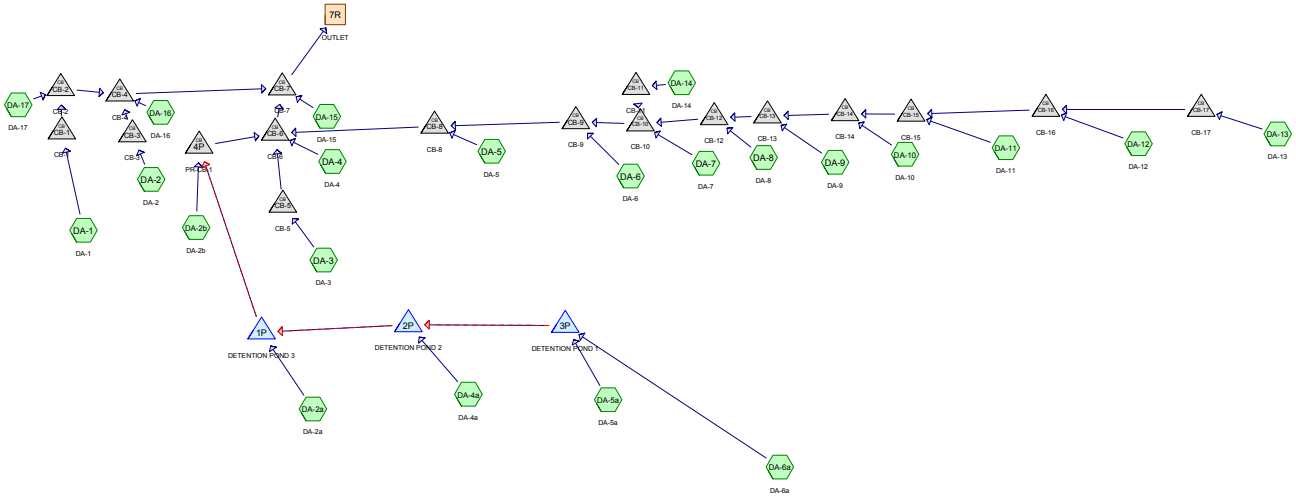


Subcat Reach Pond Link

Routing Diagram for 20-2624 KINGS HIGHWAY NORTH HAVEN - POST WITH ON-SITE DETENTION revised 11-10-2020

Prepared by LRC Group, Printed 11/12/2020

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
1,168,090	74	>75% Grass cover, Good, HSG C (DA-1, DA-10, DA-11, DA-12, DA-13, DA-2, DA-2a, DA-2b, DA-3, DA-4, DA-4a, DA-5, DA-5a, DA-6, DA-6a, DA-7, DA-8, DA-9)
211,953	98	Paved parking, HSG C (DA-1, DA-10, DA-11, DA-12, DA-13, DA-14, DA-15, DA-16, DA-17, DA-2, DA-2a, DA-2b, DA-3, DA-4, DA-4a, DA-5, DA-5a, DA-6, DA-6a, DA-7, DA-8, DA-9)
482,430	72	Woods/grass comb., Good, HSG C (DA-1, DA-12, DA-13, DA-2, DA-2a, DA-2b, DA-3, DA-4, DA-4a, DA-5, DA-5a, DA-6, DA-6a, DA-7, DA-8, DA-9)
1,862,473	**76**	**TOTAL AREA**

Soil Listing (all nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
0	HSG B	
1,862,473	HSG C	DA-1, DA-10, DA-11, DA-12, DA-13, DA-14, DA-15, DA-16, DA-17, DA-2, DA-2a, DA-2b, DA-3, DA-4, DA-4a, DA-5, DA-5a, DA-6, DA-6a, DA-7, DA-8, DA-9
0	HSG D	
0	Other	
1,862,473		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Su Nu
0	0	1,168,090	0	0	1,168,090	>75% Grass cover, Good	
0	0	211,953	0	0	211,953	Paved parking	
0	0	482,430	0	0	482,430	Woods/grass comb., Good	
0	**0**	**1,862,473**	**0**	**0**	**1,862,473**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1P	53.00	46.00	46.0	0.1522	0.013	6.0	0.0	0.0
2	2P	60.75	55.00	30.0	0.1917	0.013	6.0	0.0	0.0
3	3P	66.40	62.00	50.0	0.0880	0.013	6.0	0.0	0.0
4	4P	28.30	27.30	100.0	0.0100	0.012	24.0	0.0	0.0
5	CB-1	26.90	26.50	33.0	0.0121	0.012	15.0	0.0	0.0
6	CB-10	35.20	35.20	91.0	0.0000	0.025	18.0	0.0	0.0
7	CB-11	35.50	35.10	26.0	0.0154	0.012	18.0	0.0	0.0
8	CB-12	39.70	35.20	95.0	0.0474	0.012	18.0	0.0	0.0
9	CB-13	43.30	39.80	63.0	0.0556	0.025	18.0	0.0	0.0
10	CB-14	49.50	43.40	117.0	0.0521	0.012	18.0	0.0	0.0
11	CB-15	54.10	49.60	83.0	0.0542	0.012	18.0	0.0	0.0
12	CB-16	63.90	54.10	183.0	0.0536	0.012	18.0	0.0	0.0
13	CB-17	69.40	64.00	206.0	0.0262	0.012	18.0	0.0	0.0
14	CB-2	26.40	26.20	78.0	0.0026	0.025	18.0	0.0	0.0
15	CB-3	28.20	26.20	39.0	0.0513	0.012	15.0	0.0	0.0
16	CB-4	26.00	25.30	227.0	0.0031	0.012	24.0	0.0	0.0
17	CB-5	29.50	26.30	89.0	0.0360	0.025	15.0	0.0	0.0
18	CB-6	27.10	26.50	36.0	0.0167	0.013	24.0	0.0	0.0
19	CB-7	25.10	22.70	117.0	0.0205	0.012	30.0	0.0	0.0
20	CB-8	29.50	26.30	193.0	0.0166	0.025	18.0	0.0	0.0
21	CB-9	35.40	31.00	190.0	0.0232	0.025	18.0	0.0	0.0

Time span=0.00-50.00 hrs, dt=0.05 hrs, 1001 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 DA-1: DA-1 Runoff Area=110,937 sf 8.04% Impervious Runoff Depth=1.29"
Flow Length=1,029' Tc=17.6 min CN=75 Runoff=3.81 cfs 11,969 cf

Subcatchment DA-10: DA-10 Runoff Area=29,242 sf 8.57% Impervious Runoff Depth=1.36"
Flow Length=447' Tc=11.3 min CN=76 Runoff=1.31 cfs 3,309 cf

Subcatchment DA-11: DA-11 Runoff Area=60,828 sf 5.01% Impervious Runoff Depth=1.29"
Flow Length=496' Tc=12.2 min CN=75 Runoff=2.51 cfs 6,563 cf

Subcatchment DA-12: DA-12 Runoff Area=145,643 sf 10.79% Impervious Runoff Depth=1.36"
Flow Length=863' Tc=12.7 min CN=76 Runoff=6.23 cfs 16,483 cf

Subcatchment DA-13: DA-13 Runoff Area=391,463 sf 8.69% Impervious Runoff Depth=1.29"
Flow Length=655' Tc=24.6 min CN=75 Runoff=10.99 cfs 42,237 cf

Subcatchment DA-14: DA-14 Runoff Area=6,316 sf 100.00% Impervious Runoff Depth=3.26"
Tc=5.0 min CN=98 Runoff=0.72 cfs 1,714 cf

Subcatchment DA-15: DA-15 Runoff Area=2,159 sf 100.00% Impervious Runoff Depth=3.26"
Tc=5.0 min CN=98 Runoff=0.25 cfs 586 cf

Subcatchment DA-16: DA-16 Runoff Area=1,630 sf 100.00% Impervious Runoff Depth=3.26"
Tc=5.0 min CN=98 Runoff=0.19 cfs 442 cf

Subcatchment DA-17: DA-17 Runoff Area=2,107 sf 100.00% Impervious Runoff Depth=3.26"
Tc=5.0 min CN=98 Runoff=0.24 cfs 572 cf

Subcatchment DA-2: DA-2 Runoff Area=29,175 sf 27.00% Impervious Runoff Depth=1.63"
Flow Length=284' Slope=0.0493 '/' Tc=22.0 min CN=80 Runoff=1.14 cfs 3,959 cf

Subcatchment DA-2a: DA-2a Runoff Area=141,895 sf 10.12% Impervious Runoff Depth=1.36"
Flow Length=739' Tc=18.3 min CN=76 Runoff=5.04 cfs 16,059 cf

Subcatchment DA-2b: DA-2b Runoff Area=81,523 sf 12.99% Impervious Runoff Depth=1.42"
Flow Length=965' Tc=20.6 min CN=77 Runoff=2.84 cfs 9,668 cf

Subcatchment DA-3: DA-3 Runoff Area=15,976 sf 5.12% Impervious Runoff Depth=1.29"
Flow Length=192' Slope=0.1562 '/' Tc=10.1 min CN=75 Runoff=0.71 cfs 1,724 cf

Subcatchment DA-4: DA-4 Runoff Area=56,004 sf 24.76% Impervious Runoff Depth=1.63"
Flow Length=250' Slope=0.1120 '/' Tc=9.8 min CN=80 Runoff=3.20 cfs 7,600 cf

Subcatchment DA-4a: DA-4a Runoff Area=105,870 sf 4.11% Impervious Runoff Depth=1.29"
Flow Length=708' Tc=15.7 min CN=75 Runoff=3.86 cfs 11,423 cf

Subcatchment DA-5: DA-5 Runoff Area=58,273 sf 16.11% Impervious Runoff Depth=1.49"
Flow Length=228' Slope=0.0702 '/' Tc=16.0 min CN=78 Runoff=2.46 cfs 7,234 cf

Subcatchment DA-5a: DA-5a Runoff Area=194,700 sf 9.54% Impervious Runoff Depth=1.36"
Flow Length=764' Tc=19.4 min CN=76 Runoff=6.67 cfs 22,035 cf

Subcatchment DA-6: DA-6 Runoff Area=53,023 sf 11.71% Impervious Runoff Depth=1.36"
Flow Length=378' Tc=19.0 min CN=76 Runoff=1.84 cfs 6,001 cf

Subcatchment DA-6a: DA-6a Runoff Area=90,060 sf 10.50% Impervious Runoff Depth=1.36"
Flow Length=809' Tc=19.3 min CN=76 Runoff=3.09 cfs 10,192 cf

Subcatchment DA-7: DA-7 Runoff Area=39,515 sf 14.15% Impervious Runoff Depth=1.42"
Flow Length=589' Tc=25.2 min CN=77 Runoff=1.22 cfs 4,686 cf

Subcatchment DA-8: DA-8 Runoff Area=21,184 sf 14.41% Impervious Runoff Depth=1.42"
Flow Length=545' Tc=23.6 min CN=77 Runoff=0.68 cfs 2,512 cf

Subcatchment DA-9: DA-9 Runoff Area=224,950 sf 13.96% Impervious Runoff Depth=1.42"
Flow Length=927' Tc=26.2 min CN=77 Runoff=6.77 cfs 26,677 cf

Reach 7R: OUTLET Inflow=40.81 cfs 198,201 cf
Outflow=40.81 cfs 198,201 cf

Pond 1P: DETENTION POND 3 Peak Elev=54.57' Storage=7,055 cf Inflow=5.04 cfs 46,413 cf
Primary=1.09 cfs 42,286 cf Secondary=0.35 cfs 1,979 cf Outflow=1.44 cfs 44,265 cf

Pond 2P: DETENTION POND 2 Peak Elev=61.35' Storage=10,785 cf Inflow=3.86 cfs 37,561 cf
Primary=0.56 cfs 22,611 cf Secondary=0.63 cfs 7,744 cf Outflow=1.19 cfs 30,355 cf

Pond 3P: DETENTION POND 1 Peak Elev=67.77' Storage=15,535 cf Inflow=9.76 cfs 32,227 cf
Primary=1.00 cfs 26,138 cf Secondary=0.00 cfs 0 cf Outflow=1.00 cfs 26,138 cf

Pond 4P: PR-CB-1 Peak Elev=29.09' Inflow=3.52 cfs 53,932 cf
24.0" Round Culvert n=0.012 L=100.0' S=0.0100 '/' Outflow=3.52 cfs 53,932 cf

Pond CB-1: CB-1 Peak Elev=27.97' Inflow=3.81 cfs 11,969 cf
15.0" Round Culvert n=0.012 L=33.0' S=0.0121 '/' Outflow=3.81 cfs 11,969 cf

Pond CB-10: CB-10 Peak Elev=63.28' Inflow=25.77 cfs 104,181 cf
18.0" Round Culvert n=0.025 L=91.0' S=0.0000 '/' Outflow=25.77 cfs 104,181 cf

Pond CB-11: CB-11 Peak Elev=35.88' Inflow=0.72 cfs 1,714 cf
18.0" Round Culvert n=0.012 L=26.0' S=0.0154 '/' Outflow=0.72 cfs 1,714 cf

Pond CB-12: CB-12 Peak Elev=48.82' Inflow=24.64 cfs 97,781 cf
18.0" Round Culvert n=0.012 L=95.0' S=0.0474 '/' Outflow=24.64 cfs 97,781 cf

Pond CB-13: CB-13 Peak Elev=58.92' Inflow=23.99 cfs 95,268 cf
18.0" Round Culvert n=0.025 L=63.0' S=0.0556 '/' Outflow=23.99 cfs 95,268 cf

Pond CB-14: CB-14 Peak Elev=54.86' Inflow=18.26 cfs 68,592 cf
18.0" Round Culvert n=0.012 L=117.0' S=0.0521 '/' Outflow=18.26 cfs 68,592 cf

Pond CB-15: CB-15 Peak Elev=58.93' Inflow=17.20 cfs 65,282 cf
18.0" Round Culvert n=0.012 L=83.0' S=0.0542 '/' Outflow=17.20 cfs 65,282 cf

Pond CB-16: CB-16 Peak Elev=67.81' Inflow=15.12 cfs 58,719 cf
18.0" Round Culvert n=0.012 L=183.0' S=0.0536 '/' Outflow=15.12 cfs 58,719 cf

Pond CB-17: CB-17 Peak Elev=71.82' Inflow=10.99 cfs 42,237 cf
18.0" Round Culvert n=0.012 L=206.0' S=0.0262 '/' Outflow=10.99 cfs 42,237 cf

Pond CB-2: CB-2 Peak Elev=28.00' Inflow=3.86 cfs 12,541 cf
18.0" Round Culvert n=0.025 L=78.0' S=0.0026 '/' Outflow=3.86 cfs 12,541 cf

Pond CB-3: CB-3 Peak Elev=28.71' Inflow=1.14 cfs 3,959 cf
15.0" Round Culvert n=0.012 L=39.0' S=0.0513 '/' Outflow=1.14 cfs 3,959 cf

Pond CB-4: CB-4 Peak Elev=27.15' Inflow=4.98 cfs 16,943 cf
24.0" Round Culvert n=0.012 L=227.0' S=0.0031 '/' Outflow=4.98 cfs 16,943 cf

Pond CB-5: CB-5 Peak Elev=29.95' Inflow=0.71 cfs 1,724 cf
15.0" Round Culvert n=0.025 L=89.0' S=0.0360 '/' Outflow=0.71 cfs 1,724 cf

Pond CB-6: CB-6 Peak Elev=33.70' Inflow=35.79 cfs 180,672 cf
24.0" Round Culvert n=0.013 L=36.0' S=0.0167 '/' Outflow=35.79 cfs 180,672 cf

Pond CB-7: CB-7 Peak Elev=29.33' Inflow=40.81 cfs 198,201 cf
30.0" Round Culvert n=0.012 L=117.0' S=0.0205 '/' Outflow=40.81 cfs 198,201 cf

Pond CB-8: CB-8 Peak Elev=93.17' Inflow=30.07 cfs 117,416 cf
18.0" Round Culvert n=0.025 L=193.0' S=0.0166 '/' Outflow=30.07 cfs 117,416 cf

Pond CB-9: CB-9 Peak Elev=88.36' Inflow=27.60 cfs 110,181 cf
18.0" Round Culvert n=0.025 L=190.0' S=0.0232 '/' Outflow=27.60 cfs 110,181 cf

Total Runoff Area = 1,862,473 sf Runoff Volume = 213,644 cf Average Runoff Depth = 1.38"
88.62% Pervious = 1,650,520 sf 11.38% Impervious = 211,953 sf

Summary for Subcatchment DA-1: DA-1

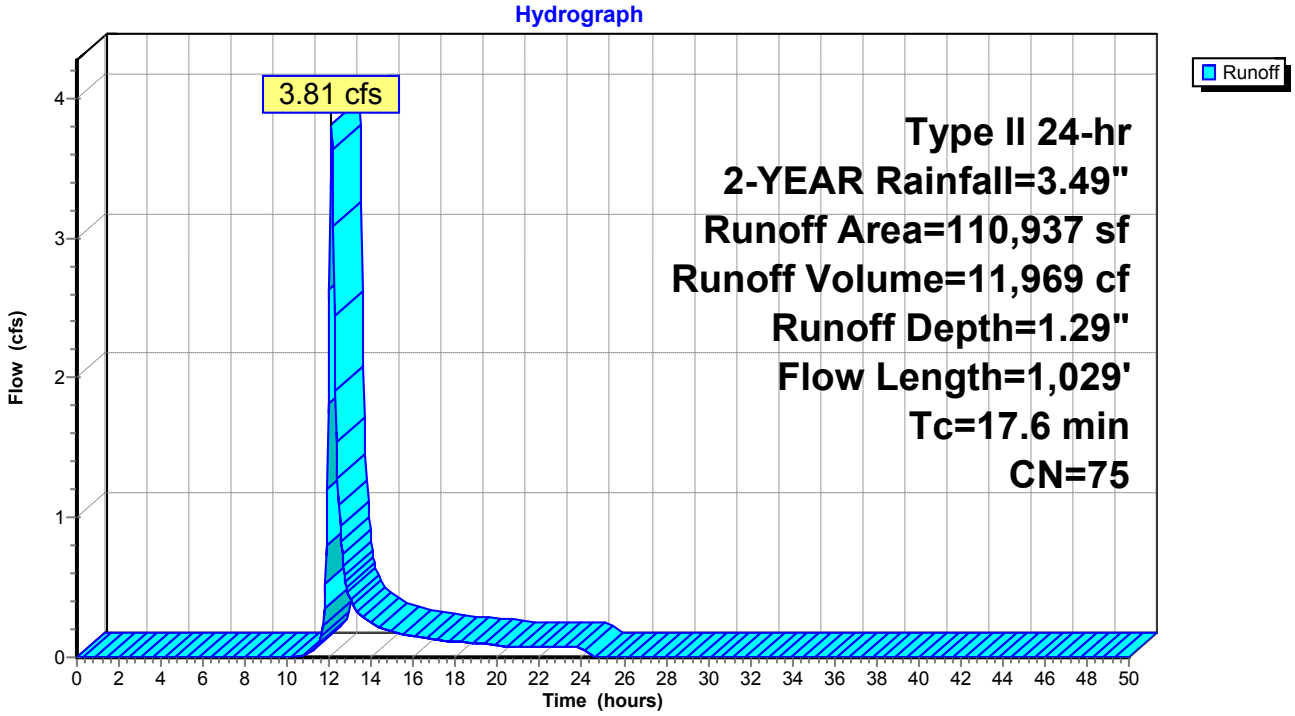
Runoff = 3.81 cfs @ 12.11 hrs, Volume= 11,969 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
59,666	72	Woods/grass comb., Good, HSG C
42,347	74	>75% Grass cover, Good, HSG C
8,924	98	Paved parking, HSG C
110,937	75	Weighted Average
102,013		91.96% Pervious Area
8,924		8.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	153	0.1050	0.26		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"
2.0	189	0.0950	1.54		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.7	687	0.0820	2.00		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.6	1,029	Total			

Subcatchment DA-1: DA-1



Summary for Subcatchment DA-10: DA-10

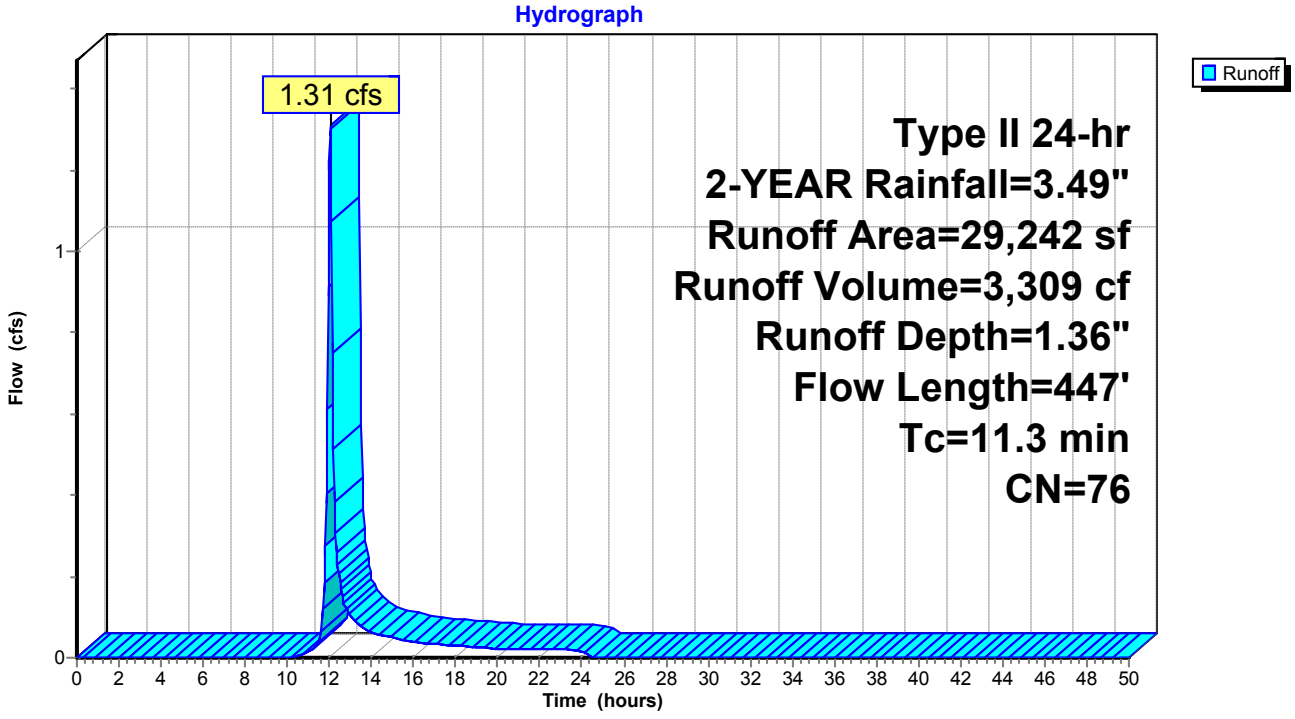
Runoff = 1.31 cfs @ 12.04 hrs, Volume= 3,309 cf, Depth= 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
26,737	74	>75% Grass cover, Good, HSG C
2,505	98	Paved parking, HSG C
29,242	76	Weighted Average
26,737		91.43% Pervious Area
2,505		8.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	250	0.1160	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.49"
1.6	197	0.0812	1.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.3	447	Total			

Subcatchment DA-10: DA-10



Summary for Subcatchment DA-11: DA-11

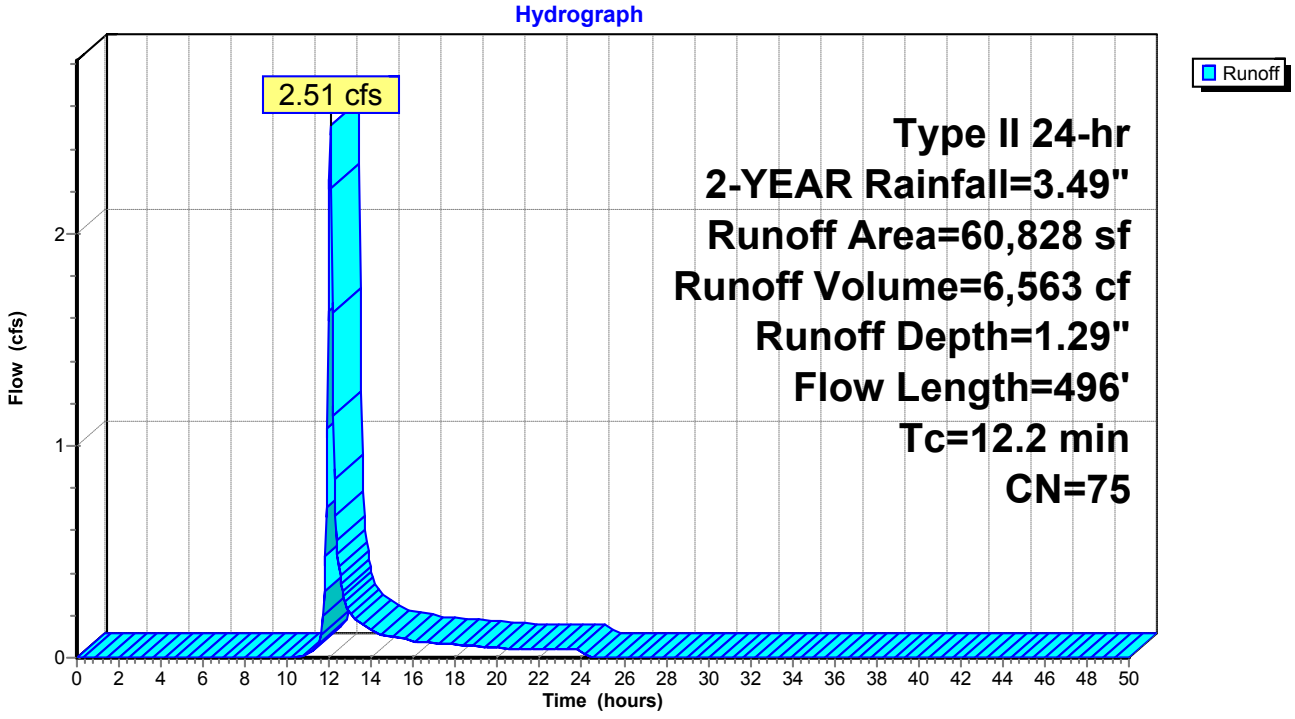
Runoff = 2.51 cfs @ 12.05 hrs, Volume= 6,563 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
57,780	74	>75% Grass cover, Good, HSG C
3,048	98	Paved parking, HSG C
60,828	75	Weighted Average
57,780		94.99% Pervious Area
3,048		5.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	250	0.1120	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.49"
2.4	246	0.0610	1.73		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.2	496	Total			

Subcatchment DA-11: DA-11



Summary for Subcatchment DA-12: DA-12

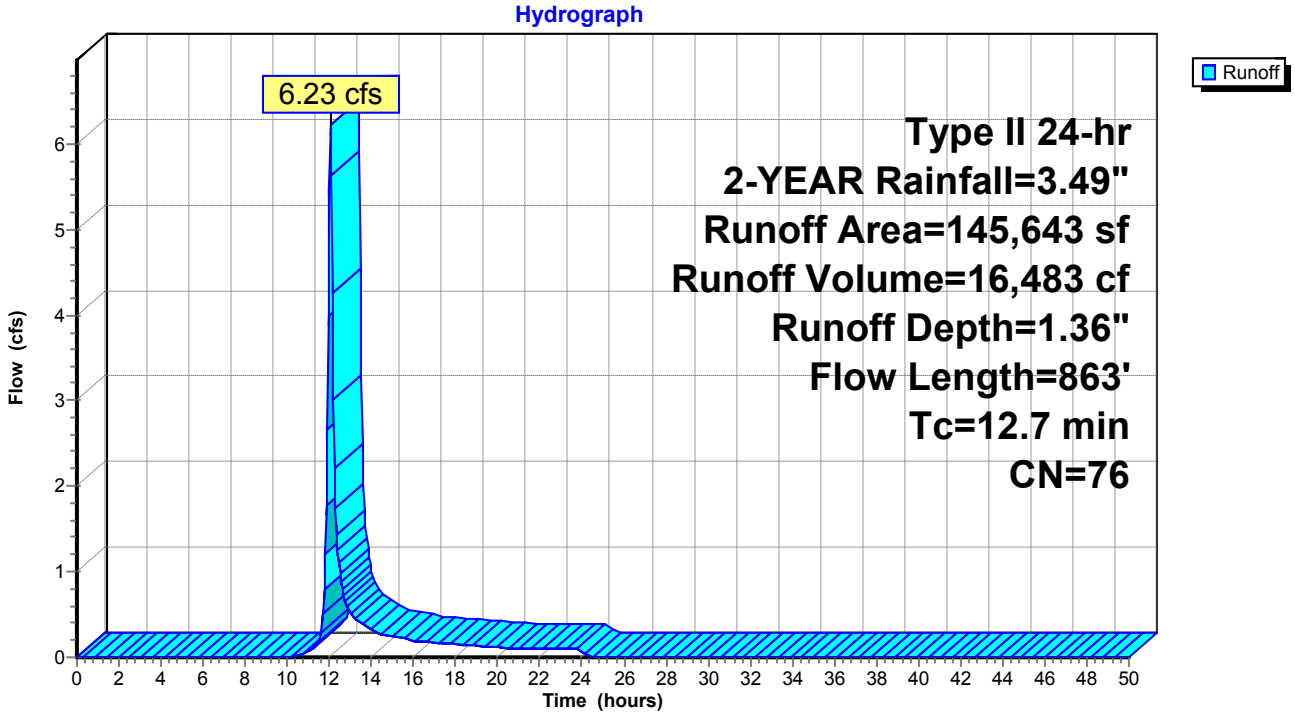
Runoff = 6.23 cfs @ 12.05 hrs, Volume= 16,483 cf, Depth= 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
33,394	72	Woods/grass comb., Good, HSG C
96,537	74	>75% Grass cover, Good, HSG C
15,712	98	Paved parking, HSG C
145,643	76	Weighted Average
129,931		89.21% Pervious Area
15,712		10.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	147	0.1220	0.40		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.49"
3.1	395	0.0911	2.11		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.4	321	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.7	863	Total			

Subcatchment DA-12: DA-12



Summary for Subcatchment DA-13: DA-13

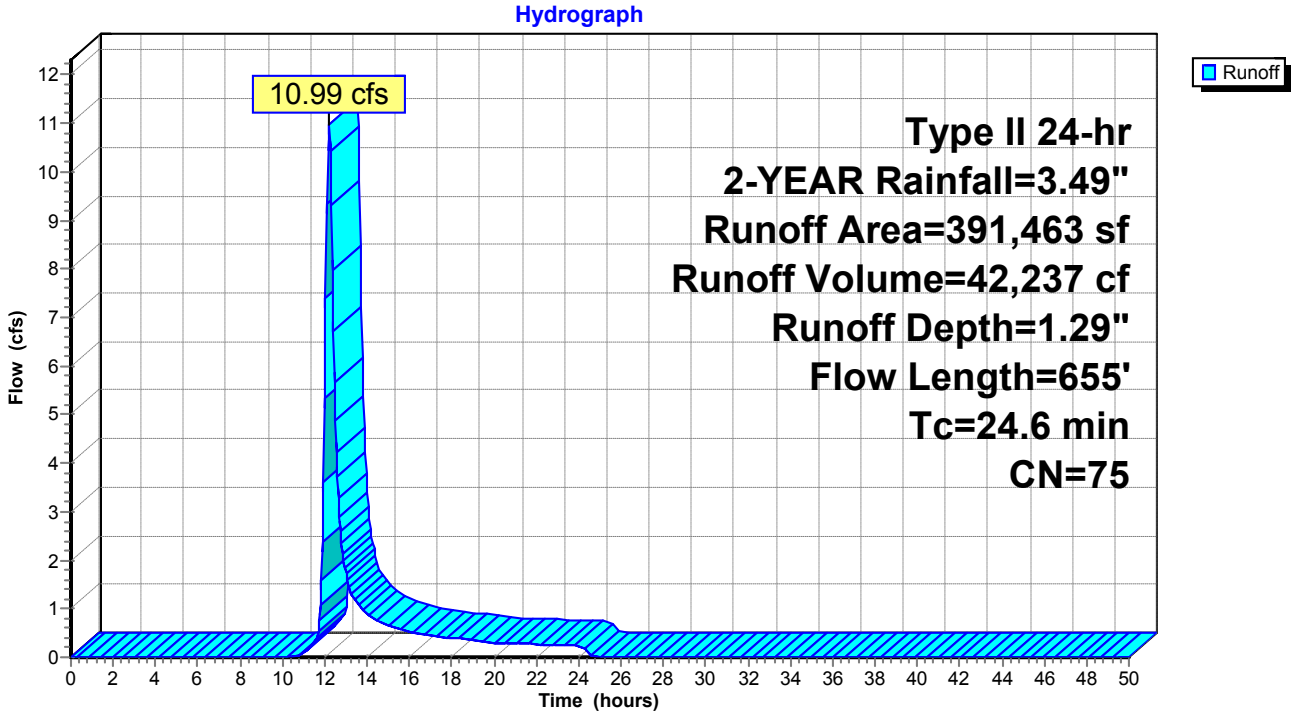
Runoff = 10.99 cfs @ 12.19 hrs, Volume= 42,237 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
192,024	72	Woods/grass comb., Good, HSG C
165,425	74	>75% Grass cover, Good, HSG C
34,014	98	Paved parking, HSG C
391,463	75	Weighted Average
357,449		91.31% Pervious Area
34,014		8.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	250	0.1120	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.49"
3.1	405	0.0938	2.14		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
24.6	655	Total			

Subcatchment DA-13: DA-13



Summary for Subcatchment DA-14: DA-14

[49] Hint: Tc<2dt may require smaller dt

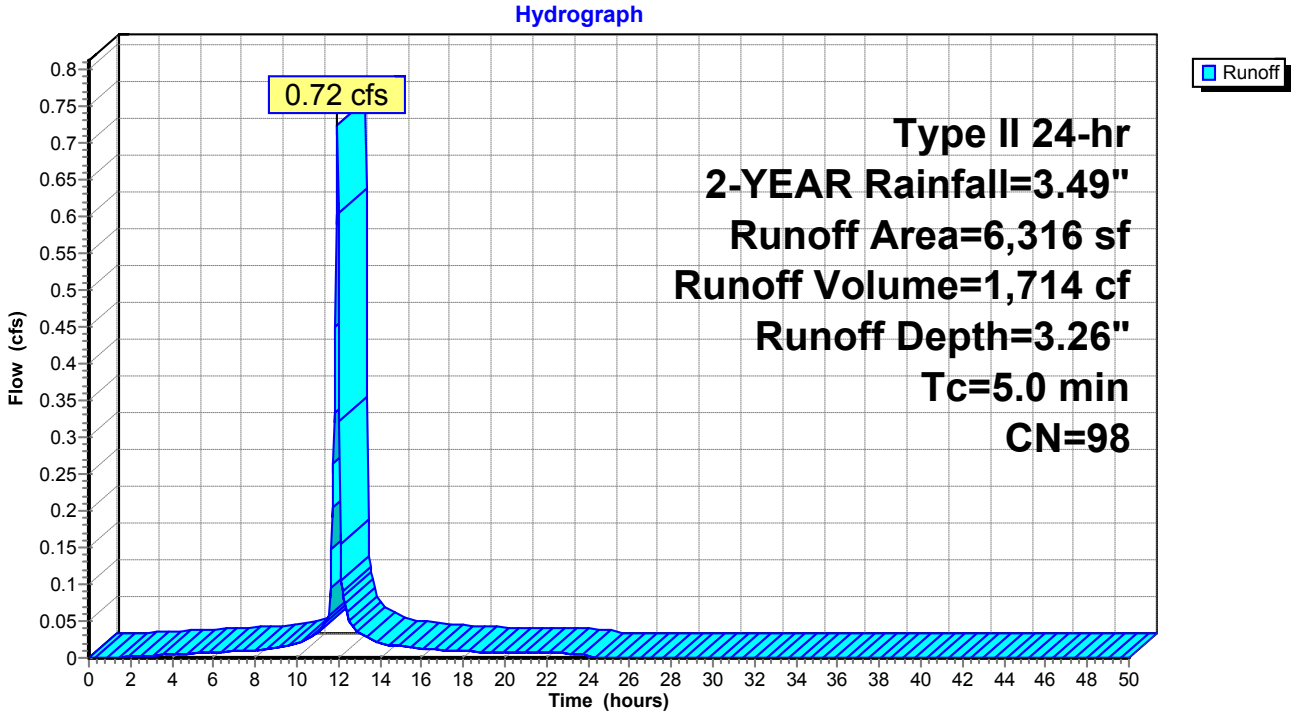
Runoff = 0.72 cfs @ 11.95 hrs, Volume= 1,714 cf, Depth= 3.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
6,316	98	Paved parking, HSG C
6,316		100.00% Impervious Area

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

Subcatchment DA-14: DA-14



Summary for Subcatchment DA-15: DA-15

[49] Hint: Tc<2dt may require smaller dt

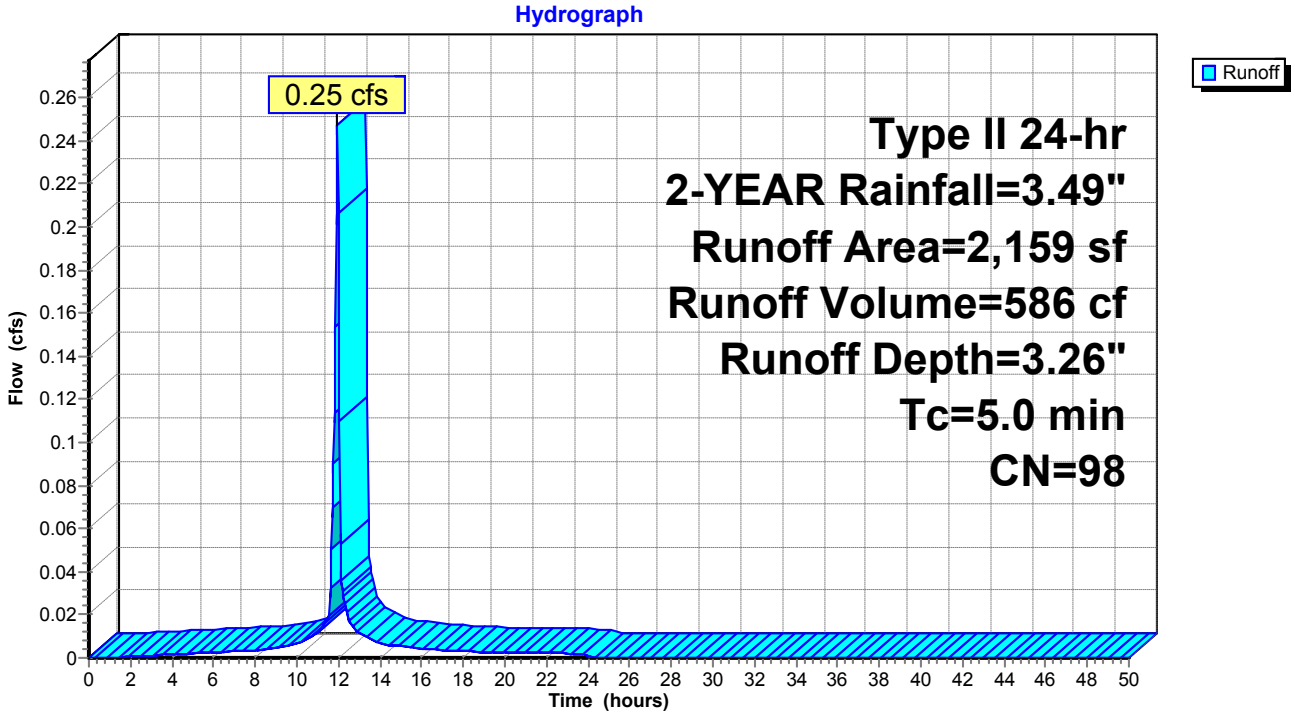
Runoff = 0.25 cfs @ 11.95 hrs, Volume= 586 cf, Depth= 3.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
2,159	98	Paved parking, HSG C
2,159		100.00% Impervious Area

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

Subcatchment DA-15: DA-15



Summary for Subcatchment DA-16: DA-16

[49] Hint: Tc<2dt may require smaller dt

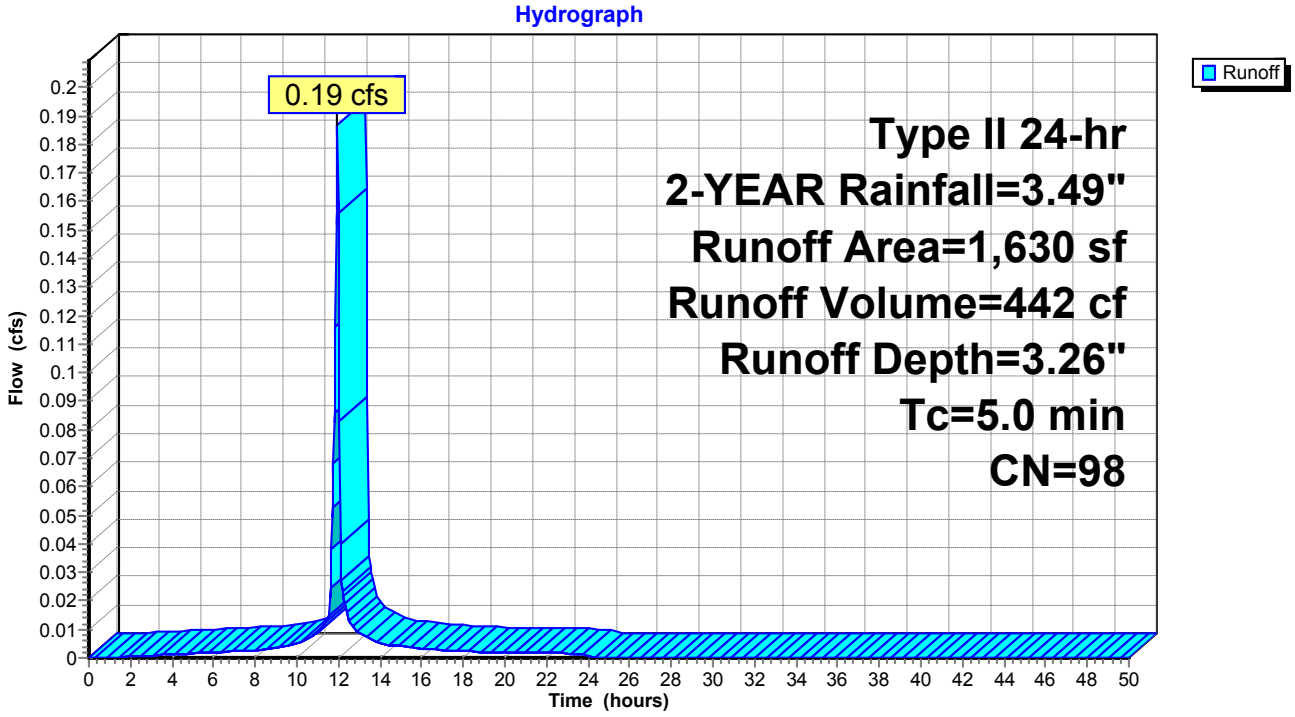
Runoff = 0.19 cfs @ 11.95 hrs, Volume= 442 cf, Depth= 3.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
1,630	98	Paved parking, HSG C
1,630		100.00% Impervious Area

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

Subcatchment DA-16: DA-16



Summary for Subcatchment DA-17: DA-17

[49] Hint: Tc<2dt may require smaller dt

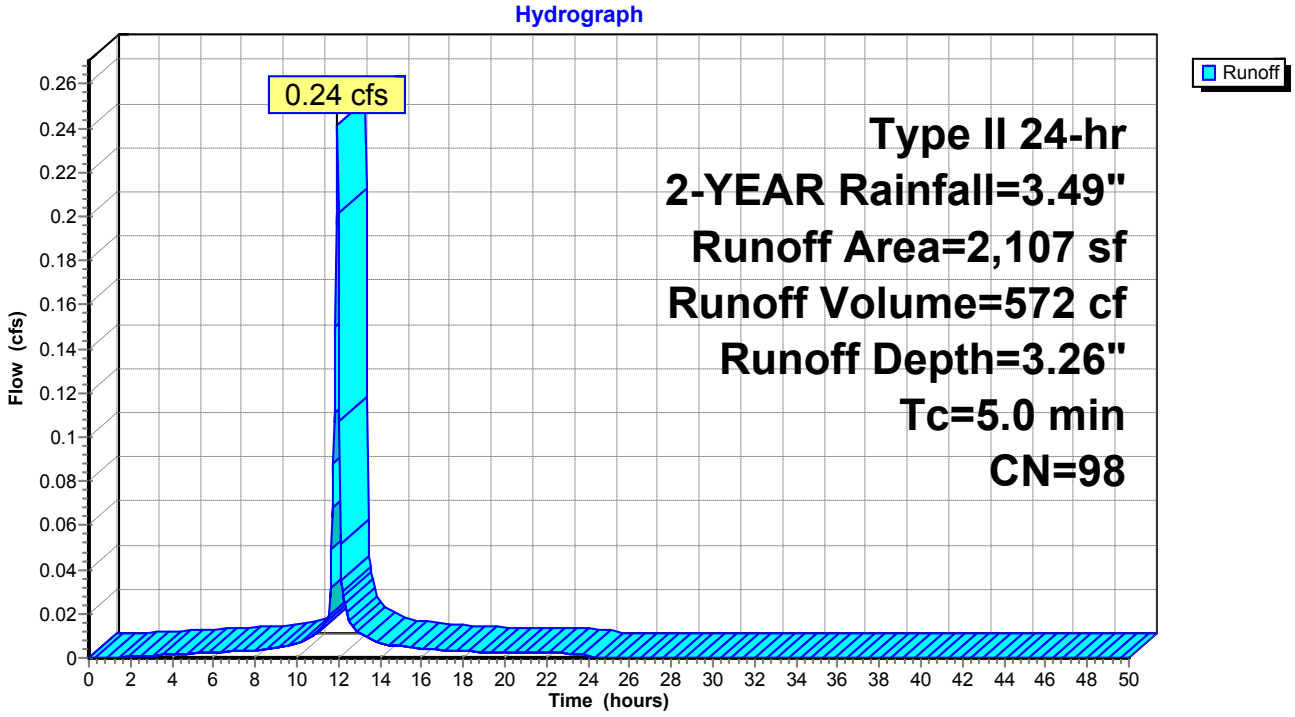
Runoff = 0.24 cfs @ 11.95 hrs, Volume= 572 cf, Depth= 3.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
2,107	98	Paved parking, HSG C
2,107		100.00% Impervious Area

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

Subcatchment DA-17: DA-17



Summary for Subcatchment DA-2: DA-2

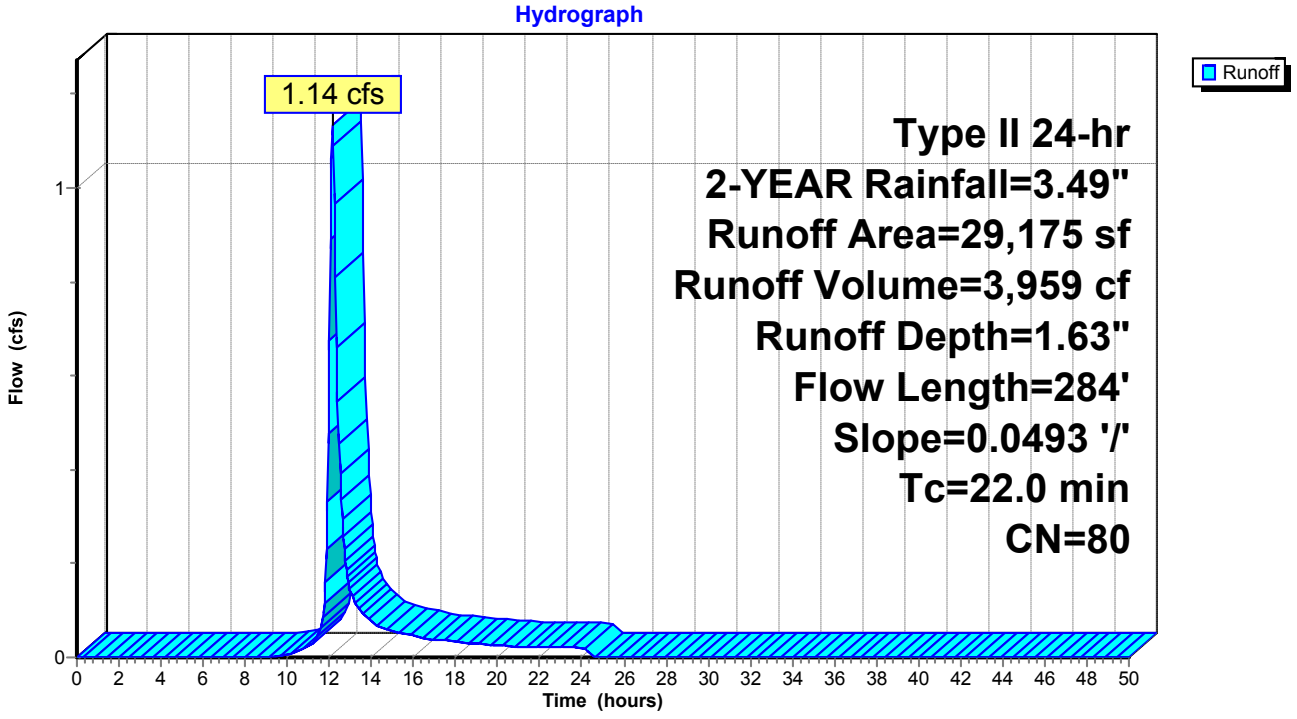
Runoff = 1.14 cfs @ 12.16 hrs, Volume= 3,959 cf, Depth= 1.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
6,390	72	Woods/grass comb., Good, HSG C
14,909	74	>75% Grass cover, Good, HSG C
7,876	98	Paved parking, HSG C
29,175	80	Weighted Average
21,299		73.00% Pervious Area
7,876		27.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.0	284	0.0493	0.22		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"

Subcatchment DA-2: DA-2



Summary for Subcatchment DA-2a: DA-2a

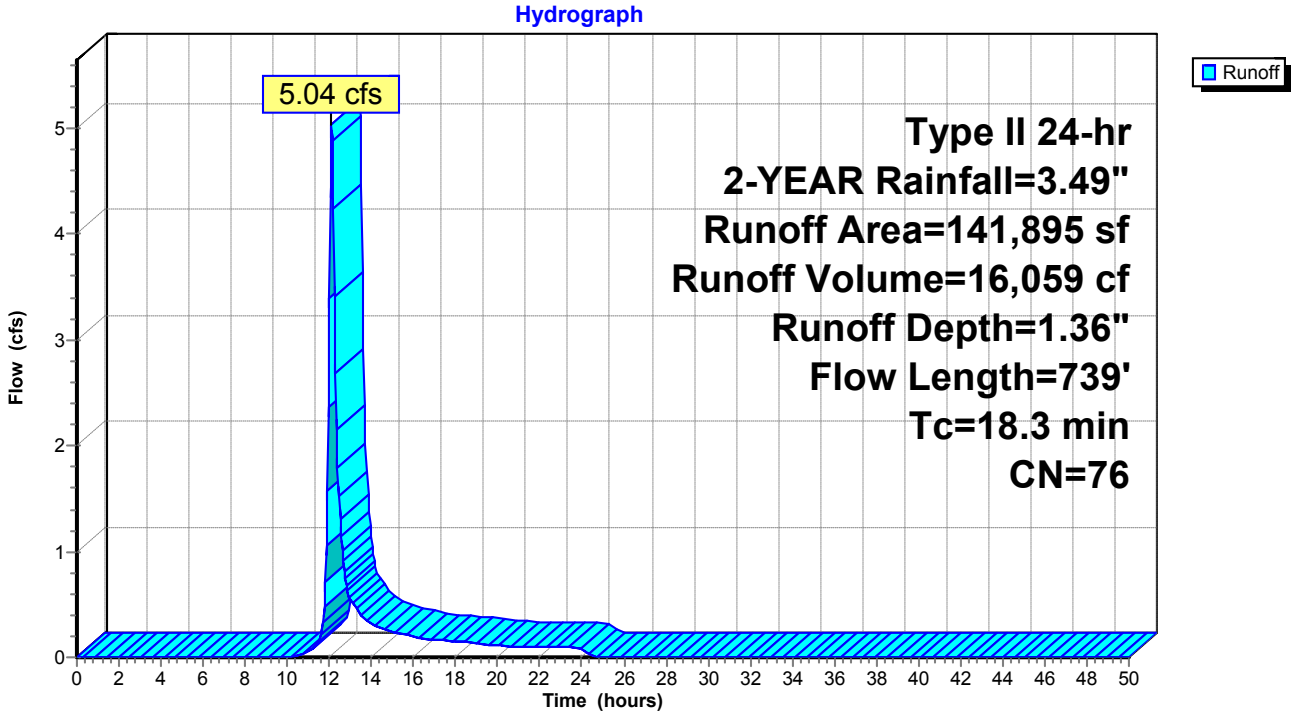
Runoff = 5.04 cfs @ 12.12 hrs, Volume= 16,059 cf, Depth= 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
14,360	98	Paved parking, HSG C
20,313	72	Woods/grass comb., Good, HSG C
107,222	74	>75% Grass cover, Good, HSG C
141,895	76	Weighted Average
127,535		89.88% Pervious Area
14,360		10.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	244	0.1107	0.29		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"
1.7	164	0.1037	1.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.5	331	0.1027	2.24		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.3	739	Total			

Subcatchment DA-2a: DA-2a



Summary for Subcatchment DA-2b: DA-2b

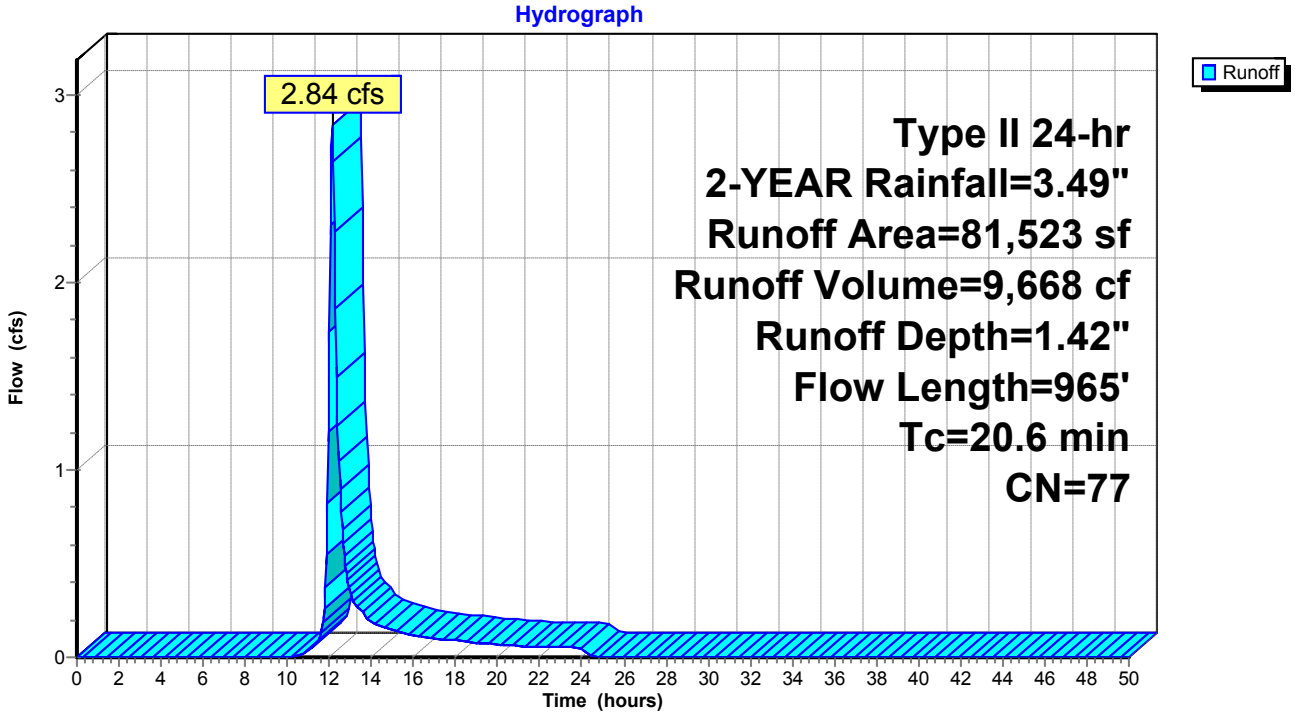
Runoff = 2.84 cfs @ 12.14 hrs, Volume= 9,668 cf, Depth= 1.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
10,589	98	Paved parking, HSG C
12,269	72	Woods/grass comb., Good, HSG C
58,665	74	>75% Grass cover, Good, HSG C
81,523	77	Weighted Average
70,934		87.01% Pervious Area
10,589		12.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	250	0.1040	0.28		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"
1.0	94	0.1060	1.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.9	621	0.0902	2.10		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
20.6	965	Total			

Subcatchment DA-2b: DA-2b



Summary for Subcatchment DA-3: DA-3

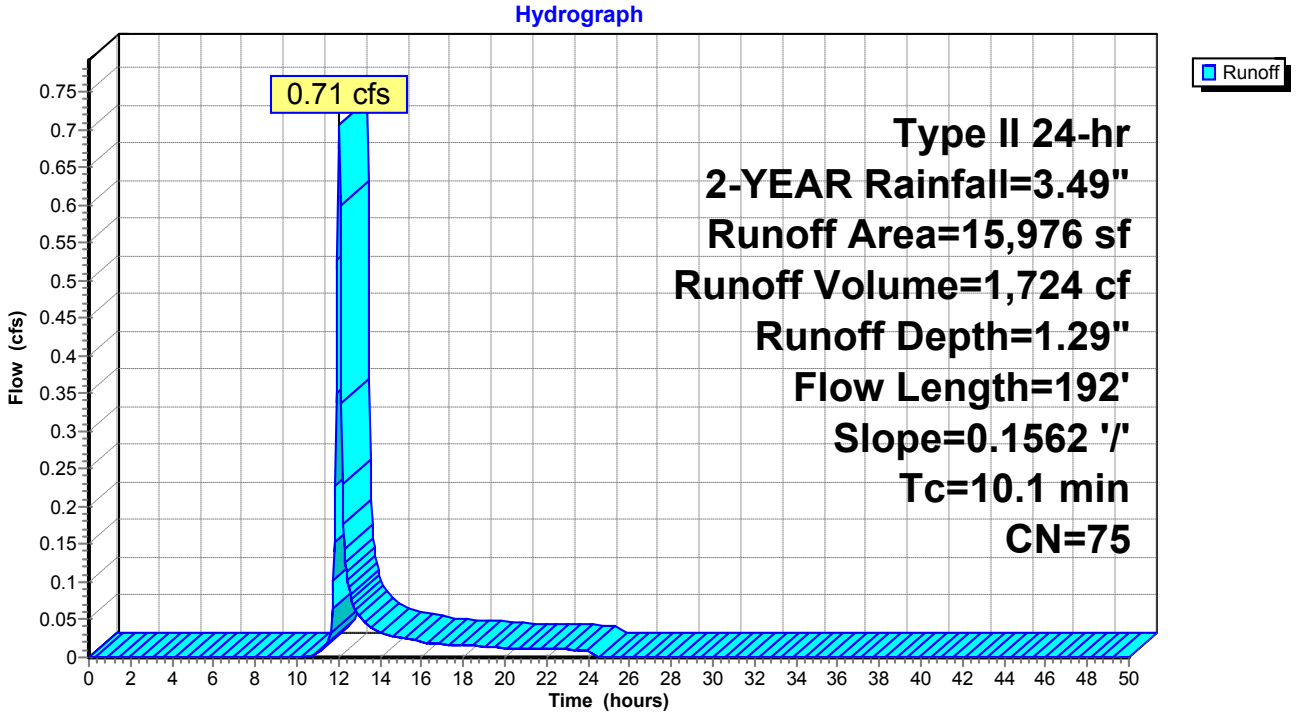
Runoff = 0.71 cfs @ 12.02 hrs, Volume= 1,724 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
2,108	72	Woods/grass comb., Good, HSG C
13,050	74	>75% Grass cover, Good, HSG C
818	98	Paved parking, HSG C
15,976	75	Weighted Average
15,158		94.88% Pervious Area
818		5.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	192	0.1562	0.32		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"

Subcatchment DA-3: DA-3



Summary for Subcatchment DA-4: DA-4

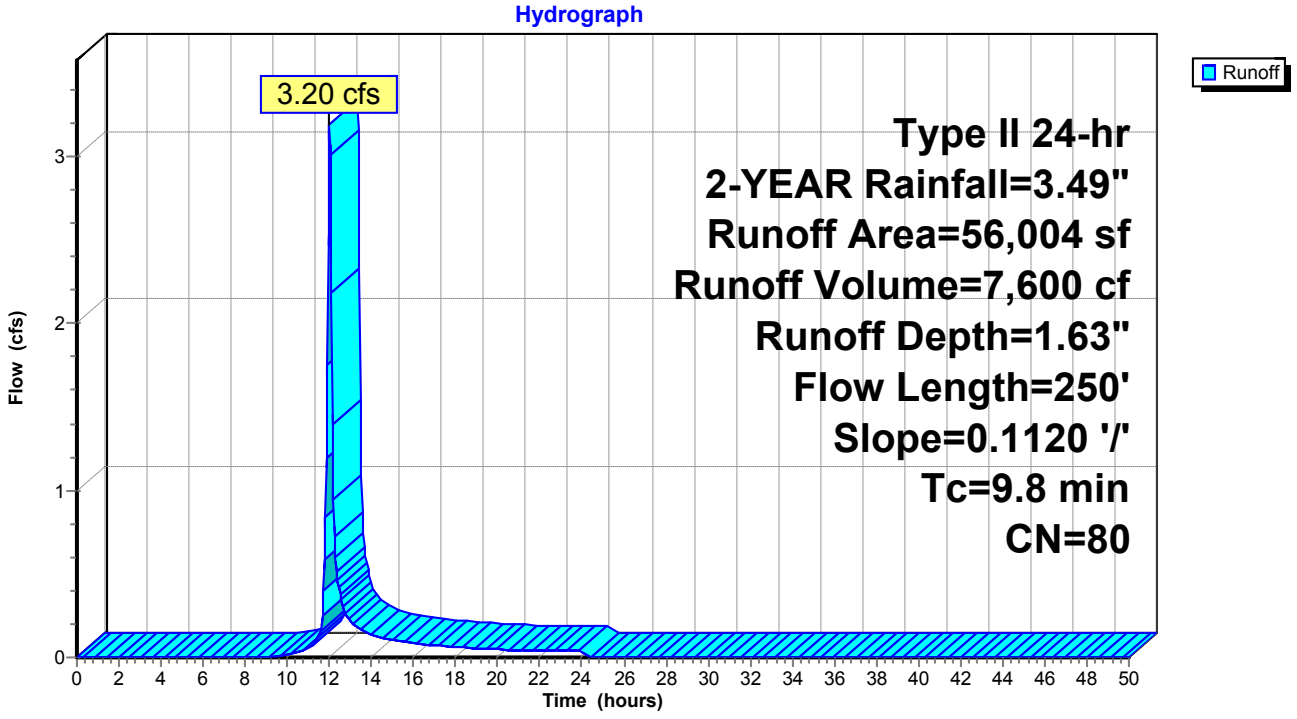
Runoff = 3.20 cfs @ 12.02 hrs, Volume= 7,600 cf, Depth= 1.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
2,602	72	Woods/grass comb., Good, HSG C
39,535	74	>75% Grass cover, Good, HSG C
13,867	98	Paved parking, HSG C
56,004	80	Weighted Average
42,137		75.24% Pervious Area
13,867		24.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	250	0.1120	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.49"

Subcatchment DA-4: DA-4



Summary for Subcatchment DA-4a: DA-4a

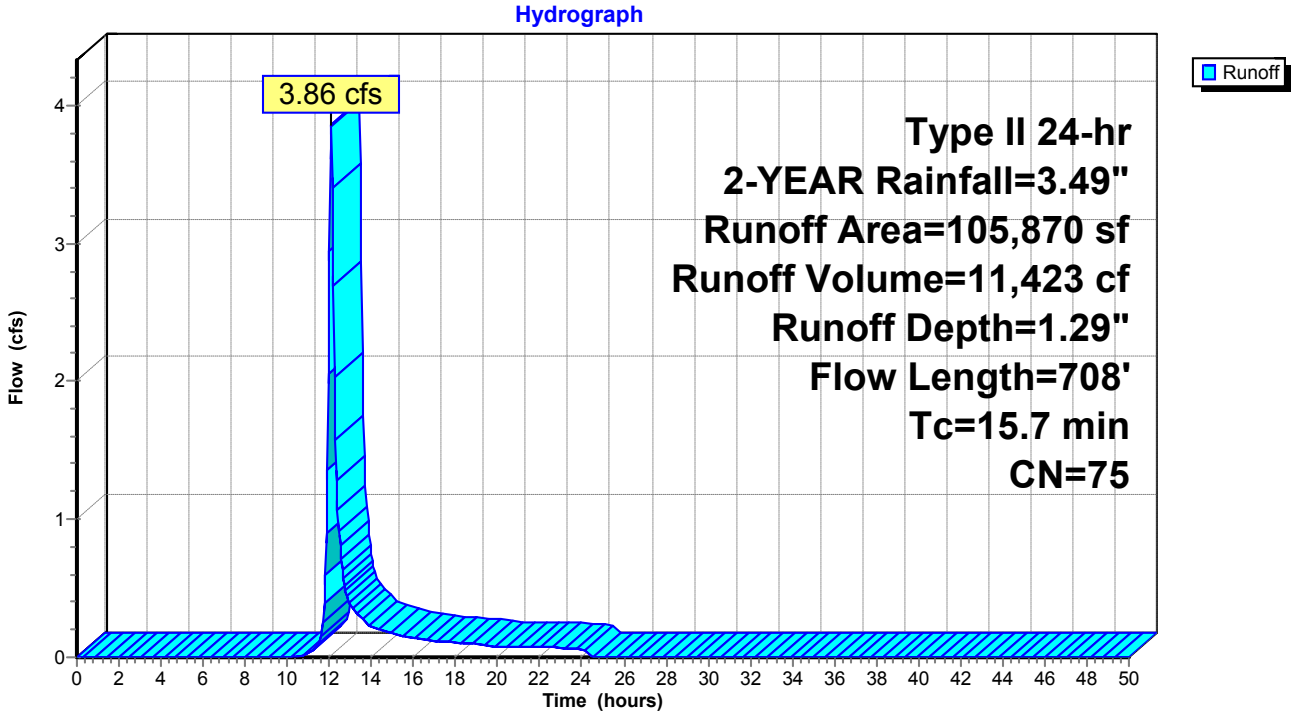
Runoff = 3.86 cfs @ 12.09 hrs, Volume= 11,423 cf, Depth= 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
13,963	72	Woods/grass comb., Good, HSG C
4,349	98	Paved parking, HSG C
87,558	74	>75% Grass cover, Good, HSG C
105,870	75	Weighted Average
101,521		95.89% Pervious Area
4,349		4.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	284	0.1303	0.46		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.49"
3.4	146	0.0822	0.72		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
2.1	278	0.0993	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
15.7	708	Total			

Subcatchment DA-4a: DA-4a



Summary for Subcatchment DA-5: DA-5

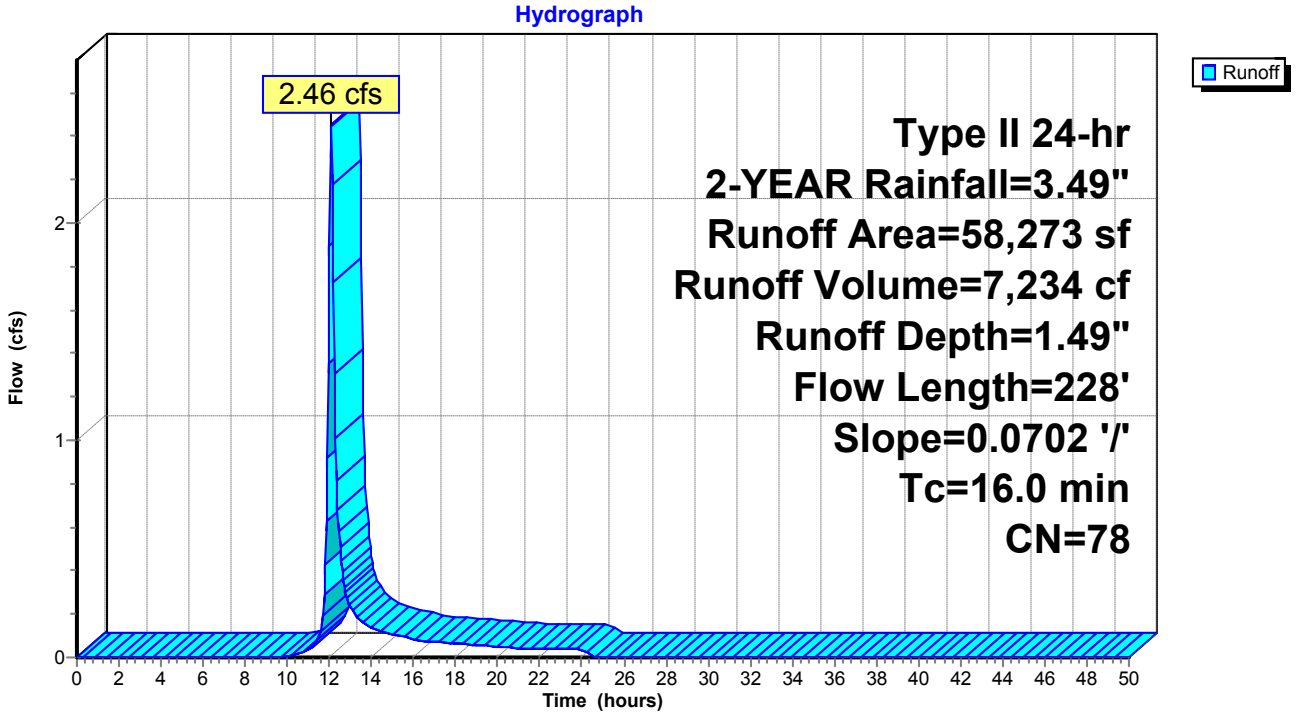
Runoff = 2.46 cfs @ 12.09 hrs, Volume= 7,234 cf, Depth= 1.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
6,817	72	Woods/grass comb., Good, HSG C
42,069	74	>75% Grass cover, Good, HSG C
9,387	98	Paved parking, HSG C
58,273	78	Weighted Average
48,886		83.89% Pervious Area
9,387		16.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.0	228	0.0702	0.24		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"

Subcatchment DA-5: DA-5



Summary for Subcatchment DA-5a: DA-5a

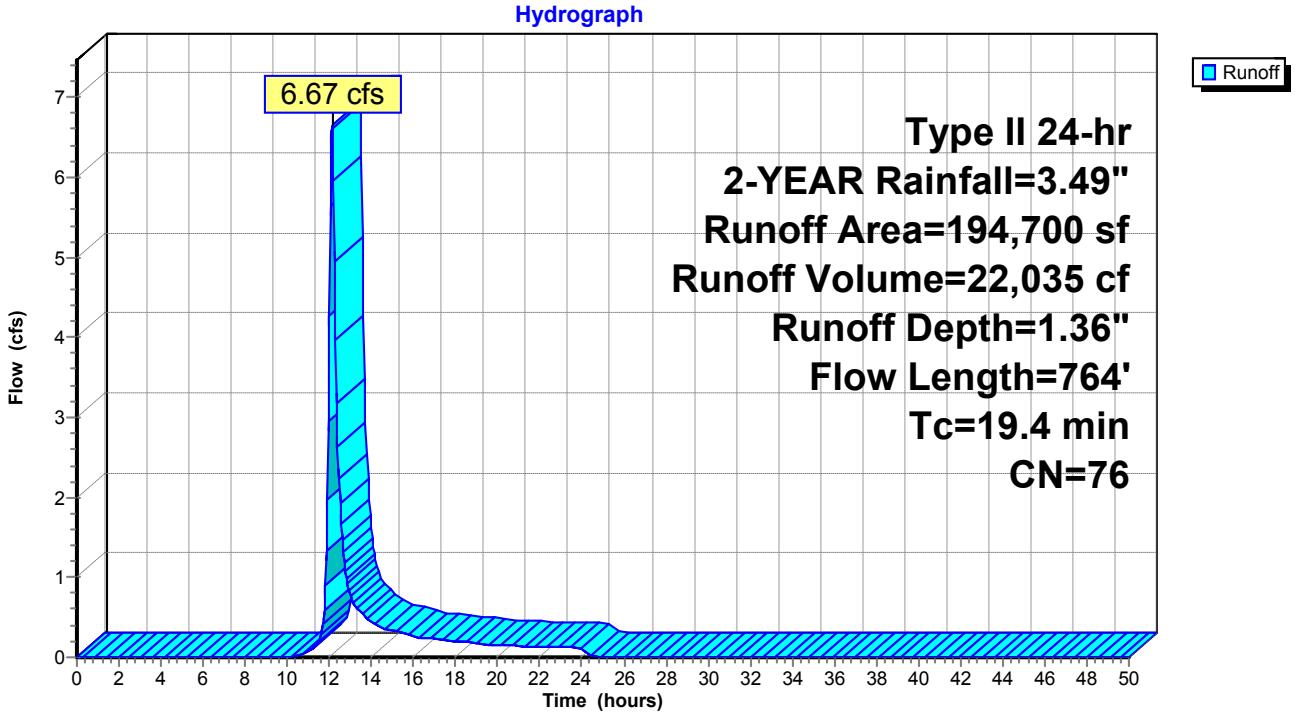
Runoff = 6.67 cfs @ 12.13 hrs, Volume= 22,035 cf, Depth= 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
24,732	72	Woods/grass comb., Good, HSG C
18,582	98	Paved parking, HSG C
151,386	74	>75% Grass cover, Good, HSG C
194,700	76	Weighted Average
176,118		90.46% Pervious Area
18,582		9.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	250	0.1120	0.29		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"
2.7	384	0.1150	2.37		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	130	0.1270	0.89		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
19.4	764	Total			

Subcatchment DA-5a: DA-5a



Summary for Subcatchment DA-6: DA-6

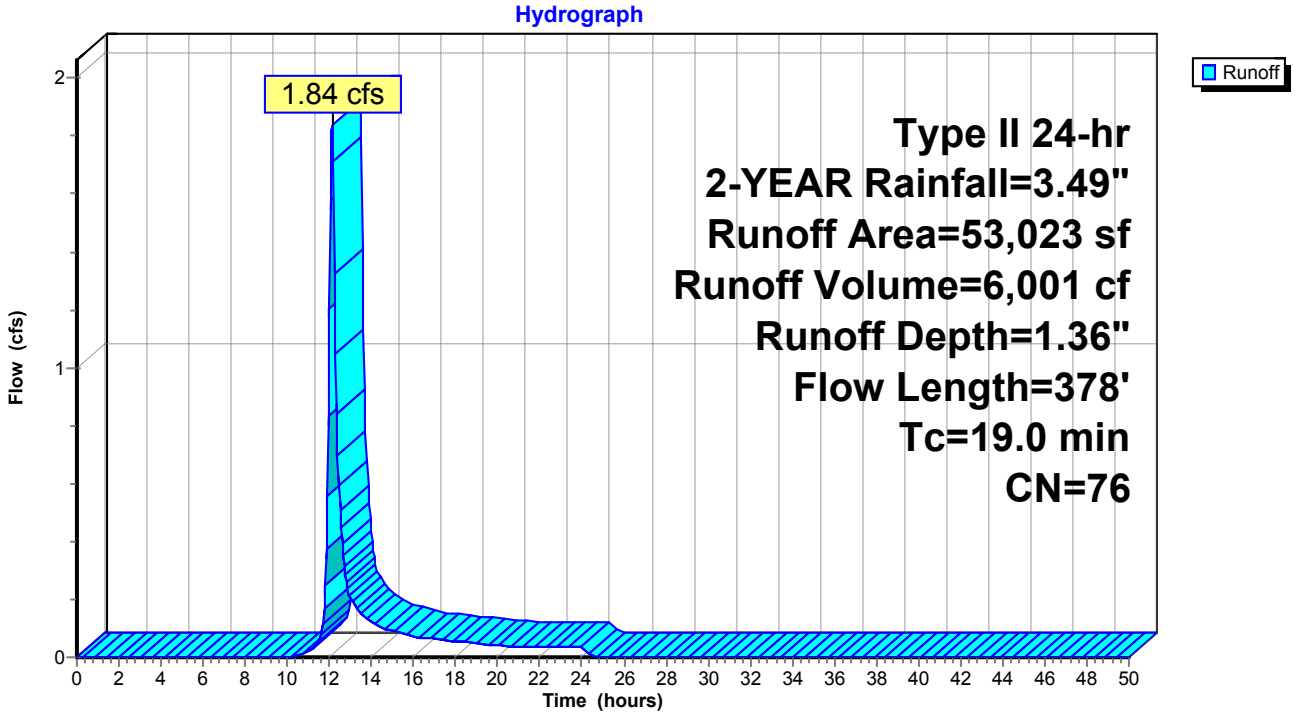
Runoff = 1.84 cfs @ 12.12 hrs, Volume= 6,001 cf, Depth= 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
25,517	72	Woods/grass comb., Good, HSG C
21,299	74	>75% Grass cover, Good, HSG C
6,207	98	Paved parking, HSG C
53,023	76	Weighted Average
46,816		88.29% Pervious Area
6,207		11.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	185	0.1027	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.49"
1.5	193	0.0984	2.20		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
19.0	378	Total			

Subcatchment DA-6: DA-6



Summary for Subcatchment DA-6a: DA-6a

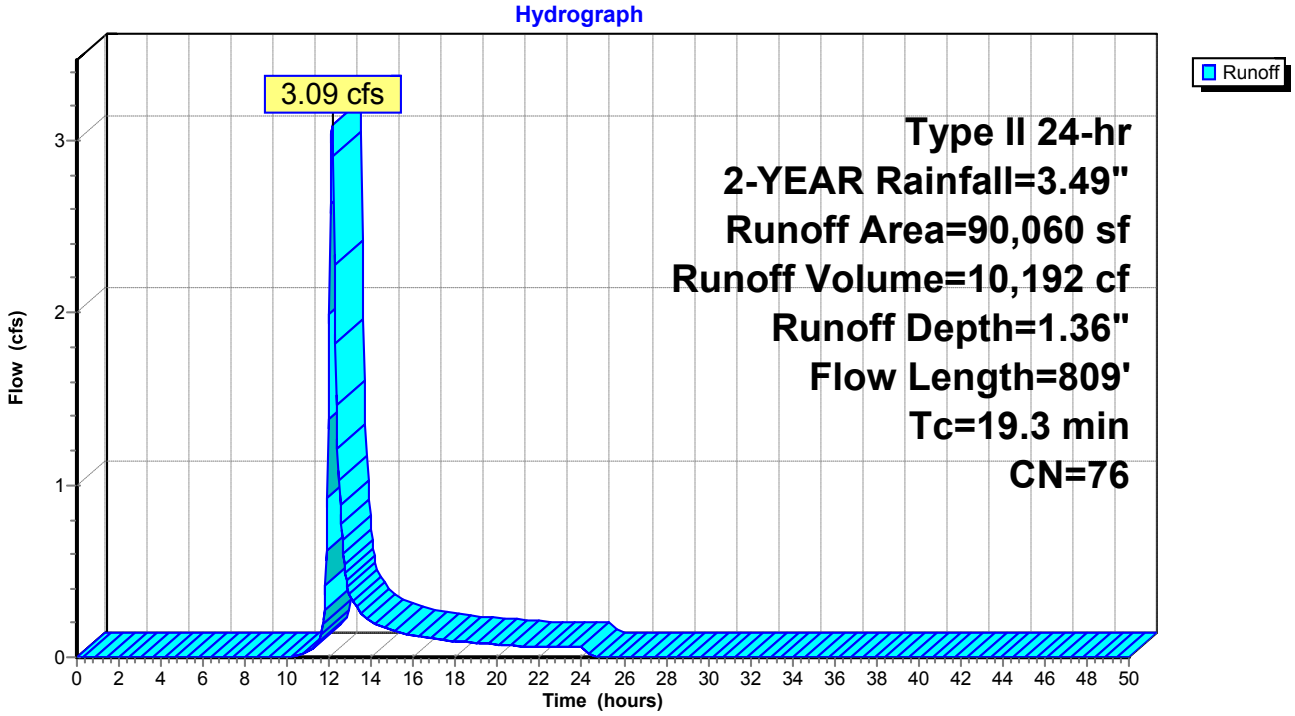
Runoff = 3.09 cfs @ 12.13 hrs, Volume= 10,192 cf, Depth= 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
2,659	72	Woods/grass comb., Good, HSG C
77,944	74	>75% Grass cover, Good, HSG C
9,457	98	Paved parking, HSG C
90,060	76	Weighted Average
80,603		89.50% Pervious Area
9,457		10.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	250	0.1040	0.28		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"
4.6	559	0.0823	2.01		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
19.3	809	Total			

Subcatchment DA-6a: DA-6a



Summary for Subcatchment DA-7: DA-7

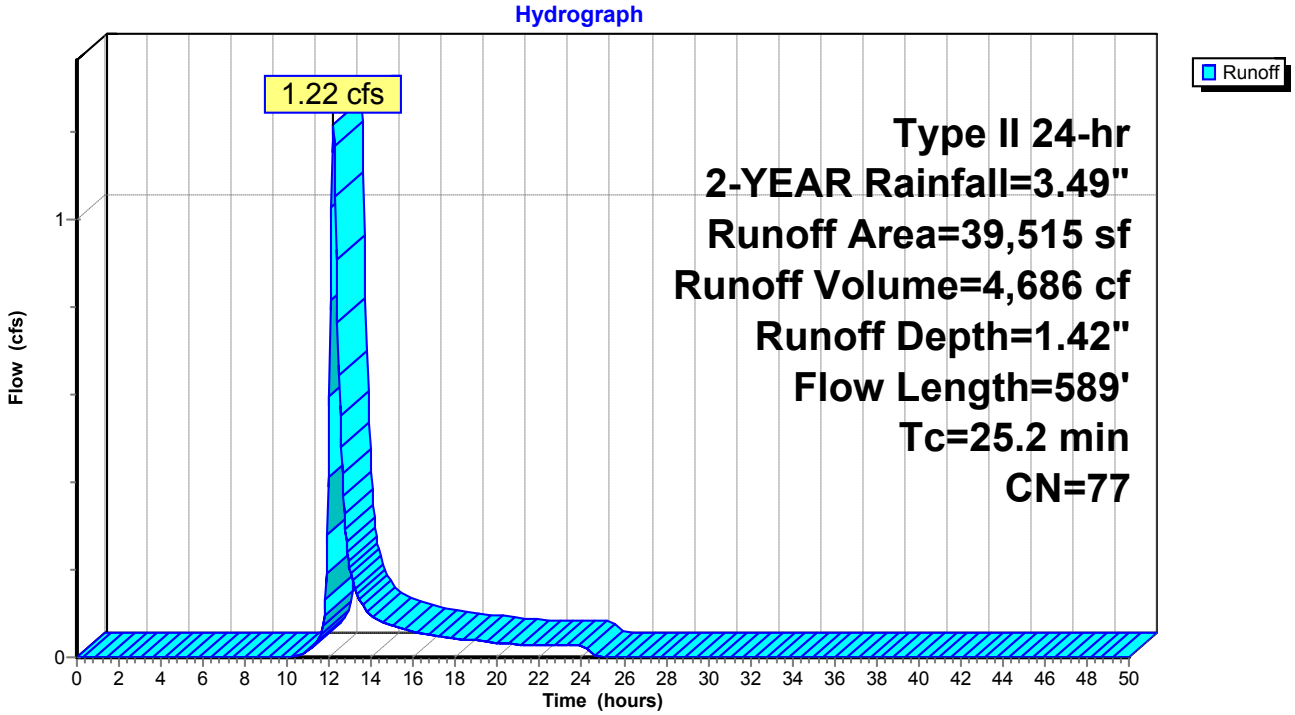
Runoff = 1.22 cfs @ 12.20 hrs, Volume= 4,686 cf, Depth= 1.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
16,249	72	Woods/grass comb., Good, HSG C
17,675	74	>75% Grass cover, Good, HSG C
5,591	98	Paved parking, HSG C
39,515	77	Weighted Average
33,924		85.85% Pervious Area
5,591		14.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	250	0.1120	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.49"
1.8	90	0.1111	0.83		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
1.9	249	0.1004	2.22		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
25.2	589	Total			

Subcatchment DA-7: DA-7



Summary for Subcatchment DA-8: DA-8

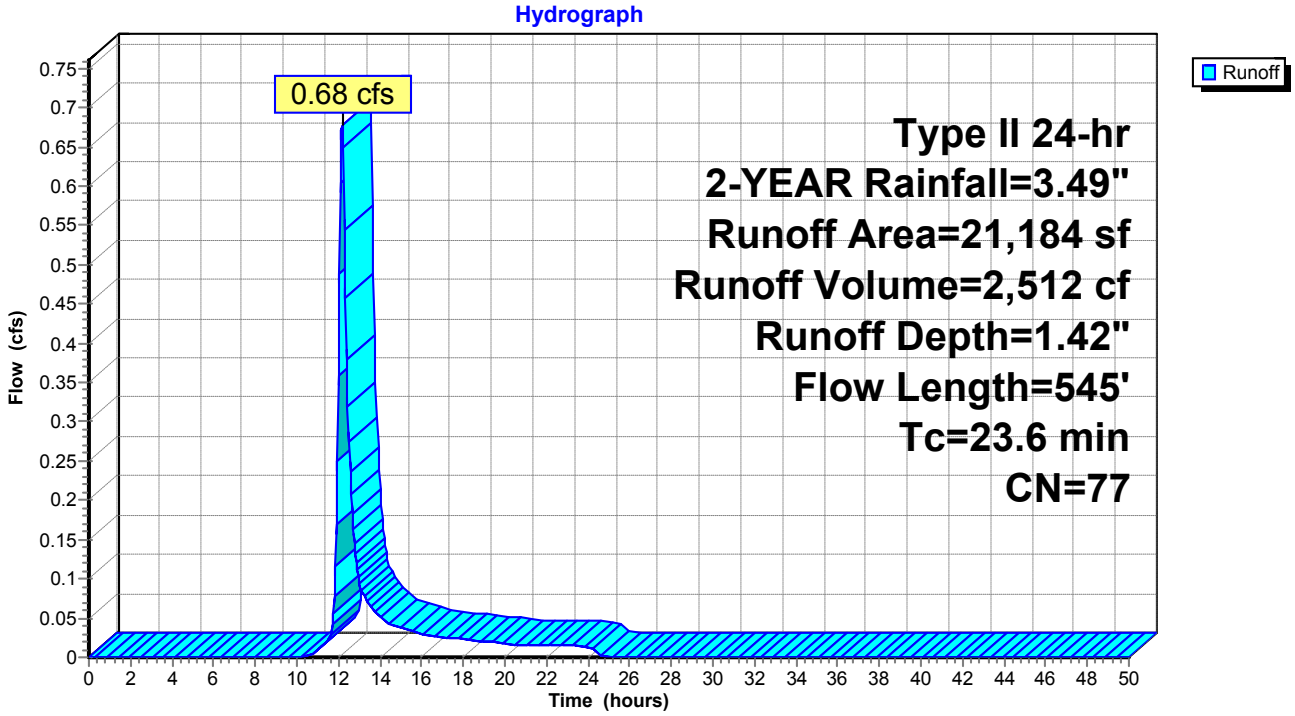
Runoff = 0.68 cfs @ 12.18 hrs, Volume= 2,512 cf, Depth= 1.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
8,852	72	Woods/grass comb., Good, HSG C
9,279	74	>75% Grass cover, Good, HSG C
3,053	98	Paved parking, HSG C
21,184	77	Weighted Average
18,131		85.59% Pervious Area
3,053		14.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	250	0.1120	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.49"
0.4	56	0.1070	2.29		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.7	239	0.1088	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
23.6	545	Total			

Subcatchment DA-8: DA-8



Summary for Subcatchment DA-9: DA-9

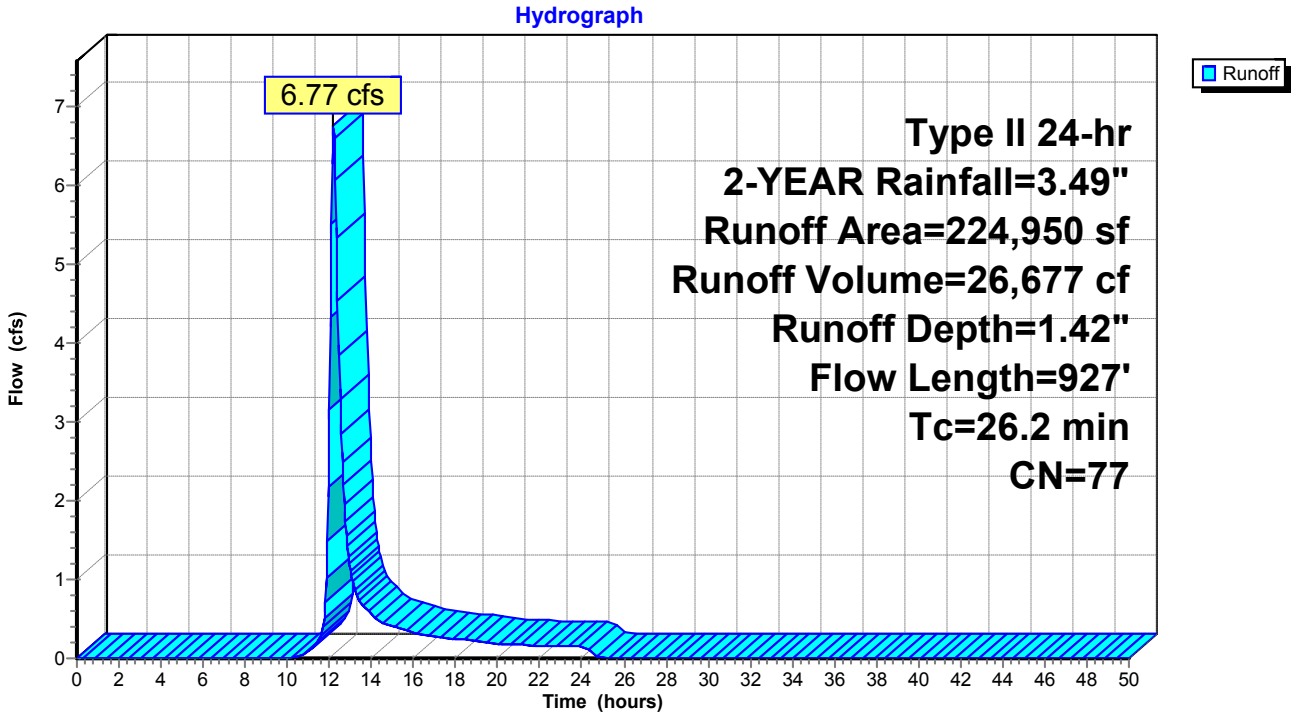
Runoff = 6.77 cfs @ 12.21 hrs, Volume= 26,677 cf, Depth= 1.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.49"

Area (sf)	CN	Description
54,875	72	Woods/grass comb., Good, HSG C
138,673	74	>75% Grass cover, Good, HSG C
31,402	98	Paved parking, HSG C
224,950	77	Weighted Average
193,548		86.04% Pervious Area
31,402		13.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	250	0.1120	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.49"
0.3	50	0.1400	2.62		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.7	207	0.0870	2.06		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	100	0.7000	5.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	320	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
26.2	927	Total			

Subcatchment DA-9: DA-9



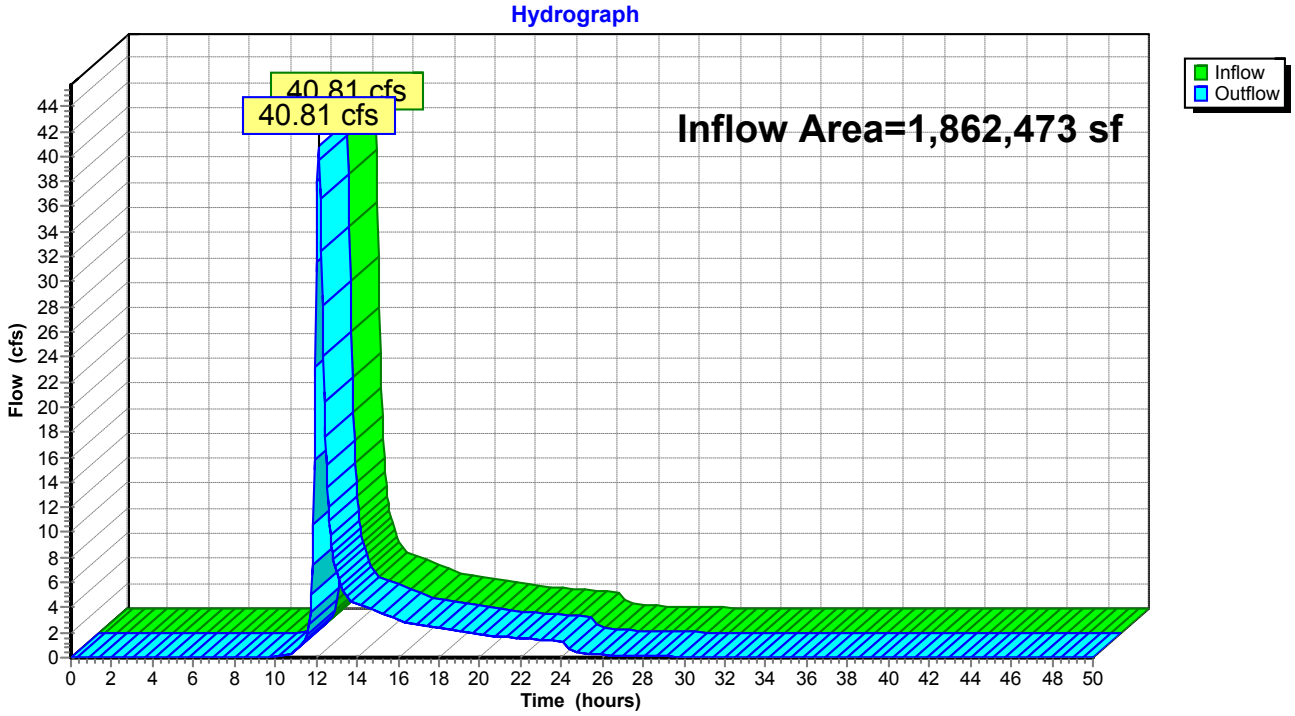
Summary for Reach 7R: OUTLET

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

Inflow Area = 1,862,473 sf, 11.38% Impervious, Inflow Depth = 1.28" for 2-YEAR event
Inflow = 40.81 cfs @ 12.11 hrs, Volume= 198,201 cf
Outflow = 40.81 cfs @ 12.11 hrs, Volume= 198,201 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs

Reach 7R: OUTLET



Summary for Pond 1P: DETENTION POND 3

Inflow Area = 532,525 sf, 8.78% Impervious, Inflow Depth > 1.05" for 2-YEAR event
Inflow = 5.04 cfs @ 12.12 hrs, Volume= 46,413 cf
Outflow = 1.44 cfs @ 14.39 hrs, Volume= 44,265 cf, Atten= 71%, Lag= 136.1 min
Primary = 1.09 cfs @ 14.39 hrs, Volume= 42,286 cf
Secondary = 0.35 cfs @ 14.39 hrs, Volume= 1,979 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 54.57' @ 14.39 hrs Surf.Area= 3,927 sf Storage= 7,055 cf

Plug-Flow detention time= 115.6 min calculated for 44,220 cf (95% of inflow)
Center-of-Mass det. time= 77.2 min (1,107.5 - 1,030.2)

Volume	Invert	Avail.Storage	Storage Description
#1	52.00'	16,527 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

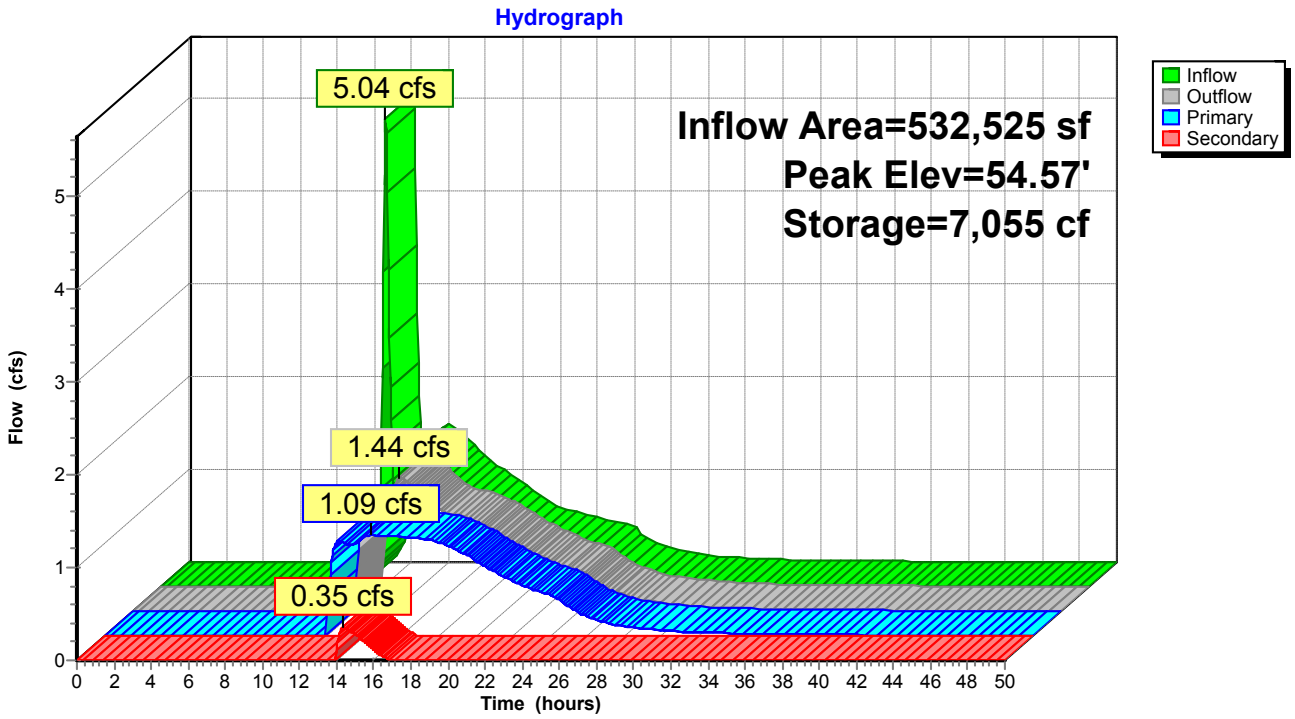
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
52.00	1,631	0	0
54.00	3,355	4,986	4,986
56.00	5,369	8,724	13,710
56.50	5,897	2,817	16,527

Device	Routing	Invert	Outlet Devices
#1	Primary	53.00'	**6.0" Round Culvert** L= 46.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 53.00' / 46.00' S= 0.1522 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	54.50'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.09 cfs @ 14.39 hrs HW=54.57' (Free Discharge)
↑**1=Culvert** (Inlet Controls 1.09 cfs @ 5.53 fps)

Secondary OutFlow Max=0.35 cfs @ 14.39 hrs HW=54.57' (Free Discharge)
↑**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.35 cfs @ 0.85 fps)

Pond 1P: DETENTION POND 3



Summary for Pond 2P: DETENTION POND 2

Inflow Area = 390,630 sf, 8.29% Impervious, Inflow Depth > 1.15" for 2-YEAR event
Inflow = 3.86 cfs @ 12.10 hrs, Volume= 37,561 cf
Outflow = 1.19 cfs @ 14.01 hrs, Volume= 30,355 cf, Atten= 69%, Lag= 114.7 min
Primary = 0.56 cfs @ 14.01 hrs, Volume= 22,611 cf
Secondary = 0.63 cfs @ 14.01 hrs, Volume= 7,744 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 61.35' @ 14.01 hrs Surf.Area= 6,669 sf Storage= 10,785 cf

Plug-Flow detention time= 237.3 min calculated for 30,324 cf (81% of inflow)
Center-of-Mass det. time= 143.0 min (1,121.0 - 978.0)

Volume	Invert	Avail.Storage	Storage Description
#1	59.00'	19,390 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

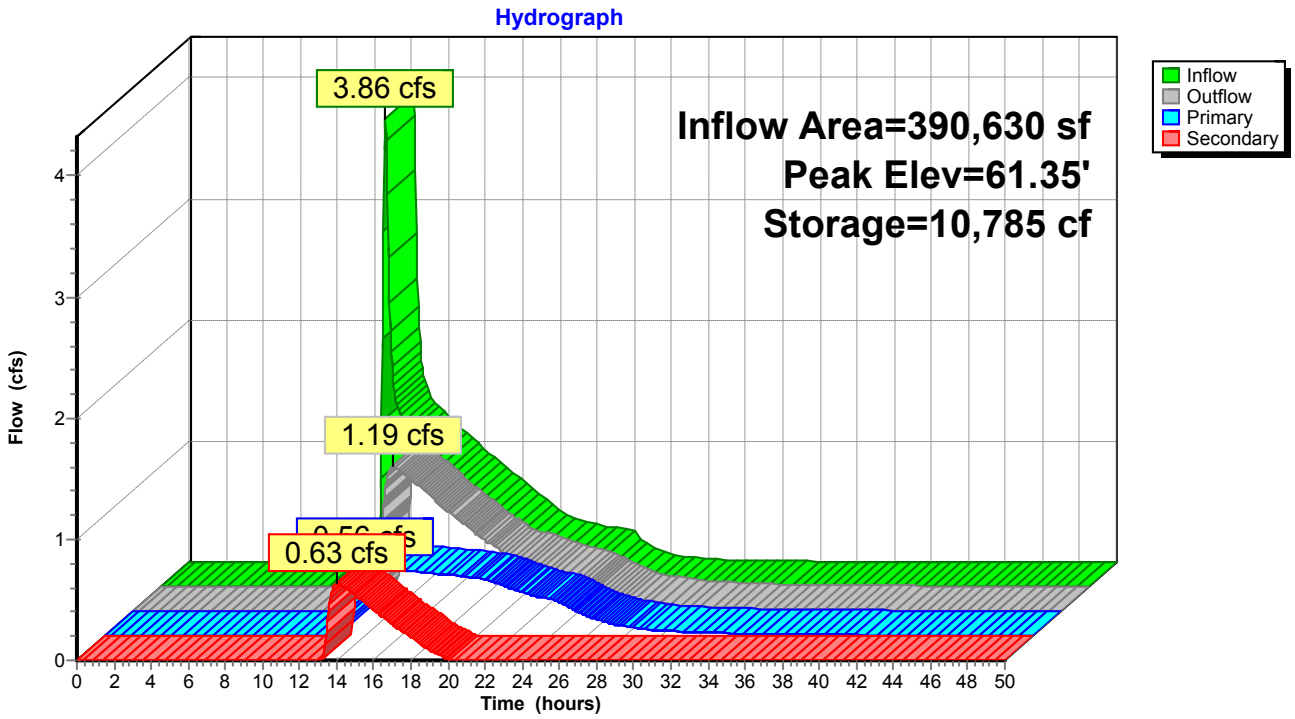
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
59.00	1,386	0	0
60.00	4,751	3,069	3,069
62.00	7,590	12,341	15,410
62.50	8,330	3,980	19,390

Device	Routing	Invert	Outlet Devices
#1	Primary	60.75'	**6.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 60.75' / 55.00' S= 0.1917 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	61.25'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.56 cfs @ 14.01 hrs HW=61.35' (Free Discharge)
1=Culvert (Inlet Controls 0.56 cfs @ 2.85 fps)

Secondary OutFlow Max=0.63 cfs @ 14.01 hrs HW=61.35' (Free Discharge)
2=Sharp-Crested Rectangular Weir (Weir Controls 0.63 cfs @ 1.04 fps)

Pond 2P: DETENTION POND 2



Summary for Pond 3P: DETENTION POND 1

Inflow Area = 284,760 sf, 9.85% Impervious, Inflow Depth = 1.36" for 2-YEAR event
Inflow = 9.76 cfs @ 12.13 hrs, Volume= 32,227 cf
Outflow = 1.00 cfs @ 13.15 hrs, Volume= 26,138 cf, Atten= 90%, Lag= 61.4 min
Primary = 1.00 cfs @ 13.15 hrs, Volume= 26,138 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 67.77' @ 13.15 hrs Surf.Area= 8,279 sf Storage= 15,535 cf

Plug-Flow detention time= 251.7 min calculated for 26,112 cf (81% of inflow)
Center-of-Mass det. time= 170.2 min (1,029.8 - 859.7)

Volume	Invert	Avail.Storage	Storage Description
#1	65.00'	43,335 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

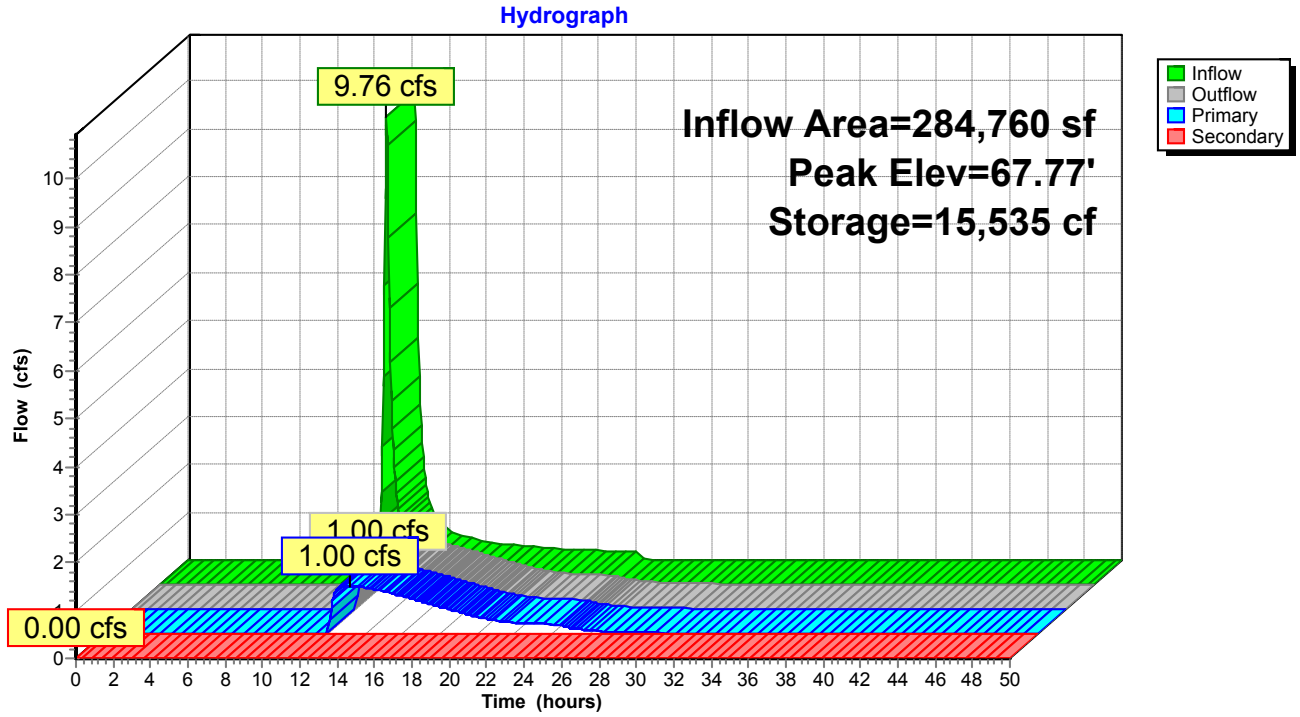
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
65.00	3,065	0	0
66.00	4,798	3,932	3,932
68.00	8,721	13,519	17,451
70.00	11,226	19,947	37,398
70.50	12,525	5,938	43,335

Device	Routing	Invert	Outlet Devices
#1	Primary	66.40'	**6.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 66.40' / 62.00' S= 0.0880 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	69.50'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.00 cfs @ 13.15 hrs HW=67.77' (Free Discharge)
1=Culvert (Inlet Controls 1.00 cfs @ 5.11 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=65.00' (Free Discharge)
2=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 3P: DETENTION POND 1



Summary for Pond 4P: PR-CB-1

[57] Hint: Peaked at 29.09' (Flood elevation advised)

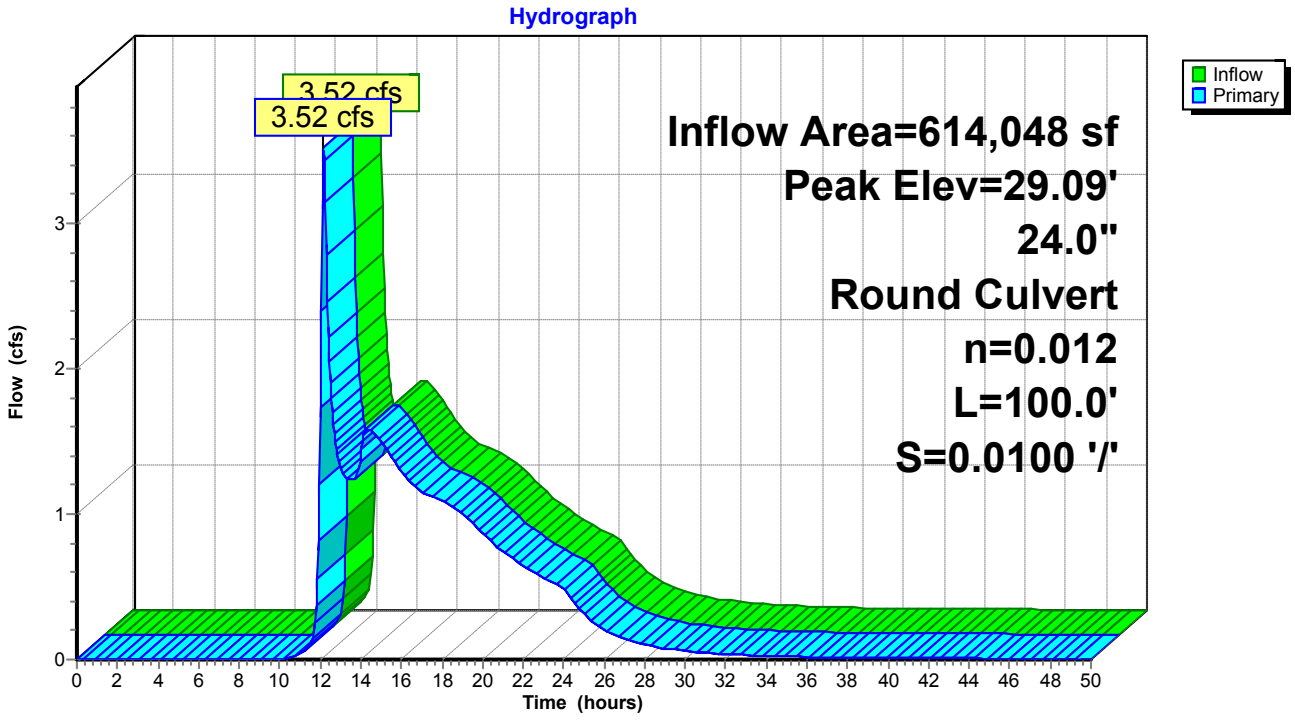
Inflow Area = 614,048 sf, 9.34% Impervious, Inflow Depth > 1.05" for 2-YEAR event
Inflow = 3.52 cfs @ 12.17 hrs, Volume= 53,932 cf
Outflow = 3.52 cfs @ 12.17 hrs, Volume= 53,932 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.52 cfs @ 12.17 hrs, Volume= 53,932 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 29.09' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	28.30'	**24.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 28.30' / 27.30' S= 0.0100 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=3.48 cfs @ 12.17 hrs HW=29.09' (Free Discharge)
1=Culvert (Inlet Controls 3.48 cfs @ 3.02 fps)

Pond 4P: PR-CB-1



Summary for Pond CB-1: CB-1

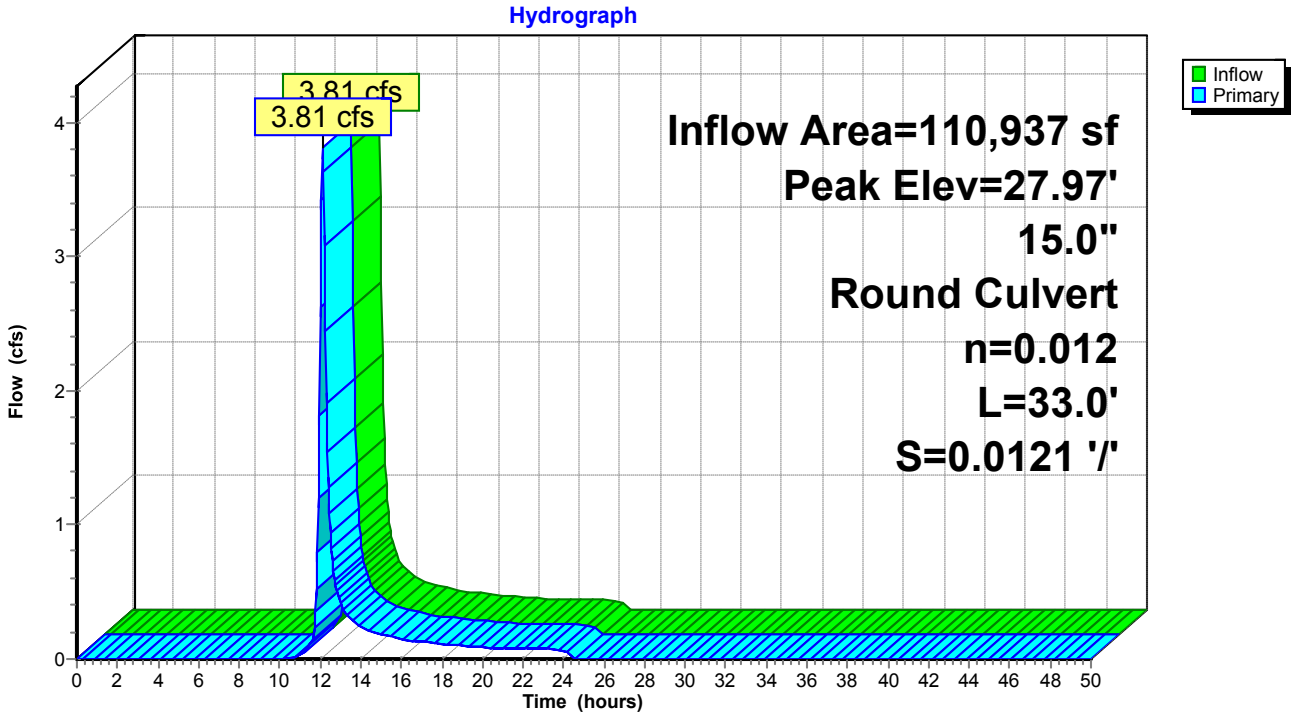
Inflow Area = 110,937 sf, 8.04% Impervious, Inflow Depth = 1.29" for 2-YEAR event
Inflow = 3.81 cfs @ 12.11 hrs, Volume= 11,969 cf
Outflow = 3.81 cfs @ 12.11 hrs, Volume= 11,969 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.81 cfs @ 12.11 hrs, Volume= 11,969 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 27.97' @ 12.11 hrs
Flood Elev= 30.47'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.90'	**15.0" Round RCP_Round 15"** L= 33.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 26.90' / 26.50' S= 0.0121 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.23 sf

Primary OutFlow Max=3.77 cfs @ 12.11 hrs HW=27.96' (Free Discharge)
1=RCP_Round 15" (Barrel Controls 3.77 cfs @ 4.57 fps)

Pond CB-1: CB-1



Summary for Pond CB-10: CB-10

[58] Hint: Peaked 24.08' above defined flood level
[81] Warning: Exceeded Pond CB-11 by 27.38' @ 12.15 hrs
[81] Warning: Exceeded Pond CB-12 by 14.37' @ 12.15 hrs

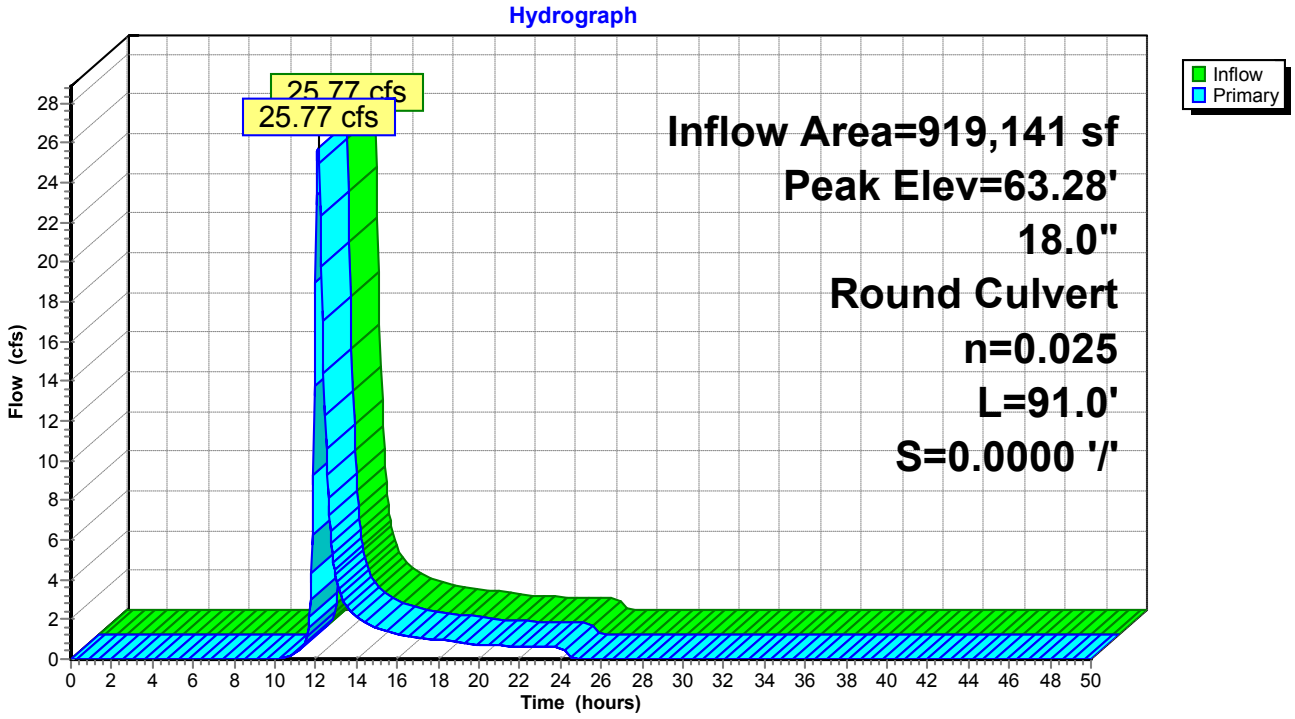
Inflow Area = 919,141 sf, 11.06% Impervious, Inflow Depth = 1.36" for 2-YEAR event
Inflow = 25.77 cfs @ 12.13 hrs, Volume= 104,181 cf
Outflow = 25.77 cfs @ 12.13 hrs, Volume= 104,181 cf, Atten= 0%, Lag= 0.0 min
Primary = 25.77 cfs @ 12.13 hrs, Volume= 104,181 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 63.28' @ 12.13 hrs
Flood Elev= 39.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	35.20'	**18.0" Round CMP_Round 18"** L= 91.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 35.20' / 35.20' S= 0.0000 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=25.60 cfs @ 12.13 hrs HW=62.95' (Free Discharge)
1=CMP_Round 18" (Barrel Controls 25.60 cfs @ 14.49 fps)

Pond CB-10: CB-10



Summary for Pond CB-11: CB-11

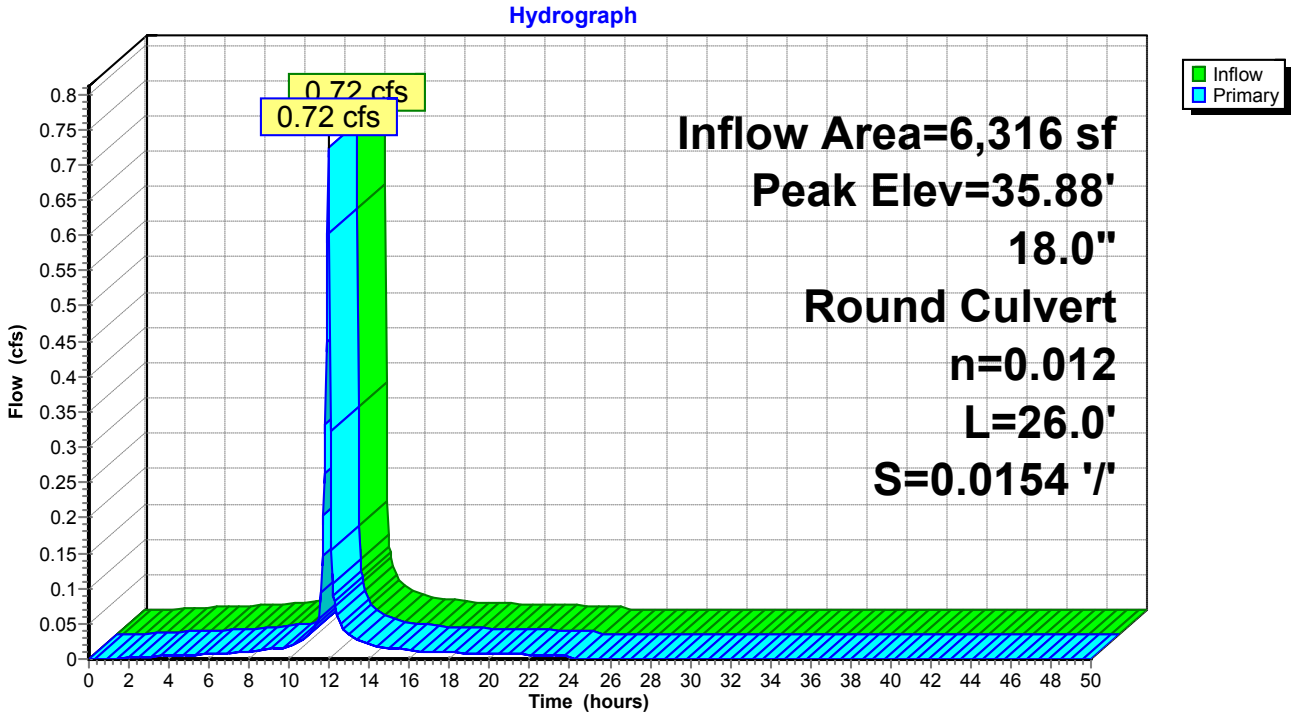
Inflow Area = 6,316 sf,100.00% Impervious, Inflow Depth = 3.26" for 2-YEAR event
Inflow = 0.72 cfs @ 11.95 hrs, Volume= 1,714 cf
Outflow = 0.72 cfs @ 11.95 hrs, Volume= 1,714 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.72 cfs @ 11.95 hrs, Volume= 1,714 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 35.88' @ 11.95 hrs
Flood Elev= 39.13'

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**18.0" Round RCP_Round 18"** L= 26.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 35.50' / 35.10' S= 0.0154 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=0.72 cfs @ 11.95 hrs HW=35.88' (Free Discharge)
1=RCP_Round 18" (Inlet Controls 0.72 cfs @ 2.09 fps)

Pond CB-11: CB-11



Summary for Pond CB-12: CB-12

[58] Hint: Peaked 6.02' above defined flood level
[79] Warning: Submerged Pond CB-13 Primary device # 1 INLET by 5.36'

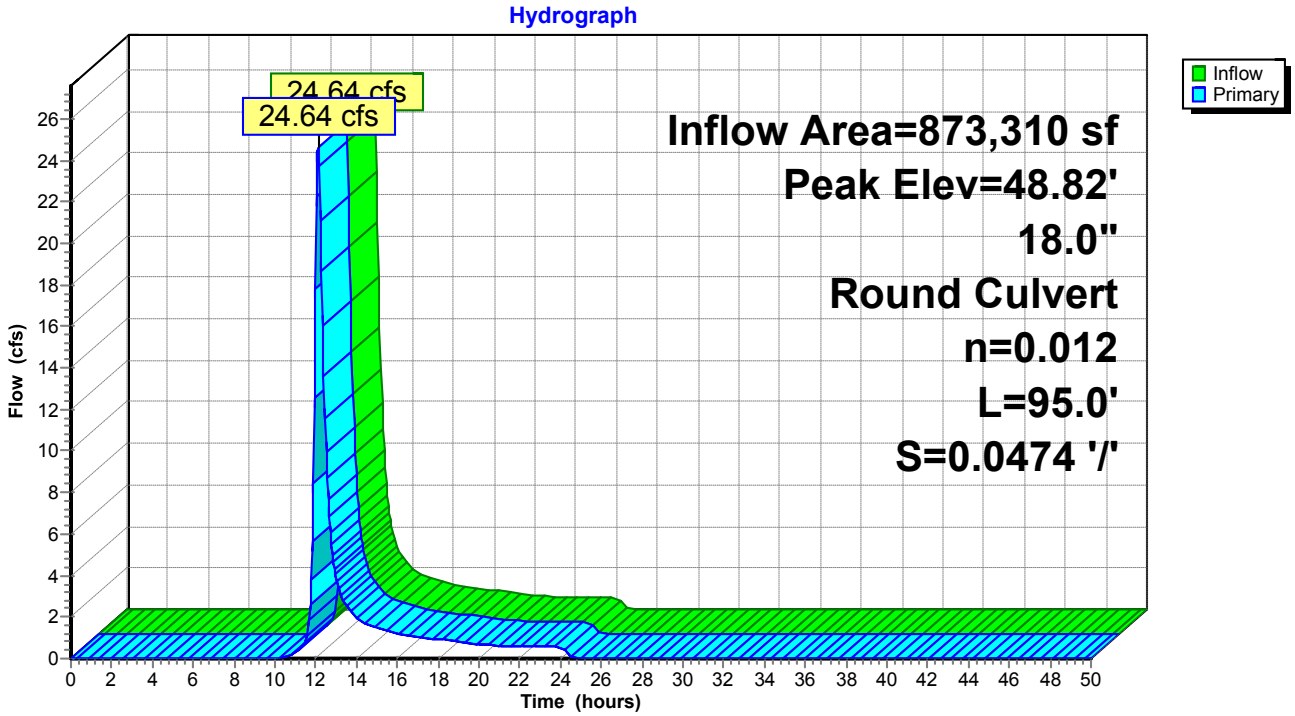
Inflow Area = 873,310 sf, 10.28% Impervious, Inflow Depth = 1.34" for 2-YEAR event
Inflow = 24.64 cfs @ 12.12 hrs, Volume= 97,781 cf
Outflow = 24.64 cfs @ 12.12 hrs, Volume= 97,781 cf, Atten= 0%, Lag= 0.0 min
Primary = 24.64 cfs @ 12.12 hrs, Volume= 97,781 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 48.82' @ 12.12 hrs
Flood Elev= 42.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	39.70'	**18.0" Round CMP_Round 18"** L= 95.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 39.70' / 35.20' S= 0.0474 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=24.37 cfs @ 12.12 hrs HW=48.65' (Free Discharge)
↑—**1=CMP_Round 18"** (Inlet Controls 24.37 cfs @ 13.79 fps)

Pond CB-12: CB-12



Summary for Pond CB-13: CB-13

[58] Hint: Peaked 12.89' above defined flood level
[81] Warning: Exceeded Pond CB-14 by 4.11' @ 12.15 hrs

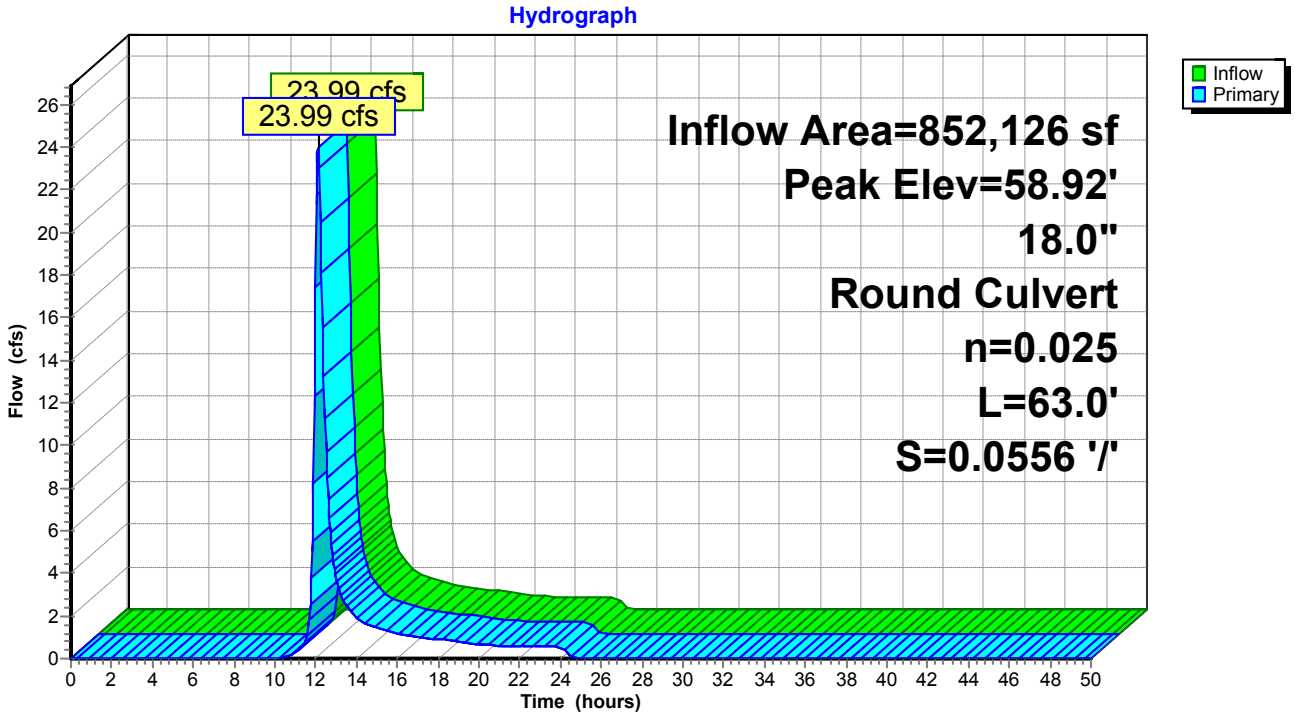
Inflow Area = 852,126 sf, 10.17% Impervious, Inflow Depth = 1.34" for 2-YEAR event
Inflow = 23.99 cfs @ 12.12 hrs, Volume= 95,268 cf
Outflow = 23.99 cfs @ 12.12 hrs, Volume= 95,268 cf, Atten= 0%, Lag= 0.0 min
Primary = 23.99 cfs @ 12.12 hrs, Volume= 95,268 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 58.92' @ 12.12 hrs
Flood Elev= 46.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	43.30'	**18.0" Round CMP_Round 18"** L= 63.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 43.30' / 39.80' S= 0.0556 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=23.73 cfs @ 12.12 hrs HW=58.56' (Free Discharge)
↑—**1=CMP_Round 18"** (Barrel Controls 23.73 cfs @ 13.43 fps)

Pond CB-13: CB-13



Summary for Pond CB-14: CB-14

[58] Hint: Peaked 1.96' above defined flood level
[79] Warning: Submerged Pond CB-15 Primary device # 1 INLET by 0.76'

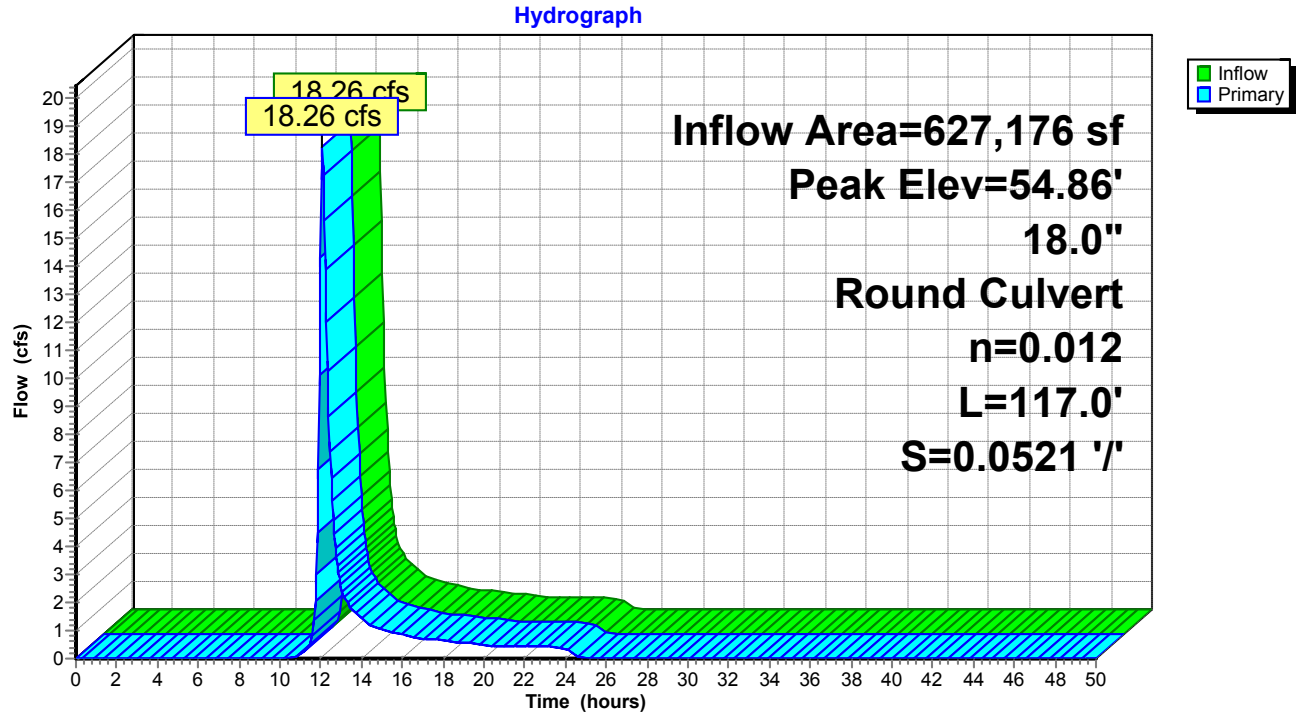
Inflow Area = 627,176 sf, 8.81% Impervious, Inflow Depth = 1.31" for 2-YEAR event
Inflow = 18.26 cfs @ 12.10 hrs, Volume= 68,592 cf
Outflow = 18.26 cfs @ 12.10 hrs, Volume= 68,592 cf, Atten= 0%, Lag= 0.0 min
Primary = 18.26 cfs @ 12.10 hrs, Volume= 68,592 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 54.86' @ 12.10 hrs
Flood Elev= 52.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.50'	**18.0" Round RCP_Round 18"** L= 117.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.50' / 43.40' S= 0.0521 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=18.23 cfs @ 12.10 hrs HW=54.84' (Free Discharge)
1=RCP_Round 18" (Inlet Controls 18.23 cfs @ 10.31 fps)

Pond CB-14: CB-14



Summary for Pond CB-15: CB-15

[58] Hint: Peaked 0.87' above defined flood level
[79] Warning: Submerged Pond CB-16 Primary device # 1 OUTLET by 4.83'

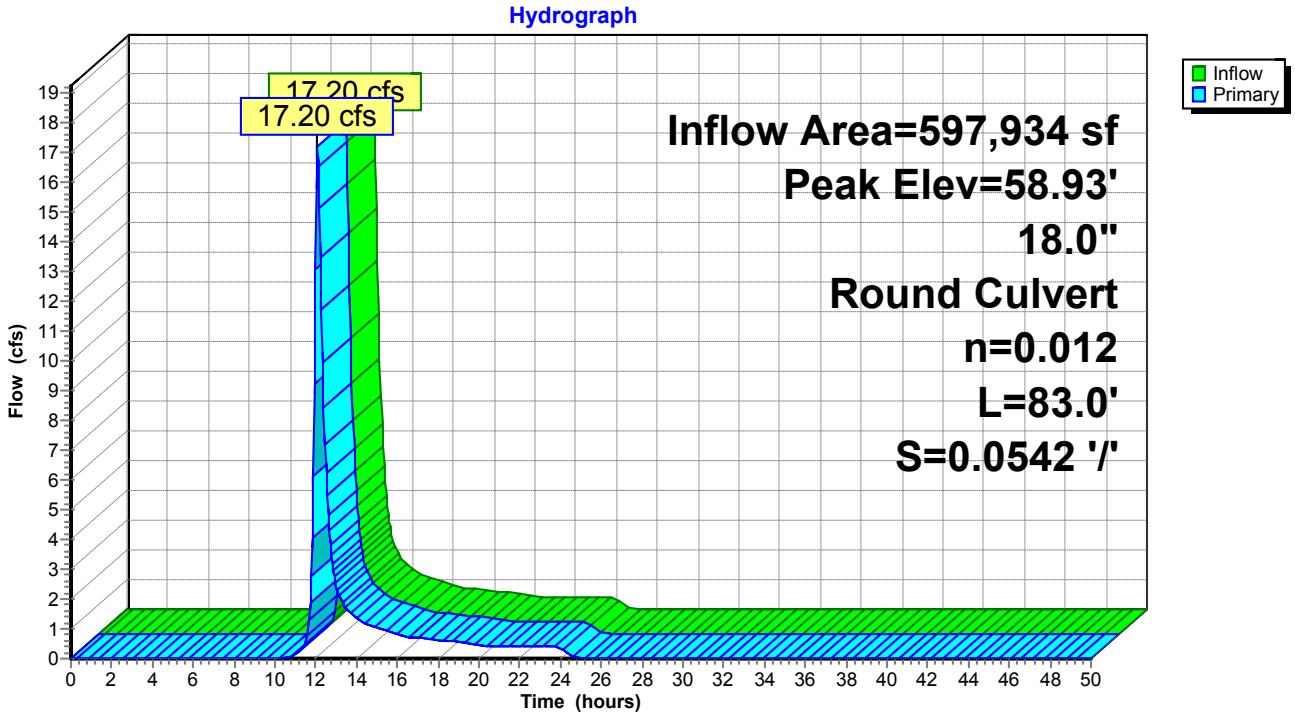
Inflow Area = 597,934 sf, 8.83% Impervious, Inflow Depth = 1.31" for 2-YEAR event
Inflow = 17.20 cfs @ 12.11 hrs, Volume= 65,282 cf
Outflow = 17.20 cfs @ 12.11 hrs, Volume= 65,282 cf, Atten= 0%, Lag= 0.0 min
Primary = 17.20 cfs @ 12.11 hrs, Volume= 65,282 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 58.93' @ 12.11 hrs
Flood Elev= 58.06'

Device	Routing	Invert	Outlet Devices
#1	Primary	54.10'	**18.0" Round RCP_Round 18"** L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.10' / 49.60' S= 0.0542 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=17.11 cfs @ 12.11 hrs HW=58.89' (Free Discharge)
1=RCP_Round 18" (Inlet Controls 17.11 cfs @ 9.68 fps)

Pond CB-15: CB-15



Summary for Pond CB-16: CB-16

[58] Hint: Peaked 0.07' above defined flood level
[79] Warning: Submerged Pond CB-17 Primary device # 1 OUTLET by 3.75'

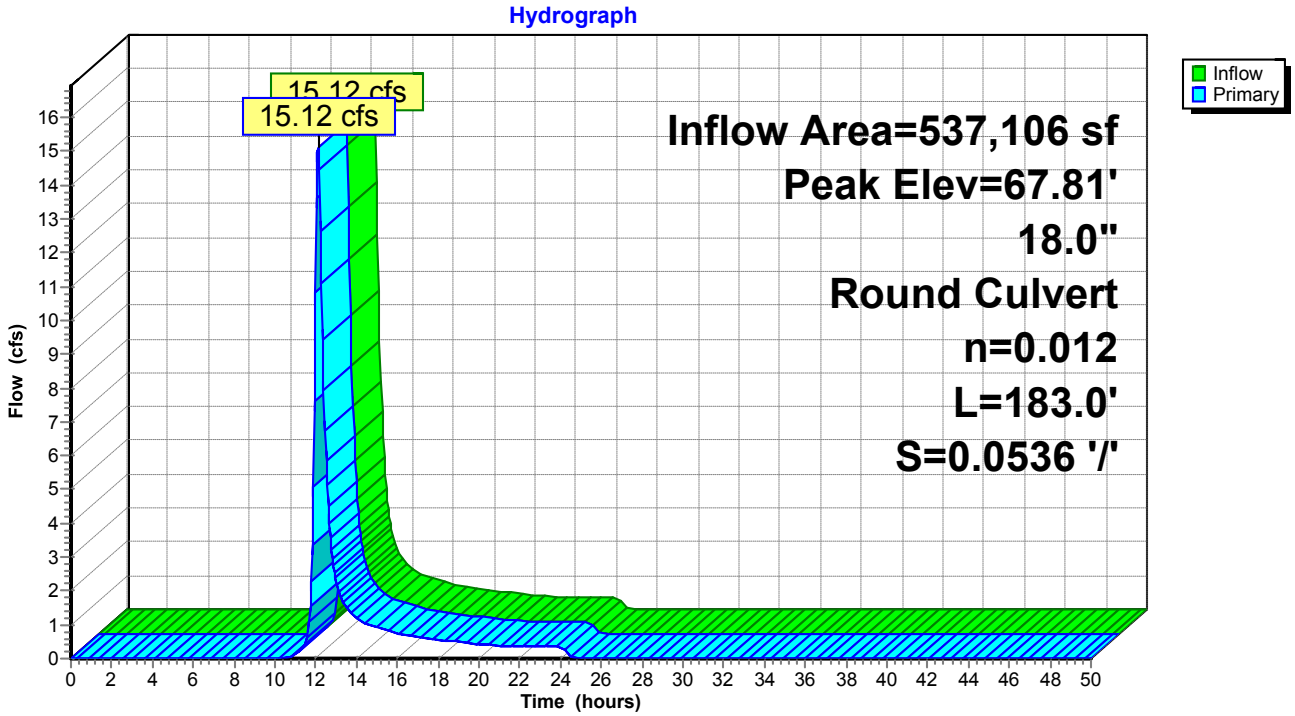
Inflow Area = 537,106 sf, 9.26% Impervious, Inflow Depth = 1.31" for 2-YEAR event
Inflow = 15.12 cfs @ 12.12 hrs, Volume= 58,719 cf
Outflow = 15.12 cfs @ 12.12 hrs, Volume= 58,719 cf, Atten= 0%, Lag= 0.0 min
Primary = 15.12 cfs @ 12.12 hrs, Volume= 58,719 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 67.81' @ 12.12 hrs
Flood Elev= 67.74'

Device	Routing	Invert	Outlet Devices
#1	Primary	63.90'	**18.0" Round RCP_Round 18"** L= 183.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 63.90' / 54.10' S= 0.0536 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=14.95 cfs @ 12.12 hrs HW=67.74' (Free Discharge)
1=RCP_Round 18" (Inlet Controls 14.95 cfs @ 8.46 fps)

Pond CB-16: CB-16



Summary for Pond CB-17: CB-17

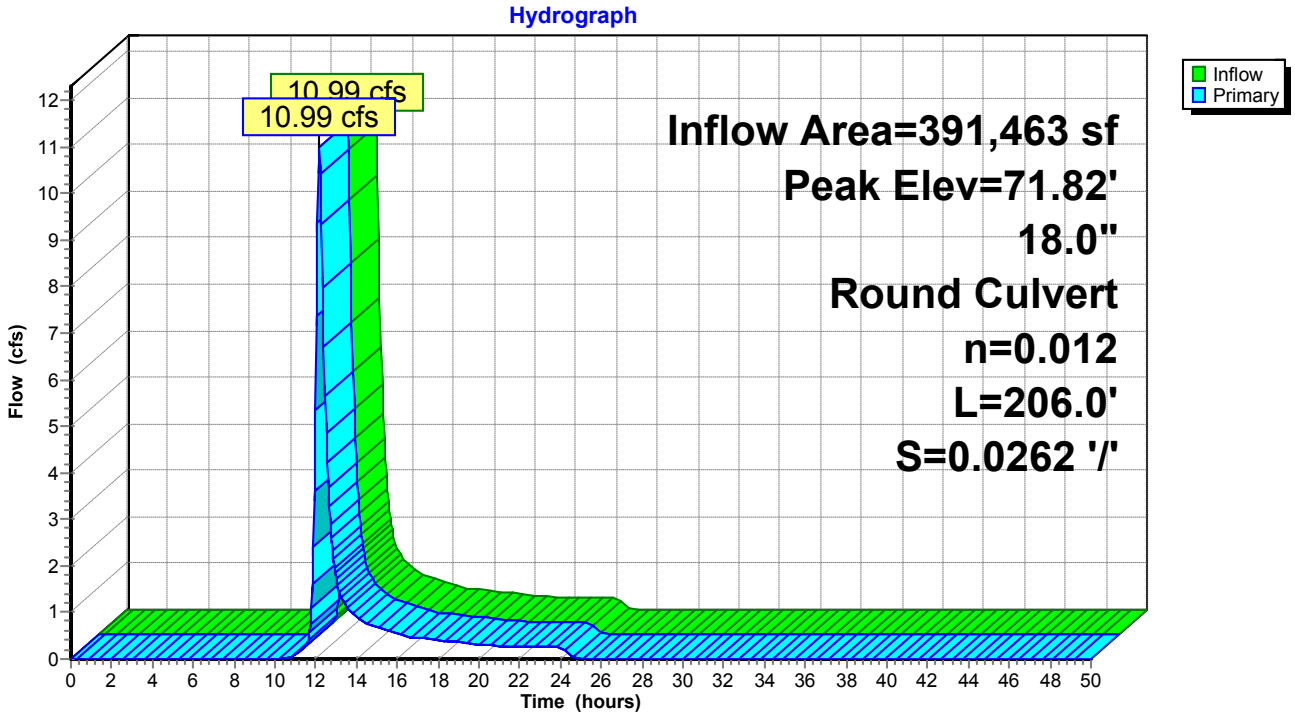
Inflow Area = 391,463 sf, 8.69% Impervious, Inflow Depth = 1.29" for 2-YEAR event
Inflow = 10.99 cfs @ 12.19 hrs, Volume= 42,237 cf
Outflow = 10.99 cfs @ 12.19 hrs, Volume= 42,237 cf, Atten= 0%, Lag= 0.0 min
Primary = 10.99 cfs @ 12.19 hrs, Volume= 42,237 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 71.82' @ 12.19 hrs
Flood Elev= 74.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.40'	**18.0" Round RCP_Round 18"** L= 206.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 69.40' / 64.00' S= 0.0262 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=10.94 cfs @ 12.19 hrs HW=71.80' (Free Discharge)
1=RCP_Round 18" (Inlet Controls 10.94 cfs @ 6.19 fps)

Pond CB-17: CB-17



Summary for Pond CB-2: CB-2

[81] Warning: Exceeded Pond CB-1 by 0.03' @ 12.10 hrs

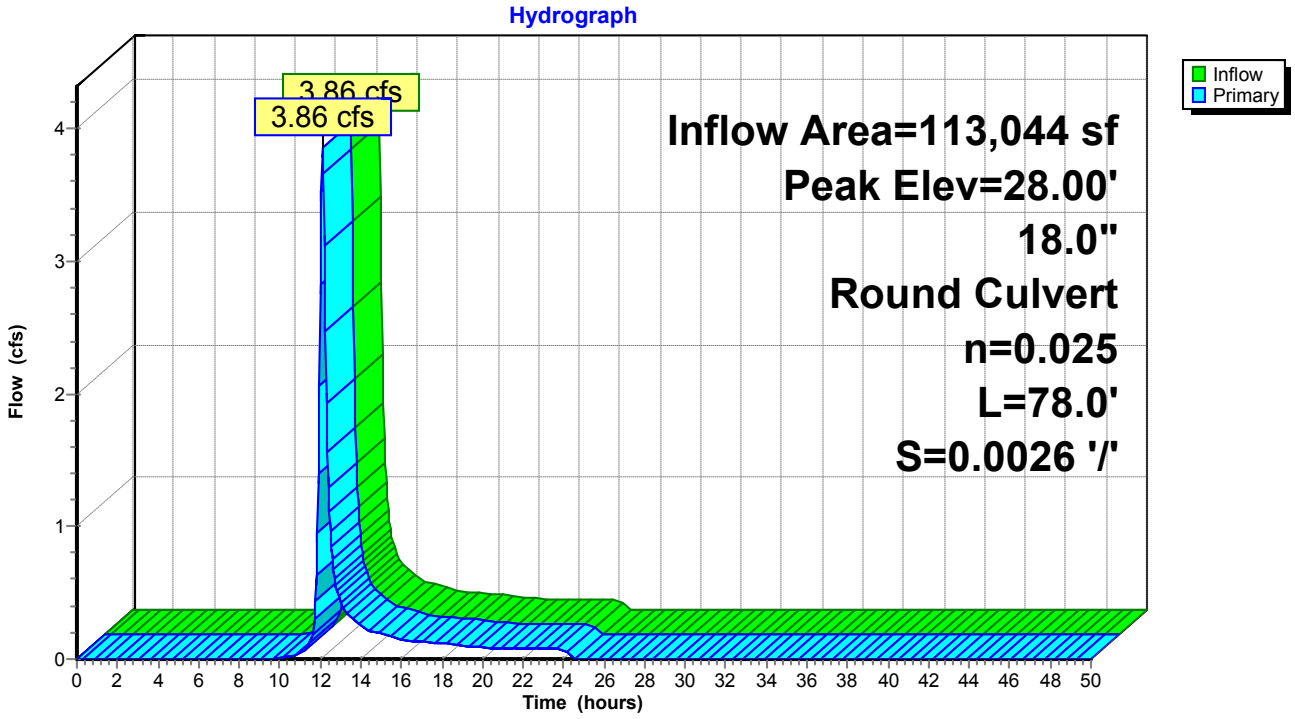
Inflow Area = 113,044 sf, 9.76% Impervious, Inflow Depth = 1.33" for 2-YEAR event
Inflow = 3.86 cfs @ 12.11 hrs, Volume= 12,541 cf
Outflow = 3.86 cfs @ 12.11 hrs, Volume= 12,541 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.86 cfs @ 12.11 hrs, Volume= 12,541 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 28.00' @ 12.11 hrs
Flood Elev= 28.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.40'	**18.0" Round Culvert** L= 78.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 26.40' / 26.20' S= 0.0026 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=3.83 cfs @ 12.11 hrs HW=27.99' (Free Discharge)
└**1=Culvert** (Barrel Controls 3.83 cfs @ 2.54 fps)

Pond CB-2: CB-2



Summary for Pond CB-3: CB-3

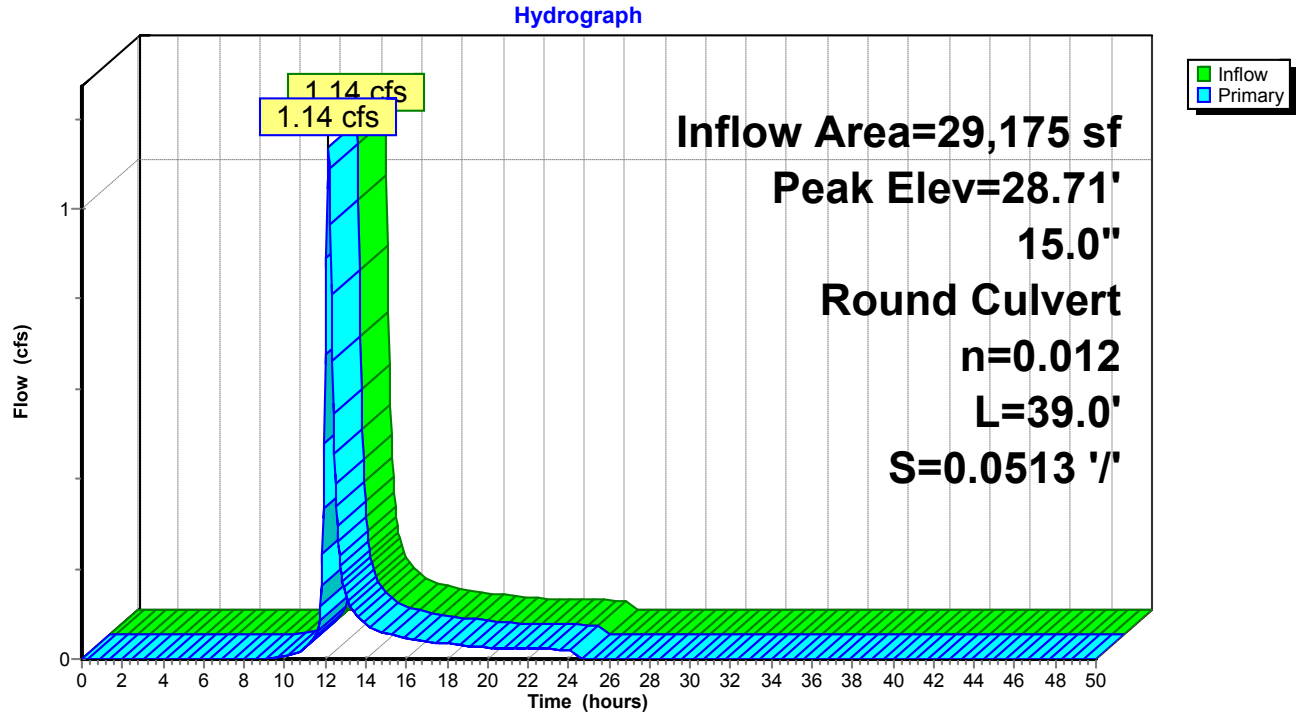
Inflow Area = 29,175 sf, 27.00% Impervious, Inflow Depth = 1.63" for 2-YEAR event
Inflow = 1.14 cfs @ 12.16 hrs, Volume= 3,959 cf
Outflow = 1.14 cfs @ 12.16 hrs, Volume= 3,959 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.14 cfs @ 12.16 hrs, Volume= 3,959 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 28.71' @ 12.16 hrs
Flood Elev= 30.66'

Device	Routing	Invert	Outlet Devices
#1	Primary	28.20'	**15.0" Round RCP_Round 15"** L= 39.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 28.20' / 26.20' S= 0.0513 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.23 sf

Primary OutFlow Max=1.13 cfs @ 12.16 hrs HW=28.71' (Free Discharge)
1=RCP_Round 15" (Inlet Controls 1.13 cfs @ 2.42 fps)

Pond CB-3: CB-3



Summary for Pond CB-4: CB-4

[79] Warning: Submerged Pond CB-2 Primary device # 1 INLET by 0.74'
[79] Warning: Submerged Pond CB-3 Primary device # 1 OUTLET by 0.94'

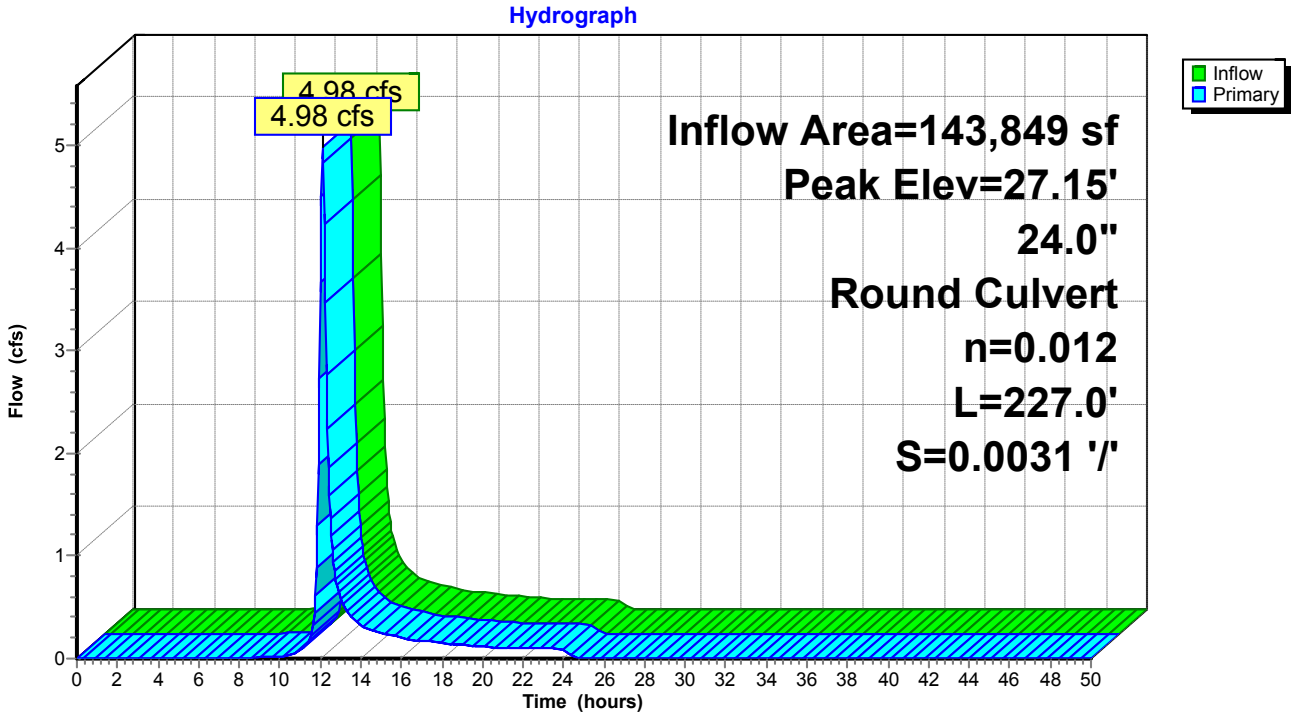
Inflow Area = 143,849 sf, 14.28% Impervious, Inflow Depth = 1.41" for 2-YEAR event
Inflow = 4.98 cfs @ 12.11 hrs, Volume= 16,943 cf
Outflow = 4.98 cfs @ 12.11 hrs, Volume= 16,943 cf, Atten= 0%, Lag= 0.0 min
Primary = 4.98 cfs @ 12.11 hrs, Volume= 16,943 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 27.15' @ 12.11 hrs
Flood Elev= 29.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.00'	**24.0" Round Culvert** L= 227.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 26.00' / 25.30' S= 0.0031 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=4.92 cfs @ 12.11 hrs HW=27.14' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 4.92 cfs @ 3.85 fps)

Pond CB-4: CB-4



Summary for Pond CB-5: CB-5

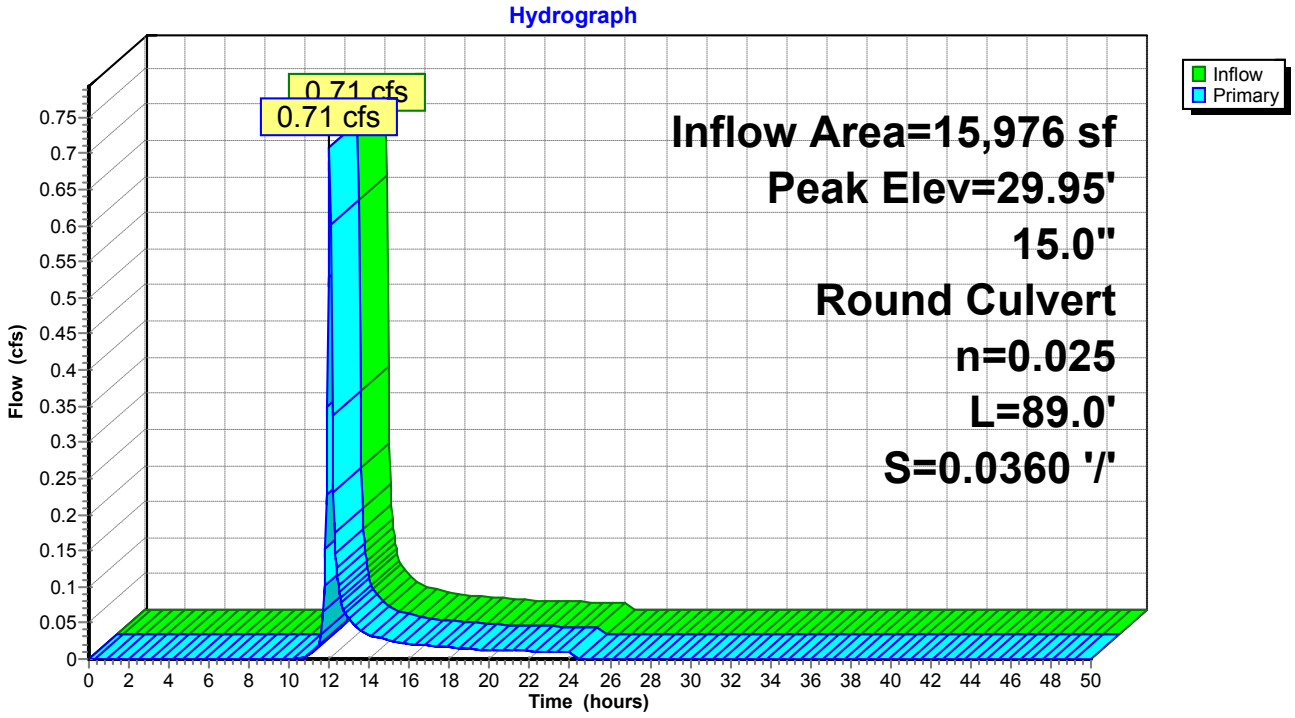
Inflow Area = 15,976 sf, 5.12% Impervious, Inflow Depth = 1.29" for 2-YEAR event
Inflow = 0.71 cfs @ 12.02 hrs, Volume= 1,724 cf
Outflow = 0.71 cfs @ 12.02 hrs, Volume= 1,724 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.71 cfs @ 12.02 hrs, Volume= 1,724 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 29.95' @ 12.02 hrs
Flood Elev= 33.19'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.50'	**15.0" Round CMP_Round 15"** L= 89.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 29.50' / 26.30' S= 0.0360 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.23 sf

Primary OutFlow Max=0.69 cfs @ 12.02 hrs HW=29.94' (Free Discharge)
↑—**1=CMP_Round 15"** (Inlet Controls 0.69 cfs @ 1.78 fps)

Pond CB-5: CB-5



Summary for Pond CB-6: CB-6

[58] Hint: Peaked 1.92' above defined flood level
[81] Warning: Exceeded Pond 4P by 4.62' @ 12.10 hrs
[81] Warning: Exceeded Pond CB-5 by 3.79' @ 12.10 hrs
[79] Warning: Submerged Pond CB-8 Primary device # 1 INLET by 4.17'

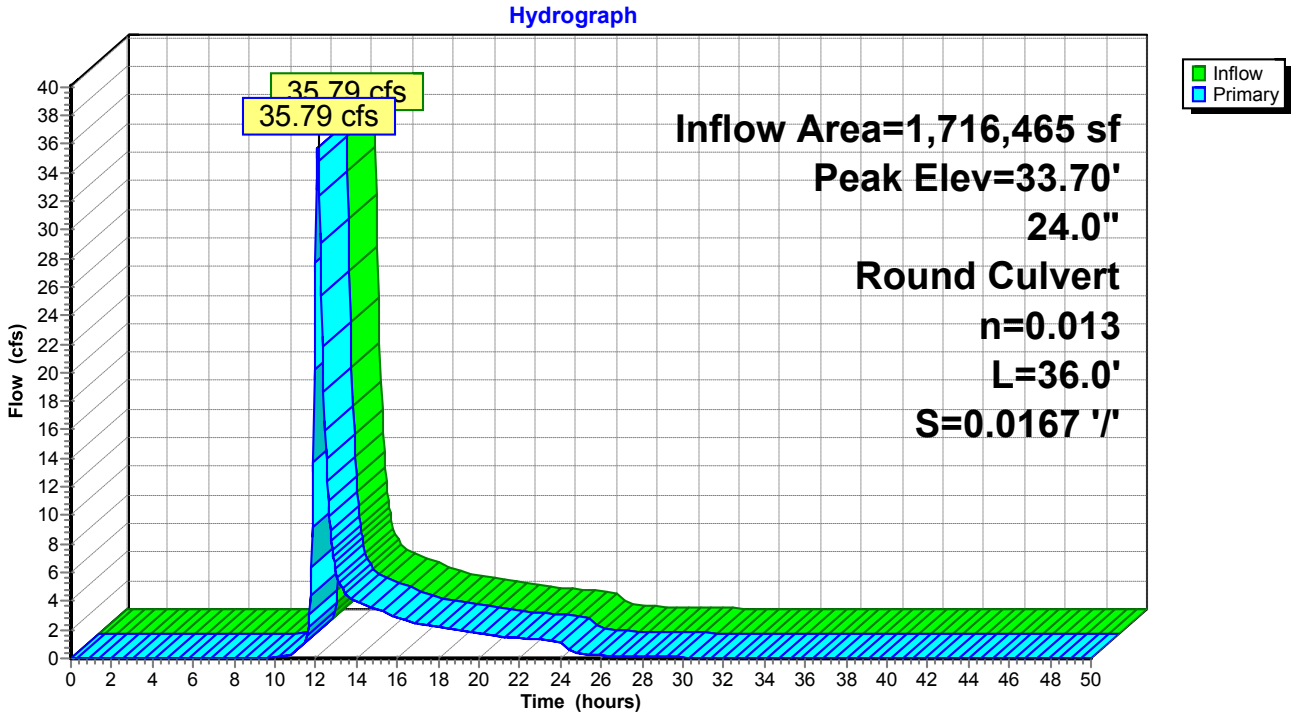
Inflow Area = 1,716,465 sf, 11.03% Impervious, Inflow Depth > 1.26" for 2-YEAR event
Inflow = 35.79 cfs @ 12.11 hrs, Volume= 180,672 cf
Outflow = 35.79 cfs @ 12.11 hrs, Volume= 180,672 cf, Atten= 0%, Lag= 0.0 min
Primary = 35.79 cfs @ 12.11 hrs, Volume= 180,672 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 33.70' @ 12.11 hrs
Flood Elev= 31.78'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.10'	**24.0" Round Culvert** L= 36.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 27.10' / 26.50' S= 0.0167 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=35.51 cfs @ 12.11 hrs HW=33.61' (Free Discharge)
1=Culvert (Inlet Controls 35.51 cfs @ 11.30 fps)

Pond CB-6: CB-6



Summary for Pond CB-7: CB-7

[81] Warning: Exceeded Pond CB-4 by 2.17' @ 12.10 hrs
[79] Warning: Submerged Pond CB-6 Primary device # 1 INLET by 2.22'

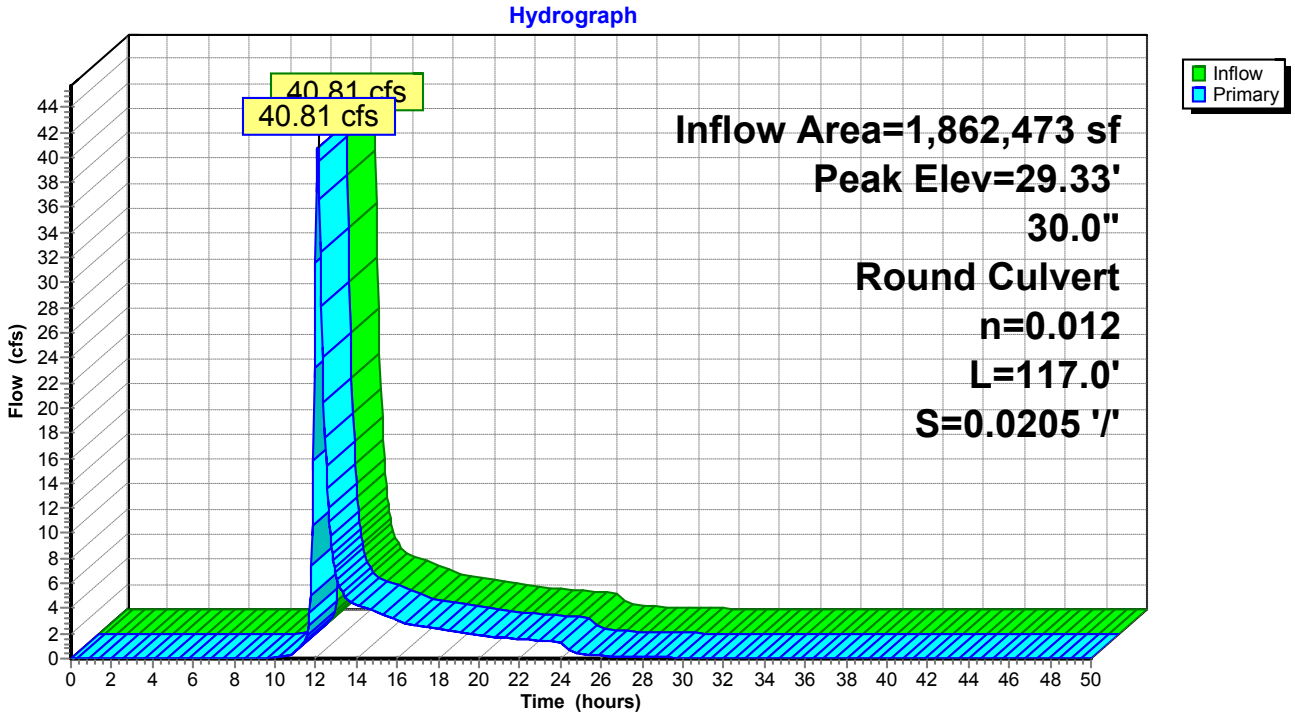
Inflow Area = 1,862,473 sf, 11.38% Impervious, Inflow Depth = 1.28" for 2-YEAR event
Inflow = 40.81 cfs @ 12.11 hrs, Volume= 198,201 cf
Outflow = 40.81 cfs @ 12.11 hrs, Volume= 198,201 cf, Atten= 0%, Lag= 0.0 min
Primary = 40.81 cfs @ 12.11 hrs, Volume= 198,201 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 29.33' @ 12.11 hrs
Flood Elev= 30.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.10'	**30.0" Round Culvert** L= 117.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.10' / 22.70' S= 0.0205 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 4.91 sf

Primary OutFlow Max=40.49 cfs @ 12.11 hrs HW=29.28' (Free Discharge)
1=Culvert (Inlet Controls 40.49 cfs @ 8.25 fps)

Pond CB-7: CB-7



Summary for Pond CB-8: CB-8

[58] Hint: Peaked 58.74' above defined flood level
[81] Warning: Exceeded Pond CB-9 by 4.70' @ 12.10 hrs

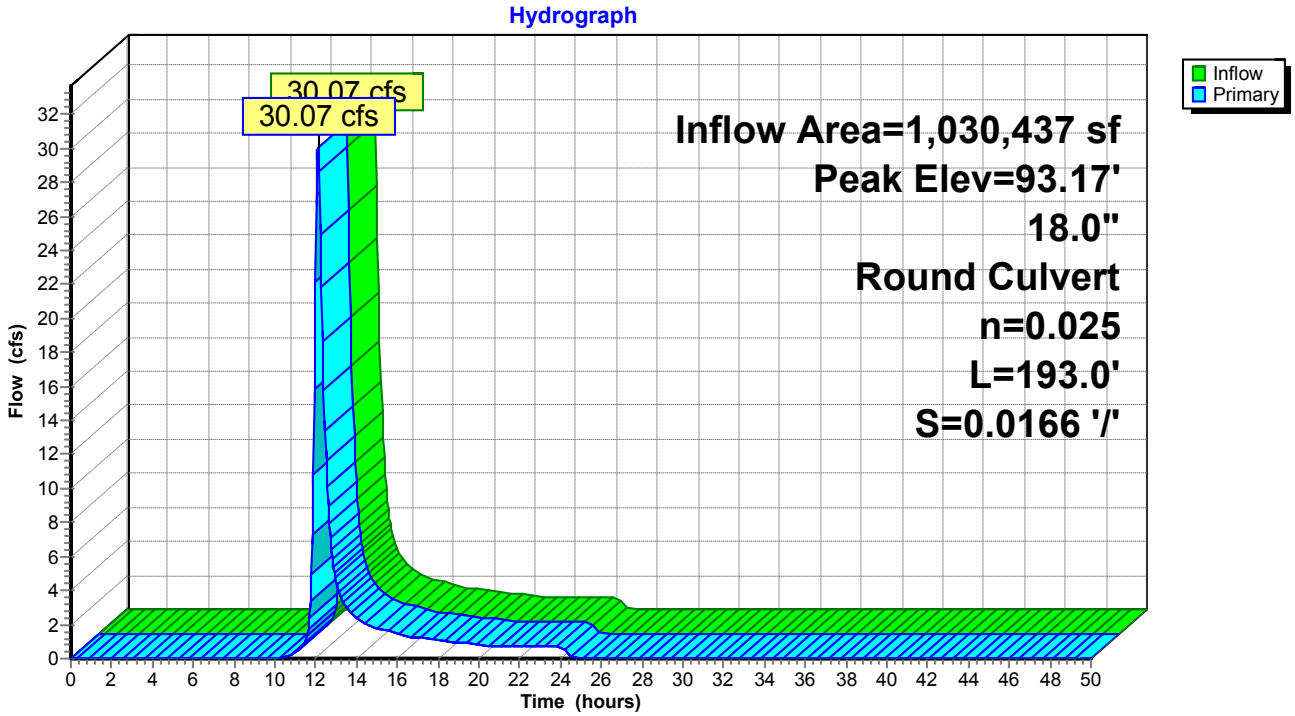
Inflow Area = 1,030,437 sf, 11.38% Impervious, Inflow Depth = 1.37" for 2-YEAR event
Inflow = 30.07 cfs @ 12.12 hrs, Volume= 117,416 cf
Outflow = 30.07 cfs @ 12.12 hrs, Volume= 117,416 cf, Atten= 0%, Lag= 0.0 min
Primary = 30.07 cfs @ 12.12 hrs, Volume= 117,416 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 93.17' @ 12.12 hrs
Flood Elev= 34.43'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.50'	**18.0" Round RCP_Round 18"** L= 193.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 29.50' / 26.30' S= 0.0166 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=29.74 cfs @ 12.12 hrs HW=91.80' (Free Discharge)
1=RCP_Round 18" (Barrel Controls 29.74 cfs @ 16.83 fps)

Pond CB-8: CB-8



Summary for Pond CB-9: CB-9

[58] Hint: Peaked 50.23' above defined flood level
[81] Warning: Exceeded Pond CB-10 by 24.72' @ 12.15 hrs

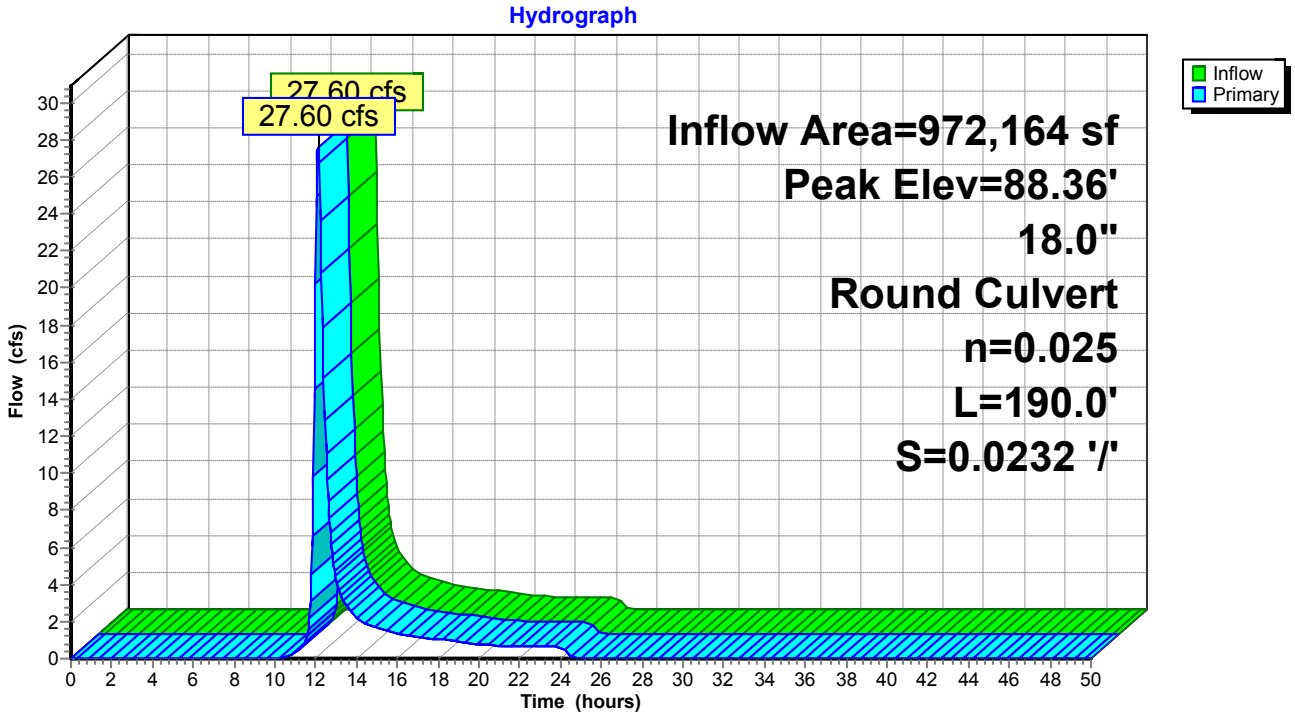
Inflow Area = 972,164 sf, 11.09% Impervious, Inflow Depth = 1.36" for 2-YEAR event
Inflow = 27.60 cfs @ 12.13 hrs, Volume= 110,181 cf
Outflow = 27.60 cfs @ 12.13 hrs, Volume= 110,181 cf, Atten= 0%, Lag= 0.0 min
Primary = 27.60 cfs @ 12.13 hrs, Volume= 110,181 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 88.36' @ 12.13 hrs
Flood Elev= 38.13'

Device	Routing	Invert	Outlet Devices
#1	Primary	35.40'	**18.0" Round CMP_Round 18"** L= 190.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 35.40' / 31.00' S= 0.0232 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=27.41 cfs @ 12.13 hrs HW=87.62' (Free Discharge)
↑—**1=CMP_Round 18"** (Barrel Controls 27.41 cfs @ 15.51 fps)

Pond CB-9: CB-9



Time span=0.00-50.00 hrs, dt=0.05 hrs, 1001 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 DA-1: DA-1 Runoff Area=110,937 sf 8.04% Impervious Runoff Depth=2.79"
Flow Length=1,029' Tc=17.6 min CN=75 Runoff=8.42 cfs 25,753 cf

Subcatchment DA-10: DA-10 Runoff Area=29,242 sf 8.57% Impervious Runoff Depth=2.88"
Flow Length=447' Tc=11.3 min CN=76 Runoff=2.80 cfs 7,011 cf

Subcatchment DA-11: DA-11 Runoff Area=60,828 sf 5.01% Impervious Runoff Depth=2.79"
Flow Length=496' Tc=12.2 min CN=75 Runoff=5.49 cfs 14,121 cf

Subcatchment DA-12: DA-12 Runoff Area=145,643 sf 10.79% Impervious Runoff Depth=2.88"
Flow Length=863' Tc=12.7 min CN=76 Runoff=13.35 cfs 34,919 cf

Subcatchment DA-13: DA-13 Runoff Area=391,463 sf 8.69% Impervious Runoff Depth=2.79"
Flow Length=655' Tc=24.6 min CN=75 Runoff=24.47 cfs 90,875 cf

Subcatchment DA-14: DA-14 Runoff Area=6,316 sf 100.00% Impervious Runoff Depth=5.17"
Tc=5.0 min CN=98 Runoff=1.13 cfs 2,722 cf

Subcatchment DA-15: DA-15 Runoff Area=2,159 sf 100.00% Impervious Runoff Depth=5.17"
Tc=5.0 min CN=98 Runoff=0.39 cfs 931 cf

Subcatchment DA-16: DA-16 Runoff Area=1,630 sf 100.00% Impervious Runoff Depth=5.17"
Tc=5.0 min CN=98 Runoff=0.29 cfs 703 cf

Subcatchment DA-17: DA-17 Runoff Area=2,107 sf 100.00% Impervious Runoff Depth=5.17"
Tc=5.0 min CN=98 Runoff=0.38 cfs 908 cf

Subcatchment DA-2: DA-2 Runoff Area=29,175 sf 27.00% Impervious Runoff Depth=3.25"
Flow Length=284' Slope=0.0493 '/' Tc=22.0 min CN=80 Runoff=2.28 cfs 7,910 cf

Subcatchment DA-2a: DA-2a Runoff Area=141,895 sf 10.12% Impervious Runoff Depth=2.88"
Flow Length=739' Tc=18.3 min CN=76 Runoff=10.90 cfs 34,020 cf

Subcatchment DA-2b: DA-2b Runoff Area=81,523 sf 12.99% Impervious Runoff Depth=2.97"
Flow Length=965' Tc=20.6 min CN=77 Runoff=6.05 cfs 20,174 cf

Subcatchment DA-3: DA-3 Runoff Area=15,976 sf 5.12% Impervious Runoff Depth=2.79"
Flow Length=192' Slope=0.1562 '/' Tc=10.1 min CN=75 Runoff=1.54 cfs 3,709 cf

Subcatchment DA-4: DA-4 Runoff Area=56,004 sf 24.76% Impervious Runoff Depth=3.25"
Flow Length=250' Slope=0.1120 '/' Tc=9.8 min CN=80 Runoff=6.33 cfs 15,184 cf

Subcatchment DA-4a: DA-4a Runoff Area=105,870 sf 4.11% Impervious Runoff Depth=2.79"
Flow Length=708' Tc=15.7 min CN=75 Runoff=8.50 cfs 24,577 cf

Subcatchment DA-5: DA-5 Runoff Area=58,273 sf 16.11% Impervious Runoff Depth=3.06"
Flow Length=228' Slope=0.0702 '/' Tc=16.0 min CN=78 Runoff=5.09 cfs 14,875 cf

Subcatchment DA-5a: DA-5a Runoff Area=194,700 sf 9.54% Impervious Runoff Depth=2.88"
Flow Length=764' Tc=19.4 min CN=76 Runoff=14.48 cfs 46,680 cf

Subcatchment DA-6: DA-6 Runoff Area=53,023 sf 11.71% Impervious Runoff Depth=2.88"
Flow Length=378' Tc=19.0 min CN=76 Runoff=3.99 cfs 12,713 cf

Subcatchment DA-6a: DA-6a Runoff Area=90,060 sf 10.50% Impervious Runoff Depth=2.88"
Flow Length=809' Tc=19.3 min CN=76 Runoff=6.72 cfs 21,592 cf

Subcatchment DA-7: DA-7 Runoff Area=39,515 sf 14.15% Impervious Runoff Depth=2.97"
Flow Length=589' Tc=25.2 min CN=77 Runoff=2.60 cfs 9,778 cf

Subcatchment DA-8: DA-8 Runoff Area=21,184 sf 14.41% Impervious Runoff Depth=2.97"
Flow Length=545' Tc=23.6 min CN=77 Runoff=1.45 cfs 5,242 cf

Subcatchment DA-9: DA-9 Runoff Area=224,950 sf 13.96% Impervious Runoff Depth=2.97"
Flow Length=927' Tc=26.2 min CN=77 Runoff=14.47 cfs 55,666 cf

Reach 7R: OUTLET Inflow=93.68 cfs 434,595 cf
Outflow=93.68 cfs 434,595 cf

Pond 1P: DETENTION POND 3 Peak Elev=55.09' Storage=9,246 cf Inflow=11.06 cfs 113,554 cf
Primary=1.28 cfs 60,631 cf Secondary=8.74 cfs 50,771 cf Outflow=10.03 cfs 111,403 cf

Pond 2P: DETENTION POND 2 Peak Elev=61.59' Storage=12,430 cf Inflow=9.53 cfs 86,752 cf
Primary=0.73 cfs 32,385 cf Secondary=3.88 cfs 47,149 cf Outflow=4.60 cfs 79,534 cf

Pond 3P: DETENTION POND 1 Peak Elev=69.72' Storage=34,268 cf Inflow=21.20 cfs 68,273 cf
Primary=1.66 cfs 57,418 cf Secondary=1.97 cfs 4,757 cf Outflow=3.63 cfs 62,175 cf

Pond 4P: PR-CB-1 Peak Elev=30.32' Inflow=15.31 cfs 131,576 cf
24.0" Round Culvert n=0.012 L=100.0' S=0.0100 '/' Outflow=15.31 cfs 131,576 cf

Pond CB-1: CB-1 Peak Elev=29.55' Inflow=8.42 cfs 25,753 cf
15.0" Round Culvert n=0.012 L=33.0' S=0.0121 '/' Outflow=8.42 cfs 25,753 cf

Pond CB-10: CB-10 Peak Elev=166.04' Inflow=56.84 cfs 220,335 cf
18.0" Round Culvert n=0.025 L=91.0' S=0.0000 '/' Outflow=56.84 cfs 220,335 cf

Pond CB-11: CB-11 Peak Elev=35.98' Inflow=1.13 cfs 2,722 cf
18.0" Round Culvert n=0.012 L=26.0' S=0.0154 '/' Outflow=1.13 cfs 2,722 cf

Pond CB-12: CB-12 Peak Elev=81.10' Inflow=54.26 cfs 207,834 cf
18.0" Round Culvert n=0.012 L=95.0' S=0.0474 '/' Outflow=54.26 cfs 207,834 cf

Pond CB-13: CB-13 Peak Elev=126.97' Inflow=52.89 cfs 202,592 cf
18.0" Round Culvert n=0.025 L=63.0' S=0.0556 '/' Outflow=52.89 cfs 202,592 cf

Pond CB-14: CB-14 Peak Elev=72.90' Inflow=40.50 cfs 146,925 cf
18.0" Round Culvert n=0.012 L=117.0' S=0.0521 '/' Outflow=40.50 cfs 146,925 cf

Pond CB-15: CB-15 Peak Elev=75.00' Inflow=38.19 cfs 139,914 cf
18.0" Round Culvert n=0.012 L=83.0' S=0.0542 '/' Outflow=38.19 cfs 139,914 cf

Pond CB-16: CB-16 Peak Elev=80.25' Inflow=33.62 cfs 125,794 cf
18.0" Round Culvert n=0.012 L=183.0' S=0.0536 '/' Outflow=33.62 cfs 125,794 cf

Pond CB-17: CB-17 Peak Elev=79.52' Inflow=24.47 cfs 90,875 cf
18.0" Round Culvert n=0.012 L=206.0' S=0.0262 '/' Outflow=24.47 cfs 90,875 cf

Pond CB-2: CB-2 Peak Elev=30.28' Inflow=8.50 cfs 26,661 cf
18.0" Round Culvert n=0.025 L=78.0' S=0.0026 '/' Outflow=8.50 cfs 26,661 cf

Pond CB-3: CB-3 Peak Elev=28.95' Inflow=2.28 cfs 7,910 cf
15.0" Round Culvert n=0.012 L=39.0' S=0.0513 '/' Outflow=2.28 cfs 7,910 cf

Pond CB-4: CB-4 Peak Elev=27.84' Inflow=10.75 cfs 35,274 cf
24.0" Round Culvert n=0.012 L=227.0' S=0.0031 '/' Outflow=10.75 cfs 35,274 cf

Pond CB-5: CB-5 Peak Elev=30.19' Inflow=1.54 cfs 3,709 cf
15.0" Round Culvert n=0.025 L=89.0' S=0.0360 '/' Outflow=1.54 cfs 3,709 cf

Pond CB-6: CB-6 Peak Elev=57.99' Inflow=82.72 cfs 398,391 cf
24.0" Round Culvert n=0.013 L=36.0' S=0.0167 '/' Outflow=82.72 cfs 398,391 cf

Pond CB-7: CB-7 Peak Elev=42.04' Inflow=93.68 cfs 434,595 cf
30.0" Round Culvert n=0.012 L=117.0' S=0.0205 '/' Outflow=93.68 cfs 434,595 cf

Pond CB-8: CB-8 Peak Elev=340.70' Inflow=65.77 cfs 247,922 cf
18.0" Round Culvert n=0.025 L=193.0' S=0.0166 '/' Outflow=65.77 cfs 247,922 cf

Pond CB-9: CB-9 Peak Elev=303.78' Inflow=60.83 cfs 233,047 cf
18.0" Round Culvert n=0.025 L=190.0' S=0.0232 '/' Outflow=60.83 cfs 233,047 cf

Total Runoff Area = 1,862,473 sf Runoff Volume = 450,062 cf Average Runoff Depth = 2.90"
88.62% Pervious = 1,650,520 sf 11.38% Impervious = 211,953 sf

Summary for Subcatchment DA-1: DA-1

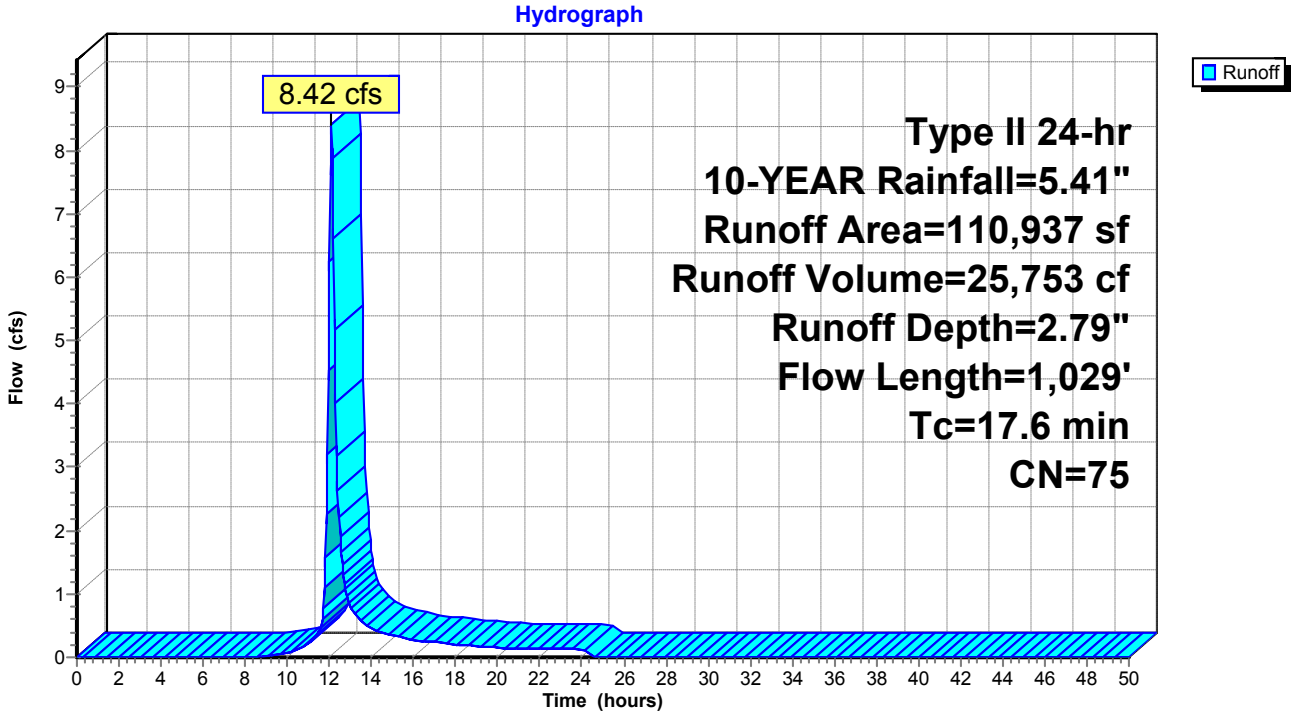
Runoff = 8.42 cfs @ 12.10 hrs, Volume= 25,753 cf, Depth= 2.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
59,666	72	Woods/grass comb., Good, HSG C
42,347	74	>75% Grass cover, Good, HSG C
8,924	98	Paved parking, HSG C
110,937	75	Weighted Average
102,013		91.96% Pervious Area
8,924		8.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	153	0.1050	0.26		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"
2.0	189	0.0950	1.54		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.7	687	0.0820	2.00		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.6	1,029	Total			

Subcatchment DA-1: DA-1



Summary for Subcatchment DA-10: DA-10

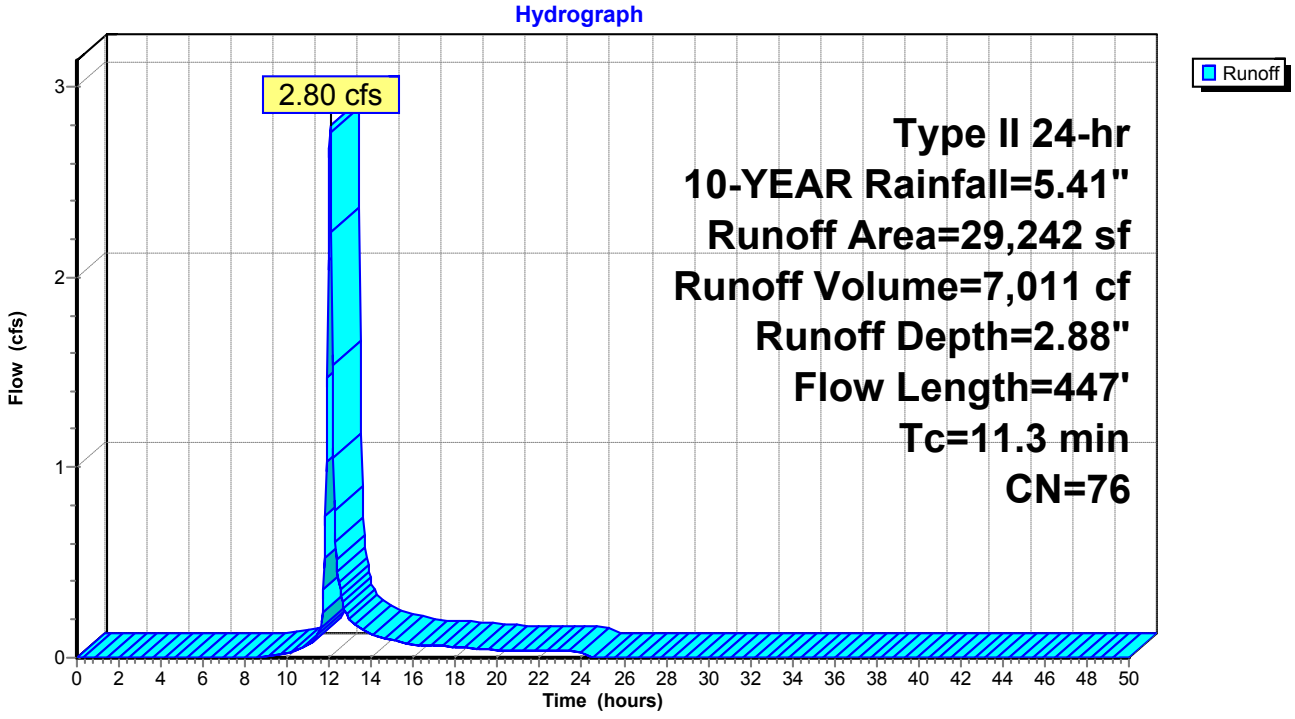
Runoff = 2.80 cfs @ 12.03 hrs, Volume= 7,011 cf, Depth= 2.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
26,737	74	>75% Grass cover, Good, HSG C
2,505	98	Paved parking, HSG C
29,242	76	Weighted Average
26,737		91.43% Pervious Area
2,505		8.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	250	0.1160	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.49"
1.6	197	0.0812	1.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.3	447	Total			

Subcatchment DA-10: DA-10



Summary for Subcatchment DA-11: DA-11

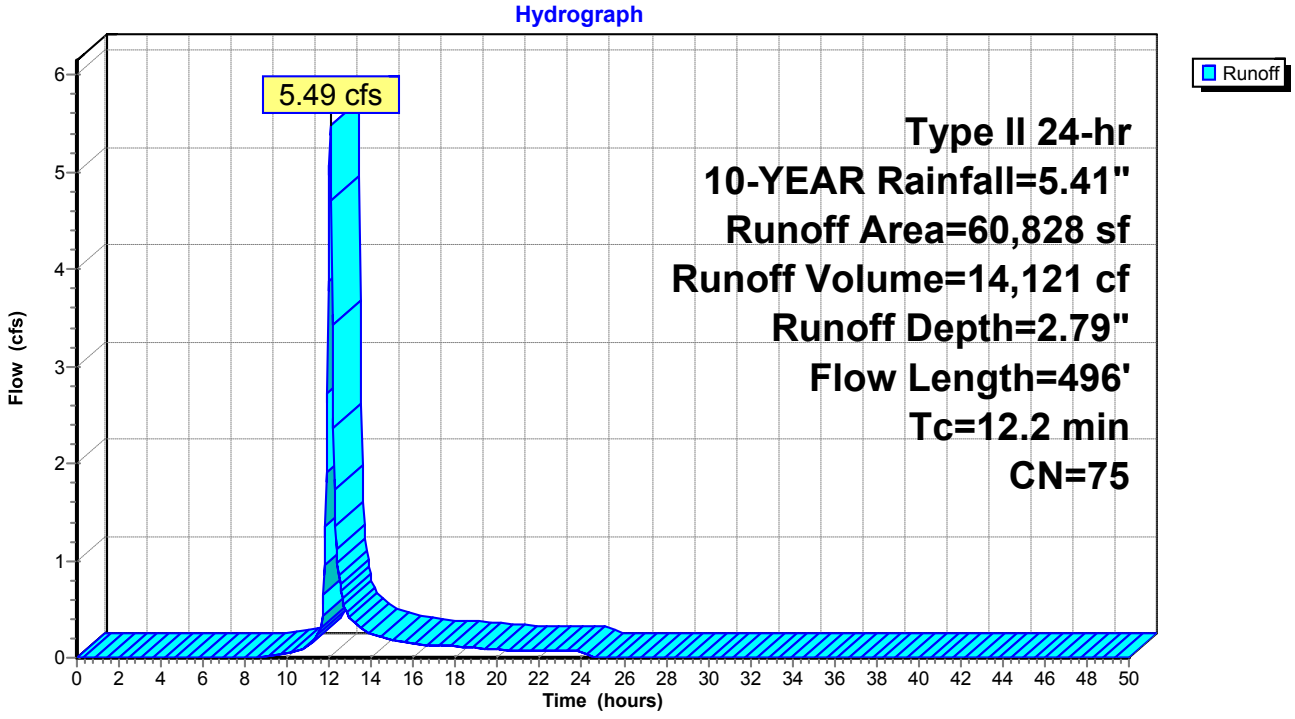
Runoff = 5.49 cfs @ 12.04 hrs, Volume= 14,121 cf, Depth= 2.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
57,780	74	>75% Grass cover, Good, HSG C
3,048	98	Paved parking, HSG C
60,828	75	Weighted Average
57,780		94.99% Pervious Area
3,048		5.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	250	0.1120	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.49"
2.4	246	0.0610	1.73		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.2	496	Total			

Subcatchment DA-11: DA-11



Summary for Subcatchment DA-12: DA-12

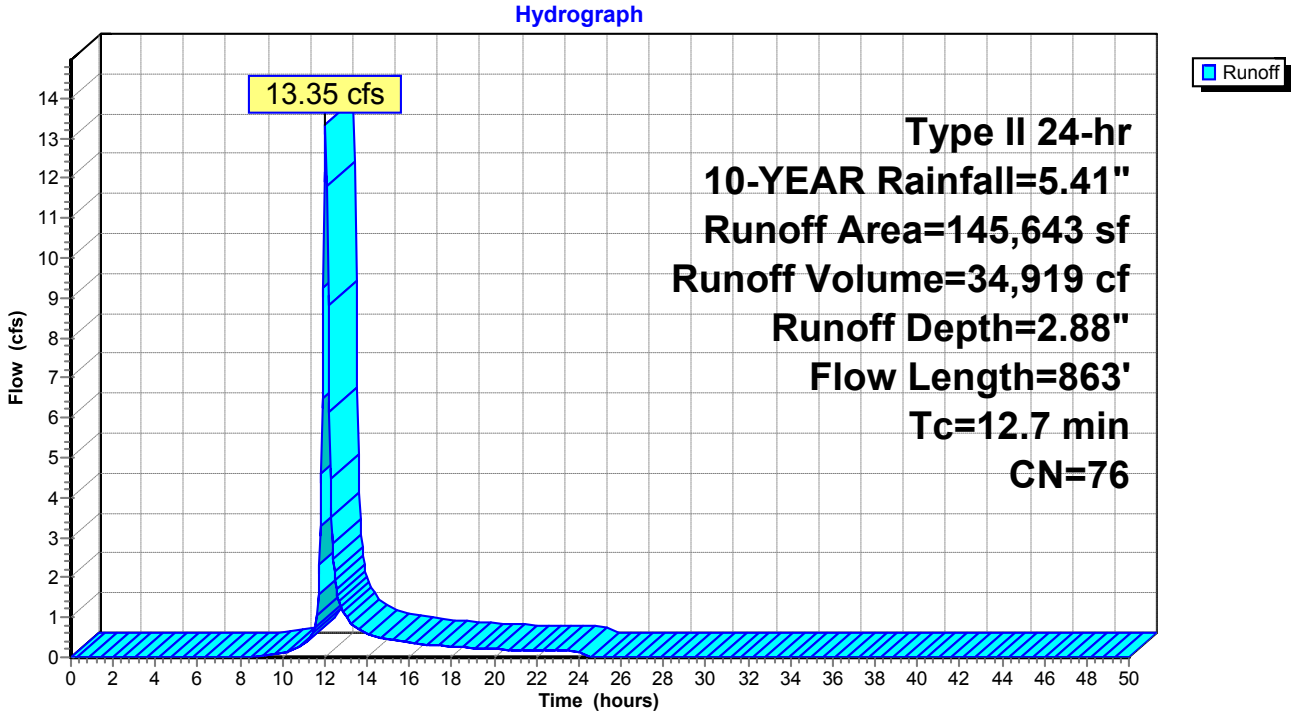
Runoff = 13.35 cfs @ 12.05 hrs, Volume= 34,919 cf, Depth= 2.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
33,394	72	Woods/grass comb., Good, HSG C
96,537	74	>75% Grass cover, Good, HSG C
15,712	98	Paved parking, HSG C
145,643	76	Weighted Average
129,931		89.21% Pervious Area
15,712		10.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	147	0.1220	0.40		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.49"
3.1	395	0.0911	2.11		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.4	321	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.7	863	Total			

Subcatchment DA-12: DA-12



Summary for Subcatchment DA-13: DA-13

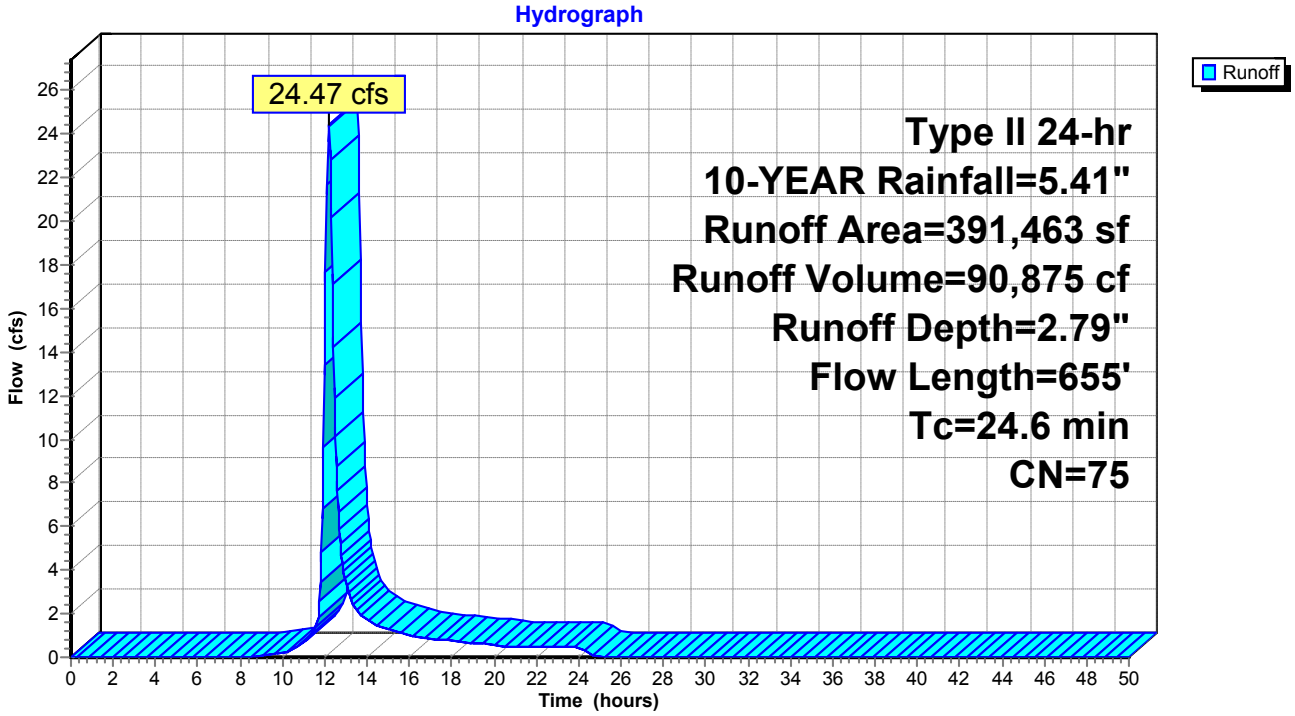
Runoff = 24.47 cfs @ 12.18 hrs, Volume= 90,875 cf, Depth= 2.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
192,024	72	Woods/grass comb., Good, HSG C
165,425	74	>75% Grass cover, Good, HSG C
34,014	98	Paved parking, HSG C
391,463	75	Weighted Average
357,449		91.31% Pervious Area
34,014		8.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	250	0.1120	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.49"
3.1	405	0.0938	2.14		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
24.6	655	Total			

Subcatchment DA-13: DA-13



Summary for Subcatchment DA-14: DA-14

[49] Hint: Tc<2dt may require smaller dt

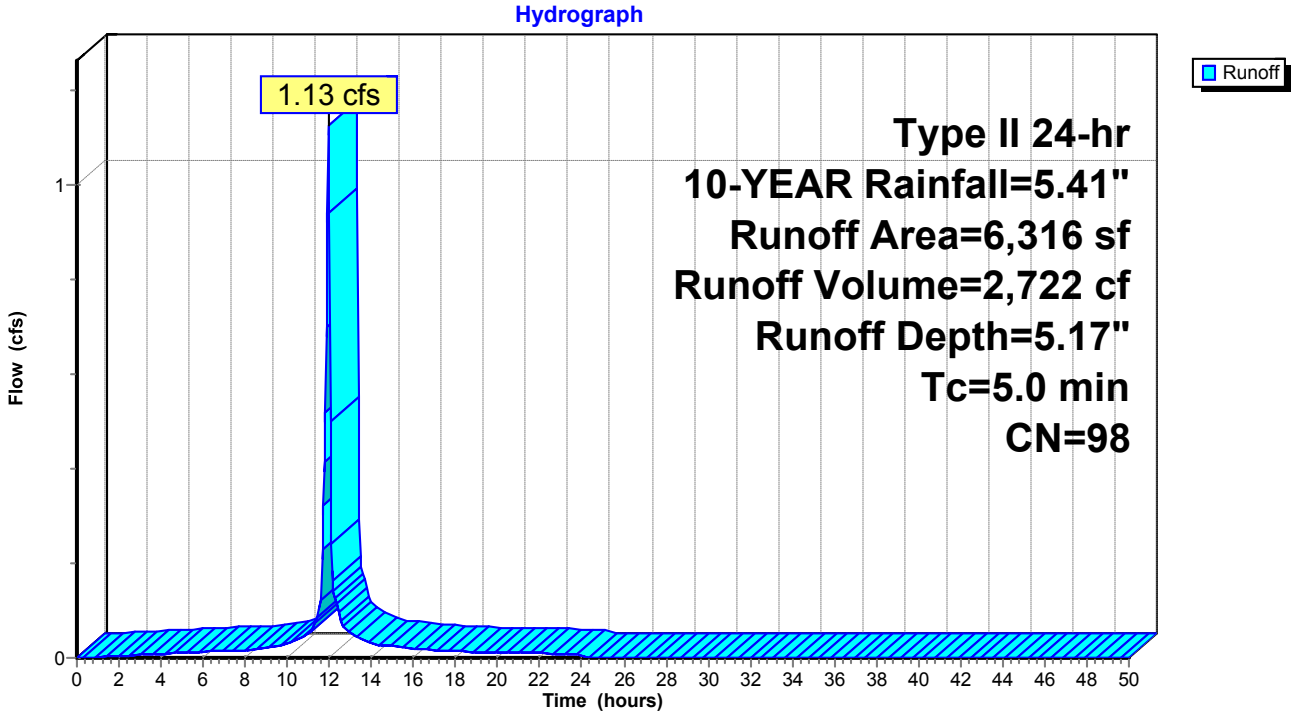
Runoff = 1.13 cfs @ 11.95 hrs, Volume= 2,722 cf, Depth= 5.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
6,316	98	Paved parking, HSG C
6,316		100.00% Impervious Area

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

Subcatchment DA-14: DA-14



Summary for Subcatchment DA-15: DA-15

[49] Hint: Tc<2dt may require smaller dt

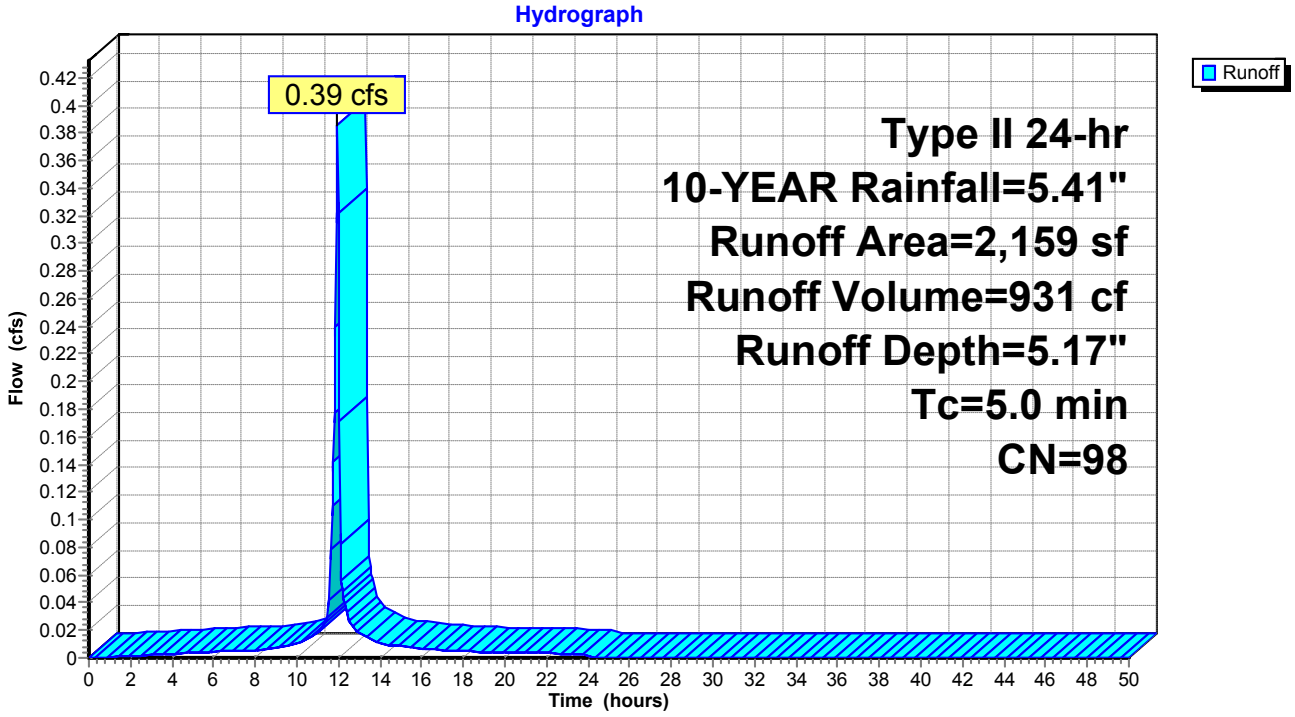
Runoff = 0.39 cfs @ 11.95 hrs, Volume= 931 cf, Depth= 5.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
2,159	98	Paved parking, HSG C
2,159		100.00% Impervious Area

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

Subcatchment DA-15: DA-15



Summary for Subcatchment DA-16: DA-16

[49] Hint: Tc<2dt may require smaller dt

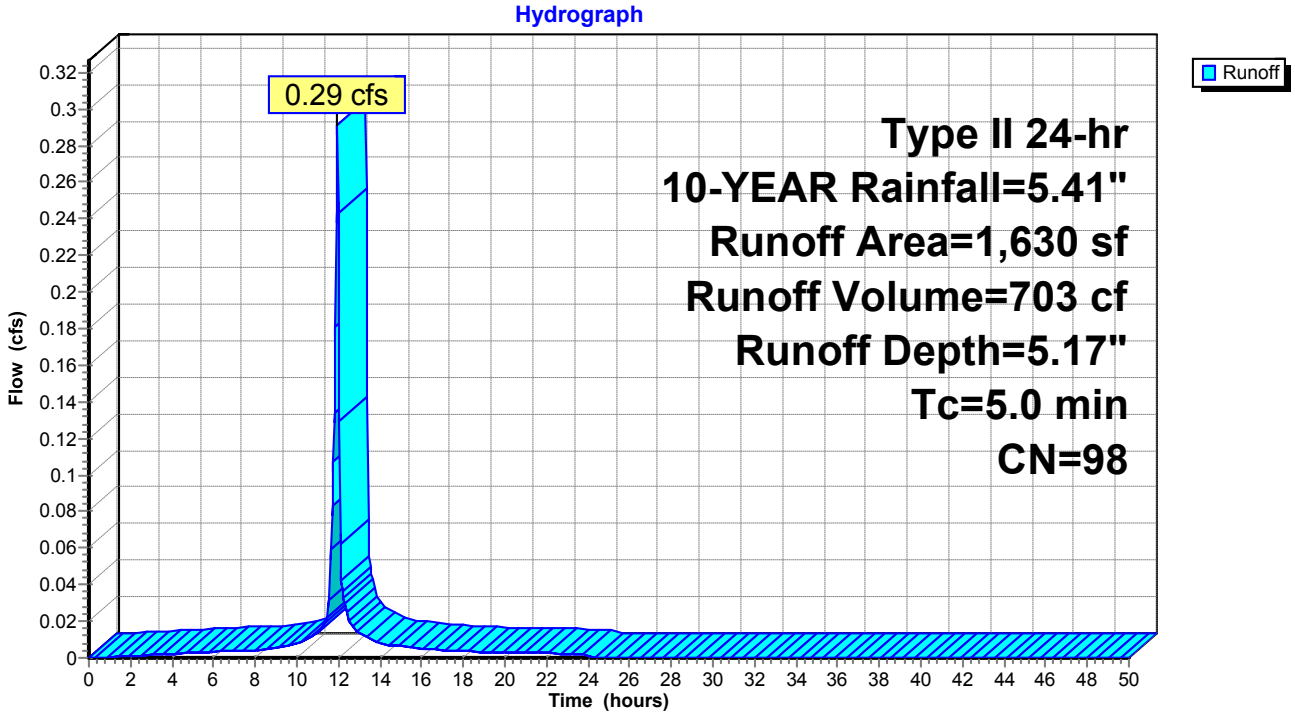
Runoff = 0.29 cfs @ 11.95 hrs, Volume= 703 cf, Depth= 5.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
1,630	98	Paved parking, HSG C
1,630		100.00% Impervious Area

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

Subcatchment DA-16: DA-16



Summary for Subcatchment DA-17: DA-17

[49] Hint: Tc<2dt may require smaller dt

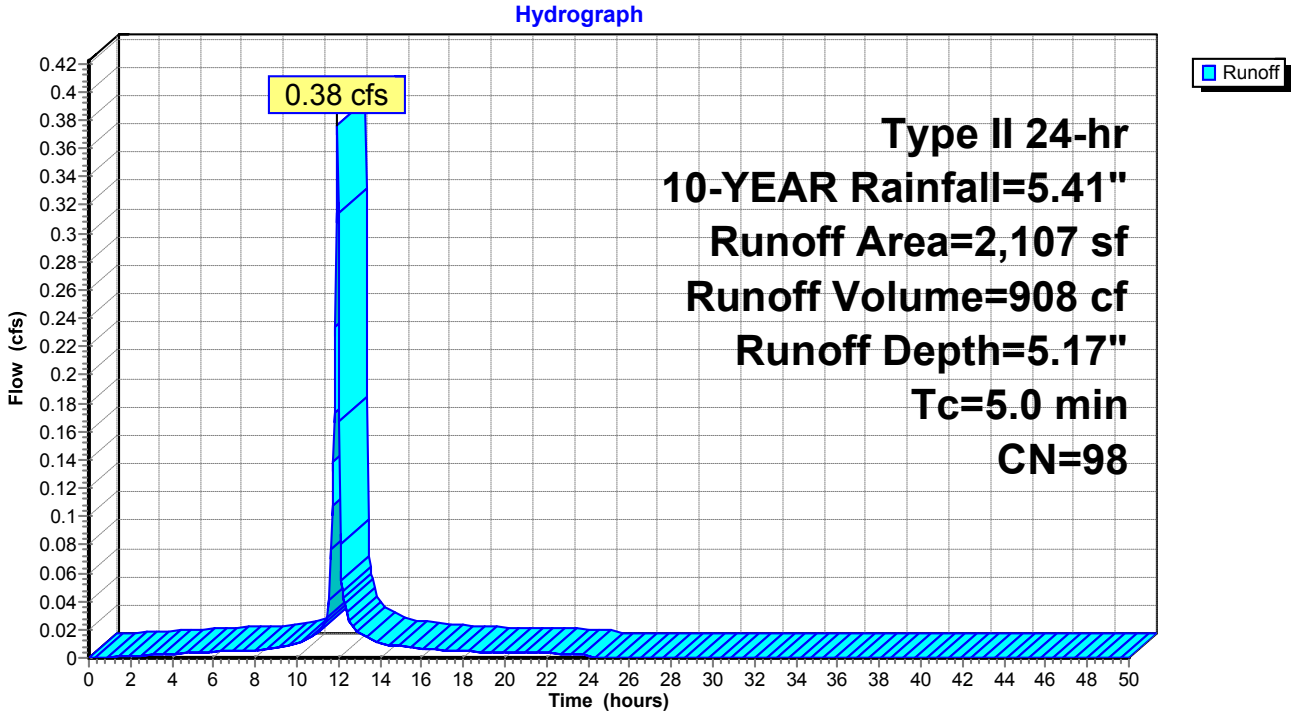
Runoff = 0.38 cfs @ 11.95 hrs, Volume= 908 cf, Depth= 5.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
2,107	98	Paved parking, HSG C
2,107		100.00% Impervious Area

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

Subcatchment DA-17: DA-17



Summary for Subcatchment DA-2: DA-2

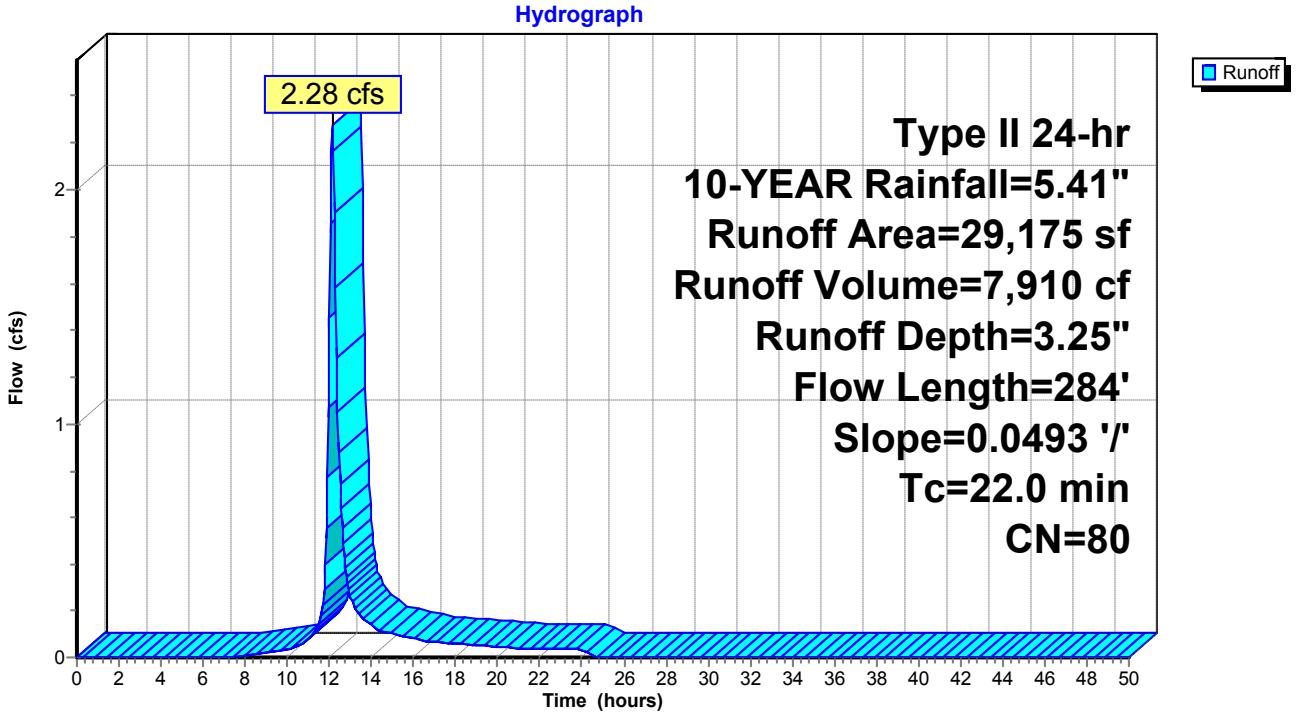
Runoff = 2.28 cfs @ 12.15 hrs, Volume= 7,910 cf, Depth= 3.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
6,390	72	Woods/grass comb., Good, HSG C
14,909	74	>75% Grass cover, Good, HSG C
7,876	98	Paved parking, HSG C
29,175	80	Weighted Average
21,299		73.00% Pervious Area
7,876		27.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.0	284	0.0493	0.22		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"

Subcatchment DA-2: DA-2



Summary for Subcatchment DA-2a: DA-2a

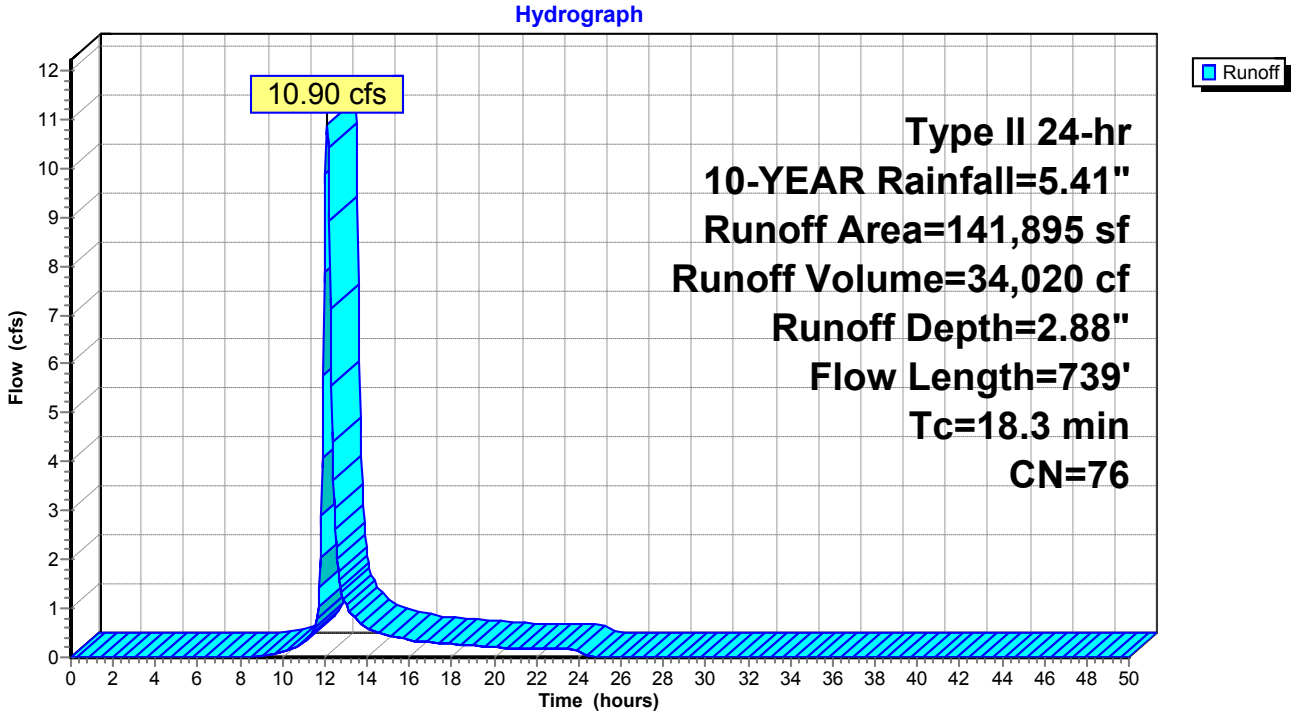
Runoff = 10.90 cfs @ 12.11 hrs, Volume= 34,020 cf, Depth= 2.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
14,360	98	Paved parking, HSG C
20,313	72	Woods/grass comb., Good, HSG C
107,222	74	>75% Grass cover, Good, HSG C
141,895	76	Weighted Average
127,535		89.88% Pervious Area
14,360		10.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	244	0.1107	0.29		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"
1.7	164	0.1037	1.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.5	331	0.1027	2.24		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.3	739	Total			

Subcatchment DA-2a: DA-2a



Summary for Subcatchment DA-2b: DA-2b

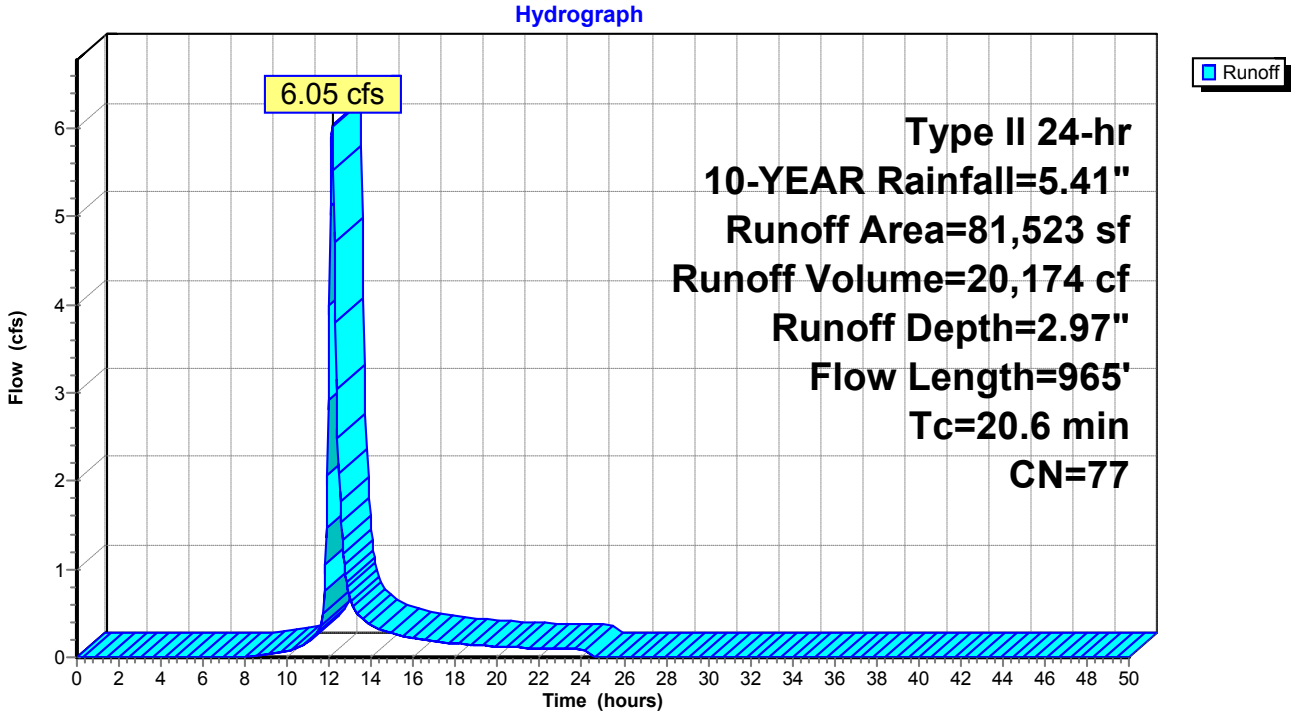
Runoff = 6.05 cfs @ 12.14 hrs, Volume= 20,174 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
10,589	98	Paved parking, HSG C
12,269	72	Woods/grass comb., Good, HSG C
58,665	74	>75% Grass cover, Good, HSG C
81,523	77	Weighted Average
70,934		87.01% Pervious Area
10,589		12.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	250	0.1040	0.28		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"
1.0	94	0.1060	1.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.9	621	0.0902	2.10		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
20.6	965	Total			

Subcatchment DA-2b: DA-2b



Summary for Subcatchment DA-3: DA-3

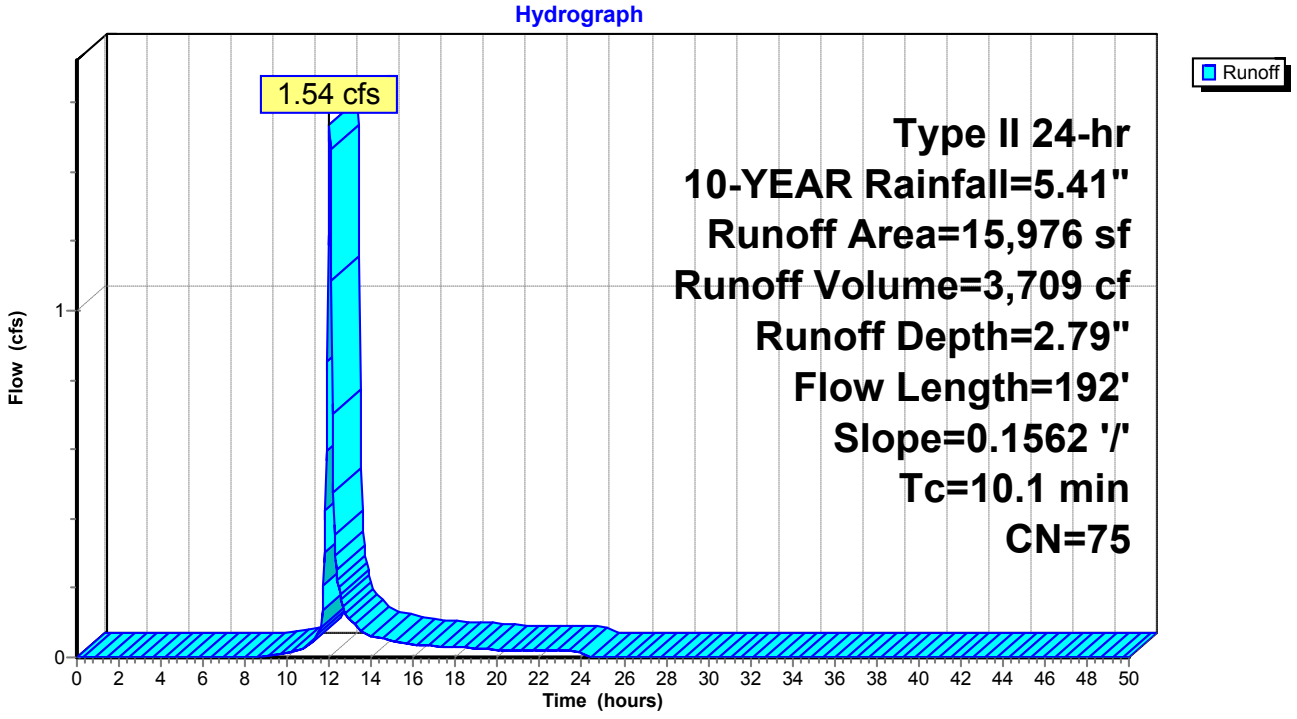
Runoff = 1.54 cfs @ 12.02 hrs, Volume= 3,709 cf, Depth= 2.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
2,108	72	Woods/grass comb., Good, HSG C
13,050	74	>75% Grass cover, Good, HSG C
818	98	Paved parking, HSG C
15,976	75	Weighted Average
15,158		94.88% Pervious Area
818		5.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	192	0.1562	0.32		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"

Subcatchment DA-3: DA-3



Summary for Subcatchment DA-4: DA-4

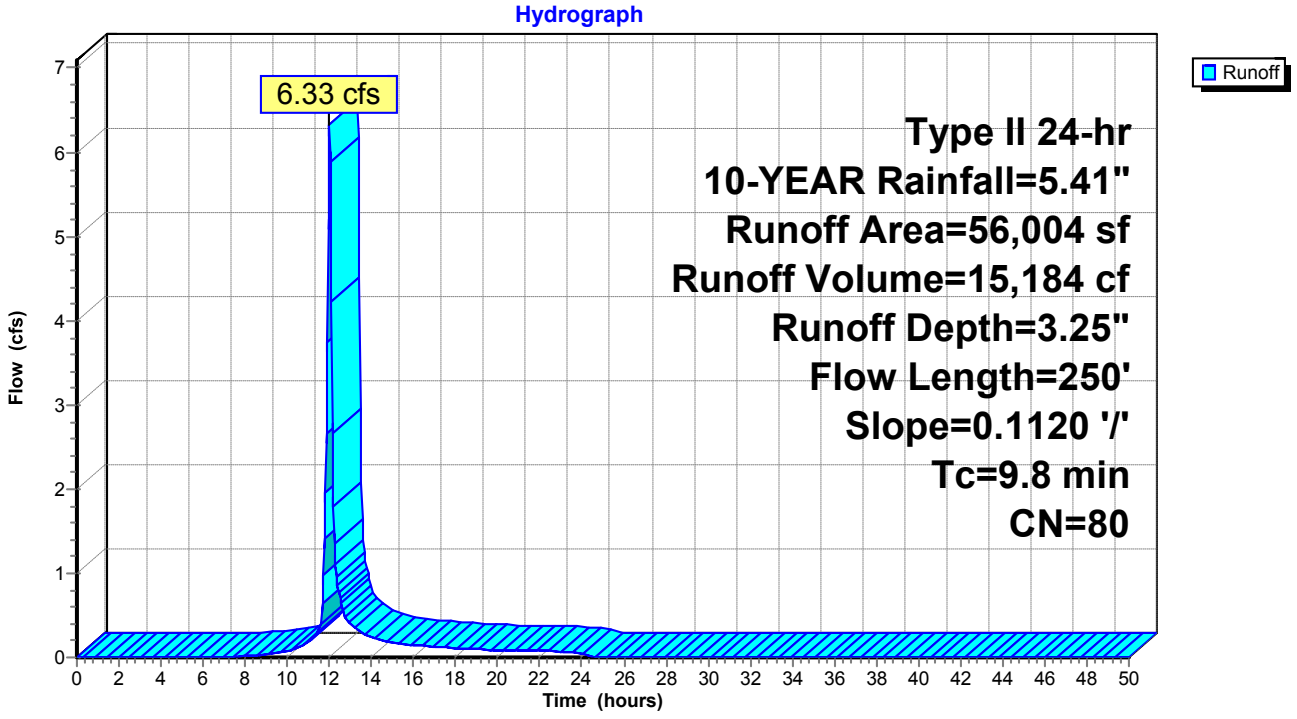
Runoff = 6.33 cfs @ 12.01 hrs, Volume= 15,184 cf, Depth= 3.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
2,602	72	Woods/grass comb., Good, HSG C
39,535	74	>75% Grass cover, Good, HSG C
13,867	98	Paved parking, HSG C
56,004	80	Weighted Average
42,137		75.24% Pervious Area
13,867		24.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	250	0.1120	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.49"

Subcatchment DA-4: DA-4



Summary for Subcatchment DA-4a: DA-4a

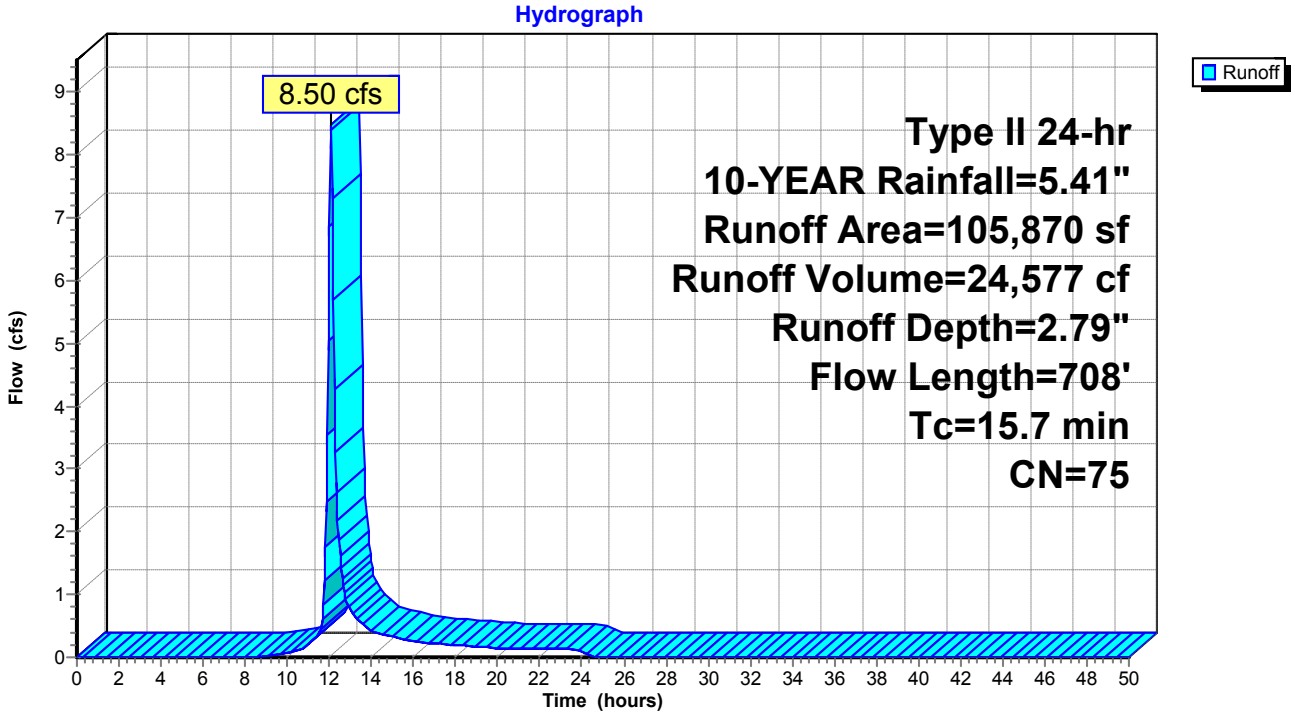
Runoff = 8.50 cfs @ 12.08 hrs, Volume= 24,577 cf, Depth= 2.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
13,963	72	Woods/grass comb., Good, HSG C
4,349	98	Paved parking, HSG C
87,558	74	>75% Grass cover, Good, HSG C
105,870	75	Weighted Average
101,521		95.89% Pervious Area
4,349		4.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	284	0.1303	0.46		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.49"
3.4	146	0.0822	0.72		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
2.1	278	0.0993	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
15.7	708	Total			

Subcatchment DA-4a: DA-4a



Summary for Subcatchment DA-5: DA-5

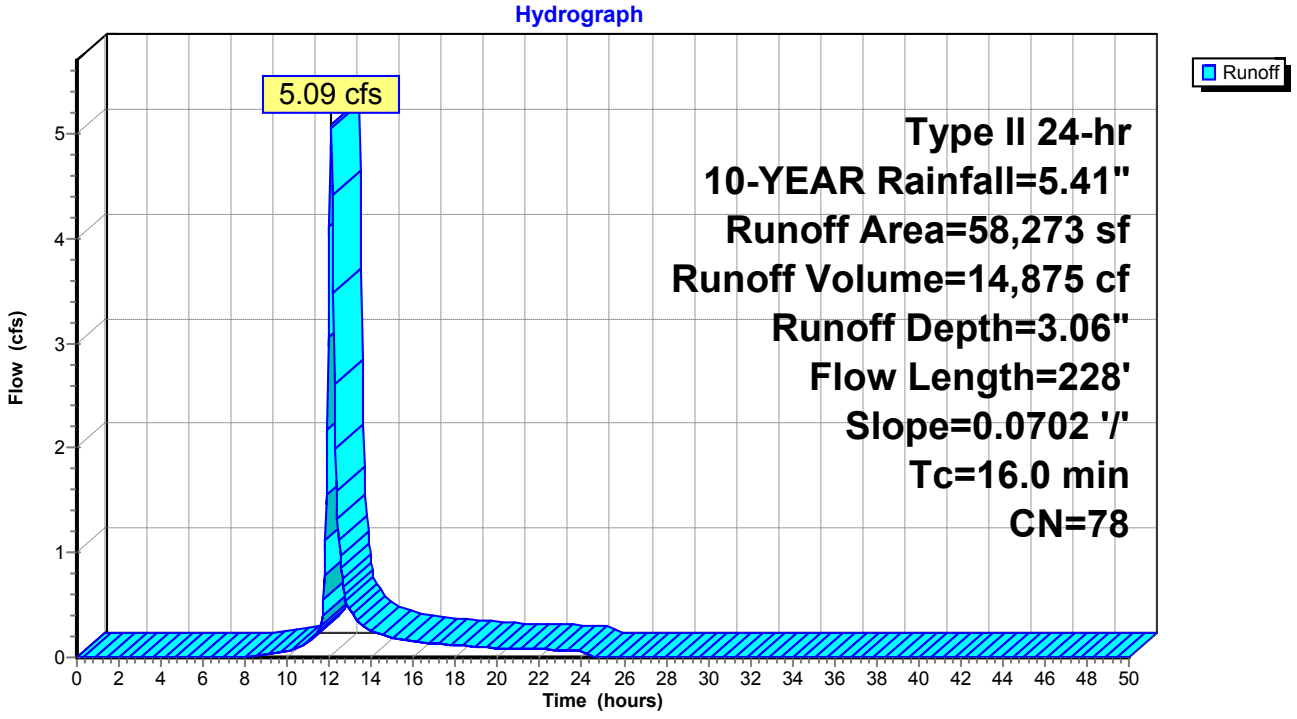
Runoff = 5.09 cfs @ 12.08 hrs, Volume= 14,875 cf, Depth= 3.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
6,817	72	Woods/grass comb., Good, HSG C
42,069	74	>75% Grass cover, Good, HSG C
9,387	98	Paved parking, HSG C
58,273	78	Weighted Average
48,886		83.89% Pervious Area
9,387		16.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.0	228	0.0702	0.24		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"

Subcatchment DA-5: DA-5



Summary for Subcatchment DA-5a: DA-5a

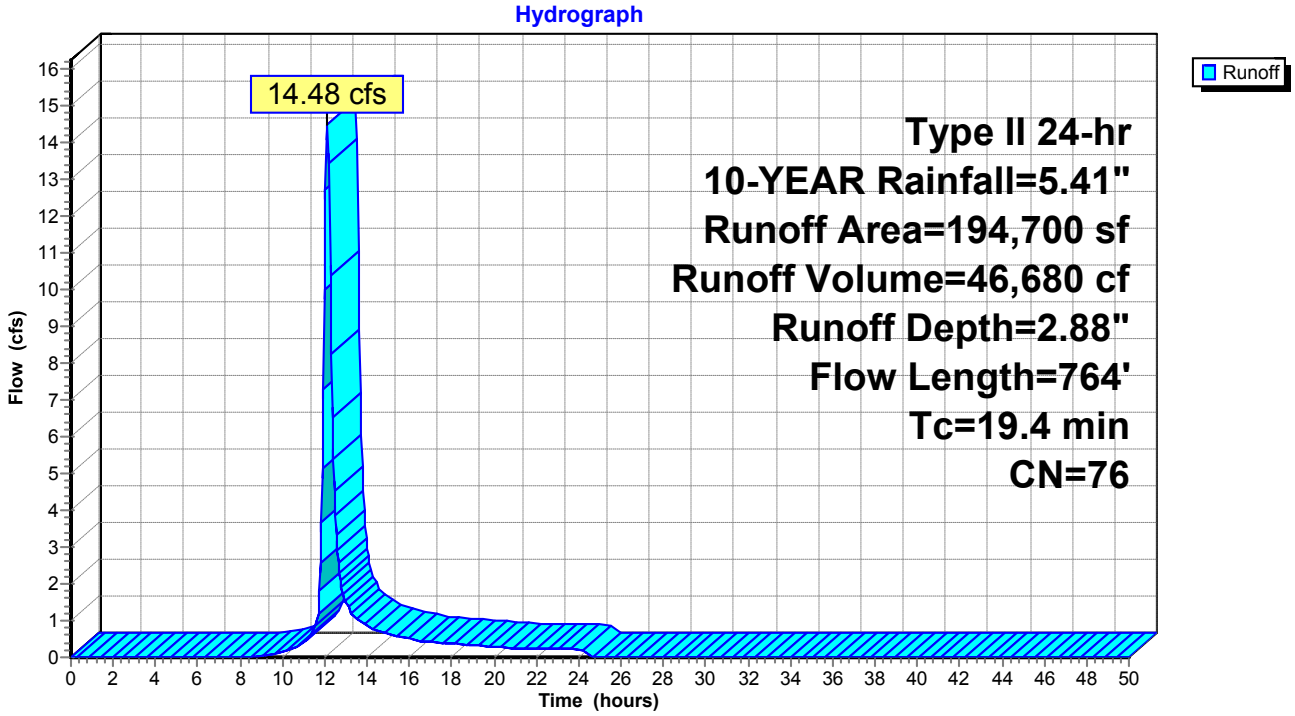
Runoff = 14.48 cfs @ 12.12 hrs, Volume= 46,680 cf, Depth= 2.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
24,732	72	Woods/grass comb., Good, HSG C
18,582	98	Paved parking, HSG C
151,386	74	>75% Grass cover, Good, HSG C
194,700	76	Weighted Average
176,118		90.46% Pervious Area
18,582		9.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	250	0.1120	0.29		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"
2.7	384	0.1150	2.37		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	130	0.1270	0.89		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
19.4	764	Total			

Subcatchment DA-5a: DA-5a



Summary for Subcatchment DA-6: DA-6

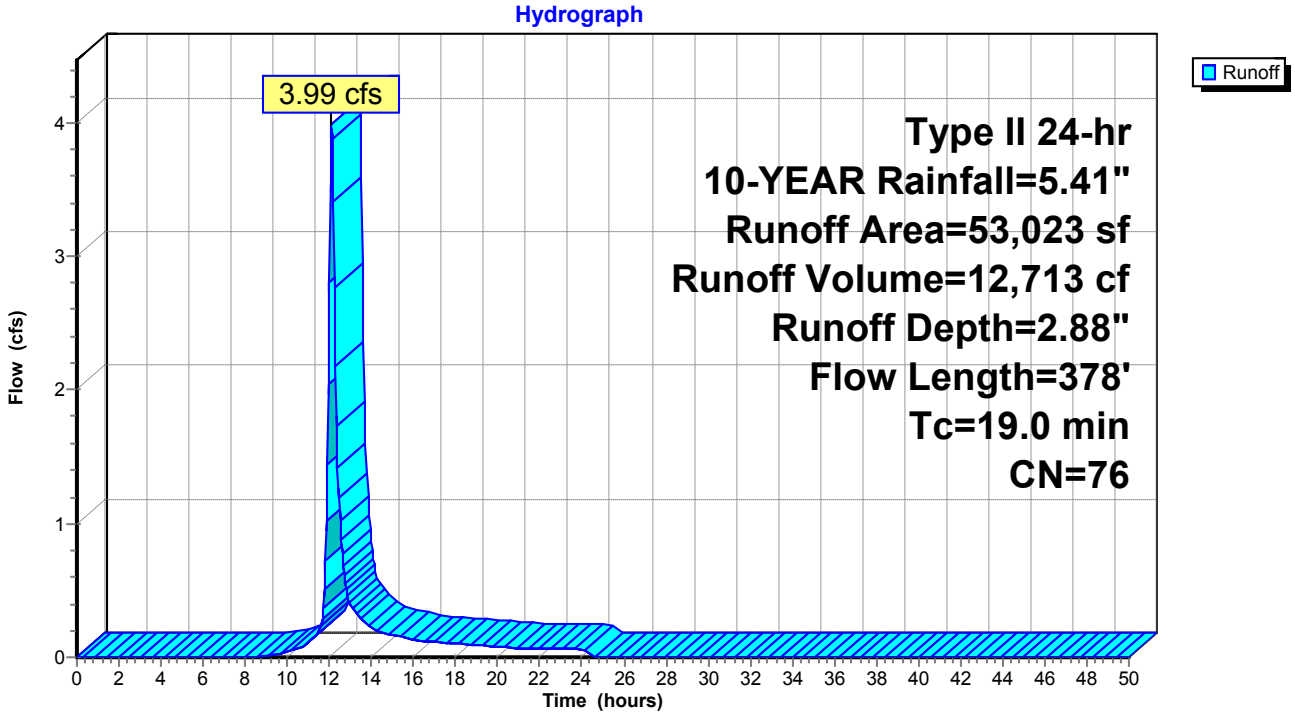
Runoff = 3.99 cfs @ 12.12 hrs, Volume= 12,713 cf, Depth= 2.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
25,517	72	Woods/grass comb., Good, HSG C
21,299	74	>75% Grass cover, Good, HSG C
6,207	98	Paved parking, HSG C
53,023	76	Weighted Average
46,816		88.29% Pervious Area
6,207		11.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	185	0.1027	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.49"
1.5	193	0.0984	2.20		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
19.0	378	Total			

Subcatchment DA-6: DA-6



Summary for Subcatchment DA-6a: DA-6a

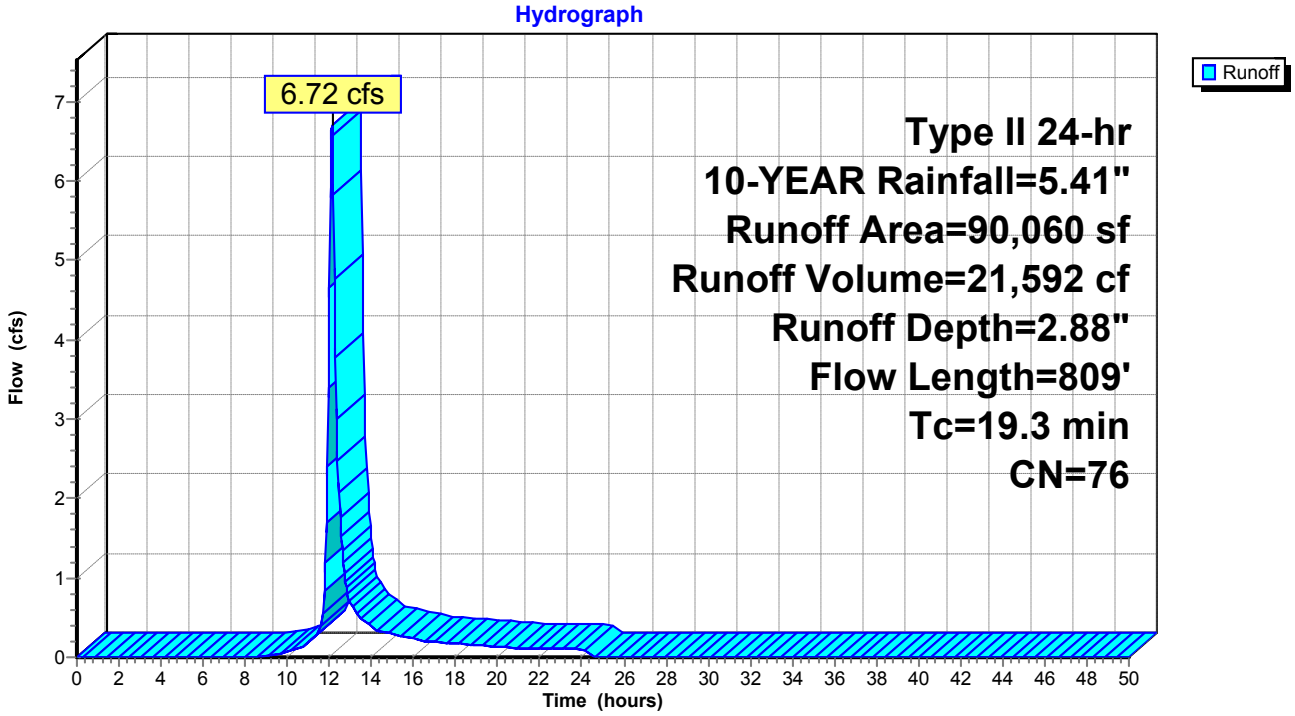
Runoff = 6.72 cfs @ 12.12 hrs, Volume= 21,592 cf, Depth= 2.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
2,659	72	Woods/grass comb., Good, HSG C
77,944	74	>75% Grass cover, Good, HSG C
9,457	98	Paved parking, HSG C
90,060	76	Weighted Average
80,603		89.50% Pervious Area
9,457		10.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	250	0.1040	0.28		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"
4.6	559	0.0823	2.01		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
19.3	809	Total			

Subcatchment DA-6a: DA-6a



Summary for Subcatchment DA-7: DA-7

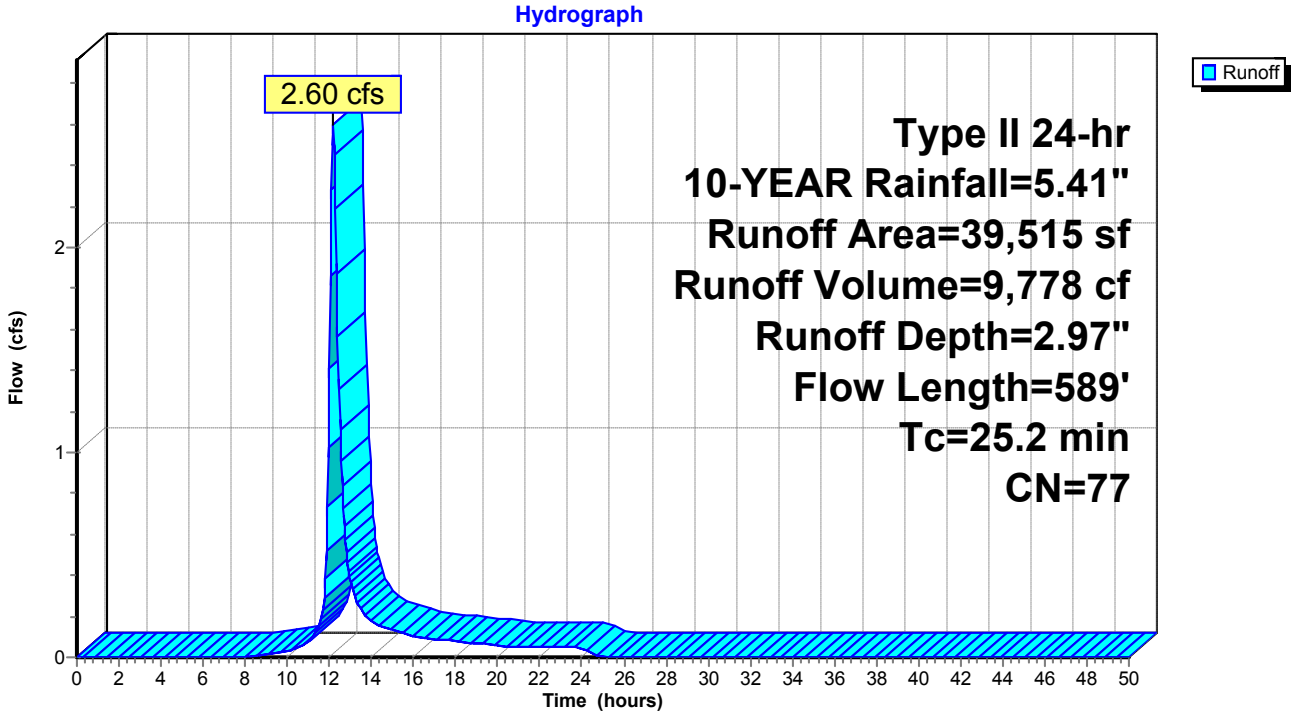
Runoff = 2.60 cfs @ 12.19 hrs, Volume= 9,778 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
16,249	72	Woods/grass comb., Good, HSG C
17,675	74	>75% Grass cover, Good, HSG C
5,591	98	Paved parking, HSG C
39,515	77	Weighted Average
33,924		85.85% Pervious Area
5,591		14.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	250	0.1120	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.49"
1.8	90	0.1111	0.83		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
1.9	249	0.1004	2.22		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
25.2	589	Total			

Subcatchment DA-7: DA-7



Summary for Subcatchment DA-8: DA-8

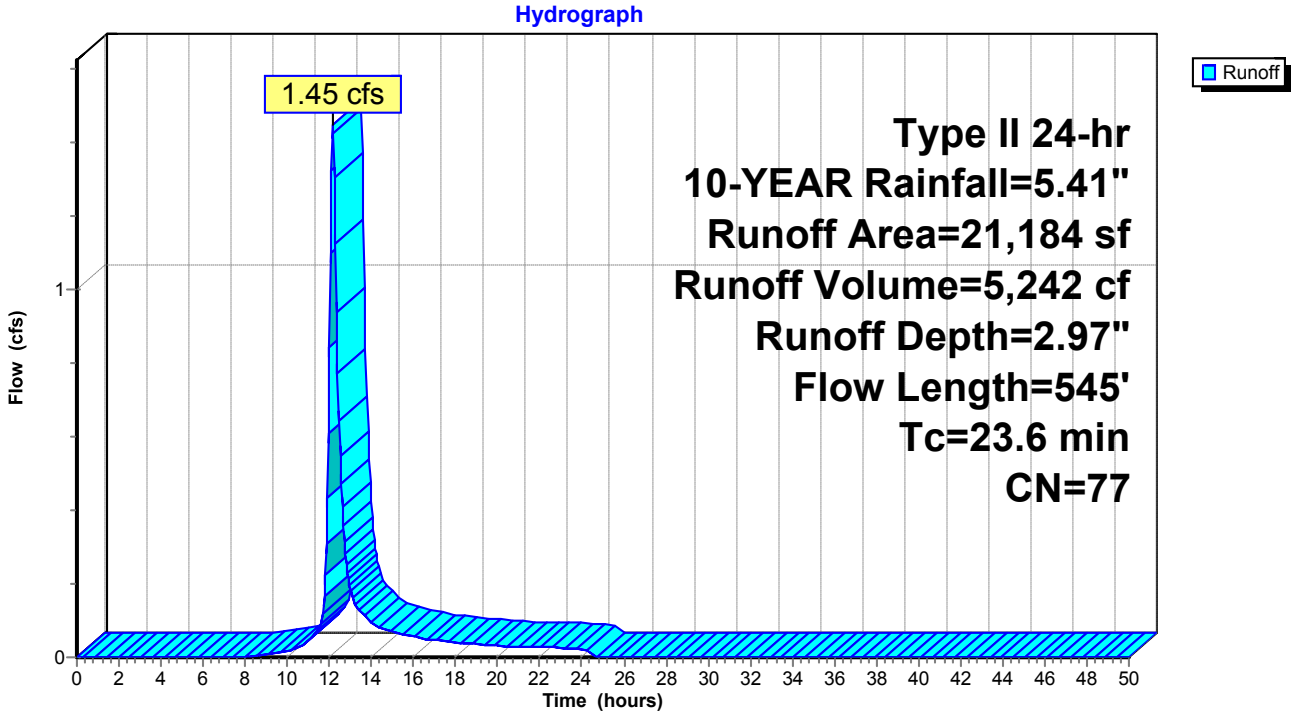
Runoff = 1.45 cfs @ 12.17 hrs, Volume= 5,242 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
8,852	72	Woods/grass comb., Good, HSG C
9,279	74	>75% Grass cover, Good, HSG C
3,053	98	Paved parking, HSG C
21,184	77	Weighted Average
18,131		85.59% Pervious Area
3,053		14.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	250	0.1120	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.49"
0.4	56	0.1070	2.29		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.7	239	0.1088	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
23.6	545	Total			

Subcatchment DA-8: DA-8



Summary for Subcatchment DA-9: DA-9

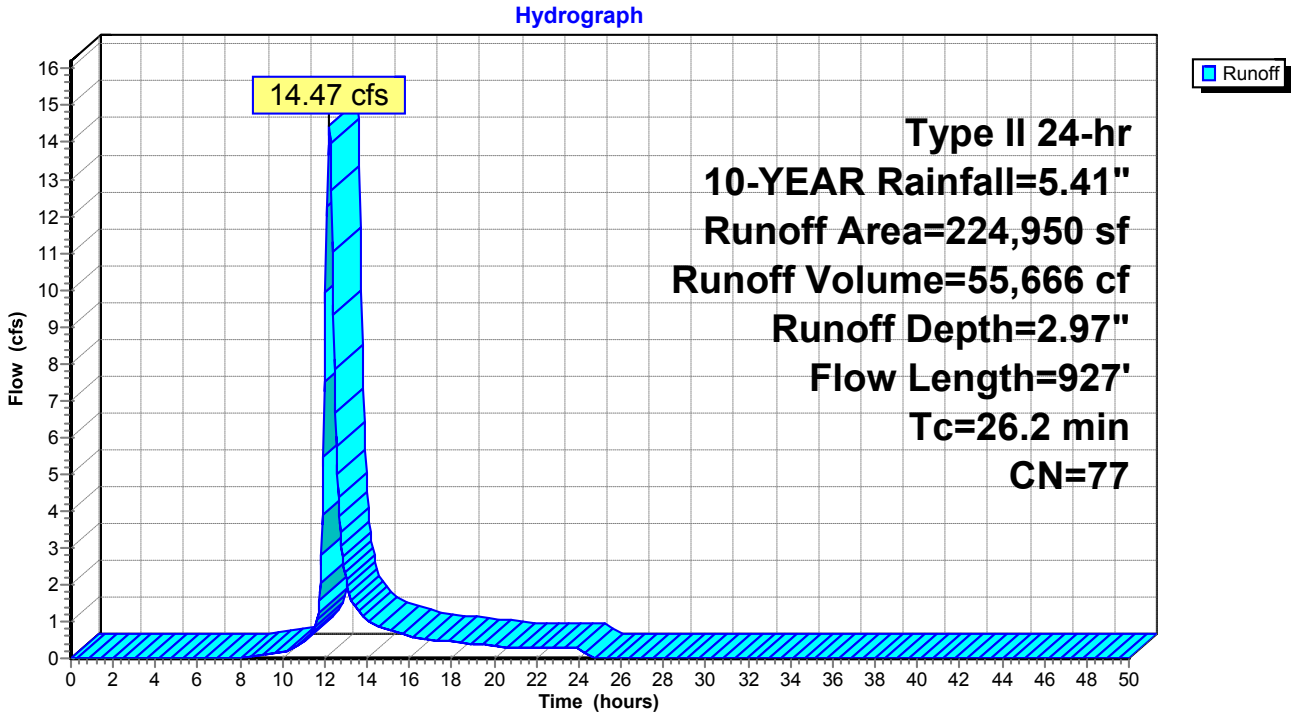
Runoff = 14.47 cfs @ 12.20 hrs, Volume= 55,666 cf, Depth= 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=5.41"

Area (sf)	CN	Description
54,875	72	Woods/grass comb., Good, HSG C
138,673	74	>75% Grass cover, Good, HSG C
31,402	98	Paved parking, HSG C
224,950	77	Weighted Average
193,548		86.04% Pervious Area
31,402		13.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	250	0.1120	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.49"
0.3	50	0.1400	2.62		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.7	207	0.0870	2.06		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	100	0.7000	5.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	320	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
26.2	927	Total			

Subcatchment DA-9: DA-9



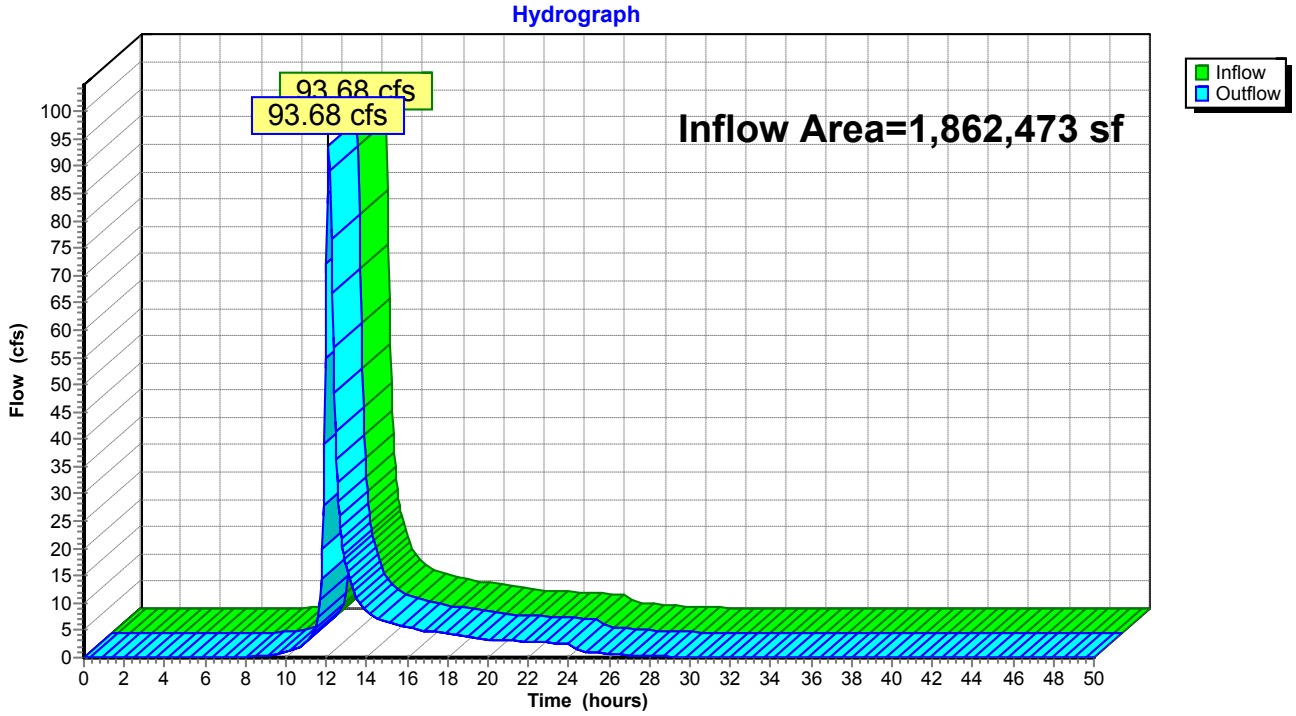
Summary for Reach 7R: OUTLET

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

Inflow Area = 1,862,473 sf, 11.38% Impervious, Inflow Depth = 2.80" for 10-YEAR event
Inflow = 93.68 cfs @ 12.12 hrs, Volume= 434,595 cf
Outflow = 93.68 cfs @ 12.12 hrs, Volume= 434,595 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs

Reach 7R: OUTLET



Summary for Pond 1P: DETENTION POND 3

[79] Warning: Submerged Pond 2P Primary device # 1 OUTLET by 0.09'

Inflow Area = 532,525 sf, 8.78% Impervious, Inflow Depth > 2.56" for 10-YEAR event
Inflow = 11.06 cfs @ 12.12 hrs, Volume= 113,554 cf
Outflow = 10.03 cfs @ 12.25 hrs, Volume= 111,403 cf, Atten= 9%, Lag= 7.8 min
Primary = 1.28 cfs @ 12.25 hrs, Volume= 60,631 cf
Secondary = 8.74 cfs @ 12.25 hrs, Volume= 50,771 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 55.09' @ 12.25 hrs Surf.Area= 4,454 sf Storage= 9,246 cf

Plug-Flow detention time= 63.7 min calculated for 111,291 cf (98% of inflow)
Center-of-Mass det. time= 46.6 min (1,039.6 - 992.9)

Volume	Invert	Avail.Storage	Storage Description
#1	52.00'	16,527 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

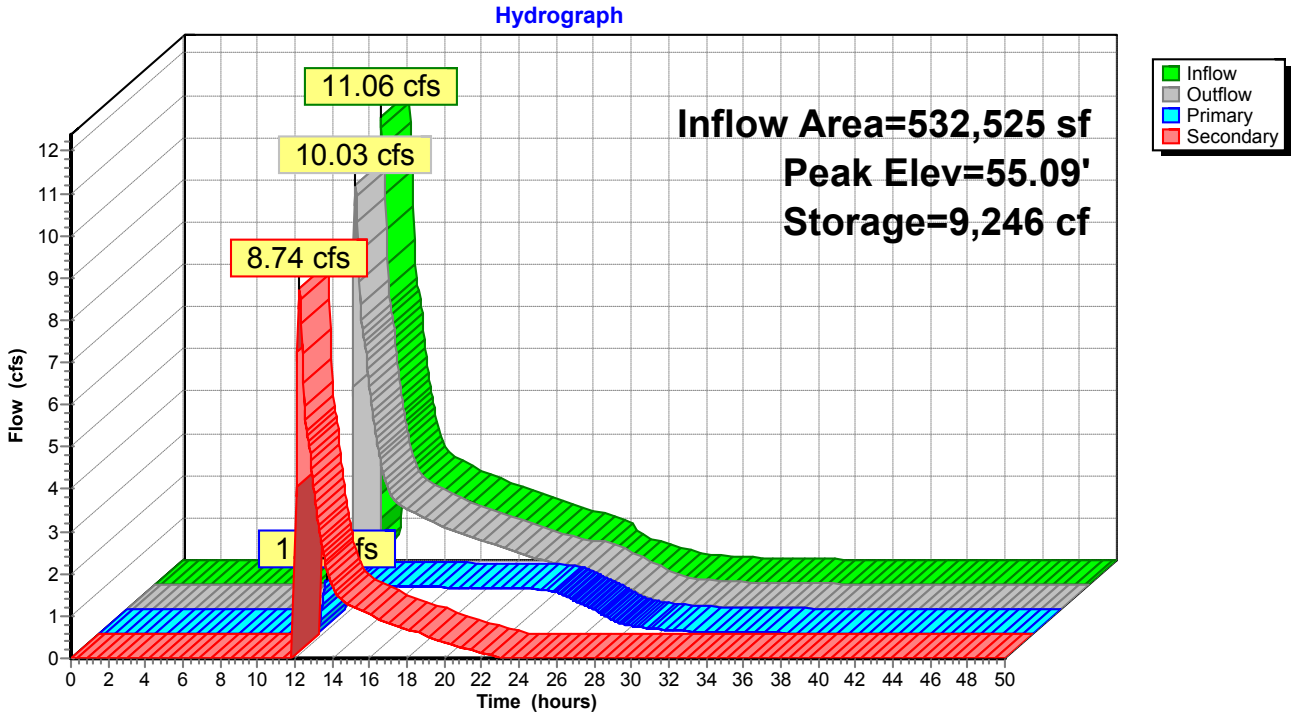
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
52.00	1,631	0	0
54.00	3,355	4,986	4,986
56.00	5,369	8,724	13,710
56.50	5,897	2,817	16,527

Device	Routing	Invert	Outlet Devices
#1	Primary	53.00'	**6.0" Round Culvert** L= 46.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 53.00' / 46.00' S= 0.1522 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	54.50'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.28 cfs @ 12.25 hrs HW=55.09' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 1.28 cfs @ 6.53 fps)

Secondary OutFlow Max=8.74 cfs @ 12.25 hrs HW=55.09' (Free Discharge)
↑—**2=Sharp-Crested Rectangular Weir** (Weir Controls 8.74 cfs @ 2.51 fps)

Pond 1P: DETENTION POND 3



Summary for Pond 2P: DETENTION POND 2

Inflow Area = 390,630 sf, 8.29% Impervious, Inflow Depth > 2.66" for 10-YEAR event
Inflow = 9.53 cfs @ 12.09 hrs, Volume= 86,752 cf
Outflow = 4.60 cfs @ 12.71 hrs, Volume= 79,534 cf, Atten= 52%, Lag= 37.4 min
Primary = 0.73 cfs @ 12.71 hrs, Volume= 32,385 cf
Secondary = 3.88 cfs @ 12.71 hrs, Volume= 47,149 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 61.59' @ 12.71 hrs Surf.Area= 7,011 sf Storage= 12,430 cf

Plug-Flow detention time= 119.5 min calculated for 79,534 cf (92% of inflow)
Center-of-Mass det. time= 71.5 min (1,059.7 - 988.2)

Volume	Invert	Avail.Storage	Storage Description
#1	59.00'	19,390 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

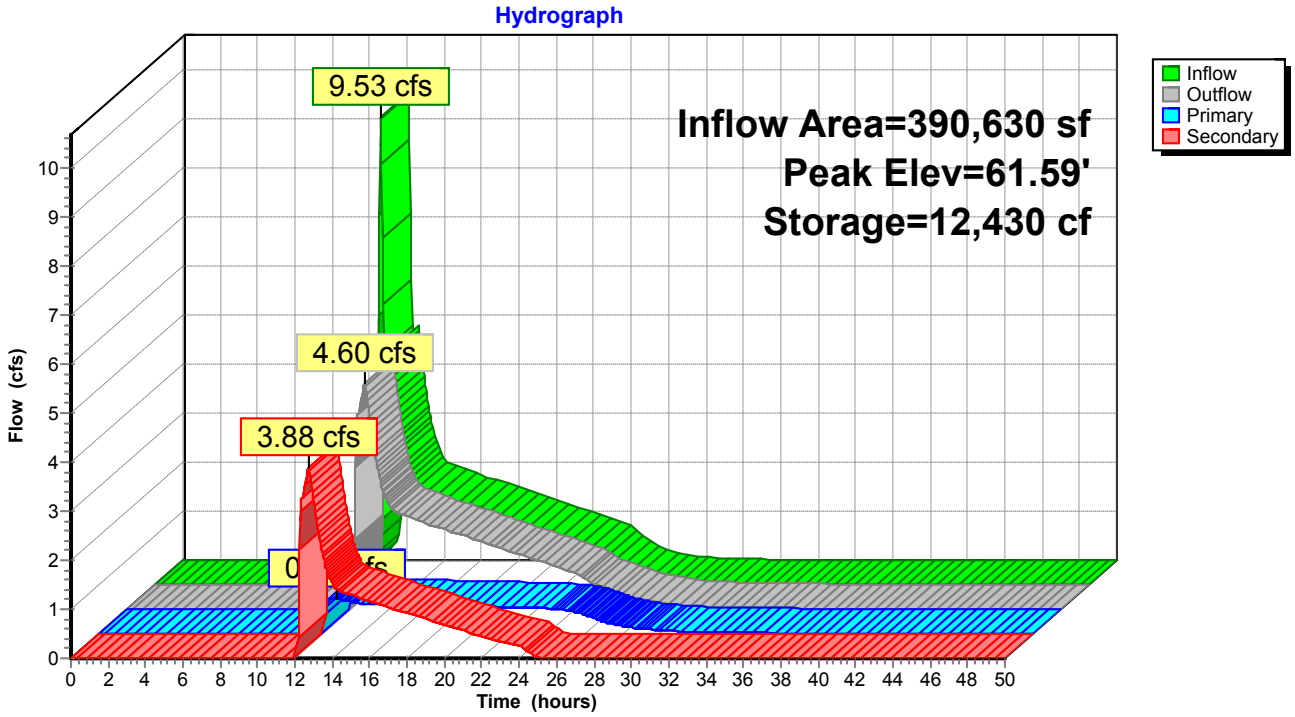
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
59.00	1,386	0	0
60.00	4,751	3,069	3,069
62.00	7,590	12,341	15,410
62.50	8,330	3,980	19,390

Device	Routing	Invert	Outlet Devices
#1	Primary	60.75'	**6.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 60.75' / 55.00' S= 0.1917 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	61.25'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.73 cfs @ 12.71 hrs HW=61.59' (Free Discharge)
1=Culvert (Inlet Controls 0.73 cfs @ 3.70 fps)

Secondary OutFlow Max=3.87 cfs @ 12.71 hrs HW=61.59' (Free Discharge)
2=Sharp-Crested Rectangular Weir (Weir Controls 3.87 cfs @ 1.91 fps)

Pond 2P: DETENTION POND 2



Summary for Pond 3P: DETENTION POND 1

Inflow Area = 284,760 sf, 9.85% Impervious, Inflow Depth = 2.88" for 10-YEAR event
Inflow = 21.20 cfs @ 12.12 hrs, Volume= 68,273 cf
Outflow = 3.63 cfs @ 12.67 hrs, Volume= 62,175 cf, Atten= 83%, Lag= 32.9 min
Primary = 1.66 cfs @ 12.67 hrs, Volume= 57,418 cf
Secondary = 1.97 cfs @ 12.67 hrs, Volume= 4,757 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 69.72' @ 12.67 hrs Surf.Area= 10,871 sf Storage= 34,268 cf

Plug-Flow detention time= 255.4 min calculated for 62,113 cf (91% of inflow)
Center-of-Mass det. time= 210.0 min (1,048.0 - 837.9)

Volume	Invert	Avail.Storage	Storage Description
#1	65.00'	43,335 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

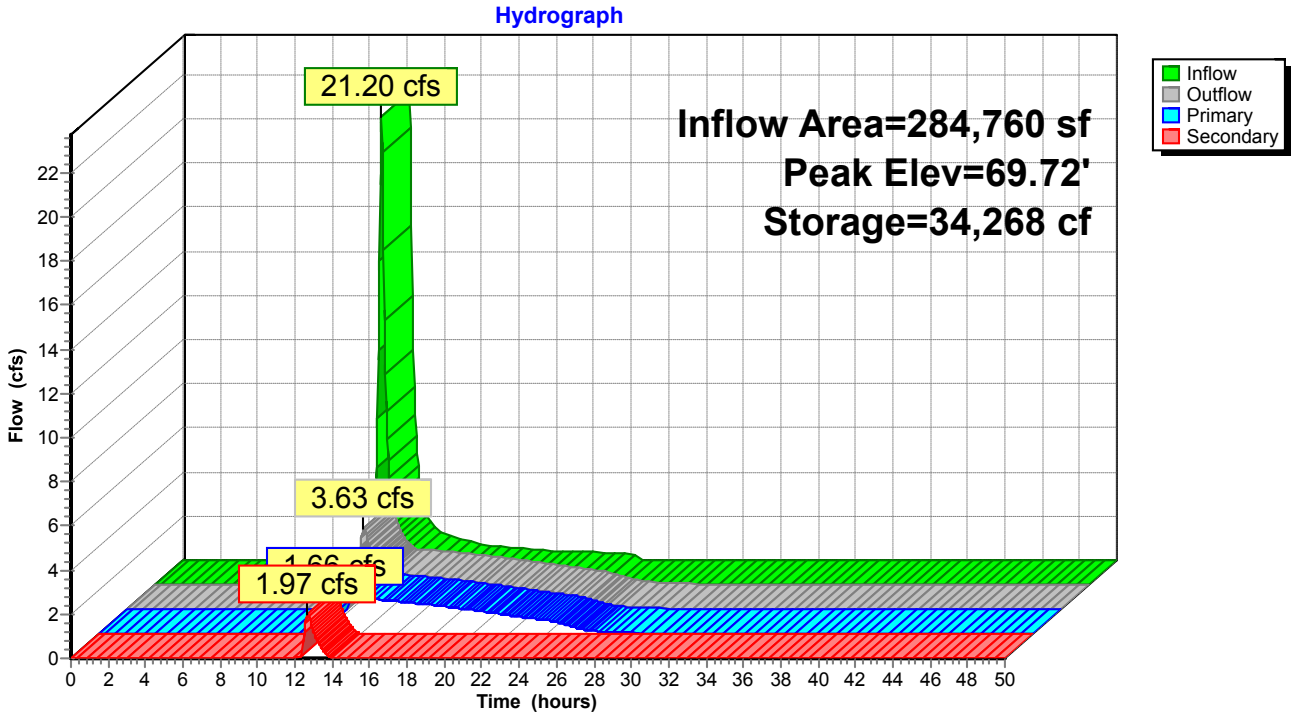
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
65.00	3,065	0	0
66.00	4,798	3,932	3,932
68.00	8,721	13,519	17,451
70.00	11,226	19,947	37,398
70.50	12,525	5,938	43,335

Device	Routing	Invert	Outlet Devices
#1	Primary	66.40'	**6.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 66.40' / 62.00' S= 0.0880 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	69.50'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.66 cfs @ 12.67 hrs HW=69.72' (Free Discharge)
1=Culvert (Inlet Controls 1.66 cfs @ 8.43 fps)

Secondary OutFlow Max=1.95 cfs @ 12.67 hrs HW=69.72' (Free Discharge)
2=Sharp-Crested Rectangular Weir (Weir Controls 1.95 cfs @ 1.52 fps)

Pond 3P: DETENTION POND 1



Summary for Pond 4P: PR-CB-1

[57] Hint: Peaked at 30.32' (Flood elevation advised)

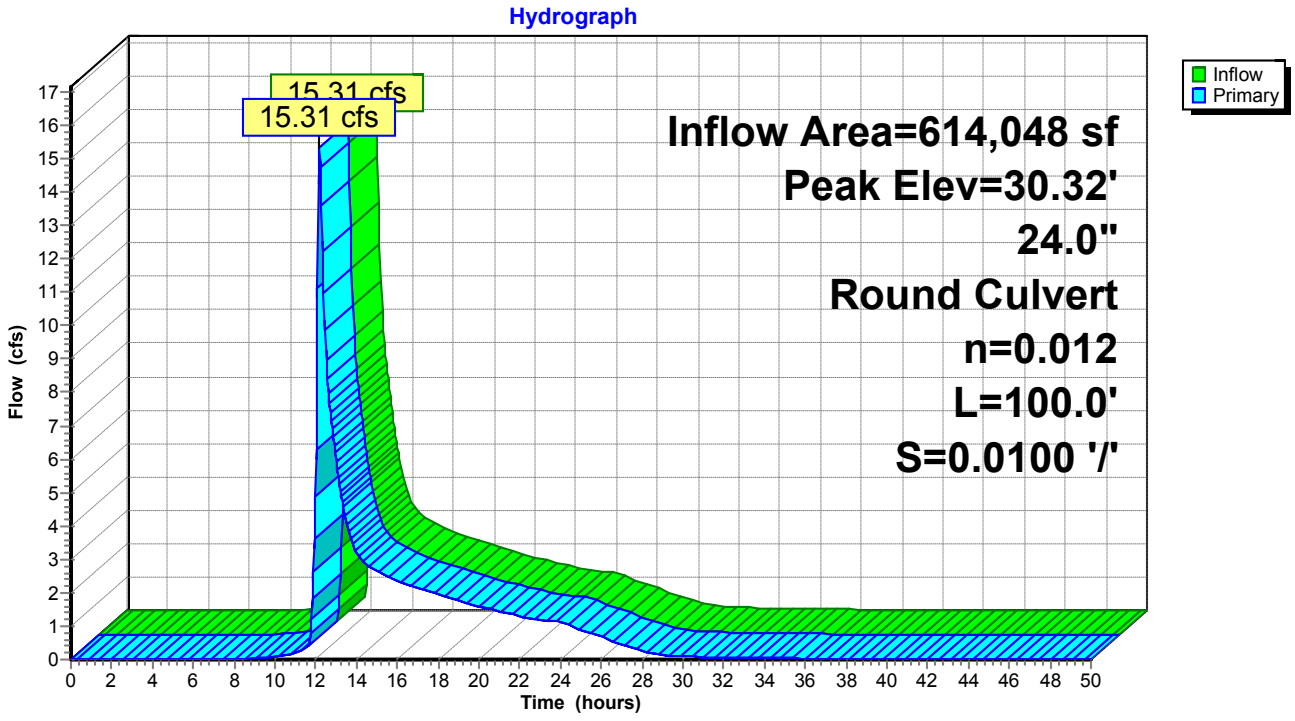
Inflow Area = 614,048 sf, 9.34% Impervious, Inflow Depth > 2.57" for 10-YEAR event
Inflow = 15.31 cfs @ 12.20 hrs, Volume= 131,576 cf
Outflow = 15.31 cfs @ 12.20 hrs, Volume= 131,576 cf, Atten= 0%, Lag= 0.0 min
Primary = 15.31 cfs @ 12.20 hrs, Volume= 131,576 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 30.32' @ 12.20 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	28.30'	**24.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 28.30' / 27.30' S= 0.0100 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=15.26 cfs @ 12.20 hrs HW=30.32' (Free Discharge)
1=Culvert (Inlet Controls 15.26 cfs @ 4.86 fps)

Pond 4P: PR-CB-1



Summary for Pond CB-1: CB-1

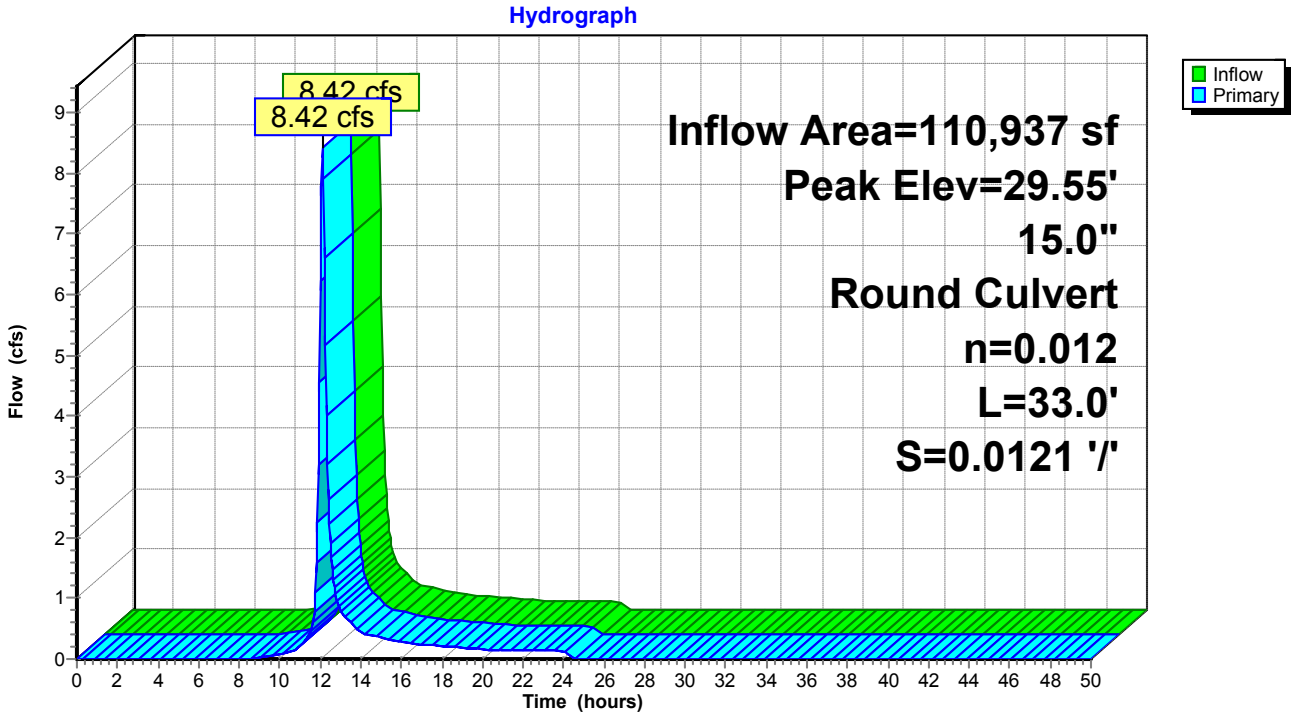
Inflow Area = 110,937 sf, 8.04% Impervious, Inflow Depth = 2.79" for 10-YEAR event
Inflow = 8.42 cfs @ 12.10 hrs, Volume= 25,753 cf
Outflow = 8.42 cfs @ 12.10 hrs, Volume= 25,753 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.42 cfs @ 12.10 hrs, Volume= 25,753 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 29.55' @ 12.10 hrs
Flood Elev= 30.47'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.90'	**15.0" Round RCP_Round 15"** L= 33.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 26.90' / 26.50' S= 0.0121 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.23 sf

Primary OutFlow Max=8.39 cfs @ 12.10 hrs HW=29.54' (Free Discharge)
1=RCP_Round 15" (Inlet Controls 8.39 cfs @ 6.84 fps)

Pond CB-1: CB-1



Summary for Pond CB-10: CB-10

[58] Hint: Peaked 126.84' above defined flood level
[81] Warning: Exceeded Pond CB-11 by 129.09' @ 12.10 hrs
[81] Warning: Exceeded Pond CB-12 by 84.02' @ 12.10 hrs

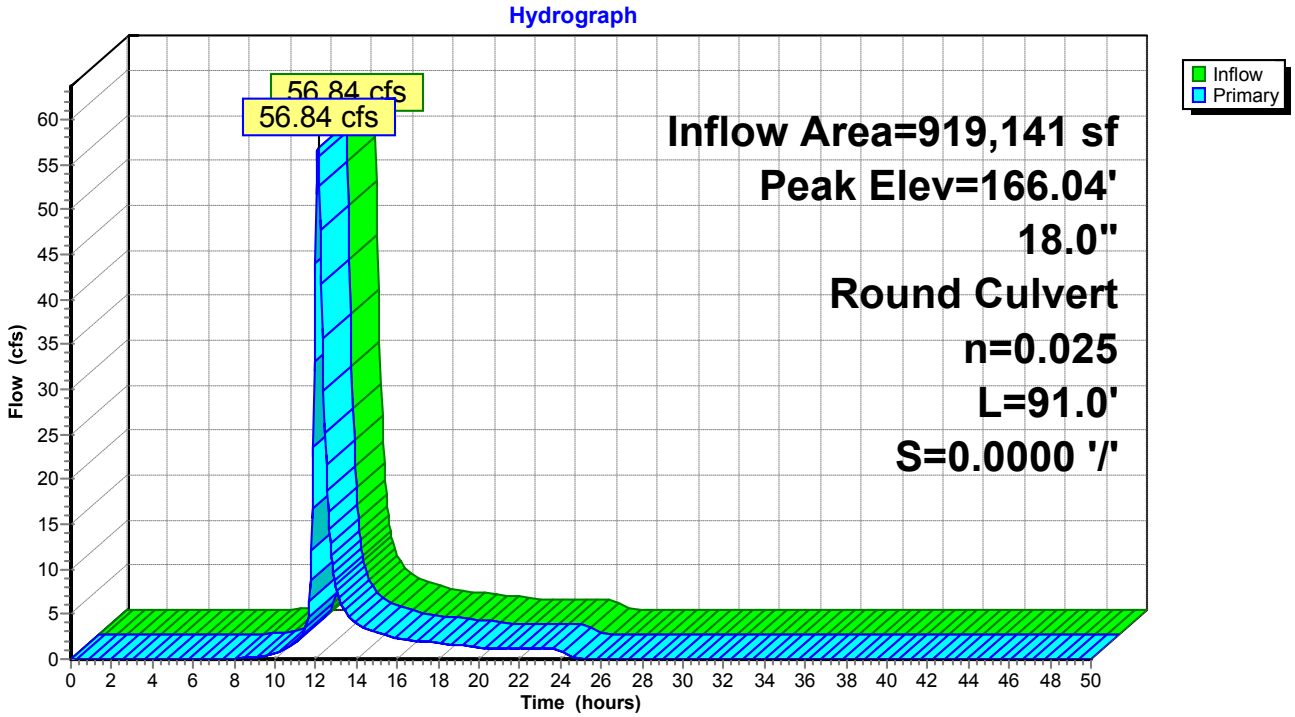
Inflow Area = 919,141 sf, 11.06% Impervious, Inflow Depth = 2.88" for 10-YEAR event
Inflow = 56.84 cfs @ 12.12 hrs, Volume= 220,335 cf
Outflow = 56.84 cfs @ 12.12 hrs, Volume= 220,335 cf, Atten= 0%, Lag= 0.0 min
Primary = 56.84 cfs @ 12.12 hrs, Volume= 220,335 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 166.04' @ 12.12 hrs
Flood Elev= 39.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	35.20'	**18.0" Round CMP_Round 18"** L= 91.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 35.20' / 35.20' S= 0.0000 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=56.33 cfs @ 12.12 hrs HW=163.79' (Free Discharge)
1=CMP_Round 18" (Barrel Controls 56.33 cfs @ 31.88 fps)

Pond CB-10: CB-10



Summary for Pond CB-11: CB-11

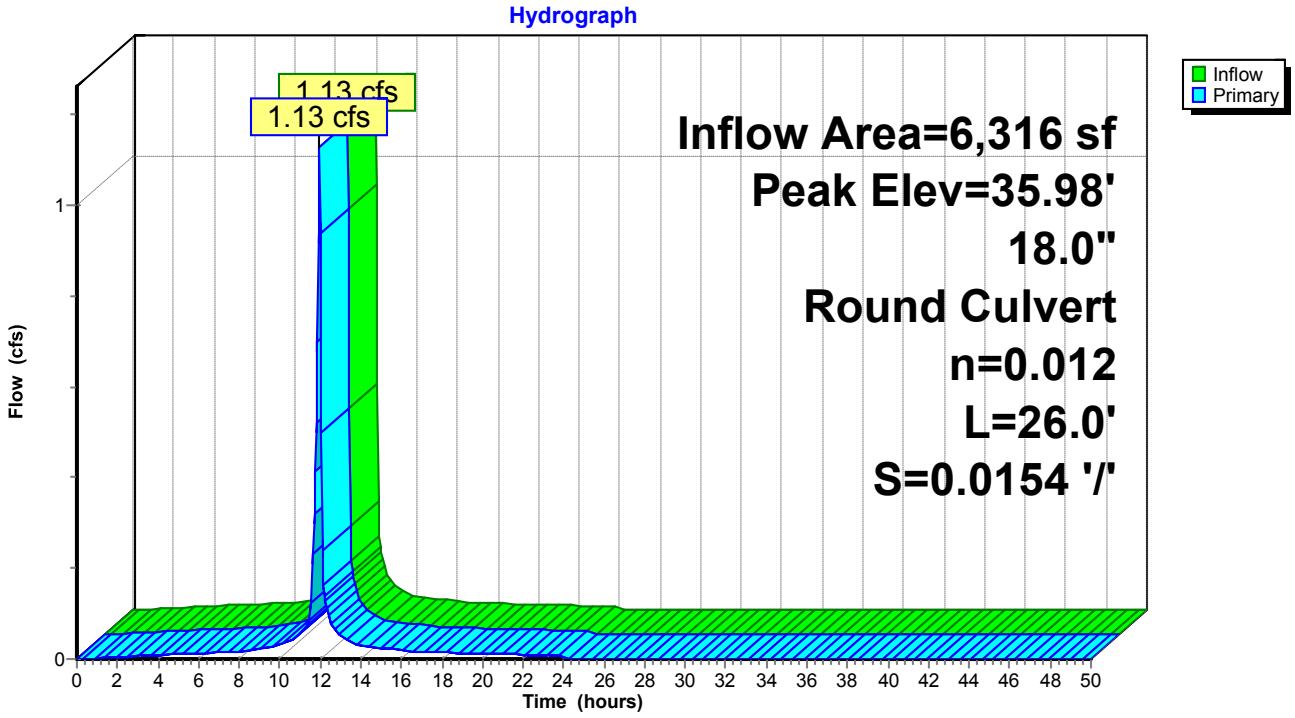
Inflow Area = 6,316 sf,100.00% Impervious, Inflow Depth = 5.17" for 10-YEAR event
Inflow = 1.13 cfs @ 11.95 hrs, Volume= 2,722 cf
Outflow = 1.13 cfs @ 11.95 hrs, Volume= 2,722 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.13 cfs @ 11.95 hrs, Volume= 2,722 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 35.98' @ 11.95 hrs
Flood Elev= 39.13'

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**18.0" Round RCP_Round 18"** L= 26.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 35.50' / 35.10' S= 0.0154 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=1.13 cfs @ 11.95 hrs HW=35.98' (Free Discharge)
1=RCP_Round 18" (Inlet Controls 1.13 cfs @ 2.35 fps)

Pond CB-11: CB-11



Summary for Pond CB-12: CB-12

[58] Hint: Peaked 38.30' above defined flood level
[79] Warning: Submerged Pond CB-13 Primary device # 1 INLET by 37.48'

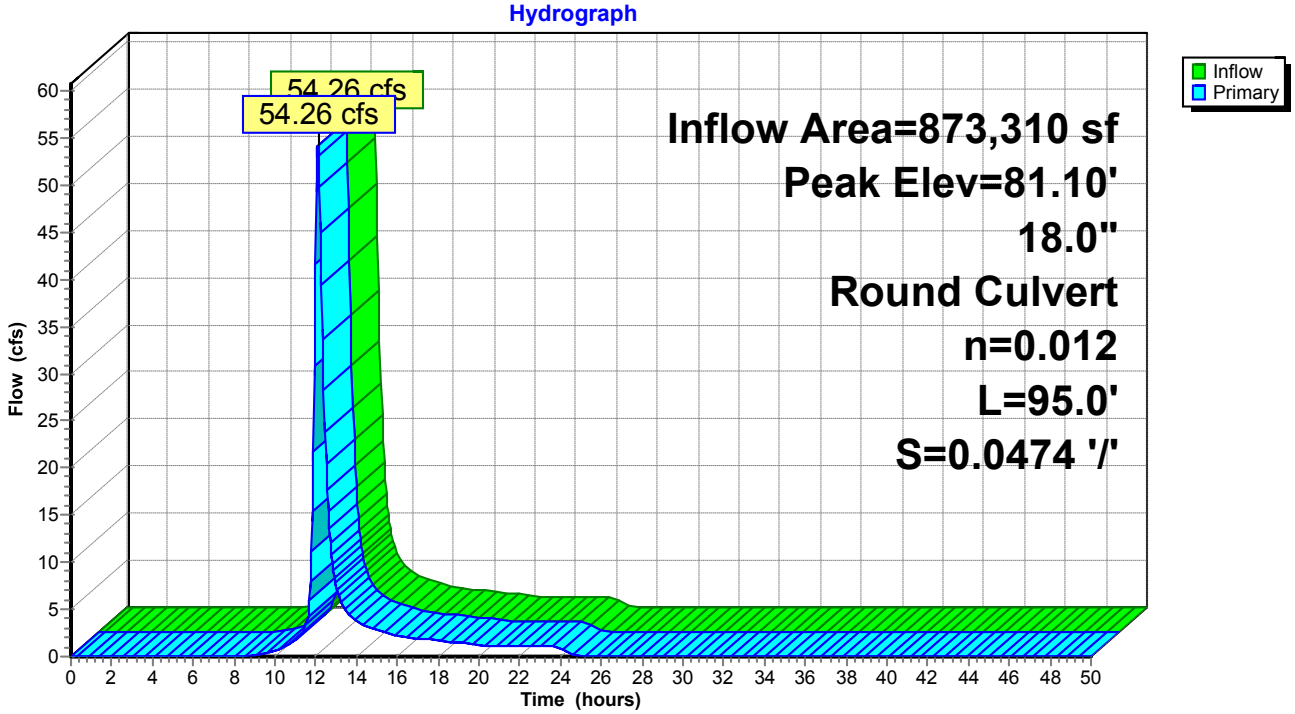
Inflow Area = 873,310 sf, 10.28% Impervious, Inflow Depth = 2.86" for 10-YEAR event
Inflow = 54.26 cfs @ 12.12 hrs, Volume= 207,834 cf
Outflow = 54.26 cfs @ 12.12 hrs, Volume= 207,834 cf, Atten= 0%, Lag= 0.0 min
Primary = 54.26 cfs @ 12.12 hrs, Volume= 207,834 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 81.10' @ 12.12 hrs
Flood Elev= 42.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	39.70'	**18.0" Round CMP_Round 18"** L= 95.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 39.70' / 35.20' S= 0.0474 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=53.78 cfs @ 12.12 hrs HW=80.40' (Free Discharge)
1=CMP_Round 18" (Inlet Controls 53.78 cfs @ 30.43 fps)

Pond CB-12: CB-12



Summary for Pond CB-13: CB-13

[58] Hint: Peaked 80.94' above defined flood level
[81] Warning: Exceeded Pond CB-14 by 53.59' @ 12.10 hrs

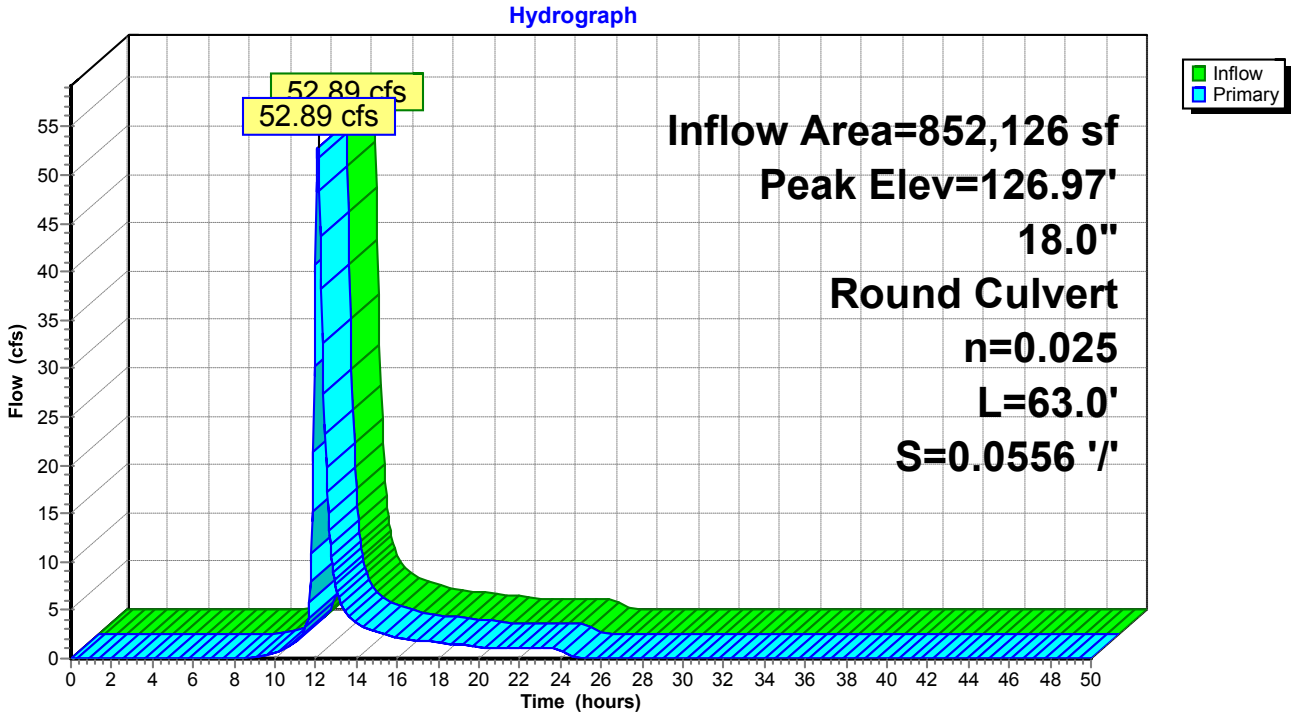
Inflow Area = 852,126 sf, 10.17% Impervious, Inflow Depth = 2.85" for 10-YEAR event
Inflow = 52.89 cfs @ 12.11 hrs, Volume= 202,592 cf
Outflow = 52.89 cfs @ 12.11 hrs, Volume= 202,592 cf, Atten= 0%, Lag= 0.0 min
Primary = 52.89 cfs @ 12.11 hrs, Volume= 202,592 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 126.97' @ 12.11 hrs
Flood Elev= 46.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	43.30'	**18.0" Round CMP_Round 18"** L= 63.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 43.30' / 39.80' S= 0.0556 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=52.44 cfs @ 12.11 hrs HW=125.56' (Free Discharge)
↑—**1=CMP_Round 18"** (Barrel Controls 52.44 cfs @ 29.68 fps)

Pond CB-13: CB-13



Summary for Pond CB-14: CB-14

[58] Hint: Peaked 20.00' above defined flood level
[79] Warning: Submerged Pond CB-15 Primary device # 1 INLET by 18.72'

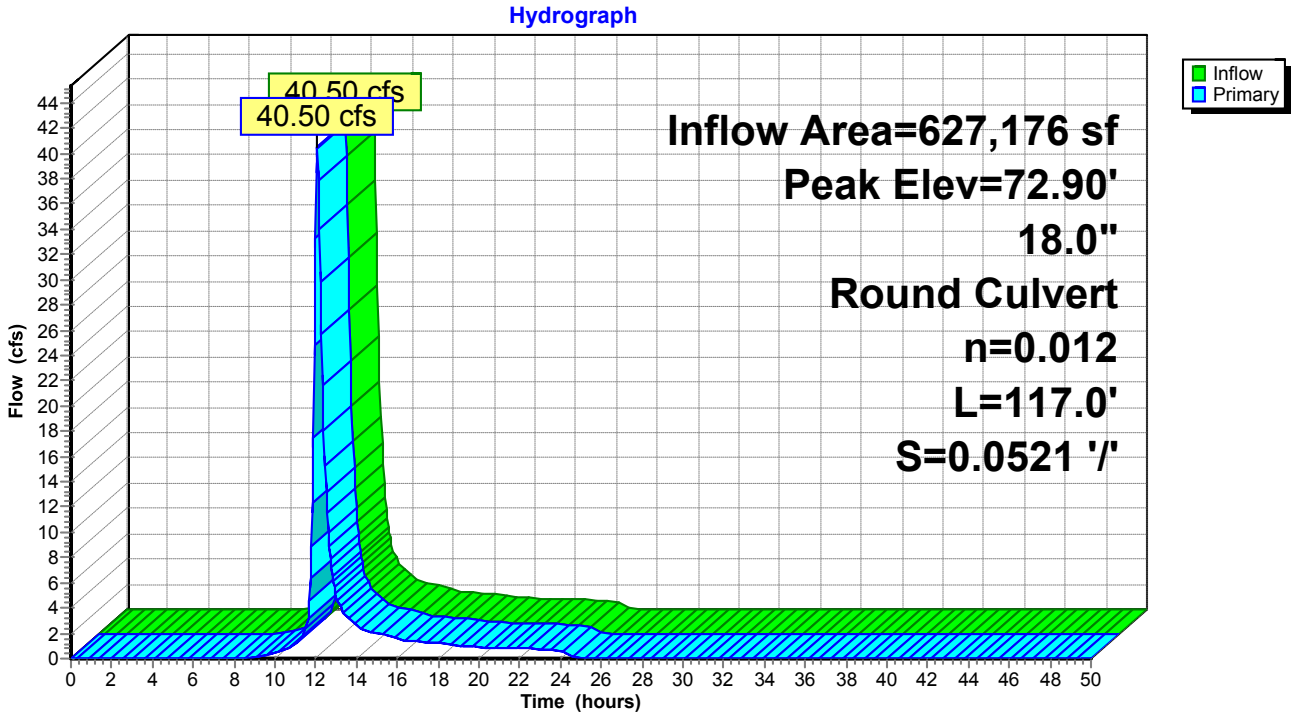
Inflow Area = 627,176 sf, 8.81% Impervious, Inflow Depth = 2.81" for 10-YEAR event
Inflow = 40.50 cfs @ 12.09 hrs, Volume= 146,925 cf
Outflow = 40.50 cfs @ 12.09 hrs, Volume= 146,925 cf, Atten= 0%, Lag= 0.0 min
Primary = 40.50 cfs @ 12.09 hrs, Volume= 146,925 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 72.90' @ 12.09 hrs
Flood Elev= 52.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.50'	**18.0" Round RCP_Round 18"** L= 117.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.50' / 43.40' S= 0.0521 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=40.21 cfs @ 12.09 hrs HW=72.58' (Free Discharge)
1=RCP_Round 18" (Inlet Controls 40.21 cfs @ 22.75 fps)

Pond CB-14: CB-14



Summary for Pond CB-15: CB-15

[58] Hint: Peaked 16.94' above defined flood level
[79] Warning: Submerged Pond CB-16 Primary device # 1 INLET by 11.09'

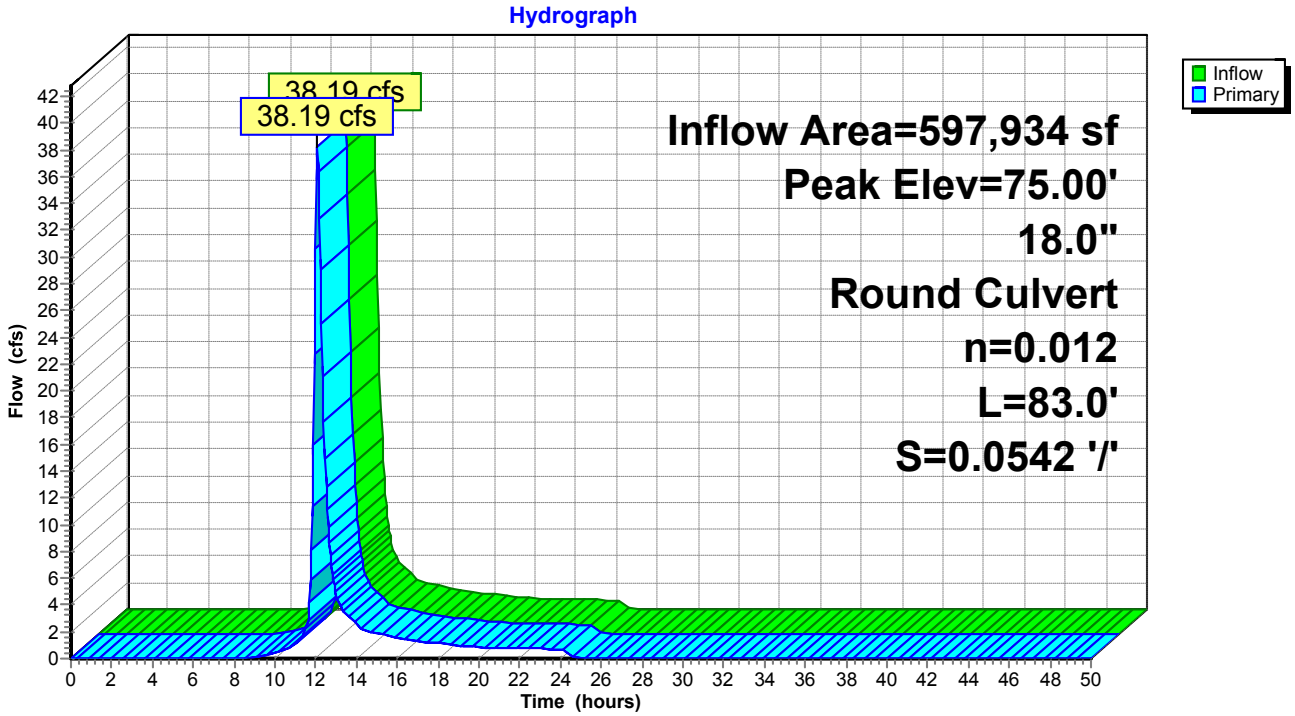
Inflow Area = 597,934 sf, 8.83% Impervious, Inflow Depth = 2.81" for 10-YEAR event
Inflow = 38.19 cfs @ 12.10 hrs, Volume= 139,914 cf
Outflow = 38.19 cfs @ 12.10 hrs, Volume= 139,914 cf, Atten= 0%, Lag= 0.0 min
Primary = 38.19 cfs @ 12.10 hrs, Volume= 139,914 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 75.00' @ 12.10 hrs
Flood Elev= 58.06'

Device	Routing	Invert	Outlet Devices
#1	Primary	54.10'	**18.0" Round RCP_Round 18"** L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.10' / 49.60' S= 0.0542 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=38.14 cfs @ 12.10 hrs HW=74.94' (Free Discharge)
1=RCP_Round 18" (Inlet Controls 38.14 cfs @ 21.58 fps)

Pond CB-15: CB-15



Summary for Pond CB-16: CB-16

[58] Hint: Peaked 12.51' above defined flood level
[81] Warning: Exceeded Pond CB-17 by 3.49' @ 12.10 hrs

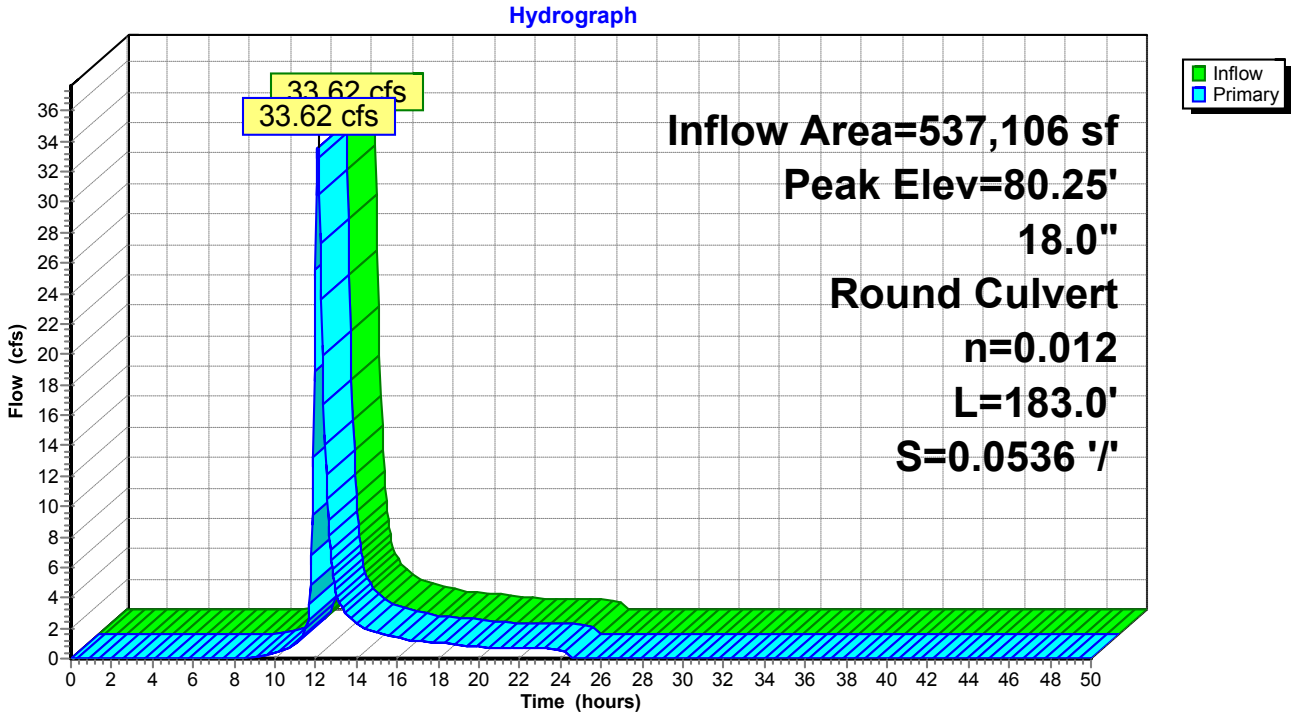
Inflow Area = 537,106 sf, 9.26% Impervious, Inflow Depth = 2.81" for 10-YEAR event
Inflow = 33.62 cfs @ 12.12 hrs, Volume= 125,794 cf
Outflow = 33.62 cfs @ 12.12 hrs, Volume= 125,794 cf, Atten= 0%, Lag= 0.0 min
Primary = 33.62 cfs @ 12.12 hrs, Volume= 125,794 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 80.25' @ 12.11 hrs
Flood Elev= 67.74'

Device	Routing	Invert	Outlet Devices
#1	Primary	63.90'	**18.0" Round RCP_Round 18"** L= 183.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 63.90' / 54.10' S= 0.0536 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=33.30 cfs @ 12.12 hrs HW=79.97' (Free Discharge)
1=RCP_Round 18" (Inlet Controls 33.30 cfs @ 18.84 fps)

Pond CB-16: CB-16



Summary for Pond CB-17: CB-17

[58] Hint: Peaked 5.44' above defined flood level

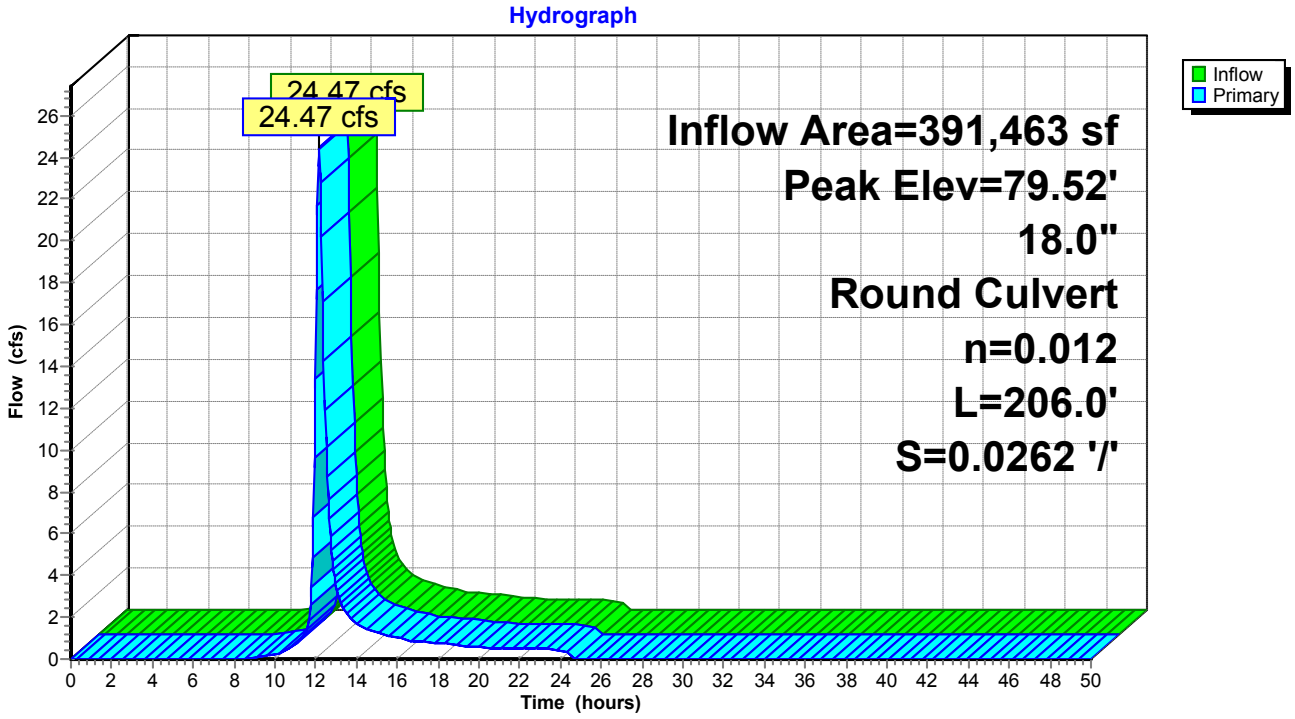
Inflow Area = 391,463 sf, 8.69% Impervious, Inflow Depth = 2.79" for 10-YEAR event
Inflow = 24.47 cfs @ 12.18 hrs, Volume= 90,875 cf
Outflow = 24.47 cfs @ 12.18 hrs, Volume= 90,875 cf, Atten= 0%, Lag= 0.0 min
Primary = 24.47 cfs @ 12.18 hrs, Volume= 90,875 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 79.52' @ 12.18 hrs
Flood Elev= 74.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.40'	**18.0" Round RCP_Round 18"** L= 206.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 69.40' / 64.00' S= 0.0262 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=24.26 cfs @ 12.18 hrs HW=79.29' (Free Discharge)
1=RCP_Round 18" (Barrel Controls 24.26 cfs @ 13.73 fps)

Pond CB-17: CB-17



Summary for Pond CB-2: CB-2

[58] Hint: Peaked 1.34' above defined flood level
[81] Warning: Exceeded Pond CB-1 by 0.72' @ 12.10 hrs

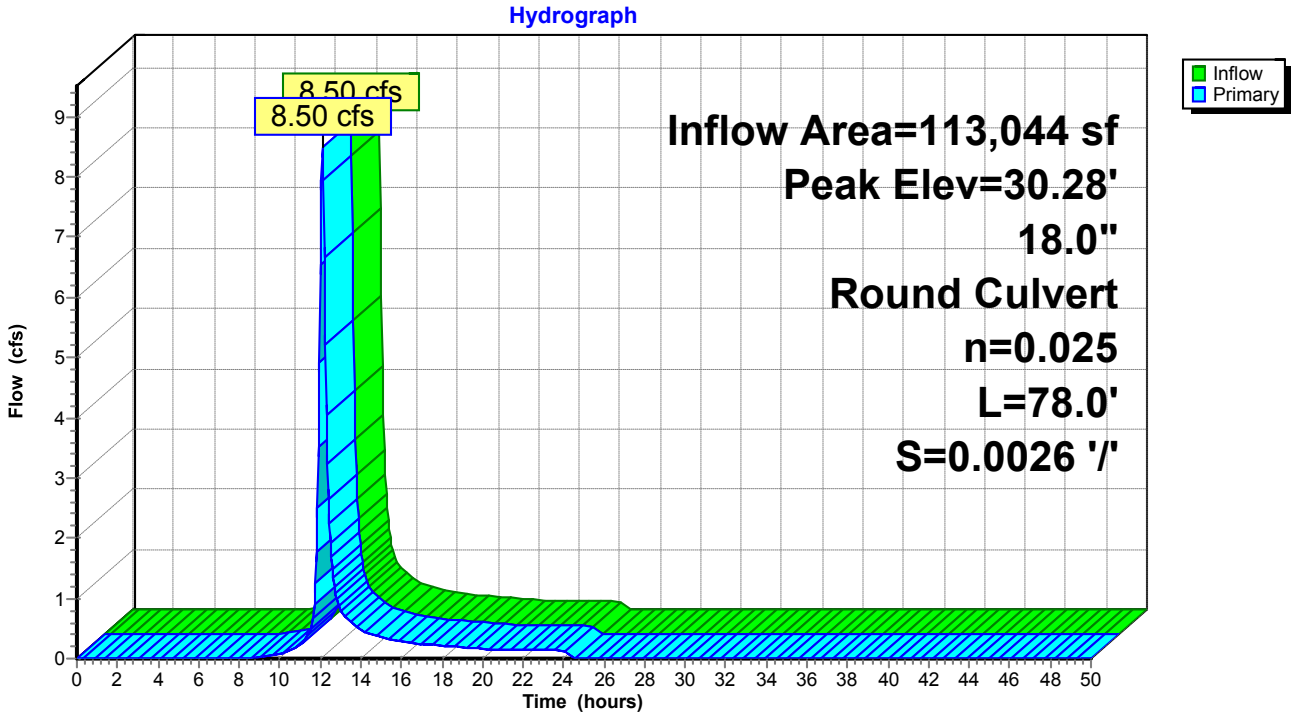
Inflow Area = 113,044 sf, 9.76% Impervious, Inflow Depth = 2.83" for 10-YEAR event
Inflow = 8.50 cfs @ 12.10 hrs, Volume= 26,661 cf
Outflow = 8.50 cfs @ 12.10 hrs, Volume= 26,661 cf, Atten= 0%, Lag= 0.0 min
Primary = 8.50 cfs @ 12.10 hrs, Volume= 26,661 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 30.28' @ 12.10 hrs
Flood Elev= 28.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.40'	**18.0" Round Culvert** L= 78.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 26.40' / 26.20' S= 0.0026 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=8.50 cfs @ 12.10 hrs HW=30.28' (Free Discharge)
↑—**1=Culvert** (Barrel Controls 8.50 cfs @ 4.81 fps)

Pond CB-2: CB-2



Summary for Pond CB-3: CB-3

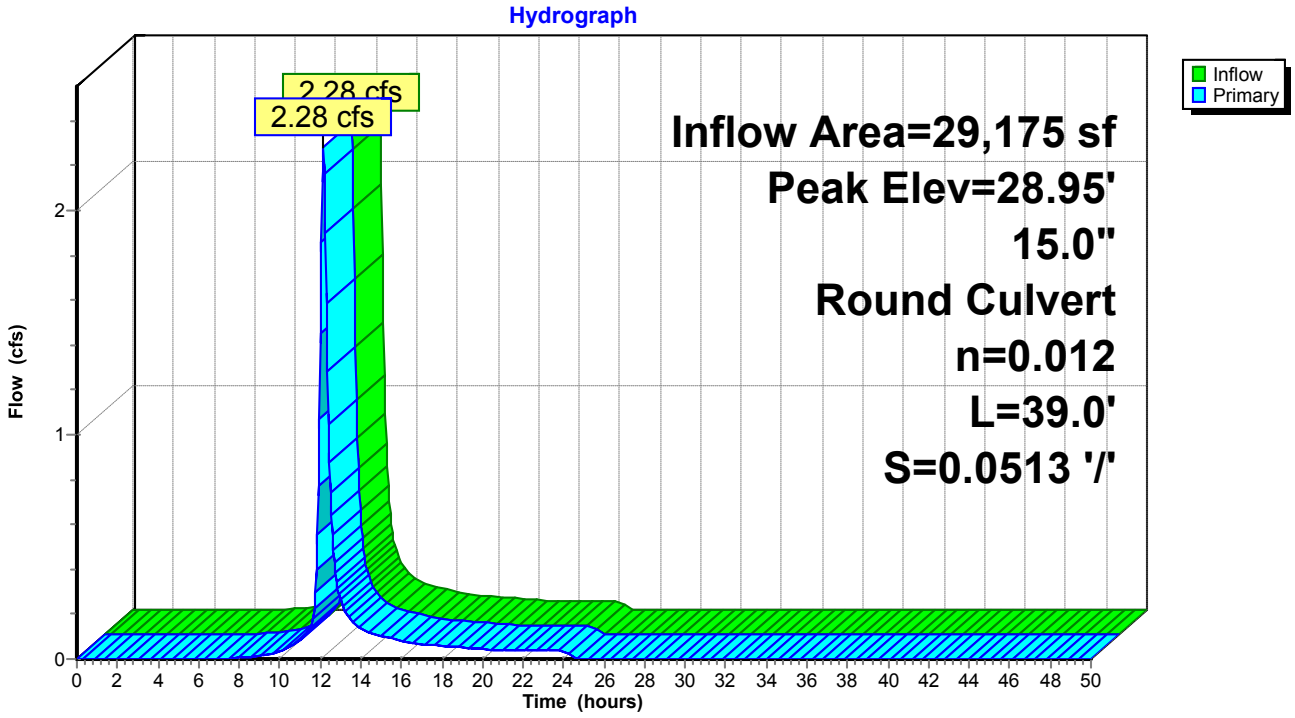
Inflow Area = 29,175 sf, 27.00% Impervious, Inflow Depth = 3.25" for 10-YEAR event
Inflow = 2.28 cfs @ 12.15 hrs, Volume= 7,910 cf
Outflow = 2.28 cfs @ 12.15 hrs, Volume= 7,910 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.28 cfs @ 12.15 hrs, Volume= 7,910 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 28.95' @ 12.15 hrs
Flood Elev= 30.66'

Device	Routing	Invert	Outlet Devices
#1	Primary	28.20'	**15.0" Round RCP_Round 15"** L= 39.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 28.20' / 26.20' S= 0.0513 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.23 sf

Primary OutFlow Max=2.28 cfs @ 12.15 hrs HW=28.95' (Free Discharge)
↑—**1=RCP_Round 15"** (Inlet Controls 2.28 cfs @ 2.95 fps)

Pond CB-3: CB-3



Summary for Pond CB-4: CB-4

[79] Warning: Submerged Pond CB-2 Primary device # 1 INLET by 1.43'
[79] Warning: Submerged Pond CB-3 Primary device # 1 OUTLET by 1.63'

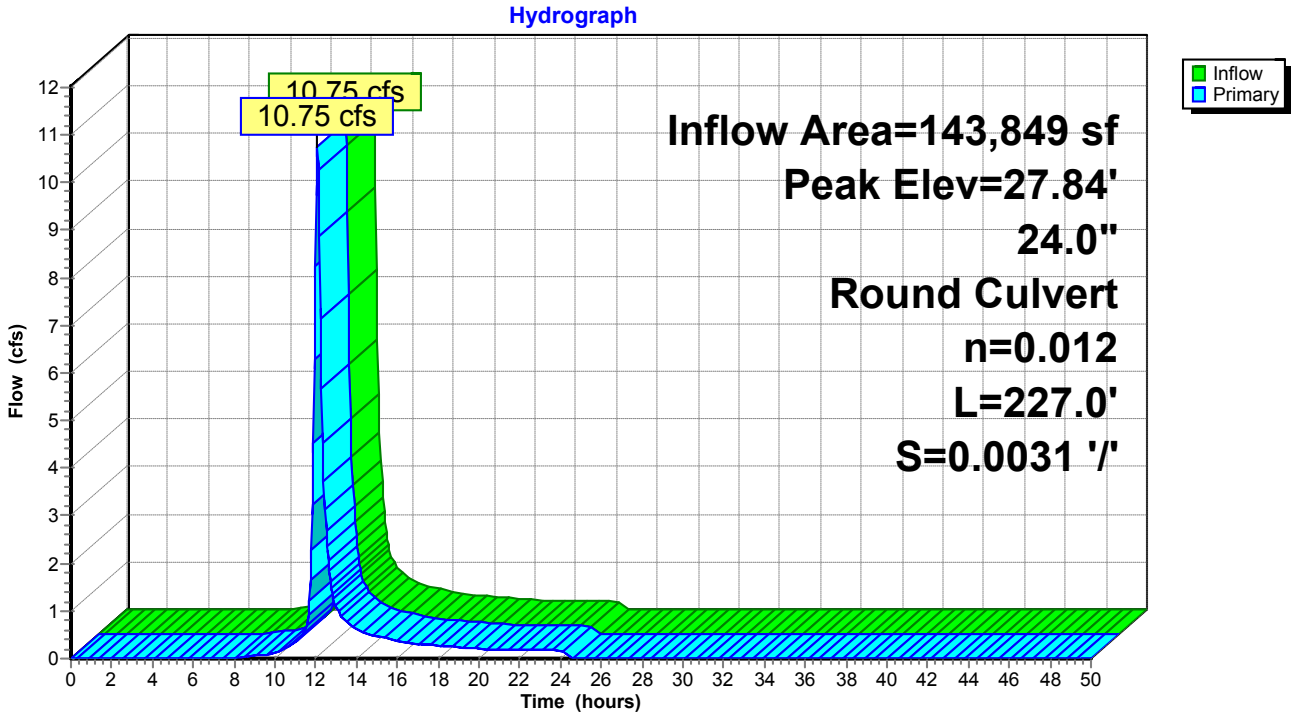
Inflow Area = 143,849 sf, 14.28% Impervious, Inflow Depth = 2.94" for 10-YEAR event
Inflow = 10.75 cfs @ 12.11 hrs, Volume= 35,274 cf
Outflow = 10.75 cfs @ 12.11 hrs, Volume= 35,274 cf, Atten= 0%, Lag= 0.0 min
Primary = 10.75 cfs @ 12.11 hrs, Volume= 35,274 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 27.84' @ 12.11 hrs
Flood Elev= 29.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.00'	**24.0" Round Culvert** L= 227.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 26.00' / 25.30' S= 0.0031 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=10.67 cfs @ 12.11 hrs HW=27.83' (Free Discharge)
1=Culvert (Barrel Controls 10.67 cfs @ 4.65 fps)

Pond CB-4: CB-4



Summary for Pond CB-5: CB-5

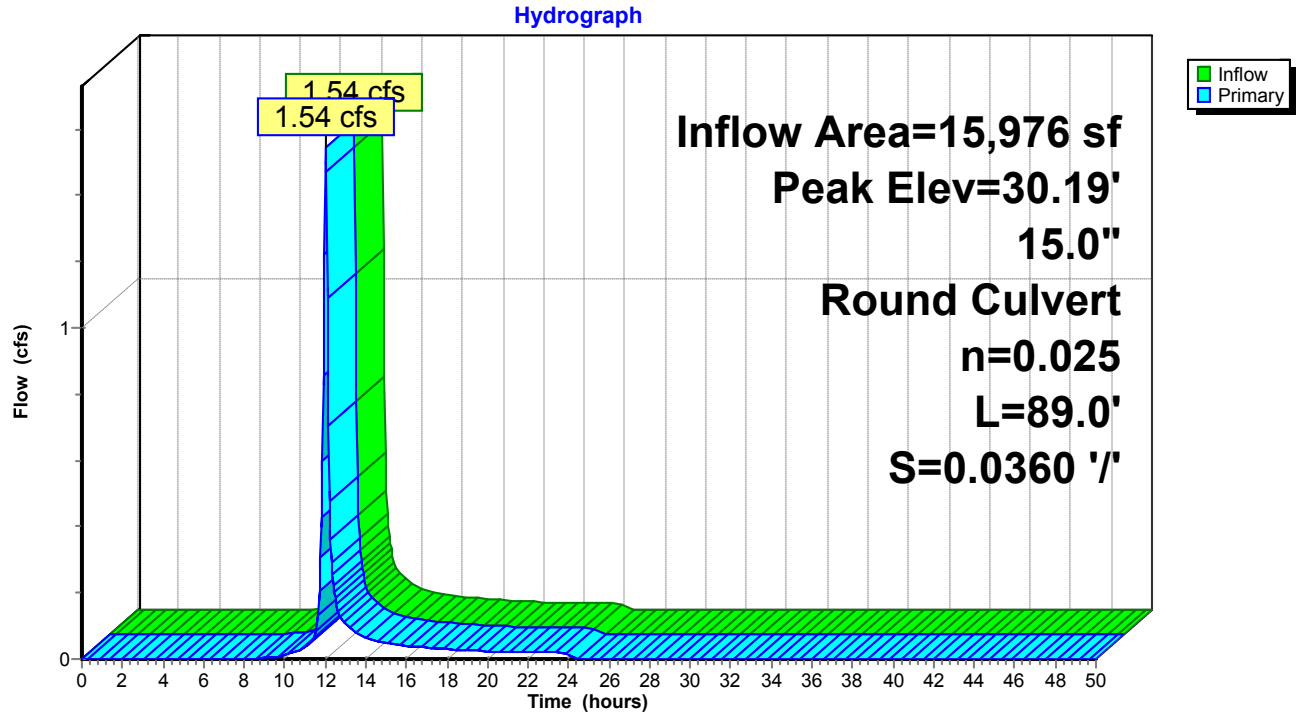
Inflow Area = 15,976 sf, 5.12% Impervious, Inflow Depth = 2.79" for 10-YEAR event
Inflow = 1.54 cfs @ 12.02 hrs, Volume= 3,709 cf
Outflow = 1.54 cfs @ 12.02 hrs, Volume= 3,709 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.54 cfs @ 12.02 hrs, Volume= 3,709 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 30.19' @ 12.02 hrs
Flood Elev= 33.19'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.50'	**15.0" Round CMP_Round 15"** L= 89.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 29.50' / 26.30' S= 0.0360 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.23 sf

Primary OutFlow Max=1.50 cfs @ 12.02 hrs HW=30.18' (Free Discharge)
1=CMP_Round 15" (Inlet Controls 1.50 cfs @ 2.21 fps)

Pond CB-5: CB-5



Summary for Pond CB-6: CB-6

[58] Hint: Peaked 26.21' above defined flood level
[81] Warning: Exceeded Pond 4P by 27.64' @ 12.10 hrs
[81] Warning: Exceeded Pond CB-5 by 27.63' @ 12.15 hrs
[79] Warning: Submerged Pond CB-8 Primary device # 1 INLET by 28.08'

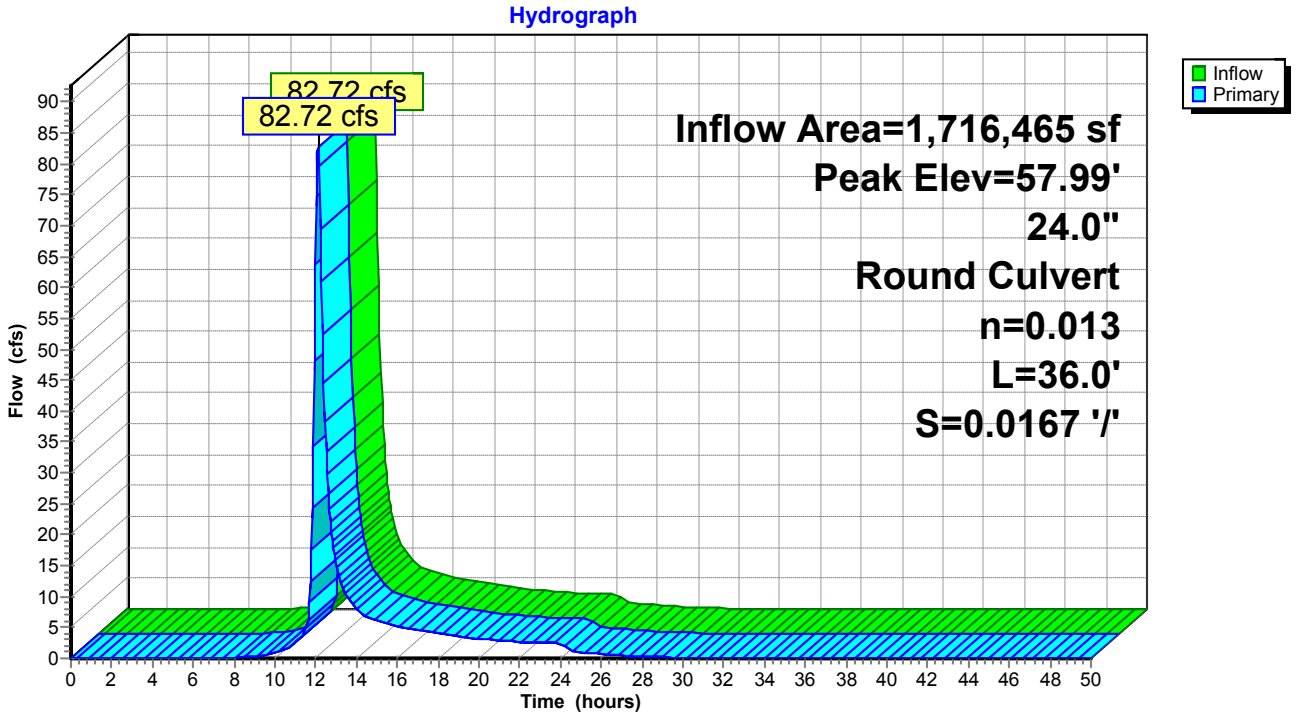
Inflow Area = 1,716,465 sf, 11.03% Impervious, Inflow Depth = 2.79" for 10-YEAR event
Inflow = 82.72 cfs @ 12.13 hrs, Volume= 398,391 cf
Outflow = 82.72 cfs @ 12.13 hrs, Volume= 398,391 cf, Atten= 0%, Lag= 0.0 min
Primary = 82.72 cfs @ 12.13 hrs, Volume= 398,391 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 57.99' @ 12.13 hrs
Flood Elev= 31.78'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.10'	**24.0" Round Culvert** L= 36.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 27.10' / 26.50' S= 0.0167 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=82.07 cfs @ 12.13 hrs HW=57.54' (Free Discharge)
1=Culvert (Inlet Controls 82.07 cfs @ 26.12 fps)

Pond CB-6: CB-6



Summary for Pond CB-7: CB-7

[58] Hint: Peaked 11.24' above defined flood level
[81] Warning: Exceeded Pond CB-4 by 13.94' @ 12.10 hrs
[79] Warning: Submerged Pond CB-6 Primary device # 1 INLET by 14.68'

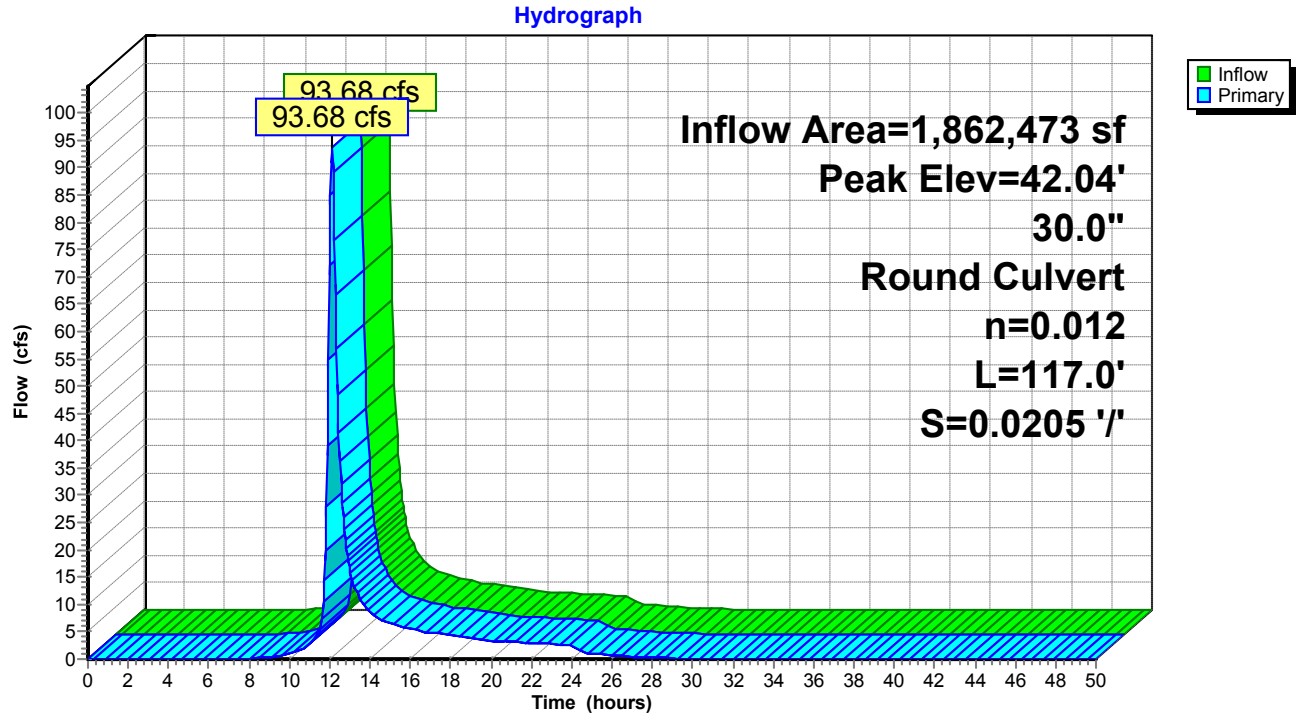
Inflow Area = 1,862,473 sf, 11.38% Impervious, Inflow Depth = 2.80" for 10-YEAR event
Inflow = 93.68 cfs @ 12.12 hrs, Volume= 434,595 cf
Outflow = 93.68 cfs @ 12.12 hrs, Volume= 434,595 cf, Atten= 0%, Lag= 0.0 min
Primary = 93.68 cfs @ 12.12 hrs, Volume= 434,595 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 42.04' @ 12.12 hrs
Flood Elev= 30.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.10'	**30.0" Round Culvert** L= 117.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.10' / 22.70' S= 0.0205 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 4.91 sf

Primary OutFlow Max=92.66 cfs @ 12.12 hrs HW=41.72' (Free Discharge)
1=Culvert (Inlet Controls 92.66 cfs @ 18.88 fps)

Pond CB-7: CB-7



Summary for Pond CB-8: CB-8

[58] Hint: Peaked 306.27' above defined flood level
[81] Warning: Exceeded Pond CB-9 by 37.78' @ 12.10 hrs

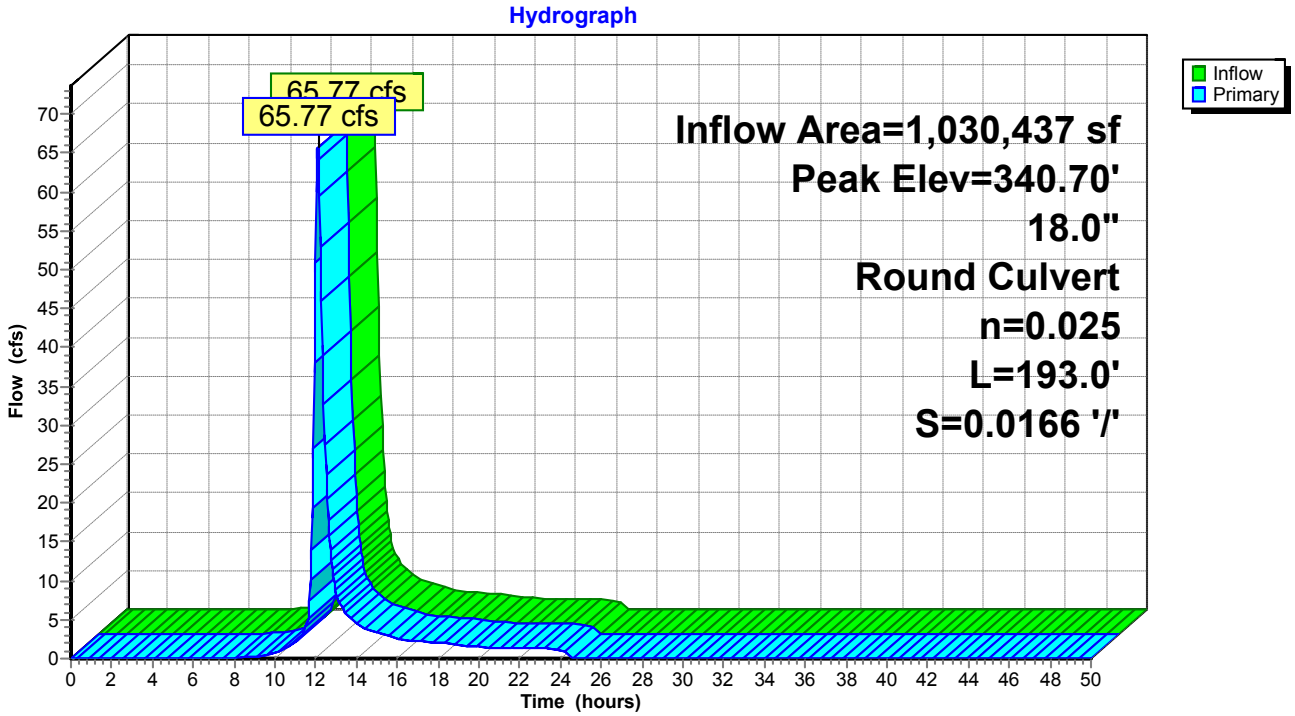
Inflow Area = 1,030,437 sf, 11.38% Impervious, Inflow Depth = 2.89" for 10-YEAR event
Inflow = 65.77 cfs @ 12.11 hrs, Volume= 247,922 cf
Outflow = 65.77 cfs @ 12.11 hrs, Volume= 247,922 cf, Atten= 0%, Lag= 0.0 min
Primary = 65.77 cfs @ 12.11 hrs, Volume= 247,922 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 340.70' @ 12.11 hrs
Flood Elev= 34.43'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.50'	**18.0" Round RCP_Round 18"** L= 193.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 29.50' / 26.30' S= 0.0166 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=65.22 cfs @ 12.11 hrs HW=335.57' (Free Discharge)
1=RCP_Round 18" (Barrel Controls 65.22 cfs @ 36.90 fps)

Pond CB-8: CB-8



Summary for Pond CB-9: CB-9

[58] Hint: Peaked 265.65' above defined flood level
[81] Warning: Exceeded Pond CB-10 by 136.32' @ 12.10 hrs

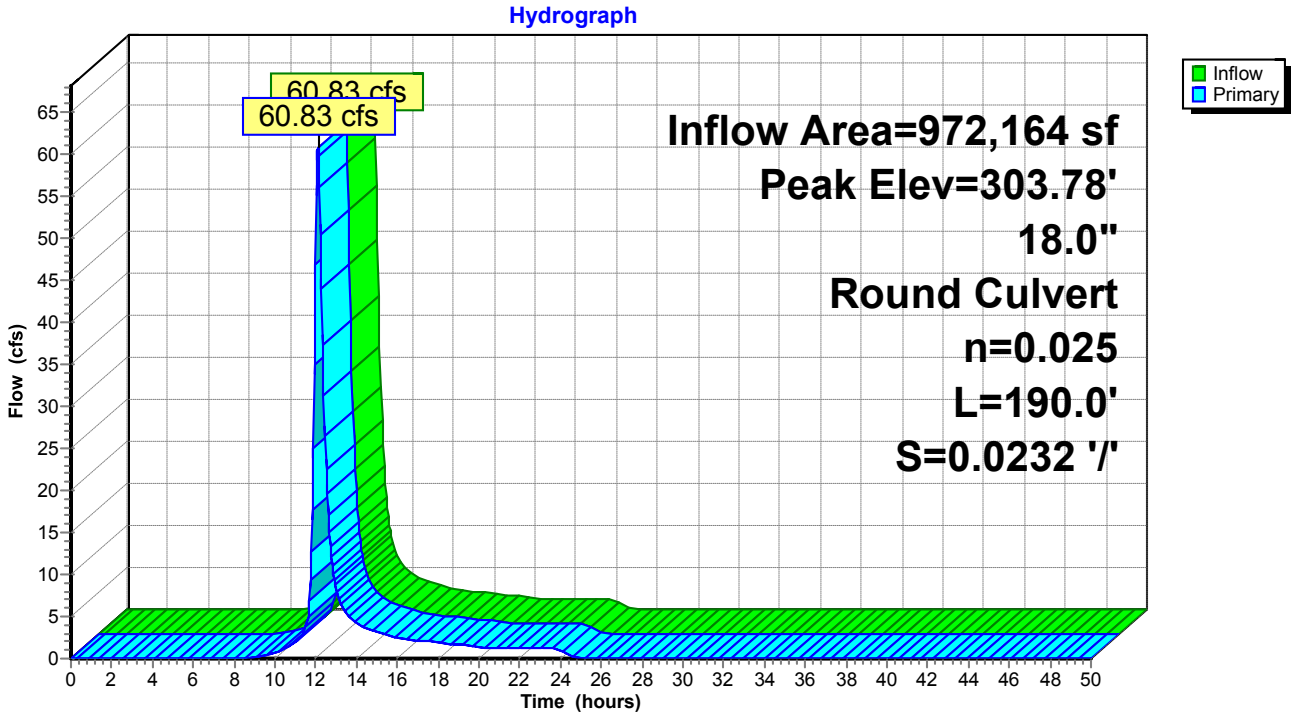
Inflow Area = 972,164 sf, 11.09% Impervious, Inflow Depth = 2.88" for 10-YEAR event
Inflow = 60.83 cfs @ 12.12 hrs, Volume= 233,047 cf
Outflow = 60.83 cfs @ 12.12 hrs, Volume= 233,047 cf, Atten= 0%, Lag= 0.0 min
Primary = 60.83 cfs @ 12.12 hrs, Volume= 233,047 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 303.78' @ 12.12 hrs
Flood Elev= 38.13'

Device	Routing	Invert	Outlet Devices
#1	Primary	35.40'	**18.0" Round CMP_Round 18"** L= 190.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 35.40' / 31.00' S= 0.0232 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=60.27 cfs @ 12.12 hrs HW=298.88' (Free Discharge)
↑—**1=CMP_Round 18"** (Barrel Controls 60.27 cfs @ 34.10 fps)

Pond CB-9: CB-9



Time span=0.00-50.00 hrs, dt=0.05 hrs, 1001 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 DA-1: DA-1 Runoff Area=110,937 sf 8.04% Impervious Runoff Depth=3.81"
Flow Length=1,029' Tc=17.6 min CN=75 Runoff=11.50 cfs 35,202 cf

Subcatchment DA-10: DA-10 Runoff Area=29,242 sf 8.57% Impervious Runoff Depth=3.91"
Flow Length=447' Tc=11.3 min CN=76 Runoff=3.79 cfs 9,533 cf

Subcatchment DA-11: DA-11 Runoff Area=60,828 sf 5.01% Impervious Runoff Depth=3.81"
Flow Length=496' Tc=12.2 min CN=75 Runoff=7.47 cfs 19,301 cf

Subcatchment DA-12: DA-12 Runoff Area=145,643 sf 10.79% Impervious Runoff Depth=3.91"
Flow Length=863' Tc=12.7 min CN=76 Runoff=18.07 cfs 47,480 cf

Subcatchment DA-13: DA-13 Runoff Area=391,463 sf 8.69% Impervious Runoff Depth=3.81"
Flow Length=655' Tc=24.6 min CN=75 Runoff=33.54 cfs 124,216 cf

Subcatchment DA-14: DA-14 Runoff Area=6,316 sf 100.00% Impervious Runoff Depth=6.37"
Tc=5.0 min CN=98 Runoff=1.38 cfs 3,353 cf

Subcatchment DA-15: DA-15 Runoff Area=2,159 sf 100.00% Impervious Runoff Depth=6.37"
Tc=5.0 min CN=98 Runoff=0.47 cfs 1,146 cf

Subcatchment DA-16: DA-16 Runoff Area=1,630 sf 100.00% Impervious Runoff Depth=6.37"
Tc=5.0 min CN=98 Runoff=0.36 cfs 865 cf

Subcatchment DA-17: DA-17 Runoff Area=2,107 sf 100.00% Impervious Runoff Depth=6.37"
Tc=5.0 min CN=98 Runoff=0.46 cfs 1,119 cf

Subcatchment DA-2: DA-2 Runoff Area=29,175 sf 27.00% Impervious Runoff Depth=4.34"
Flow Length=284' Slope=0.0493 '/' Tc=22.0 min CN=80 Runoff=3.03 cfs 10,542 cf

Subcatchment DA-2a: DA-2a Runoff Area=141,895 sf 10.12% Impervious Runoff Depth=3.91"
Flow Length=739' Tc=18.3 min CN=76 Runoff=14.81 cfs 46,258 cf

Subcatchment DA-2b: DA-2b Runoff Area=81,523 sf 12.99% Impervious Runoff Depth=4.02"
Flow Length=965' Tc=20.6 min CN=77 Runoff=8.17 cfs 27,290 cf

Subcatchment DA-3: DA-3 Runoff Area=15,976 sf 5.12% Impervious Runoff Depth=3.81"
Flow Length=192' Slope=0.1562 '/' Tc=10.1 min CN=75 Runoff=2.10 cfs 5,069 cf

Subcatchment DA-4: DA-4 Runoff Area=56,004 sf 24.76% Impervious Runoff Depth=4.34"
Flow Length=250' Slope=0.1120 '/' Tc=9.8 min CN=80 Runoff=8.36 cfs 20,236 cf

Subcatchment DA-4a: DA-4a Runoff Area=105,870 sf 4.11% Impervious Runoff Depth=3.81"
Flow Length=708' Tc=15.7 min CN=75 Runoff=11.60 cfs 33,594 cf

Subcatchment DA-5: DA-5 Runoff Area=58,273 sf 16.11% Impervious Runoff Depth=4.12"
Flow Length=228' Slope=0.0702 '/' Tc=16.0 min CN=78 Runoff=6.82 cfs 20,020 cf

Subcatchment DA-5a: DA-5a Runoff Area=194,700 sf 9.54% Impervious Runoff Depth=3.91"
Flow Length=764' Tc=19.4 min CN=76 Runoff=19.68 cfs 63,473 cf

Subcatchment DA-6: DA-6 Runoff Area=53,023 sf 11.71% Impervious Runoff Depth=3.91"
Flow Length=378' Tc=19.0 min CN=76 Runoff=5.42 cfs 17,286 cf

Subcatchment DA-6a: DA-6a Runoff Area=90,060 sf 10.50% Impervious Runoff Depth=3.91"
Flow Length=809' Tc=19.3 min CN=76 Runoff=9.13 cfs 29,360 cf

Subcatchment DA-7: DA-7 Runoff Area=39,515 sf 14.15% Impervious Runoff Depth=4.02"
Flow Length=589' Tc=25.2 min CN=77 Runoff=3.52 cfs 13,228 cf

Subcatchment DA-8: DA-8 Runoff Area=21,184 sf 14.41% Impervious Runoff Depth=4.02"
Flow Length=545' Tc=23.6 min CN=77 Runoff=1.96 cfs 7,091 cf

Subcatchment DA-9: DA-9 Runoff Area=224,950 sf 13.96% Impervious Runoff Depth=4.02"
Flow Length=927' Tc=26.2 min CN=77 Runoff=19.58 cfs 75,302 cf

Reach 7R: OUTLET Inflow=133.26 cfs 595,483 cf
Outflow=133.26 cfs 595,483 cf

Pond 1P: DETENTION POND 3 Peak Elev=55.50' Storage=11,130 cf Inflow=21.20 cfs 159,358 cf
Primary=1.42 cfs 65,119 cf Secondary=18.85 cfs 92,085 cf Outflow=20.27 cfs 157,205 cf

Pond 2P: DETENTION POND 2 Peak Elev=62.05' Storage=15,812 cf Inflow=15.90 cfs 120,324 cf
Primary=0.97 cfs 35,330 cf Secondary=13.73 cfs 77,770 cf Outflow=14.70 cfs 113,100 cf

Pond 3P: DETENTION POND 1 Peak Elev=70.17' Storage=39,377 cf Inflow=28.81 cfs 92,832 cf
Primary=1.77 cfs 64,715 cf Secondary=10.59 cfs 22,015 cf Outflow=12.36 cfs 86,730 cf

Pond 4P: PR-CB-1 Peak Elev=32.55' Inflow=27.26 cfs 184,495 cf
24.0" Round Culvert n=0.012 L=100.0' S=0.0100 '/' Outflow=27.26 cfs 184,495 cf

Pond CB-1: CB-1 Peak Elev=31.32' Inflow=11.50 cfs 35,202 cf
15.0" Round Culvert n=0.012 L=33.0' S=0.0121 '/' Outflow=11.50 cfs 35,202 cf

Pond CB-10: CB-10 Peak Elev=277.77' Inflow=77.60 cfs 299,505 cf
18.0" Round Culvert n=0.025 L=91.0' S=0.0000 '/' Outflow=77.60 cfs 299,505 cf

Pond CB-11: CB-11 Peak Elev=36.03' Inflow=1.38 cfs 3,353 cf
18.0" Round Culvert n=0.012 L=26.0' S=0.0154 '/' Outflow=1.38 cfs 3,353 cf

Pond CB-12: CB-12 Peak Elev=118.09' Inflow=74.12 cfs 282,924 cf
18.0" Round Culvert n=0.012 L=95.0' S=0.0474 '/' Outflow=74.12 cfs 282,924 cf

Pond CB-13: CB-13 Peak Elev=201.23' Inflow=72.26 cfs 275,832 cf
18.0" Round Culvert n=0.025 L=63.0' S=0.0556 '/' Outflow=72.26 cfs 275,832 cf

Pond CB-14: CB-14 Peak Elev=95.65' Inflow=55.43 cfs 200,530 cf
18.0" Round Culvert n=0.012 L=117.0' S=0.0521 '/' Outflow=55.43 cfs 200,530 cf

Pond CB-15: CB-15 Peak Elev=92.62' Inflow=52.30 cfs 190,997 cf
18.0" Round Culvert n=0.012 L=83.0' S=0.0542 '/' Outflow=52.30 cfs 190,997 cf

Pond CB-16: CB-16 Peak Elev=101.46' Inflow=46.04 cfs 171,696 cf
18.0" Round Culvert n=0.012 L=183.0' S=0.0536 '/' Outflow=46.04 cfs 171,696 cf

Pond CB-17: CB-17 Peak Elev=91.83' Inflow=33.54 cfs 124,216 cf
18.0" Round Culvert n=0.012 L=206.0' S=0.0262 '/' Outflow=33.54 cfs 124,216 cf

Pond CB-2: CB-2 Peak Elev=32.50' Inflow=11.60 cfs 36,320 cf
18.0" Round Culvert n=0.025 L=78.0' S=0.0026 '/' Outflow=11.60 cfs 36,320 cf

Pond CB-3: CB-3 Peak Elev=29.10' Inflow=3.03 cfs 10,542 cf
15.0" Round Culvert n=0.012 L=39.0' S=0.0513 '/' Outflow=3.03 cfs 10,542 cf

Pond CB-4: CB-4 Peak Elev=28.36' Inflow=14.59 cfs 47,727 cf
24.0" Round Culvert n=0.012 L=227.0' S=0.0031 '/' Outflow=14.59 cfs 47,727 cf

Pond CB-5: CB-5 Peak Elev=30.33' Inflow=2.10 cfs 5,069 cf
15.0" Round Culvert n=0.025 L=89.0' S=0.0360 '/' Outflow=2.10 cfs 5,069 cf

Pond CB-6: CB-6 Peak Elev=89.63' Inflow=118.70 cfs 546,610 cf
24.0" Round Culvert n=0.013 L=36.0' S=0.0167 '/' Outflow=118.70 cfs 546,610 cf

Pond CB-7: CB-7 Peak Elev=58.12' Inflow=133.26 cfs 595,483 cf
30.0" Round Culvert n=0.012 L=117.0' S=0.0205 '/' Outflow=133.26 cfs 595,483 cf

Pond CB-8: CB-8 Peak Elev=609.15' Inflow=89.64 cfs 336,810 cf
18.0" Round Culvert n=0.025 L=193.0' S=0.0166 '/' Outflow=89.64 cfs 336,810 cf

Pond CB-9: CB-9 Peak Elev=537.82' Inflow=83.02 cfs 316,790 cf
18.0" Round Culvert n=0.025 L=190.0' S=0.0232 '/' Outflow=83.02 cfs 316,790 cf

Total Runoff Area = 1,862,473 sf Runoff Volume = 610,963 cf Average Runoff Depth = 3.94"
88.62% Pervious = 1,650,520 sf 11.38% Impervious = 211,953 sf

Summary for Subcatchment DA-1: DA-1

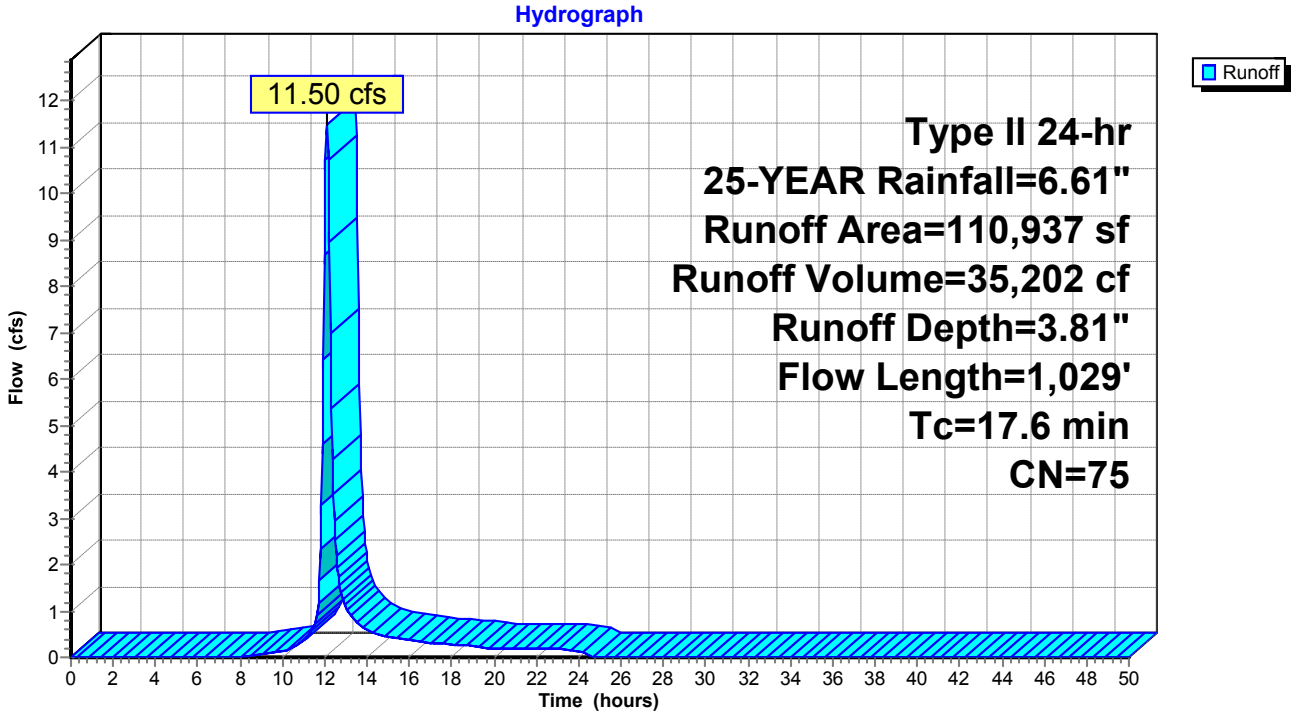
Runoff = 11.50 cfs @ 12.10 hrs, Volume= 35,202 cf, Depth= 3.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
59,666	72	Woods/grass comb., Good, HSG C
42,347	74	>75% Grass cover, Good, HSG C
8,924	98	Paved parking, HSG C
110,937	75	Weighted Average
102,013		91.96% Pervious Area
8,924		8.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.9	153	0.1050	0.26		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"
2.0	189	0.0950	1.54		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.7	687	0.0820	2.00		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.6	1,029	Total			

Subcatchment DA-1: DA-1



Summary for Subcatchment DA-10: DA-10

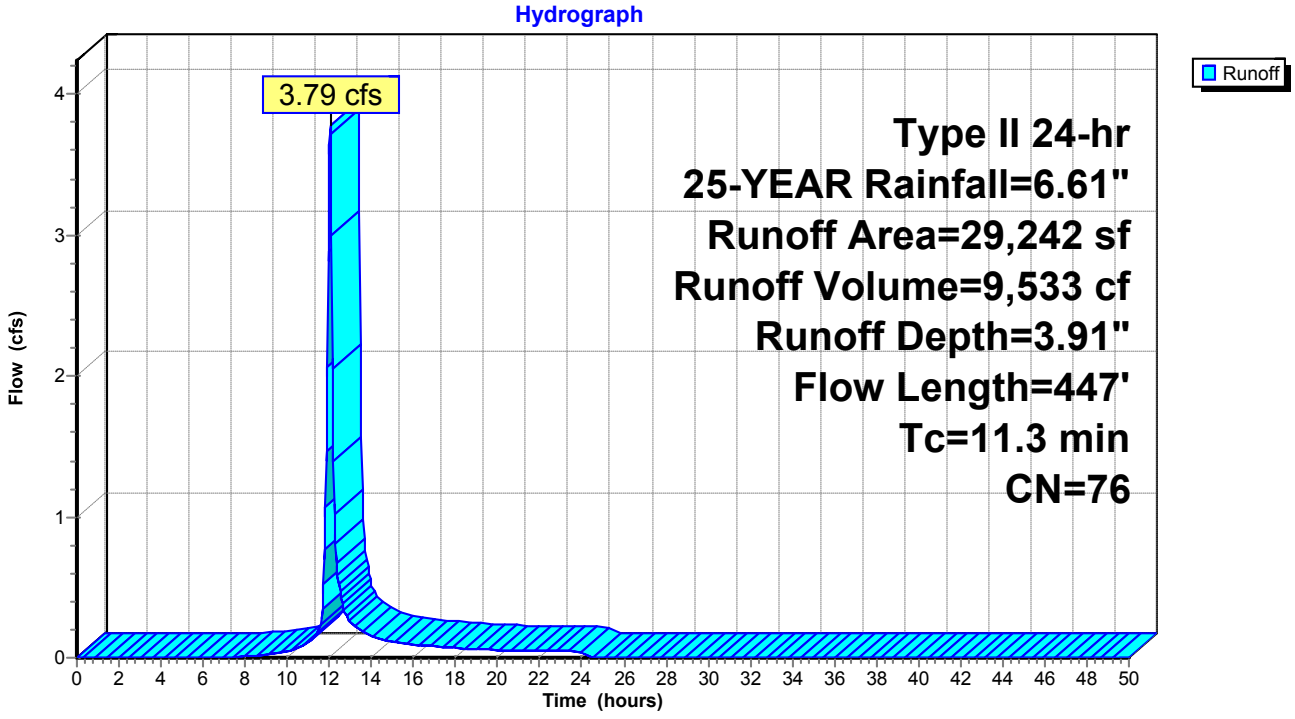
Runoff = 3.79 cfs @ 12.03 hrs, Volume= 9,533 cf, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
26,737	74	>75% Grass cover, Good, HSG C
2,505	98	Paved parking, HSG C
29,242	76	Weighted Average
26,737		91.43% Pervious Area
2,505		8.57% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	250	0.1160	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.49"
1.6	197	0.0812	1.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.3	447	Total			

Subcatchment DA-10: DA-10



Summary for Subcatchment DA-11: DA-11

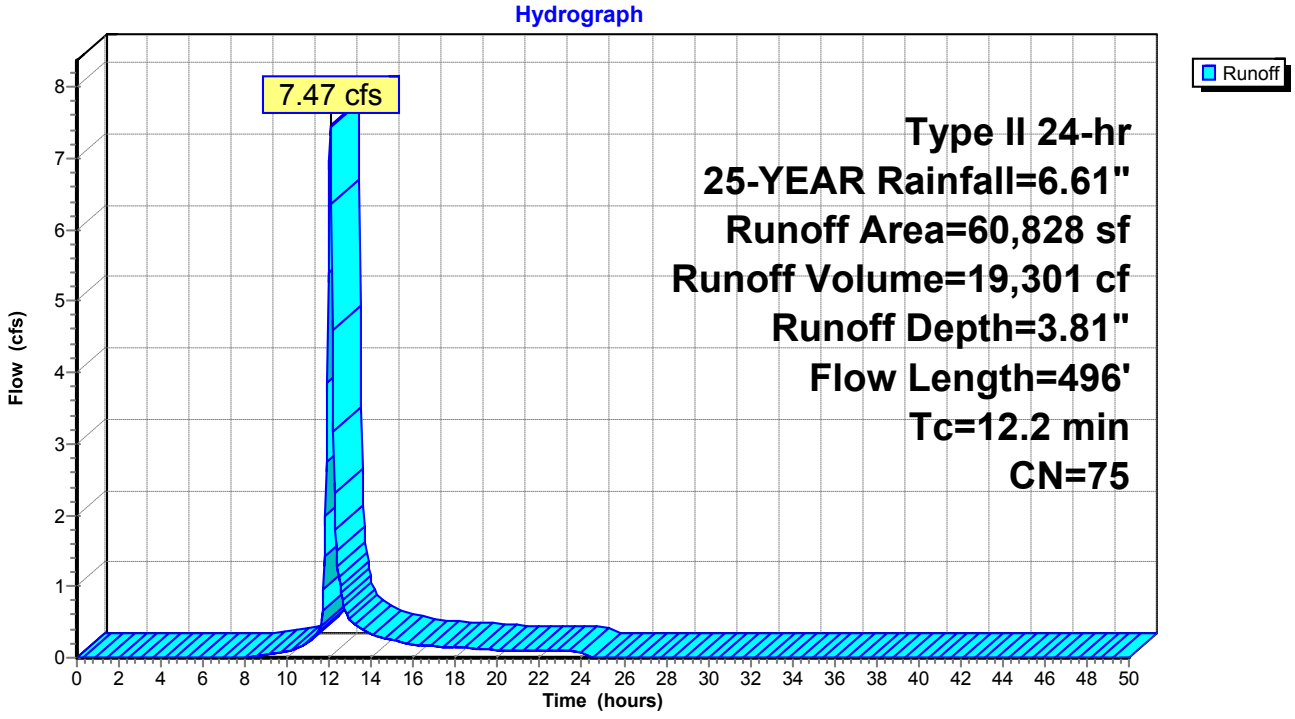
Runoff = 7.47 cfs @ 12.04 hrs, Volume= 19,301 cf, Depth= 3.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
57,780	74	>75% Grass cover, Good, HSG C
3,048	98	Paved parking, HSG C
60,828	75	Weighted Average
57,780		94.99% Pervious Area
3,048		5.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	250	0.1120	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.49"
2.4	246	0.0610	1.73		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.2	496	Total			

Subcatchment DA-11: DA-11



Summary for Subcatchment DA-12: DA-12

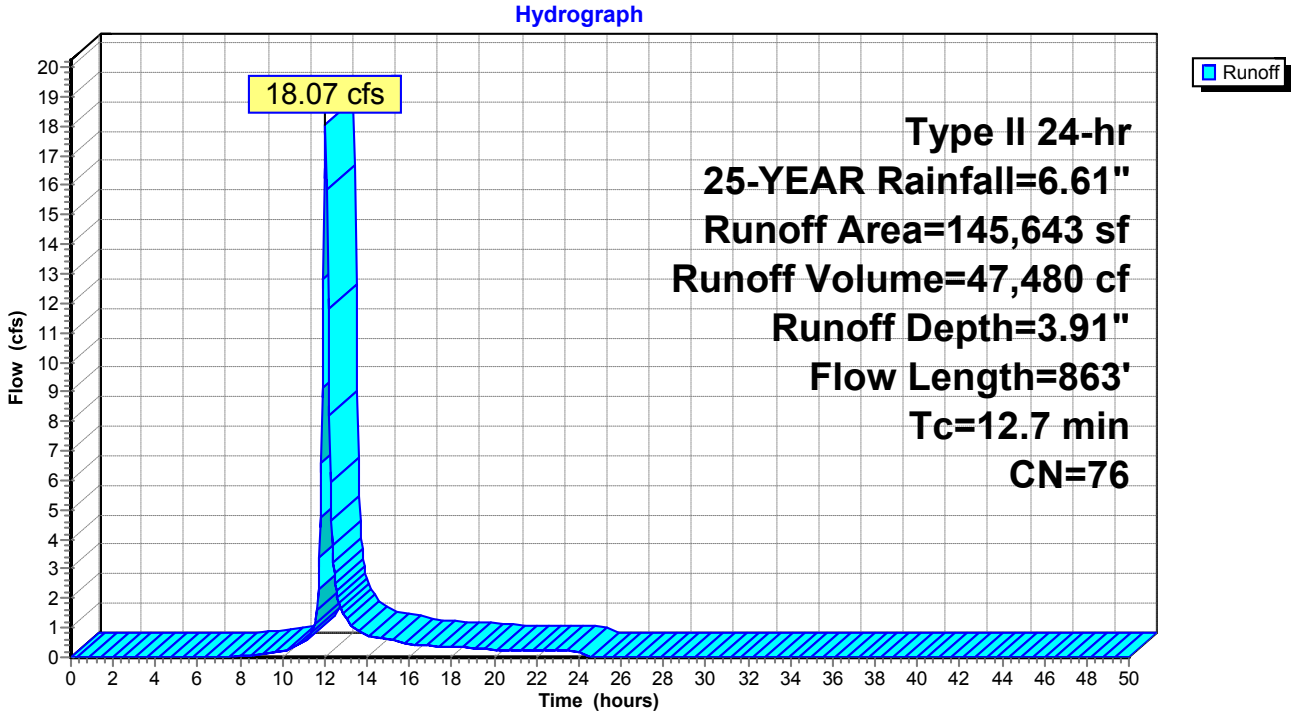
Runoff = 18.07 cfs @ 12.05 hrs, Volume= 47,480 cf, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
33,394	72	Woods/grass comb., Good, HSG C
96,537	74	>75% Grass cover, Good, HSG C
15,712	98	Paved parking, HSG C
145,643	76	Weighted Average
129,931		89.21% Pervious Area
15,712		10.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	147	0.1220	0.40		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.49"
3.1	395	0.0911	2.11		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.4	321	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
12.7	863	Total			

Subcatchment DA-12: DA-12



Summary for Subcatchment DA-13: DA-13

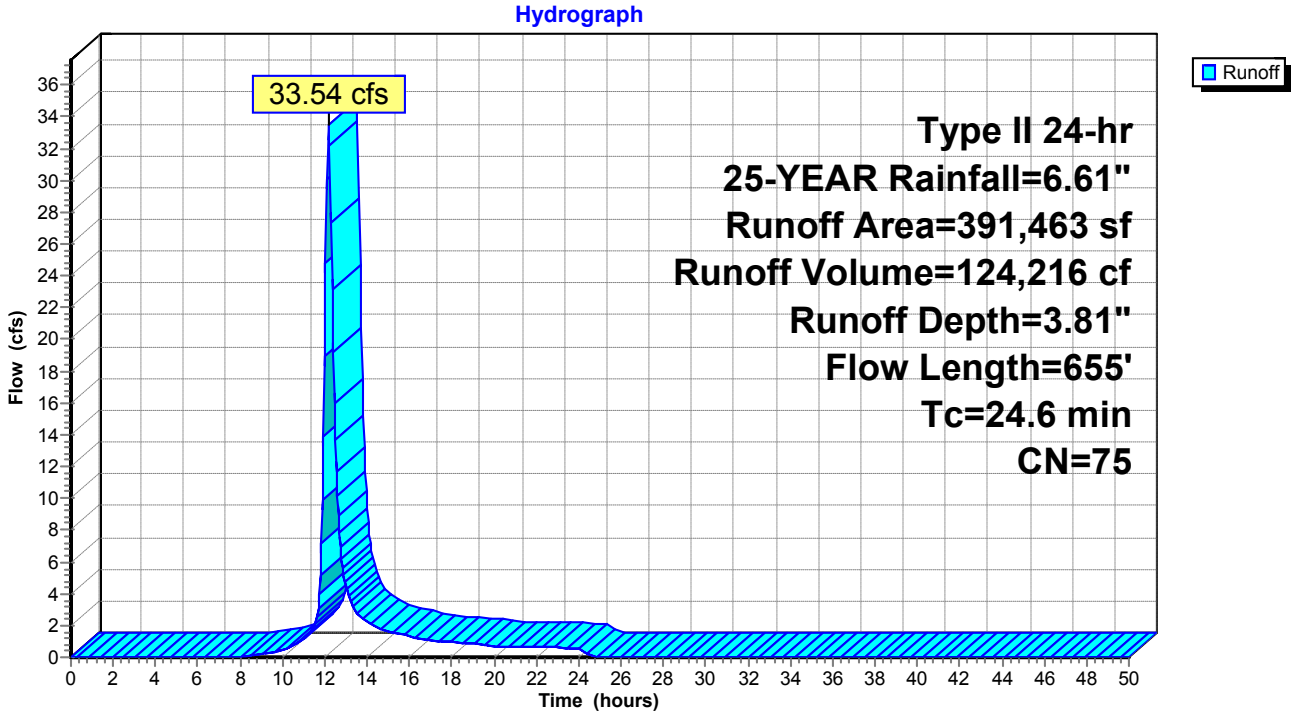
Runoff = 33.54 cfs @ 12.18 hrs, Volume= 124,216 cf, Depth= 3.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
192,024	72	Woods/grass comb., Good, HSG C
165,425	74	>75% Grass cover, Good, HSG C
34,014	98	Paved parking, HSG C
391,463	75	Weighted Average
357,449		91.31% Pervious Area
34,014		8.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	250	0.1120	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.49"
3.1	405	0.0938	2.14		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
24.6	655	Total			

Subcatchment DA-13: DA-13



Summary for Subcatchment DA-14: DA-14

[49] Hint: Tc<2dt may require smaller dt

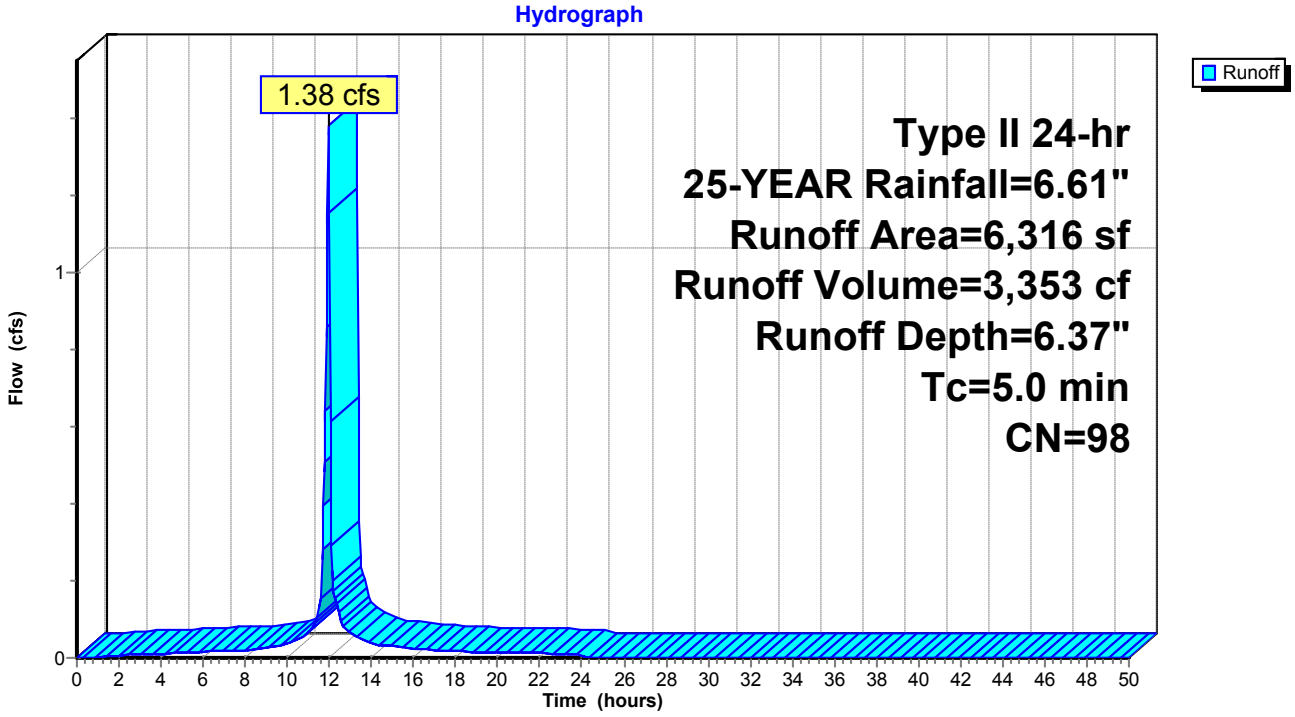
Runoff = 1.38 cfs @ 11.95 hrs, Volume= 3,353 cf, Depth= 6.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
6,316	98	Paved parking, HSG C
6,316		100.00% Impervious Area

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

Subcatchment DA-14: DA-14



Summary for Subcatchment DA-15: DA-15

[49] Hint: Tc<2dt may require smaller dt

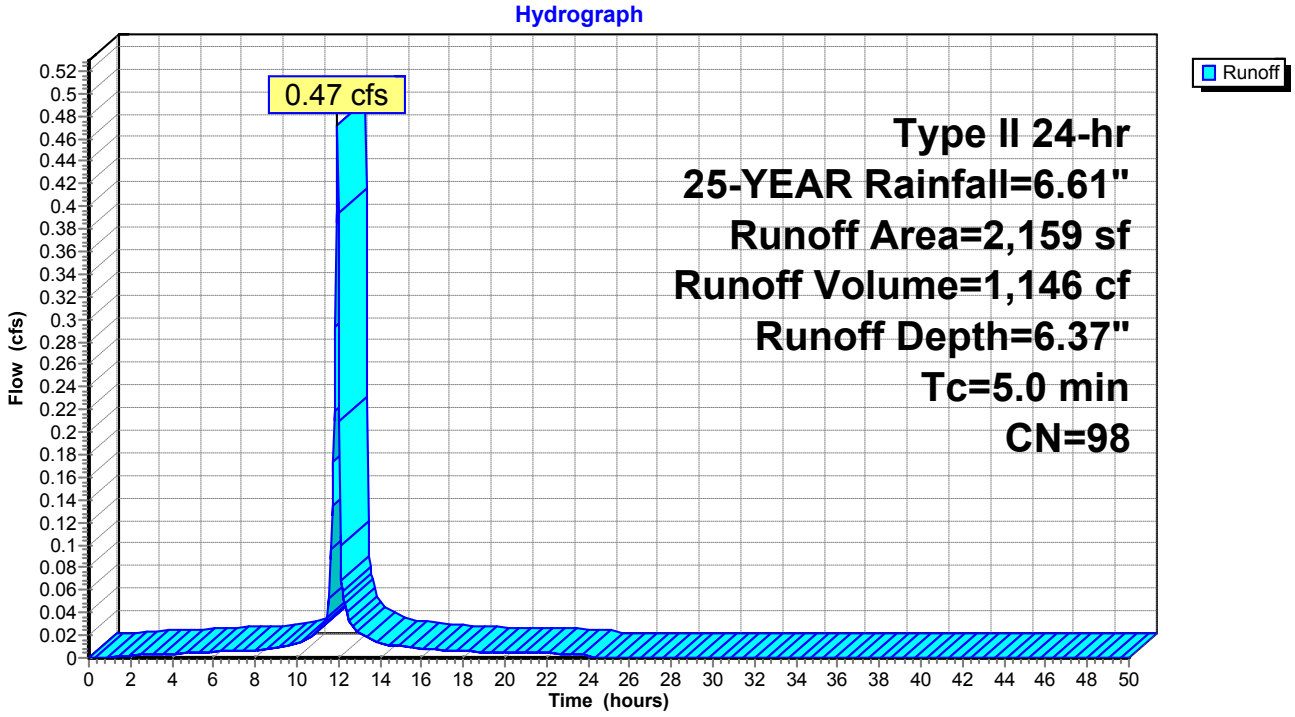
Runoff = 0.47 cfs @ 11.95 hrs, Volume= 1,146 cf, Depth= 6.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
2,159	98	Paved parking, HSG C
2,159		100.00% Impervious Area

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

Subcatchment DA-15: DA-15



Summary for Subcatchment DA-16: DA-16

[49] Hint: Tc<2dt may require smaller dt

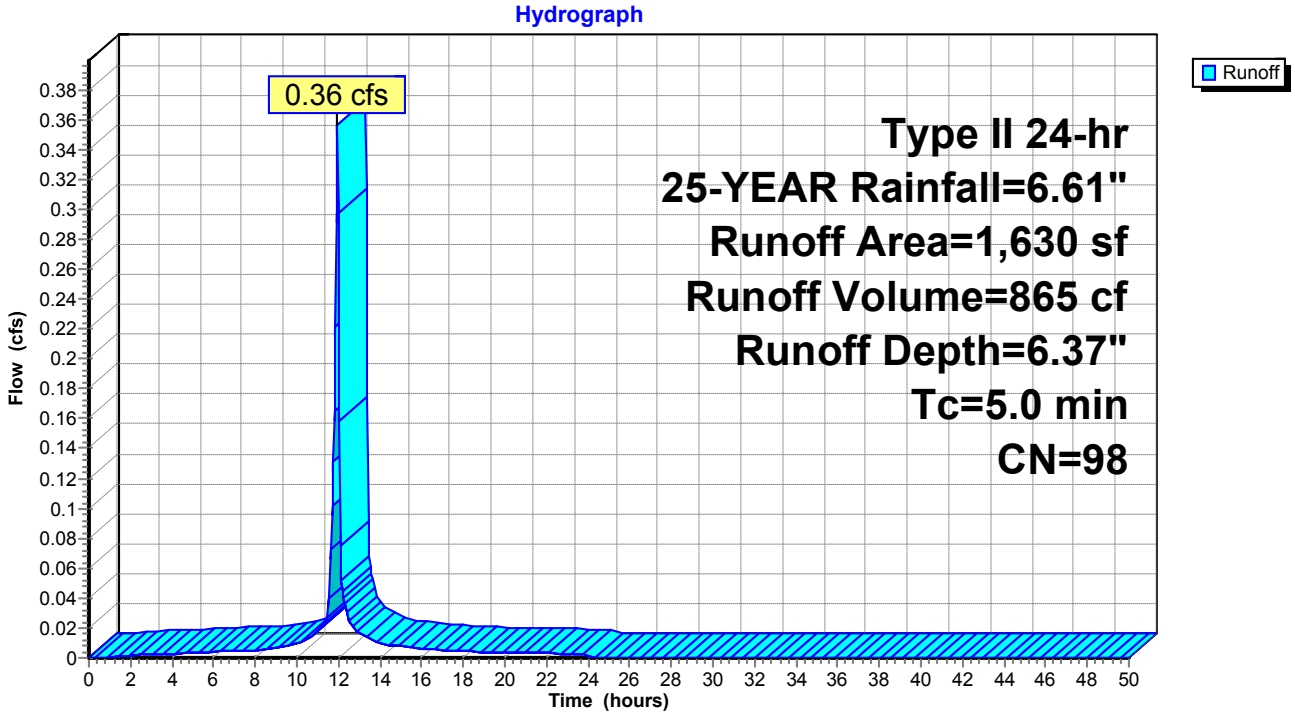
Runoff = 0.36 cfs @ 11.95 hrs, Volume= 865 cf, Depth= 6.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
1,630	98	Paved parking, HSG C
1,630		100.00% Impervious Area

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

Subcatchment DA-16: DA-16



Summary for Subcatchment DA-17: DA-17

[49] Hint: Tc<2dt may require smaller dt

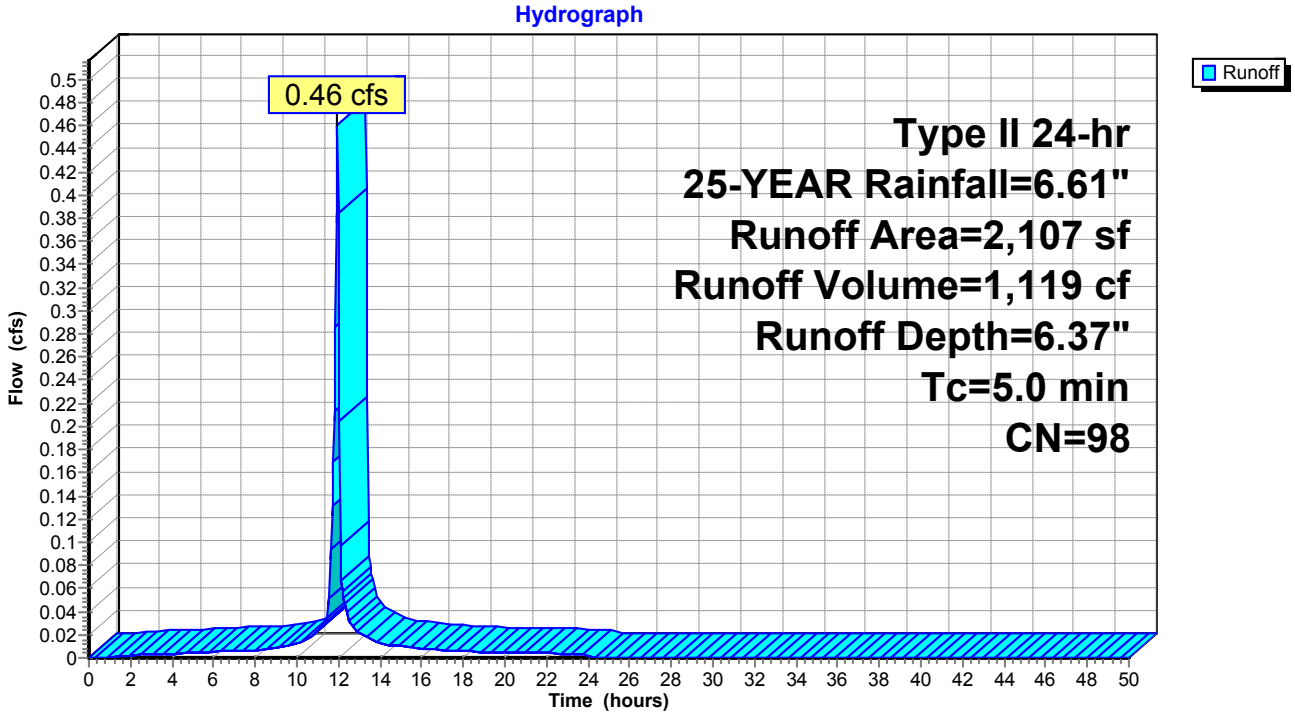
Runoff = 0.46 cfs @ 11.95 hrs, Volume= 1,119 cf, Depth= 6.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
2,107	98	Paved parking, HSG C
2,107		100.00% Impervious Area

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

Subcatchment DA-17: DA-17



Summary for Subcatchment DA-2: DA-2

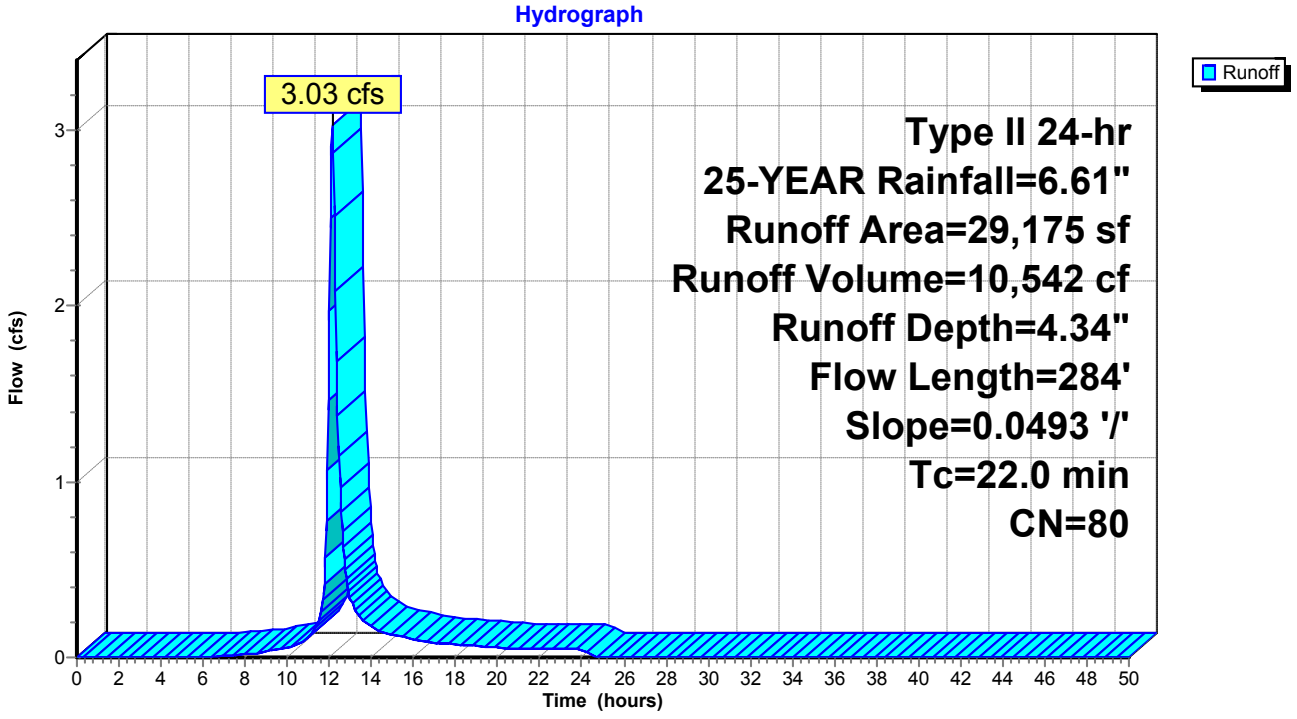
Runoff = 3.03 cfs @ 12.15 hrs, Volume= 10,542 cf, Depth= 4.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
6,390	72	Woods/grass comb., Good, HSG C
14,909	74	>75% Grass cover, Good, HSG C
7,876	98	Paved parking, HSG C
29,175	80	Weighted Average
21,299		73.00% Pervious Area
7,876		27.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.0	284	0.0493	0.22		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"

Subcatchment DA-2: DA-2



Summary for Subcatchment DA-2a: DA-2a

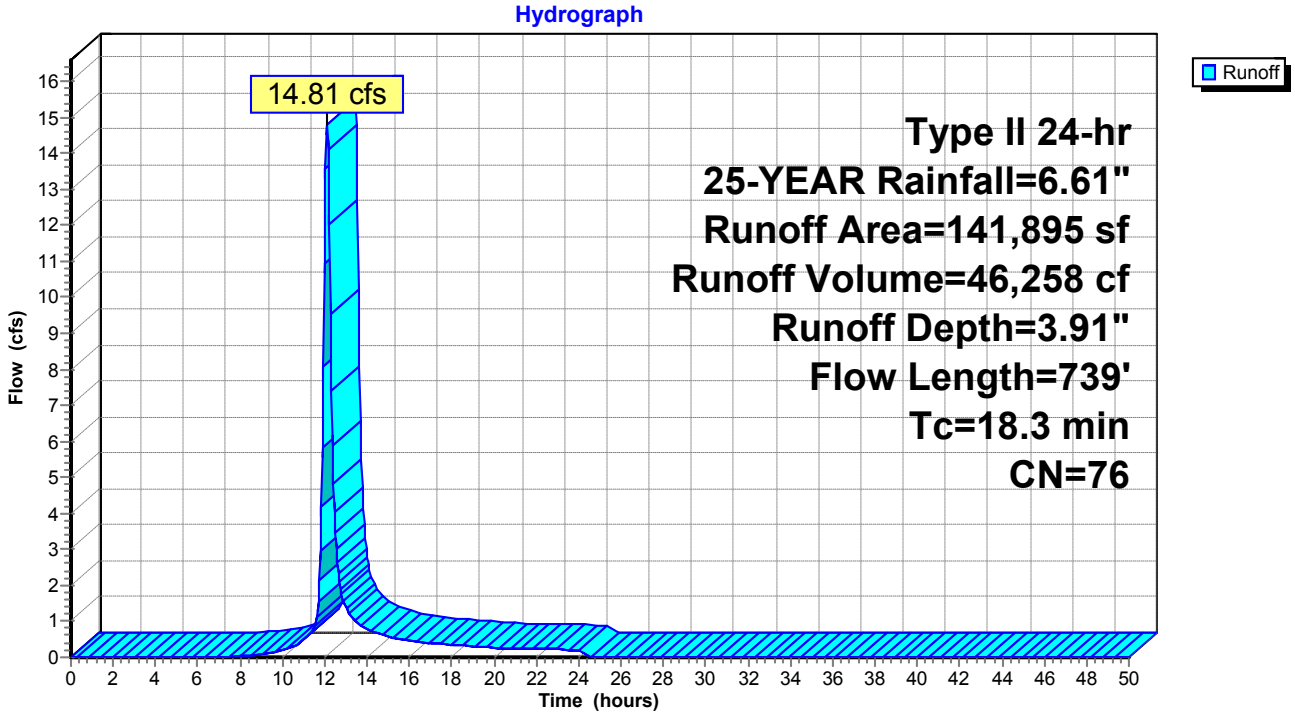
Runoff = 14.81 cfs @ 12.11 hrs, Volume= 46,258 cf, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
14,360	98	Paved parking, HSG C
20,313	72	Woods/grass comb., Good, HSG C
107,222	74	>75% Grass cover, Good, HSG C
141,895	76	Weighted Average
127,535		89.88% Pervious Area
14,360		10.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.1	244	0.1107	0.29		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"
1.7	164	0.1037	1.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.5	331	0.1027	2.24		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
18.3	739	Total			

Subcatchment DA-2a: DA-2a



Summary for Subcatchment DA-2b: DA-2b

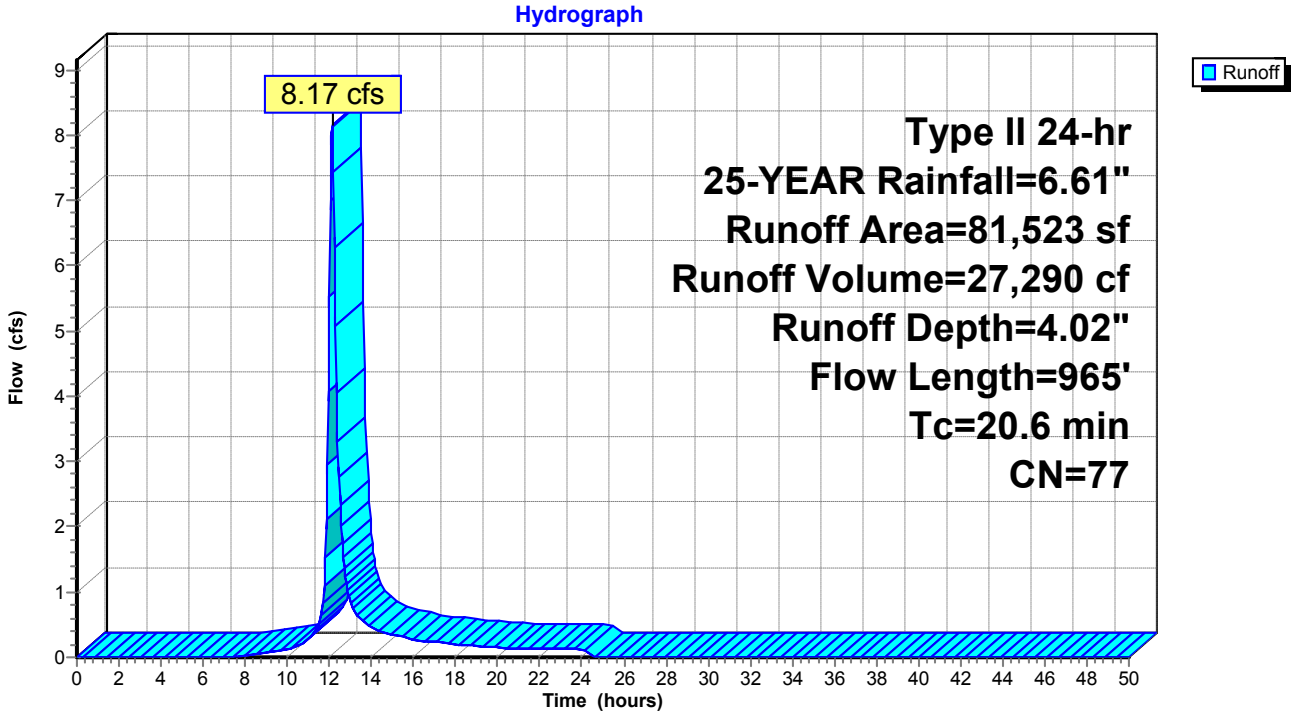
Runoff = 8.17 cfs @ 12.13 hrs, Volume= 27,290 cf, Depth= 4.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
10,589	98	Paved parking, HSG C
12,269	72	Woods/grass comb., Good, HSG C
58,665	74	>75% Grass cover, Good, HSG C
81,523	77	Weighted Average
70,934		87.01% Pervious Area
10,589		12.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	250	0.1040	0.28		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"
1.0	94	0.1060	1.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
4.9	621	0.0902	2.10		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
20.6	965	Total			

Subcatchment DA-2b: DA-2b



Summary for Subcatchment DA-3: DA-3

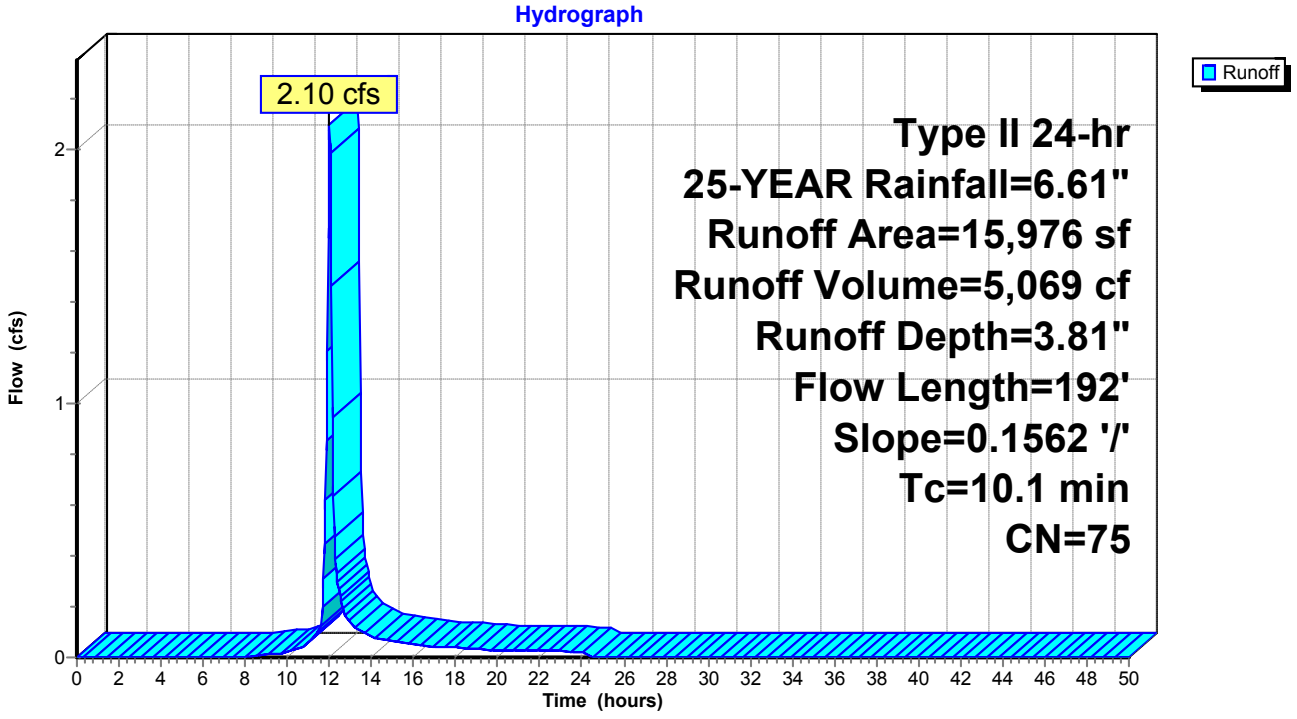
Runoff = 2.10 cfs @ 12.02 hrs, Volume= 5,069 cf, Depth= 3.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
2,108	72	Woods/grass comb., Good, HSG C
13,050	74	>75% Grass cover, Good, HSG C
818	98	Paved parking, HSG C
15,976	75	Weighted Average
15,158		94.88% Pervious Area
818		5.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	192	0.1562	0.32		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"

Subcatchment DA-3: DA-3



Summary for Subcatchment DA-4: DA-4

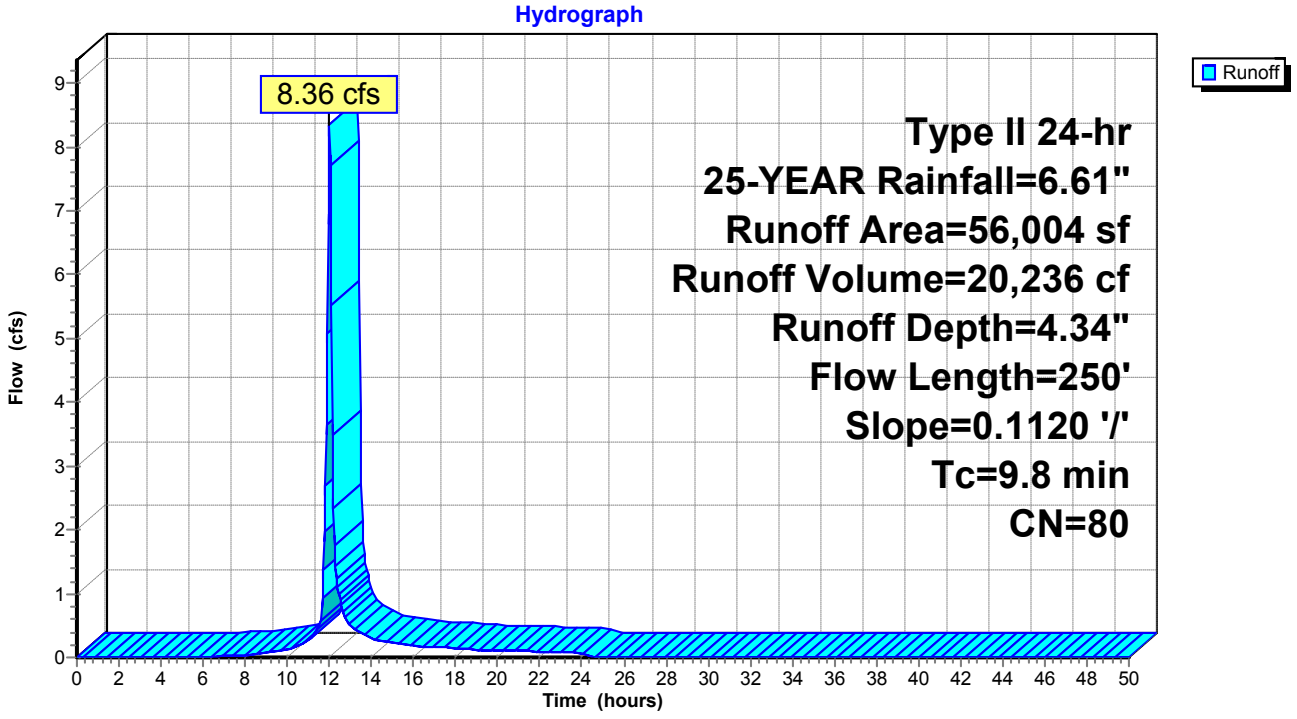
Runoff = 8.36 cfs @ 12.01 hrs, Volume= 20,236 cf, Depth= 4.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
2,602	72	Woods/grass comb., Good, HSG C
39,535	74	>75% Grass cover, Good, HSG C
13,867	98	Paved parking, HSG C
56,004	80	Weighted Average
42,137		75.24% Pervious Area
13,867		24.76% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	250	0.1120	0.43		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.49"

Subcatchment DA-4: DA-4



Summary for Subcatchment DA-4a: DA-4a

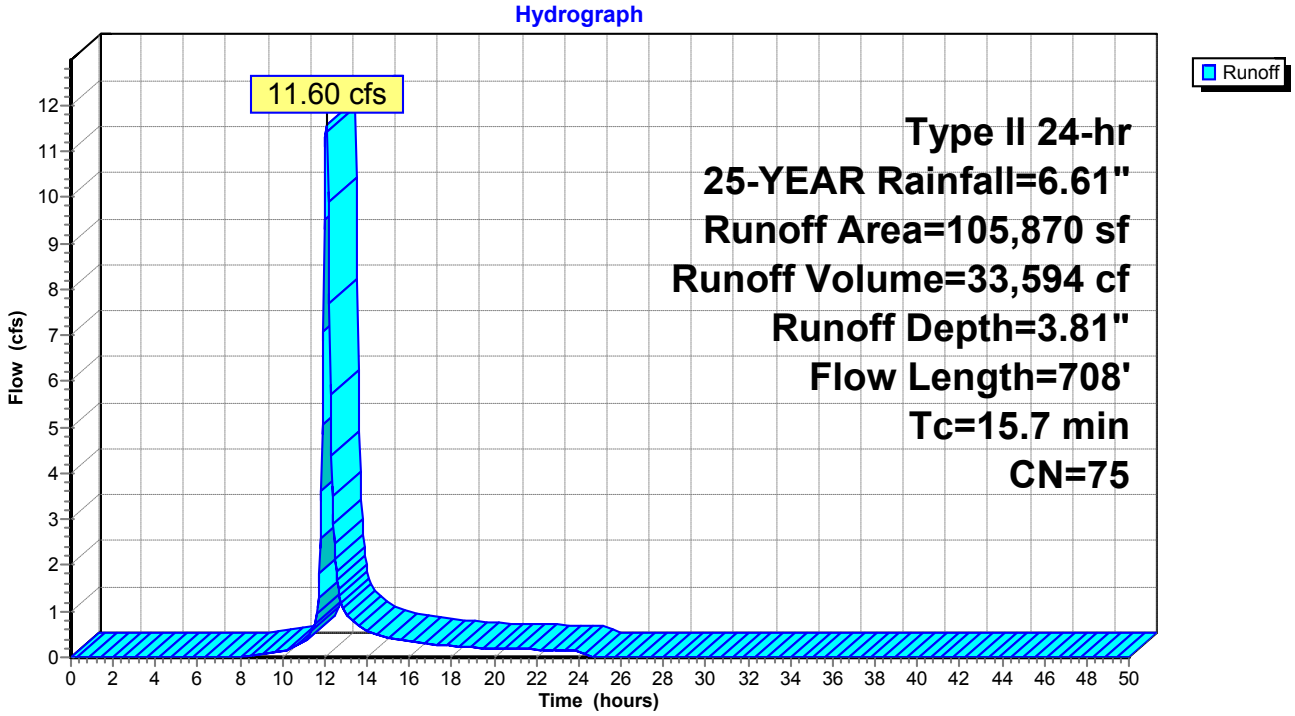
Runoff = 11.60 cfs @ 12.08 hrs, Volume= 33,594 cf, Depth= 3.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
13,963	72	Woods/grass comb., Good, HSG C
4,349	98	Paved parking, HSG C
87,558	74	>75% Grass cover, Good, HSG C
105,870	75	Weighted Average
101,521		95.89% Pervious Area
4,349		4.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	284	0.1303	0.46		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.49"
3.4	146	0.0822	0.72		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
2.1	278	0.0993	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
15.7	708	Total			

Subcatchment DA-4a: DA-4a



Summary for Subcatchment DA-5: DA-5

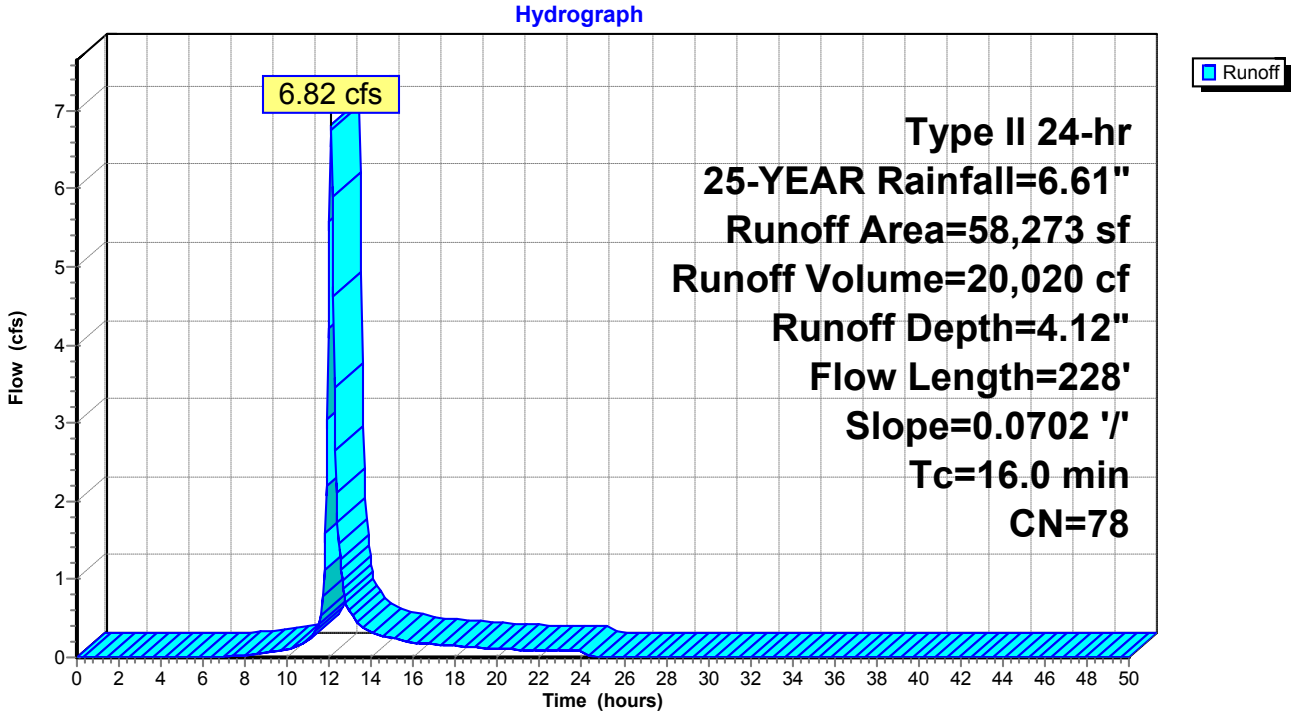
Runoff = 6.82 cfs @ 12.08 hrs, Volume= 20,020 cf, Depth= 4.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
6,817	72	Woods/grass comb., Good, HSG C
42,069	74	>75% Grass cover, Good, HSG C
9,387	98	Paved parking, HSG C
58,273	78	Weighted Average
48,886		83.89% Pervious Area
9,387		16.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.0	228	0.0702	0.24		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"

Subcatchment DA-5: DA-5



Summary for Subcatchment DA-5a: DA-5a

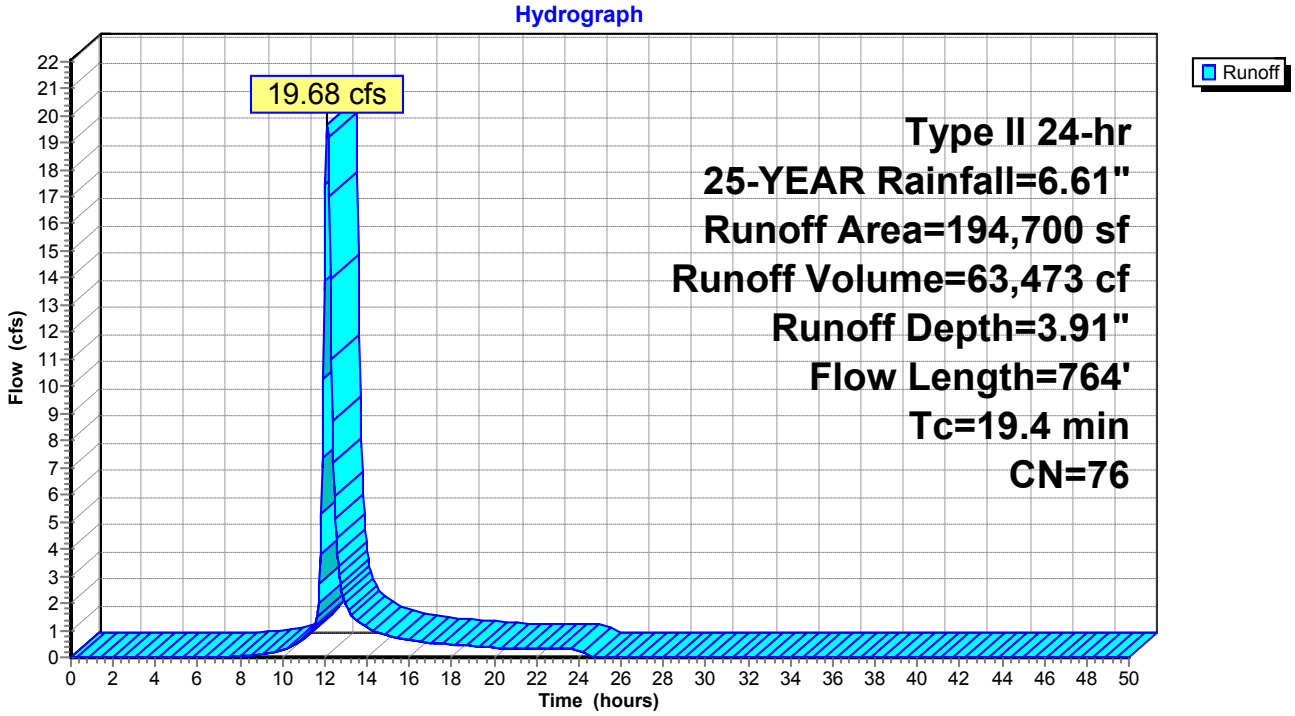
Runoff = 19.68 cfs @ 12.12 hrs, Volume= 63,473 cf, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
24,732	72	Woods/grass comb., Good, HSG C
18,582	98	Paved parking, HSG C
151,386	74	>75% Grass cover, Good, HSG C
194,700	76	Weighted Average
176,118		90.46% Pervious Area
18,582		9.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	250	0.1120	0.29		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"
2.7	384	0.1150	2.37		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	130	0.1270	0.89		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
19.4	764	Total			

Subcatchment DA-5a: DA-5a



Summary for Subcatchment DA-6: DA-6

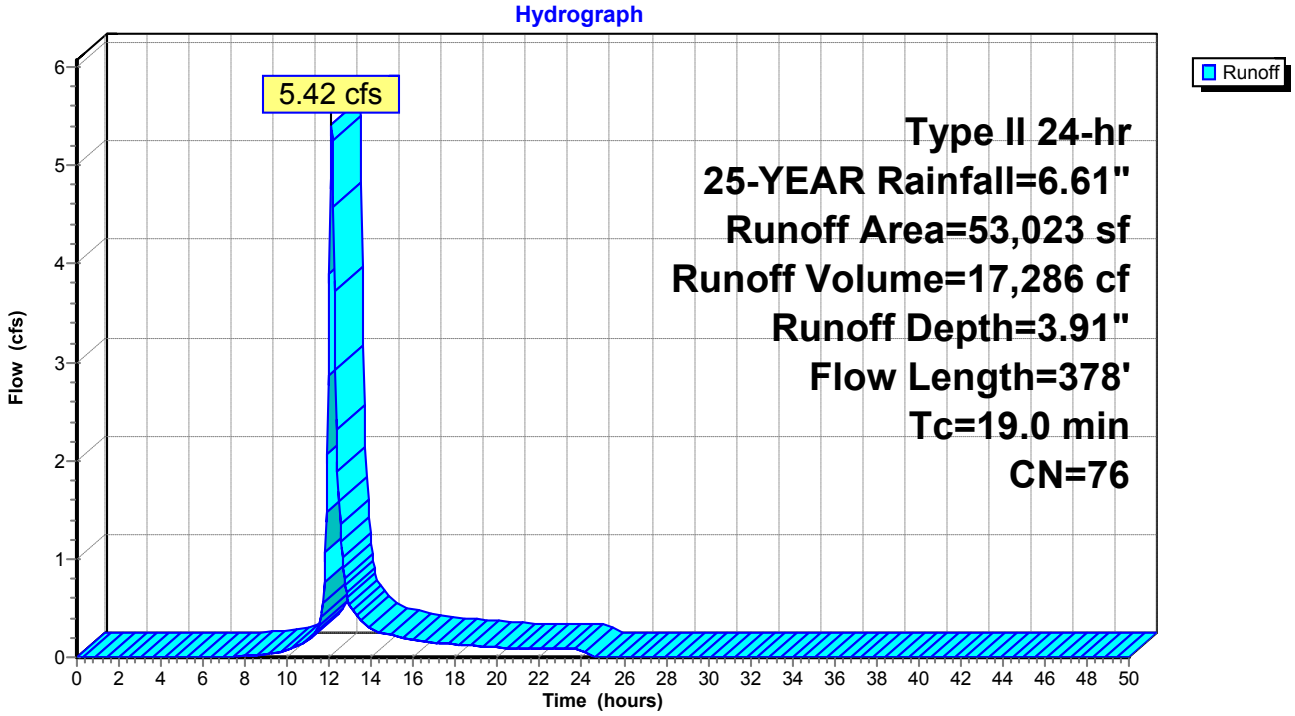
Runoff = 5.42 cfs @ 12.11 hrs, Volume= 17,286 cf, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
25,517	72	Woods/grass comb., Good, HSG C
21,299	74	>75% Grass cover, Good, HSG C
6,207	98	Paved parking, HSG C
53,023	76	Weighted Average
46,816		88.29% Pervious Area
6,207		11.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.5	185	0.1027	0.18		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.49"
1.5	193	0.0984	2.20		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
19.0	378	Total			

Subcatchment DA-6: DA-6



Summary for Subcatchment DA-6a: DA-6a

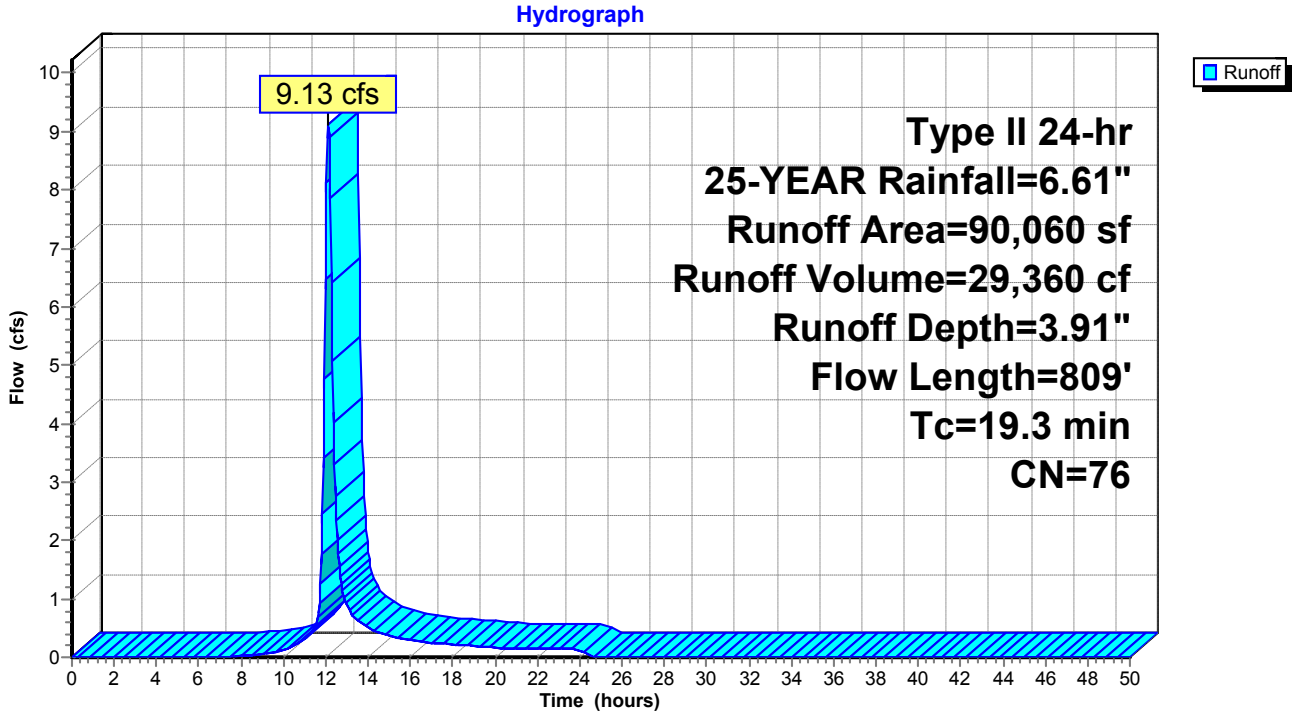
Runoff = 9.13 cfs @ 12.12 hrs, Volume= 29,360 cf, Depth= 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
2,659	72	Woods/grass comb., Good, HSG C
77,944	74	>75% Grass cover, Good, HSG C
9,457	98	Paved parking, HSG C
90,060	76	Weighted Average
80,603		89.50% Pervious Area
9,457		10.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.7	250	0.1040	0.28		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.49"
4.6	559	0.0823	2.01		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
19.3	809	Total			

Subcatchment DA-6a: DA-6a



Summary for Subcatchment DA-7: DA-7

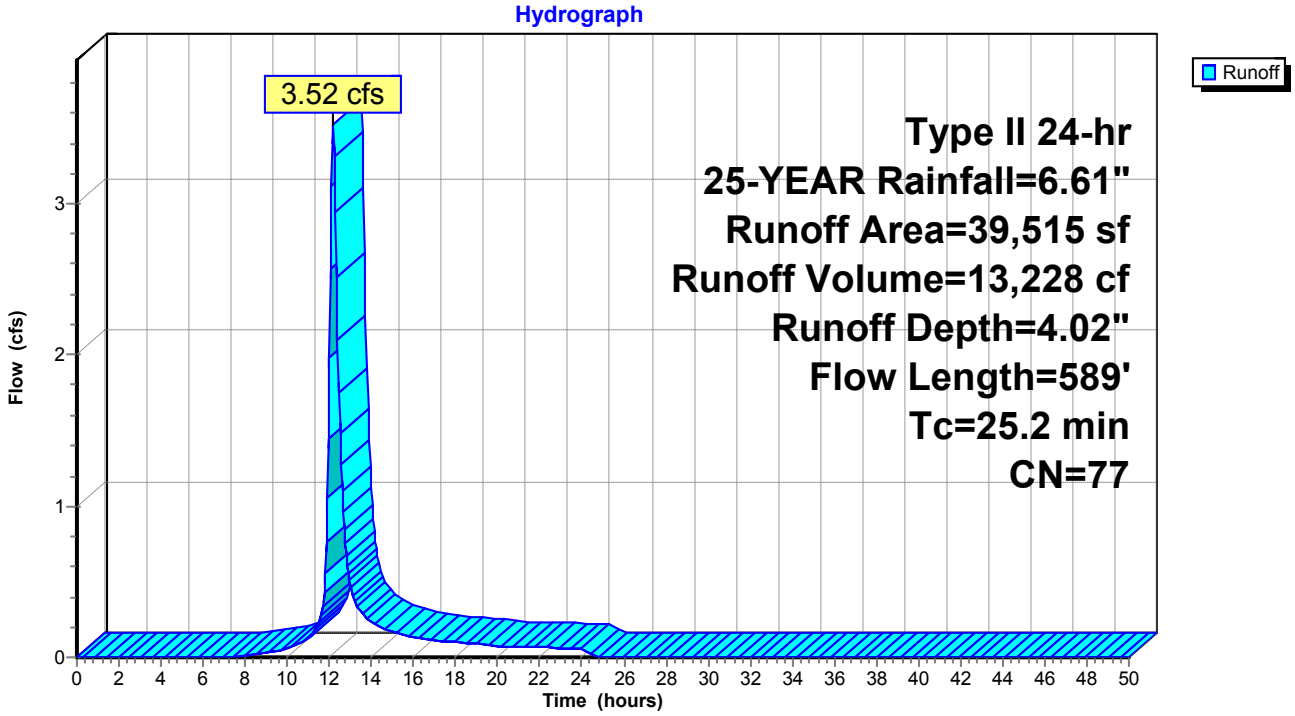
Runoff = 3.52 cfs @ 12.19 hrs, Volume= 13,228 cf, Depth= 4.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
16,249	72	Woods/grass comb., Good, HSG C
17,675	74	>75% Grass cover, Good, HSG C
5,591	98	Paved parking, HSG C
39,515	77	Weighted Average
33,924		85.85% Pervious Area
5,591		14.15% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	250	0.1120	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.49"
1.8	90	0.1111	0.83		**Shallow Concentrated Flow,** Forest w/Heavy Litter Kv= 2.5 fps
1.9	249	0.1004	2.22		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
25.2	589	Total			

Subcatchment DA-7: DA-7



Summary for Subcatchment DA-8: DA-8

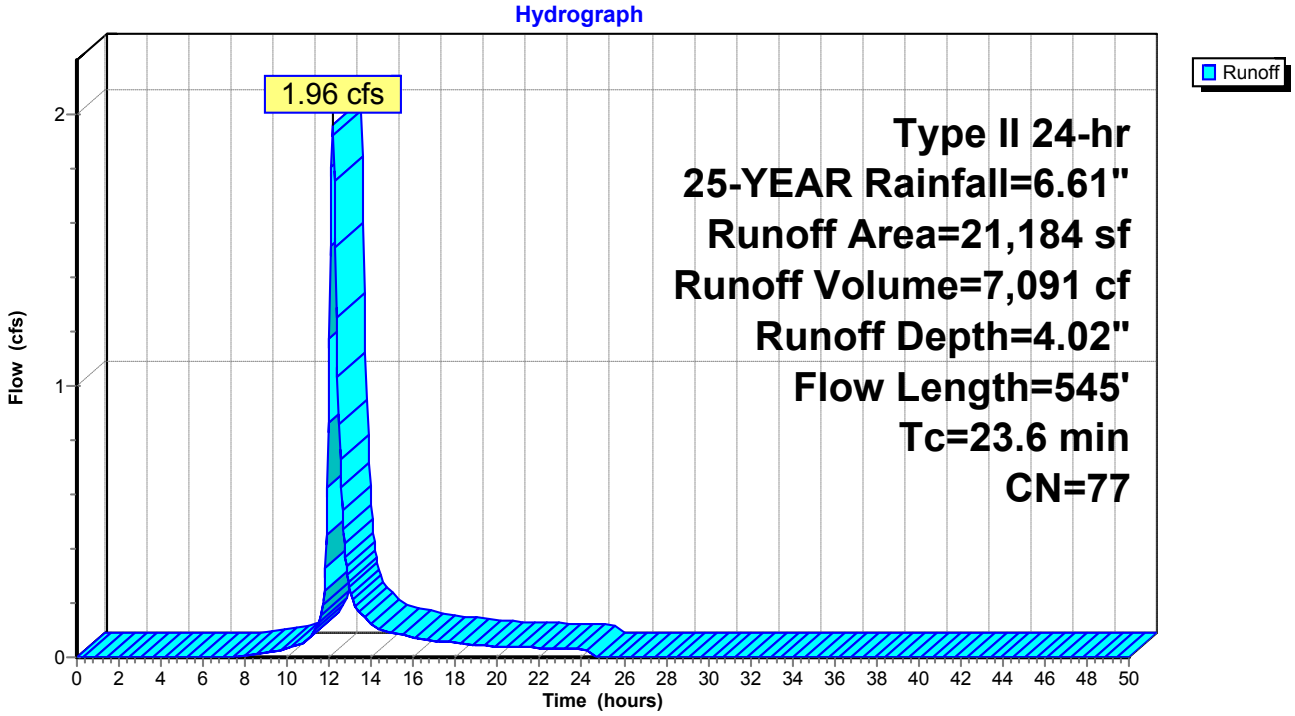
Runoff = 1.96 cfs @ 12.17 hrs, Volume= 7,091 cf, Depth= 4.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
8,852	72	Woods/grass comb., Good, HSG C
9,279	74	>75% Grass cover, Good, HSG C
3,053	98	Paved parking, HSG C
21,184	77	Weighted Average
18,131		85.59% Pervious Area
3,053		14.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	250	0.1120	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.49"
0.4	56	0.1070	2.29		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.7	239	0.1088	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
23.6	545	Total			

Subcatchment DA-8: DA-8



Summary for Subcatchment DA-9: DA-9

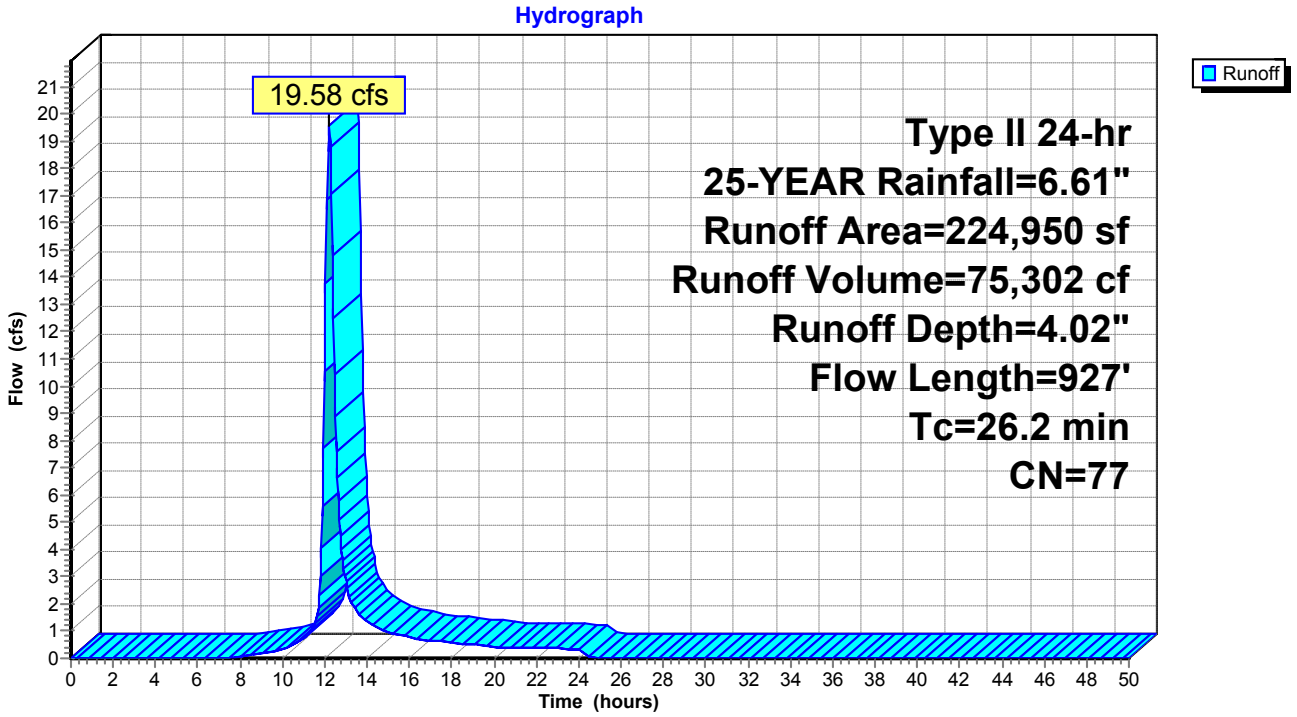
Runoff = 19.58 cfs @ 12.20 hrs, Volume= 75,302 cf, Depth= 4.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.61"

Area (sf)	CN	Description
54,875	72	Woods/grass comb., Good, HSG C
138,673	74	>75% Grass cover, Good, HSG C
31,402	98	Paved parking, HSG C
224,950	77	Weighted Average
193,548		86.04% Pervious Area
31,402		13.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	250	0.1120	0.19		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.49"
0.3	50	0.1400	2.62		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.7	207	0.0870	2.06		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	100	0.7000	5.86		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	320	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
26.2	927	Total			

Subcatchment DA-9: DA-9



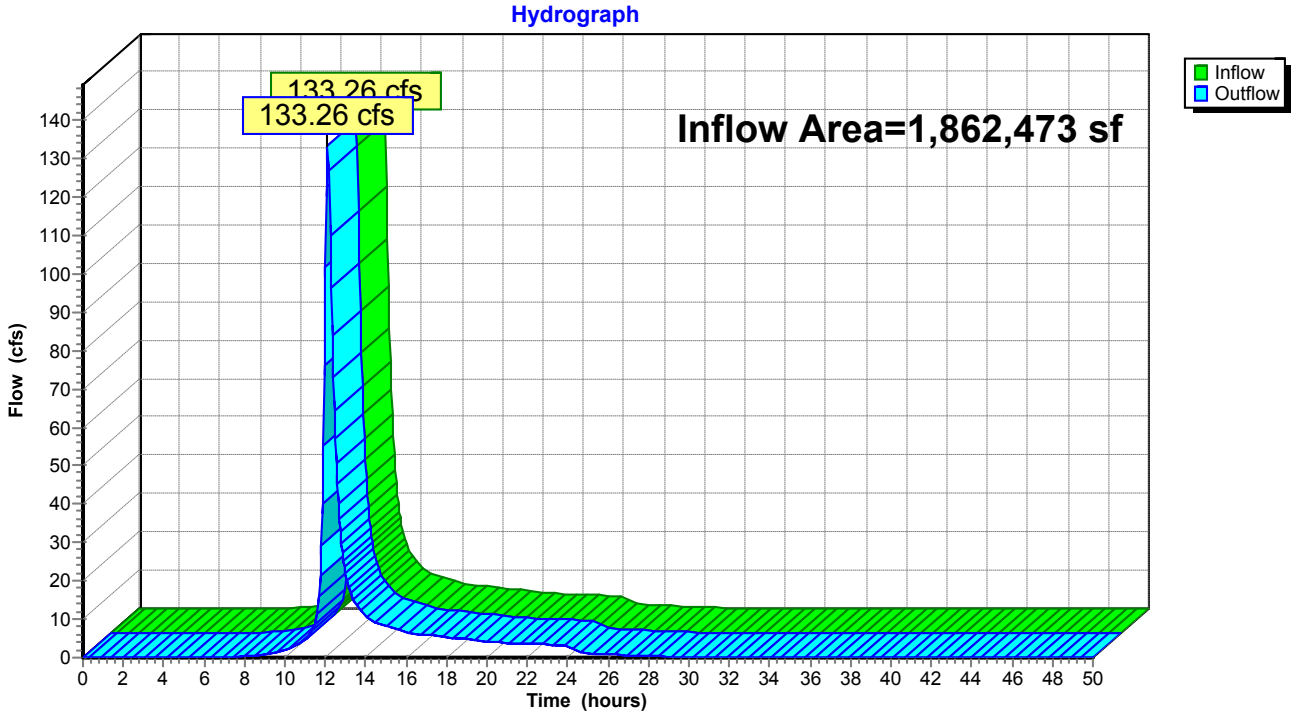
Summary for Reach 7R: OUTLET

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

Inflow Area = 1,862,473 sf, 11.38% Impervious, Inflow Depth = 3.84" for 25-YEAR event
Inflow = 133.26 cfs @ 12.12 hrs, Volume= 595,483 cf
Outflow = 133.26 cfs @ 12.12 hrs, Volume= 595,483 cf, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs

Reach 7R: OUTLET



Summary for Pond 1P: DETENTION POND 3

[79] Warning: Submerged Pond 2P Primary device # 1 OUTLET by 0.49'

Inflow Area = 532,525 sf, 8.78% Impervious, Inflow Depth > 3.59" for 25-YEAR event
Inflow = 21.20 cfs @ 12.17 hrs, Volume= 159,358 cf
Outflow = 20.27 cfs @ 12.26 hrs, Volume= 157,205 cf, Atten= 4%, Lag= 5.5 min
Primary = 1.42 cfs @ 12.26 hrs, Volume= 65,119 cf
Secondary = 18.85 cfs @ 12.26 hrs, Volume= 92,085 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 55.50' @ 12.26 hrs Surf.Area= 4,861 sf Storage= 11,130 cf

Plug-Flow detention time= 49.8 min calculated for 157,205 cf (99% of inflow)
Center-of-Mass det. time= 35.8 min (992.6 - 956.8)

Volume	Invert	Avail.Storage	Storage Description
#1	52.00'	16,527 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

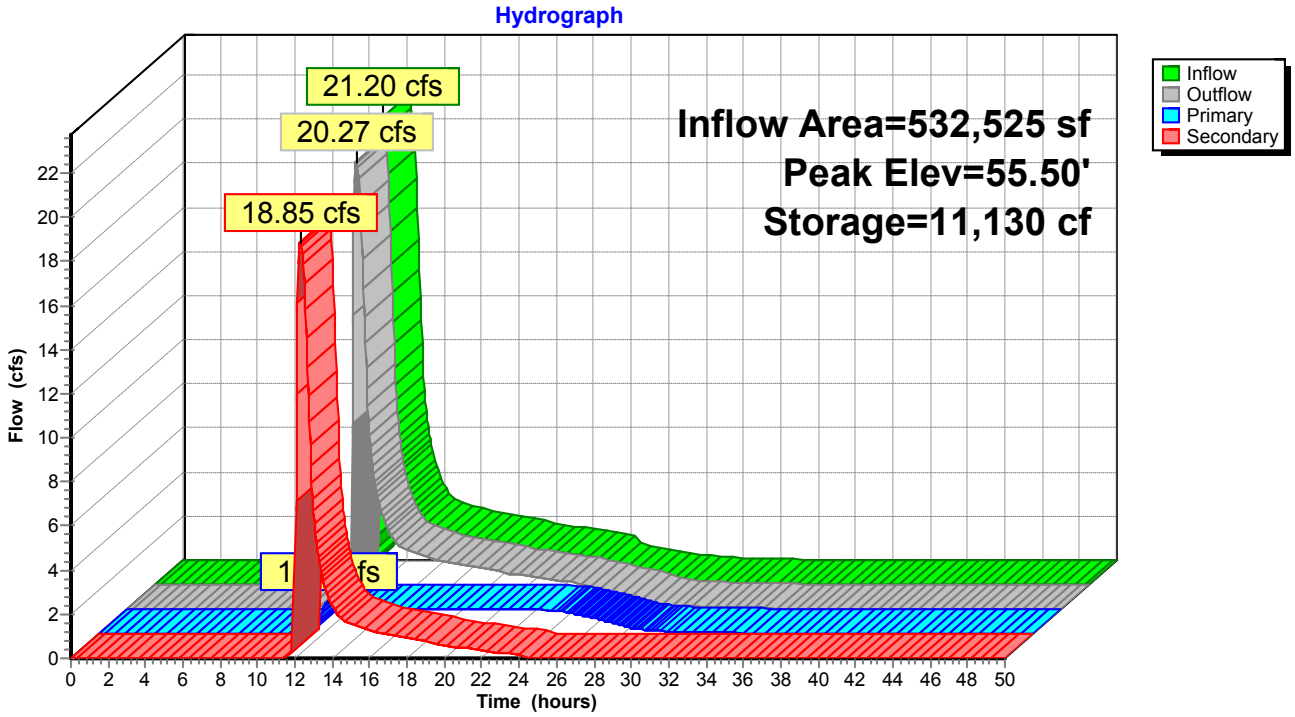
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
52.00	1,631	0	0
54.00	3,355	4,986	4,986
56.00	5,369	8,724	13,710
56.50	5,897	2,817	16,527

Device	Routing	Invert	Outlet Devices
#1	Primary	53.00'	**6.0" Round Culvert** L= 46.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 53.00' / 46.00' S= 0.1522 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	54.50'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.42 cfs @ 12.26 hrs HW=55.49' (Free Discharge)
1=Culvert (Inlet Controls 1.42 cfs @ 7.21 fps)

Secondary OutFlow Max=18.79 cfs @ 12.26 hrs HW=55.49' (Free Discharge)
2=Sharp-Crested Rectangular Weir (Weir Controls 18.79 cfs @ 3.26 fps)

Pond 1P: DETENTION POND 3



Summary for Pond 2P: DETENTION POND 2

[79] Warning: Submerged Pond 3P Primary device # 1 OUTLET by 0.05'

Inflow Area = 390,630 sf, 8.29% Impervious, Inflow Depth > 3.70" for 25-YEAR event
Inflow = 15.90 cfs @ 12.33 hrs, Volume= 120,324 cf
Outflow = 14.70 cfs @ 12.42 hrs, Volume= 113,100 cf, Atten= 8%, Lag= 5.4 min
Primary = 0.97 cfs @ 12.42 hrs, Volume= 35,330 cf
Secondary = 13.73 cfs @ 12.42 hrs, Volume= 77,770 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 62.05' @ 12.42 hrs Surf.Area= 7,668 sf Storage= 15,812 cf

Plug-Flow detention time= 90.3 min calculated for 112,987 cf (94% of inflow)
Center-of-Mass det. time= 52.8 min (1,009.4 - 956.6)

Volume	Invert	Avail.Storage	Storage Description
#1	59.00'	19,390 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

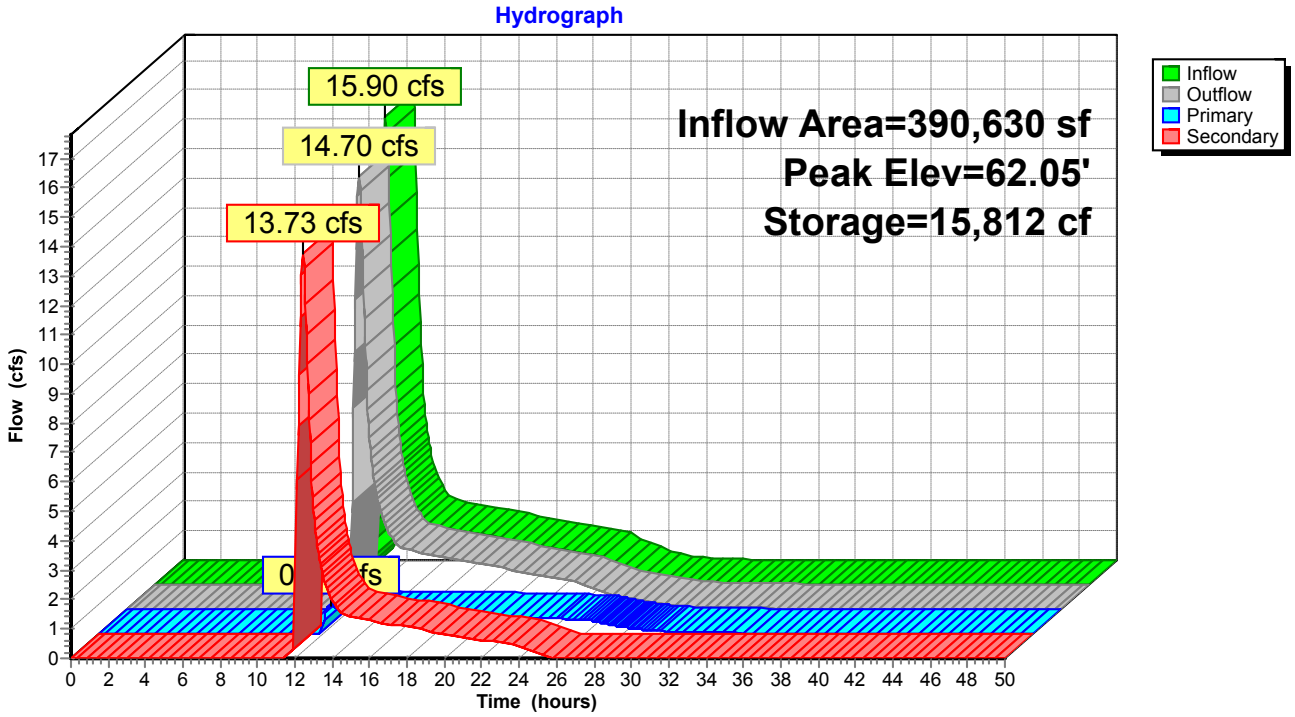
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
59.00	1,386	0	0
60.00	4,751	3,069	3,069
62.00	7,590	12,341	15,410
62.50	8,330	3,980	19,390

Device	Routing	Invert	Outlet Devices
#1	Primary	60.75'	**6.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 60.75' / 55.00' S= 0.1917 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	61.25'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.97 cfs @ 12.42 hrs HW=62.05' (Free Discharge)
1=Culvert (Inlet Controls 0.97 cfs @ 4.93 fps)

Secondary OutFlow Max=13.65 cfs @ 12.42 hrs HW=62.05' (Free Discharge)
2=Sharp-Crested Rectangular Weir (Weir Controls 13.65 cfs @ 2.92 fps)

Pond 2P: DETENTION POND 2



Summary for Pond 3P: DETENTION POND 1

Inflow Area = 284,760 sf, 9.85% Impervious, Inflow Depth = 3.91" for 25-YEAR event
Inflow = 28.81 cfs @ 12.12 hrs, Volume= 92,832 cf
Outflow = 12.36 cfs @ 12.37 hrs, Volume= 86,730 cf, Atten= 57%, Lag= 14.8 min
Primary = 1.77 cfs @ 12.37 hrs, Volume= 64,715 cf
Secondary = 10.59 cfs @ 12.37 hrs, Volume= 22,015 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 70.17' @ 12.37 hrs Surf.Area= 11,675 sf Storage= 39,377 cf

Plug-Flow detention time= 212.1 min calculated for 86,643 cf (93% of inflow)
Center-of-Mass det. time= 177.2 min (1,006.3 - 829.2)

Volume	Invert	Avail.Storage	Storage Description
#1	65.00'	43,335 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

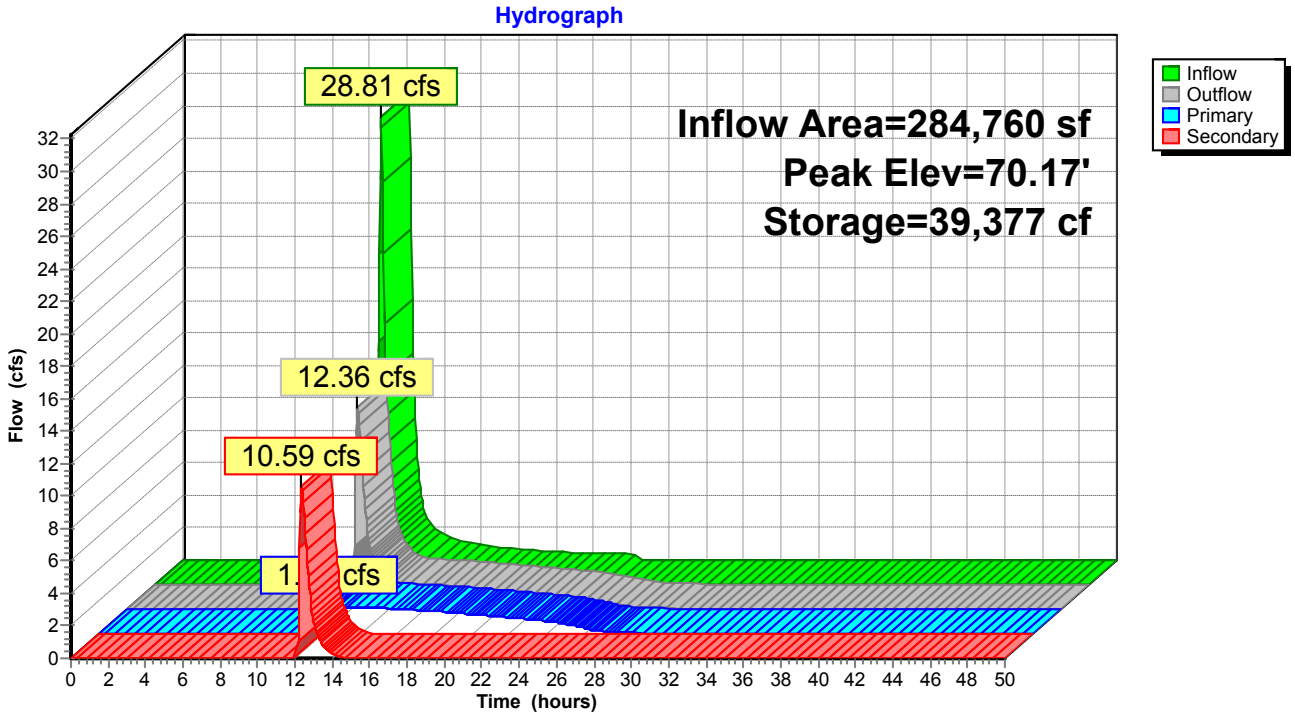
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
65.00	3,065	0	0
66.00	4,798	3,932	3,932
68.00	8,721	13,519	17,451
70.00	11,226	19,947	37,398
70.50	12,525	5,938	43,335

Device	Routing	Invert	Outlet Devices
#1	Primary	66.40'	**6.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 66.40' / 62.00' S= 0.0880 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#2	Secondary	69.50'	**6.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.77 cfs @ 12.37 hrs HW=70.17' (Free Discharge)
1=Culvert (Inlet Controls 1.77 cfs @ 9.03 fps)

Secondary OutFlow Max=10.47 cfs @ 12.37 hrs HW=70.17' (Free Discharge)
2=Sharp-Crested Rectangular Weir (Weir Controls 10.47 cfs @ 2.67 fps)

Pond 3P: DETENTION POND 1



Summary for Pond 4P: PR-CB-1

[57] Hint: Peaked at 32.55' (Flood elevation advised)

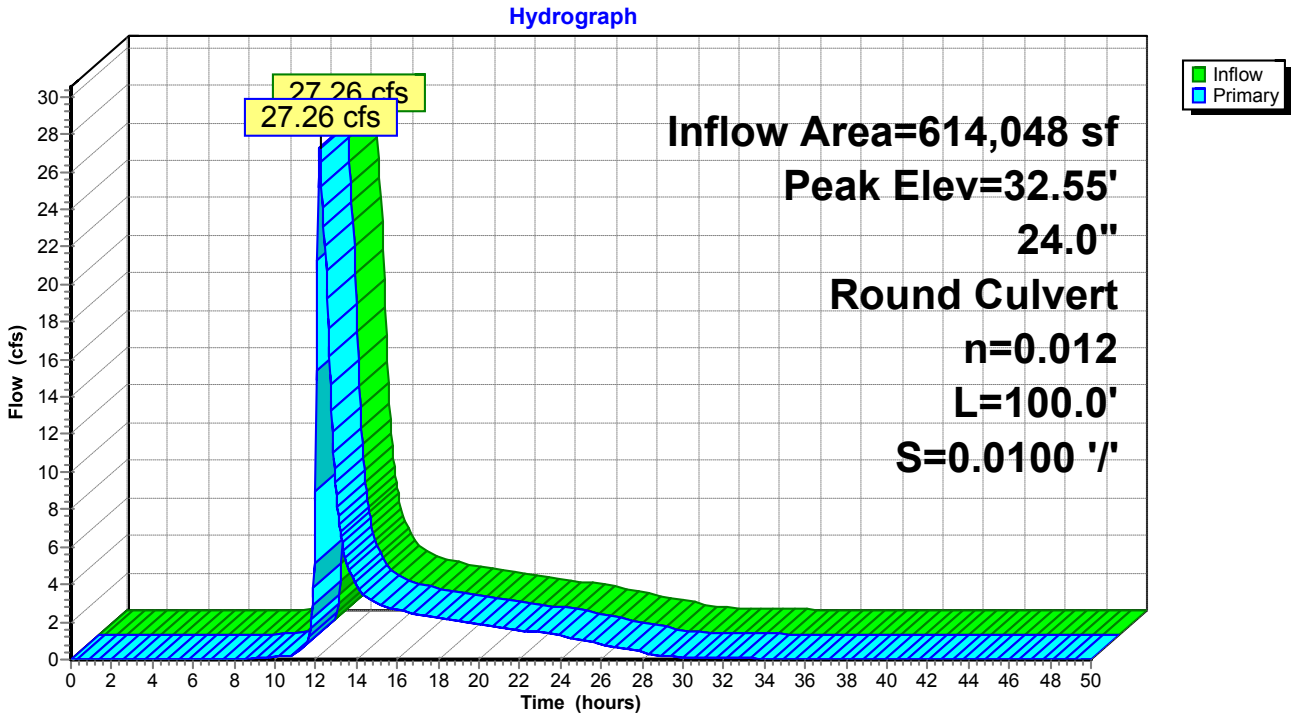
Inflow Area = 614,048 sf, 9.34% Impervious, Inflow Depth > 3.61" for 25-YEAR event
Inflow = 27.26 cfs @ 12.21 hrs, Volume= 184,495 cf
Outflow = 27.26 cfs @ 12.21 hrs, Volume= 184,495 cf, Atten= 0%, Lag= 0.0 min
Primary = 27.26 cfs @ 12.21 hrs, Volume= 184,495 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 32.55' @ 12.21 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	28.30'	**24.0" Round Culvert** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 28.30' / 27.30' S= 0.0100 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=27.09 cfs @ 12.21 hrs HW=32.51' (Free Discharge)
1=Culvert (Inlet Controls 27.09 cfs @ 8.62 fps)

Pond 4P: PR-CB-1



Summary for Pond CB-1: CB-1

[58] Hint: Peaked 0.85' above defined flood level

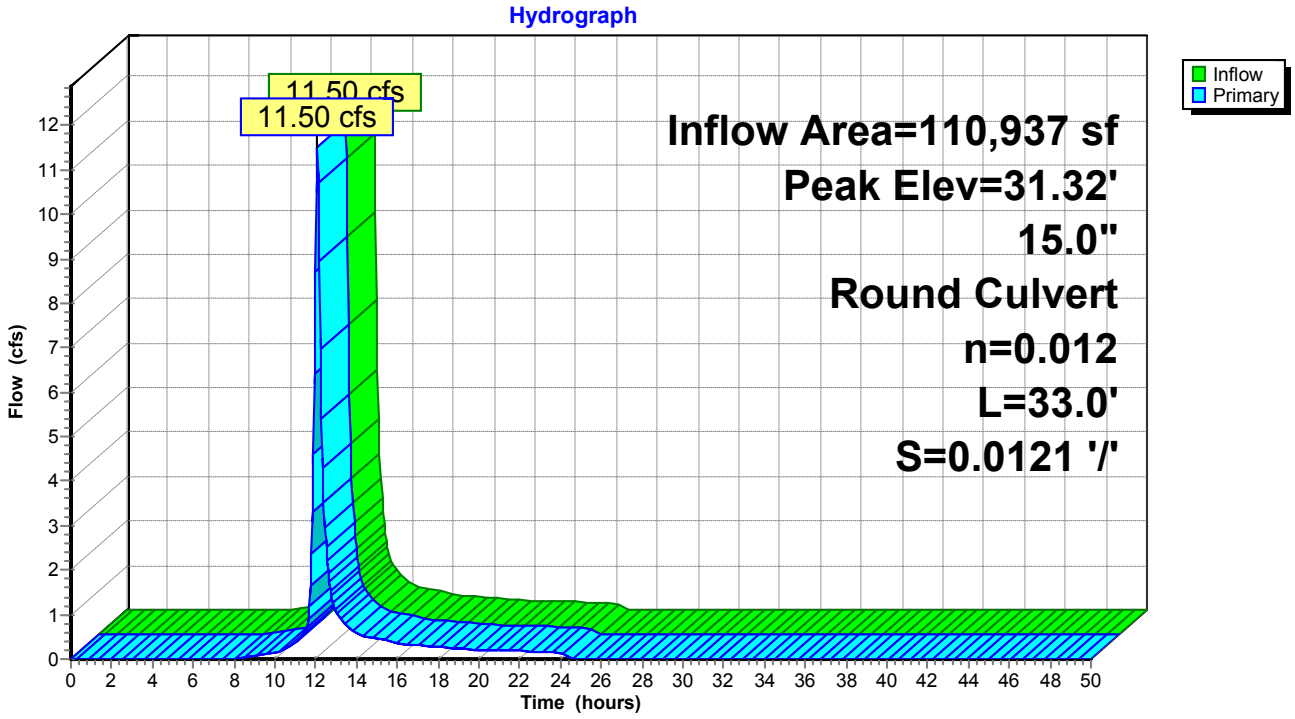
Inflow Area = 110,937 sf, 8.04% Impervious, Inflow Depth = 3.81" for 25-YEAR event
Inflow = 11.50 cfs @ 12.10 hrs, Volume= 35,202 cf
Outflow = 11.50 cfs @ 12.10 hrs, Volume= 35,202 cf, Atten= 0%, Lag= 0.0 min
Primary = 11.50 cfs @ 12.10 hrs, Volume= 35,202 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 31.32' @ 12.10 hrs
Flood Elev= 30.47'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.90'	**15.0" Round RCP_Round 15"** L= 33.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 26.90' / 26.50' S= 0.0121 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.23 sf

Primary OutFlow Max=11.50 cfs @ 12.10 hrs HW=31.31' (Free Discharge)
1=RCP_Round 15" (Inlet Controls 11.50 cfs @ 9.37 fps)

Pond CB-1: CB-1



Summary for Pond CB-10: CB-10

[58] Hint: Peaked 238.57' above defined flood level
[81] Warning: Exceeded Pond CB-11 by 240.42' @ 12.10 hrs
[81] Warning: Exceeded Pond CB-12 by 158.49' @ 12.10 hrs

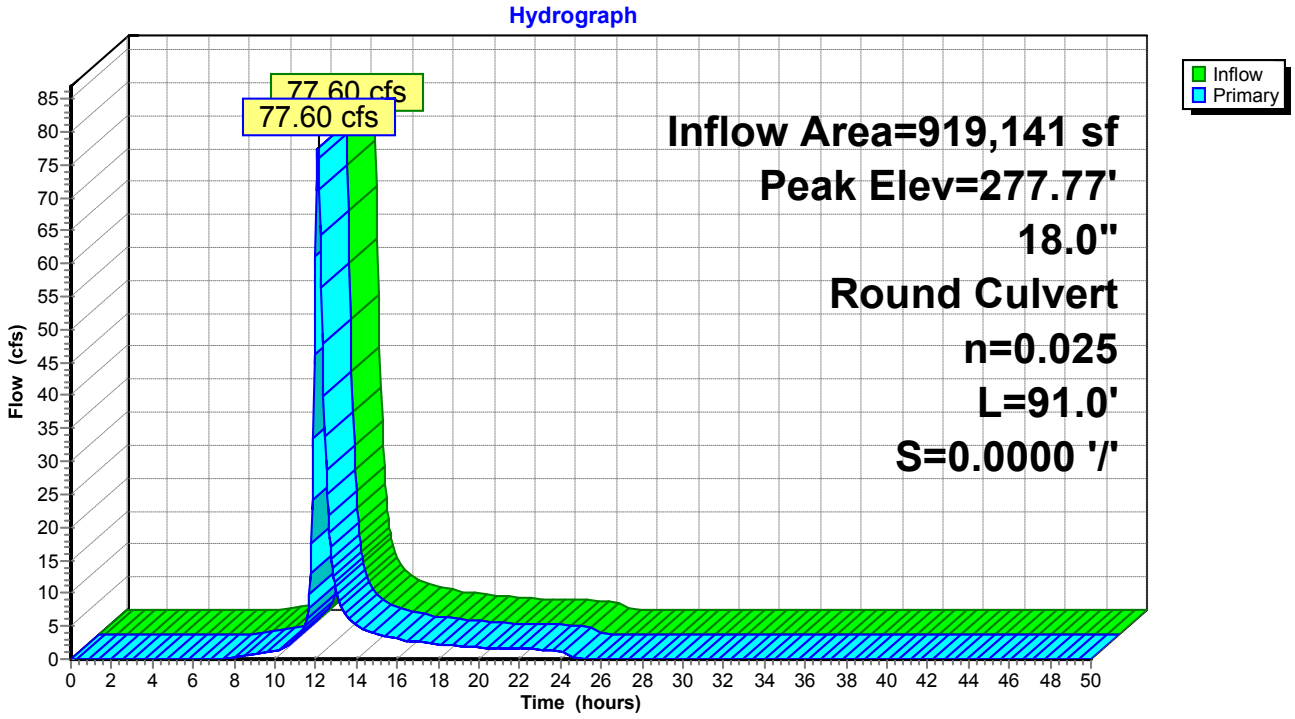
Inflow Area = 919,141 sf, 11.06% Impervious, Inflow Depth = 3.91" for 25-YEAR event
Inflow = 77.60 cfs @ 12.12 hrs, Volume= 299,505 cf
Outflow = 77.60 cfs @ 12.12 hrs, Volume= 299,505 cf, Atten= 0%, Lag= 0.0 min
Primary = 77.60 cfs @ 12.12 hrs, Volume= 299,505 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 277.77' @ 12.11 hrs
Flood Elev= 39.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	35.20'	**18.0" Round CMP_Round 18"** L= 91.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 35.20' / 35.20' S= 0.0000 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=76.97 cfs @ 12.12 hrs HW=273.95' (Free Discharge)
1=CMP_Round 18" (Barrel Controls 76.97 cfs @ 43.55 fps)

Pond CB-10: CB-10



Summary for Pond CB-11: CB-11

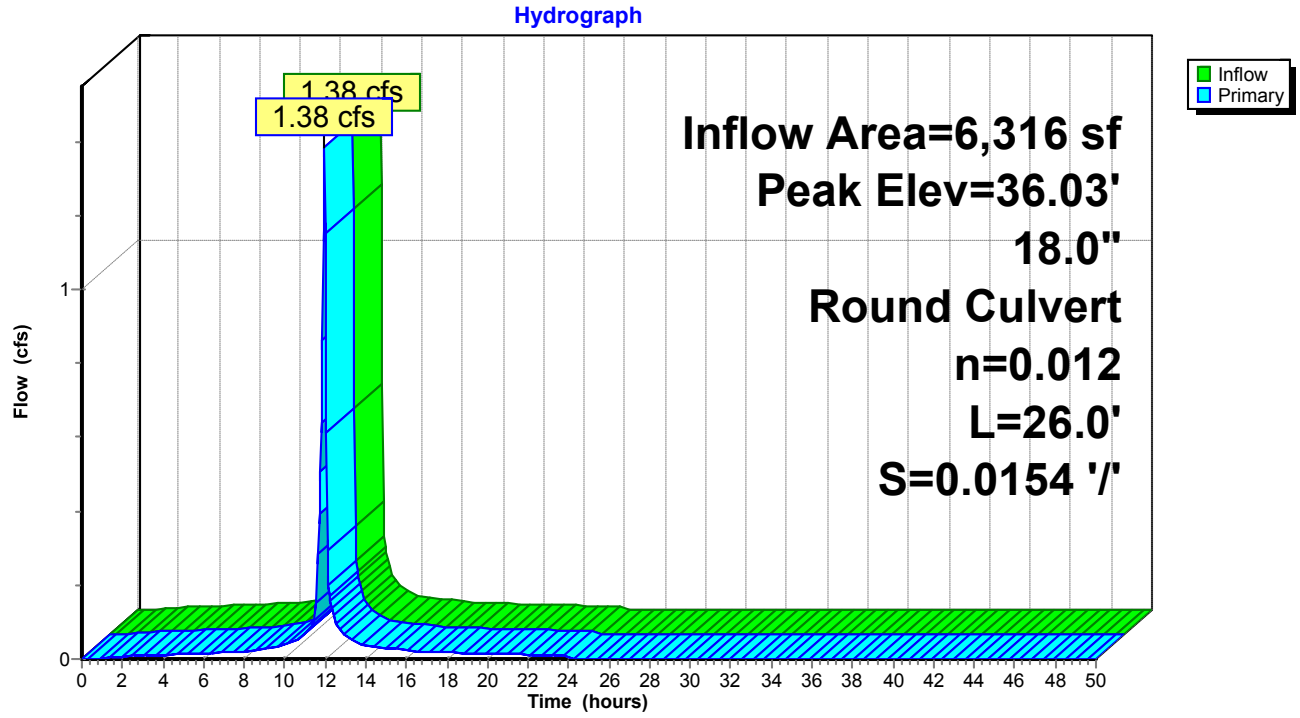
Inflow Area = 6,316 sf,100.00% Impervious, Inflow Depth = 6.37" for 25-YEAR event
Inflow = 1.38 cfs @ 11.95 hrs, Volume= 3,353 cf
Outflow = 1.38 cfs @ 11.95 hrs, Volume= 3,353 cf, Atten= 0%, Lag= 0.0 min
Primary = 1.38 cfs @ 11.95 hrs, Volume= 3,353 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 36.03' @ 11.95 hrs
Flood Elev= 39.13'

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**18.0" Round RCP_Round 18"** L= 26.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 35.50' / 35.10' S= 0.0154 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=1.38 cfs @ 11.95 hrs HW=36.03' (Free Discharge)
1=RCP_Round 18" (Inlet Controls 1.38 cfs @ 2.48 fps)

Pond CB-11: CB-11



Summary for Pond CB-12: CB-12

[58] Hint: Peaked 75.29' above defined flood level
[79] Warning: Submerged Pond CB-13 Primary device # 1 INLET by 74.36'

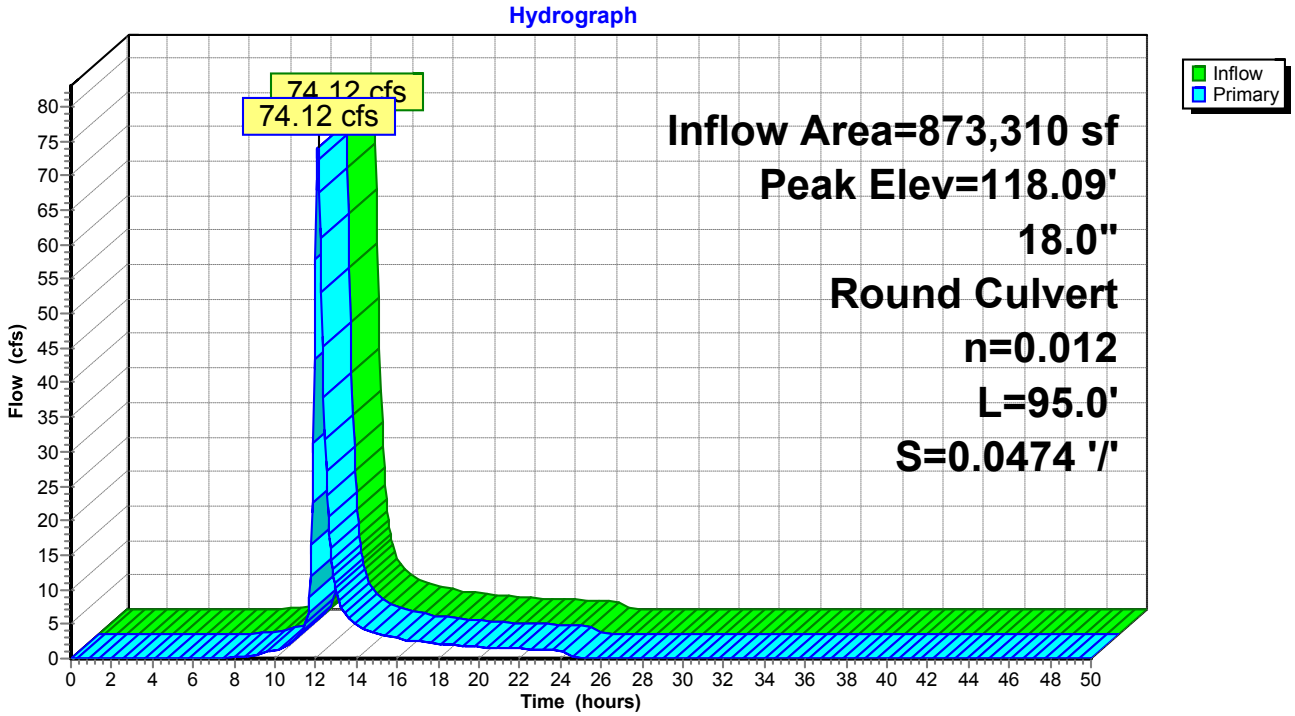
Inflow Area = 873,310 sf, 10.28% Impervious, Inflow Depth = 3.89" for 25-YEAR event
Inflow = 74.12 cfs @ 12.11 hrs, Volume= 282,924 cf
Outflow = 74.12 cfs @ 12.11 hrs, Volume= 282,924 cf, Atten= 0%, Lag= 0.0 min
Primary = 74.12 cfs @ 12.11 hrs, Volume= 282,924 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 118.09' @ 12.11 hrs
Flood Elev= 42.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	39.70'	**18.0" Round CMP_Round 18"** L= 95.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 39.70' / 35.20' S= 0.0474 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=73.54 cfs @ 12.11 hrs HW=116.85' (Free Discharge)
1=CMP_Round 18" (Barrel Controls 73.54 cfs @ 41.62 fps)

Pond CB-12: CB-12



Summary for Pond CB-13: CB-13

[58] Hint: Peaked 155.20' above defined flood level
[81] Warning: Exceeded Pond CB-14 by 105.18' @ 12.10 hrs

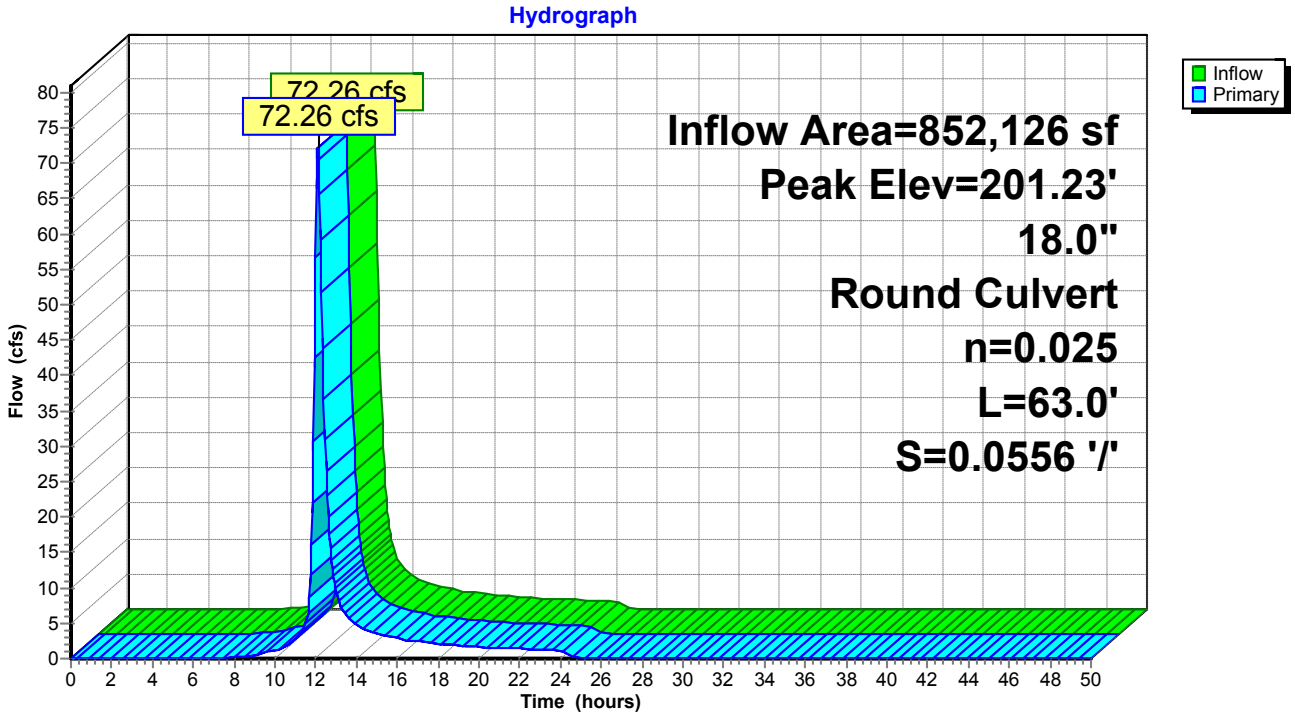
Inflow Area = 852,126 sf, 10.17% Impervious, Inflow Depth = 3.88" for 25-YEAR event
Inflow = 72.26 cfs @ 12.11 hrs, Volume= 275,832 cf
Outflow = 72.26 cfs @ 12.11 hrs, Volume= 275,832 cf, Atten= 0%, Lag= 0.0 min
Primary = 72.26 cfs @ 12.11 hrs, Volume= 275,832 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 201.23' @ 12.11 hrs
Flood Elev= 46.03'

Device	Routing	Invert	Outlet Devices
#1	Primary	43.30'	**18.0" Round CMP_Round 18"** L= 63.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 43.30' / 39.80' S= 0.0556 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=71.74 cfs @ 12.11 hrs HW=198.97' (Free Discharge)
↑—**1=CMP_Round 18"** (Barrel Controls 71.74 cfs @ 40.60 fps)

Pond CB-13: CB-13



Summary for Pond CB-14: CB-14

[58] Hint: Peaked 42.75' above defined flood level
[81] Warning: Exceeded Pond CB-15 by 3.33' @ 12.05 hrs

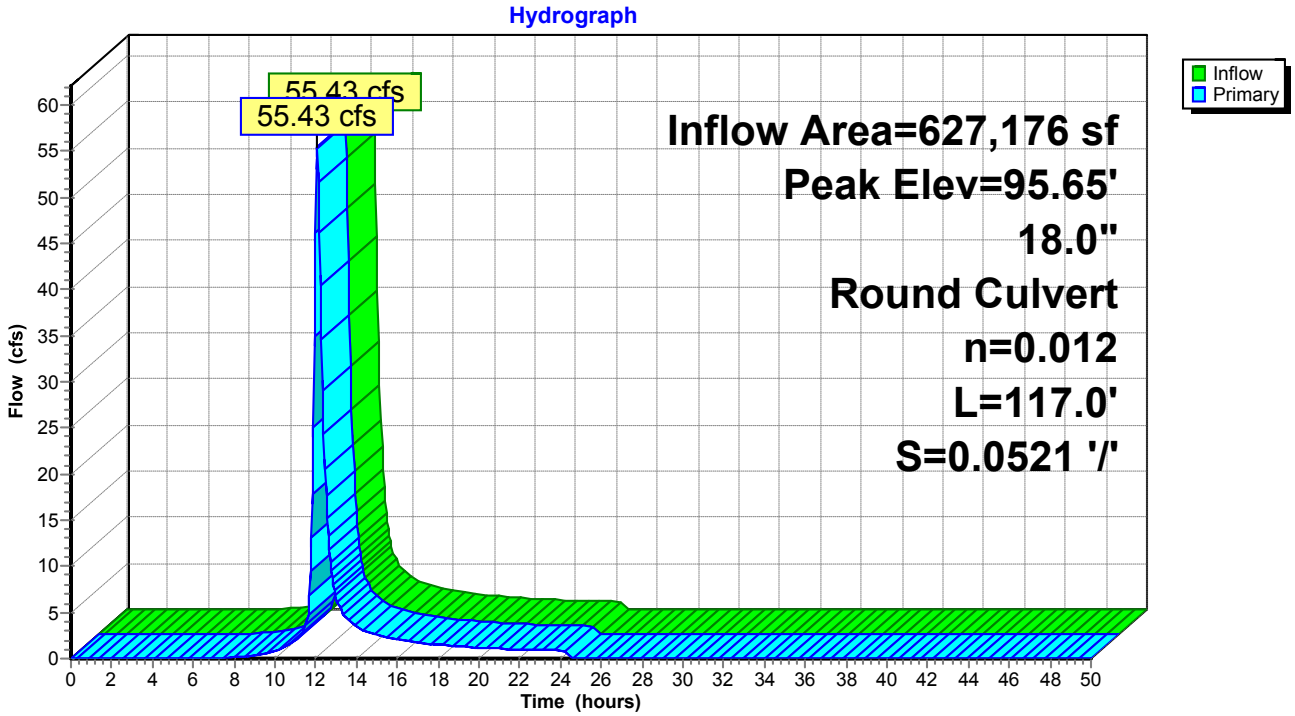
Inflow Area = 627,176 sf, 8.81% Impervious, Inflow Depth = 3.84" for 25-YEAR event
Inflow = 55.43 cfs @ 12.09 hrs, Volume= 200,530 cf
Outflow = 55.43 cfs @ 12.09 hrs, Volume= 200,530 cf, Atten= 0%, Lag= 0.0 min
Primary = 55.43 cfs @ 12.09 hrs, Volume= 200,530 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 95.65' @ 12.09 hrs
Flood Elev= 52.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.50'	**18.0" Round RCP_Round 18"** L= 117.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 49.50' / 43.40' S= 0.0521 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=54.97 cfs @ 12.09 hrs HW=94.83' (Free Discharge)
1=RCP_Round 18" (Barrel Controls 54.97 cfs @ 31.11 fps)

Pond CB-14: CB-14



Summary for Pond CB-15: CB-15

[58] Hint: Peaked 34.56' above defined flood level
[79] Warning: Submerged Pond CB-16 Primary device # 1 INLET by 28.70'

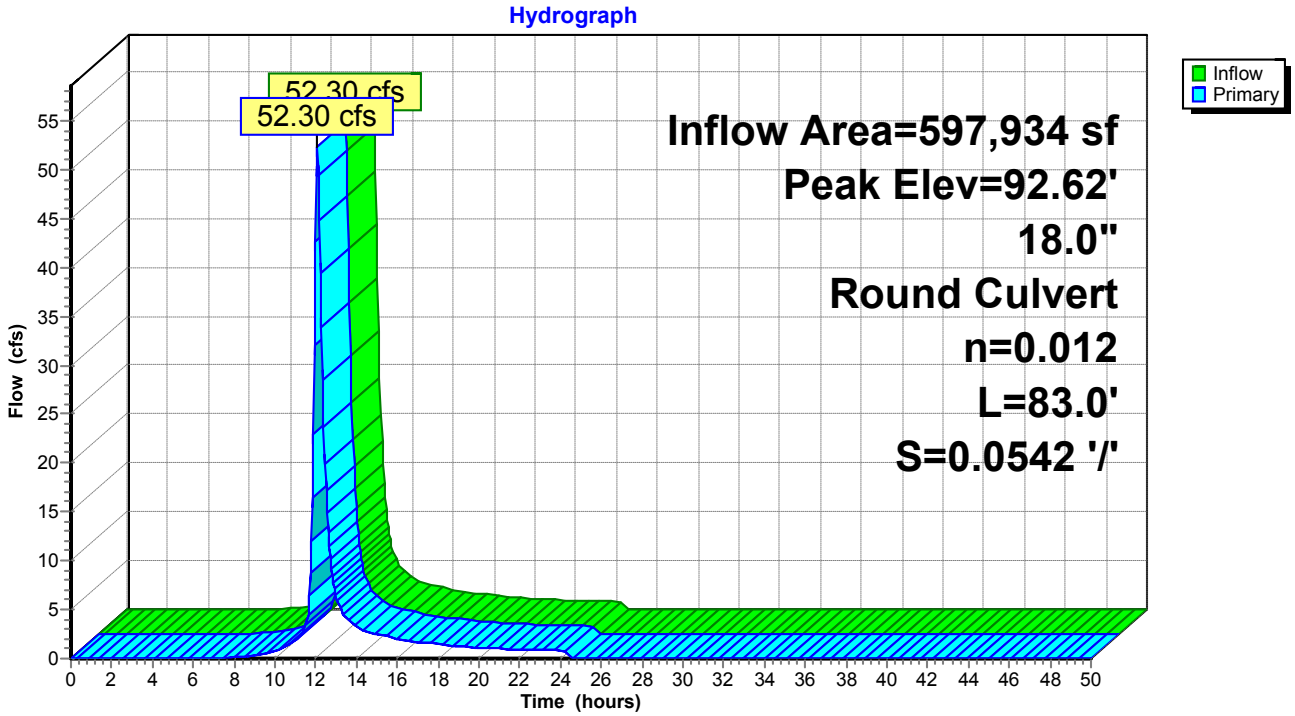
Inflow Area = 597,934 sf, 8.83% Impervious, Inflow Depth = 3.83" for 25-YEAR event
Inflow = 52.30 cfs @ 12.10 hrs, Volume= 190,997 cf
Outflow = 52.30 cfs @ 12.10 hrs, Volume= 190,997 cf, Atten= 0%, Lag= 0.0 min
Primary = 52.30 cfs @ 12.10 hrs, Volume= 190,997 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 92.62' @ 12.10 hrs
Flood Elev= 58.06'

Device	Routing	Invert	Outlet Devices
#1	Primary	54.10'	**18.0" Round RCP_Round 18"** L= 83.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.10' / 49.60' S= 0.0542 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=52.12 cfs @ 12.10 hrs HW=92.37' (Free Discharge)
1=RCP_Round 18" (Inlet Controls 52.12 cfs @ 29.49 fps)

Pond CB-15: CB-15



Summary for Pond CB-16: CB-16

[58] Hint: Peaked 33.72' above defined flood level
[81] Warning: Exceeded Pond CB-17 by 15.44' @ 12.05 hrs

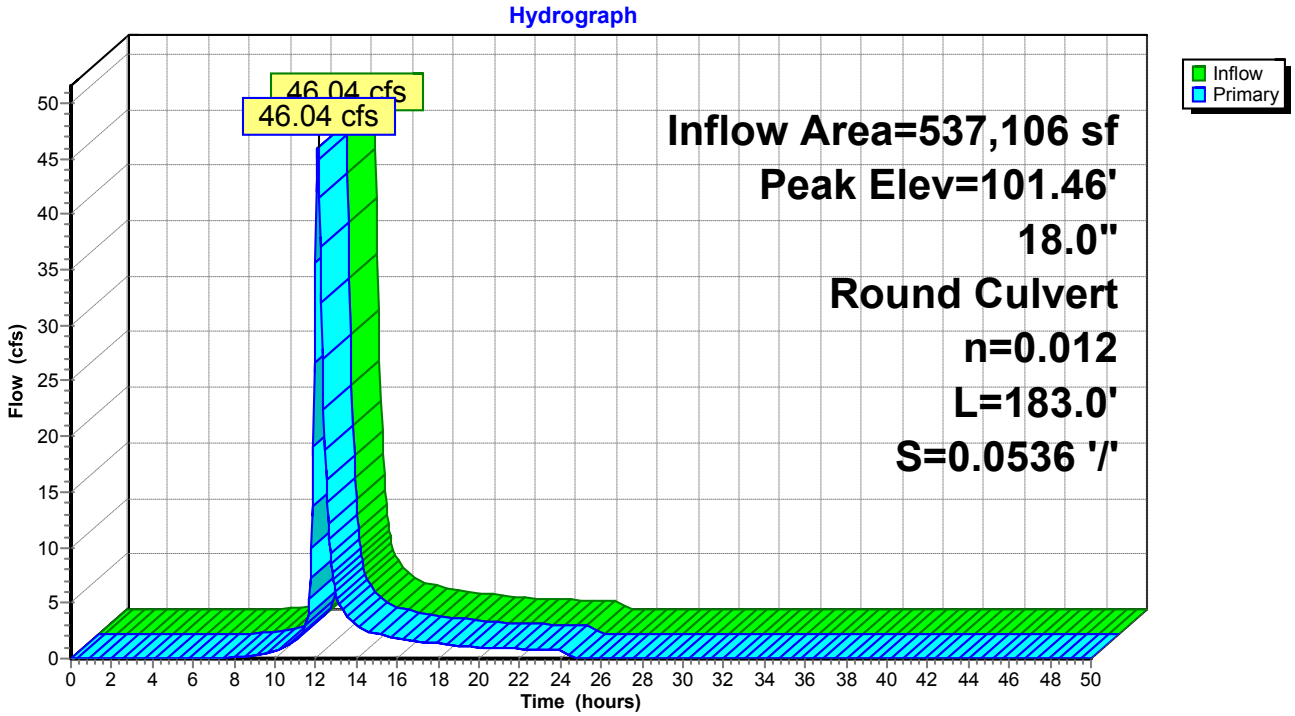
Inflow Area = 537,106 sf, 9.26% Impervious, Inflow Depth = 3.84" for 25-YEAR event
Inflow = 46.04 cfs @ 12.11 hrs, Volume= 171,696 cf
Outflow = 46.04 cfs @ 12.11 hrs, Volume= 171,696 cf, Atten= 0%, Lag= 0.0 min
Primary = 46.04 cfs @ 12.11 hrs, Volume= 171,696 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 101.46' @ 12.11 hrs
Flood Elev= 67.74'

Device	Routing	Invert	Outlet Devices
#1	Primary	63.90'	**18.0" Round RCP_Round 18"** L= 183.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 63.90' / 54.10' S= 0.0536 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=45.66 cfs @ 12.11 hrs HW=100.72' (Free Discharge)
↑—**1=RCP_Round 18"** (Barrel Controls 45.66 cfs @ 25.84 fps)

Pond CB-16: CB-16



Summary for Pond CB-17: CB-17

[58] Hint: Peaked 17.75' above defined flood level

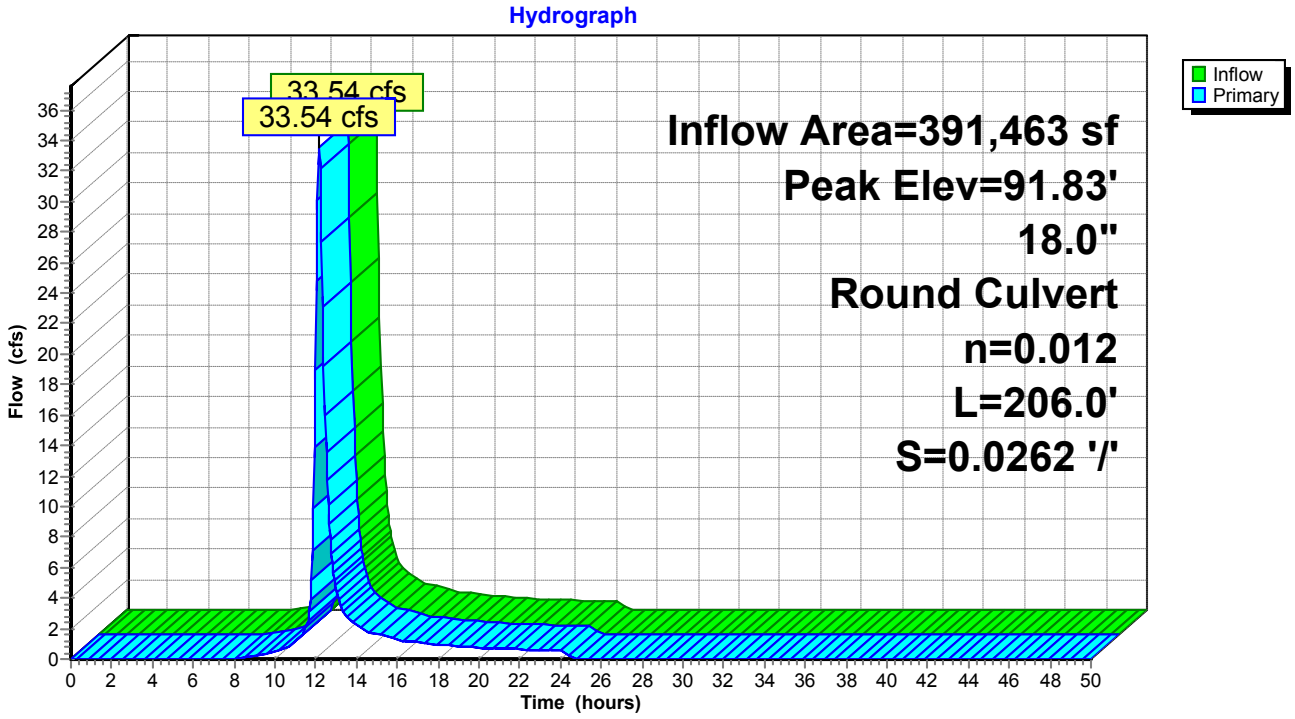
Inflow Area = 391,463 sf, 8.69% Impervious, Inflow Depth = 3.81" for 25-YEAR event
Inflow = 33.54 cfs @ 12.18 hrs, Volume= 124,216 cf
Outflow = 33.54 cfs @ 12.18 hrs, Volume= 124,216 cf, Atten= 0%, Lag= 0.0 min
Primary = 33.54 cfs @ 12.18 hrs, Volume= 124,216 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 91.83' @ 12.18 hrs
Flood Elev= 74.08'

Device	Routing	Invert	Outlet Devices
#1	Primary	69.40'	**18.0" Round RCP_Round 18"** L= 206.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 69.40' / 64.00' S= 0.0262 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.77 sf

Primary OutFlow Max=33.24 cfs @ 12.18 hrs HW=91.38' (Free Discharge)
1=RCP_Round 18" (Barrel Controls 33.24 cfs @ 18.81 fps)

Pond CB-17: CB-17



Summary for Pond CB-2: CB-2

[58] Hint: Peaked 3.56' above defined flood level
[81] Warning: Exceeded Pond CB-1 by 1.19' @ 12.10 hrs

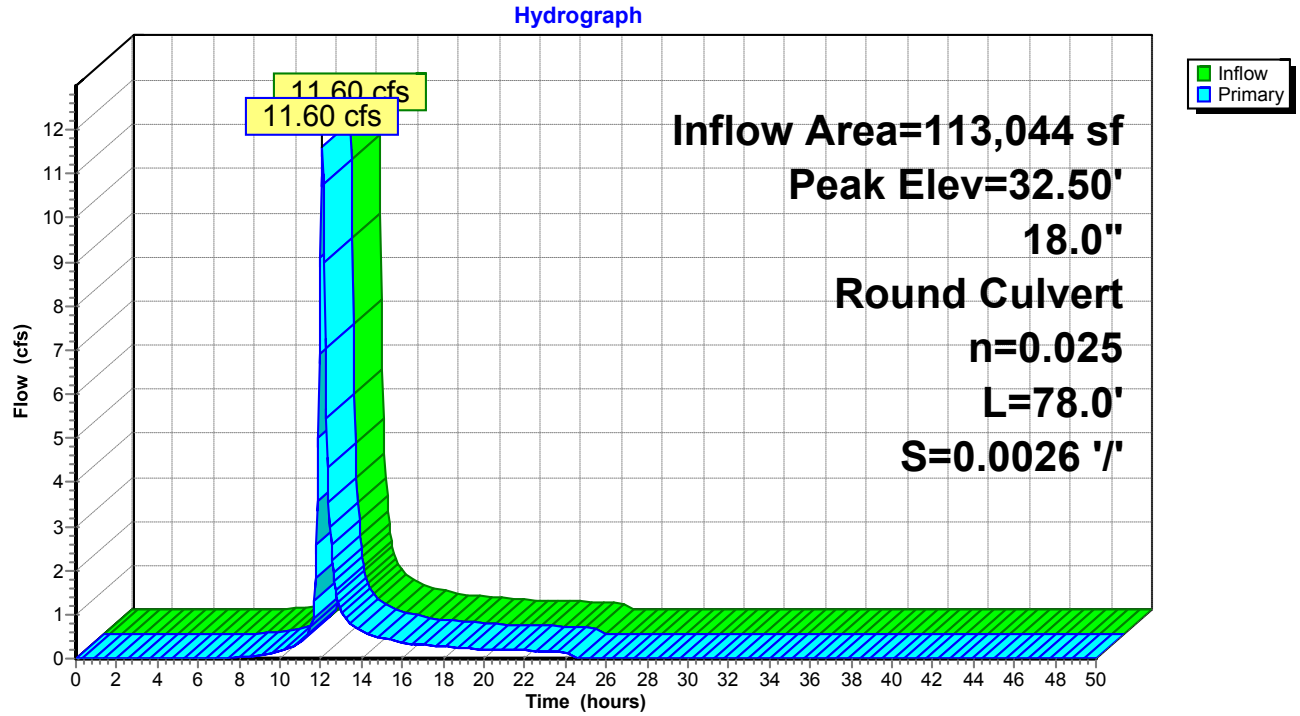
Inflow Area = 113,044 sf, 9.76% Impervious, Inflow Depth = 3.86" for 25-YEAR event
Inflow = 11.60 cfs @ 12.10 hrs, Volume= 36,320 cf
Outflow = 11.60 cfs @ 12.10 hrs, Volume= 36,320 cf, Atten= 0%, Lag= 0.0 min
Primary = 11.60 cfs @ 12.10 hrs, Volume= 36,320 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 32.50' @ 12.10 hrs
Flood Elev= 28.94'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.40'	**18.0" Round Culvert** L= 78.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 26.40' / 26.20' S= 0.0026 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=11.57 cfs @ 12.10 hrs HW=32.48' (Free Discharge)
1=Culvert (Barrel Controls 11.57 cfs @ 6.55 fps)

Pond CB-2: CB-2



Summary for Pond CB-3: CB-3

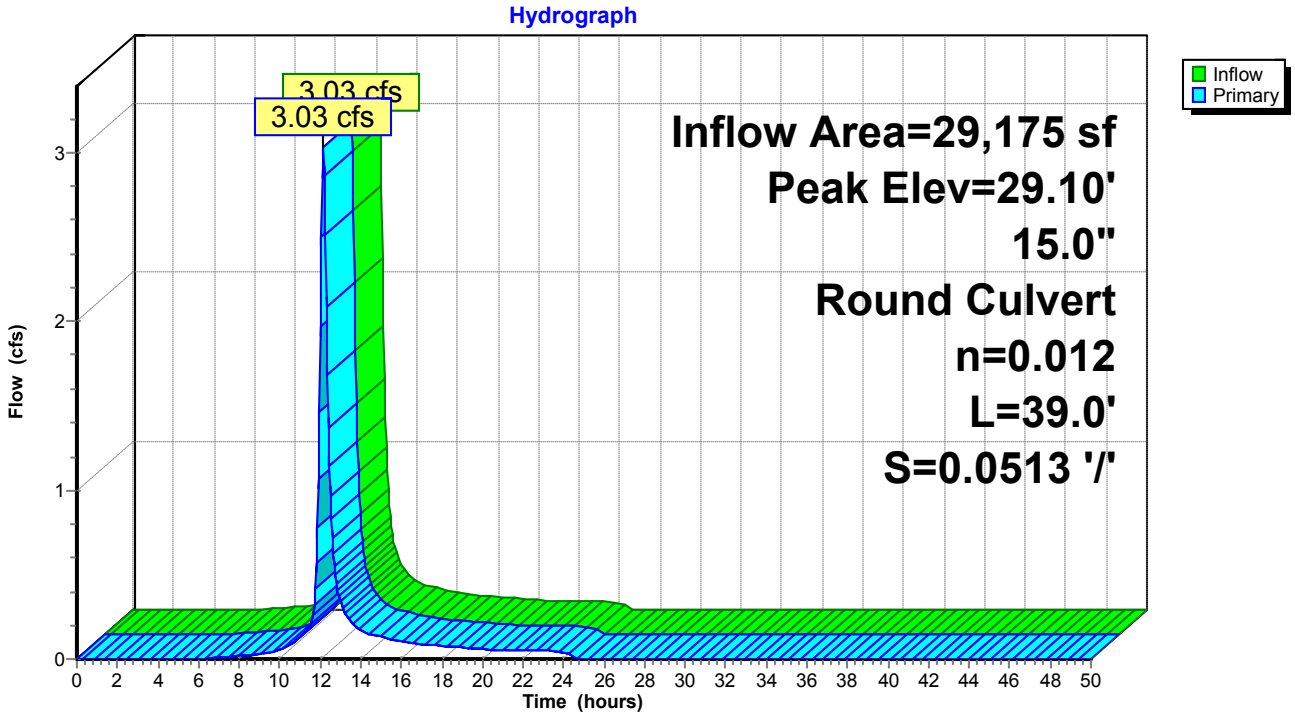
Inflow Area = 29,175 sf, 27.00% Impervious, Inflow Depth = 4.34" for 25-YEAR event
Inflow = 3.03 cfs @ 12.15 hrs, Volume= 10,542 cf
Outflow = 3.03 cfs @ 12.15 hrs, Volume= 10,542 cf, Atten= 0%, Lag= 0.0 min
Primary = 3.03 cfs @ 12.15 hrs, Volume= 10,542 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 29.10' @ 12.15 hrs
Flood Elev= 30.66'

Device	Routing	Invert	Outlet Devices
#1	Primary	28.20'	**15.0" Round RCP_Round 15"** L= 39.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 28.20' / 26.20' S= 0.0513 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.23 sf

Primary OutFlow Max=3.02 cfs @ 12.15 hrs HW=29.09' (Free Discharge)
1=RCP_Round 15" (Inlet Controls 3.02 cfs @ 3.22 fps)

Pond CB-3: CB-3



Summary for Pond CB-4: CB-4

[79] Warning: Submerged Pond CB-2 Primary device # 1 INLET by 1.96'
[79] Warning: Submerged Pond CB-3 Primary device # 1 INLET by 0.16'

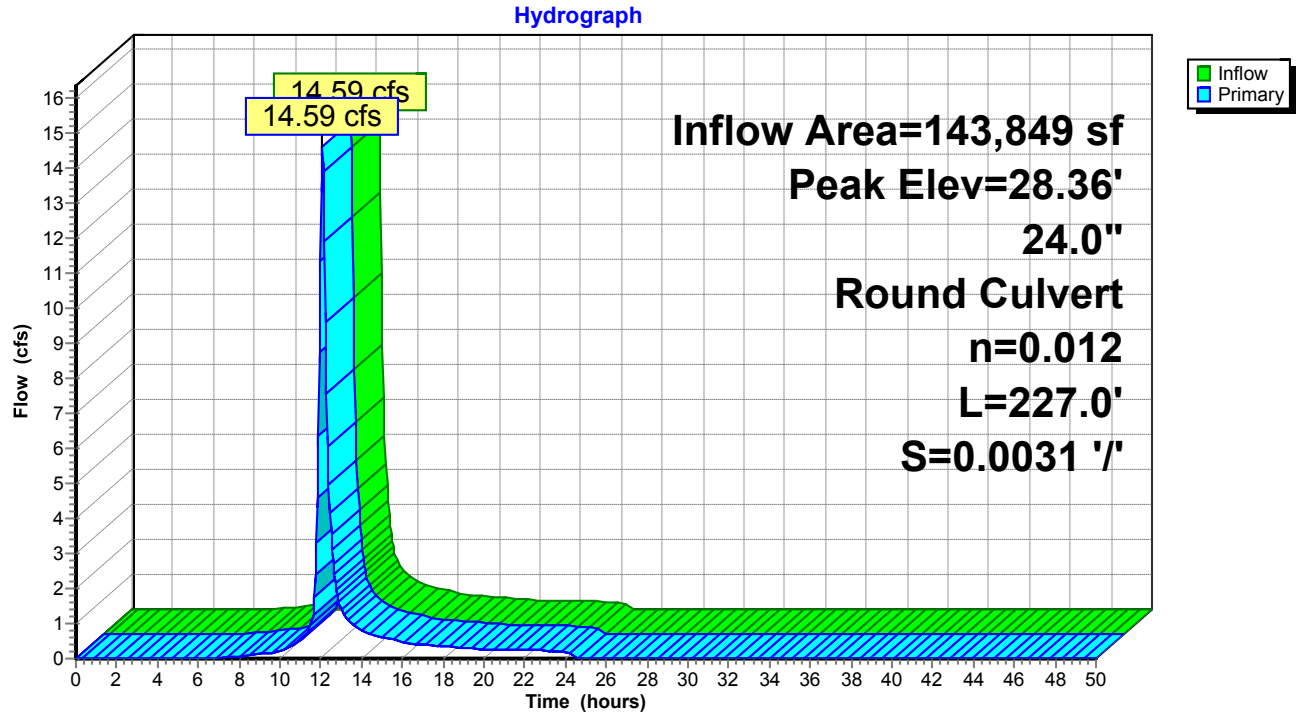
Inflow Area = 143,849 sf, 14.28% Impervious, Inflow Depth = 3.98" for 25-YEAR event
Inflow = 14.59 cfs @ 12.10 hrs, Volume= 47,727 cf
Outflow = 14.59 cfs @ 12.10 hrs, Volume= 47,727 cf, Atten= 0%, Lag= 0.0 min
Primary = 14.59 cfs @ 12.10 hrs, Volume= 47,727 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 28.36' @ 12.10 hrs
Flood Elev= 29.51'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.00'	**24.0" Round Culvert** L= 227.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 26.00' / 25.30' S= 0.0031 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf

Primary OutFlow Max=14.53 cfs @ 12.10 hrs HW=28.35' (Free Discharge)
1=Culvert (Barrel Controls 14.53 cfs @ 4.95 fps)

Pond CB-4: CB-4



Summary for Pond CB-5: CB-5

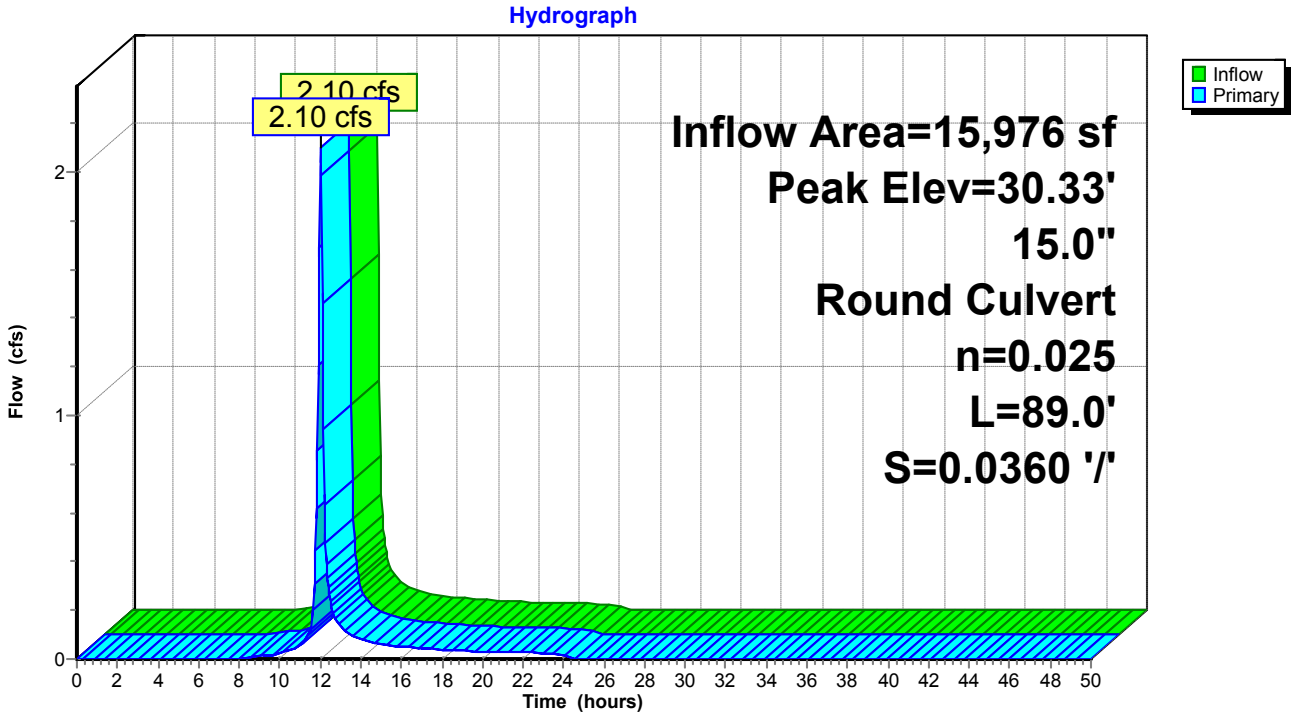
Inflow Area = 15,976 sf, 5.12% Impervious, Inflow Depth = 3.81" for 25-YEAR event
Inflow = 2.10 cfs @ 12.02 hrs, Volume= 5,069 cf
Outflow = 2.10 cfs @ 12.02 hrs, Volume= 5,069 cf, Atten= 0%, Lag= 0.0 min
Primary = 2.10 cfs @ 12.02 hrs, Volume= 5,069 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 30.33' @ 12.02 hrs
Flood Elev= 33.19'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.50'	**15.0" Round CMP_Round 15"** L= 89.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 29.50' / 26.30' S= 0.0360 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.23 sf

Primary OutFlow Max=2.05 cfs @ 12.02 hrs HW=30.31' (Free Discharge)
1=CMP_Round 15" (Inlet Controls 2.05 cfs @ 2.42 fps)

Pond CB-5: CB-5



Summary for Pond CB-6: CB-6

[58] Hint: Peaked 57.85' above defined flood level
[81] Warning: Exceeded Pond 4P by 57.42' @ 12.10 hrs
[81] Warning: Exceeded Pond CB-5 by 58.55' @ 12.10 hrs
[79] Warning: Submerged Pond CB-8 Primary device # 1 INLET by 59.21'

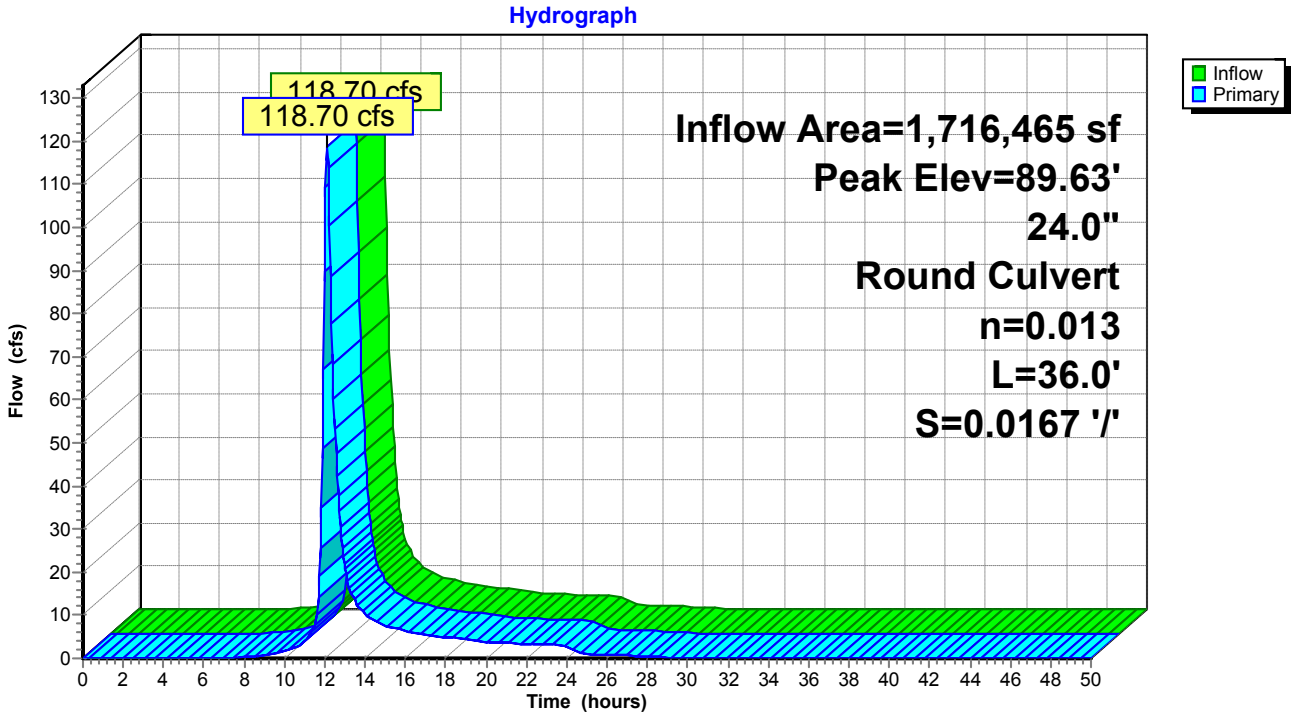
Inflow Area = 1,716,465 sf, 11.03% Impervious, Inflow Depth = 3.82" for 25-YEAR event
Inflow = 118.70 cfs @ 12.12 hrs, Volume= 546,610 cf
Outflow = 118.70 cfs @ 12.12 hrs, Volume= 546,610 cf, Atten= 0%, Lag= 0.0 min
Primary = 118.70 cfs @ 12.12 hrs, Volume= 546,610 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 89.63' @ 12.12 hrs
Flood Elev= 31.78'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.10'	**24.0" Round Culvert** L= 36.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 27.10' / 26.50' S= 0.0167 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf

Primary OutFlow Max=117.58 cfs @ 12.12 hrs HW=88.52' (Free Discharge)
1=Culvert (Inlet Controls 117.58 cfs @ 37.43 fps)

Pond CB-6: CB-6



Summary for Pond CB-7: CB-7

[58] Hint: Peaked 27.32' above defined flood level
[81] Warning: Exceeded Pond CB-4 by 29.39' @ 12.10 hrs
[79] Warning: Submerged Pond CB-6 Primary device # 1 INLET by 30.65'

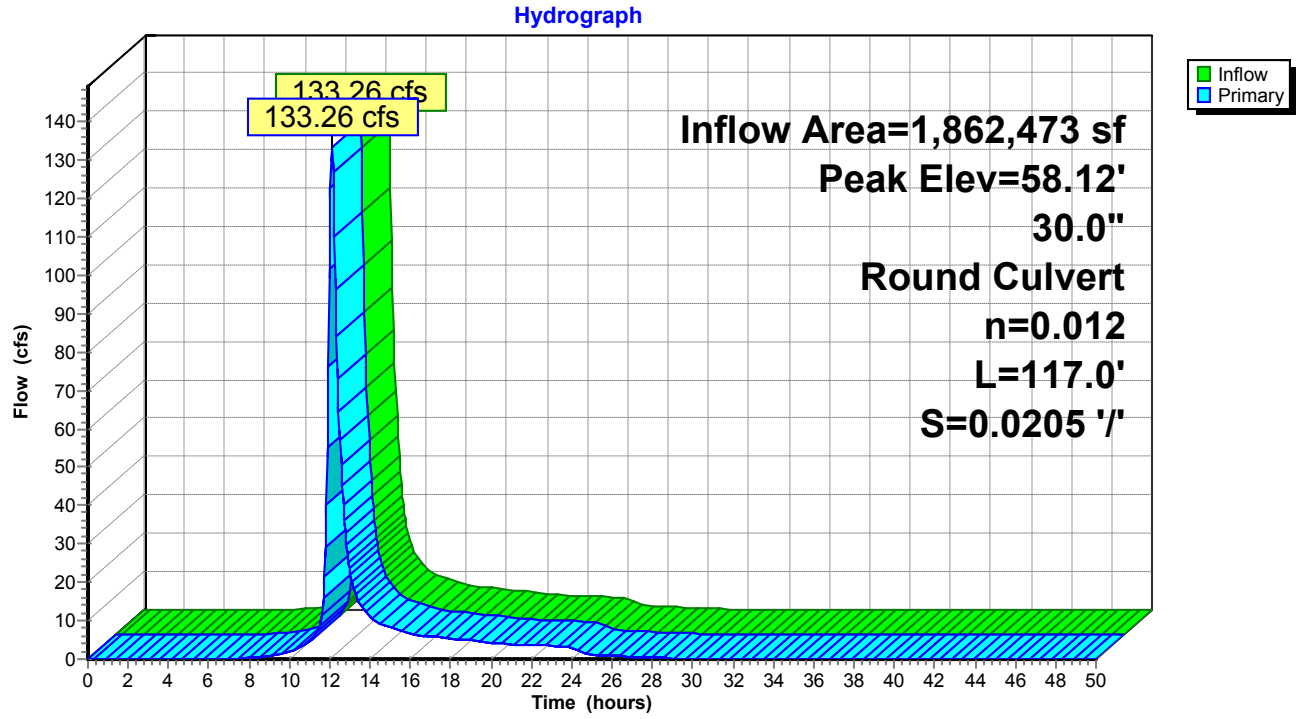
Inflow Area = 1,862,473 sf, 11.38% Impervious, Inflow Depth = 3.84" for 25-YEAR event
Inflow = 133.26 cfs @ 12.12 hrs, Volume= 595,483 cf
Outflow = 133.26 cfs @ 12.12 hrs, Volume= 595,483 cf, Atten= 0%, Lag= 0.0 min
Primary = 133.26 cfs @ 12.12 hrs, Volume= 595,483 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 58.12' @ 12.12 hrs
Flood Elev= 30.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.10'	**30.0" Round Culvert** L= 117.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.10' / 22.70' S= 0.0205 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 4.91 sf

Primary OutFlow Max=132.00 cfs @ 12.12 hrs HW=57.54' (Free Discharge)
1=Culvert (Inlet Controls 132.00 cfs @ 26.89 fps)

Pond CB-7: CB-7



Summary for Pond CB-8: CB-8

[58] Hint: Peaked 574.72' above defined flood level
[81] Warning: Exceeded Pond CB-9 by 72.69' @ 12.10 hrs

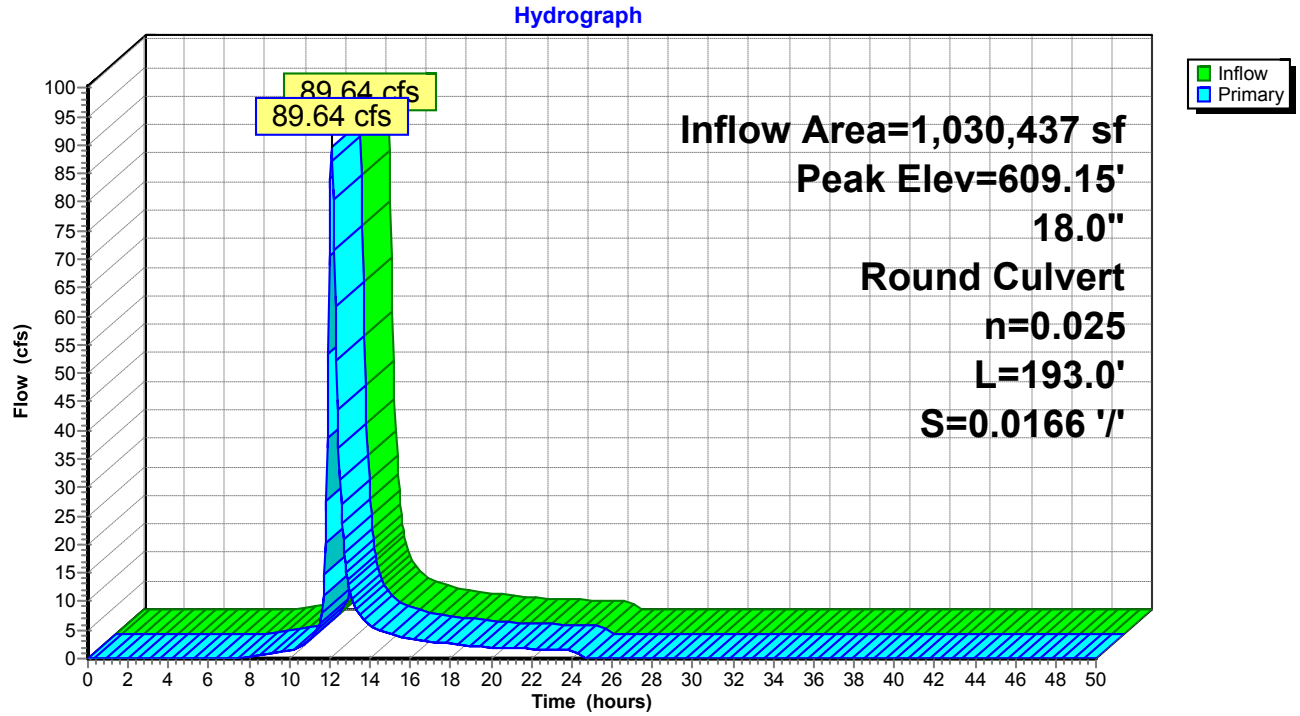
Inflow Area = 1,030,437 sf, 11.38% Impervious, Inflow Depth = 3.92" for 25-YEAR event
Inflow = 89.64 cfs @ 12.11 hrs, Volume= 336,810 cf
Outflow = 89.64 cfs @ 12.11 hrs, Volume= 336,810 cf, Atten= 0%, Lag= 0.0 min
Primary = 89.64 cfs @ 12.11 hrs, Volume= 336,810 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 609.15' @ 12.11 hrs
Flood Elev= 34.43'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.50'	**18.0" Round RCP_Round 18"** L= 193.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 29.50' / 26.30' S= 0.0166 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=89.00 cfs @ 12.11 hrs HW=601.05' (Free Discharge)
1=RCP_Round 18" (Barrel Controls 89.00 cfs @ 50.37 fps)

Pond CB-8: CB-8



Summary for Pond CB-9: CB-9

[58] Hint: Peaked 499.69' above defined flood level
[81] Warning: Exceeded Pond CB-10 by 258.19' @ 12.10 hrs

Inflow Area = 972,164 sf, 11.09% Impervious, Inflow Depth = 3.91" for 25-YEAR event
Inflow = 83.02 cfs @ 12.12 hrs, Volume= 316,790 cf
Outflow = 83.02 cfs @ 12.12 hrs, Volume= 316,790 cf, Atten= 0%, Lag= 0.0 min
Primary = 83.02 cfs @ 12.12 hrs, Volume= 316,790 cf

Routing by Stor-Ind method, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs
Peak Elev= 537.82' @ 12.11 hrs
Flood Elev= 38.13'

Device	Routing	Invert	Outlet Devices
#1	Primary	35.40'	**18.0" Round CMP_Round 18"** L= 190.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 35.40' / 31.00' S= 0.0232 '/' Cc= 0.900 n= 0.025 Corrugated metal, Flow Area= 1.77 sf

Primary OutFlow Max=82.32 cfs @ 12.12 hrs HW=529.52' (Free Discharge)
↑—**1=CMP_Round 18"** (Barrel Controls 82.32 cfs @ 46.58 fps)

Pond CB-9: CB-9