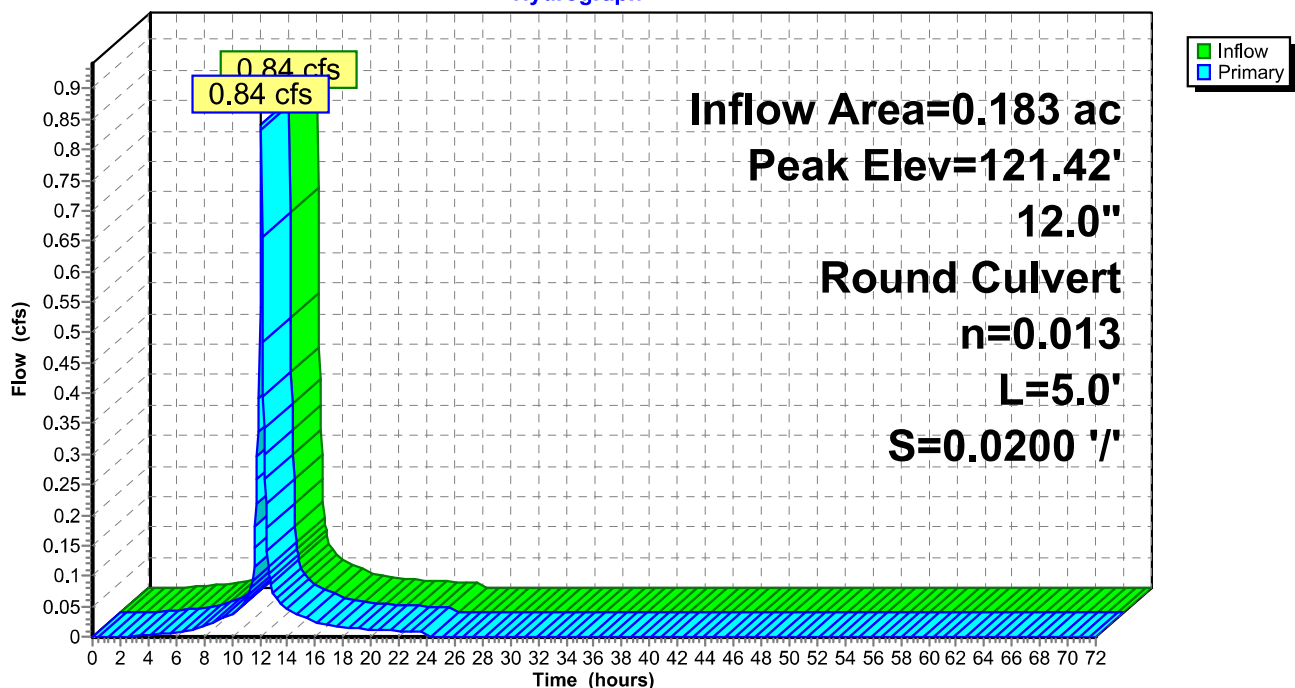
Device	Routing	Invert	Outlet Devices
#1	Primary	120.90'	12.0" Round PIPE L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.90' / 120.80' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.82 cfs @ 12.09 hrs HW=121.41' (Free Discharge)

1=PIPE (Barrel Controls 0.82 cfs @ 2.94 fps)

Pond DMH#3: DMH #3

Hydrograph



Summary for Pond DMH1: DMH #1

Inflow Area = 0.291 ac, 87.57% Impervious, Inflow Depth = 4.16" for 10 year event
 Inflow = 1.18 cfs @ 12.06 hrs, Volume= 0.101 af
 Outflow = 1.18 cfs @ 12.06 hrs, Volume= 0.101 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.18 cfs @ 12.06 hrs, Volume= 0.101 af
 Routed to Pond IC-A : INFILTRATION CHAMBER SYS1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.54' @ 12.06 hrs

Flood Elev= 124.00'

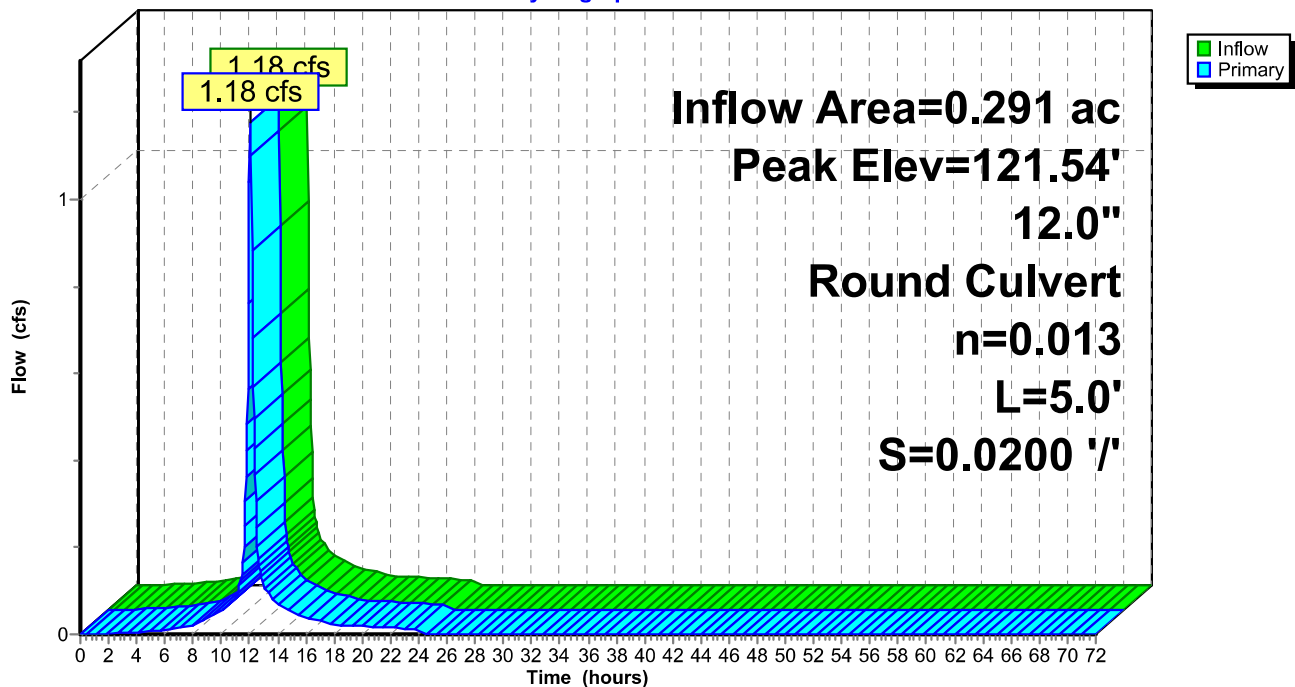
Device	Routing	Invert	Outlet Devices
#1	Primary	120.90'	12.0" Round DMH 1 OUTLET L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.90' / 120.80' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.16 cfs @ 12.06 hrs HW=121.53' (Free Discharge)

1=DMH 1 OUTLET (Barrel Controls 1.16 cfs @ 3.16 fps)

Pond DMH1: DMH #1

Hydrograph



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Type III 24-hr 10 year Rainfall=4.95"

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Summary for Pond DMH4: DMH #4

Inflow Area = 0.206 ac, 94.40% Impervious, Inflow Depth = 4.45" for 10 year event
Inflow = 0.87 cfs @ 12.04 hrs, Volume= 0.076 af
Outflow = 0.87 cfs @ 12.04 hrs, Volume= 0.076 af, Atten= 0%, Lag= 0.0 min
Primary = 0.87 cfs @ 12.04 hrs, Volume= 0.076 af
Routed to Pond IC-B : INFILTRATION CHAMBER SYS 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.33' @ 12.04 hrs

Flood Elev= 124.50'

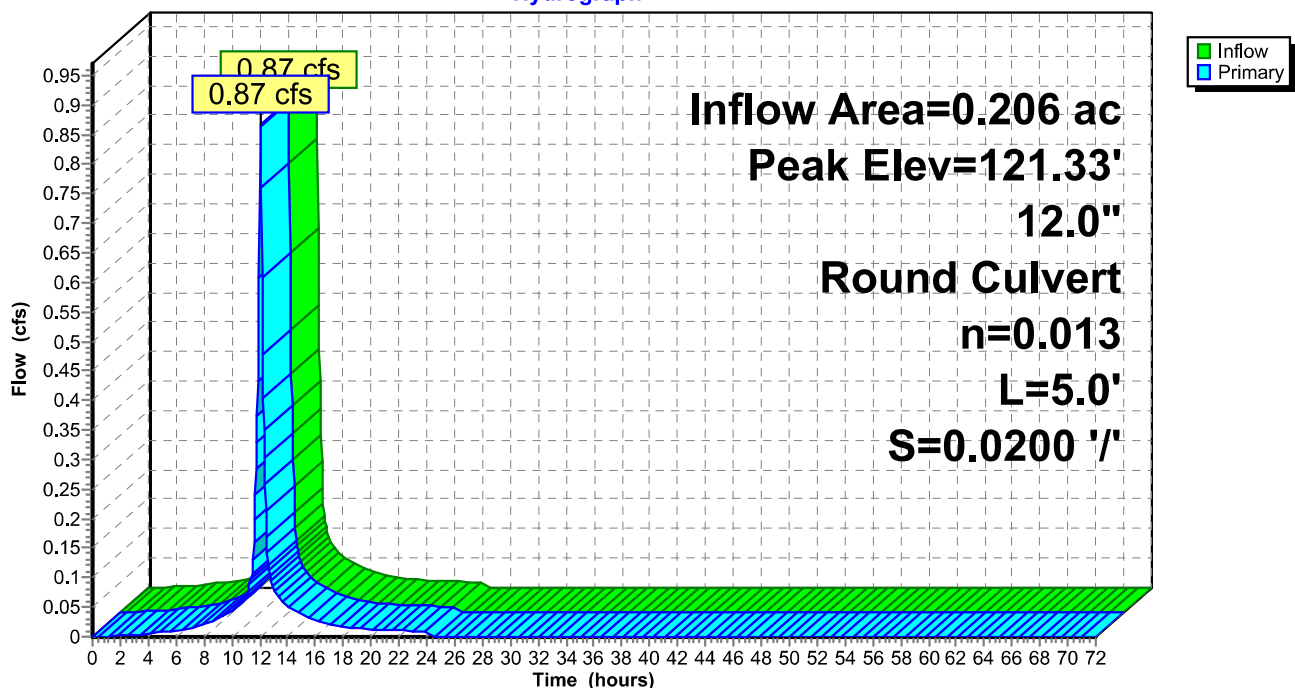
Device	Routing	Invert	Outlet Devices
#1	Primary	120.80'	12.0" Round PIPE L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.80' / 120.70' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.85 cfs @ 12.04 hrs HW=121.33' (Free Discharge)

1=PIPE (Barrel Controls 0.85 cfs @ 2.96 fps)

Pond DMH4: DMH #4

Hydrograph



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Type III 24-hr 10 year Rainfall=4.95"

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Summary for Pond IC-A: INFILTRATION CHAMBER SYS1

Inflow Area = 0.620 ac, 88.61% Impervious, Inflow Depth = 4.25" for 10 year event
 Inflow = 2.64 cfs @ 12.08 hrs, Volume= 0.219 af
 Outflow = 0.20 cfs @ 13.31 hrs, Volume= 0.219 af, Atten= 92%, Lag= 73.8 min
 Discarded = 0.20 cfs @ 13.31 hrs, Volume= 0.219 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 121.21' @ 13.31 hrs Surf.Area= 5,373 sf Storage= 4,170 cf

Plug-Flow detention time= 188.4 min calculated for 0.219 af (100% of inflow)
 Center-of-Mass det. time= 188.3 min (959.8 - 771.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	120.00'	3,007 cf	34.75'W x 96.18'L x 3.50'H Field A 11,697 cf Overall - 4,181 cf Embedded = 7,517 cf x 40.0% Voids
#2A	120.50'	4,181 cf	ADS_StormTech SC-740 +Cap x 91 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 91 Chambers in 7 Rows
#3B	120.00'	1,851 cf	30.00'W x 67.70'L x 3.50'H Field B 7,108 cf Overall - 2,481 cf Embedded = 4,627 cf x 40.0% Voids
#4B	120.50'	2,481 cf	ADS_StormTech SC-740 +Cap x 54 Inside #3 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 54 Chambers in 6 Rows
		11,519 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	120.00'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 118.00'

Discarded OutFlow Max=0.20 cfs @ 13.31 hrs HW=121.21' (Free Discharge)**↑1=Exfiltration** (Controls 0.20 cfs)

Pond IC-A: INFILTRATION CHAMBER SYS1 - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

13 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 94.18' Row Length +12.0" End Stone x 2 = 96.18' Base Length

7 Rows x 51.0" Wide + 6.0" Spacing x 6 + 12.0" Side Stone x 2 = 34.75' Base Width

6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

91 Chambers x 45.9 cf = 4,180.5 cf Chamber Storage

11,697.5 cf Field - 4,180.5 cf Chambers = 7,516.9 cf Stone x 40.0% Voids = 3,006.8 cf Stone Storage

Chamber Storage + Stone Storage = 7,187.3 cf = 0.165 af

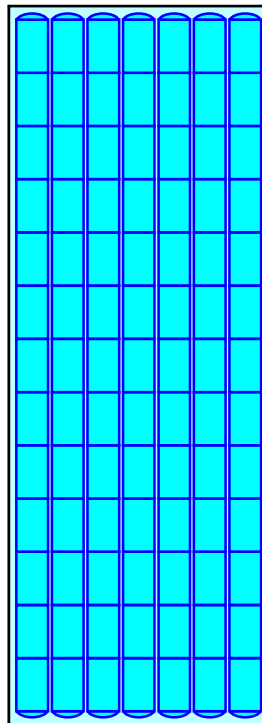
Overall Storage Efficiency = 61.4%

Overall System Size = 96.18' x 34.75' x 3.50'

91 Chambers

433.2 cy Field

278.4 cy Stone



Pond IC-A: INFILTRATION CHAMBER SYS1 - Chamber Wizard Field B

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

9 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 65.70' Row Length +12.0" End Stone x 2 = 67.70' Base Length

6 Rows x 51.0" Wide + 6.0" Spacing x 5 + 12.0" Side Stone x 2 = 30.00' Base Width

6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

54 Chambers x 45.9 cf = 2,480.8 cf Chamber Storage

7,108.2 cf Field - 2,480.8 cf Chambers = 4,627.4 cf Stone x 40.0% Voids = 1,851.0 cf Stone Storage

Chamber Storage + Stone Storage = 4,331.7 cf = 0.099 af

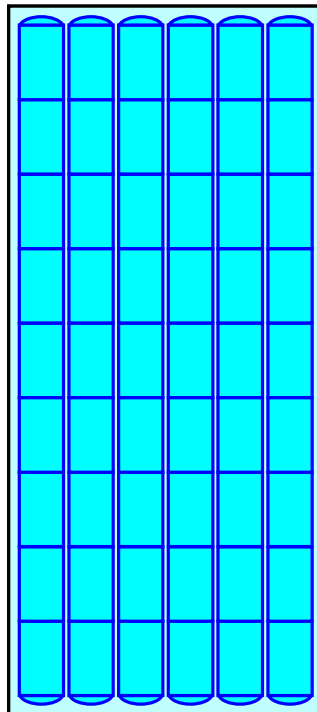
Overall Storage Efficiency = 60.9%

Overall System Size = 67.70' x 30.00' x 3.50'

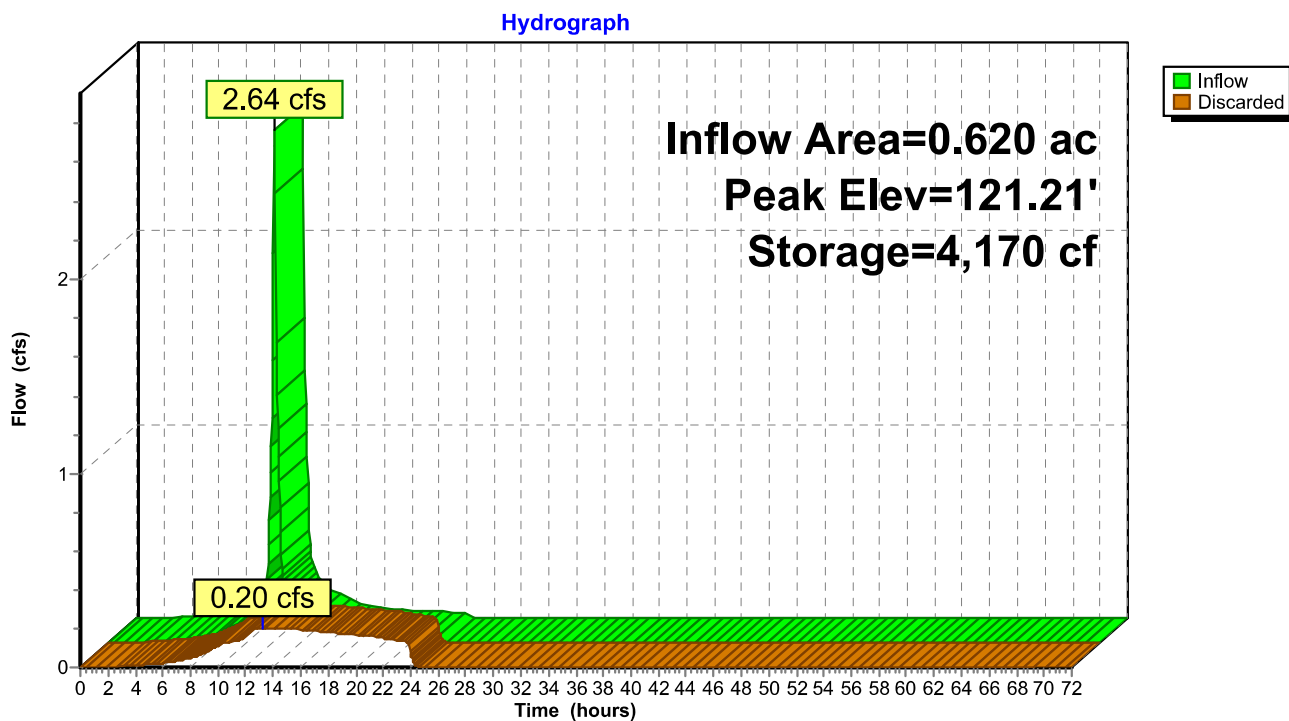
54 Chambers

263.3 cy Field

171.4 cy Stone



Pond IC-A: INFILTRATION CHAMBER SYS1



Summary for Pond IC-B: INFILTRATION CHAMBER SYS 3

Inflow Area = 0.206 ac, 94.40% Impervious, Inflow Depth = 4.45" for 10 year event
 Inflow = 0.87 cfs @ 12.04 hrs, Volume= 0.076 af
 Outflow = 0.08 cfs @ 13.02 hrs, Volume= 0.076 af, Atten= 91%, Lag= 59.0 min
 Discarded = 0.08 cfs @ 13.02 hrs, Volume= 0.076 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 120.87' @ 13.02 hrs Surf.Area= 2,608 sf Storage= 1,315 cf

Plug-Flow detention time= 137.2 min calculated for 0.076 af (100% of inflow)
 Center-of-Mass det. time= 137.1 min (897.1 - 760.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	120.00'	2,365 cf	25.25'W x 103.30'L x 3.50'H Field A 9,129 cf Overall - 3,216 cf Embedded = 5,913 cf x 40.0% Voids
#2A	120.50'	3,216 cf	ADS_StormTech SC-740 +Cap x 70 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 70 Chambers in 5 Rows
		5,581 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	120.00'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 116.70'

Discarded OutFlow Max=0.08 cfs @ 13.02 hrs HW=120.87' (Free Discharge)
 ↑**1=Exfiltration** (Controls 0.08 cfs)

Pond IC-B: INFILTRATION CHAMBER SYS 3 - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

14 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 101.30' Row Length +12.0" End Stone x 2 = 103.30' Base Length

5 Rows x 51.0" Wide + 6.0" Spacing x 4 + 12.0" Side Stone x 2 = 25.25' Base Width

6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

70 Chambers x 45.9 cf = 3,215.8 cf Chamber Storage

9,128.8 cf Field - 3,215.8 cf Chambers = 5,913.0 cf Stone x 40.0% Voids = 2,365.2 cf Stone Storage

Chamber Storage + Stone Storage = 5,581.0 cf = 0.128 af

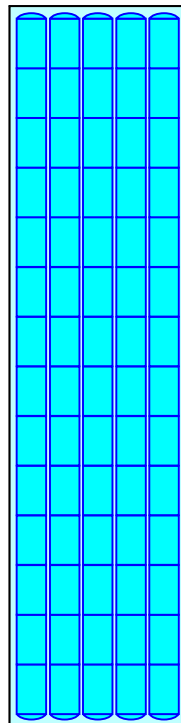
Overall Storage Efficiency = 61.1%

Overall System Size = 103.30' x 25.25' x 3.50'

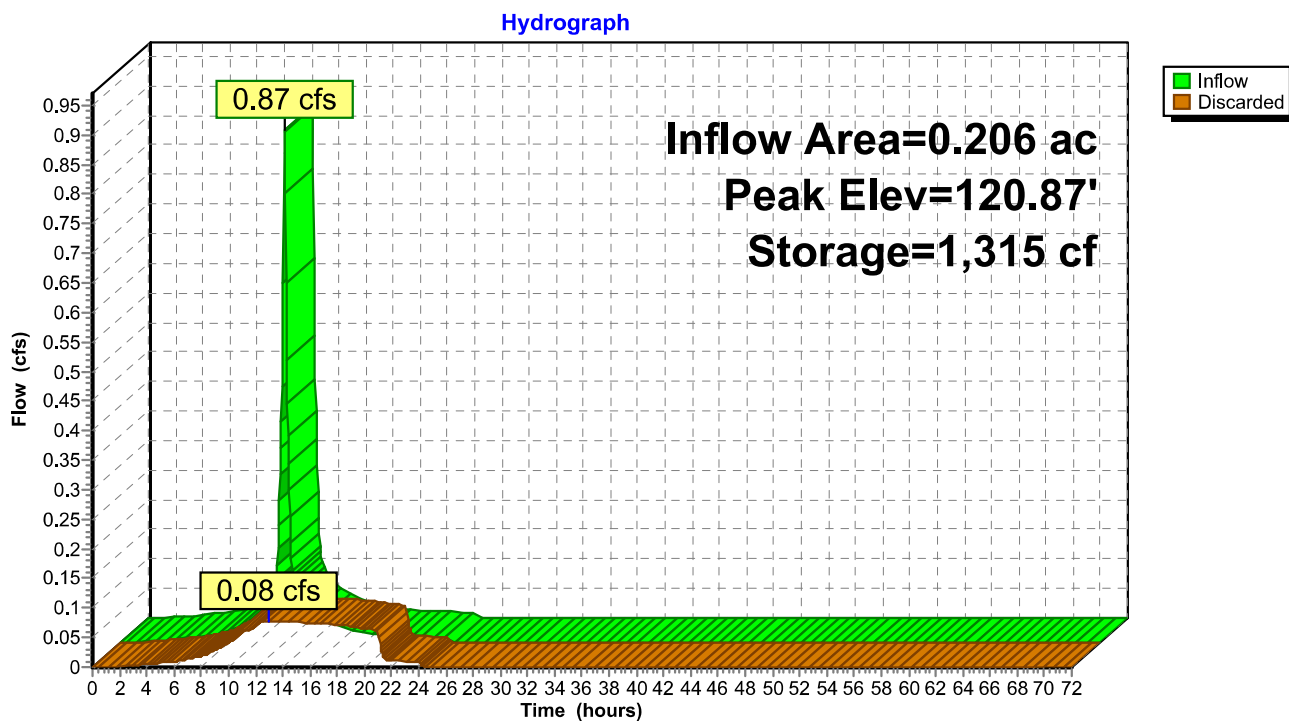
70 Chambers

338.1 cy Field

219.0 cy Stone



Pond IC-B: INFILTRATION CHAMBER SYS 3



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Type III 24-hr 25 year Rainfall=6.19"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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 1S: prop. SC#1

Runoff Area=8,946 sf 82.36% Impervious Runoff Depth=5.14"
 Flow Length=152' Tc=6.0 min CN=91 Runoff=1.14 cfs 0.088 af

Subcatchment 1SR: PROP SC, ROOF

Runoff Area=3,750 sf 100.00% Impervious Runoff Depth=5.95"
 Tc=0.0 min CN=98 Runoff=0.60 cfs 0.043 af

Subcatchment 2S: PROP. SC#2

Runoff Area=6,329 sf 88.17% Impervious Runoff Depth=5.48"
 Flow Length=152' Tc=6.0 min CN=94 Runoff=0.84 cfs 0.066 af

Subcatchment 2SR: PROP. SC, ROOF

Runoff Area=3,750 sf 100.00% Impervious Runoff Depth=5.95"
 Tc=0.0 min CN=98 Runoff=0.60 cfs 0.043 af

Subcatchment 3S: PROP. SC#3

Runoff Area=7,964 sf 90.61% Impervious Runoff Depth=5.60"
 Flow Length=152' Tc=6.0 min CN=95 Runoff=1.06 cfs 0.085 af

Subcatchment 4S: PROP. SC #4

Runoff Area=5,231 sf 90.38% Impervious Runoff Depth=5.48"
 Flow Length=81' Tc=6.0 min CN=94 Runoff=0.69 cfs 0.055 af

Subcatchment 5S: SC5- to Washington

Runoff Area=2,137 sf 0.00% Impervious Runoff Depth=2.13"
 Tc=0.0 min CN=61 Runoff=0.14 cfs 0.009 af

Subcatchment 6S: SC6- to Webster

Runoff Area=1,770 sf 0.00% Impervious Runoff Depth=2.13"
 Tc=0.0 min CN=61 Runoff=0.11 cfs 0.007 af

Reach DP1: DP1

Inflow=0.25 cfs 0.016 af
 Outflow=0.25 cfs 0.016 af

Pond CB1: CB1

Peak Elev=121.92' Inflow=1.14 cfs 0.088 af
 12.0" Round Culvert n=0.013 L=62.0' S=0.0065 ' Outflow=1.14 cfs 0.088 af

Pond CB2: CB #2

Peak Elev=121.63' Inflow=0.84 cfs 0.066 af
 12.0" Round Culvert n=0.013 L=10.0' S=0.0200 ' Outflow=0.84 cfs 0.066 af

Pond CB3: CB #3

Peak Elev=121.72' Inflow=1.06 cfs 0.085 af
 12.0" Round Culvert n=0.013 L=20.0' S=0.0100 ' Outflow=1.06 cfs 0.085 af

Pond CB4: CB#4

Peak Elev=121.72' Inflow=0.69 cfs 0.055 af
 12.0" Round Culvert n=0.013 L=32.0' S=0.0125 ' Outflow=0.69 cfs 0.055 af

Pond DMH#2: DMH #2

Peak Elev=121.42' Inflow=0.84 cfs 0.066 af
 12.0" Round Culvert n=0.013 L=5.0' S=0.0200 ' Outflow=0.84 cfs 0.066 af

Pond DMH#3: DMH #3

Peak Elev=121.50' Inflow=1.06 cfs 0.085 af
 12.0" Round Culvert n=0.013 L=5.0' S=0.0200 ' Outflow=1.06 cfs 0.085 af

Pond DMH1: DMH #1

Peak Elev=121.64' Inflow=1.51 cfs 0.131 af
 12.0" Round Culvert n=0.013 L=5.0' S=0.0200 ' Outflow=1.51 cfs 0.131 af

proposed sw subcatchmentrev

Type III 24-hr 25 year Rainfall=6.19"

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Pond DMH4: DMH #4

Peak Elev=121.41' Inflow=1.09 cfs 0.098 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 '/' Outflow=1.09 cfs 0.098 af

Pond IC-A: INFILTRATION CHAMBER SYS1

Peak Elev=121.59' Storage=5,742 cf Inflow=3.36 cfs 0.282 af
Outflow=0.23 cfs 0.282 af

Pond IC-B: INFILTRATION CHAMBER SYS 3

Peak Elev=121.11' Storage=1,810 cf Inflow=1.09 cfs 0.098 af
Outflow=0.08 cfs 0.098 af

Total Runoff Area = 0.915 ac Runoff Volume = 0.396 af Average Runoff Depth = 5.19"
18.77% Pervious = 0.172 ac 81.23% Impervious = 0.744 ac

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Type III 24-hr 25 year Rainfall=6.19"

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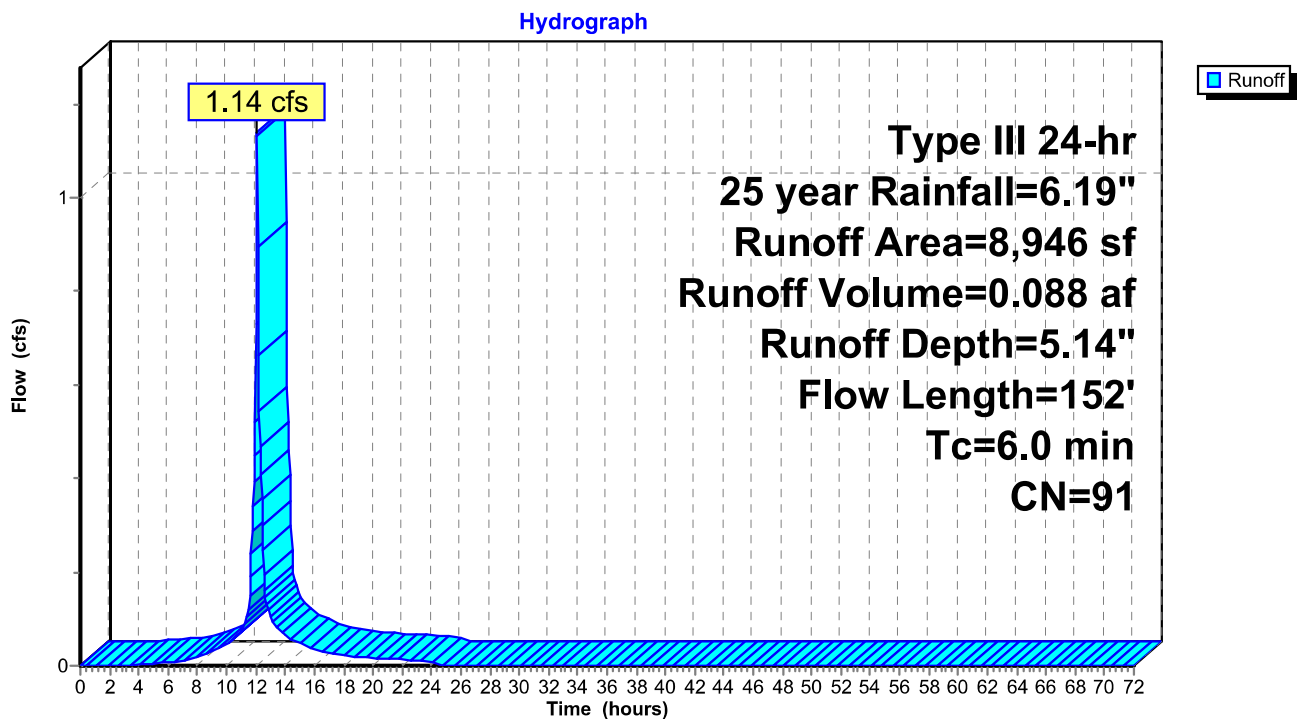
Summary for Subcatchment 1S: prop. SC#1

Runoff = 1.14 cfs @ 12.09 hrs, Volume= 0.088 af, Depth= 5.14"
Routed to Pond CB1 : CB1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=6.19"

	Area (sf)	CN	Description
*	6,381	98	pavement area
*	987	98	sidewalk & retaining wall
	1,578	61	>75% Grass cover, Good, HSG B
	8,946	91	Weighted Average
	1,578		17.64% Pervious Area
	7,368		82.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0110	0.97		Sheet Flow, 50 ft Sheet Smooth surfaces n= 0.011 P2= 3.40"
0.6	102	0.0170	2.65		Shallow Concentrated Flow, shallow conc flow Paved Kv= 20.3 fps
1.5	152	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 1S: prop. SC#1

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Type III 24-hr 25 year Rainfall=6.19"

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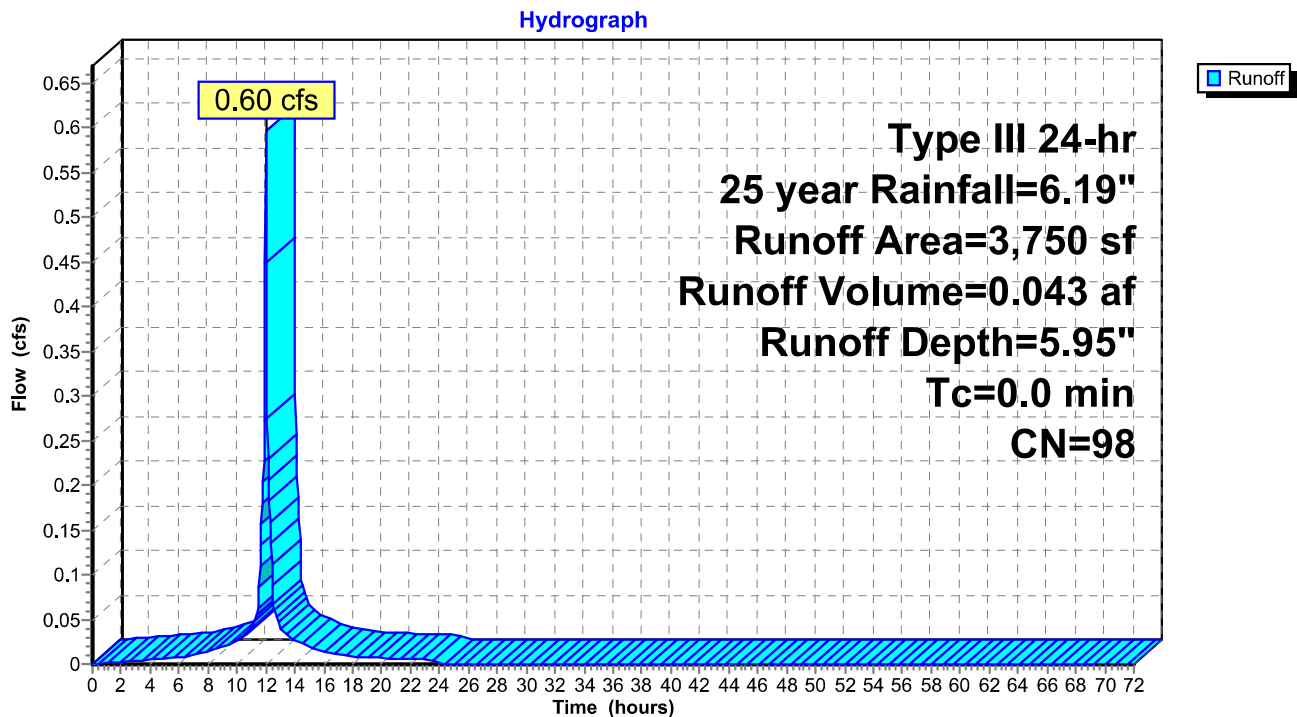
Summary for Subcatchment 1SR: PROP SC, ROOF DRAIN 1

Runoff = 0.60 cfs @ 12.00 hrs, Volume= 0.043 af, Depth= 5.95"
Routed to Pond DMH1 : DMH #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=6.19"

	Area (sf)	CN	Description
*	3,750	98	roof area
	3,750		100.00% Impervious Area

Subcatchment 1SR: PROP SC, ROOF DRAIN 1



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Type III 24-hr 25 year Rainfall=6.19"

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Summary for Subcatchment 2S: PROP. SC#2

Runoff = 0.84 cfs @ 12.09 hrs, Volume= 0.066 af, Depth= 5.48"
Routed to Pond CB2 : CB #2

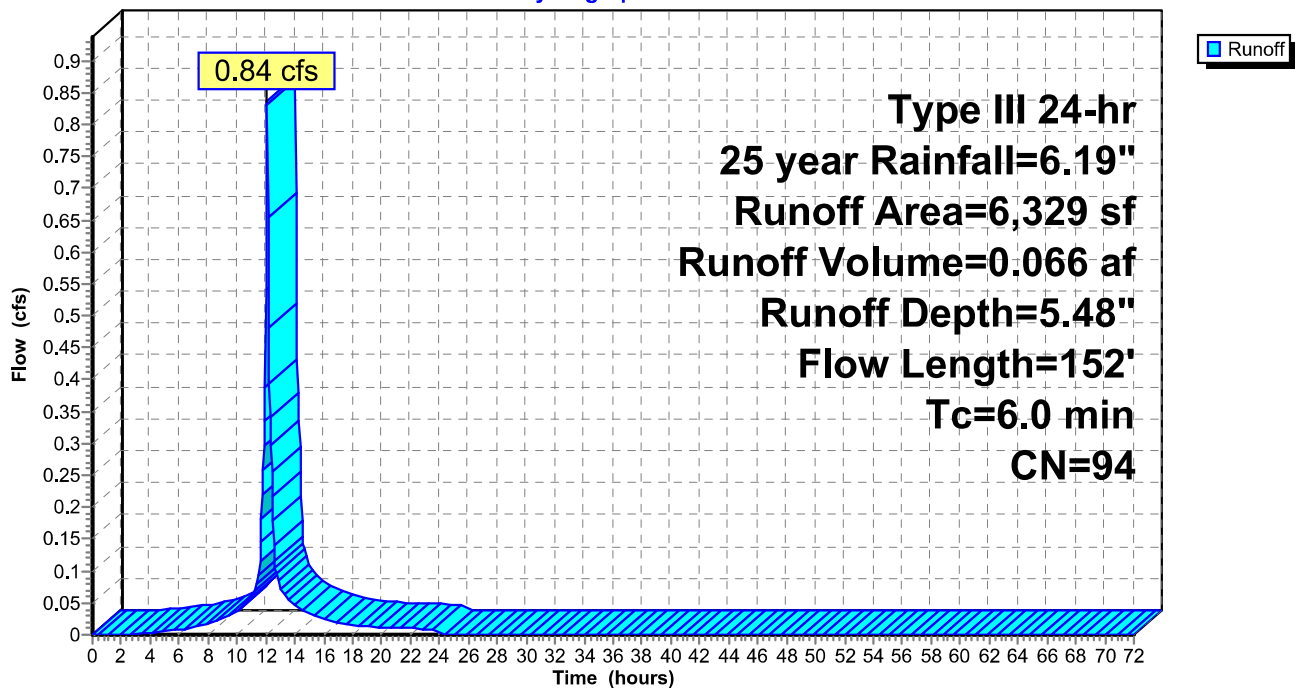
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=6.19"

	Area (sf)	CN	Description
*	4,872	98	pavement area
*	708	98	sidewalk & retaining wall
	749	61	>75% Grass cover, Good, HSG B
	6,329	94	Weighted Average
	749		11.83% Pervious Area
	5,580		88.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0110	0.97		Sheet Flow, 50 ft Sheet Smooth surfaces n= 0.011 P2= 3.40"
0.6	102	0.0170	2.65		Shallow Concentrated Flow, shallow conc flow Paved Kv= 20.3 fps
1.5	152	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 2S: PROP. SC#2

Hydrograph



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Type III 24-hr 25 year Rainfall=6.19"

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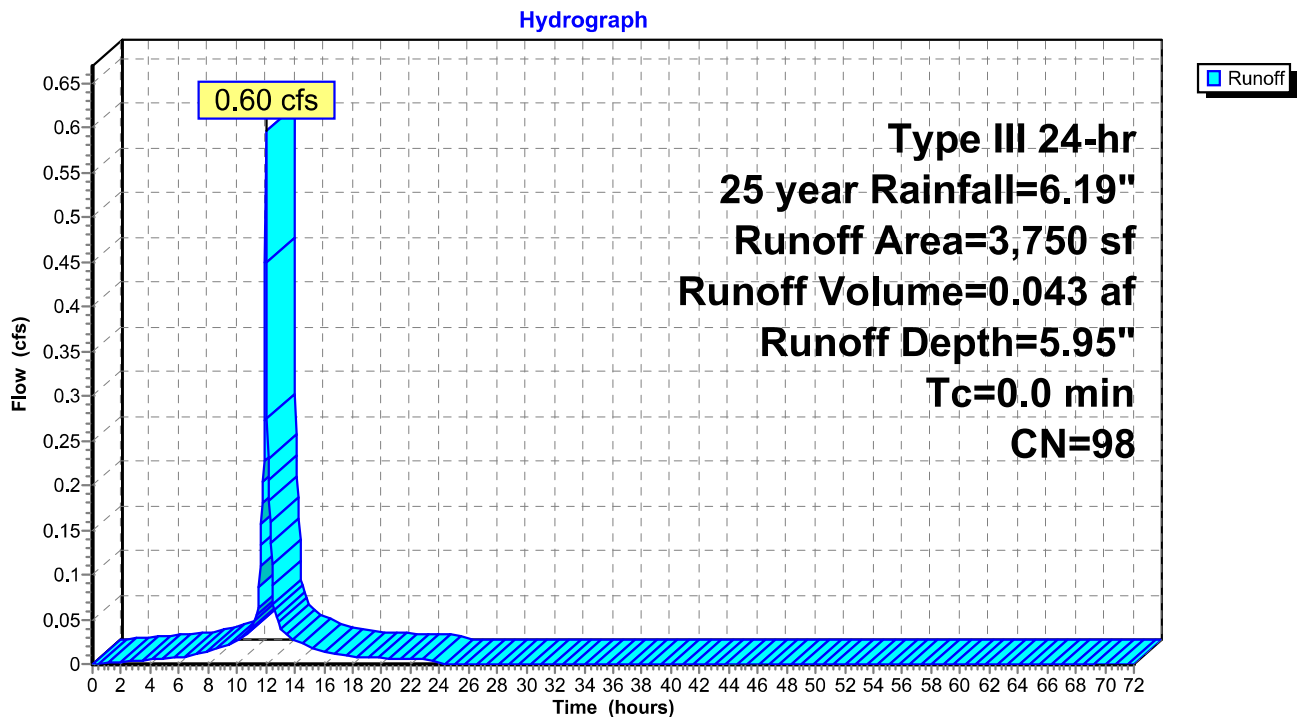
Summary for Subcatchment 2SR: PROP. SC, ROOF DRAIN 2

Runoff = 0.60 cfs @ 12.00 hrs, Volume= 0.043 af, Depth= 5.95"
Routed to Pond DMH4 : DMH #4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=6.19"

	Area (sf)	CN	Description
*	3,750	98	roof area
	3,750		100.00% Impervious Area

Subcatchment 2SR: PROP. SC, ROOF DRAIN 2



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Type III 24-hr 25 year Rainfall=6.19"

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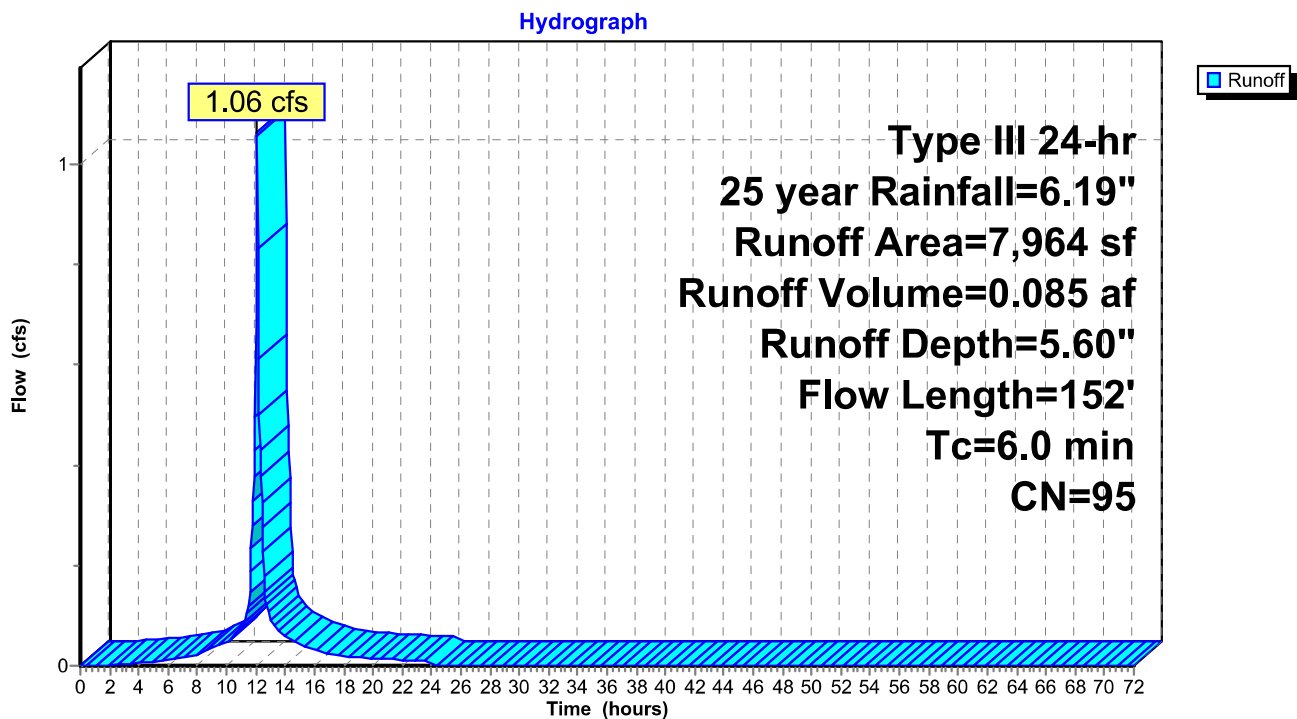
Summary for Subcatchment 3S: PROP. SC#3

Runoff = 1.06 cfs @ 12.09 hrs, Volume= 0.085 af, Depth= 5.60"
Routed to Pond CB3 : CB #3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=6.19"

	Area (sf)	CN	Description
*	6,031	98	pavement area
*	1,185	98	sidewalk & retaining wall
	748	61	>75% Grass cover, Good, HSG B
	7,964	95	Weighted Average
	748		9.39% Pervious Area
	7,216		90.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0110	0.97		Sheet Flow, 50 ft Sheet Smooth surfaces n= 0.011 P2= 3.40"
0.6	102	0.0170	2.65		Shallow Concentrated Flow, shallow conc flow Paved Kv= 20.3 fps
1.5	152	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 3S: PROP. SC#3

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Type III 24-hr 25 year Rainfall=6.19"

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Summary for Subcatchment 4S: PROP. SC #4

Runoff = 0.69 cfs @ 12.09 hrs, Volume= 0.055 af, Depth= 5.48"
Routed to Pond CB4 : CB#4

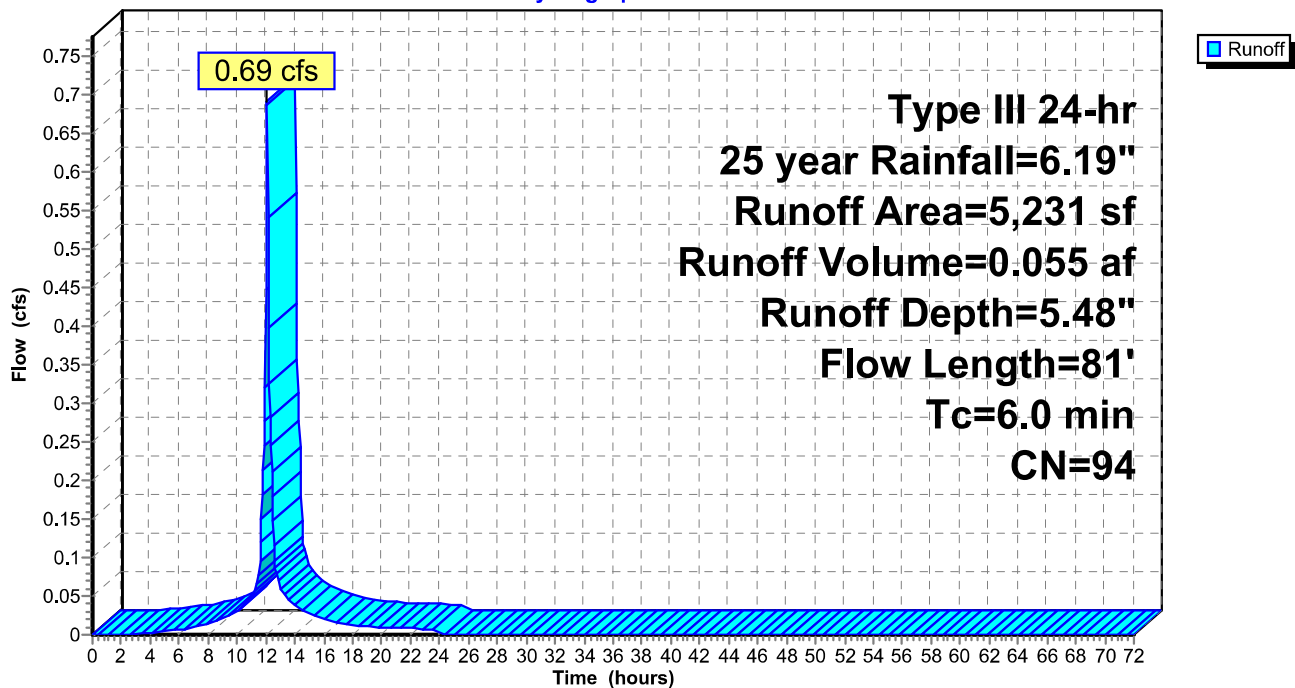
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=6.19"

Area (sf)	CN	Description
4,341	98	Paved parking, HSG B
* 387	98	sidewalk and other impervious
503	61	>75% Grass cover, Good, HSG B
5,231	94	Weighted Average
503		9.62% Pervious Area
4,728		90.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	50	0.1350	2.65		Sheet Flow, sheet flow 50 ft Smooth surfaces n= 0.011 P2= 3.40"
0.3	31	0.0100	2.03		Shallow Concentrated Flow, shallow conc flow Paved Kv= 20.3 fps
0.6	81	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 4S: PROP. SC #4

Hydrograph



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Type III 24-hr 25 year Rainfall=6.19"

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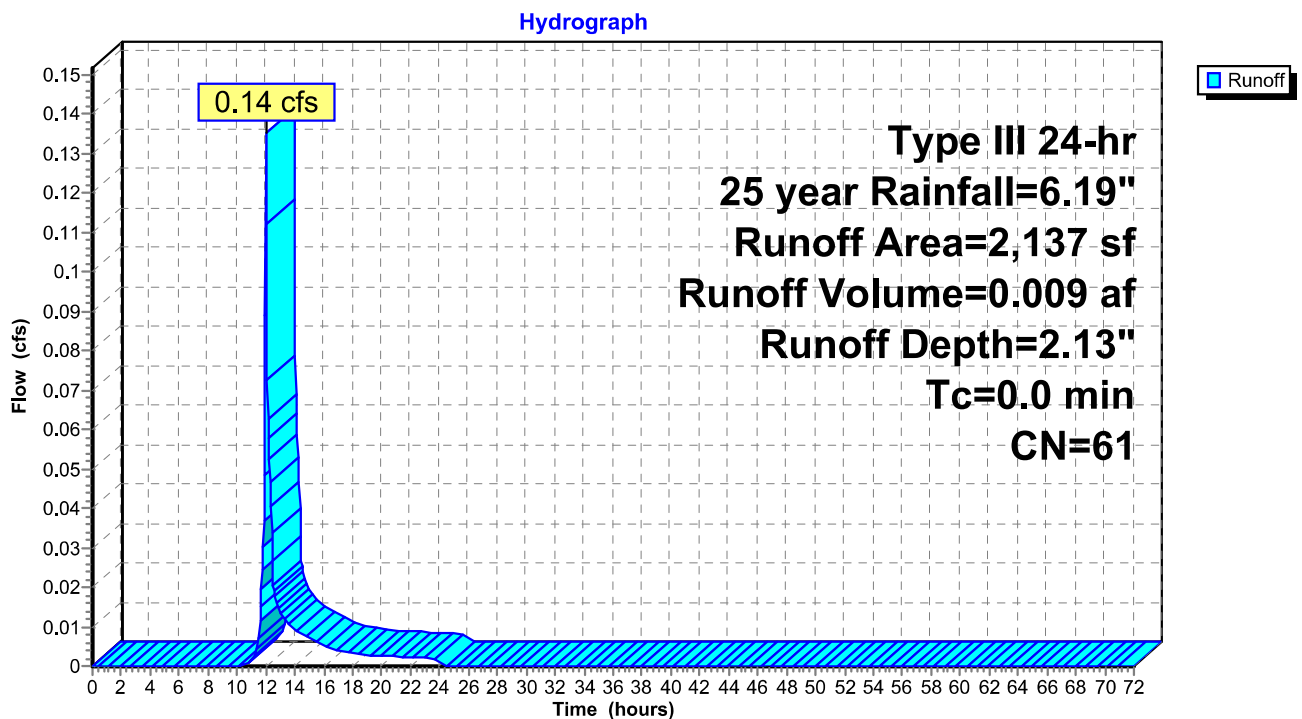
Summary for Subcatchment 5S: SC5- to Washington

Runoff = 0.14 cfs @ 12.01 hrs, Volume= 0.009 af, Depth= 2.13"
Routed to Reach DP1 : DP1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=6.19"

Area (sf)	CN	Description
2,137	61	>75% Grass cover, Good, HSG B
2,137		100.00% Pervious Area

Subcatchment 5S: SC5- to Washington



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Type III 24-hr 25 year Rainfall=6.19"

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Summary for Subcatchment 6S: SC6- to Webster

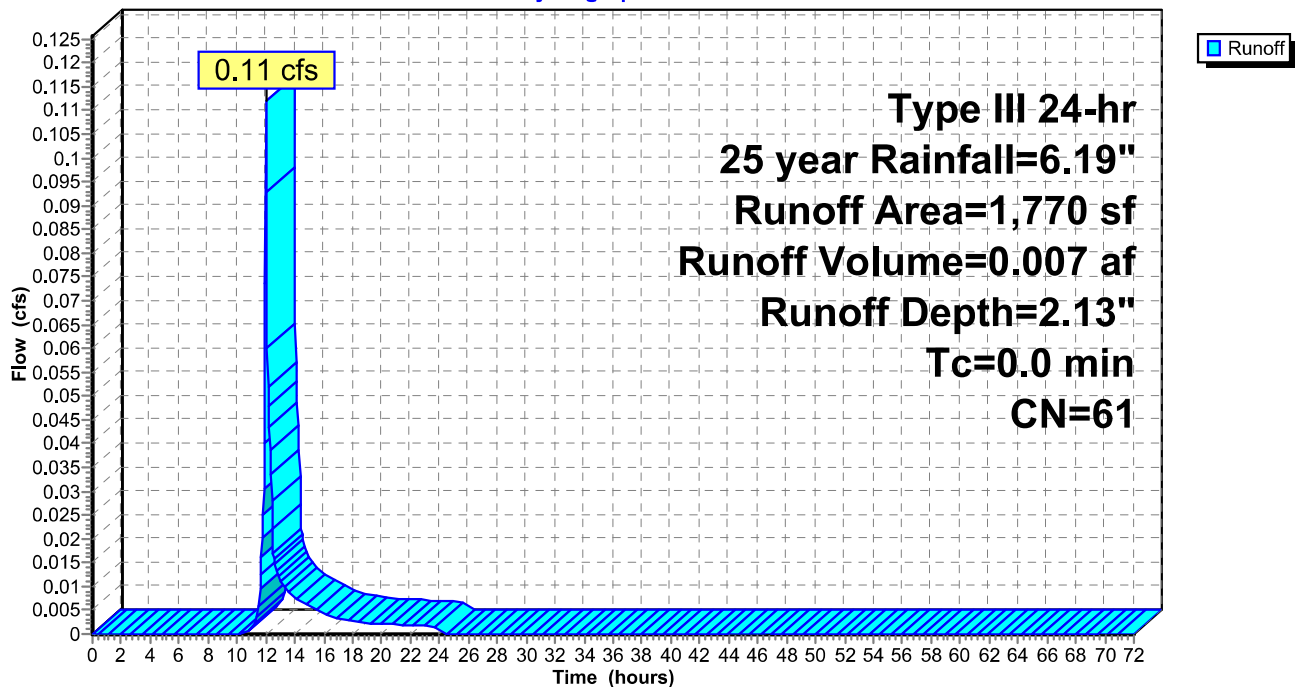
Runoff = 0.11 cfs @ 12.01 hrs, Volume= 0.007 af, Depth= 2.13"
Routed to Reach DP1 : DP1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 year Rainfall=6.19"

Area (sf)	CN	Description
1,770	61	>75% Grass cover, Good, HSG B
1,770		100.00% Pervious Area

Subcatchment 6S: SC6- to Webster

Hydrograph



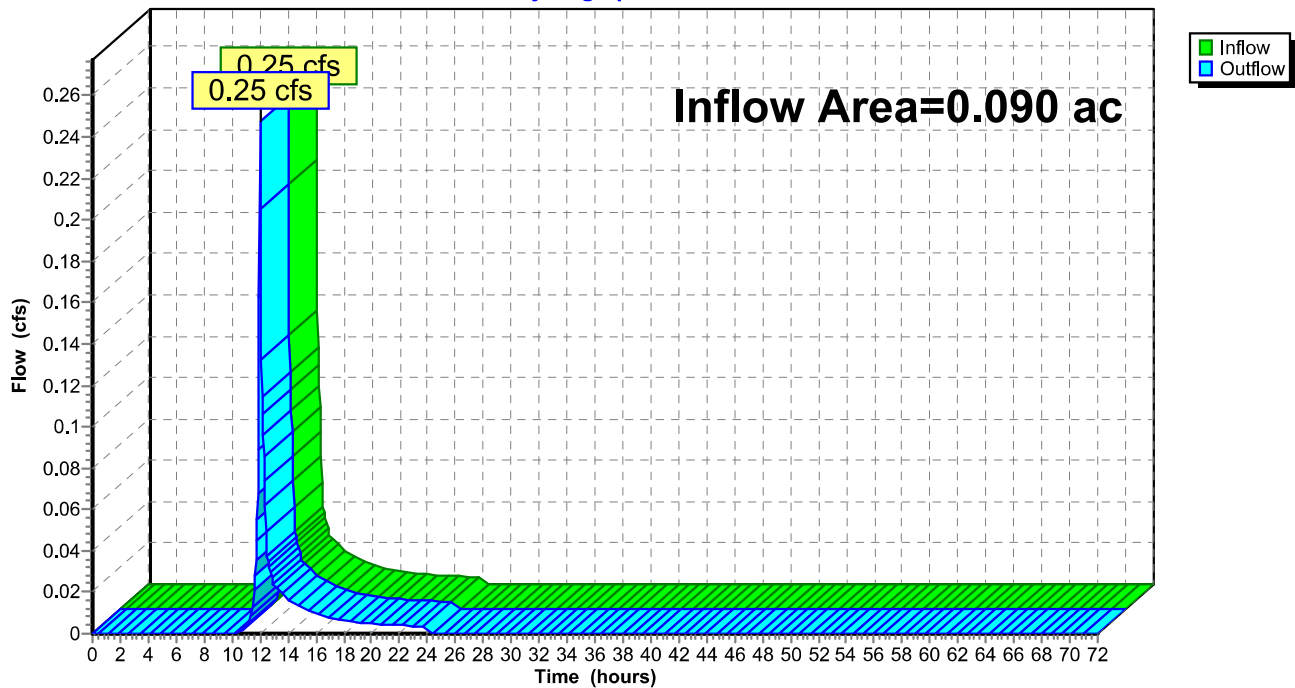
Summary for Reach DP1: DP1

Inflow Area = 0.090 ac, 0.00% Impervious, Inflow Depth = 2.13" for 25 year event
 Inflow = 0.25 cfs @ 12.01 hrs, Volume= 0.016 af
 Outflow = 0.25 cfs @ 12.01 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach DP1: DP1

Hydrograph



Summary for Pond CB1: CB1

Inflow Area = 0.205 ac, 82.36% Impervious, Inflow Depth = 5.14" for 25 year event
 Inflow = 1.14 cfs @ 12.09 hrs, Volume= 0.088 af
 Outflow = 1.14 cfs @ 12.09 hrs, Volume= 0.088 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.14 cfs @ 12.09 hrs, Volume= 0.088 af
 Routed to Pond DMH1 : DMH #1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.92' @ 12.09 hrs

Flood Elev= 124.00'

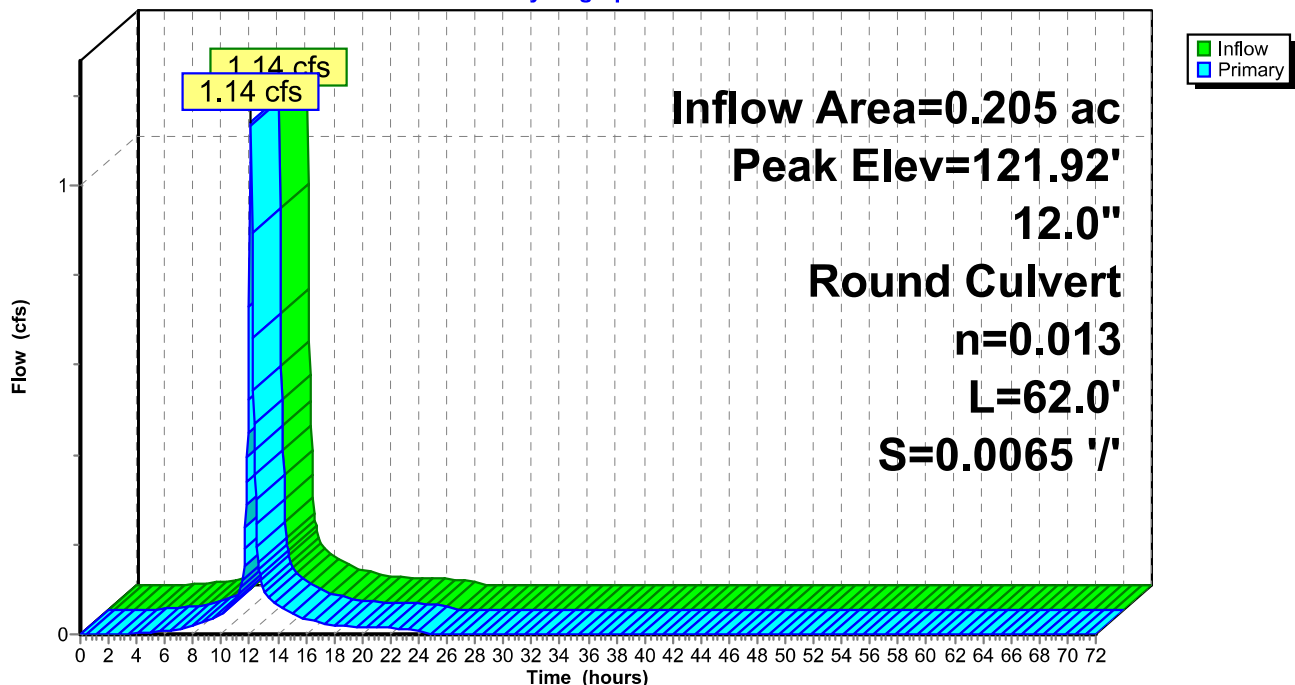
Device	Routing	Invert	Outlet Devices
#1	Primary	121.30'	12.0" Round Culvert L= 62.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 121.30' / 120.90' S= 0.0065 '/ S= 0.0065 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.11 cfs @ 12.09 hrs HW=121.91' (Free Discharge)

1=Culvert (Barrel Controls 1.11 cfs @ 3.15 fps)

Pond CB1: CB1

Hydrograph



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Summary for Pond CB2: CB #2

Inflow Area = 0.145 ac, 88.17% Impervious, Inflow Depth = 5.48" for 25 year event
Inflow = 0.84 cfs @ 12.09 hrs, Volume= 0.066 af
Outflow = 0.84 cfs @ 12.09 hrs, Volume= 0.066 af, Atten= 0%, Lag= 0.0 min
Primary = 0.84 cfs @ 12.09 hrs, Volume= 0.066 af
Routed to Pond DMH#2 : DMH #2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.63' @ 12.09 hrs

Flood Elev= 124.60'

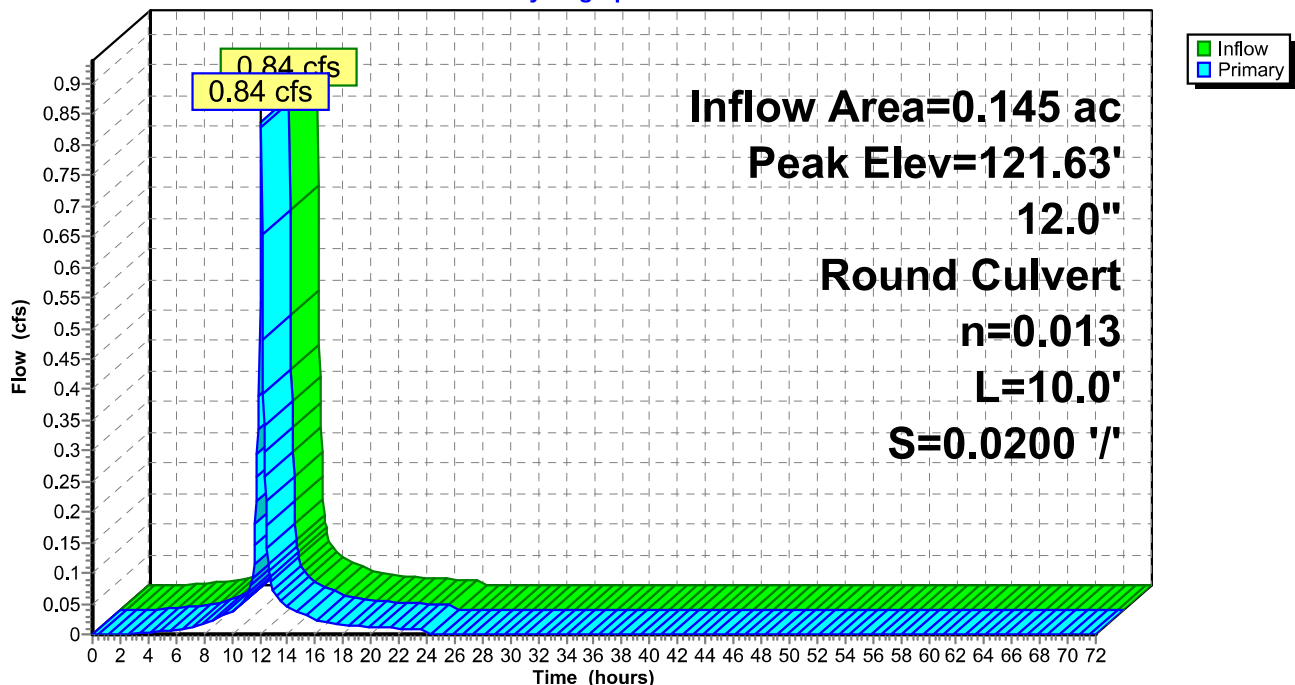
Device	Routing	Invert	Outlet Devices
#1	Primary	121.10'	12.0" Round PIPE L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 121.10' / 120.90' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.81 cfs @ 12.09 hrs HW=121.63' (Free Discharge)

1=PIPE (Inlet Controls 0.81 cfs @ 1.95 fps)

Pond CB2: CB #2

Hydrograph



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Summary for Pond CB3: CB #3

Inflow Area = 0.183 ac, 90.61% Impervious, Inflow Depth = 5.60" for 25 year event
Inflow = 1.06 cfs @ 12.09 hrs, Volume= 0.085 af
Outflow = 1.06 cfs @ 12.09 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min
Primary = 1.06 cfs @ 12.09 hrs, Volume= 0.085 af
Routed to Pond DMH#3 : DMH #3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.72' @ 12.09 hrs

Flood Elev= 124.60'

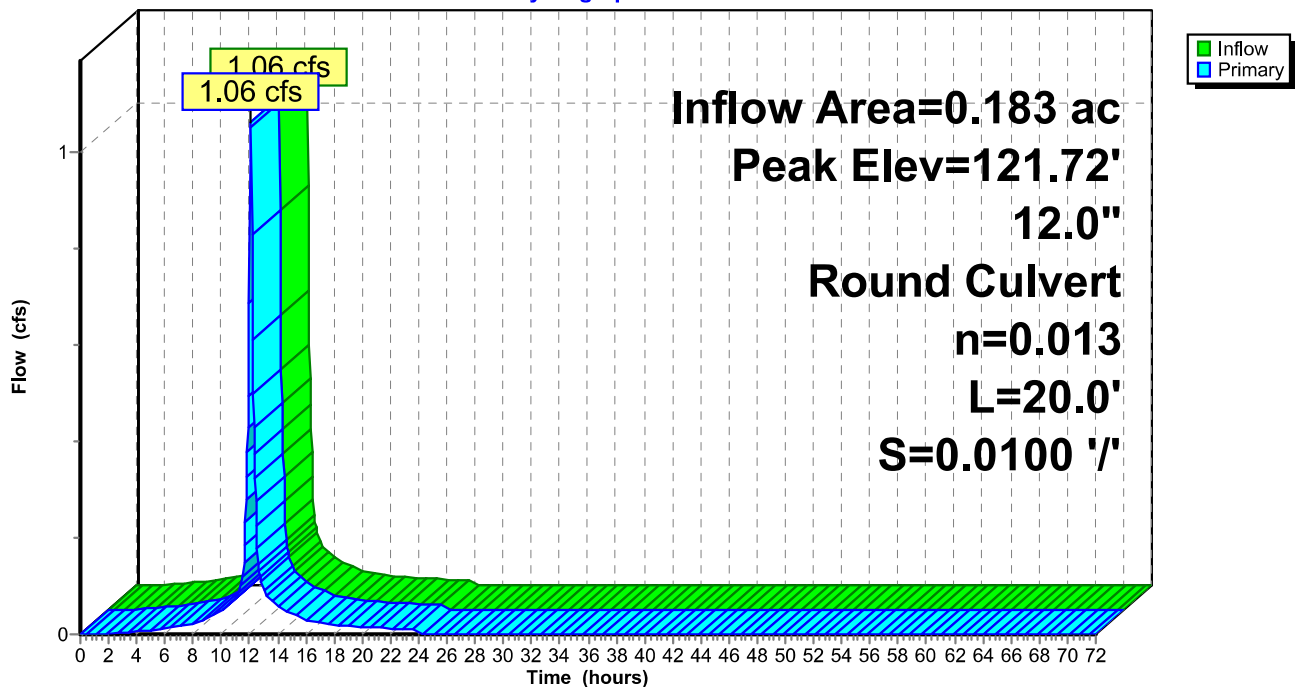
Device	Routing	Invert	Outlet Devices
#1	Primary	121.10'	12.0" Round PIPE L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 121.10' / 120.90' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.03 cfs @ 12.09 hrs HW=121.71' (Free Discharge)

1=PIPE (Barrel Controls 1.03 cfs @ 2.96 fps)

Pond CB3: CB #3

Hydrograph



Summary for Pond CB4: CB#4

Inflow Area = 0.120 ac, 90.38% Impervious, Inflow Depth = 5.48" for 25 year event
 Inflow = 0.69 cfs @ 12.09 hrs, Volume= 0.055 af
 Outflow = 0.69 cfs @ 12.09 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.69 cfs @ 12.09 hrs, Volume= 0.055 af
 Routed to Pond DMH4 : DMH #4

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.72' @ 12.09 hrs

Flood Elev= 124.50'

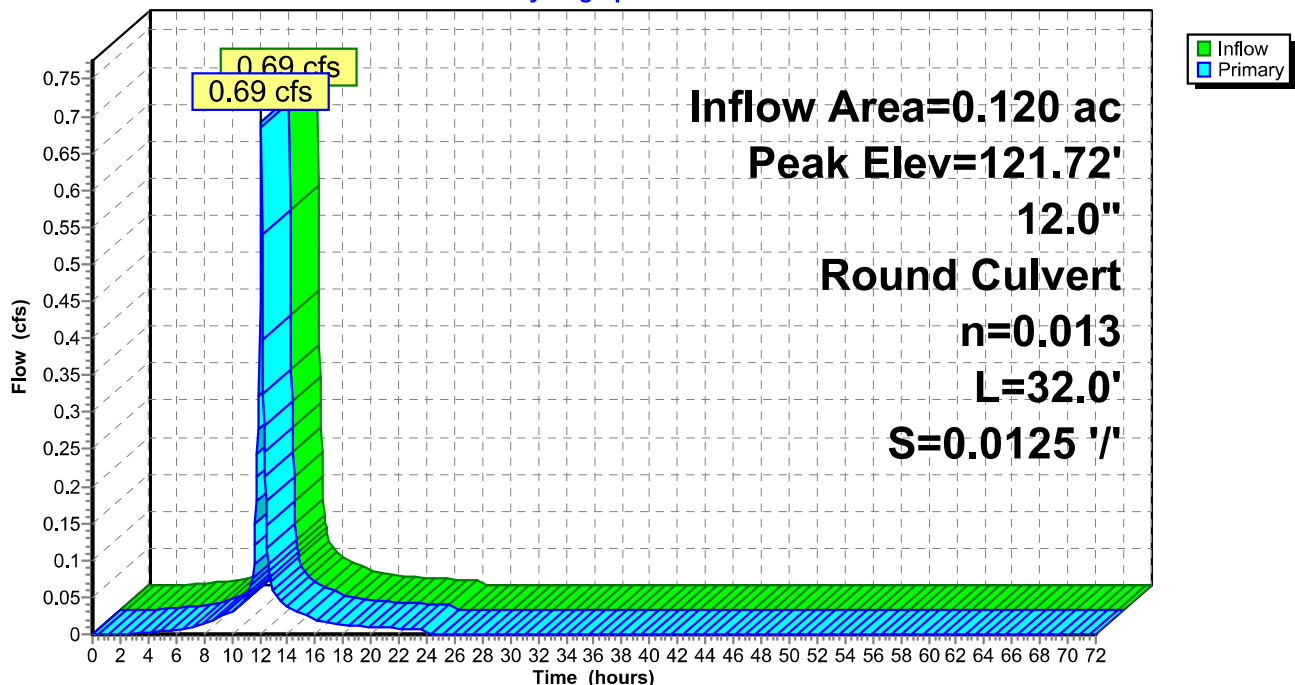
Device	Routing	Invert	Outlet Devices
#1	Primary	121.30'	12.0" Round PIPE L= 32.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 121.30' / 120.90' S= 0.0125 '/ S= 0.0125 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.67 cfs @ 12.09 hrs HW=121.71' (Free Discharge)

1=PIPE (Barrel Controls 0.67 cfs @ 3.23 fps)

Pond CB4: CB#4

Hydrograph



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Summary for Pond DMH#2: DMH #2

Inflow Area = 0.145 ac, 88.17% Impervious, Inflow Depth = 5.48" for 25 year event
Inflow = 0.84 cfs @ 12.09 hrs, Volume= 0.066 af
Outflow = 0.84 cfs @ 12.09 hrs, Volume= 0.066 af, Atten= 0%, Lag= 0.0 min
Primary = 0.84 cfs @ 12.09 hrs, Volume= 0.066 af
Routed to Pond IC-A : INFILTRATION CHAMBER SYS1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.42' @ 12.09 hrs

Flood Elev= 124.60'

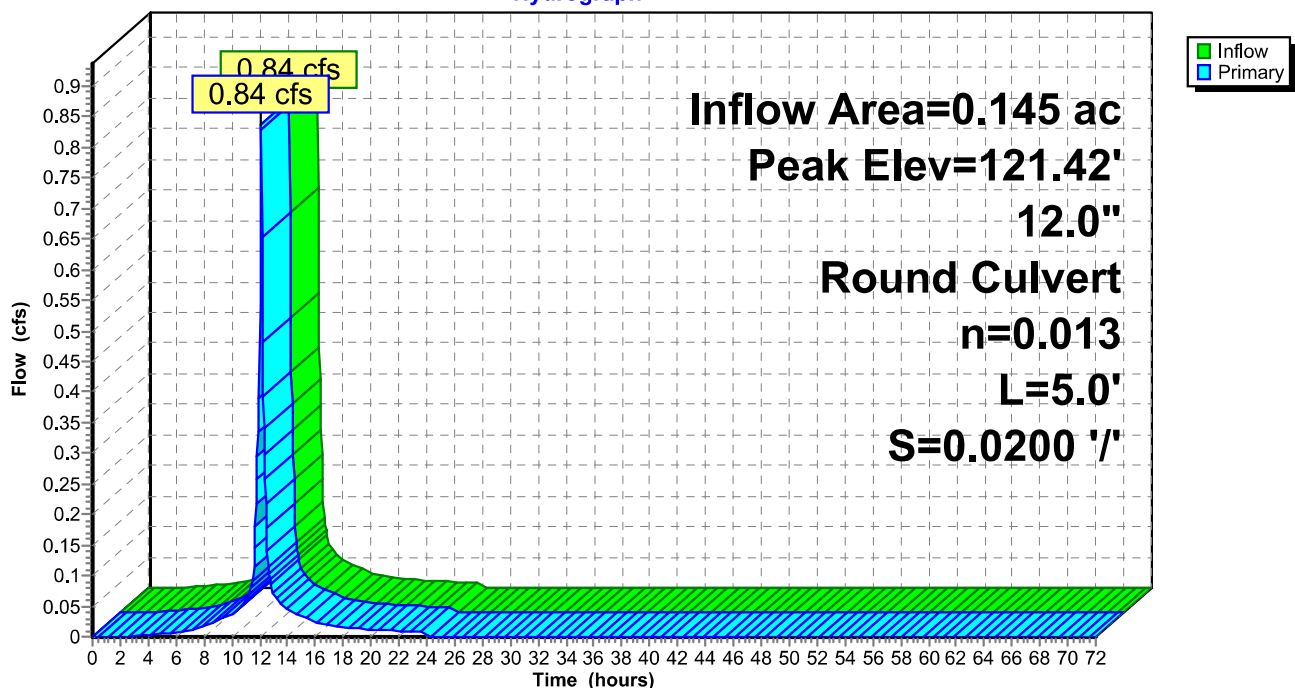
Device	Routing	Invert	Outlet Devices
#1	Primary	120.90'	12.0" Round PIPE L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.90' / 120.80' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.81 cfs @ 12.09 hrs HW=121.41' (Free Discharge)

1=PIPE (Barrel Controls 0.81 cfs @ 2.94 fps)

Pond DMH#2: DMH #2

Hydrograph



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Summary for Pond DMH#3: DMH #3

Inflow Area = 0.183 ac, 90.61% Impervious, Inflow Depth = 5.60" for 25 year event
Inflow = 1.06 cfs @ 12.09 hrs, Volume= 0.085 af
Outflow = 1.06 cfs @ 12.09 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min
Primary = 1.06 cfs @ 12.09 hrs, Volume= 0.085 af
Routed to Pond IC-A : INFILTRATION CHAMBER SYS1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.50' @ 12.09 hrs

Flood Elev= 124.60'

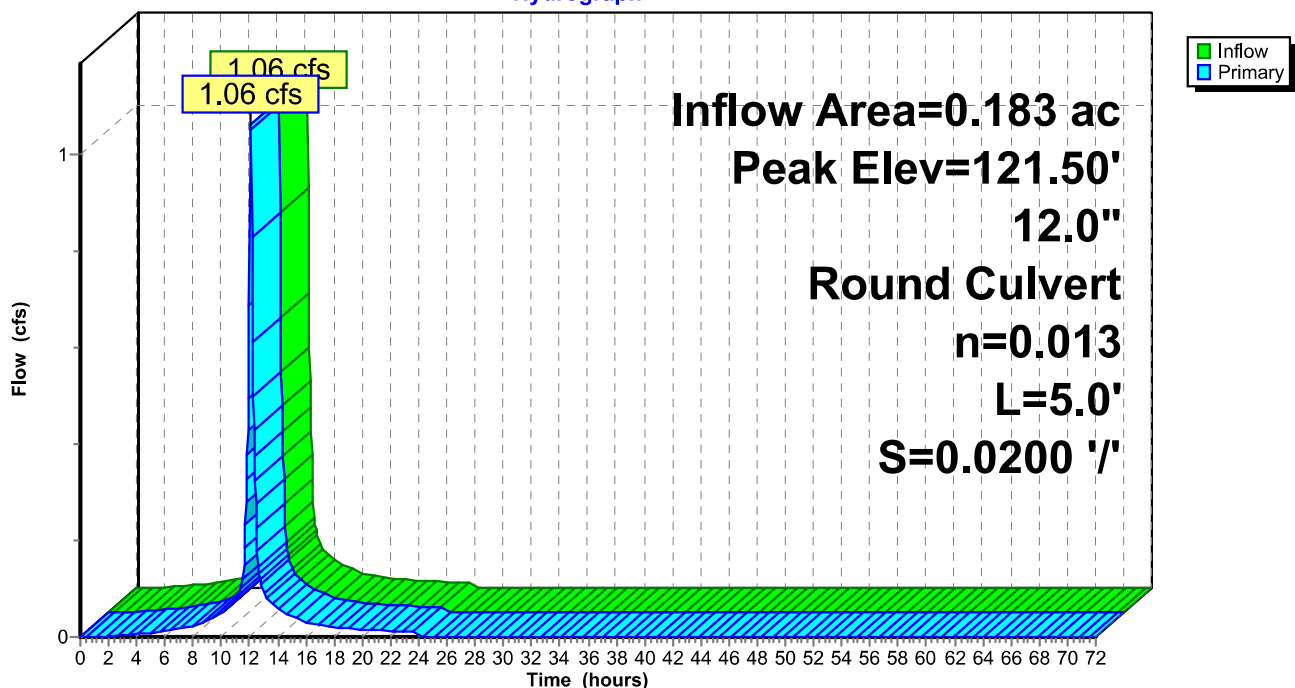
Device	Routing	Invert	Outlet Devices
#1	Primary	120.90'	12.0" Round PIPE L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.90' / 120.80' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.03 cfs @ 12.09 hrs HW=121.49' (Free Discharge)

1=PIPE (Barrel Controls 1.03 cfs @ 3.08 fps)

Pond DMH#3: DMH #3

Hydrograph



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Summary for Pond DMH1: DMH #1

Inflow Area = 0.291 ac, 87.57% Impervious, Inflow Depth = 5.38" for 25 year event
Inflow = 1.51 cfs @ 12.06 hrs, Volume= 0.131 af
Outflow = 1.51 cfs @ 12.06 hrs, Volume= 0.131 af, Atten= 0%, Lag= 0.0 min
Primary = 1.51 cfs @ 12.06 hrs, Volume= 0.131 af
Routed to Pond IC-A : INFILTRATION CHAMBER SYS1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.64' @ 12.06 hrs

Flood Elev= 124.00'

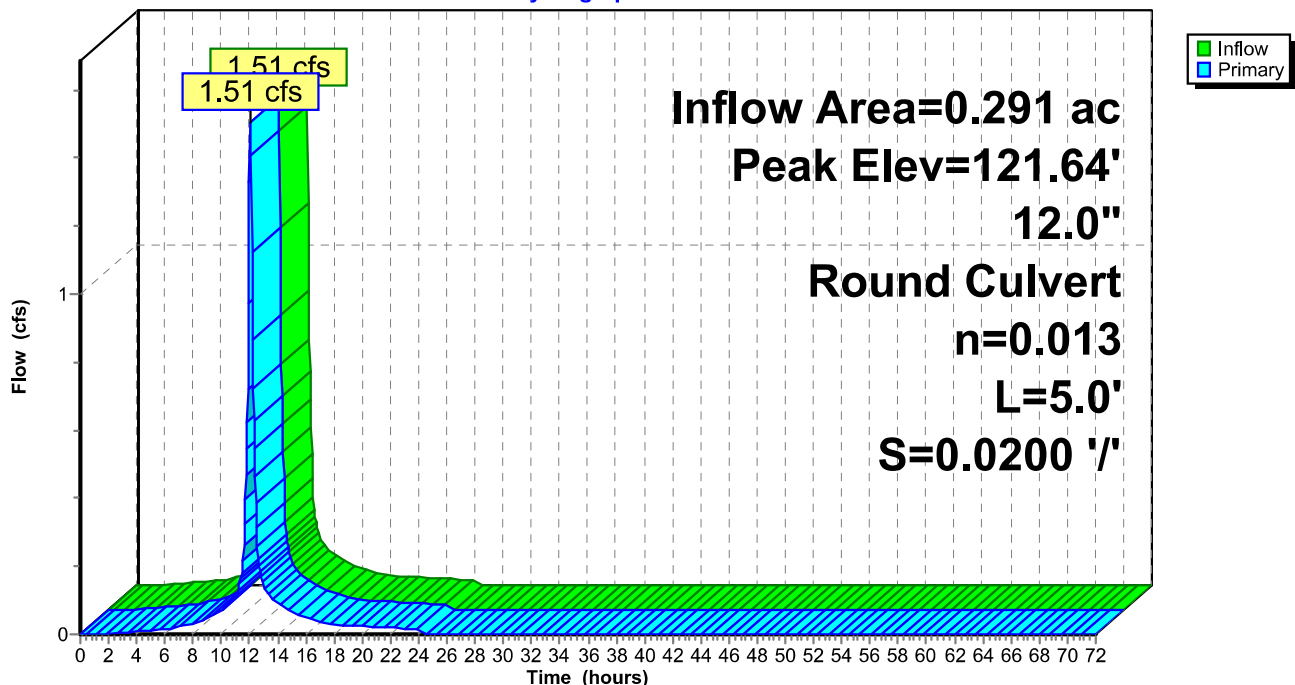
Device	Routing	Invert	Outlet Devices
#1	Primary	120.90'	12.0" Round DMH 1 OUTLET L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.90' / 120.80' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.49 cfs @ 12.06 hrs HW=121.64' (Free Discharge)

1=DMH 1 OUTLET (Barrel Controls 1.49 cfs @ 3.34 fps)

Pond DMH1: DMH #1

Hydrograph



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Summary for Pond DMH4: DMH #4

Inflow Area = 0.206 ac, 94.40% Impervious, Inflow Depth = 5.68" for 25 year event
Inflow = 1.09 cfs @ 12.04 hrs, Volume= 0.098 af
Outflow = 1.09 cfs @ 12.04 hrs, Volume= 0.098 af, Atten= 0%, Lag= 0.0 min
Primary = 1.09 cfs @ 12.04 hrs, Volume= 0.098 af
Routed to Pond IC-B : INFILTRATION CHAMBER SYS 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.41' @ 12.04 hrs

Flood Elev= 124.50'

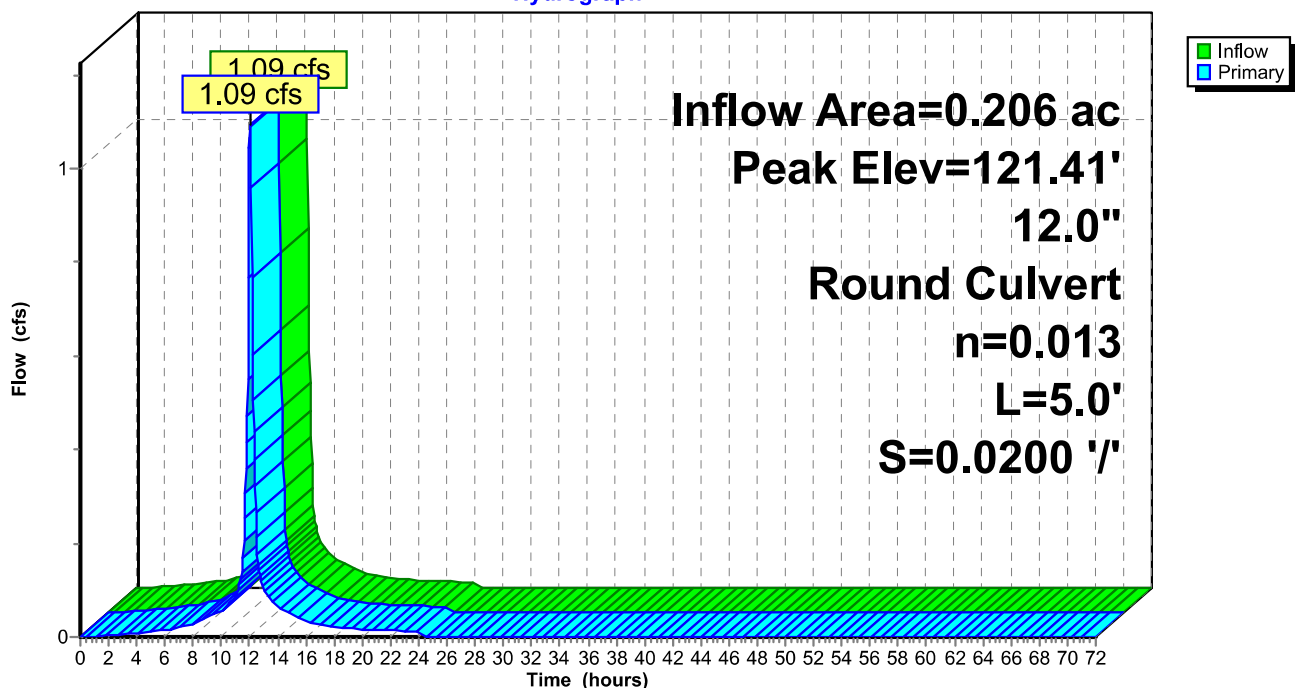
Device	Routing	Invert	Outlet Devices
#1	Primary	120.80'	12.0" Round PIPE L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.80' / 120.70' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.08 cfs @ 12.04 hrs HW=121.41' (Free Discharge)

1=PIPE (Barrel Controls 1.08 cfs @ 3.11 fps)

Pond DMH4: DMH #4

Hydrograph



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Type III 24-hr 25 year Rainfall=6.19"

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Summary for Pond IC-A: INFILTRATION CHAMBER SYS1

Inflow Area = 0.620 ac, 88.61% Impervious, Inflow Depth = 5.47" for 25 year event
 Inflow = 3.36 cfs @ 12.08 hrs, Volume= 0.282 af
 Outflow = 0.23 cfs @ 13.63 hrs, Volume= 0.282 af, Atten= 93%, Lag= 93.1 min
 Discarded = 0.23 cfs @ 13.63 hrs, Volume= 0.282 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 121.59' @ 13.63 hrs Surf.Area= 5,373 sf Storage= 5,742 cf

Plug-Flow detention time= 244.9 min calculated for 0.282 af (100% of inflow)
 Center-of-Mass det. time= 244.9 min (1,010.6 - 765.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	120.00'	3,007 cf	34.75'W x 96.18'L x 3.50'H Field A 11,697 cf Overall - 4,181 cf Embedded = 7,517 cf x 40.0% Voids
#2A	120.50'	4,181 cf	ADS_StormTech SC-740 +Cap x 91 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 91 Chambers in 7 Rows
#3B	120.00'	1,851 cf	30.00'W x 67.70'L x 3.50'H Field B 7,108 cf Overall - 2,481 cf Embedded = 4,627 cf x 40.0% Voids
#4B	120.50'	2,481 cf	ADS_StormTech SC-740 +Cap x 54 Inside #3 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 54 Chambers in 6 Rows
		11,519 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	120.00'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 118.00'

Discarded OutFlow Max=0.23 cfs @ 13.63 hrs HW=121.59' (Free Discharge)

↑ **1=Exfiltration** (Controls 0.23 cfs)

Pond IC-A: INFILTRATION CHAMBER SYS1 - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

13 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 94.18' Row Length +12.0" End Stone x 2 = 96.18' Base Length

7 Rows x 51.0" Wide + 6.0" Spacing x 6 + 12.0" Side Stone x 2 = 34.75' Base Width

6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

91 Chambers x 45.9 cf = 4,180.5 cf Chamber Storage

11,697.5 cf Field - 4,180.5 cf Chambers = 7,516.9 cf Stone x 40.0% Voids = 3,006.8 cf Stone Storage

Chamber Storage + Stone Storage = 7,187.3 cf = 0.165 af

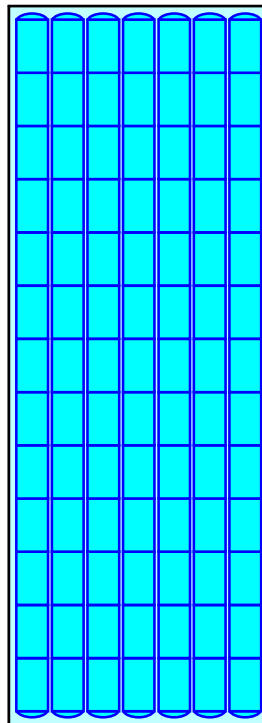
Overall Storage Efficiency = 61.4%

Overall System Size = 96.18' x 34.75' x 3.50'

91 Chambers

433.2 cy Field

278.4 cy Stone



Pond IC-A: INFILTRATION CHAMBER SYS1 - Chamber Wizard Field B

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

9 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 65.70' Row Length +12.0" End Stone x 2 = 67.70' Base Length

6 Rows x 51.0" Wide + 6.0" Spacing x 5 + 12.0" Side Stone x 2 = 30.00' Base Width

6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

54 Chambers x 45.9 cf = 2,480.8 cf Chamber Storage

7,108.2 cf Field - 2,480.8 cf Chambers = 4,627.4 cf Stone x 40.0% Voids = 1,851.0 cf Stone Storage

Chamber Storage + Stone Storage = 4,331.7 cf = 0.099 af

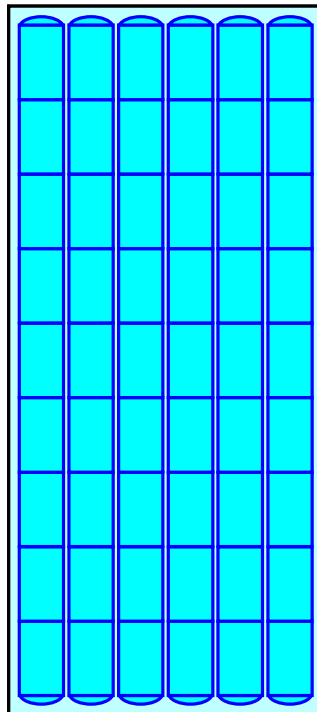
Overall Storage Efficiency = 60.9%

Overall System Size = 67.70' x 30.00' x 3.50'

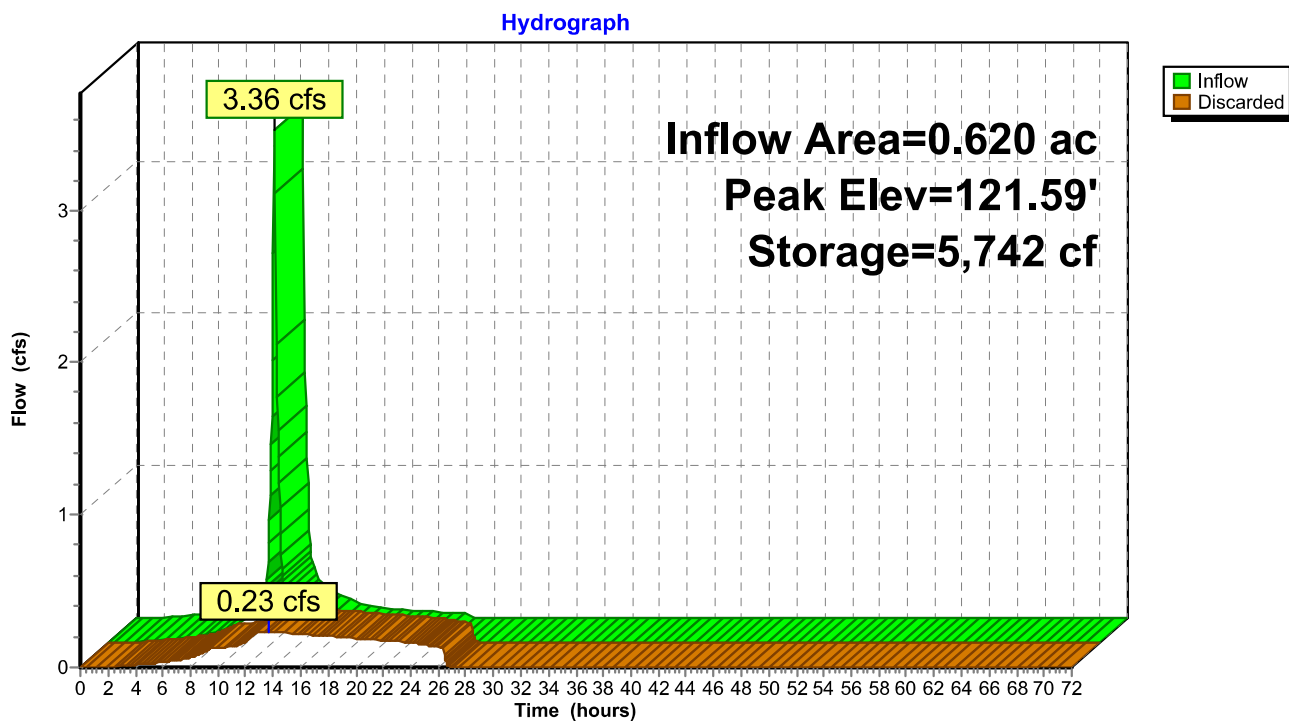
54 Chambers

263.3 cy Field

171.4 cy Stone



Pond IC-A: INFILTRATION CHAMBER SYS1



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Type III 24-hr 25 year Rainfall=6.19"

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Summary for Pond IC-B: INFILTRATION CHAMBER SYS 3

Inflow Area = 0.206 ac, 94.40% Impervious, Inflow Depth = 5.68" for 25 year event
 Inflow = 1.09 cfs @ 12.04 hrs, Volume= 0.098 af
 Outflow = 0.08 cfs @ 13.41 hrs, Volume= 0.098 af, Atten= 92%, Lag= 82.2 min
 Discarded = 0.08 cfs @ 13.41 hrs, Volume= 0.098 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 121.11' @ 13.41 hrs Surf.Area= 2,608 sf Storage= 1,810 cf

Plug-Flow detention time= 189.2 min calculated for 0.098 af (100% of inflow)
 Center-of-Mass det. time= 189.1 min (944.3 - 755.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	120.00'	2,365 cf	25.25'W x 103.30'L x 3.50'H Field A 9,129 cf Overall - 3,216 cf Embedded = 5,913 cf x 40.0% Voids
#2A	120.50'	3,216 cf	ADS_StormTech SC-740 +Cap x 70 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 70 Chambers in 5 Rows
		5,581 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	120.00'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 116.70'

Discarded OutFlow Max=0.08 cfs @ 13.41 hrs HW=121.11' (Free Discharge)
 ↑**1=Exfiltration** (Controls 0.08 cfs)

Pond IC-B: INFILTRATION CHAMBER SYS 3 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

14 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 101.30' Row Length +12.0" End Stone x 2 = 103.30' Base Length

5 Rows x 51.0" Wide + 6.0" Spacing x 4 + 12.0" Side Stone x 2 = 25.25' Base Width

6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

70 Chambers x 45.9 cf = 3,215.8 cf Chamber Storage

9,128.8 cf Field - 3,215.8 cf Chambers = 5,913.0 cf Stone x 40.0% Voids = 2,365.2 cf Stone Storage

Chamber Storage + Stone Storage = 5,581.0 cf = 0.128 af

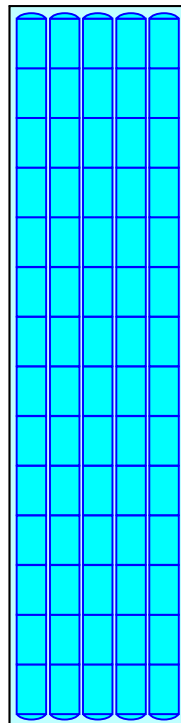
Overall Storage Efficiency = 61.1%

Overall System Size = 103.30' x 25.25' x 3.50'

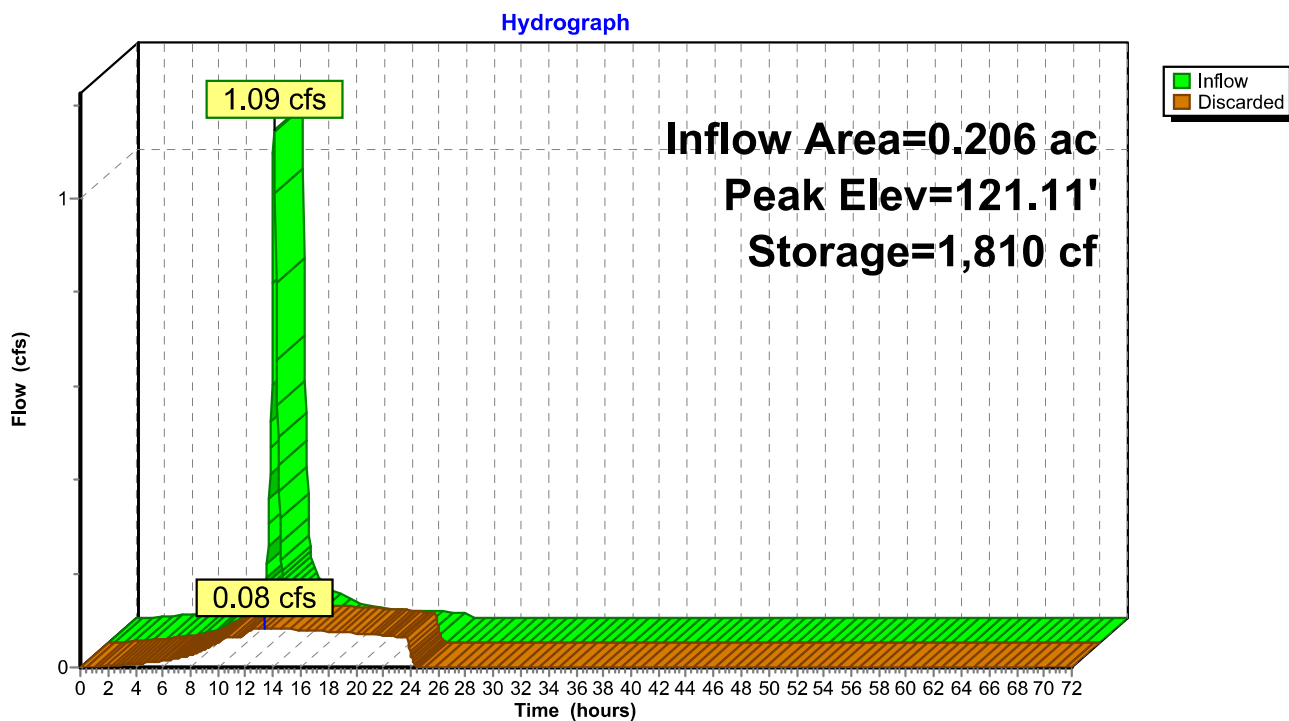
70 Chambers

338.1 cy Field

219.0 cy Stone



Pond IC-B: INFILTRATION CHAMBER SYS 3



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Type III 24-hr 100 year Rainfall=8.71"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 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 1S: prop. SC#1	Runoff Area=8,946 sf 82.36% Impervious Runoff Depth=7.63" Flow Length=152' Tc=6.0 min CN=91 Runoff=1.65 cfs 0.131 af
Subcatchment 1SR: PROP SC, ROOF	Runoff Area=3,750 sf 100.00% Impervious Runoff Depth=8.47" Tc=0.0 min CN=98 Runoff=0.84 cfs 0.061 af
Subcatchment 2S: PROP. SC#2	Runoff Area=6,329 sf 88.17% Impervious Runoff Depth=7.99" Flow Length=152' Tc=6.0 min CN=94 Runoff=1.19 cfs 0.097 af
Subcatchment 2SR: PROP. SC, ROOF	Runoff Area=3,750 sf 100.00% Impervious Runoff Depth=8.47" Tc=0.0 min CN=98 Runoff=0.84 cfs 0.061 af
Subcatchment 3S: PROP. SC#3	Runoff Area=7,964 sf 90.61% Impervious Runoff Depth=8.11" Flow Length=152' Tc=6.0 min CN=95 Runoff=1.51 cfs 0.124 af
Subcatchment 4S: PROP. SC #4	Runoff Area=5,231 sf 90.38% Impervious Runoff Depth=7.99" Flow Length=81' Tc=6.0 min CN=94 Runoff=0.99 cfs 0.080 af
Subcatchment 5S: SC5- to Washington	Runoff Area=2,137 sf 0.00% Impervious Runoff Depth=3.99" Tc=0.0 min CN=61 Runoff=0.26 cfs 0.016 af
Subcatchment 6S: SC6- to Webster	Runoff Area=1,770 sf 0.00% Impervious Runoff Depth=3.99" Tc=0.0 min CN=61 Runoff=0.22 cfs 0.014 af
Reach DP1: DP1	Inflow=0.48 cfs 0.030 af Outflow=0.48 cfs 0.030 af
Pond CB1: CB1	Peak Elev=122.08' Inflow=1.65 cfs 0.131 af 12.0" Round Culvert n=0.013 L=62.0' S=0.0065 ' Outflow=1.65 cfs 0.131 af
Pond CB2: CB #2	Peak Elev=121.76' Inflow=1.19 cfs 0.097 af 12.0" Round Culvert n=0.013 L=10.0' S=0.0200 ' Outflow=1.19 cfs 0.097 af
Pond CB3: CB #3	Peak Elev=121.87' Inflow=1.51 cfs 0.124 af 12.0" Round Culvert n=0.013 L=20.0' S=0.0100 ' Outflow=1.51 cfs 0.124 af
Pond CB4: CB#4	Peak Elev=121.82' Inflow=0.99 cfs 0.080 af 12.0" Round Culvert n=0.013 L=32.0' S=0.0125 ' Outflow=0.99 cfs 0.080 af
Pond DMH#2: DMH #2	Peak Elev=121.54' Inflow=1.19 cfs 0.097 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0200 ' Outflow=1.19 cfs 0.097 af
Pond DMH#3: DMH #3	Peak Elev=121.65' Inflow=1.51 cfs 0.124 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0200 ' Outflow=1.51 cfs 0.124 af
Pond DMH1: DMH #1	Peak Elev=121.84' Inflow=2.17 cfs 0.191 af 12.0" Round Culvert n=0.013 L=5.0' S=0.0200 ' Outflow=2.17 cfs 0.191 af

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Type III 24-hr 100 year Rainfall=8.71"

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Pond DMH4: DMH #4

Peak Elev=121.56' Inflow=1.56 cfs 0.141 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 '/' Outflow=1.56 cfs 0.141 af

Pond IC-A: INFILTRATION CHAMBER SYS1

Peak Elev=122.50' Storage=9,114 cf Inflow=4.82 cfs 0.412 af
Outflow=0.29 cfs 0.412 af

Pond IC-B: INFILTRATION CHAMBER SYS 3

Peak Elev=121.66' Storage=2,927 cf Inflow=1.56 cfs 0.141 af
Outflow=0.09 cfs 0.141 af

Total Runoff Area = 0.915 ac Runoff Volume = 0.582 af Average Runoff Depth = 7.63"
18.77% Pervious = 0.172 ac 81.23% Impervious = 0.744 ac

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Type III 24-hr 100 year Rainfall=8.71"

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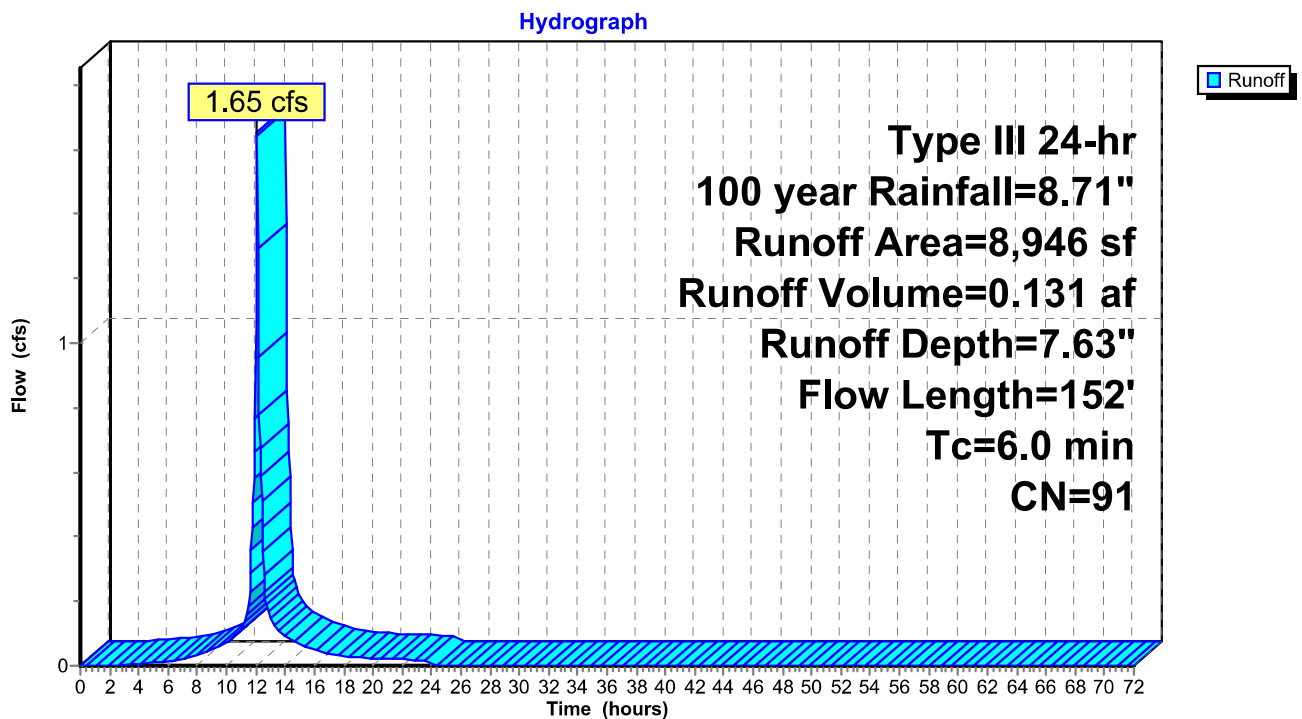
Summary for Subcatchment 1S: prop. SC#1

Runoff = 1.65 cfs @ 12.09 hrs, Volume= 0.131 af, Depth= 7.63"
Routed to Pond CB1 : CB1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.71"

	Area (sf)	CN	Description
*	6,381	98	pavement area
*	987	98	sidewalk & retaining wall
	1,578	61	>75% Grass cover, Good, HSG B
	8,946	91	Weighted Average
	1,578		17.64% Pervious Area
	7,368		82.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0110	0.97		Sheet Flow, 50 ft Sheet Smooth surfaces n= 0.011 P2= 3.40"
0.6	102	0.0170	2.65		Shallow Concentrated Flow, shallow conc flow Paved Kv= 20.3 fps
1.5	152	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 1S: prop. SC#1

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Type III 24-hr 100 year Rainfall=8.71"

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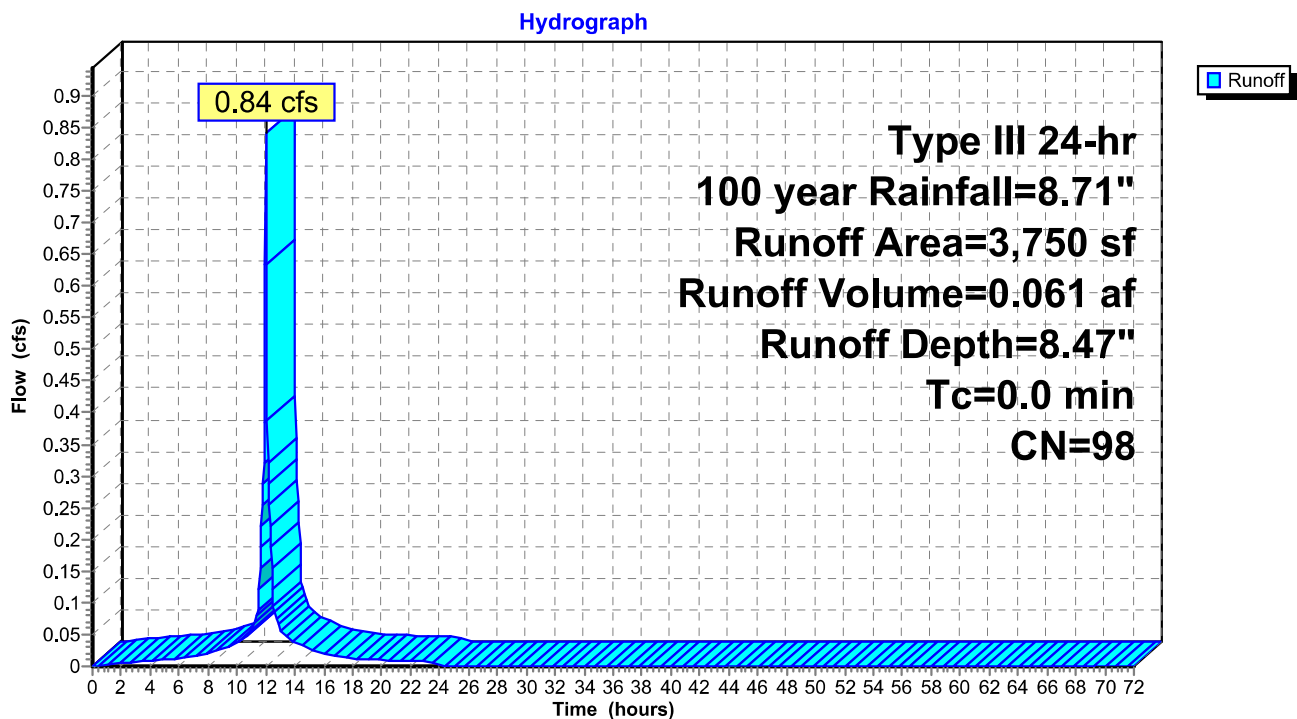
Summary for Subcatchment 1SR: PROP SC, ROOF DRAIN 1

Runoff = 0.84 cfs @ 12.00 hrs, Volume= 0.061 af, Depth= 8.47"
Routed to Pond DMH1 : DMH #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.71"

	Area (sf)	CN	Description
*	3,750	98	roof area
	3,750		100.00% Impervious Area

Subcatchment 1SR: PROP SC, ROOF DRAIN 1



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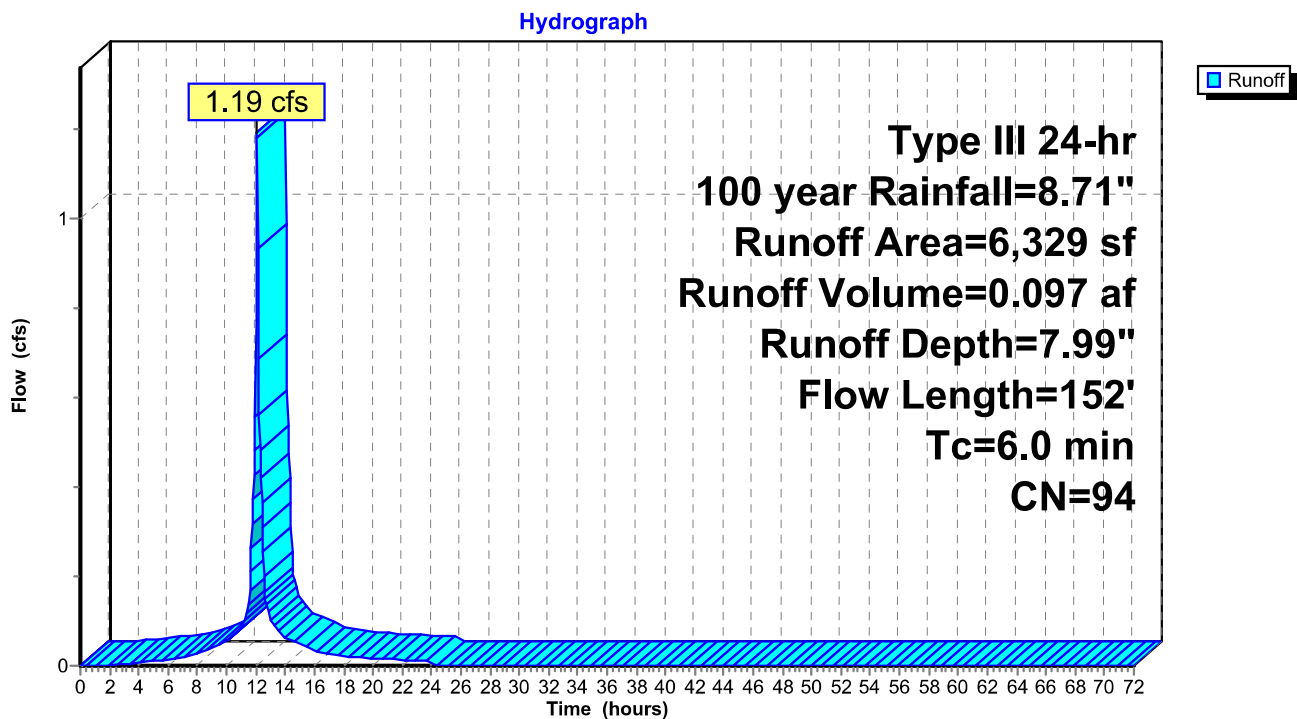
Summary for Subcatchment 2S: PROP. SC#2

Runoff = 1.19 cfs @ 12.09 hrs, Volume= 0.097 af, Depth= 7.99"
Routed to Pond CB2 : CB #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.71"

	Area (sf)	CN	Description
*	4,872	98	pavement area
*	708	98	sidewalk & retaining wall
	749	61	>75% Grass cover, Good, HSG B
	6,329	94	Weighted Average
	749		11.83% Pervious Area
	5,580		88.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0110	0.97		Sheet Flow, 50 ft Sheet Smooth surfaces n= 0.011 P2= 3.40"
0.6	102	0.0170	2.65		Shallow Concentrated Flow, shallow conc flow Paved Kv= 20.3 fps
1.5	152	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 2S: PROP. SC#2

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Type III 24-hr 100 year Rainfall=8.71"

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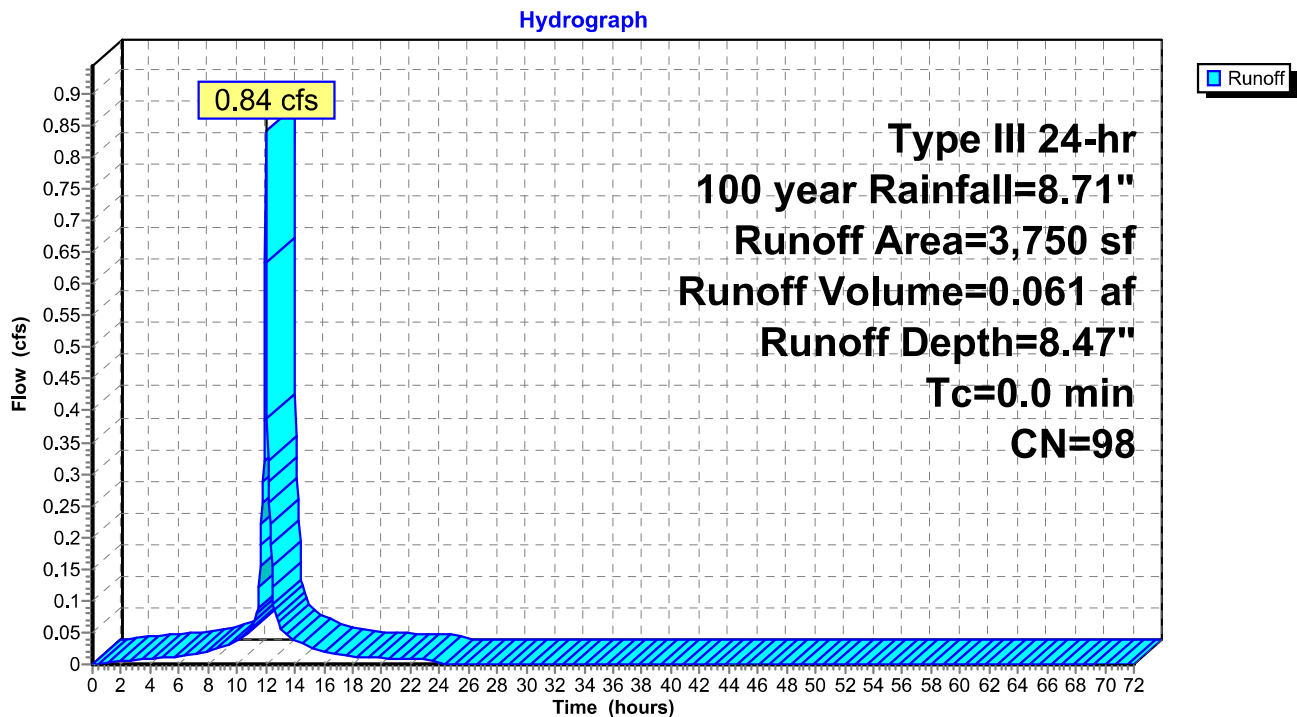
Summary for Subcatchment 2SR: PROP. SC, ROOF DRAIN 2

Runoff = 0.84 cfs @ 12.00 hrs, Volume= 0.061 af, Depth= 8.47"
Routed to Pond DMH4 : DMH #4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.71"

	Area (sf)	CN	Description
*	3,750	98	roof area
	3,750		100.00% Impervious Area

Subcatchment 2SR: PROP. SC, ROOF DRAIN 2



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Type III 24-hr 100 year Rainfall=8.71"

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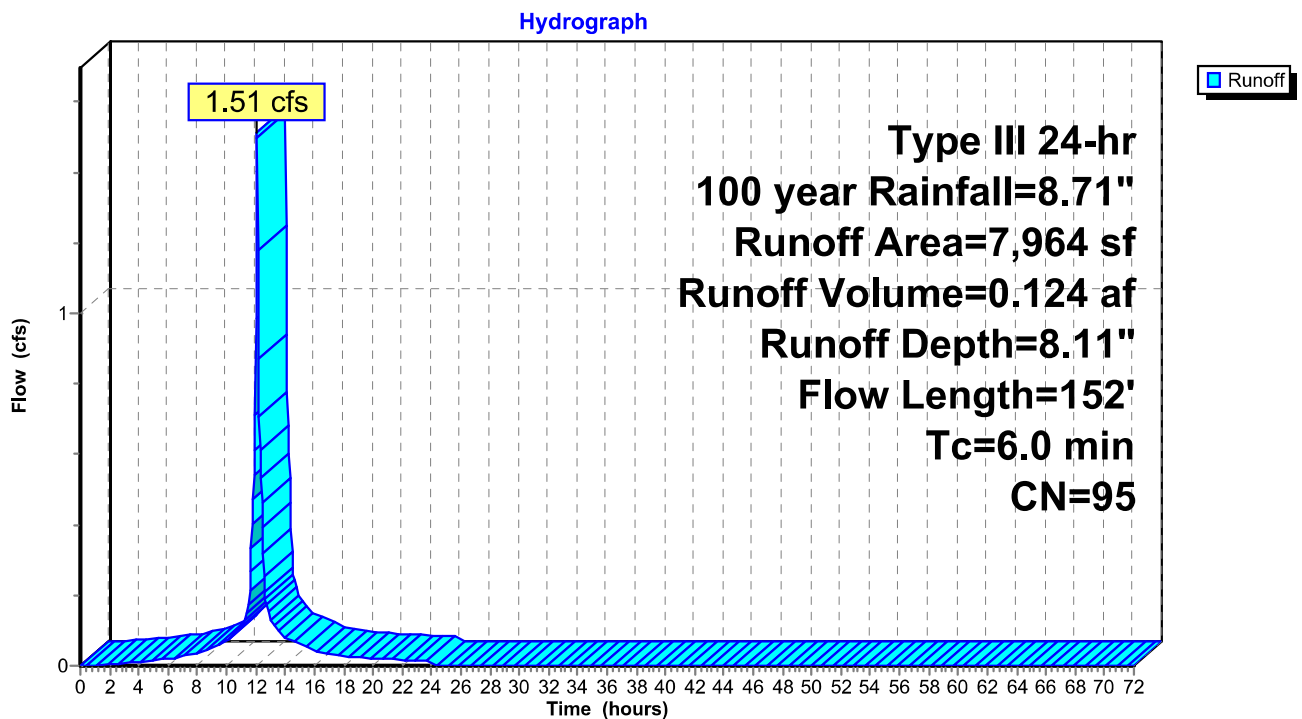
Summary for Subcatchment 3S: PROP. SC#3

Runoff = 1.51 cfs @ 12.09 hrs, Volume= 0.124 af, Depth= 8.11"
Routed to Pond CB3 : CB #3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.71"

	Area (sf)	CN	Description
*	6,031	98	pavement area
*	1,185	98	sidewalk & retaining wall
	748	61	>75% Grass cover, Good, HSG B
	7,964	95	Weighted Average
	748		9.39% Pervious Area
	7,216		90.61% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0110	0.97		Sheet Flow, 50 ft Sheet Smooth surfaces n= 0.011 P2= 3.40"
0.6	102	0.0170	2.65		Shallow Concentrated Flow, shallow conc flow Paved Kv= 20.3 fps
1.5	152	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 3S: PROP. SC#3

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Type III 24-hr 100 year Rainfall=8.71"

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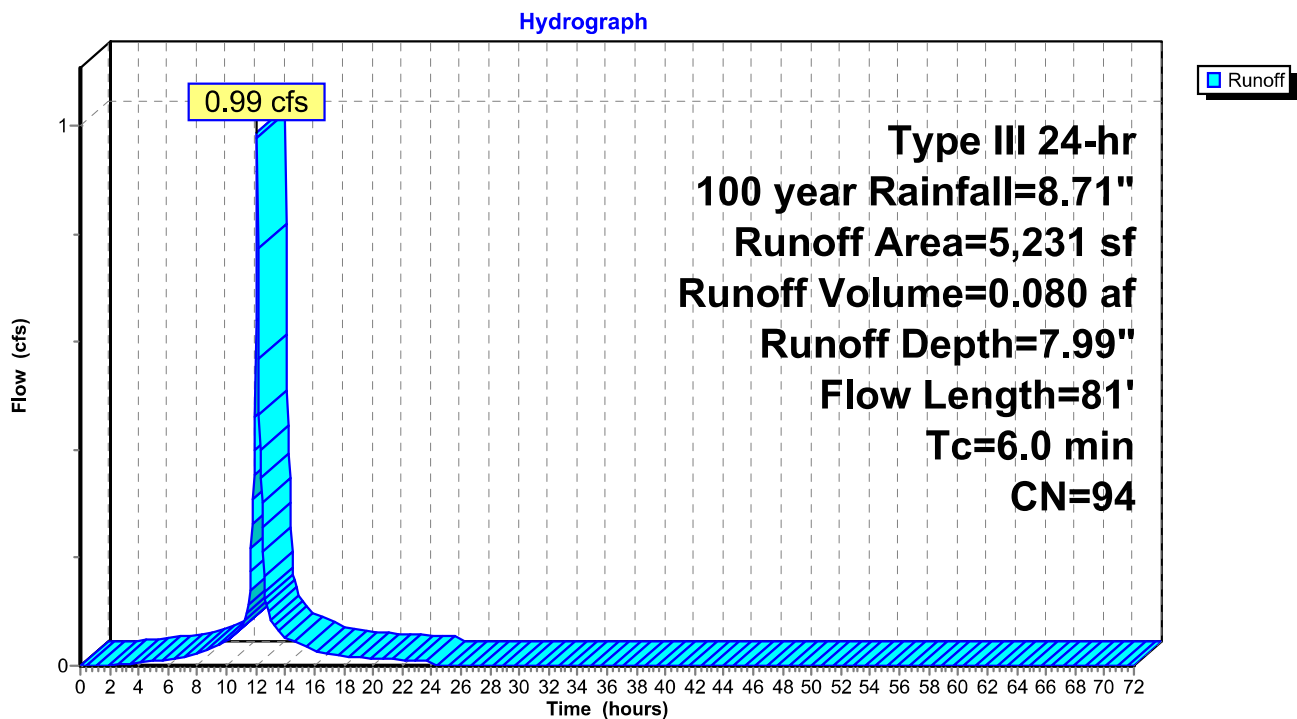
Summary for Subcatchment 4S: PROP. SC #4

Runoff = 0.99 cfs @ 12.09 hrs, Volume= 0.080 af, Depth= 7.99"
Routed to Pond CB4 : CB#4

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.71"

Area (sf)	CN	Description
4,341	98	Paved parking, HSG B
* 387	98	sidewalk and other impervious
503	61	>75% Grass cover, Good, HSG B
5,231	94	Weighted Average
503		9.62% Pervious Area
4,728		90.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	50	0.1350	2.65		Sheet Flow, sheet flow 50 ft Smooth surfaces n= 0.011 P2= 3.40"
0.3	31	0.0100	2.03		Shallow Concentrated Flow, shallow conc flow Paved Kv= 20.3 fps
0.6	81	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 4S: PROP. SC #4

proposed sw subcatchmentrev

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Type III 24-hr 100 year Rainfall=8.71"

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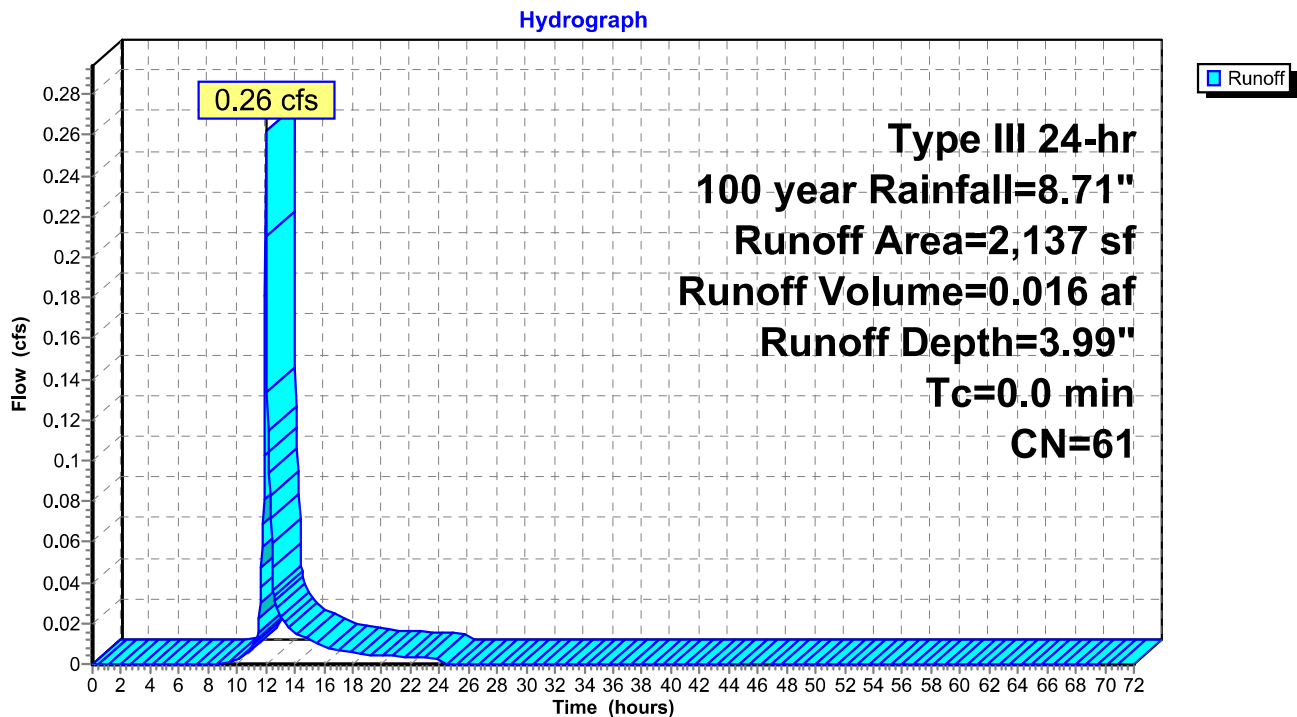
Summary for Subcatchment 5S: SC5- to Washington

Runoff = 0.26 cfs @ 12.01 hrs, Volume= 0.016 af, Depth= 3.99"
Routed to Reach DP1 : DP1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.71"

Area (sf)	CN	Description
2,137	61	>75% Grass cover, Good, HSG B
2,137		100.00% Pervious Area

Subcatchment 5S: SC5- to Washington



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Type III 24-hr 100 year Rainfall=8.71"

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Summary for Subcatchment 6S: SC6- to Webster

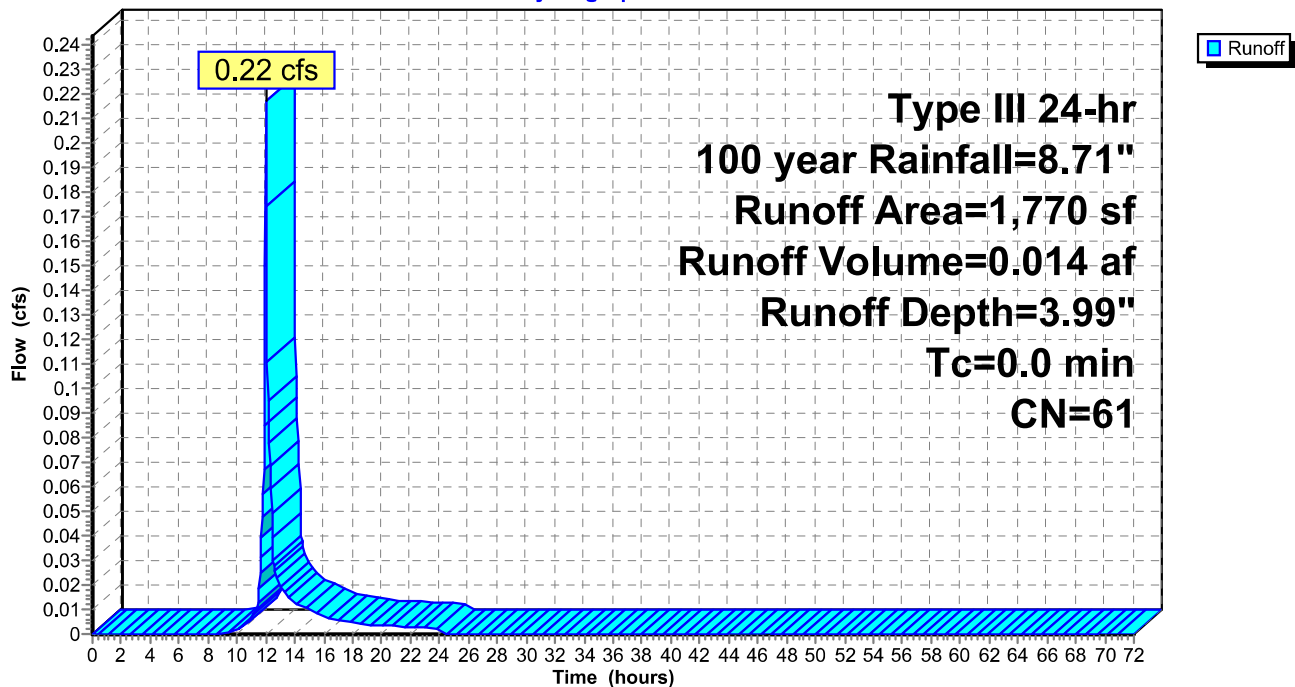
Runoff = 0.22 cfs @ 12.01 hrs, Volume= 0.014 af, Depth= 3.99"
Routed to Reach DP1 : DP1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100 year Rainfall=8.71"

Area (sf)	CN	Description
1,770	61	>75% Grass cover, Good, HSG B
1,770		100.00% Pervious Area

Subcatchment 6S: SC6- to Webster

Hydrograph



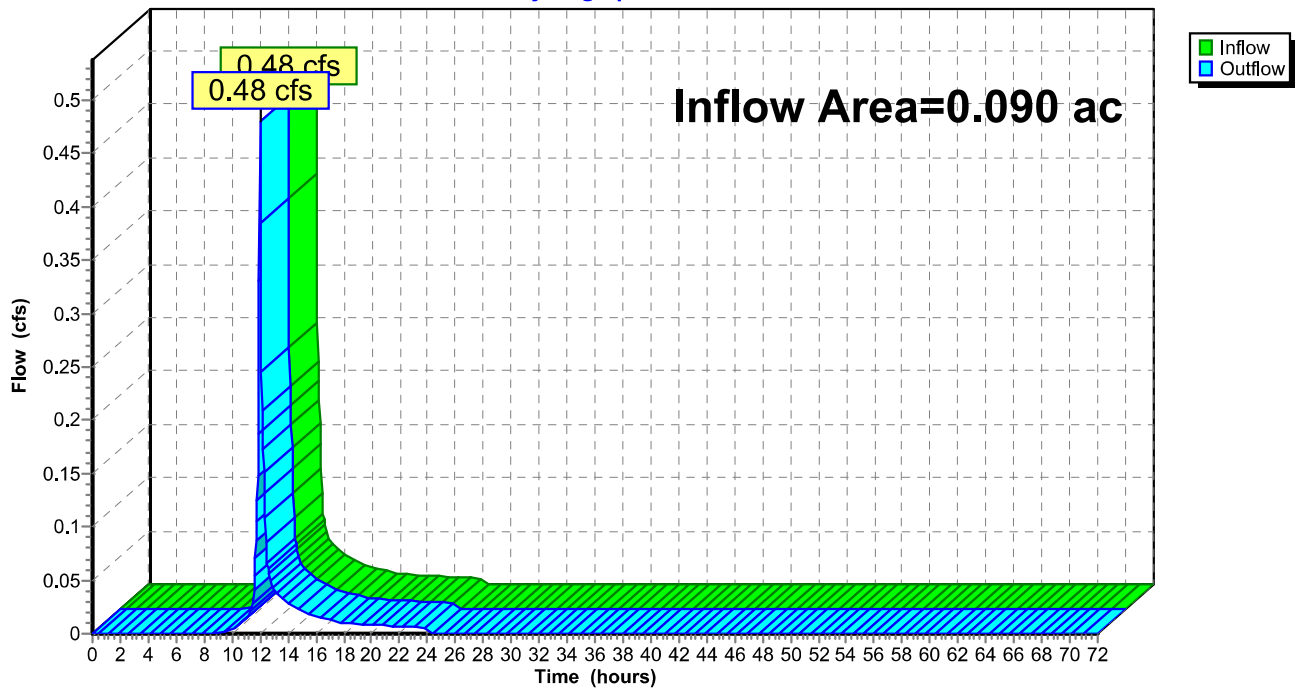
Summary for Reach DP1: DP1

Inflow Area = 0.090 ac, 0.00% Impervious, Inflow Depth = 3.99" for 100 year event
 Inflow = 0.48 cfs @ 12.01 hrs, Volume= 0.030 af
 Outflow = 0.48 cfs @ 12.01 hrs, Volume= 0.030 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Reach DP1: DP1

Hydrograph



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Summary for Pond CB1: CB1

Inflow Area = 0.205 ac, 82.36% Impervious, Inflow Depth = 7.63" for 100 year event
Inflow = 1.65 cfs @ 12.09 hrs, Volume= 0.131 af
Outflow = 1.65 cfs @ 12.09 hrs, Volume= 0.131 af, Atten= 0%, Lag= 0.0 min
Primary = 1.65 cfs @ 12.09 hrs, Volume= 0.131 af
Routed to Pond DMH1 : DMH #1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 122.08' @ 12.09 hrs

Flood Elev= 124.00'

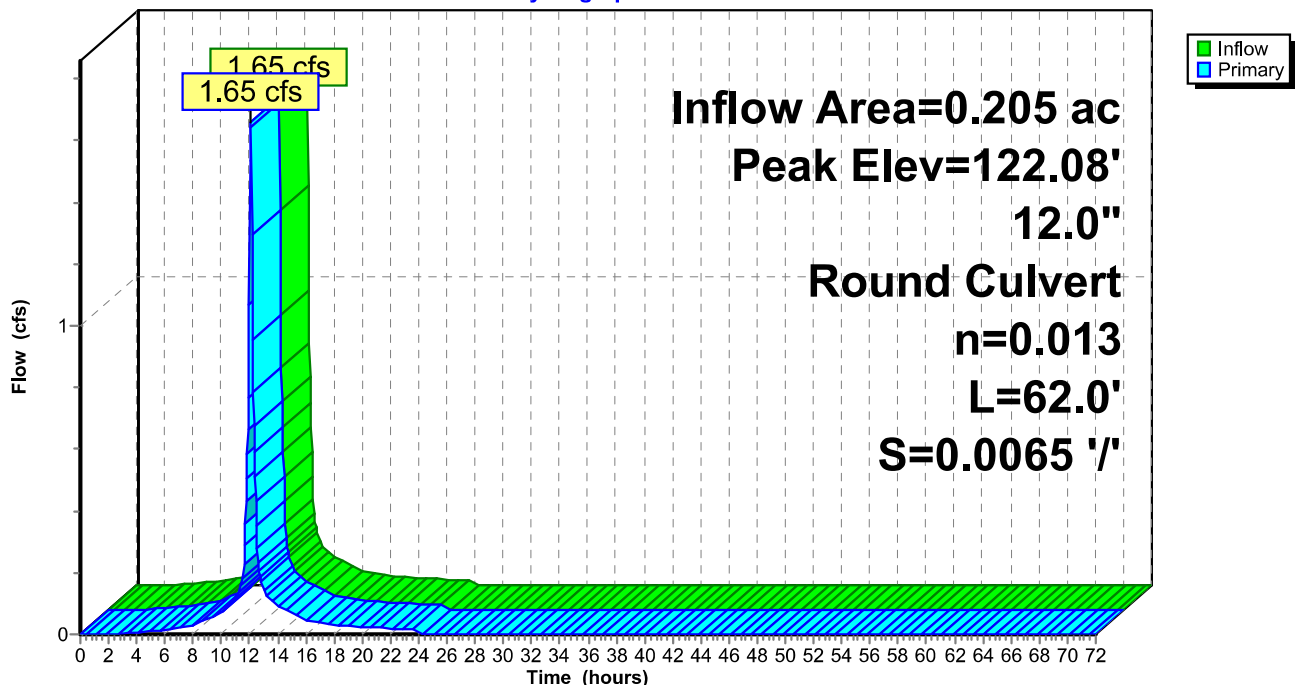
Device	Routing	Invert	Outlet Devices
#1	Primary	121.30'	12.0" Round Culvert L= 62.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 121.30' / 120.90' S= 0.0065 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.61 cfs @ 12.09 hrs HW=122.07' (Free Discharge)

1=Culvert (Barrel Controls 1.61 cfs @ 3.43 fps)

Pond CB1: CB1

Hydrograph



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Summary for Pond CB2: CB #2

Inflow Area = 0.145 ac, 88.17% Impervious, Inflow Depth = 7.99" for 100 year event
Inflow = 1.19 cfs @ 12.09 hrs, Volume= 0.097 af
Outflow = 1.19 cfs @ 12.09 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.0 min
Primary = 1.19 cfs @ 12.09 hrs, Volume= 0.097 af
Routed to Pond DMH#2 : DMH #2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.76' @ 12.09 hrs

Flood Elev= 124.60'

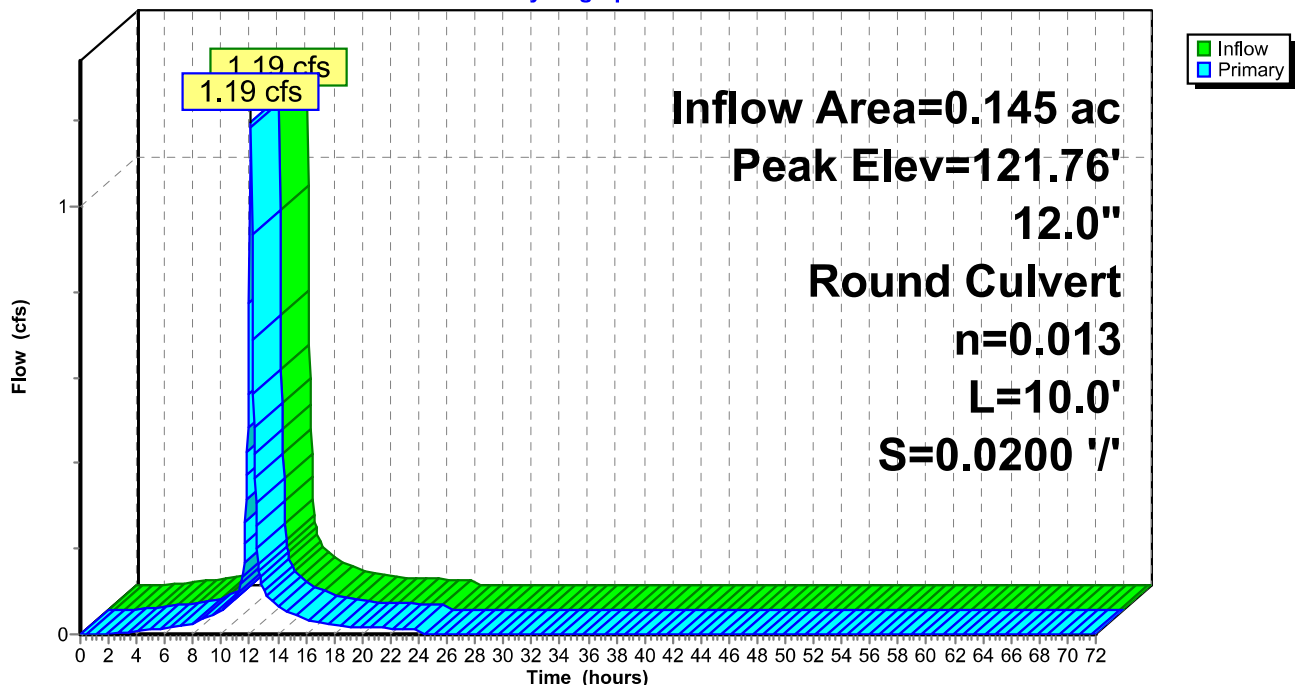
Device	Routing	Invert	Outlet Devices
#1	Primary	121.10'	12.0" Round PIPE L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 121.10' / 120.90' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.16 cfs @ 12.09 hrs HW=121.75' (Free Discharge)

1=PIPE (Inlet Controls 1.16 cfs @ 2.16 fps)

Pond CB2: CB #2

Hydrograph



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Summary for Pond CB3: CB #3

Inflow Area = 0.183 ac, 90.61% Impervious, Inflow Depth = 8.11" for 100 year event
Inflow = 1.51 cfs @ 12.09 hrs, Volume= 0.124 af
Outflow = 1.51 cfs @ 12.09 hrs, Volume= 0.124 af, Atten= 0%, Lag= 0.0 min
Primary = 1.51 cfs @ 12.09 hrs, Volume= 0.124 af
Routed to Pond DMH#3 : DMH #3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.87' @ 12.09 hrs

Flood Elev= 124.60'

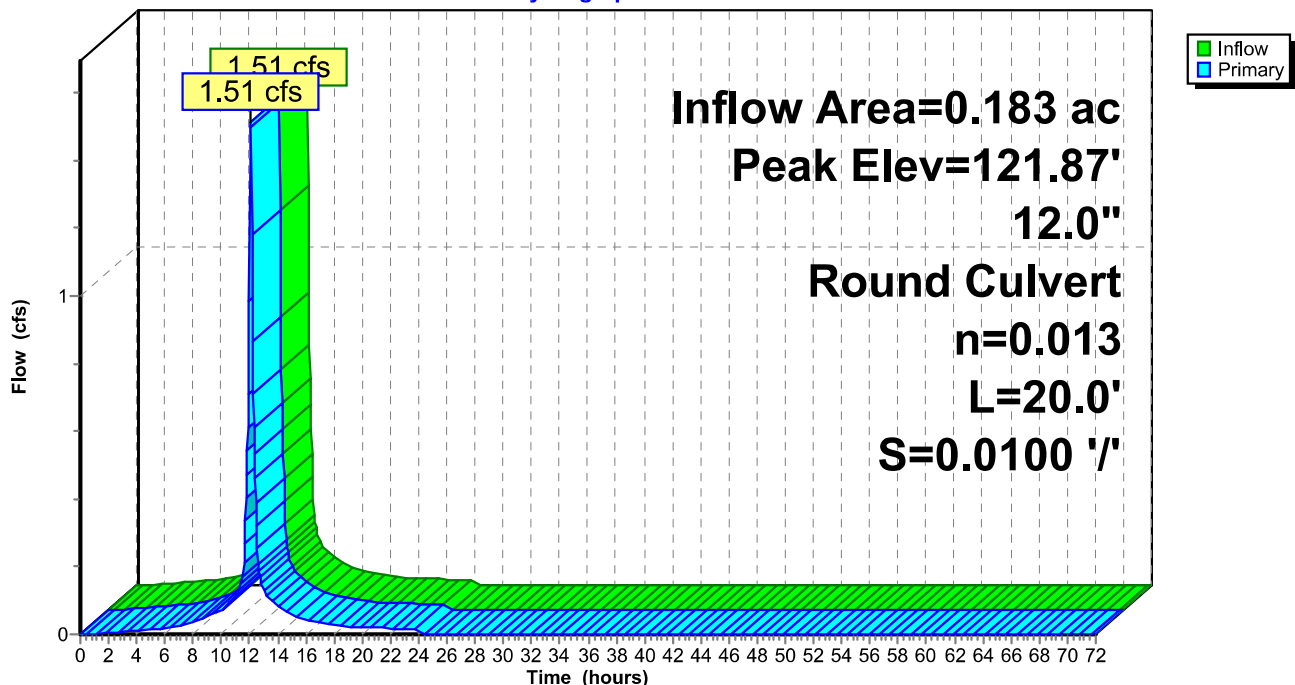
Device	Routing	Invert	Outlet Devices
#1	Primary	121.10'	12.0" Round PIPE L= 20.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 121.10' / 120.90' S= 0.0100 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.47 cfs @ 12.09 hrs HW=121.86' (Free Discharge)

1=PIPE (Barrel Controls 1.47 cfs @ 3.19 fps)

Pond CB3: CB #3

Hydrograph



Summary for Pond CB4: CB#4

Inflow Area = 0.120 ac, 90.38% Impervious, Inflow Depth = 7.99" for 100 year event
 Inflow = 0.99 cfs @ 12.09 hrs, Volume= 0.080 af
 Outflow = 0.99 cfs @ 12.09 hrs, Volume= 0.080 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.99 cfs @ 12.09 hrs, Volume= 0.080 af
 Routed to Pond DMH4 : DMH #4

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.82' @ 12.09 hrs

Flood Elev= 124.50'

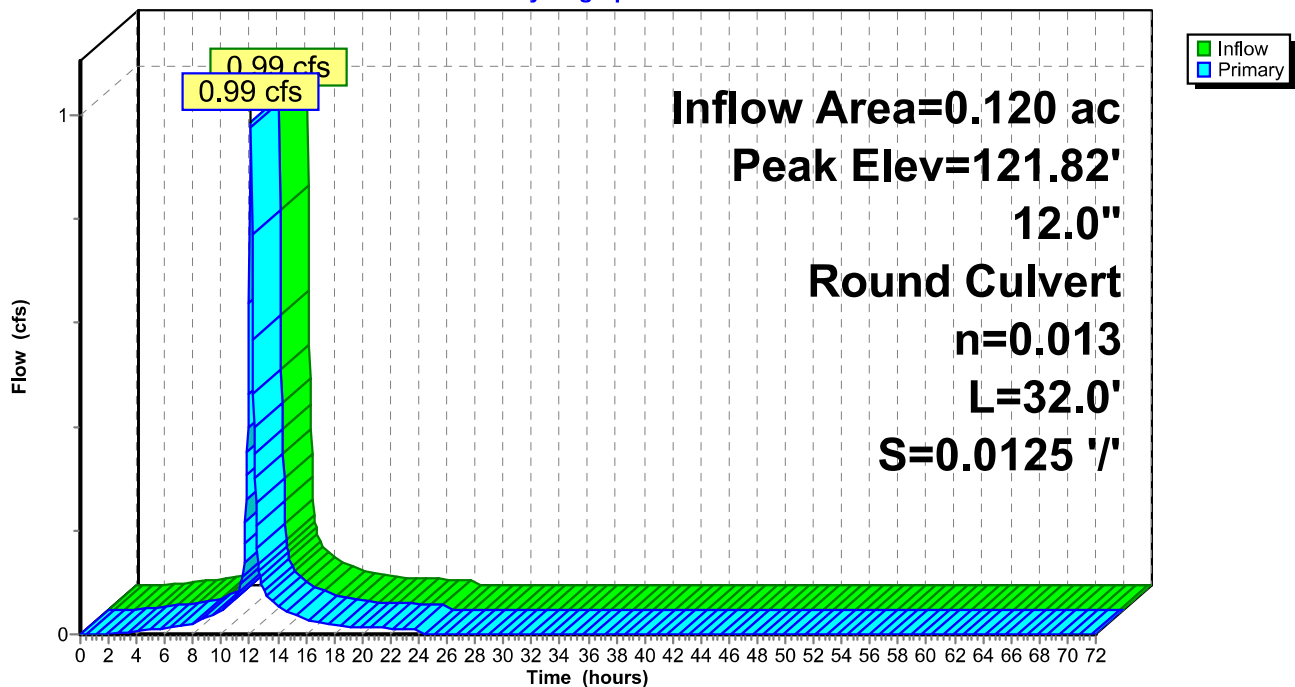
Device	Routing	Invert	Outlet Devices
#1	Primary	121.30'	12.0" Round PIPE L= 32.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 121.30' / 120.90' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.96 cfs @ 12.09 hrs HW=121.81' (Free Discharge)

1=PIPE (Barrel Controls 0.96 cfs @ 3.49 fps)

Pond CB4: CB#4

Hydrograph



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Summary for Pond DMH#2: DMH #2

Inflow Area = 0.145 ac, 88.17% Impervious, Inflow Depth = 7.99" for 100 year event
Inflow = 1.19 cfs @ 12.09 hrs, Volume= 0.097 af
Outflow = 1.19 cfs @ 12.09 hrs, Volume= 0.097 af, Atten= 0%, Lag= 0.0 min
Primary = 1.19 cfs @ 12.09 hrs, Volume= 0.097 af
Routed to Pond IC-A : INFILTRATION CHAMBER SYS1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.54' @ 12.09 hrs

Flood Elev= 124.60'

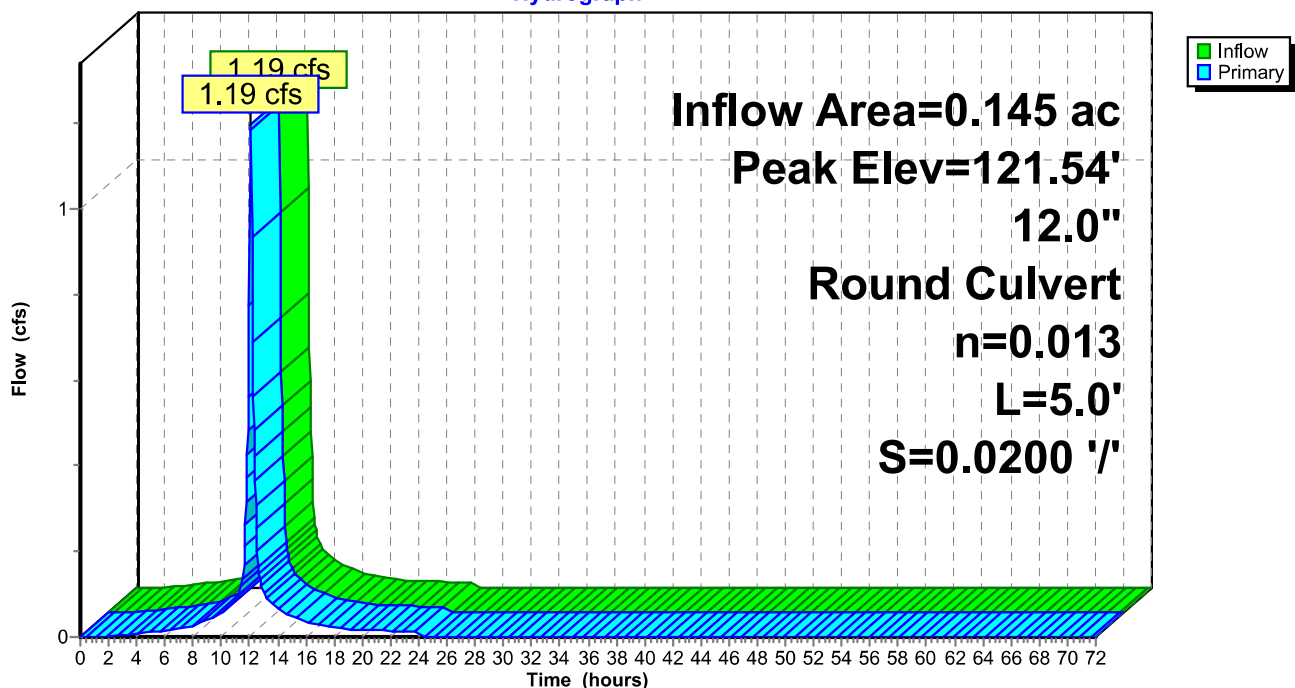
Device	Routing	Invert	Outlet Devices
#1	Primary	120.90'	12.0" Round PIPE L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.90' / 120.80' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.16 cfs @ 12.09 hrs HW=121.53' (Free Discharge)

1=PIPE (Barrel Controls 1.16 cfs @ 3.16 fps)

Pond DMH#2: DMH #2

Hydrograph



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Summary for Pond DMH#3: DMH #3

Inflow Area = 0.183 ac, 90.61% Impervious, Inflow Depth = 8.11" for 100 year event
Inflow = 1.51 cfs @ 12.09 hrs, Volume= 0.124 af
Outflow = 1.51 cfs @ 12.09 hrs, Volume= 0.124 af, Atten= 0%, Lag= 0.0 min
Primary = 1.51 cfs @ 12.09 hrs, Volume= 0.124 af
Routed to Pond IC-A : INFILTRATION CHAMBER SYS1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.65' @ 12.09 hrs

Flood Elev= 124.60'

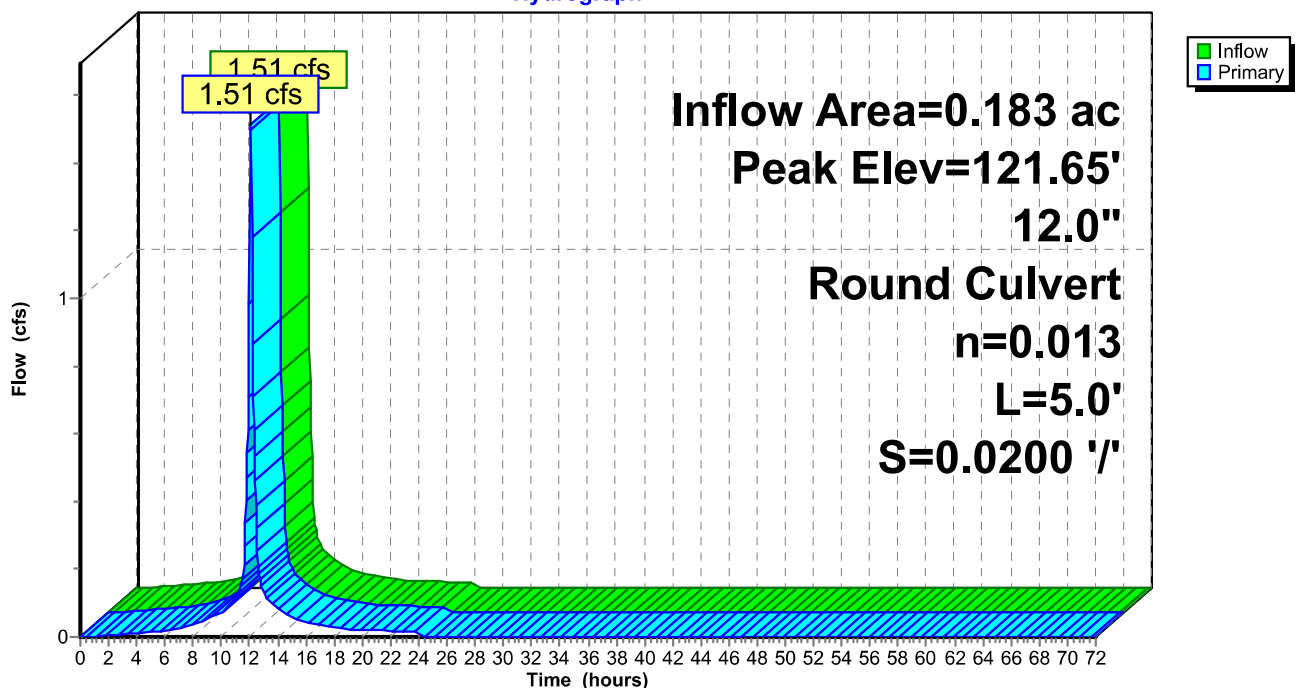
Device	Routing	Invert	Outlet Devices
#1	Primary	120.90'	12.0" Round PIPE L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.90' / 120.80' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.47 cfs @ 12.09 hrs HW=121.63' (Free Discharge)

1=PIPE (Barrel Controls 1.47 cfs @ 3.33 fps)

Pond DMH#3: DMH #3

Hydrograph



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Summary for Pond DMH1: DMH #1

Inflow Area = 0.291 ac, 87.57% Impervious, Inflow Depth = 7.88" for 100 year event
Inflow = 2.17 cfs @ 12.06 hrs, Volume= 0.191 af
Outflow = 2.17 cfs @ 12.06 hrs, Volume= 0.191 af, Atten= 0%, Lag= 0.0 min
Primary = 2.17 cfs @ 12.06 hrs, Volume= 0.191 af
Routed to Pond IC-A : INFILTRATION CHAMBER SYS1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.84' @ 12.06 hrs

Flood Elev= 124.00'

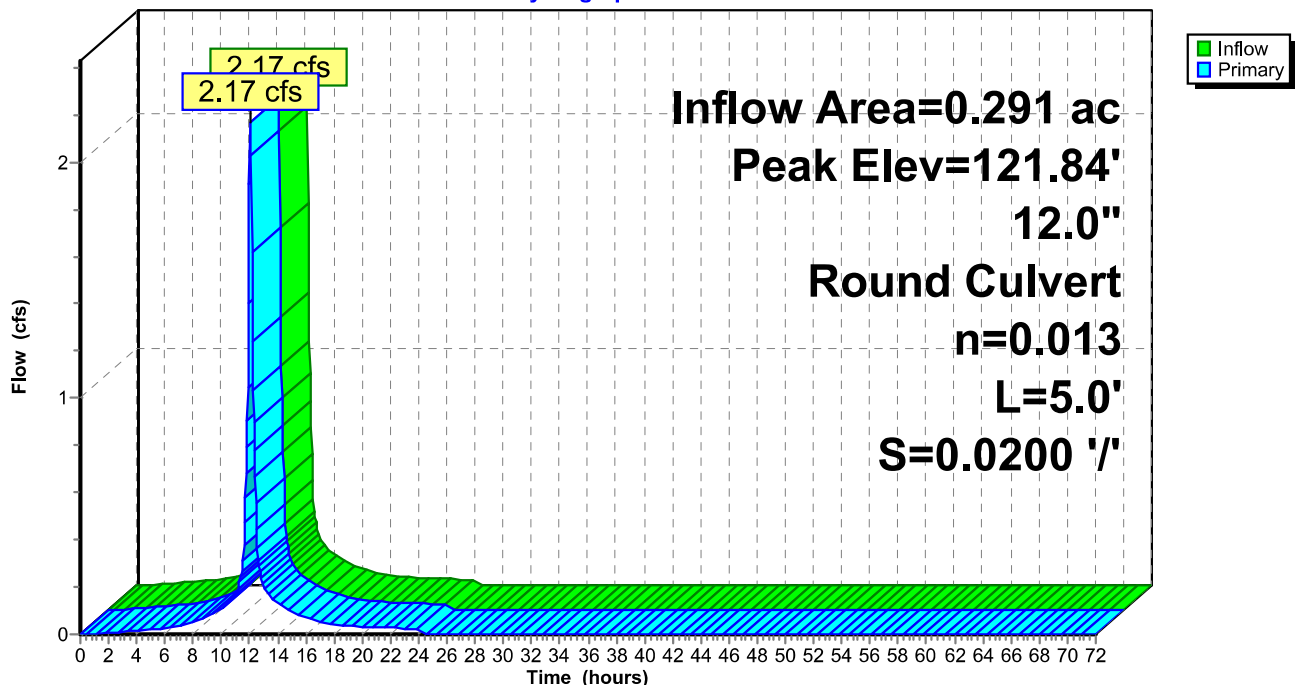
Device	Routing	Invert	Outlet Devices
#1	Primary	120.90'	12.0" Round DMH 1 OUTLET L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.90' / 120.80' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.14 cfs @ 12.06 hrs HW=121.84' (Free Discharge)

1=DMH 1 OUTLET (Barrel Controls 2.14 cfs @ 3.64 fps)

Pond DMH1: DMH #1

Hydrograph



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Summary for Pond DMH4: DMH #4

Inflow Area = 0.206 ac, 94.40% Impervious, Inflow Depth = 8.19" for 100 year event
Inflow = 1.56 cfs @ 12.04 hrs, Volume= 0.141 af
Outflow = 1.56 cfs @ 12.04 hrs, Volume= 0.141 af, Atten= 0%, Lag= 0.0 min
Primary = 1.56 cfs @ 12.04 hrs, Volume= 0.141 af
Routed to Pond IC-B : INFILTRATION CHAMBER SYS 3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 121.56' @ 12.04 hrs

Flood Elev= 124.50'

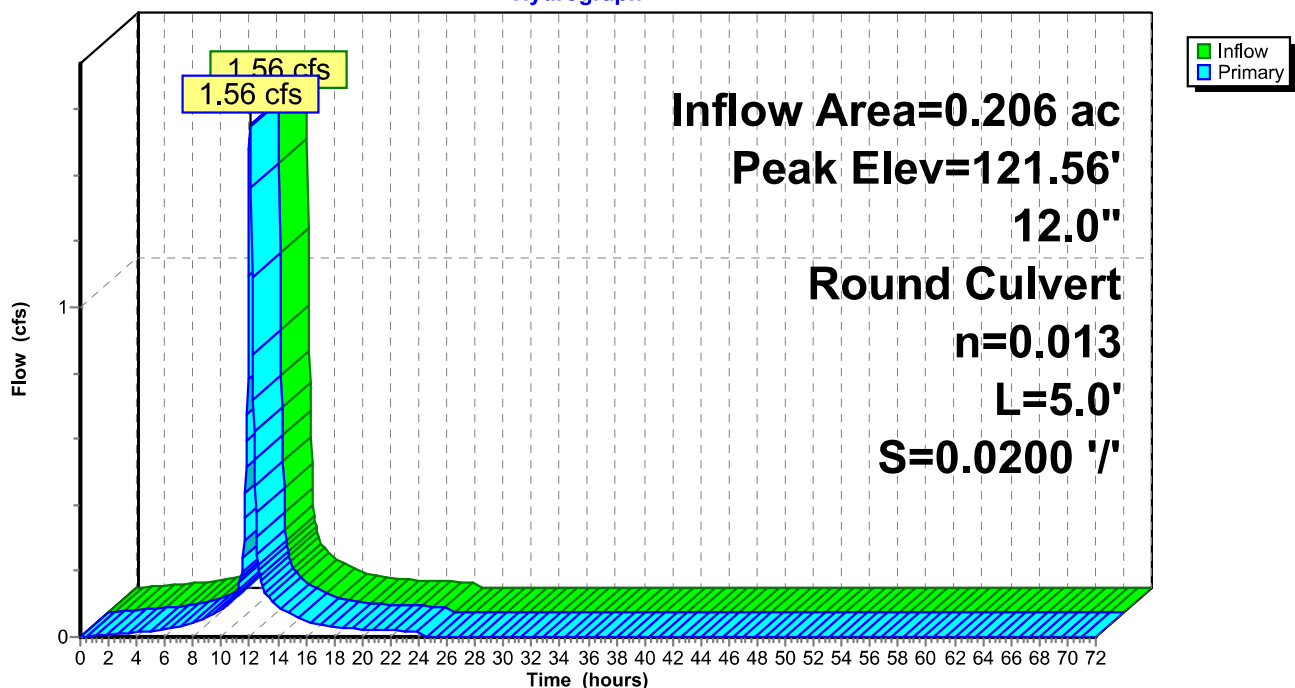
Device	Routing	Invert	Outlet Devices
#1	Primary	120.80'	12.0" Round PIPE L= 5.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 120.80' / 120.70' S= 0.0200 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.53 cfs @ 12.04 hrs HW=121.55' (Free Discharge)

1=PIPE (Barrel Controls 1.53 cfs @ 3.36 fps)

Pond DMH4: DMH #4

Hydrograph



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Summary for Pond IC-A: INFILTRATION CHAMBER SYS1

Inflow Area = 0.620 ac, 88.61% Impervious, Inflow Depth = 7.97" for 100 year event
 Inflow = 4.82 cfs @ 12.08 hrs, Volume= 0.412 af
 Outflow = 0.29 cfs @ 13.92 hrs, Volume= 0.412 af, Atten= 94%, Lag= 110.5 min
 Discarded = 0.29 cfs @ 13.92 hrs, Volume= 0.412 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 122.50' @ 13.92 hrs Surf.Area= 5,373 sf Storage= 9,114 cf

Plug-Flow detention time= 335.7 min calculated for 0.411 af (100% of inflow)
 Center-of-Mass det. time= 335.7 min (1,093.7 - 758.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	120.00'	3,007 cf	34.75'W x 96.18'L x 3.50'H Field A 11,697 cf Overall - 4,181 cf Embedded = 7,517 cf x 40.0% Voids
#2A	120.50'	4,181 cf	ADS_StormTech SC-740 +Cap x 91 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 91 Chambers in 7 Rows
#3B	120.00'	1,851 cf	30.00'W x 67.70'L x 3.50'H Field B 7,108 cf Overall - 2,481 cf Embedded = 4,627 cf x 40.0% Voids
#4B	120.50'	2,481 cf	ADS_StormTech SC-740 +Cap x 54 Inside #3 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 54 Chambers in 6 Rows
		11,519 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	120.00'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 118.00'

Discarded OutFlow Max=0.29 cfs @ 13.92 hrs HW=122.50' (Free Discharge)

↑ **1=Exfiltration** (Controls 0.29 cfs)

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Pond IC-A: INFILTRATION CHAMBER SYS1 - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

13 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 94.18' Row Length +12.0" End Stone x 2 = 96.18' Base Length

7 Rows x 51.0" Wide + 6.0" Spacing x 6 + 12.0" Side Stone x 2 = 34.75' Base Width

6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

91 Chambers x 45.9 cf = 4,180.5 cf Chamber Storage

11,697.5 cf Field - 4,180.5 cf Chambers = 7,516.9 cf Stone x 40.0% Voids = 3,006.8 cf Stone Storage

Chamber Storage + Stone Storage = 7,187.3 cf = 0.165 af

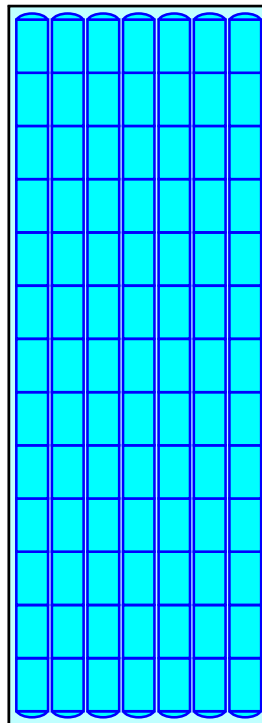
Overall Storage Efficiency = 61.4%

Overall System Size = 96.18' x 34.75' x 3.50'

91 Chambers

433.2 cy Field

278.4 cy Stone



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Pond IC-A: INFILTRATION CHAMBER SYS1 - Chamber Wizard Field B

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

9 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 65.70' Row Length +12.0" End Stone x 2 = 67.70' Base Length

6 Rows x 51.0" Wide + 6.0" Spacing x 5 + 12.0" Side Stone x 2 = 30.00' Base Width

6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

54 Chambers x 45.9 cf = 2,480.8 cf Chamber Storage

7,108.2 cf Field - 2,480.8 cf Chambers = 4,627.4 cf Stone x 40.0% Voids = 1,851.0 cf Stone Storage

Chamber Storage + Stone Storage = 4,331.7 cf = 0.099 af

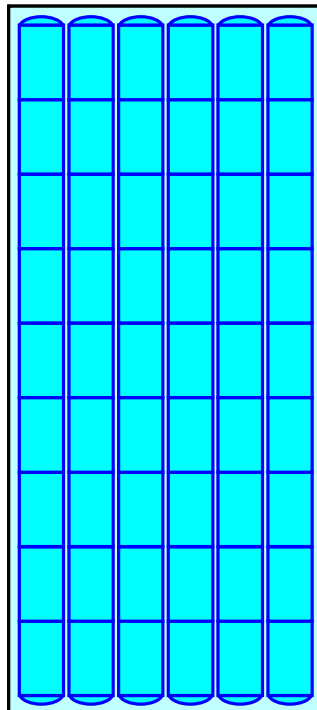
Overall Storage Efficiency = 60.9%

Overall System Size = 67.70' x 30.00' x 3.50'

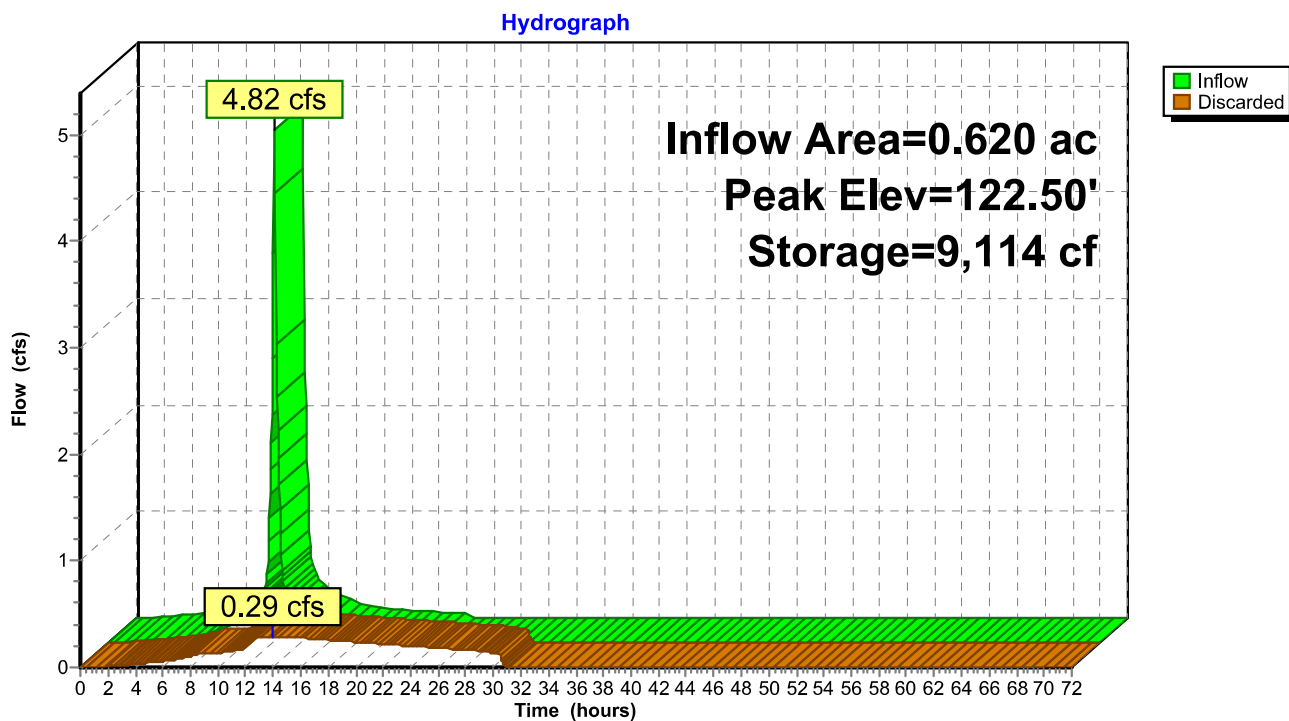
54 Chambers

263.3 cy Field

171.4 cy Stone



Pond IC-A: INFILTRATION CHAMBER SYS1



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Summary for Pond IC-B: INFILTRATION CHAMBER SYS 3

Inflow Area = 0.206 ac, 94.40% Impervious, Inflow Depth = 8.19" for 100 year event
 Inflow = 1.56 cfs @ 12.04 hrs, Volume= 0.141 af
 Outflow = 0.09 cfs @ 13.96 hrs, Volume= 0.141 af, Atten= 94%, Lag= 115.1 min
 Discarded = 0.09 cfs @ 13.96 hrs, Volume= 0.141 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 121.66' @ 13.96 hrs Surf.Area= 2,608 sf Storage= 2,927 cf

Plug-Flow detention time= 292.6 min calculated for 0.141 af (100% of inflow)
 Center-of-Mass det. time= 292.5 min (1,041.2 - 748.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	120.00'	2,365 cf	25.25'W x 103.30'L x 3.50'H Field A 9,129 cf Overall - 3,216 cf Embedded = 5,913 cf x 40.0% Voids
#2A	120.50'	3,216 cf	ADS_StormTech SC-740 +Cap x 70 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 70 Chambers in 5 Rows
		5,581 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	120.00'	1.020 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 116.70'

Discarded OutFlow Max=0.09 cfs @ 13.96 hrs HW=121.66' (Free Discharge)
 ↑**1=Exfiltration** (Controls 0.09 cfs)

Pond IC-B: INFILTRATION CHAMBER SYS 3 - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech®SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

14 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 101.30' Row Length +12.0" End Stone x 2 = 103.30' Base Length

5 Rows x 51.0" Wide + 6.0" Spacing x 4 + 12.0" Side Stone x 2 = 25.25' Base Width

6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

70 Chambers x 45.9 cf = 3,215.8 cf Chamber Storage

9,128.8 cf Field - 3,215.8 cf Chambers = 5,913.0 cf Stone x 40.0% Voids = 2,365.2 cf Stone Storage

Chamber Storage + Stone Storage = 5,581.0 cf = 0.128 af

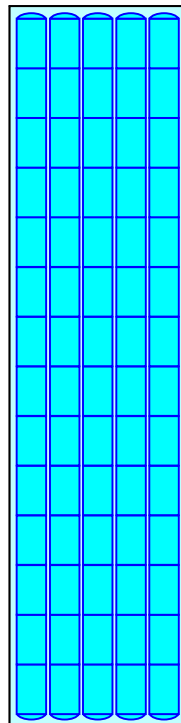
Overall Storage Efficiency = 61.1%

Overall System Size = 103.30' x 25.25' x 3.50'

70 Chambers

338.1 cy Field

219.0 cy Stone



Pond IC-B: INFILTRATION CHAMBER SYS 3

