

Routing Diagram for 8723 STORM CAPACITY HYDROCAD
 Prepared by {enter your company name here}, Printed 12/12/2022
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8723 STORM CAPACITY HYDROCAD

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
6.650	98	Impervious (1S, 2S, 3S)
6.950	71	Pervious (1S)
5.600	64	Pervious (2S, 3S)
19.200	78	TOTAL AREA

Summary for Subcatchment 1S: ON-SITE RUNOFF

Runoff = 2.74 cfs @ 8.01 hrs, Volume= 1.455 af, Depth= 1.90"

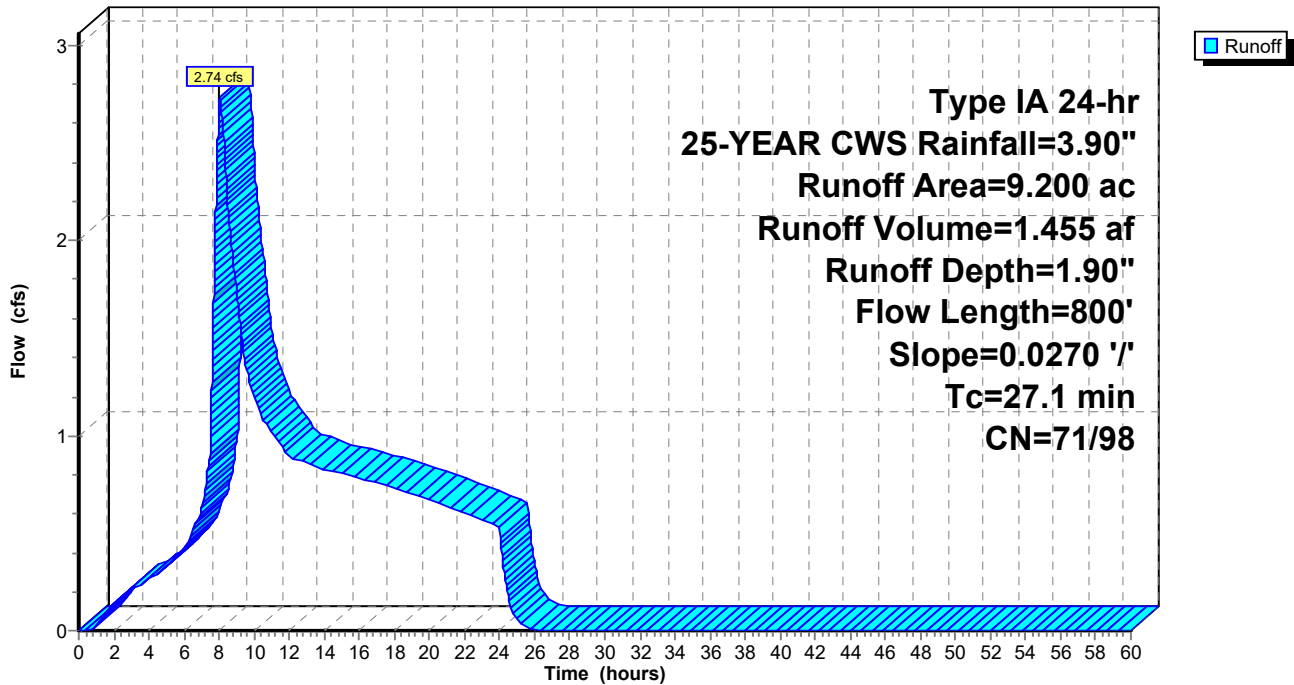
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Type IA 24-hr 25-YEAR CWS Rainfall=3.90"

Area (ac)	CN	Description
* 2.250	98	Impervious
* 6.950	71	Pervious
9.200	78	Weighted Average
6.950	71	75.54% Pervious Area
2.250	98	24.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.7	300	0.0270	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.50"
3.4	500	0.0270	2.46		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
27.1	800	Total			

Subcatchment 1S: ON-SITE RUNOFF

Hydrograph



Summary for Subcatchment 2S: OFF-SITE RUNOFF (N)

Runoff = 2.52 cfs @ 8.01 hrs, Volume= 1.168 af, Depth= 2.12"

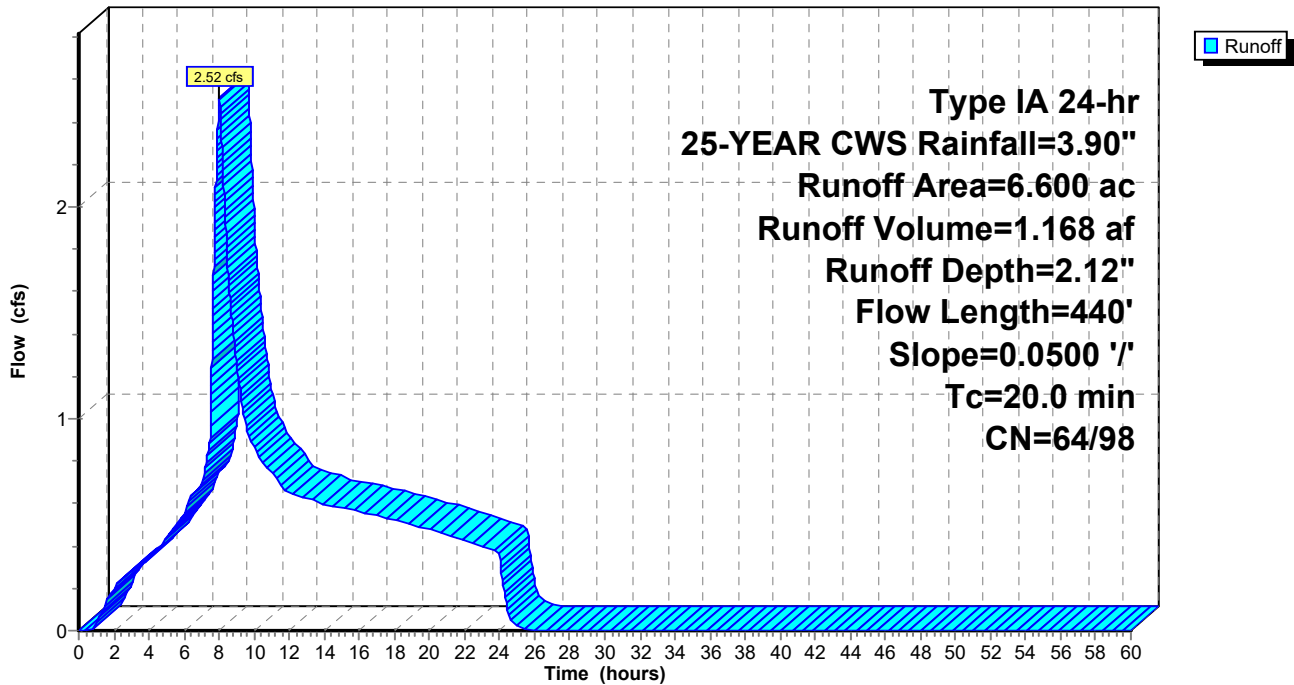
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type IA 24-hr 25-YEAR CWS Rainfall=3.90"

Area (ac)	CN	Description
* 2.900	98	Impervious
* 3.700	64	Pervious
6.600	79	Weighted Average
3.700	64	56.06% Pervious Area
2.900	98	43.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.5	300	0.0500	0.27		Sheet Flow, Grass: Short n= 0.150 P2= 2.50"
1.5	140	0.0500	1.57		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
20.0	440	Total			

Subcatchment 2S: OFF-SITE RUNOFF (N)

Hydrograph



Summary for Subcatchment 3S: OFF-SITE RUNOFF (S)

Runoff = 1.30 cfs @ 8.00 hrs, Volume= 0.603 af, Depth= 2.13"

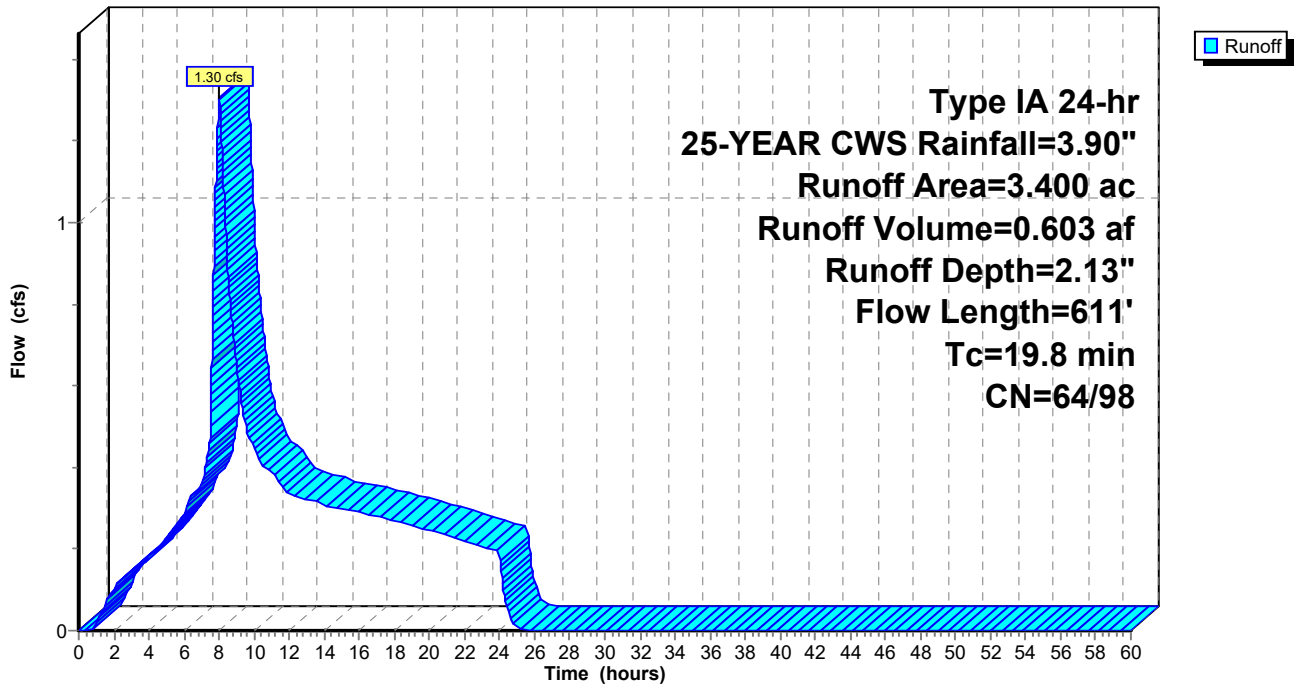
Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
Type IA 24-hr 25-YEAR CWS Rainfall=3.90"

Area (ac)	CN	Description
* 1.500	98	Impervious
* 1.900	64	Pervious
3.400	79	Weighted Average
1.900	64	55.88% Pervious Area
1.500	98	44.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.5	300	0.0500	0.27		Sheet Flow, Grass: Short n= 0.150 P2= 2.50"
1.3	311	0.0400	4.06		Shallow Concentrated Flow, Paved Kv= 20.3 fps
19.8	611	Total			

Subcatchment 3S: OFF-SITE RUNOFF (S)

Hydrograph



Summary for Pond 1R: EXISTING 15" PIPE

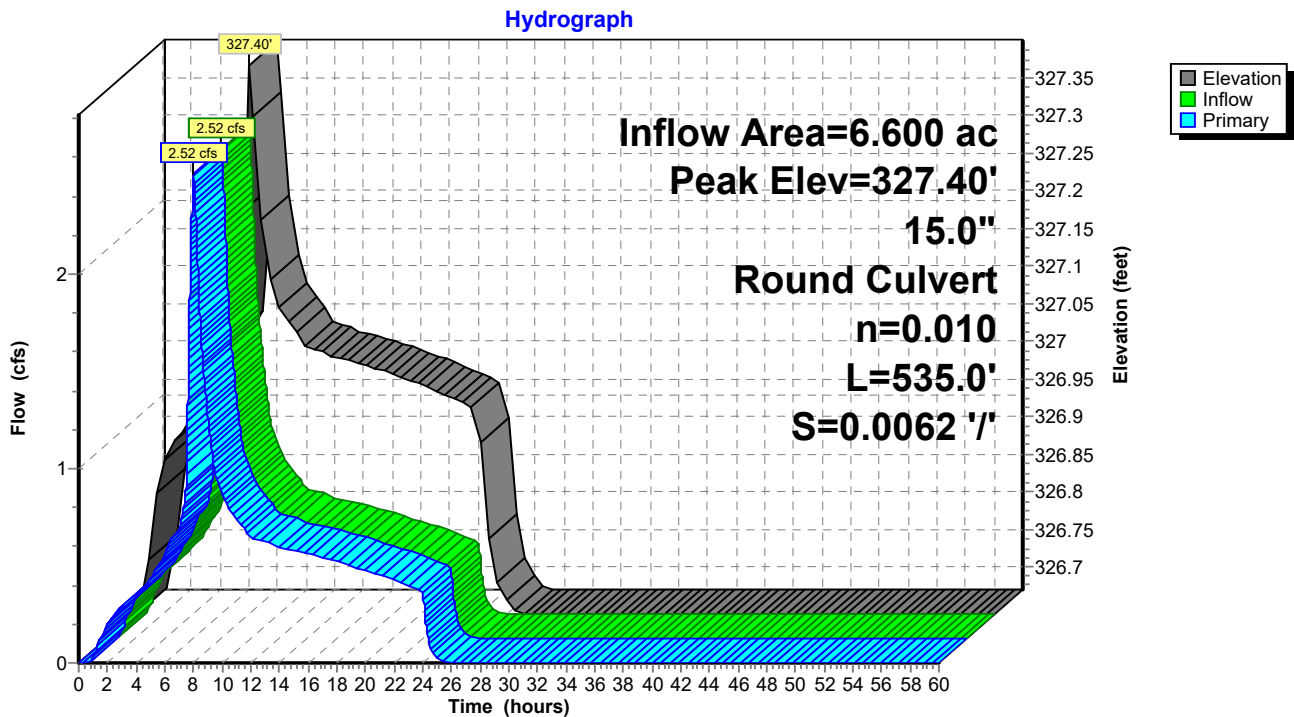
Inflow Area = 6.600 ac, 43.94% Impervious, Inflow Depth = 2.12" for 25-YEAR CWS event
 Inflow = 2.52 cfs @ 8.01 hrs, Volume= 1.168 af
 Outflow = 2.52 cfs @ 8.01 hrs, Volume= 1.168 af, Atten= 0%, Lag= 0.0 min
 Primary = 2.52 cfs @ 8.01 hrs, Volume= 1.168 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 327.40' @ 8.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	326.67'	15.0" Round Culvert L= 535.0' Ke= 0.200 Inlet / Outlet Invert= 326.67' / 323.33' S= 0.0062 '/ Cc= 0.900 n= 0.010, Flow Area= 1.23 sf

Primary OutFlow Max=2.52 cfs @ 8.01 hrs HW=327.40' (Free Discharge)
 ↑1=Culvert (Barrel Controls 2.52 cfs @ 4.88 fps)

Pond 1R: EXISTING 15" PIPE



Summary for Pond 2R: EXISTING 15" PIPE

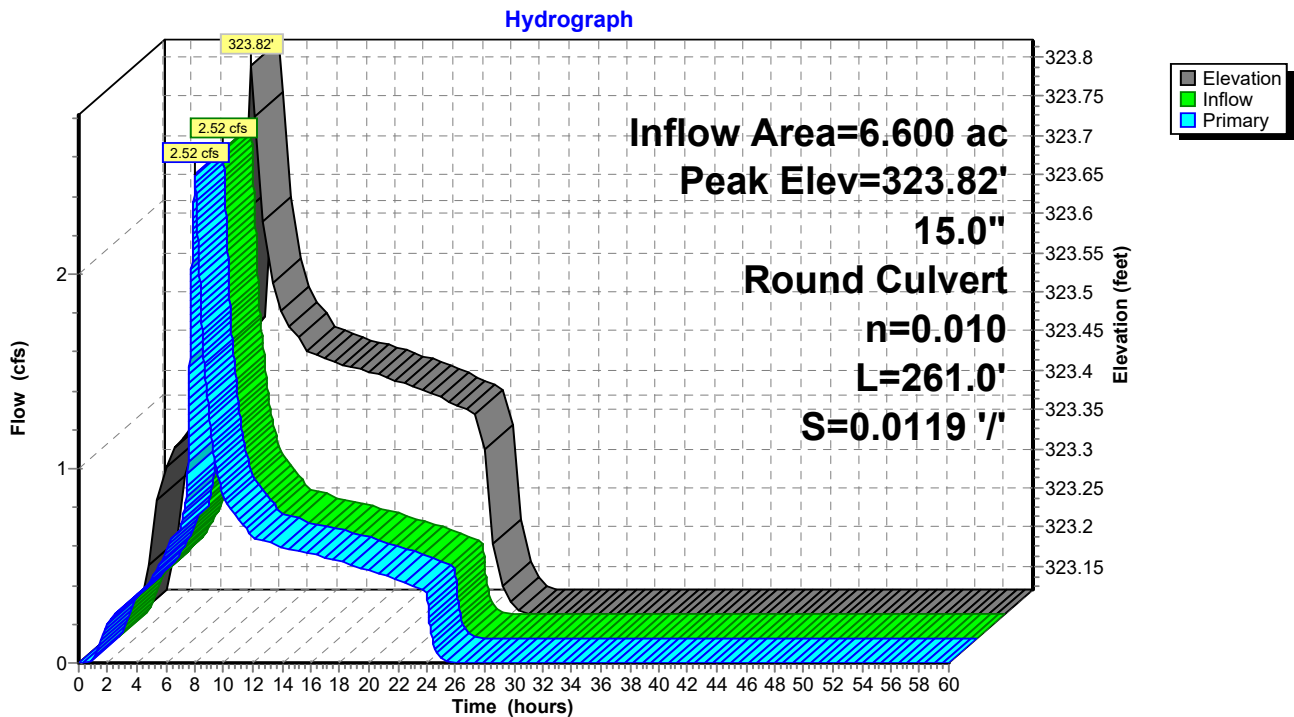
Inflow Area = 6.600 ac, 43.94% Impervious, Inflow Depth = 2.12" for 25-YEAR CWS event
 Inflow = 2.52 cfs @ 8.01 hrs, Volume= 1.168 af
 Outflow = 2.52 cfs @ 8.01 hrs, Volume= 1.168 af, Atten= 0%, Lag= 0.0 min
 Primary = 2.52 cfs @ 8.01 hrs, Volume= 1.168 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 323.82' @ 8.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	323.12'	15.0" Round Culvert L= 261.0' Ke= 0.200 Inlet / Outlet Invert= 323.12' / 320.02' S= 0.0119 '/' Cc= 0.900 n= 0.010, Flow Area= 1.23 sf

Primary OutFlow Max=2.52 cfs @ 8.01 hrs HW=323.82' (Free Discharge)
 ↑1=Culvert (Inlet Controls 2.52 cfs @ 3.56 fps)

Pond 2R: EXISTING 15" PIPE



Summary for Pond 3R: EXISTING 18" PIPE

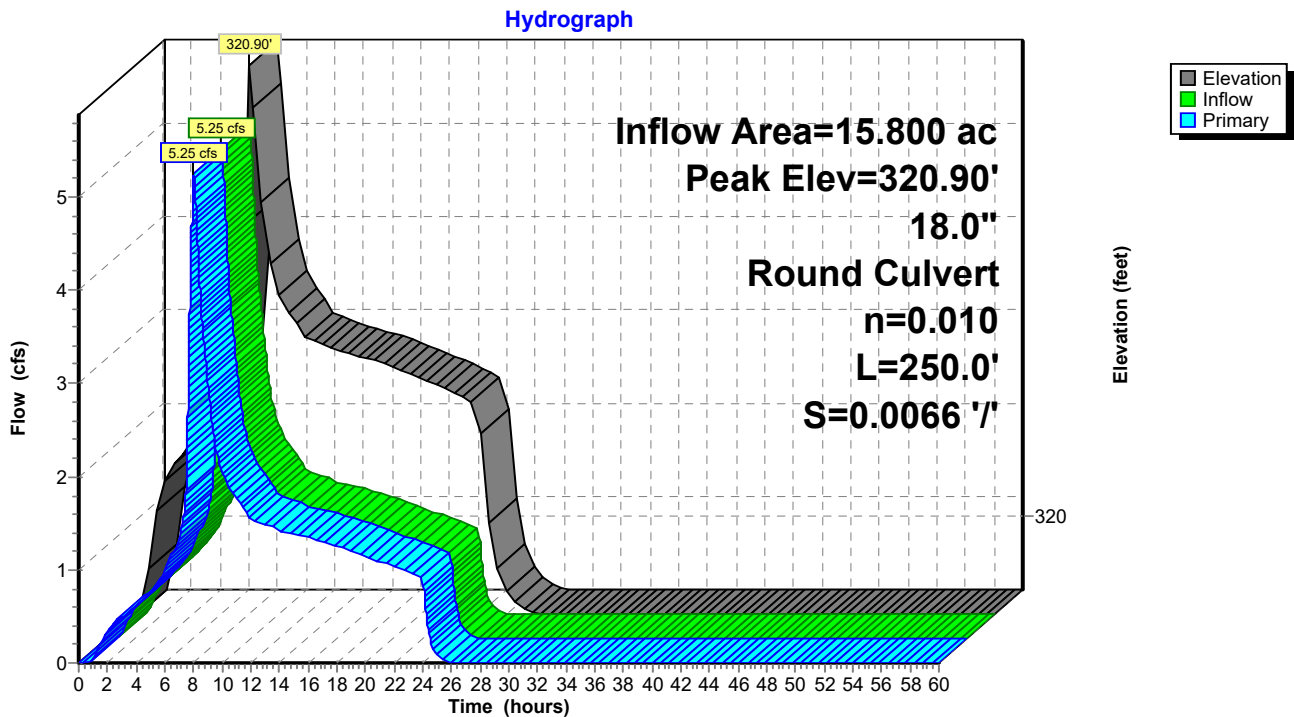
Inflow Area = 15.800 ac, 32.59% Impervious, Inflow Depth = 1.99" for 25-YEAR CWS event
 Inflow = 5.25 cfs @ 8.01 hrs, Volume= 2.624 af
 Outflow = 5.25 cfs @ 8.01 hrs, Volume= 2.624 af, Atten= 0%, Lag= 0.0 min
 Primary = 5.25 cfs @ 8.01 hrs, Volume= 2.624 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 320.90' @ 8.01 hrs

Device #	Routing	Invert	Outlet Devices
#1	Primary	319.86'	18.0" Round Culvert L= 250.0' Ke= 0.200 Inlet / Outlet Invert= 319.86' / 318.20' S= 0.0066 '/' Cc= 0.900 n= 0.010, Flow Area= 1.77 sf

Primary OutFlow Max=5.25 cfs @ 8.01 hrs HW=320.90' (Free Discharge)
 ↑1=Culvert (Barrel Controls 5.25 cfs @ 5.68 fps)

Pond 3R: EXISTING 18" PIPE



Summary for Pond 4R: EXISTING 18" PIPE

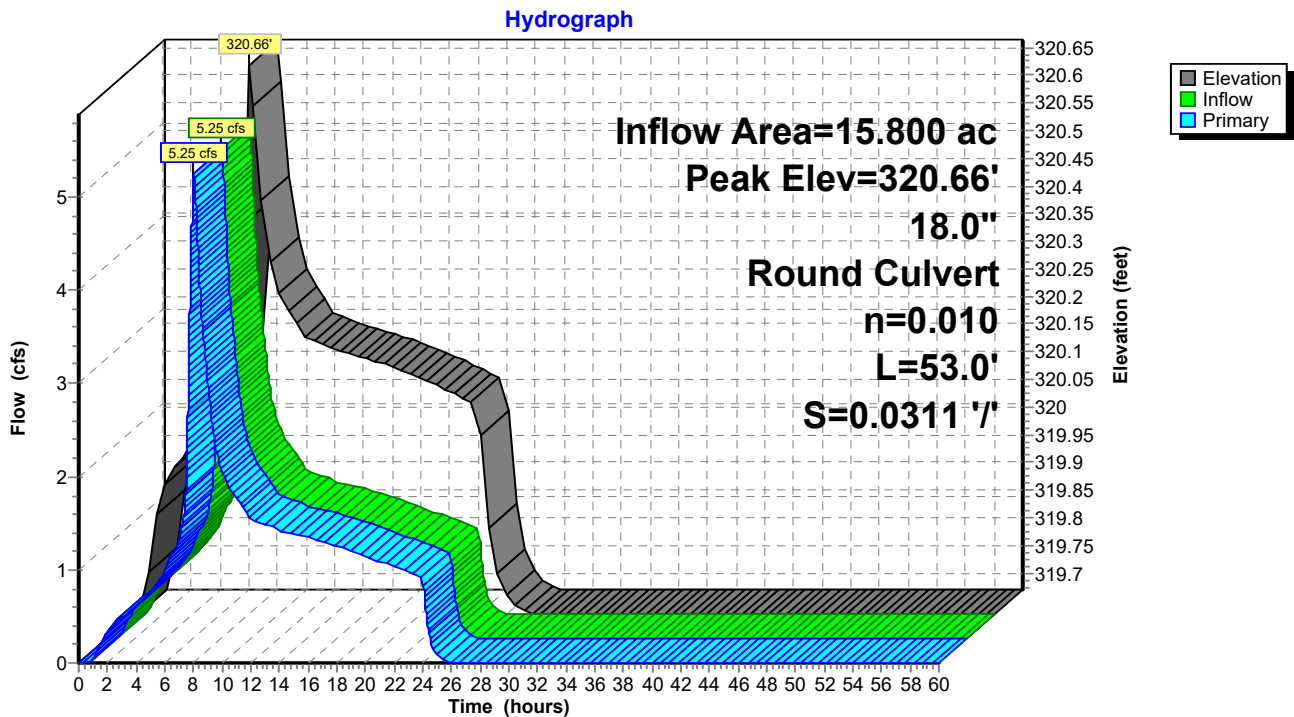
Inflow Area = 15.800 ac, 32.59% Impervious, Inflow Depth = 1.99" for 25-YEAR CWS event
 Inflow = 5.25 cfs @ 8.01 hrs, Volume= 2.624 af
 Outflow = 5.25 cfs @ 8.01 hrs, Volume= 2.624 af, Atten= 0%, Lag= 0.0 min
 Primary = 5.25 cfs @ 8.01 hrs, Volume= 2.624 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 320.66' @ 8.01 hrs

Device #	Routing	Invert	Outlet Devices
1	Primary	319.67'	18.0" Round Culvert L= 53.0' Ke= 0.200 Inlet / Outlet Invert= 319.67' / 318.02' S= 0.0311 '/' Cc= 0.900 n= 0.010, Flow Area= 1.77 sf

Primary OutFlow Max=5.25 cfs @ 8.01 hrs HW=320.66' (Free Discharge)
 ↑1=Culvert (Inlet Controls 5.25 cfs @ 4.24 fps)

Pond 4R: EXISTING 18" PIPE



Summary for Pond 5R: EXISTING 18" PIPE

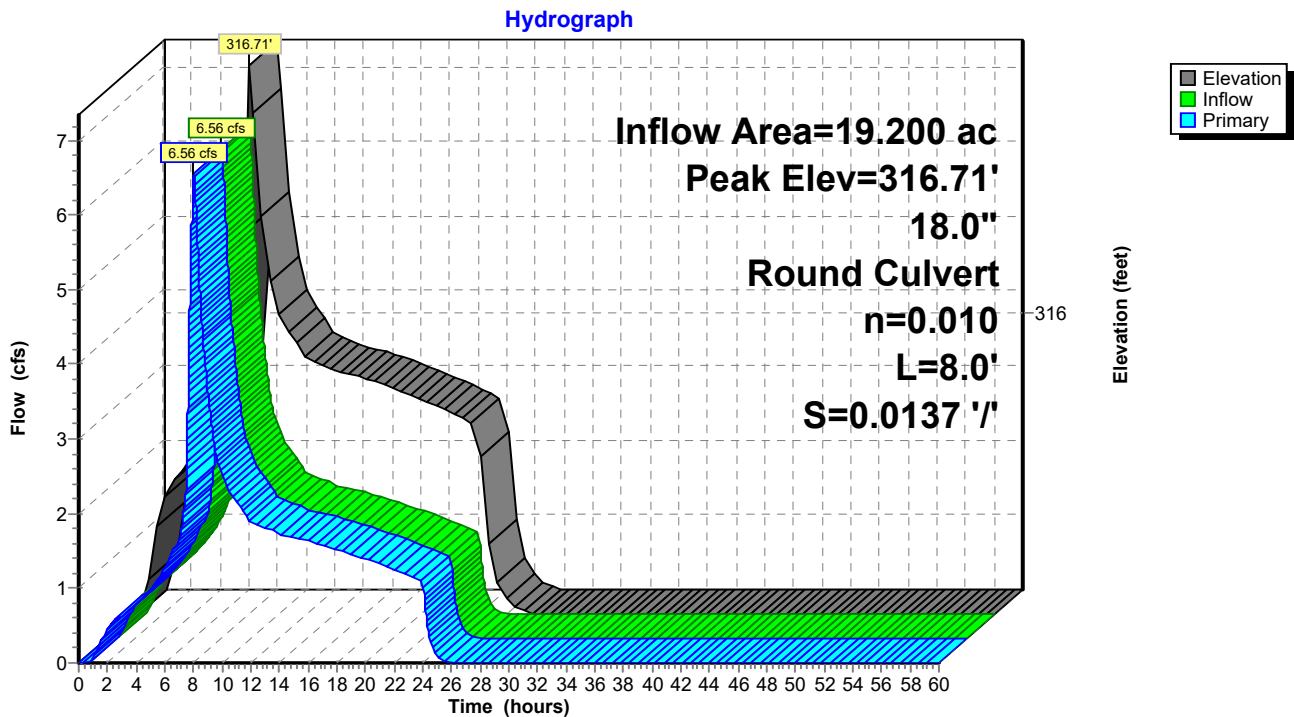
Inflow Area = 19.200 ac, 34.64% Impervious, Inflow Depth = 2.02" for 25-YEAR CWS event
 Inflow = 6.56 cfs @ 8.01 hrs, Volume= 3.227 af
 Outflow = 6.56 cfs @ 8.01 hrs, Volume= 3.227 af, Atten= 0%, Lag= 0.0 min
 Primary = 6.56 cfs @ 8.01 hrs, Volume= 3.227 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 316.71' @ 8.01 hrs

Device #	Routing	Invert	Outlet Devices
1	Primary	315.28'	18.0" Round Culvert L= 8.0' Ke= 0.200 Inlet / Outlet Invert= 315.28' / 315.17' S= 0.0137 '/' Cc= 0.900 n= 0.010, Flow Area= 1.77 sf

Primary OutFlow Max=6.55 cfs @ 8.01 hrs HW=316.70' (Free Discharge)
 ↑1=Culvert (Barrel Controls 6.55 cfs @ 4.87 fps)

Pond 5R: EXISTING 18" PIPE



Summary for Pond 6R: EXISTING 18" OUTLET PIPE

Inflow Area = 19.200 ac, 34.64% Impervious, Inflow Depth = 2.02" for 25-YEAR CWS event
 Inflow = 6.56 cfs @ 8.01 hrs, Volume= 3.227 af
 Outflow = 6.56 cfs @ 8.01 hrs, Volume= 3.227 af, Atten= 0%, Lag= 0.0 min
 Primary = 6.56 cfs @ 8.01 hrs, Volume= 3.227 af

Routing by Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 314.52' @ 8.01 hrs

Device #1	Routing	Invert	Outlet Devices
	Primary	313.08'	18.0" Round Culvert L= 8.0' Ke= 0.200 Inlet / Outlet Invert= 313.08' / 312.98' S= 0.0125 '/' Cc= 0.900 n= 0.010 Concrete pipe, straight & clean, Flow Area= 1.77 sf

Primary OutFlow Max=6.55 cfs @ 8.01 hrs HW=314.52' (Free Discharge)
 ↑1=Culvert (Barrel Controls 6.55 cfs @ 4.83 fps)

Pond 6R: EXISTING 18" OUTLET PIPE

