

Hollydale Development



Plymouth, Minnesota

STORMWATER MANAGEMENT PLAN

*April 2021
July 2020*

AE2S Project #: P12623-2019-042

Hollydale Development

STORMWATER MANAGEMENT PLAN

April 2021

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.



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1.0 INTRODUCTION AND BACKGROUND

1.1 Project Background

The Hollydale Golf Course is an approximately 158.1± acre parcel to be developed within the city limits of Plymouth, Minnesota. It is located southwest of the intersection of Schmidt Lake Road and Vicksburg Lane North (see *Figure 1* for site location map).

This plan, prepared by Advanced Engineering and Environmental Services, Inc. (AE2S) is to document the basis of the storm water management design for the development to meet the storm water management requirements.

1.2 Data Used

The following data were used in this analysis:

- NRCS Soil Survey
- Aerial Imagery (MnGeo WMS Service, 2018 7-county)
- Existing Topography (MnDNR, MnTOPO, 2013)
- Hollydale Development Plans (Sathre-Bergquist, June 2020)
- NOAA Atlas-14 Precipitation Data

2.0 STORMWATER MANAGEMENT REQUIREMENTS

2.1 City of Plymouth

The City of Plymouth developed an updated surface water management plan in 2018 that was designed to conform to the goals of the water management organizations that have jurisdiction within the City. This development falls within the jurisdiction of the Bassett Creek Watershed Management Commission (BCWMO). Hydrologically, a small portion of the development along the north end drains to Elm Creek Watershed, but Elm Creek Watershed Management Commission (ECWMO) deferred to BCWMO's rules and overall permitting responsibility based on initial discussions with District staff, therefore the project has been designed to meet BCWMO standards. These rules used to design this stormwater management plan are described in the following section.

2.2 Bassett Creek Watershed Management Commission

As previously described, the site is within the Bassett Creek WMC watershed management area. The following list summarizes the relevant stormwater management Rules and Standards.

- The proposed activity / development shall not exceed peak runoff rates for the 2-, 10-, and 100-year critical storm events. These storm events shall follow the NOAA Atlas 14 precipitation intensities and distributions.
- The 100-year pond high water level (HWL) shall be at least 2-ft below the lowest structure floor elevation and a minimum 1.5-ft above the emergency overflow (EOF) elevation of nearby waterbodies and stormwater ponds.
- An overflow spillway must be sized to convey a 100-year event.
- Low structure floor elevation shall be at least 2-ft above the 100-year HWL of the floodplain that the site discharges into. This elevation shall be determined by the most recent FIRM within the site region.
- Pond outlet structures must provide skimming to prevent release of floatables and oils for at least the 2-year storm event.
- Stormwater runoff volume must be infiltrated or abstracted onsite in the amount equal to 1.1 inches of runoff generated from new impervious surface within 48 hours.
 - If the 1.1 inches performance goal is not met, a 0.55 inch performance and a 75% annual total phosphorus removal goal is set instead.
 - Where infiltration is not advisable or infeasible due to site conditions, biofiltration must be provided for that part of the abstraction volume that is not abstracted by other BMPs. Where biofiltration is infeasible, at a minimum filtration through a medium that incorporates organic material, iron fillings, or other material to reduce soluble phosphorus must be provided.
 - The bottom of the filtration media must be at least 3 feet above the groundwater elevation.

- There shall be no net increase in total phosphorus (TP) or total suspended solids (TSS) from the pre-development land cover to the post-development land cover.

2.3 Minnesota Pollution Control Agency

The Minnesota Pollution Control Agency (MPCA) regulates stormwater runoff by administering the National Pollution Discharge Elimination System (NPDES) Permit. The NPDES Permit is required for any projects that disturb more than one (1.0) acre of area. The permanent stormwater management requirements of the Permit are triggered if the project proposes to increase the impervious surface area by more than one acre.

The overall project disturbance is over one acre; therefore, a Stormwater Pollution Prevention Plan (SWPPP) will need to be prepared and a NPDES Permit obtained through the MPCA. The proposed BMP(s) must be capable of retaining on site one (1) inch of runoff from the new impervious surfaces created by the project. If onsite retention is not possible based on contaminated soils, proximity to groundwater, bedrock depth or impermeable soils, the water quality volume shall be treated using other best management practices outlined in the Permit.

3.0 METHODOLOGY

3.1 Hydrology

The site was analyzed using HydroCAD for pre- and post-development conditions. Runoff generation was estimated using TR-20 methodology.

The NOAA Atlas 14 rainfall depths and nested distributions were used for the analysis. Runoff from pervious and impervious areas was calculated separately. *Table 3.1* summarizes the rainfall depths that were used in the peak discharge analysis.

Table 3.1 Summary of NOAA Atlas 14 Rainfall Depths (inches)

Rainfall Duration	2-Year	10-Year	100-Year
24-Hours	2.87	4.27	7.32

Time of concentration (Tc) for existing conditions was calculated using the TR-55 methodology. For developed subwatersheds, Tc was set to 12 minutes. For subwatersheds containing areas unaltered by development, Tc was calculated using TR-55 methodology. A minimum Tc of 12.0 is based on ~30 feet of sheet flow for the yards as well as in accordance with the City’s Engineering Guidelines noting a minimum Tc of 10-20 minutes for lateral pipes which serve developed residential areas.

Curve numbers were selected for each subwatershed based on the land use, soil conditions and impervious surface area. These parameters were used to select the appropriate CN using TR-55 methodology.

3.2 Hydraulics

Hydraulic routing within HydroCAD was computed using the dynamic-storage-indication methodology. Stormwater ponds were modeled with multi-stage outlets.

The stormwater basins were sized to have at least 2.0 feet of freeboard from the lowest structure opening for the 100-year rainfall event. In addition, the emergency overflow invert elevation was set to provide at least 1.5 feet of freeboard above the lowest structure opening from any area where surface water is impounded during a flood event.

3.3 Water Quality

Water quality analysis was conducted using Ramsey Washington Metro Watershed District (RWMWD) Stormwater Reuse Spreadsheet designed for determining water quality credit for stormwater reuse.

4.0 ANALYSIS AND RESULTS

4.1 Existing Conditions

4.1.1 Site Topography

Currently the majority of the site is managed grass and open space, with sloping topography with elevations between 1020± feet and 966± feet. A large wetland is located at the southeast section of the site and extends further south. This wetland (wetland 6) was taken to be the hydraulic boundary for the project as any water that flows to this wetland is effectively running offsite. Neighboring residential homes from all sides drain into the site. These offsite areas were included in the existing conditions analysis.

The majority of the site drains directly to the large southeast wetland which is connected to storm sewer running east within Bassett Creek Watershed. The northeast corner of the site drains north within Elm Creek Watershed. **Figure 2** shows the existing conditions including delineated wetland areas, subcatchment areas, existing topography, and aerial imagery.

4.1.2 Soils

The NRCS soils database classifies the on-site soils as Minnetonka silty clay loam, Lester loam, Angus loam, and Shorewood silty clay loam soils. See **Appendix B** for the Web Soil Survey. Soils are predominantly Hydrologic Soil Group (HSG) Type C and C/D.

4.1.3 Land Use

Existing subcatchments were delineated based on existing topography (MnTOPO). Weighted curve numbers were computed based on land use and NRCS hydrologic soil groups and are summarized in **Table 4.1**. Soils with C/D HSG were modeled as Type C. Note that the total area does not reflect the parcel area due to the exclusion of the large wetland to the south.

Table 4.1 Summary of Existing CN Values

CN Description	Assumptions	CN	Total Area (ac)	% of Total
Grass	>75% Cover, Good, A soils	39	5.7	4.2%
Grass	>75% Cover, Good, B soils	61	9.9	7.2%
Grass	>75% Cover, Good, C soils	74	105.4	77.1%
Impervious	Impervious	98	5.2	3.8%
Woods	Fair, B soils	60	0.5	0.4%
Woods	Fair, C soils	73	8.8	6.4%
Wetlands	Nearly saturated	98	1.1	0.8%
Dirt	Dirt roads, C soils	87	0.1	0.1%
		Total	136.7	100%

Existing subcatchments were delineated based on existing contours. **Table 4.2** summarizes existing subcatchment runoff parameters. See **Figure 2** for delineated wetland areas, subcatchment areas, existing topography, and aerial imagery.

Table 4.2 Existing Subcatchment Parameters

Subcatchment	Composite CN	Total Area (ac)	Tc (min)
EX 1	72	118.6	33.3
EX 2	75	7.7	24.5
EX 3	81	5.6	42.7
EX 4	80	3.6	18.1
EX 5	74	0.4	15.5
EX 6	77	0.2	10.3
EX 7	89	0.7	16.4
	Total	136.7	-

4.2 Proposed Conditions

4.2.1 Site Topography

The proposed lots will be graded to drain as much impervious surface as possible to a stormwater pond where the water will be reused for irrigation. Remaining pervious and impervious will be routed to five other stormwater ponds, which route to one another before ultimately discharging to the large wetland to the south (except for one of the ponds, which drains northwest to another existing wetland). Offsite contributing areas around the site flow to multiple destinations: proposed ponds, the large south wetland, and the other wetland on the northeast corner of the site. See **Figure 3** for details.

4.2.2 Soils & Land Use

The proposed soil types are the same as the existing which were described in section **4.1.2 Soils**. The site will be developed as residential lots, with new impervious areas including roads, sidewalks, and buildings. Weighted CN values for each subwatershed were derived based on the following CN values provided in **Table 4.3**. Proposed impervious area was delineated based on the proposed layout plan. The parcel being developed is approximately 158.1 acres (without offsite areas included), of which 31.9 acres (20%) is new impervious. Again, note that the total area does not reflect the parcel area due to the exclusion of the large wetland to the south.

Table 4.3 Summary of Proposed CN Values

CN Description	Assumptions	CN	Total Area (ac)	% of Total
Grass	>75% Cover, Good, A soils	39	2.7	2.0%
Grass	>75% Cover, Good, B soils	61	6.2	4.5%
Grass	>75% Cover, Good, C soils	79	80.8	59.3%
Impervious	Impervious	98	34.7	25.2%
Woods	Fair, HSG C Soils	73	3.3	2.4%
Pond	Existing Wetland/Pond	98	9.0	6.6%
Total			136.7	100%

Proposed subcatchments were delineated based on proposed grading and storm sewer routing. **Table 4.4** summarizes proposed subcatchment runoff parameters. **Figure 3** shows the proposed site grading, storm sewer and subcatchments.

Table 4.4 Proposed Subcatchment Parameters

Subcatchment	Composite CN	Impervious Area (ac) ⁽¹⁾	Total Area (ac)	Tc (min) ⁽²⁾
1000	83	0.01	0	12.3
1N	81	1.47	4.8	12
1N 100	79	0.13	0.5	14.8
1S	84	6.86	13.9	12
2S	86	2.07	4.1	12
3S	85	4.27	9.6	12
3S 100	91	0.35	0.5	12
4S	79	3.16	9	12
5S	82	13.65	29	12
5S 100	85	0.13	0.3	12
A10	82	0.28	0.8	12
A10 100	98	0.02	0	12
A15	80	0.16	0.7	12
A15 100	98	0.03	0	12
A8	77	0.01	0.1	12
A9	79	0.15	0.7	12
B5	75	0.06	0.5	12
B6	76	0.18	1.5	12
B7	76	0.13	0.8	12
B7 100	81	0.06	0.2	12
B8	76	0.09	1.1	12
B8 100	95	0.03	0	12
C10	76	0.16	1.5	12
C10 100	88	0.33	0.5	12
C7	76	0.2	1.4	12
C7 100	89	0.17	0.3	13.8

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Subcatchment	Composite CN	Impervious Area (ac) ⁽¹⁾	Total Area (ac)	Tc (min) ⁽²⁾
C8	76	0.19	1.5	12
C8 100	89	0.3	0.5	13.8
C9	76	0.19	1.8	12
C9 100	90	0.2	0.3	12
D6	75	0.01	0.4	12
D7	77	0.06	0.5	12
D7 100	87	0.04	0.1	12
D8	76	0.1	1.2	12
D9	78	0.2	1.3	12
E13	81	0.17	0.6	12
E15	80	0.52	1.9	12
E16	80	0.36	1.4	12
E17	79	0.2	1	12
E18	76	0.17	1.7	12
F5	79	0.26	1.2	12
F6	79	0.19	0.9	12
F7	77	0.08	0.7	12
F8	78	0.31	1.9	12
H5	77	0.59	2.2	12
H6	70	0.2	1	12
H7	72	0.23	1.2	12
I14	81	0.08	0.3	12
I14 100	76	0.03	0.4	12
I7	70	0.14	0.6	12
I7 100	76	0.01	0.2	12
I8	80	0.25	1	12
I8 100	80	0.04	0.2	12
I9	81	0.07	0.3	12
J3	79	0.3	1.5	12
J4	74	0	0.3	12
J5	78	0.12	0.7	12
L10	78	0.2	1.1	12
L4	79	0.03	0.2	12
L5	79	0.17	0.8	12
L6	79	0.22	1.1	12
L7	79	0.16	0.8	12
L8	77	0.31	1.4	12
L9	79	0.21	1	12
O10	78	0.09	0.6	12
O8	77	0.06	0.5	12
O9	79	0.23	1.1	12

Subcatchment	Composite CN	Impervious Area (ac) ⁽¹⁾	Total Area (ac)	Tc (min) ⁽²⁾
W6	76	0.98	10	27
W6 100	73	0	0.2	42.4
W6 101	77	0.28	2.2	19.1
W6 102	74	0	0.3	15.5
W9	77	0.22	1.8	12
W9 100	79	0.55	2.5	34
W9 101	86	0.27	0.5	16.4
Total		43.7	136.7	-

(1) Includes all new and existing impervious areas, as well as pond surface area

(2) Where Tc = 12 min, average value based on urban drainage; ~30 feet of sheet flow, gutter flow and pipe flow

4.3 Basin Summary and Routing

There are six onsite stormwater ponds to provide treatment for runoff from the site. **Table 4.5** summarizes the performance of the stormwater ponds and backyard catch basins including 100-year HWL's and freeboard from the lowest nearby structure. The ponds were designed to provide at least 2.0 feet of freeboard from the lowest structure opening during the 100-year event. Additionally, the pond's EOF's were designed to provide at least 1.5 feet of freeboard from the lowest structure opening during the 100-year event. The EOF summary is provided in **Table 4.6**.

Table 4.5 Stormwater Basin and Backyard Catch Basin Performance

Location	NWL/Top of Casting	100-Year HWL	Lowest Nearby Structure Elev.	Freeboard (ft)
Pond 1N	1009.5	1010.8	1015.1	4.3
Pond 1S	967.0	971.2	973.6	2.4
Pond 2S	969.0	971.2	978.3	7.1
Pond 3S	973.0	976.1	979.8	3.7
Pond 4S	967.5	971.4	973.6	2.2
Pond 5S	978.0	981.3	984.6	3.3
Wetland 9	1009.0	1010.5	1013.7	3.2
CB_E18	1008.0	1008.6	1010.6	2.0
CB_E17	1002.0	1002.4	1007.8	5.4
CB_E16	995.0	998.1	1001.1	3.0
CB_E15	992.0	993.8	996.6	2.8
CB_E13	1009.5	1009.8	1013.7	3.9
CB_D9	995.0	996.7	1001.0	4.3
CB_D8	1002.0	1002.5	1005.6	3.1
CB_D7	1002.0	1002.3	1005.6	3.3
CB_D6	1000.0	1000.2	1004.6	4.4
CB_F8	989.0	989.7	993.1	3.4
CB_F7	983.0	985.8	993.1	7.3

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CB_F6	985.0	985.4	991.6	5.8
CB_F5	983.0	983.5	988.6	5.1
CB_H7	974.0	974.4	977.6	3.2
CB_H6	973.0	973.4	976.6	3.0
CB_H5	972.0	972.7	977.6	4.9
CB_I9	978.0	978.2	980.6	2.4
CB_I8	987.0	987.5	990.1	2.6
CB_I7	986.0	986.4	990.0	3.6
CB_I14	985.0	986.1	989.0	2.9
CB_J5	997.0	997.3	100.4	3.1
CB_J4	994.0	995.4	999.1	3.7
CB_J3	991.0	991.6	993.6	2.0
CB_A9	1002	1002.3	1005.1	2.8
CB_A8 CB_A20	1000.0	1001.2	1007.0	5.8
CB_A15 CB_A7	998.0	998.4	1001.6	3.2
CB_A10 CB_A8	996.0	996.4	1000.8	4.4
CB_B8 CB_A9	998.0	998.2	1001.1	2.9
CB_B5 CB_A10	995.0	995.6	1001.6	6.0
CB_C6	993.0	993.4	997.5	4.1
CB_B6 CB_A11	994.0	994.7	999.1	4.4
CB_B7 CB_A12	998.0	998.3	1004.0 ⁽¹⁾	5.7
CB_C10	994.0	994.7	998.1	3.4
CB_C7	992.5	993.1	997.0	3.9
CB_C8	991.0	991.7	997.5	5.8
CB_C9	992.0	992.7	997.5	4.8
CB_L10	988.0	988.5	992.1	3.6
CB_L9	982.0	984.1	986.1	2.0
CB_L8	980.0	980.6	983.6	3.0
CB_L7	979.0	979.4	982.6	3.2
CB_L6	978.0	978.3	982.6	4.3
CB_L5	977.5	978.0	983.5	5.5
CB_L4	978.0	978.1	983.5	5.4
CB_O10	978.0	978.3	983.4	5.1
CB_O9	978.0	978.5	988.6	10.1
CB_O8	975.5	975.8	977.8	2.0

(1) No building within the development is nearby. The elevation is the contour below the existing home to the northwest

Table 4.6 Stormwater Basin EOF Summary

Location	EOF Elevation	Lowest Nearby Structure Elev.	Freeboard (ft)
Pond 1N	1012.0	1015.6	3.6
Pond 1S	971.0	973.6	2.6
Pond 2S	972.0	978.3	6.3
Pond 3S	978.0	979.8	1.8
Pond 4S	971.7	973.6	1.9
Pond 5S	981.5	984.6	3.1

4.4 Rate Control

The development site was analyzed to determine the pre- and post-development runoff rates to each watershed (Bassett Creek and Elm Creek). **Table 4.7** below summarizes the pre- and post-development discharge rates. See *Appendix C* for the pre- and post-development HydroCAD summaries.

Table 4.7 Summary of Site Discharge Rates (cfs)

Condition	2-Year			10-Year			100-Year		
	Bassett Creek	Elm Creek	Total	Bassett Creek	Elm Creek	Total	Bassett Creek	Elm Creek	Total
Existing	77.0	5.4	82.4	174.5	19.6	194.1	427.7	49.7	477.4
Proposed	21.1	0.9	23.5	47.3	5.6	56.3	105.4	18.8	128.4
Δ Q	-55.9	-4.5	-60.4	-127.2	-14.0	-141.2	-322.3	-30.9	-353.2

Overall the project is significantly reducing discharge rates to the downstream receiving waters. **Table 4.8** below details the reduction in downstream discharge rates for each location as well as for the project overall.

Table 4.8 Summary of Site Discharge Rate Reduction (%)

Condition	2-Year			10-Year			100-Year		
	Bassett Creek	Elm Creek	Total	Bassett Creek	Elm Creek	Total	Bassett Creek	Elm Creek	Total
Existing	77.0	5.4	82.4	174.5	19.6	194.1	427.7	49.7	477.4
Proposed	22.6	0.9	23.5	50.7	5.6	56.3	109.6	18.8	128.4
% Reduction	-72.6%	-83.3%	-73.3%	-72.9%	-71.4%	-72.7%	-75.4%	-62.2%	-74.0%

4.5 Water Quality Calculations

The BCWMO requires abstraction or infiltration 1.1 inches from the new impervious surface area. Reductions for Total Phosphorus (TP) and Total Suspended Solids (TSS) do not have to be calculated as long as this 1.1 inch requirement is met. If the requirement is not met, the new abstraction volume shall be 0.55 inches from new impervious surface, with a 75% annual TP removal also required.

Abstraction volume requirements are summarized in **Table 4.9**.

Table 4.9 Abstraction Volume Requirement Summary

New Impervious Area		Required Abstraction Volume BCWMO	
(ac)	(sf)	(ac-ft)	(cf)
31.9	1,390,000	2.93	127,500

To meet the water quality requirements, stormwater reuse was incorporated into the design. The reason stormwater reuse was chosen is due to the poor soil conditions present throughout the site. With HSG Type C soils, infiltration practices are not the best option. Stormwater reuse is one of the BMPs approved by the BCWMC and was chosen for the design. Water will be taken from Pond 5S and distributed over multipled areas throughout the site, see **Figure 4** for irrigation areas. **Table 4.10** summarizes the stormwater reuse design, with the spreadsheet calculations (Ramsey-Washington Metro Watershed District Reuse Calculator) found in **Appendix D**.

Table 4.10 Stormwater Reuse Design

Pond	Drainage Area (ac)	% Impervious	HSG (dominant)	Reuse Storage Volume (ac-ft)	Irrigation Application Area (ac)	Abstraction Volume Earned (cf)
Pond 5S	53.6	33.4	C	6.7	15.0	138,000

As seen in **Table 4.9** and **Table 4.10**, the abstraction volume requirements are met with stormwater reuse, thus no other BMPs were implemented into the design and no P8 analysis was conducted.

4.6 Floodplain Volume Analysis

The City of Plymouth has conducted a regional hydraulic analysis to define administrative floodplains the City for the 100-year event based on Atlas 14 in addition to the FEMA floodplains. The site contains four (4) wetland areas (smaller adjacent wetlands have been lumped together) identified by the City as part of the analysis. The project area is located at the headwaters of a tributary to Plymouth Creek. Of the four wetland areas, three of them are isolated wetlands located within the existing golf course with limited discharge downstream under existing conditions. The fourth area is the largest of them all and it is the large wetland complex located along the south side of the project site. These inundation areas for the 100-year event can be found in the City's Atlas 14 100-year Inundation Map, included in **Appendix F**.

The project is proposing to fill portions of these inundation areas as well as mitigate for the fill by the construction of regional stormwater basins to provide adequate compensatory storage. Under existing conditions, the floodplain storage volume on site, based on the inundation map is 81.466 acre-feet. The project is proposing to provide 107.120 acre-feet of floodplain storage throughout the project site. The proposed floodplain storage includes the live storage being provided by the stormwater ponds throughout the development. The project is also significantly reducing discharge rates from the site as a result of the amount of storage being provided in the ponding systems. **Table 4.11** is included below detailing the overall reduction of the discharge rates to the south and into the wetland complex from existing conditions. Overall, the additional storage being created on site coupled with the reduced discharge offsite through the use of on site ponding and smaller trunk storm sewer sizes will reduce downstream HWLs. This is able to be accomplished because the project site is located at the upper end of the watershed. Reducing discharge rates reduces the peak rate for downstream receiving waters and reduces the potential for flooding by holding water back within the development until the downstream areas are able to adequately drain.

Table 4.11 Floodplain Rate Reduction

Discharge to Bassett Creek Watershed [via Plymouth Creek]	2-Yr	10-Yr	100-Yr
Existing	77.0	174.5	427.7
Proposed	21.1	47.3	105.4
Δ Q	-55.9	-127.2	-322.3
% Reduction	-72.6	-72.9	-75.4

APPENDICES

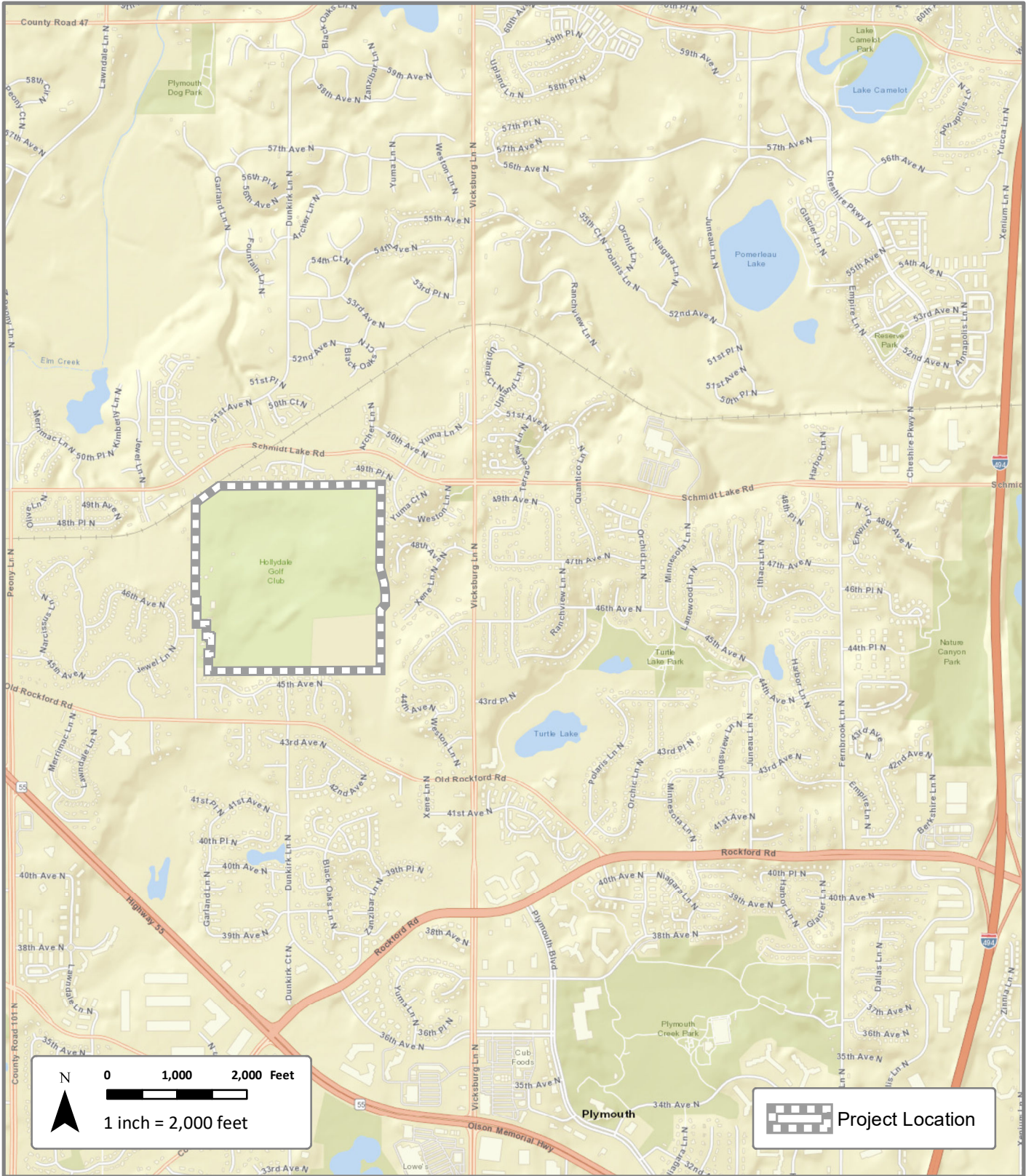
APPENDIX A – FIGURES

FIGURE 1 – SITE LOCATION MAP

FIGURE 2 – EXISTING CONDITIONS MAP

FIGURE 3 – PROPOSED CONDITIONS MAP

FIGURE 4 – STORMWATER REUSE MAP



Information depicted may include data unverified by AE2S. Any reliance upon such data is at the user's own risk. AE2S does not warrant this map or its features are either spatially or temporally accurate.
 Coordinate System: NAD 1983 HARN Adj MN Hennepin Feet | Edited by: llamoore | C:\Users\Llamoore\AE2S\Sathre - Hollydale Golf Course\GIS\Fig1_Site Map.mxd

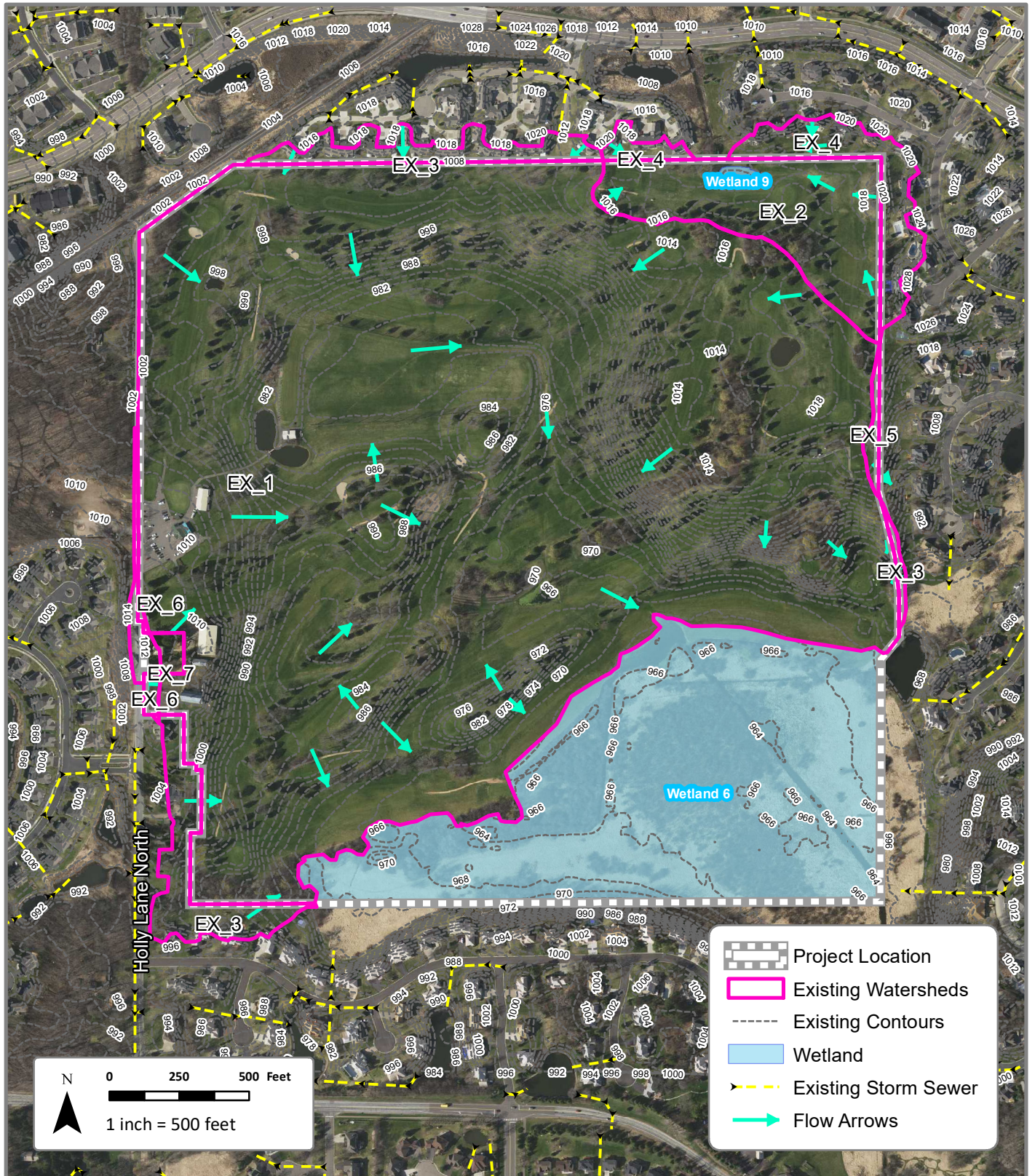


Locator Map Not to Scale

Figure 1
SITE LOCATION MAP
HOLLYDALE DEVELOPMENT
 SATHRE-BERGQUIST, INC
 Plymouth | Hennepin County, MN



Date: 6/17/2020



Information depicted may include data unverified by AE2S. Any reliance upon such data is at the user's own risk. AE2S does not warrant this map or its features are either spatially or temporally accurate. Coordinate System: NAD 1983 HARN Adj MN Hennepin Feet | Edited by: llamoore | C:\Users\lLaMoore\AE2S\Sathre - Hollydale Golf Course\GIS\Fig2_Existing Conditions.mxd

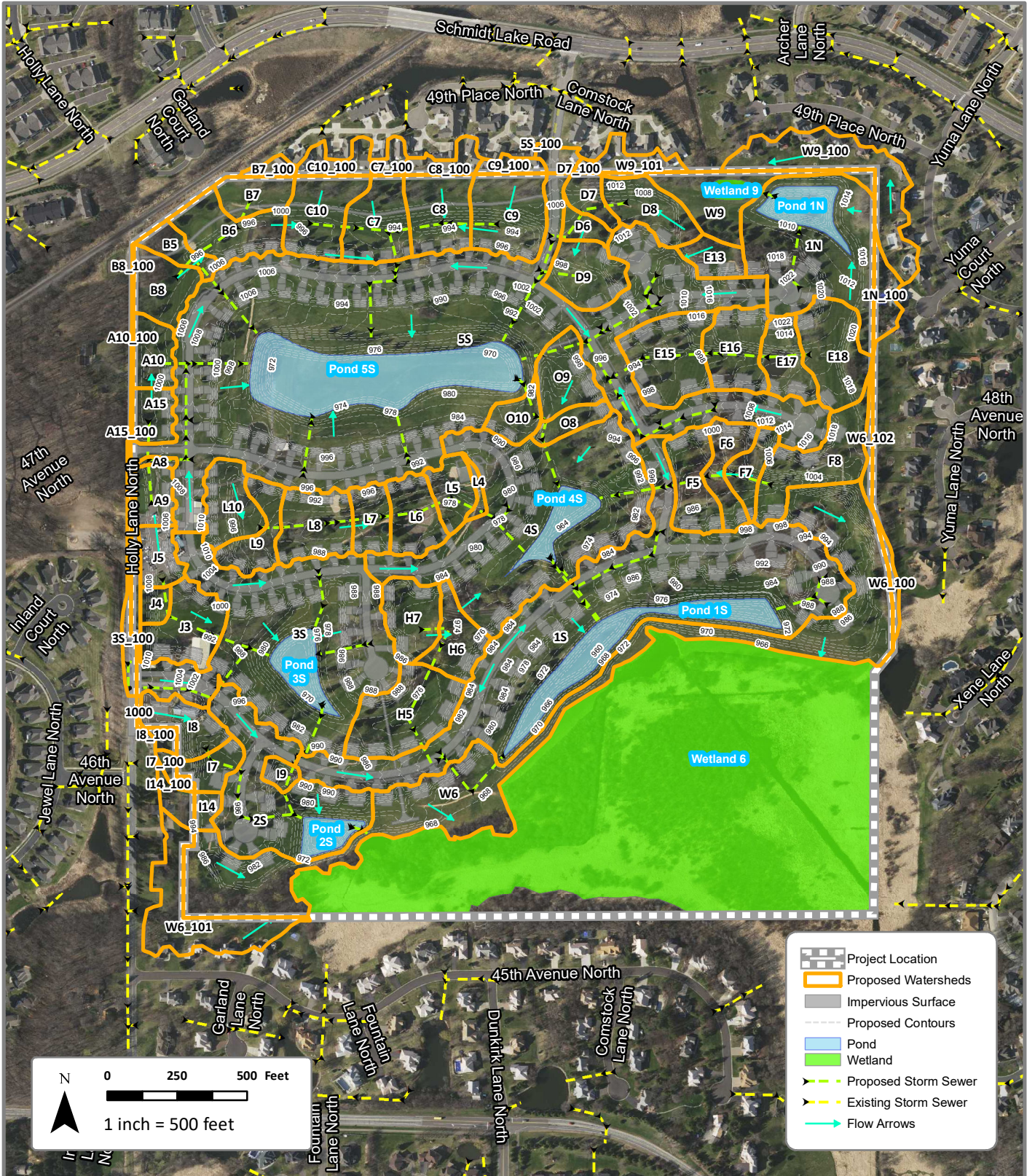


Locator Map Not to Scale

Figure 2
EXISTING CONDITIONS
HOLLYDALE DEVELOPMENT
 SATHRE-BERGQUIST, INC
 Plymouth | Hennepin County, MN



Date: 6/25/2020



	Project Location
	Proposed Watersheds
	Impervious Surface
	Proposed Contours
	Pond
	Wetland
	Proposed Storm Sewer
	Existing Storm Sewer
	Flow Arrows

0 250 500 Feet

 1 inch = 500 feet

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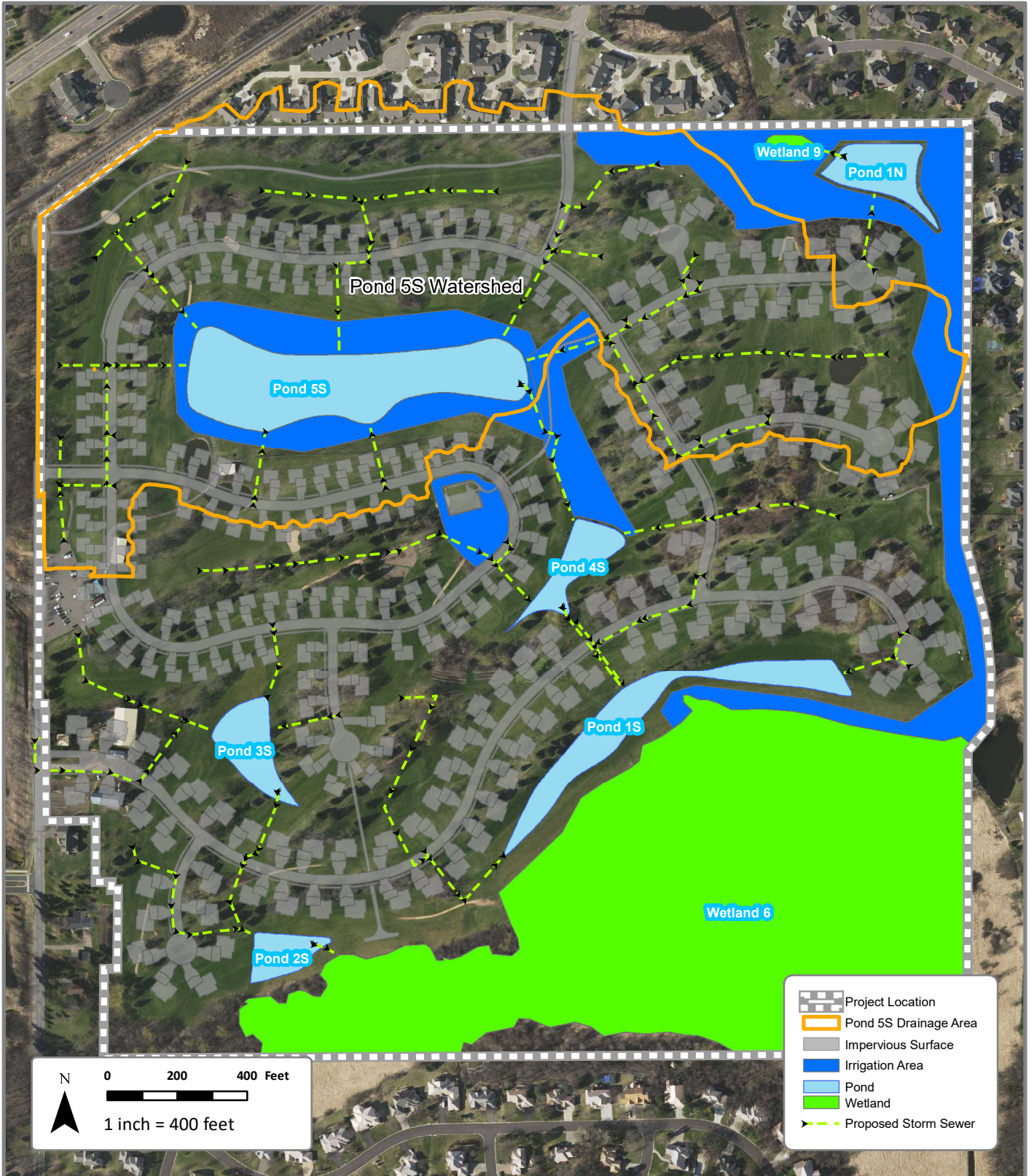


Locator Map Not to Scale

Figure 3
PROPOSED CONDITIONS
HOLLYDALE DEVELOPMENT
 SATHRE-BERGQUIST, INC
 Plymouth | Hennepin County, MN



Date: 4/19/2021



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 Coordinate System: NAD 1983 HARN Adj MN Hennepin Feet | Edited by: llamoore | C:\Users\llamoore\AE2S\Sathre - Hollydale Golf Course\GIS\Fig4_Stormwater Reuse Map.mxd



Locator Map Not to Scale

Figure 4
STORMWATER REUSE MAP
 HOLLYDALE DEVELOPMENT
 SATHRE-BERGQUIST, INC
 Plymouth | Hennepin County, MN



Date: 4/19/2021

APPENDIX B – WEB SOIL SURVEY REPORT

MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hennepin County, Minnesota
 Survey Area Data: Version 15, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 19, 2019—Aug 29, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
L9A	Minnetonka silty clay loam, 0 to 2 percent slopes	C/D	55.1	9.3%
L14A	Houghton muck, 0 to 1 percent slopes	A/D	5.9	1.0%
L18A	Shields silty clay loam, 0 to 3 percent slopes	C/D	10.6	1.8%
L22C2	Lester loam, 6 to 10 percent slopes, moderately eroded	C	78.0	13.2%
L22D2	Lester loam, 10 to 16 percent slopes, moderately eroded	C	19.0	3.2%
L22E	Lester loam, 10 to 22 percent slopes	C	12.2	2.1%
L22F	Lester loam, morainic, 25 to 35 percent slopes	B	11.0	1.9%
L23A	Cordova loam, 0 to 2 percent slopes	C/D	26.5	4.5%
L24A	Glencoe clay loam, 0 to 1 percent slopes	C/D	13.2	2.2%
L25A	Le Sueur loam, 1 to 3 percent slopes	C/D	0.5	0.1%
L26A	Shorewood silty clay loam, 1 to 3 percent slopes	C/D	2.4	0.4%
L26B	Shorewood silty clay loam, 3 to 6 percent slopes	C/D	57.6	9.7%
L26C2	Shorewood silty clay loam, 6 to 12 percent slopes, eroded	C/D	0.0	0.0%
L28A	Suckercreek fine sandy loam, 0 to 2 percent slopes, occasionally flooded	A/D	0.5	0.1%
L35A	Lerdal loam, 1 to 3 percent slopes	C/D	1.0	0.2%
L36A	Hamel, overwash-Hamel complex, 0 to 3 percent slopes	C/D	38.0	6.4%
L37B	Angus loam, 2 to 6 percent slopes	C	79.7	13.5%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
L40B	Angus-Kilkenny complex, 2 to 6 percent slopes	C/D	3.8	0.6%
L44A	Nessel loam, 1 to 3 percent slopes	C	68.1	11.5%
L45A	Dundas-Cordova complex, 0 to 3 percent slopes	C/D	22.2	3.7%
L49A	Klossner soils, depressional, 0 to 1 percent slopes	B/D	19.6	3.3%
L50A	Muskego and Houghton soils, 0 to 1 percent slopes	C/D	59.1	10.0%
L61C2	Lester-Metea complex, 6 to 12 percent slopes, eroded	B	0.8	0.1%
L64A	Tadkee-Tadkee, depressional, complex, 0 to 2 percent slopes	B/D	0.2	0.0%
L132A	Hamel-Glencoe complex, 0 to 2 percent slopes	C/D	6.4	1.1%
Totals for Area of Interest			591.5	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

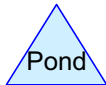
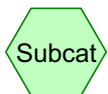
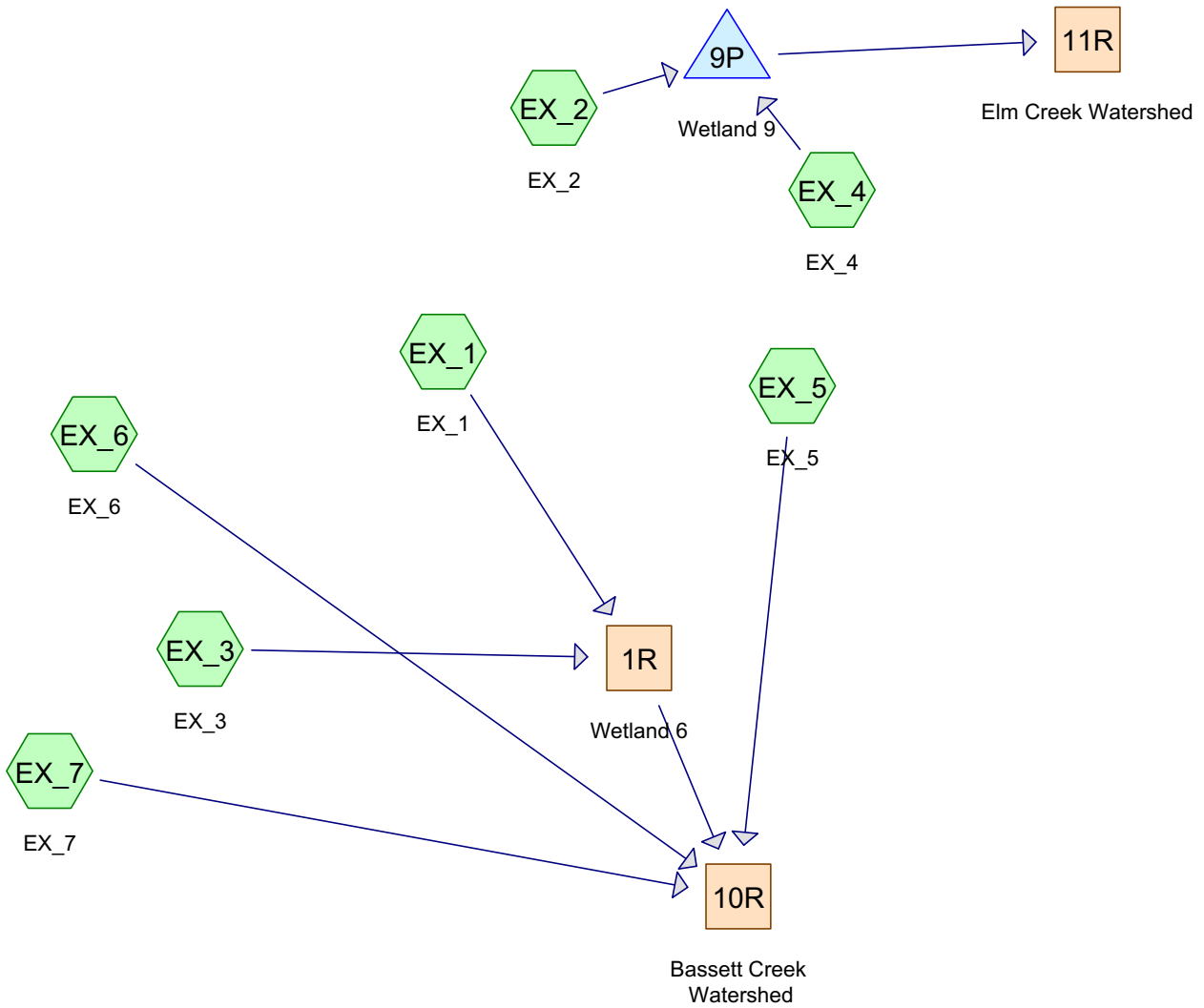
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

**APPENDIX C – HYDROCAD SUMMARIES (PRE- AND POST-
DEVELOPMENT)**



Routing Diagram for Hollydale - Existing Conditions - 06.25.2020

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Hollydale - Existing Conditions - 06.25.2020

Prepared by AE2S

Printed 6/25/2020

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Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
5.656	39	>75% Grass cover, Good, HSG A (EX_1)
9.869	61	>75% Grass cover, Good, HSG B (EX_1)
105.486	74	>75% Grass cover, Good, HSG C (EX_1, EX_2, EX_3, EX_4, EX_5, EX_6, EX_7)
0.061	87	Dirt roads, HSG C (EX_1)
5.244	98	Impervious (EX_1, EX_3, EX_4, EX_6, EX_7)
1.114	98	Wetland (EX_1, EX_2)
0.482	60	Woods, Fair, HSG B (EX_1)
8.829	73	Woods, Fair, HSG C (EX_1, EX_2, EX_3, EX_4, EX_5)
136.741	73	TOTAL AREA

Hollydale - Existing Conditions - 06.25.2020

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Page 3

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
5.656	HSG A	EX_1
10.351	HSG B	EX_1
114.376	HSG C	EX_1, EX_2, EX_3, EX_4, EX_5, EX_6, EX_7
0.000	HSG D	
6.358	Other	EX_1, EX_2, EX_3, EX_4, EX_6, EX_7
136.741		TOTAL AREA

Hollydale - Existing Conditions - 06.25.2020

Prepared by AE2S

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Page 4

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
5.656	9.869	105.486	0.000	0.000	121.011	>75% Grass cover, Good	EX_1, EX_2, EX_3, EX_4, EX_5, EX_6, EX_7
0.000	0.000	0.061	0.000	0.000	0.061	Dirt roads	EX_1
0.000	0.000	0.000	0.000	5.244	5.244	Impervious	EX_1, EX_3, EX_4, EX_6, EX_7
0.000	0.000	0.000	0.000	1.114	1.114	Wetland	EX_1, EX_2
0.000	0.482	8.829	0.000	0.000	9.311	Woods, Fair	EX_1, EX_2, EX_3, EX_4, EX_5
5.656	10.351	114.376	0.000	6.358	136.741	TOTAL AREA	

Hollydale - Existing Conditions - 06.25.2020

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Hollydale - Existing Conditions - 6.25.2020

MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Time span=0.00-72.00 hrs, dt=0.02 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentEX_1: EX_1 Runoff Area=118.553 ac 2.64% Impervious Runoff Depth=0.79"
Flow Length=2,703' Tc=33.3 min CN=WQ Runoff=71.35 cfs 7.786 af

SubcatchmentEX_2: EX_2 Runoff Area=7.736 ac 2.87% Impervious Runoff Depth=0.87"
Flow Length=850' Tc=24.5 min CN=WQ Runoff=6.25 cfs 0.563 af

SubcatchmentEX_3: EX_3 Runoff Area=5.602 ac 28.65% Impervious Runoff Depth=1.34"
Flow Length=2,787' Tc=42.7 min CN=WQ Runoff=4.94 cfs 0.626 af

SubcatchmentEX_4: EX_4 Runoff Area=3.592 ac 26.45% Impervious Runoff Depth=1.30"
Flow Length=830' Tc=18.1 min CN=WQ Runoff=5.03 cfs 0.390 af

SubcatchmentEX_5: EX_5 Runoff Area=0.360 ac 0.00% Impervious Runoff Depth=0.83"
Flow Length=250' Tc=15.5 min CN=WQ Runoff=0.35 cfs 0.025 af

SubcatchmentEX_6: EX_6 Runoff Area=0.232 ac 12.93% Impervious Runoff Depth=1.06"
Flow Length=100' Slope=0.0200 '/' Tc=10.3 min CN=WQ Runoff=0.35 cfs 0.021 af

SubcatchmentEX_7: EX_7 Runoff Area=0.666 ac 63.66% Impervious Runoff Depth=1.98"
Flow Length=650' Tc=16.4 min CN=WQ Runoff=1.48 cfs 0.110 af

Reach 1R: Wetland 6 Inflow=76.08 cfs 8.412 af
Outflow=76.08 cfs 8.412 af

Reach 10R: Bassett Creek Watershed Inflow=76.95 cfs 8.567 af
Outflow=76.95 cfs 8.567 af

Reach 11R: Elm Creek Watershed Inflow=5.44 cfs 0.652 af
Outflow=5.44 cfs 0.652 af

Pond 9P: Wetland 9 Peak Elev=1,010.23' Storage=23,542 cf Inflow=10.76 cfs 0.953 af
Outflow=5.44 cfs 0.652 af

Total Runoff Area = 136.741 ac Runoff Volume = 9.520 af Average Runoff Depth = 0.84"
95.35% Pervious = 130.383 ac 4.65% Impervious = 6.358 ac

Hollydale - Existing Conditions - 06.25.2020

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Hollydale - Existing Conditions - 6.25.2020

MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment EX_1: EX_1

Runoff = 71.35 cfs @ 12.51 hrs, Volume= 7.786 af, Depth= 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.061	87	Dirt roads, HSG C
* 2.235	98	Impervious
5.656	39	>75% Grass cover, Good, HSG A
9.869	61	>75% Grass cover, Good, HSG B
92.243	74	>75% Grass cover, Good, HSG C
0.482	60	Woods, Fair, HSG B
7.115	73	Woods, Fair, HSG C
* 0.892	98	Wetland
118.553		Weighted Average
115.426		97.36% Pervious Area
3.127		2.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	100	0.0400	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
7.7	500	0.0240	1.08		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
17.8	2,103	0.0100	1.97	1.97	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030 Stream, clean & straight
33.3	2,703	Total			

Hollydale - Existing Conditions - 06.25.2020

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Hollydale - Existing Conditions - 6.25.2020

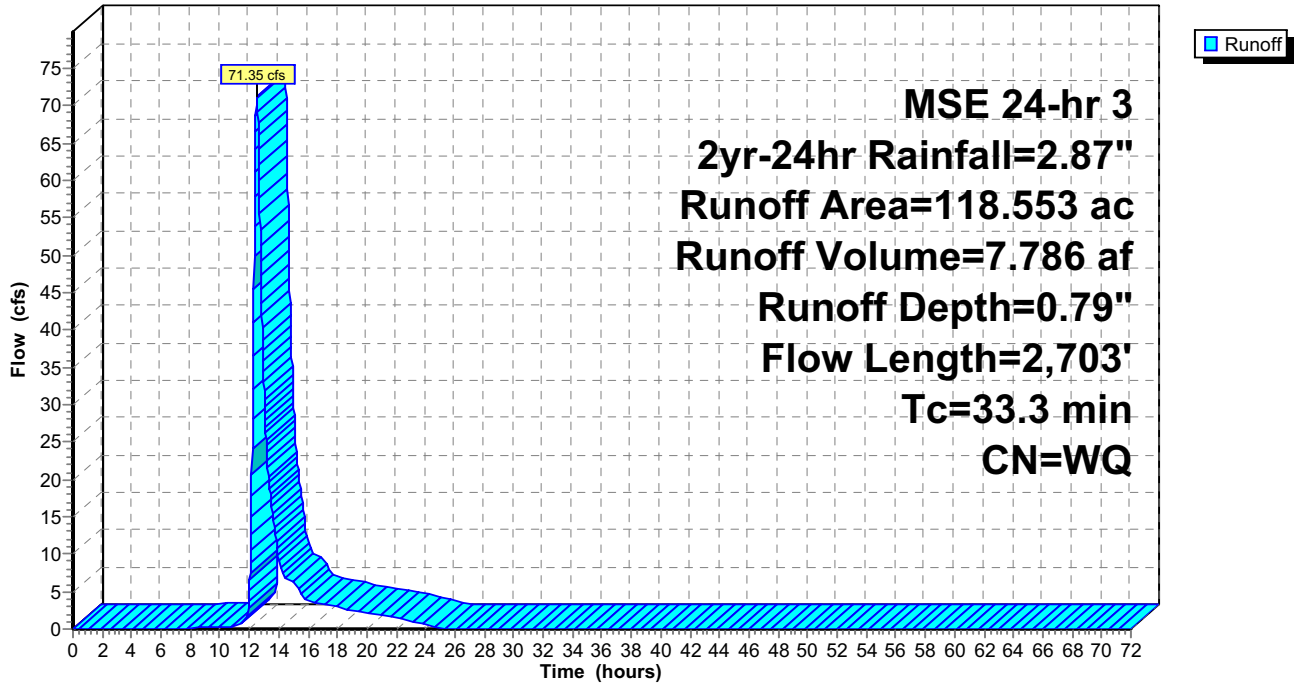
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Subcatchment EX_1: EX_1

Hydrograph



Hollydale - Existing Conditions - 06.25.2020

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Hollydale - Existing Conditions - 6.25.2020

MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment EX_2: EX_2

Runoff = 6.25 cfs @ 12.38 hrs, Volume= 0.563 af, Depth= 0.87"

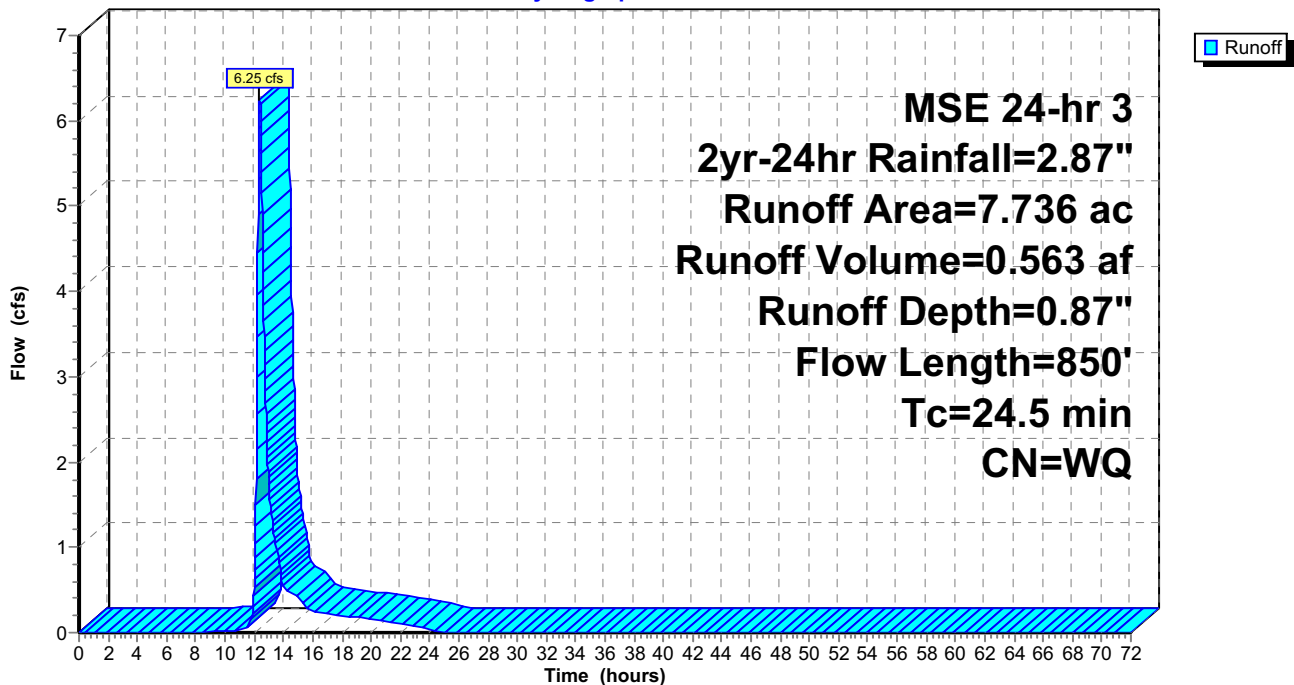
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
6.544	74	>75% Grass cover, Good, HSG C
0.970	73	Woods, Fair, HSG C
* 0.222	98	Wetland
<hr/>		
7.736		Weighted Average
7.514		97.13% Pervious Area
0.222		2.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0120	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
10.1	500	0.0140	0.83		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.7	250	0.0160	2.49	2.49	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
<hr/>					
24.5	850	Total			

Subcatchment EX_2: EX_2

Hydrograph



Hollydale - Existing Conditions - 06.25.2020

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Hollydale - Existing Conditions - 6.25.2020

MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment EX_3: EX_3

Runoff = 4.94 cfs @ 12.59 hrs, Volume= 0.626 af, Depth= 1.34"

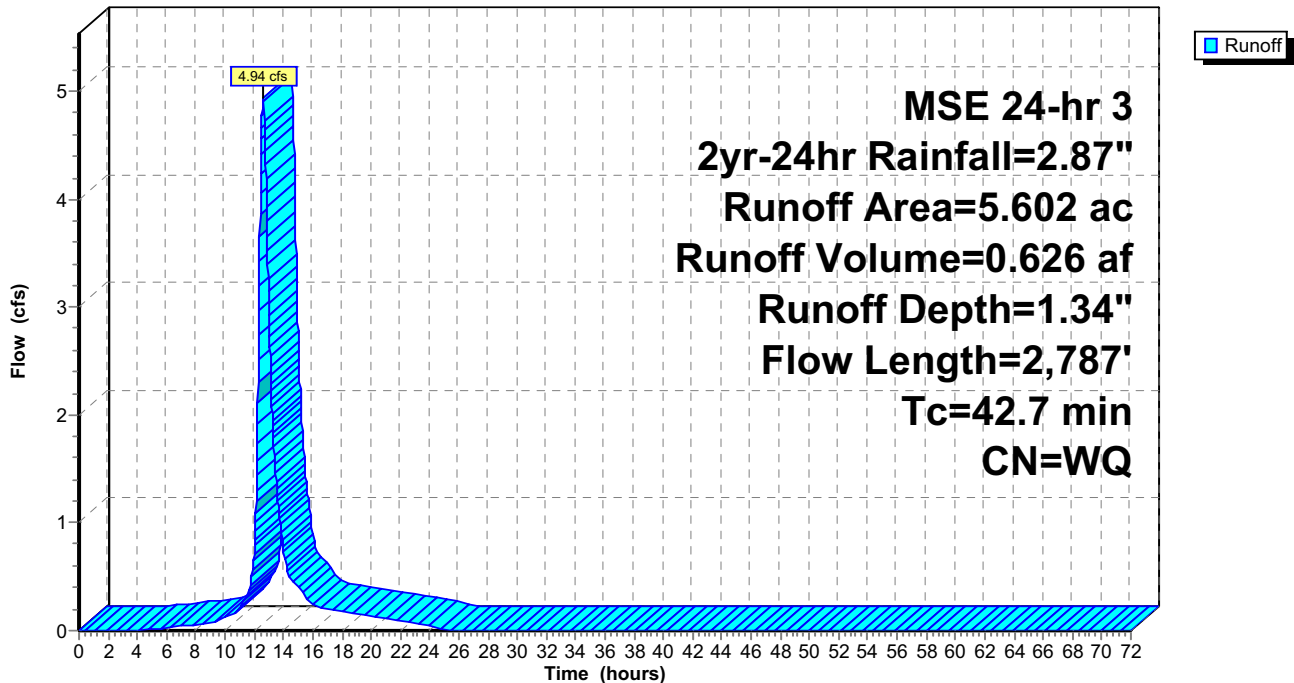
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 1.605	98	Impervious
3.413	74	>75% Grass cover, Good, HSG C
0.584	73	Woods, Fair, HSG C
5.602		Weighted Average
3.997		71.35% Pervious Area
1.605		28.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.2	184	0.0190	0.18		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
7.7	500	0.0240	1.08		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
17.8	2,103	0.0100	1.97	1.97	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
42.7	2,787	Total			

Subcatchment EX_3: EX_3

Hydrograph



Hollydale - Existing Conditions - 06.25.2020

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Hollydale - Existing Conditions - 6.25.2020

MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment EX_4: EX_4

Runoff = 5.03 cfs @ 12.28 hrs, Volume= 0.390 af, Depth= 1.30"

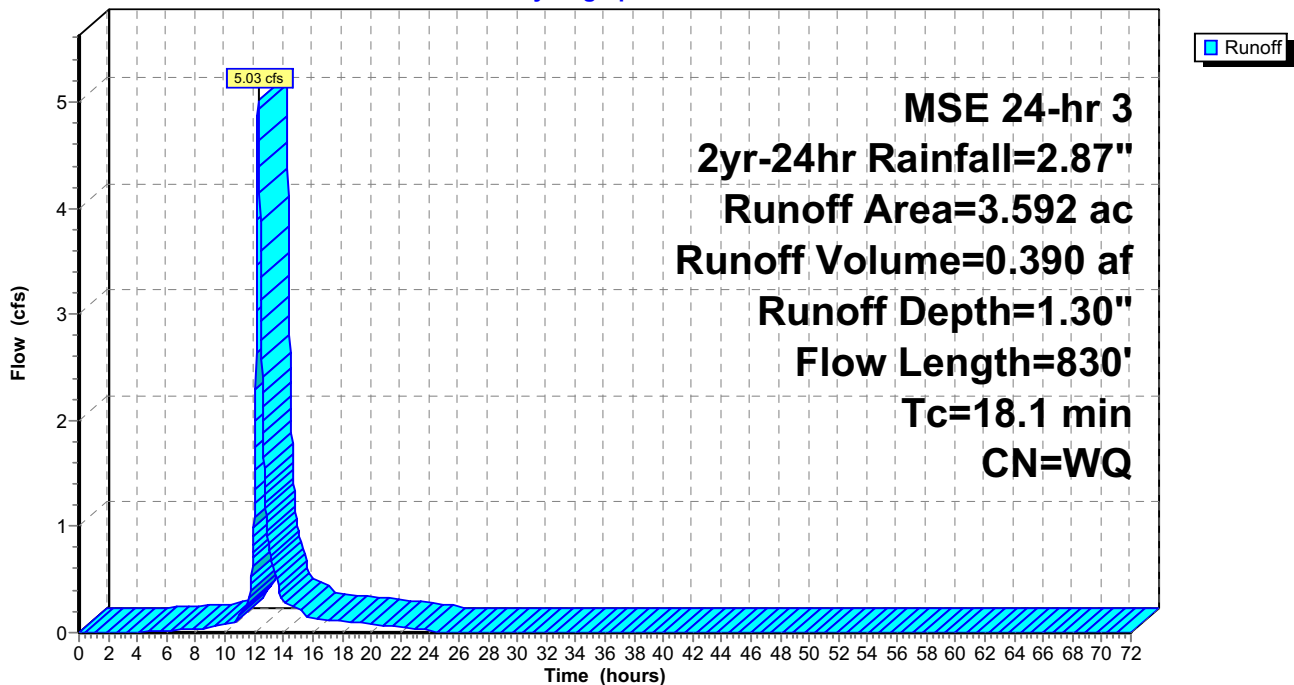
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.950	98	Impervious
2.483	74	>75% Grass cover, Good, HSG C
0.159	73	Woods, Fair, HSG C
3.592		Weighted Average
2.642		73.55% Pervious Area
0.950		26.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0900	0.29		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
10.9	500	0.0120	0.77		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.5	230	0.0174	2.59	2.59	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
18.1	830	Total			

Subcatchment EX_4: EX_4

Hydrograph



Hollydale - Existing Conditions - 06.25.2020

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Hollydale - Existing Conditions - 6.25.2020

MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment EX_5: EX_5

Runoff = 0.35 cfs @ 12.26 hrs, Volume= 0.025 af, Depth= 0.83"

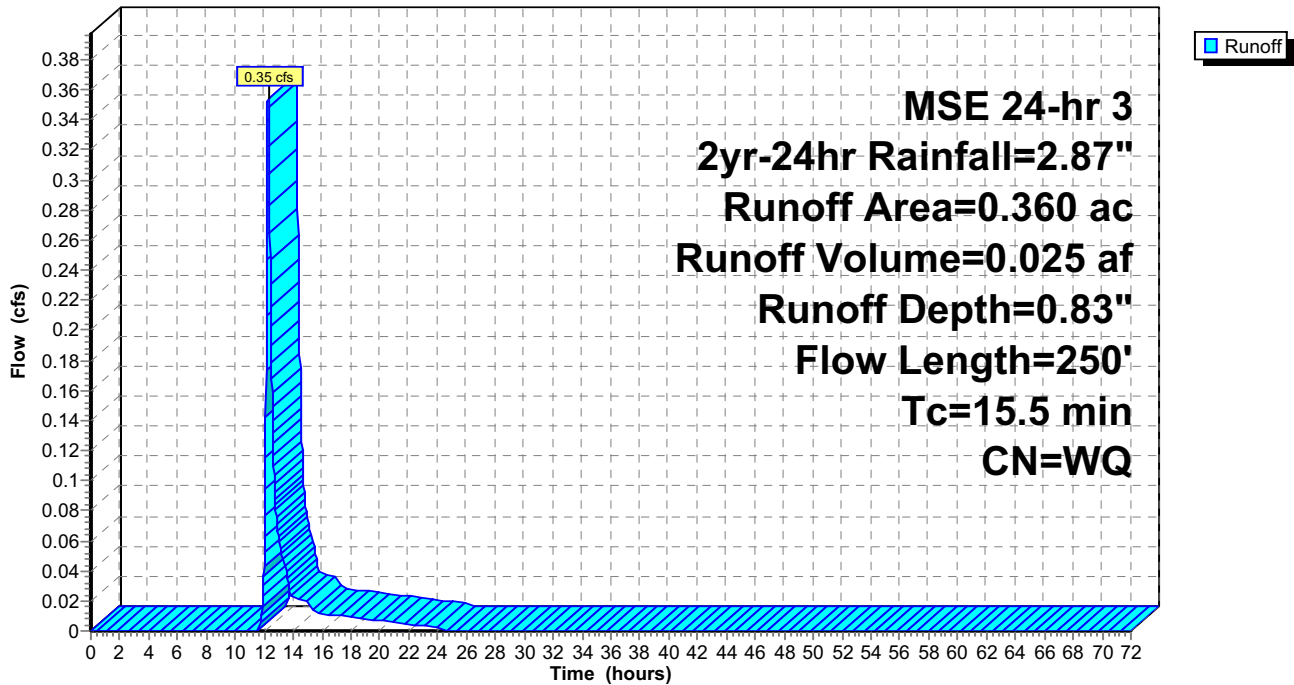
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.359	74	>75% Grass cover, Good, HSG C
0.001	73	Woods, Fair, HSG C
0.360		Weighted Average
0.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
1.8	150	0.0400	1.40		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
15.5	250	Total			

Subcatchment EX_5: EX_5

Hydrograph



Hollydale - Existing Conditions - 06.25.2020

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Hollydale - Existing Conditions - 6.25.2020

MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment EX_6: EX_6

Runoff = 0.35 cfs @ 12.19 hrs, Volume= 0.021 af, Depth= 1.06"

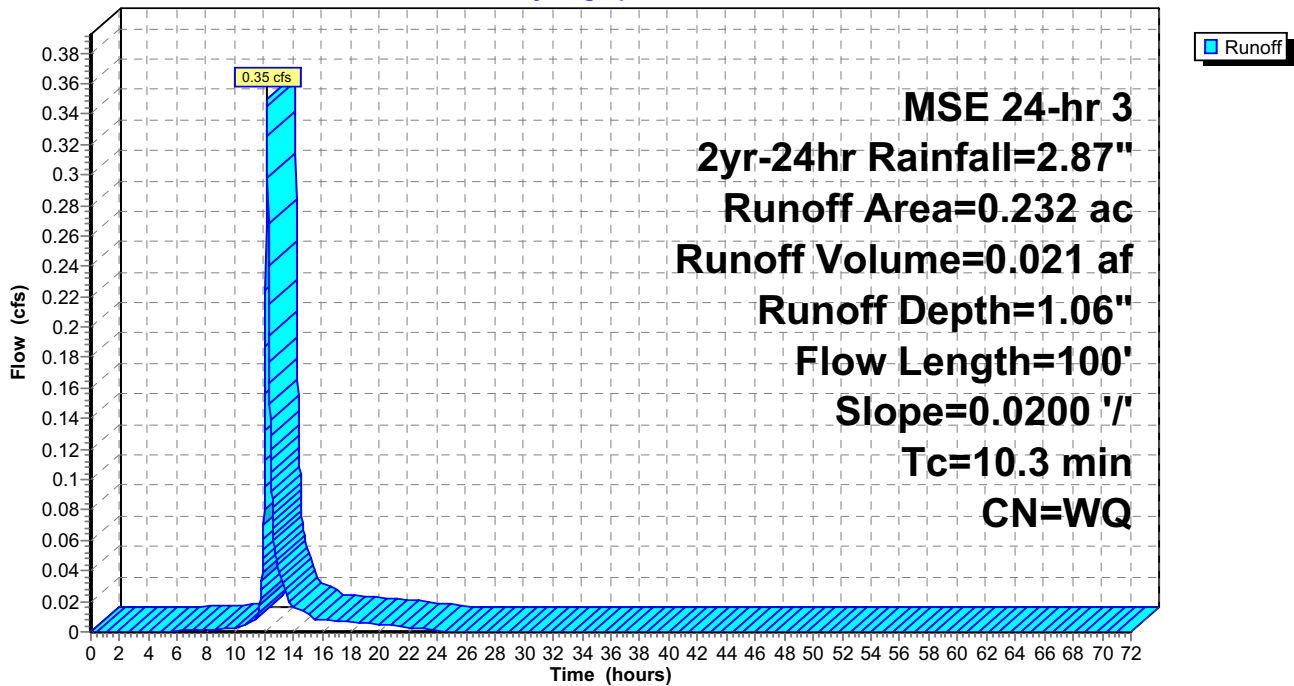
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.202	74	>75% Grass cover, Good, HSG C
* 0.030	98	Impervious
0.232		Weighted Average
0.202		87.07% Pervious Area
0.030		12.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	100	0.0200	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment EX_6: EX_6

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment EX_7: EX_7

Runoff = 1.48 cfs @ 12.24 hrs, Volume= 0.110 af, Depth= 1.98"

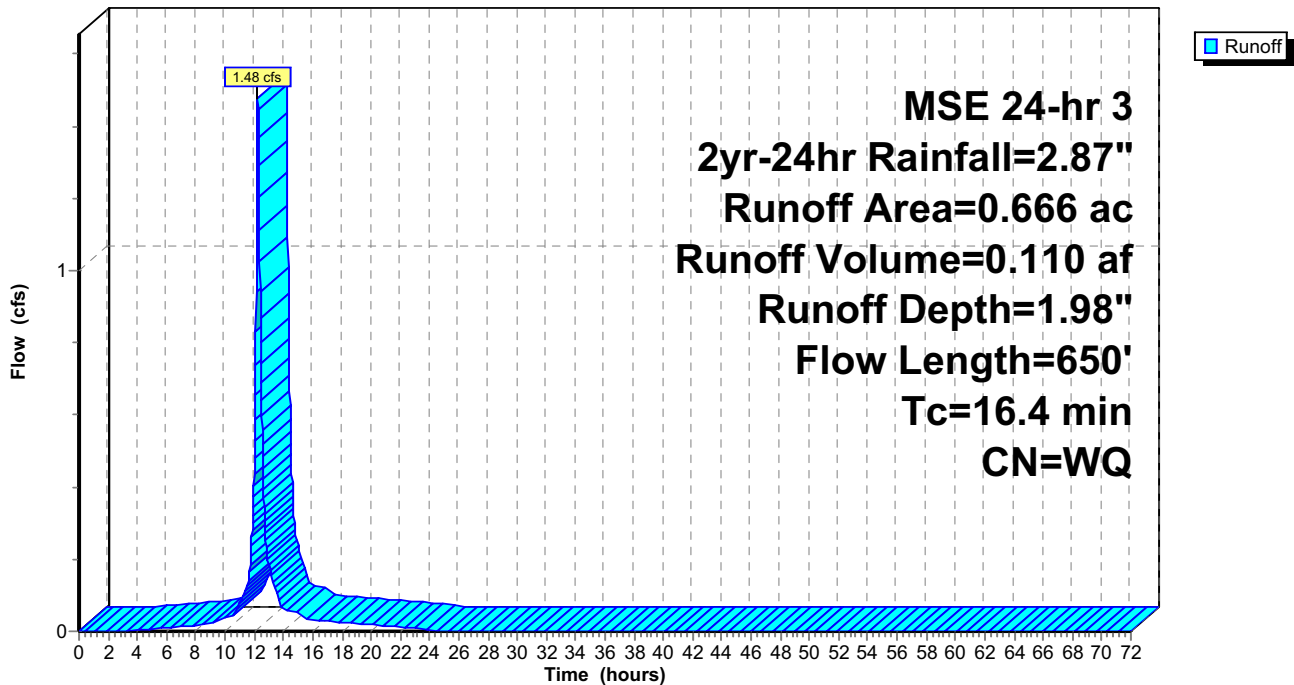
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.242	74	>75% Grass cover, Good, HSG C
* 0.424	98	Impervious
0.666		Weighted Average
0.242		36.34% Pervious Area
0.424		63.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	120	0.0170	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
3.6	530	0.0150	2.49		Shallow Concentrated Flow, Paved Kv= 20.3 fps
16.4	650	Total			

Subcatchment EX_7: EX_7

Hydrograph



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MSE 24-hr 3 Yr-24hr Rainfall=2.87"

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Summary for Reach 1R: Wetland 6

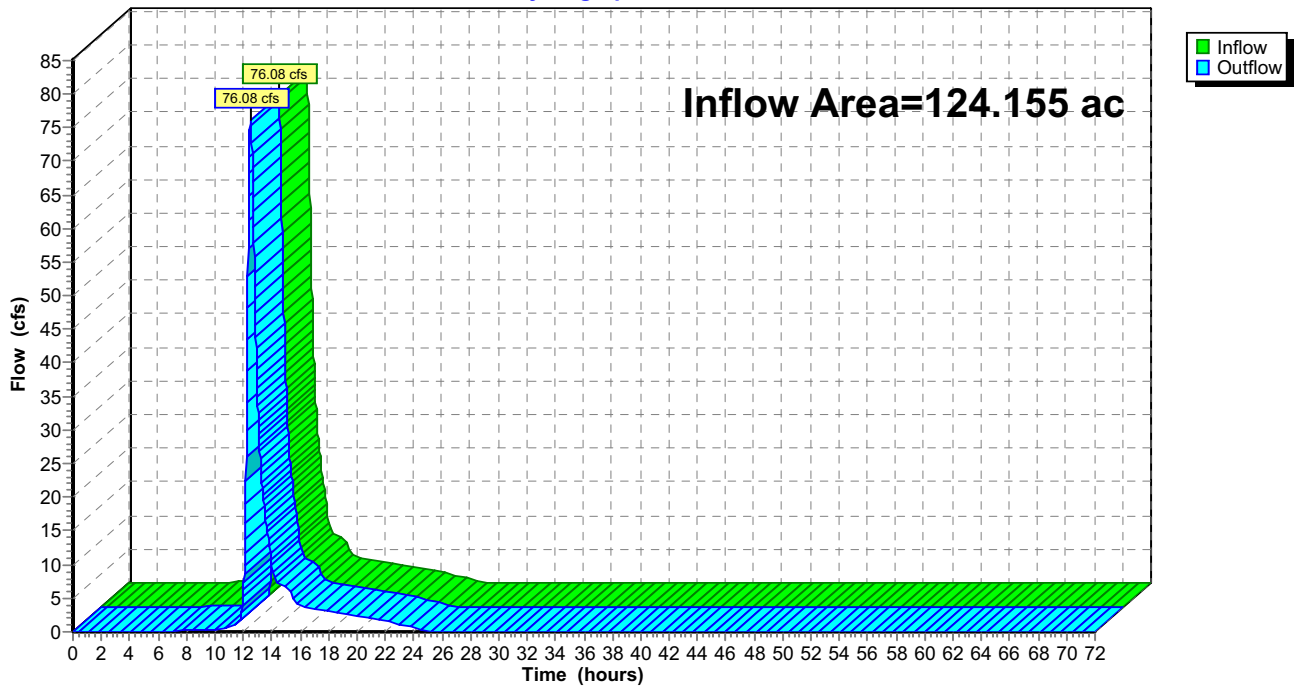
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 124.155 ac, 3.81% Impervious, Inflow Depth = 0.81" for 2yr-24hr event
Inflow = 76.08 cfs @ 12.52 hrs, Volume= 8.412 af
Outflow = 76.08 cfs @ 12.52 hrs, Volume= 8.412 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 1R: Wetland 6

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Reach 10R: Bassett Creek Watershed

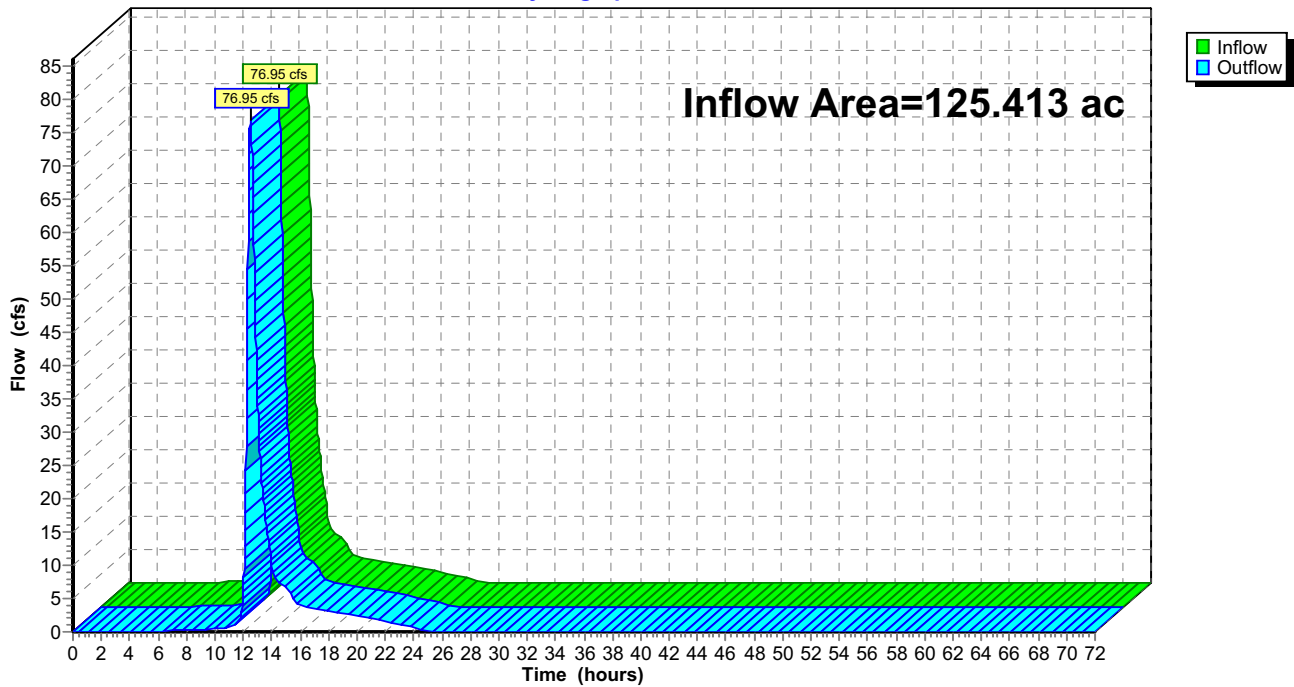
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 125.413 ac, 4.14% Impervious, Inflow Depth = 0.82" for 2yr-24hr event
Inflow = 76.95 cfs @ 12.51 hrs, Volume= 8.567 af
Outflow = 76.95 cfs @ 12.51 hrs, Volume= 8.567 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 10R: Bassett Creek Watershed

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Reach 11R: Elm Creek Watershed

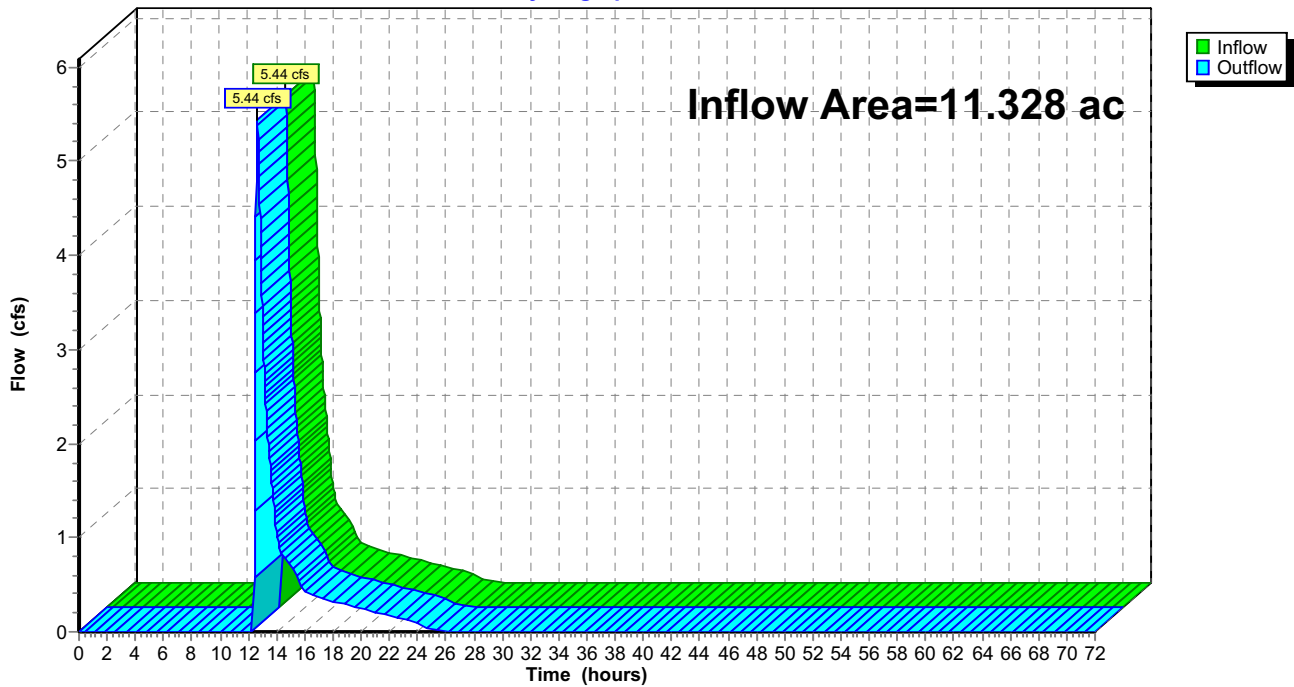
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 11.328 ac, 10.35% Impervious, Inflow Depth = 0.69" for 2yr-24hr event
Inflow = 5.44 cfs @ 12.65 hrs, Volume= 0.652 af
Outflow = 5.44 cfs @ 12.65 hrs, Volume= 0.652 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 11R: Elm Creek Watershed

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond 9P: Wetland 9

Inflow Area = 11.328 ac, 10.35% Impervious, Inflow Depth = 1.01" for 2yr-24hr event
 Inflow = 10.76 cfs @ 12.33 hrs, Volume= 0.953 af
 Outflow = 5.44 cfs @ 12.65 hrs, Volume= 0.652 af, Atten= 49%, Lag= 19.4 min
 Primary = 5.44 cfs @ 12.65 hrs, Volume= 0.652 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.00' Surf.Area= 9,469 sf Storage= 6,526 cf
 Peak Elev= 1,010.23' @ 12.65 hrs Surf.Area= 16,723 sf Storage= 23,542 cf (17,016 cf above start)

Plug-Flow detention time= 218.6 min calculated for 0.503 af (53% of inflow)
 Center-of-Mass det. time= 75.7 min (902.7 - 827.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,008.00'	36,345 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,008.00	3,582	0	0
1,009.00	9,469	6,526	6,526
1,010.00	16,723	13,096	19,622
1,011.00	16,723	16,723	36,345

Device	Routing	Invert	Outlet Devices
#1	Primary	1,010.00'	20.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=5.43 cfs @ 12.65 hrs HW=1,010.23' TW=0.00' (Dynamic Tailwater)

↑1=**Broad-Crested Rectangular Weir**(Weir Controls 5.43 cfs @ 1.16 fps)

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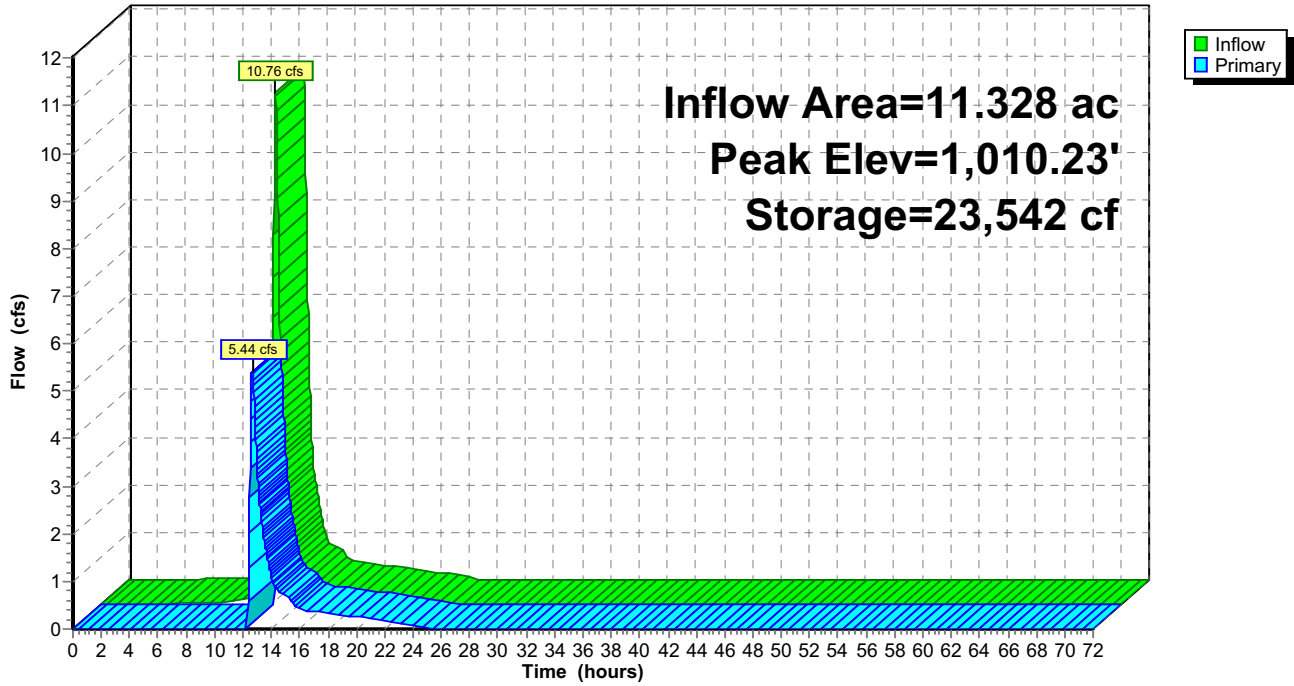
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond 9P: Wetland 9

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Time span=0.00-72.00 hrs, dt=0.02 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentEX_1: EX_1 Runoff Area=118.553 ac 2.64% Impervious Runoff Depth=1.70"
Flow Length=2,703' Tc=33.3 min CN=WQ Runoff=164.16 cfs 16.760 af

SubcatchmentEX_2: EX_2 Runoff Area=7.736 ac 2.87% Impervious Runoff Depth=1.85"
Flow Length=850' Tc=24.5 min CN=WQ Runoff=14.06 cfs 1.194 af

SubcatchmentEX_3: EX_3 Runoff Area=5.602 ac 28.65% Impervious Runoff Depth=2.43"
Flow Length=2,787' Tc=42.7 min CN=WQ Runoff=9.27 cfs 1.135 af

SubcatchmentEX_4: EX_4 Runoff Area=3.592 ac 26.45% Impervious Runoff Depth=2.39"
Flow Length=830' Tc=18.1 min CN=WQ Runoff=9.50 cfs 0.714 af

SubcatchmentEX_5: EX_5 Runoff Area=0.360 ac 0.00% Impervious Runoff Depth=1.80"
Flow Length=250' Tc=15.5 min CN=WQ Runoff=0.82 cfs 0.054 af

SubcatchmentEX_6: EX_6 Runoff Area=0.232 ac 12.93% Impervious Runoff Depth=2.09"
Flow Length=100' Slope=0.0200 '/' Tc=10.3 min CN=WQ Runoff=0.71 cfs 0.040 af

SubcatchmentEX_7: EX_7 Runoff Area=0.666 ac 63.66% Impervious Runoff Depth=3.22"
Flow Length=650' Tc=16.4 min CN=WQ Runoff=2.41 cfs 0.179 af

Reach 1R: Wetland 6 Inflow=172.87 cfs 17.895 af
Outflow=172.87 cfs 17.895 af

Reach 10R: Bassett Creek Watershed Inflow=174.54 cfs 18.168 af
Outflow=174.54 cfs 18.168 af

Reach 11R: Elm Creek Watershed Inflow=19.57 cfs 1.608 af
Outflow=19.57 cfs 1.608 af

Pond 9P: Wetland 9 Peak Elev=1,010.52' Storage=28,289 cf Inflow=22.72 cfs 1.908 af
Outflow=19.57 cfs 1.608 af

Total Runoff Area = 136.741 ac Runoff Volume = 20.076 af Average Runoff Depth = 1.76"
95.35% Pervious = 130.383 ac 4.65% Impervious = 6.358 ac

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment EX_1: EX_1

Runoff = 164.16 cfs @ 12.48 hrs, Volume= 16.760 af, Depth= 1.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.061	87	Dirt roads, HSG C
* 2.235	98	Impervious
5.656	39	>75% Grass cover, Good, HSG A
9.869	61	>75% Grass cover, Good, HSG B
92.243	74	>75% Grass cover, Good, HSG C
0.482	60	Woods, Fair, HSG B
7.115	73	Woods, Fair, HSG C
* 0.892	98	Wetland
118.553		Weighted Average
115.426		97.36% Pervious Area
3.127		2.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	100	0.0400	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
7.7	500	0.0240	1.08		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
17.8	2,103	0.0100	1.97	1.97	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030 Stream, clean & straight
33.3	2,703	Total			

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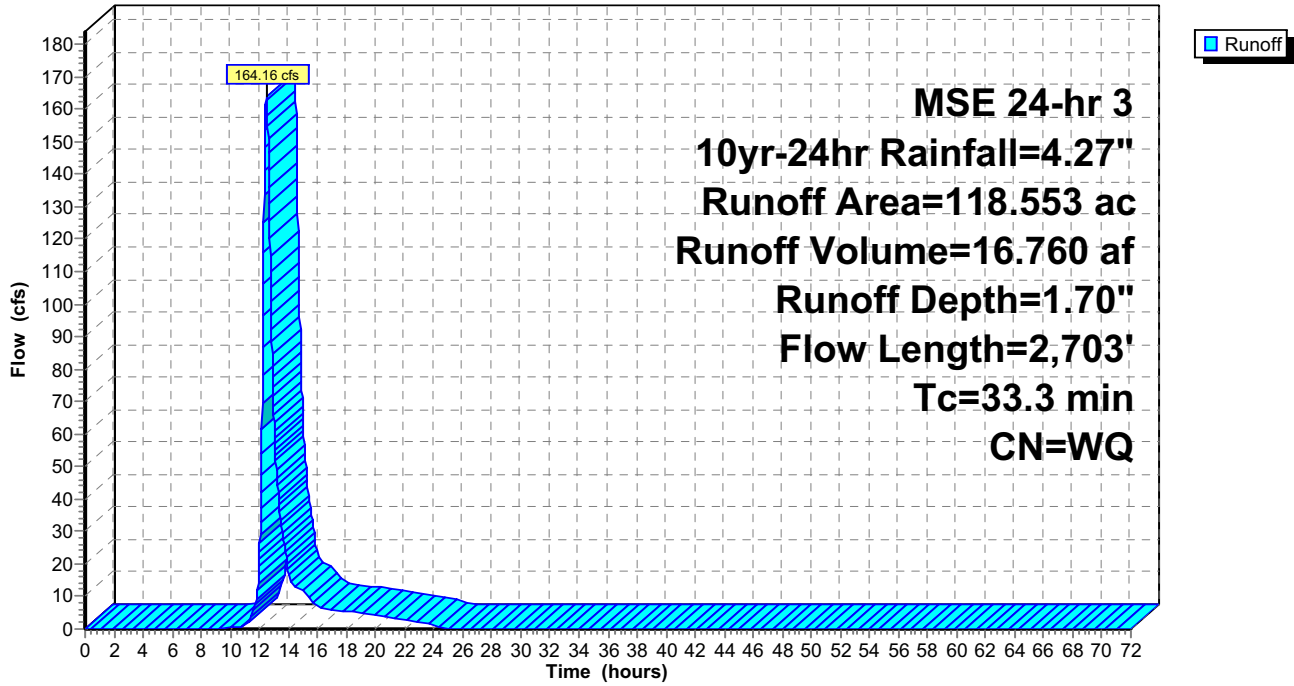
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Subcatchment EX_1: EX_1

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment EX_2: EX_2

Runoff = 14.06 cfs @ 12.37 hrs, Volume= 1.194 af, Depth= 1.85"

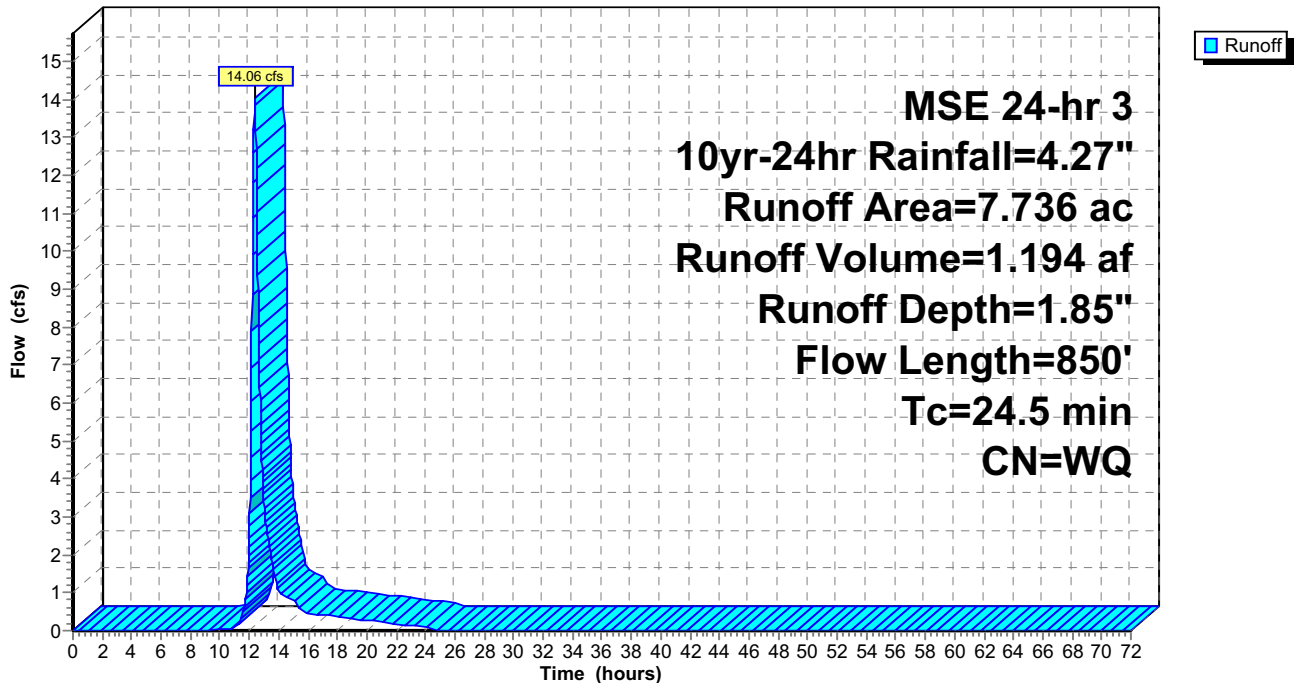
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
6.544	74	>75% Grass cover, Good, HSG C
0.970	73	Woods, Fair, HSG C
* 0.222	98	Wetland
7.736		Weighted Average
7.514		97.13% Pervious Area
0.222		2.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0120	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
10.1	500	0.0140	0.83		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.7	250	0.0160	2.49	2.49	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
24.5	850	Total			

Subcatchment EX_2: EX_2

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment EX_3: EX_3

Runoff = 9.27 cfs @ 12.58 hrs, Volume= 1.135 af, Depth= 2.43"

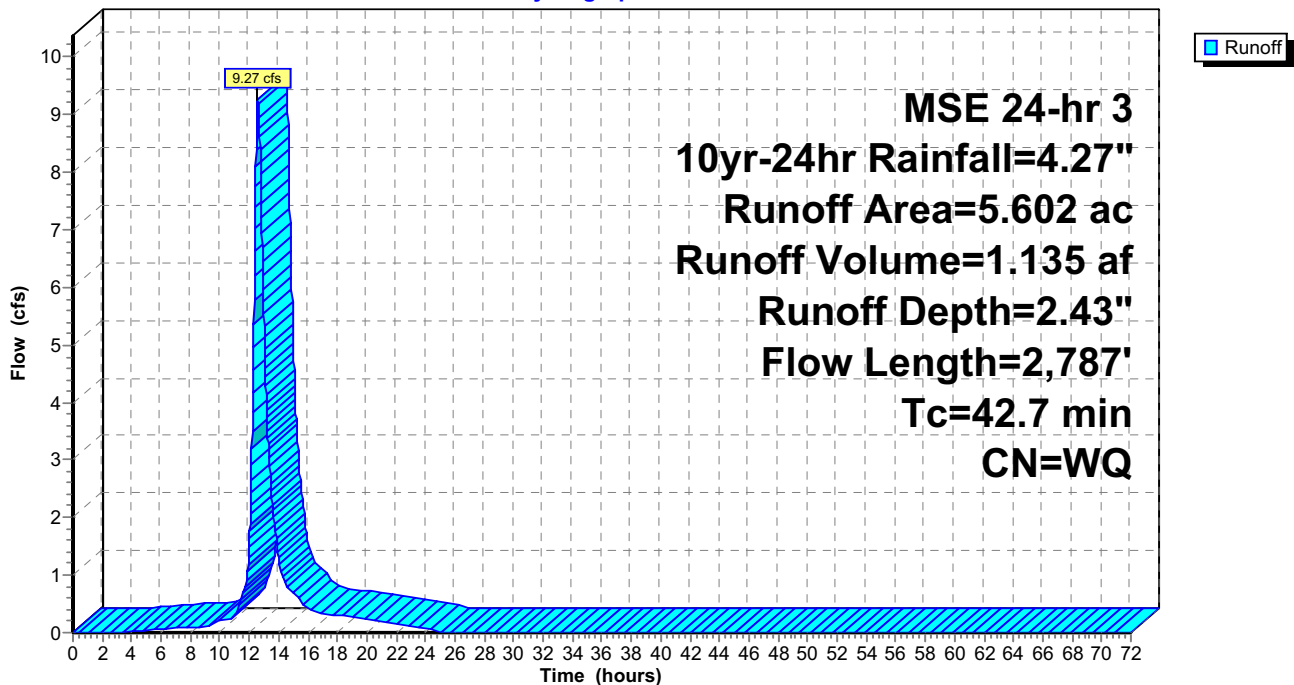
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 1.605	98	Impervious
3.413	74	>75% Grass cover, Good, HSG C
0.584	73	Woods, Fair, HSG C
5.602		Weighted Average
3.997		71.35% Pervious Area
1.605		28.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.2	184	0.0190	0.18		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
7.7	500	0.0240	1.08		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
17.8	2,103	0.0100	1.97	1.97	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
42.7	2,787	Total			

Subcatchment EX_3: EX_3

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment EX_4: EX_4

Runoff = 9.50 cfs @ 12.27 hrs, Volume= 0.714 af, Depth= 2.39"

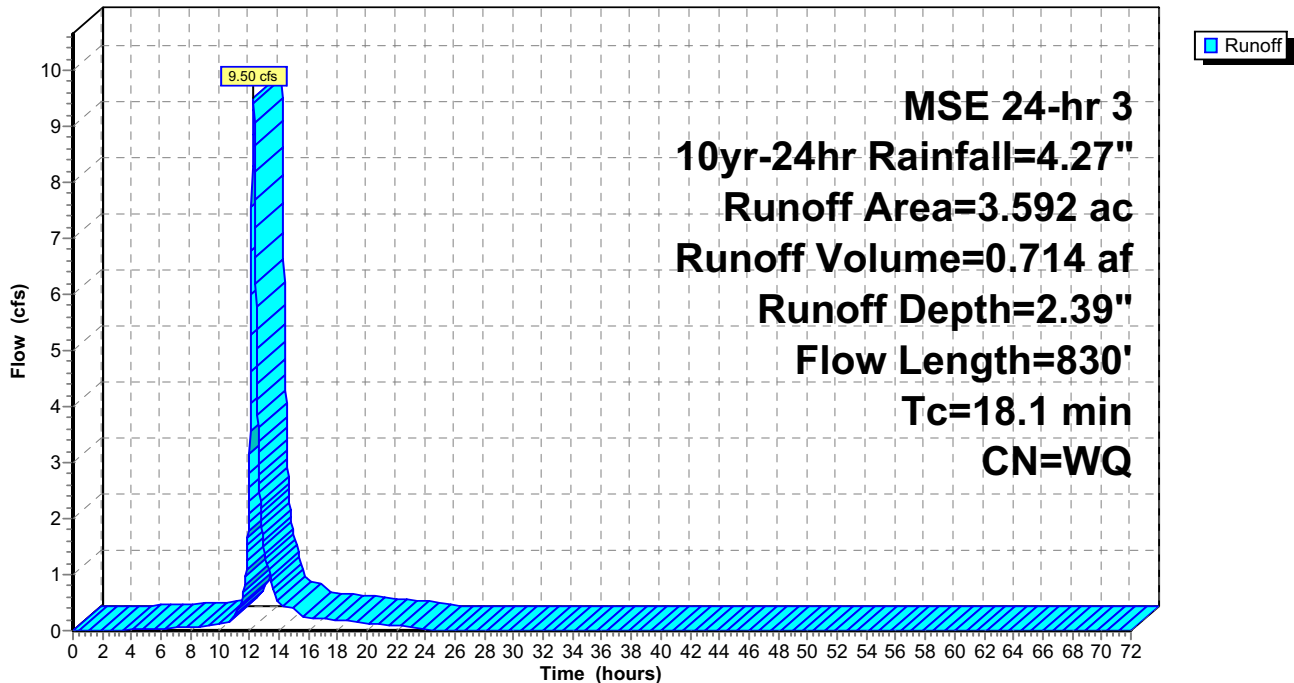
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.950	98	Impervious
2.483	74	>75% Grass cover, Good, HSG C
0.159	73	Woods, Fair, HSG C
3.592		Weighted Average
2.642		73.55% Pervious Area
0.950		26.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0900	0.29		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
10.9	500	0.0120	0.77		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.5	230	0.0174	2.59	2.59	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
18.1	830	Total			

Subcatchment EX_4: EX_4

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment EX_5: EX_5

Runoff = 0.82 cfs @ 12.25 hrs, Volume= 0.054 af, Depth= 1.80"

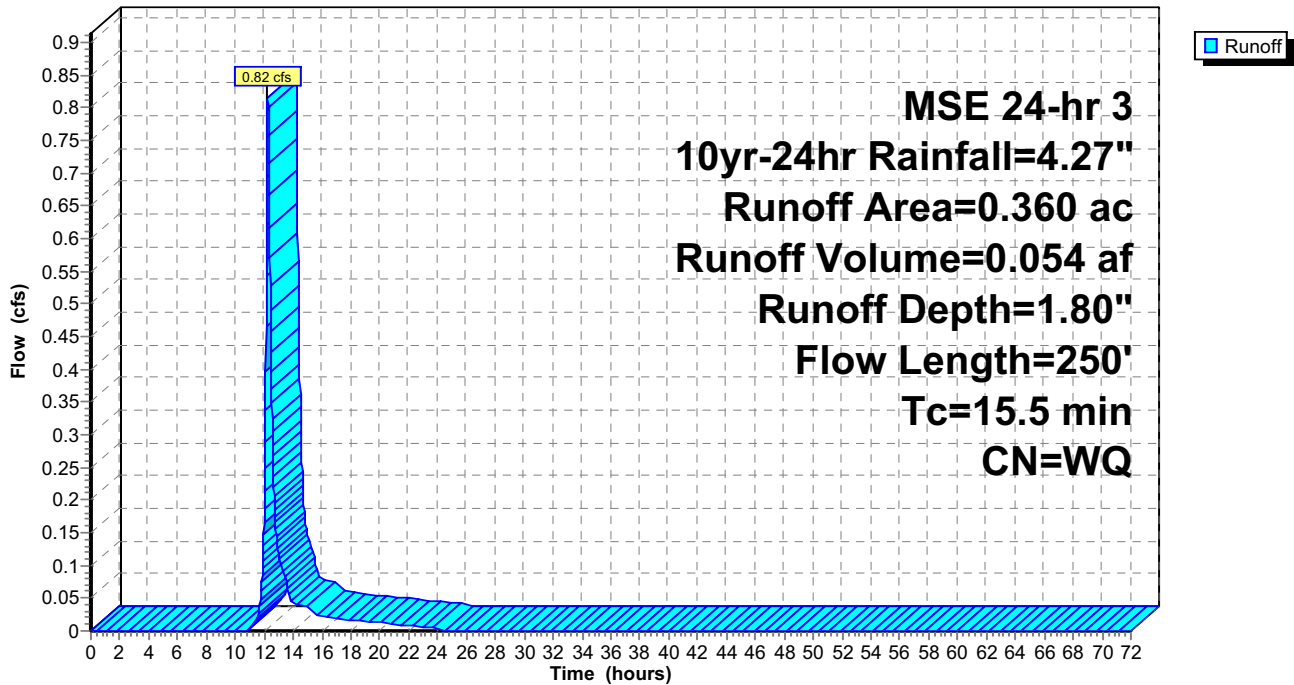
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.359	74	>75% Grass cover, Good, HSG C
0.001	73	Woods, Fair, HSG C
0.360		Weighted Average
0.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
1.8	150	0.0400	1.40		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
15.5	250	Total			

Subcatchment EX_5: EX_5

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment EX_6: EX_6

Runoff = 0.71 cfs @ 12.18 hrs, Volume= 0.040 af, Depth= 2.09"

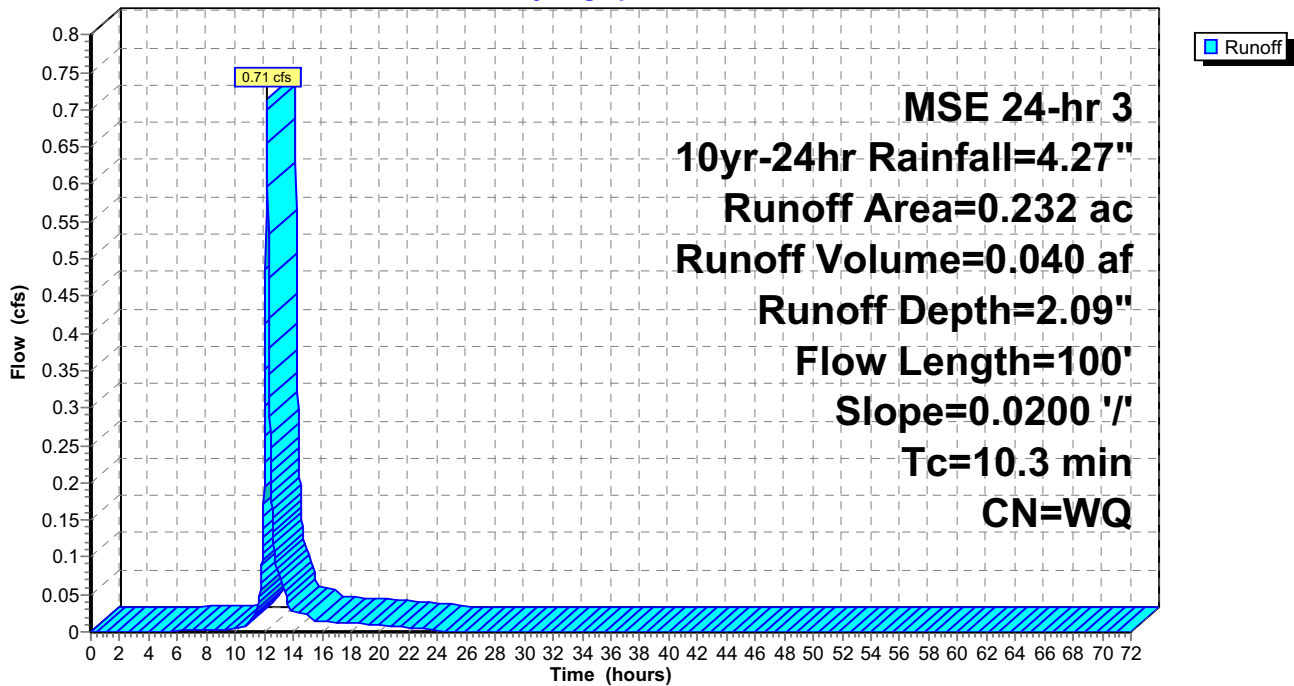
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.202	74	>75% Grass cover, Good, HSG C
* 0.030	98	Impervious
0.232		Weighted Average
0.202		87.07% Pervious Area
0.030		12.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	100	0.0200	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment EX_6: EX_6

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment EX_7: EX_7

Runoff = 2.41 cfs @ 12.24 hrs, Volume= 0.179 af, Depth= 3.22"

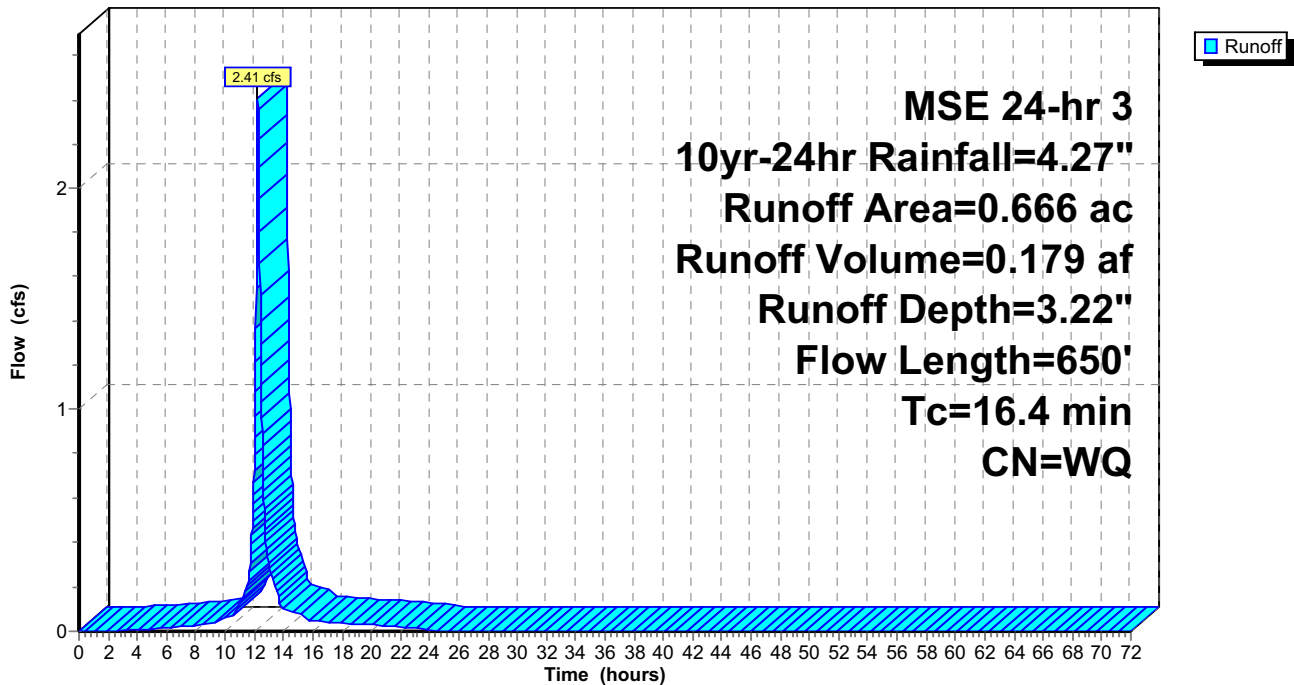
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.242	74	>75% Grass cover, Good, HSG C
* 0.424	98	Impervious
0.666		Weighted Average
0.242		36.34% Pervious Area
0.424		63.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	120	0.0170	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
3.6	530	0.0150	2.49		Shallow Concentrated Flow, Paved Kv= 20.3 fps
16.4	650	Total			

Subcatchment EX_7: EX_7

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Reach 1R: Wetland 6

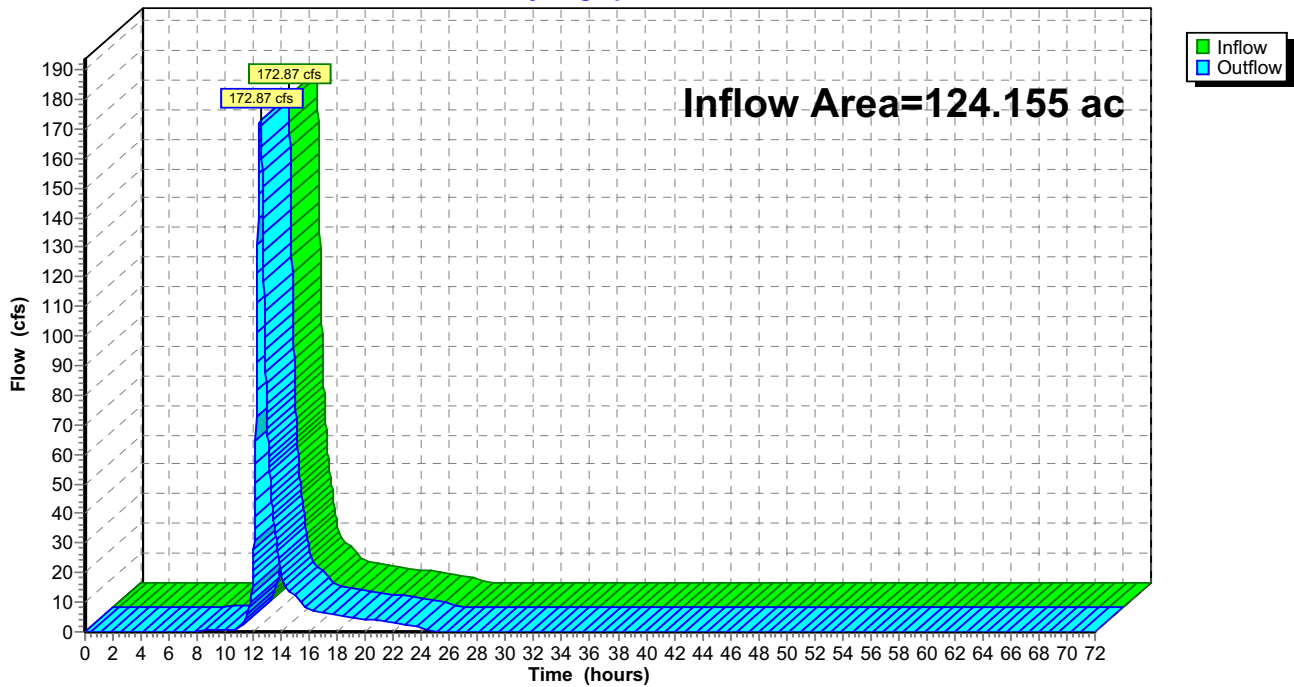
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 124.155 ac, 3.81% Impervious, Inflow Depth = 1.73" for 10yr-24hr event
Inflow = 172.87 cfs @ 12.49 hrs, Volume= 17.895 af
Outflow = 172.87 cfs @ 12.49 hrs, Volume= 17.895 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 1R: Wetland 6

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Reach 10R: Bassett Creek Watershed

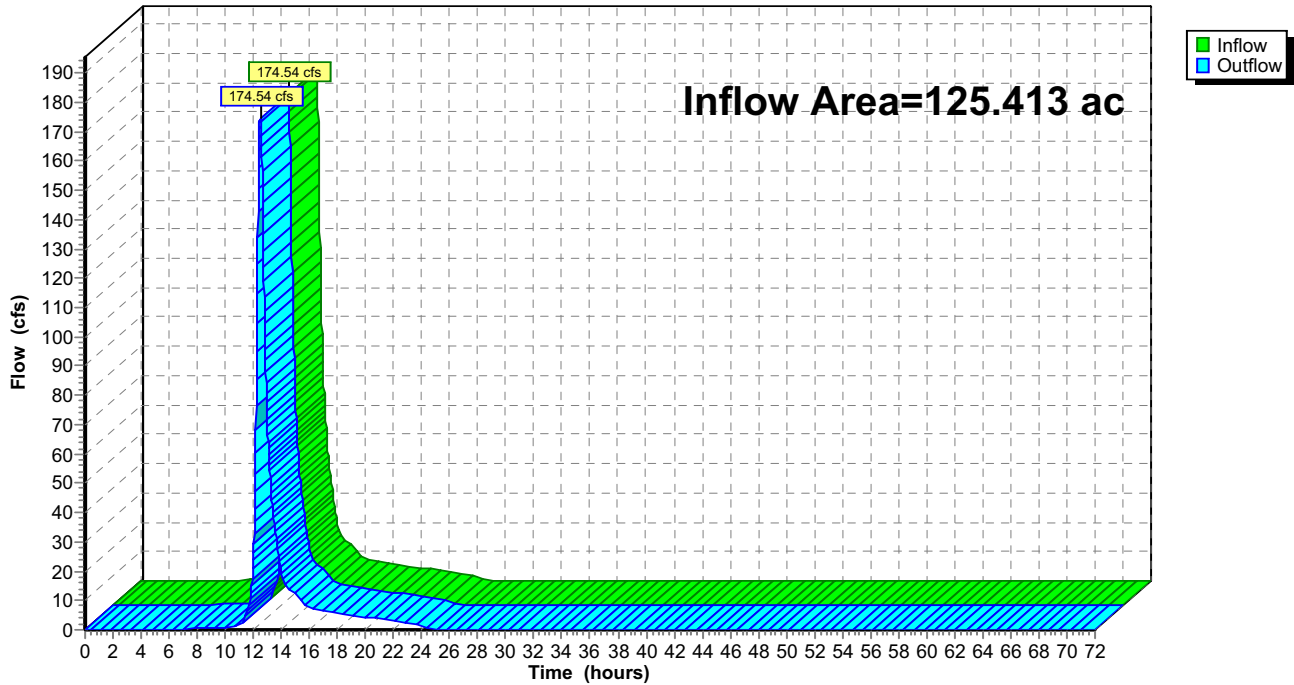
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 125.413 ac, 4.14% Impervious, Inflow Depth = 1.74" for 10yr-24hr event
Inflow = 174.54 cfs @ 12.49 hrs, Volume= 18.168 af
Outflow = 174.54 cfs @ 12.49 hrs, Volume= 18.168 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 10R: Bassett Creek Watershed

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Reach 11R: Elm Creek Watershed

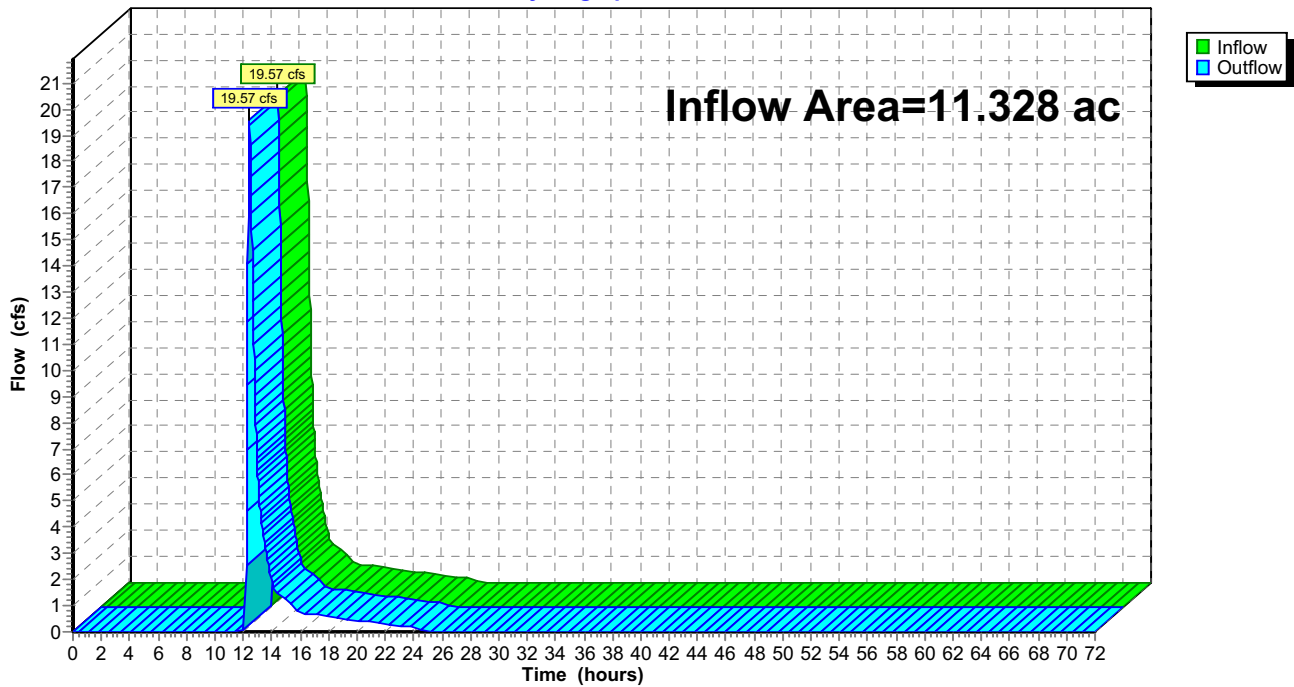
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 11.328 ac, 10.35% Impervious, Inflow Depth = 1.70" for 10yr-24hr event
Inflow = 19.57 cfs @ 12.44 hrs, Volume= 1.608 af
Outflow = 19.57 cfs @ 12.44 hrs, Volume= 1.608 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 11R: Elm Creek Watershed

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond 9P: Wetland 9

Inflow Area = 11.328 ac, 10.35% Impervious, Inflow Depth = 2.02" for 10yr-24hr event
 Inflow = 22.72 cfs @ 12.32 hrs, Volume= 1.908 af
 Outflow = 19.57 cfs @ 12.44 hrs, Volume= 1.608 af, Atten= 14%, Lag= 6.8 min
 Primary = 19.57 cfs @ 12.44 hrs, Volume= 1.608 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.00' Surf.Area= 9,469 sf Storage= 6,526 cf
 Peak Elev= 1,010.52' @ 12.44 hrs Surf.Area= 16,723 sf Storage= 28,289 cf (21,764 cf above start)

Plug-Flow detention time= 124.5 min calculated for 1.457 af (76% of inflow)
 Center-of-Mass det. time= 40.2 min (857.3 - 817.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,008.00'	36,345 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,008.00	3,582	0	0
1,009.00	9,469	6,526	6,526
1,010.00	16,723	13,096	19,622
1,011.00	16,723	16,723	36,345

Device	Routing	Invert	Outlet Devices
#1	Primary	1,010.00'	20.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=19.55 cfs @ 12.44 hrs HW=1,010.52' TW=0.00' (Dynamic Tailwater)

↑**1=Broad-Crested Rectangular Weir**(Weir Controls 19.55 cfs @ 1.89 fps)

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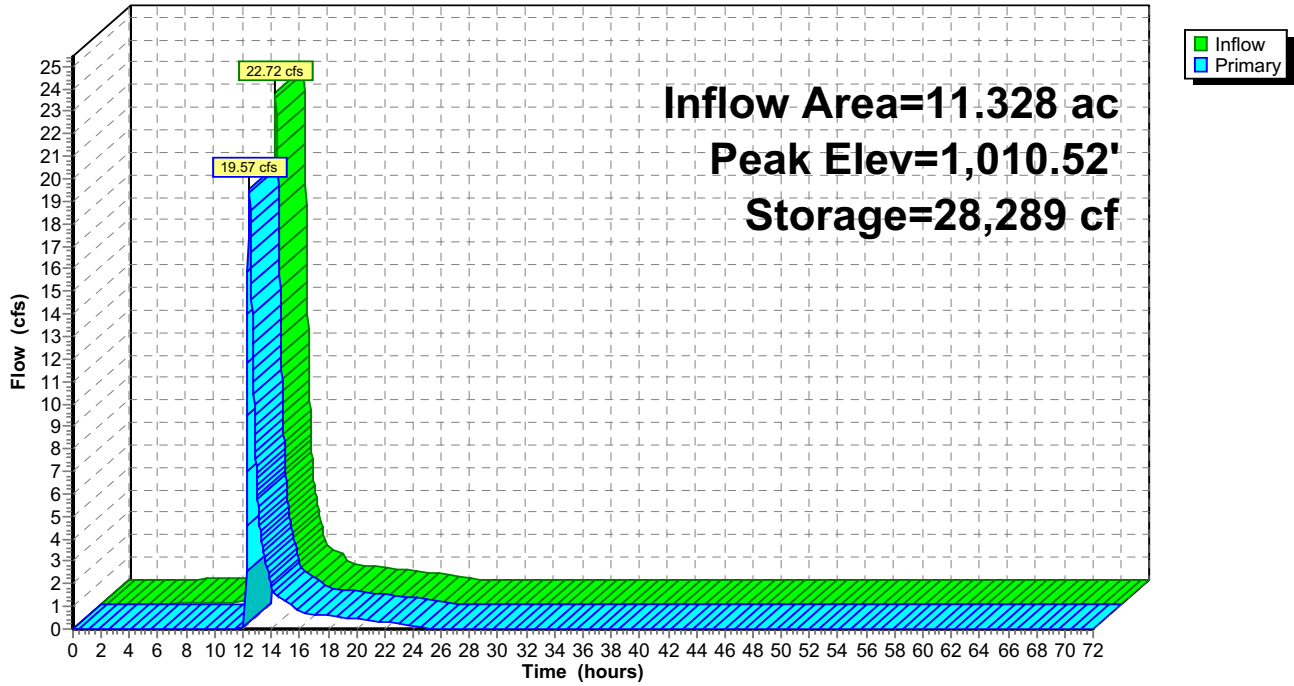
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond 9P: Wetland 9

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Time span=0.00-72.00 hrs, dt=0.02 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentEX_1: EX_1 Runoff Area=118.553 ac 2.64% Impervious Runoff Depth=4.10"
Flow Length=2,703' Tc=33.3 min CN=WQ Runoff=405.81 cfs 40.543 af

SubcatchmentEX_2: EX_2 Runoff Area=7.736 ac 2.87% Impervious Runoff Depth=4.39"
Flow Length=850' Tc=24.5 min CN=WQ Runoff=33.83 cfs 2.829 af

SubcatchmentEX_3: EX_3 Runoff Area=5.602 ac 28.65% Impervious Runoff Depth=5.10"
Flow Length=2,787' Tc=42.7 min CN=WQ Runoff=19.76 cfs 2.381 af

SubcatchmentEX_4: EX_4 Runoff Area=3.592 ac 26.45% Impervious Runoff Depth=5.05"
Flow Length=830' Tc=18.1 min CN=WQ Runoff=20.33 cfs 1.511 af

SubcatchmentEX_5: EX_5 Runoff Area=0.360 ac 0.00% Impervious Runoff Depth=4.32"
Flow Length=250' Tc=15.5 min CN=WQ Runoff=1.98 cfs 0.130 af

SubcatchmentEX_6: EX_6 Runoff Area=0.232 ac 12.93% Impervious Runoff Depth=4.68"
Flow Length=100' Slope=0.0200 '/' Tc=10.3 min CN=WQ Runoff=1.61 cfs 0.090 af

SubcatchmentEX_7: EX_7 Runoff Area=0.666 ac 63.66% Impervious Runoff Depth=6.08"
Flow Length=650' Tc=16.4 min CN=WQ Runoff=4.53 cfs 0.337 af

Reach 1R: Wetland 6 Inflow=424.22 cfs 42.924 af
Outflow=424.22 cfs 42.924 af

Reach 10R: Bassett Creek Watershed Inflow=427.70 cfs 43.482 af
Outflow=427.70 cfs 43.482 af

Reach 11R: Elm Creek Watershed Inflow=49.74 cfs 4.039 af
Outflow=49.74 cfs 4.039 af

Pond 9P: Wetland 9 Peak Elev=1,010.95' Storage=35,531 cf Inflow=52.52 cfs 4.339 af
Outflow=49.74 cfs 4.039 af

Total Runoff Area = 136.741 ac Runoff Volume = 47.821 af Average Runoff Depth = 4.20"
95.35% Pervious = 130.383 ac 4.65% Impervious = 6.358 ac

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment EX_1: EX_1

Runoff = 405.81 cfs @ 12.47 hrs, Volume= 40.543 af, Depth= 4.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.061	87	Dirt roads, HSG C
* 2.235	98	Impervious
5.656	39	>75% Grass cover, Good, HSG A
9.869	61	>75% Grass cover, Good, HSG B
92.243	74	>75% Grass cover, Good, HSG C
0.482	60	Woods, Fair, HSG B
7.115	73	Woods, Fair, HSG C
* 0.892	98	Wetland
118.553		Weighted Average
115.426		97.36% Pervious Area
3.127		2.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	100	0.0400	0.21		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
7.7	500	0.0240	1.08		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
17.8	2,103	0.0100	1.97	1.97	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030 Stream, clean & straight
33.3	2,703	Total			

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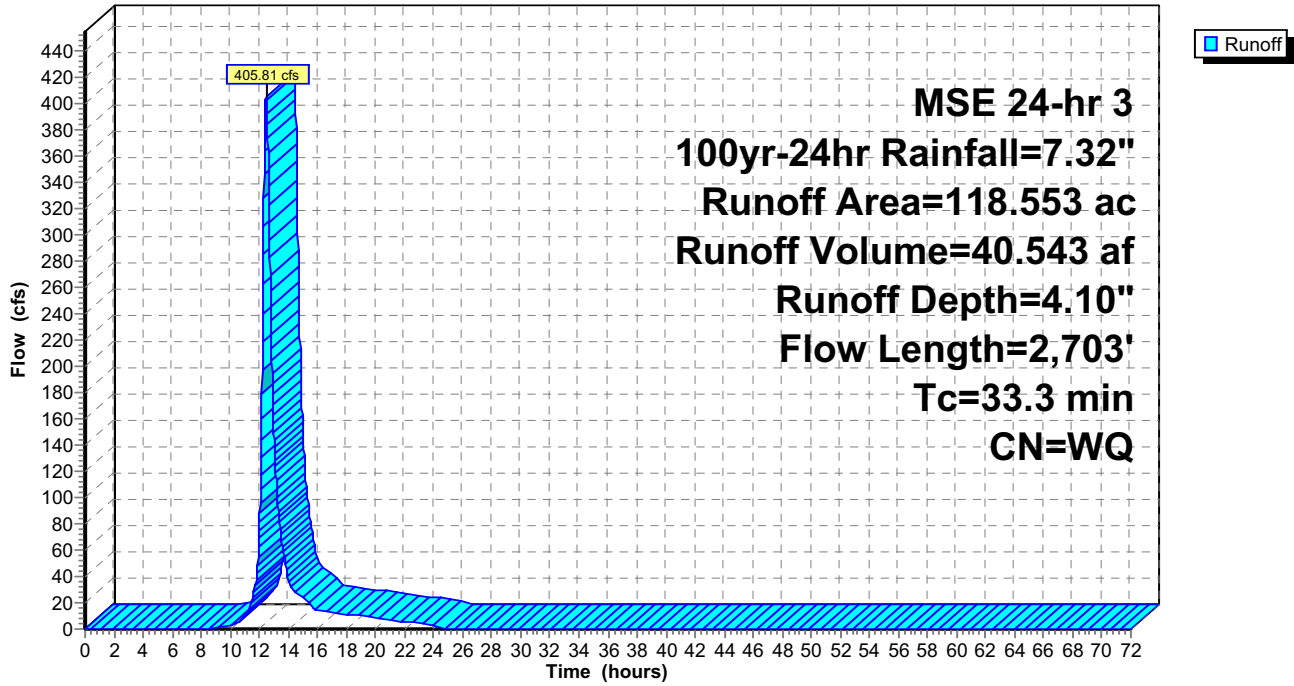
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Subcatchment EX_1: EX_1

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment EX_2: EX_2

Runoff = 33.83 cfs @ 12.35 hrs, Volume= 2.829 af, Depth= 4.39"

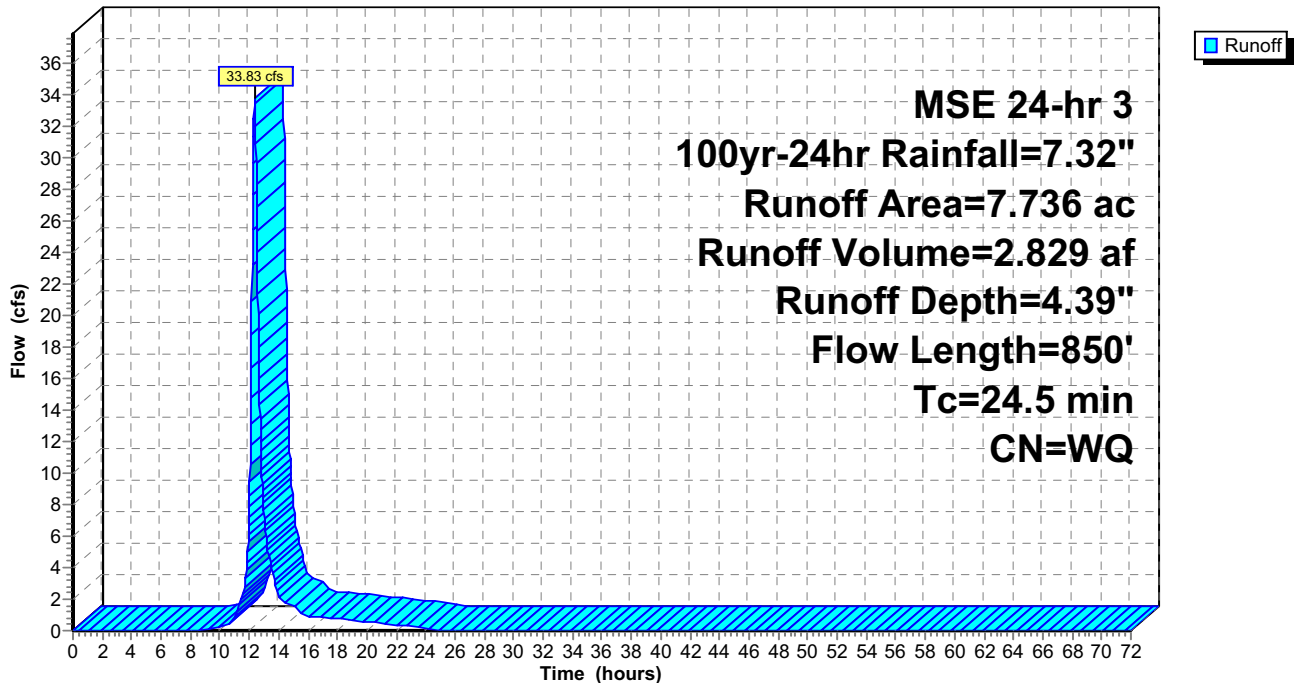
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
6.544	74	>75% Grass cover, Good, HSG C
0.970	73	Woods, Fair, HSG C
* 0.222	98	Wetland
7.736		Weighted Average
7.514		97.13% Pervious Area
0.222		2.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.7	100	0.0120	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
10.1	500	0.0140	0.83		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.7	250	0.0160	2.49	2.49	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
24.5	850	Total			

Subcatchment EX_2: EX_2

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment EX_3: EX_3

Runoff = 19.76 cfs @ 12.58 hrs, Volume= 2.381 af, Depth= 5.10"

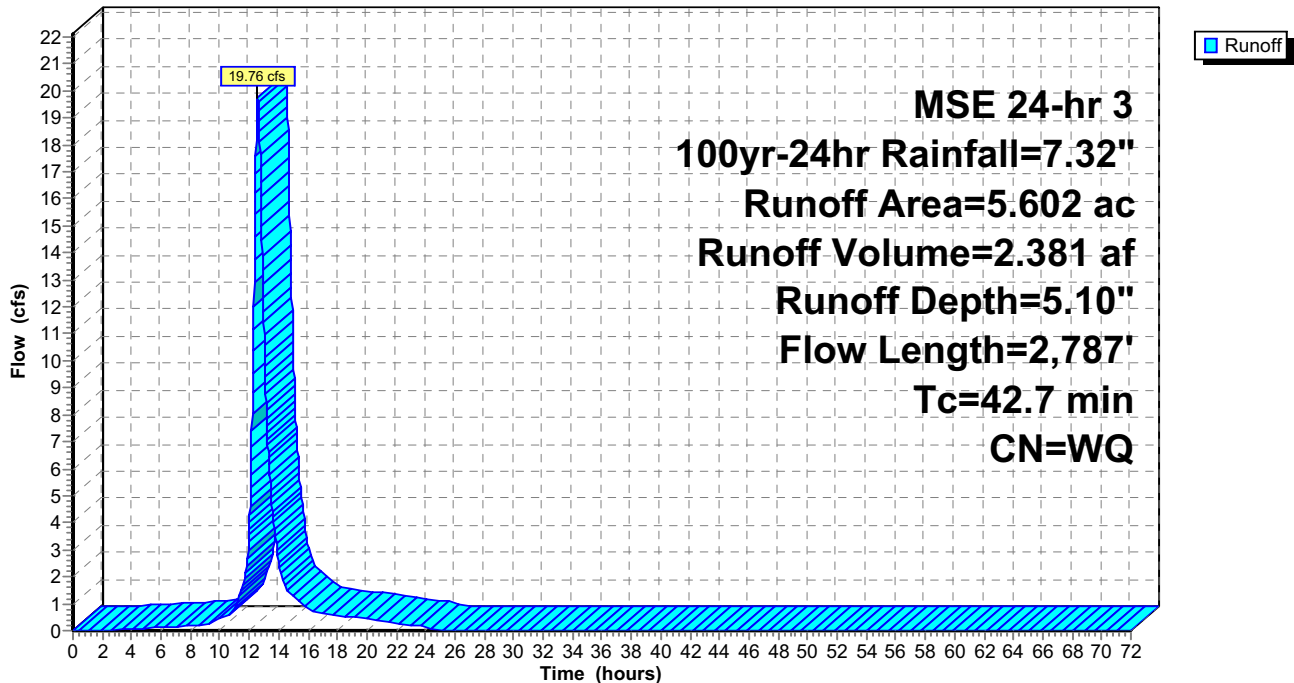
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 1.605	98	Impervious
3.413	74	>75% Grass cover, Good, HSG C
0.584	73	Woods, Fair, HSG C
5.602		Weighted Average
3.997		71.35% Pervious Area
1.605		28.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.2	184	0.0190	0.18		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
7.7	500	0.0240	1.08		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
17.8	2,103	0.0100	1.97	1.97	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
42.7	2,787	Total			

Subcatchment EX_3: EX_3

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment EX_4: EX_4

Runoff = 20.33 cfs @ 12.27 hrs, Volume= 1.511 af, Depth= 5.05"

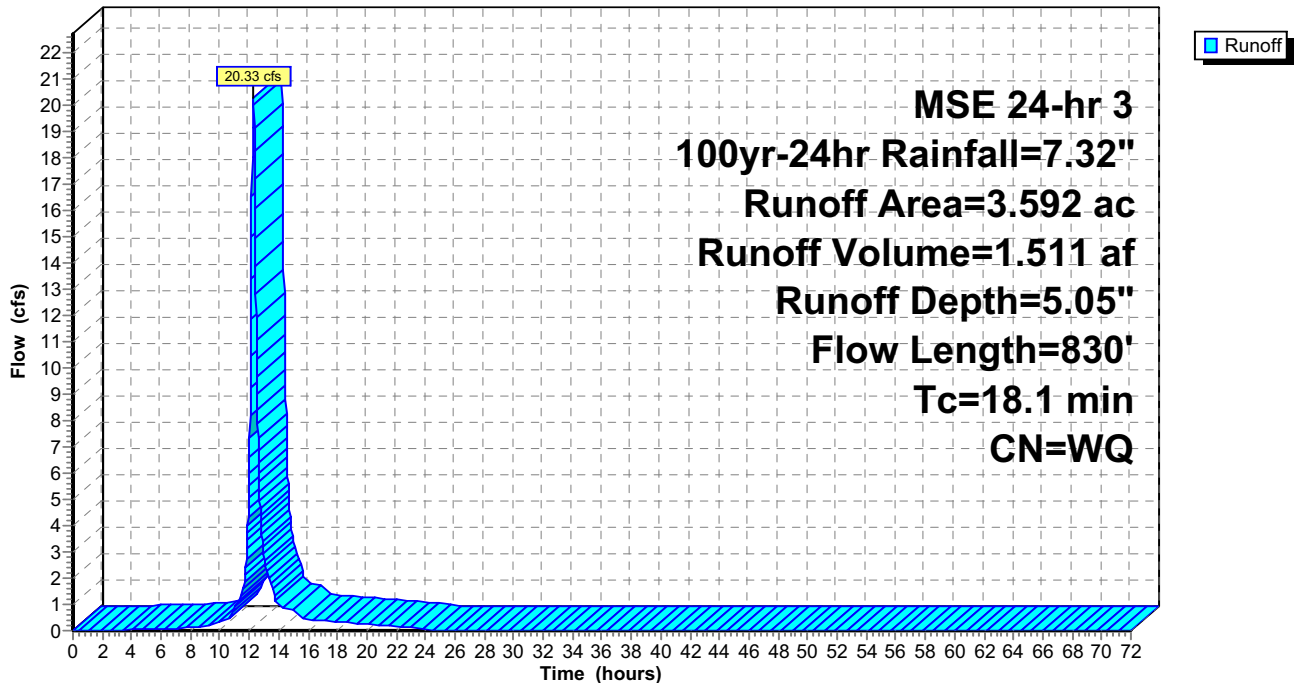
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.950	98	Impervious
2.483	74	>75% Grass cover, Good, HSG C
0.159	73	Woods, Fair, HSG C
<hr/>		
3.592		Weighted Average
2.642		73.55% Pervious Area
0.950		26.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	100	0.0900	0.29		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
10.9	500	0.0120	0.77		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.5	230	0.0174	2.59	2.59	Channel Flow, Area= 1.0 sf Perim= 4.0' r= 0.25' n= 0.030
<hr/>					
18.1	830	Total			

Subcatchment EX_4: EX_4

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment EX_5: EX_5

Runoff = 1.98 cfs @ 12.24 hrs, Volume= 0.130 af, Depth= 4.32"

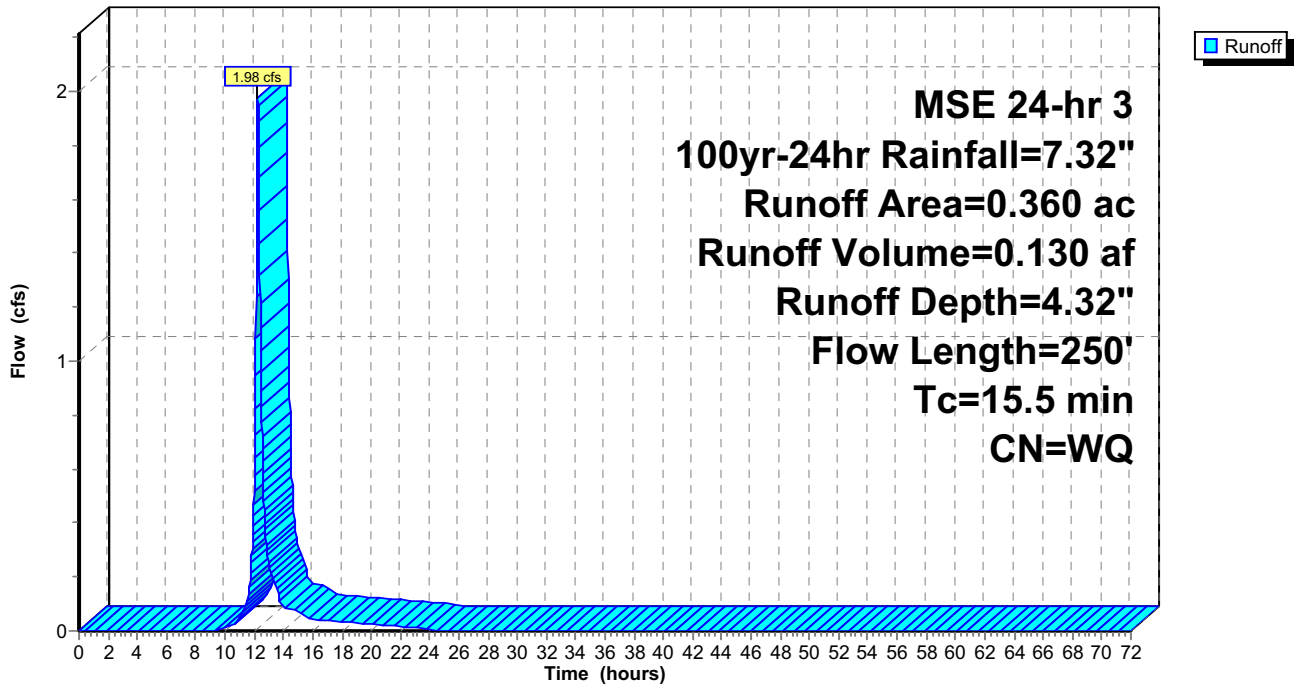
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.359	74	>75% Grass cover, Good, HSG C
0.001	73	Woods, Fair, HSG C
0.360		Weighted Average
0.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.7	100	0.0100	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
1.8	150	0.0400	1.40		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
15.5	250	Total			

Subcatchment EX_5: EX_5

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment EX_6: EX_6

Runoff = 1.61 cfs @ 12.18 hrs, Volume= 0.090 af, Depth= 4.68"

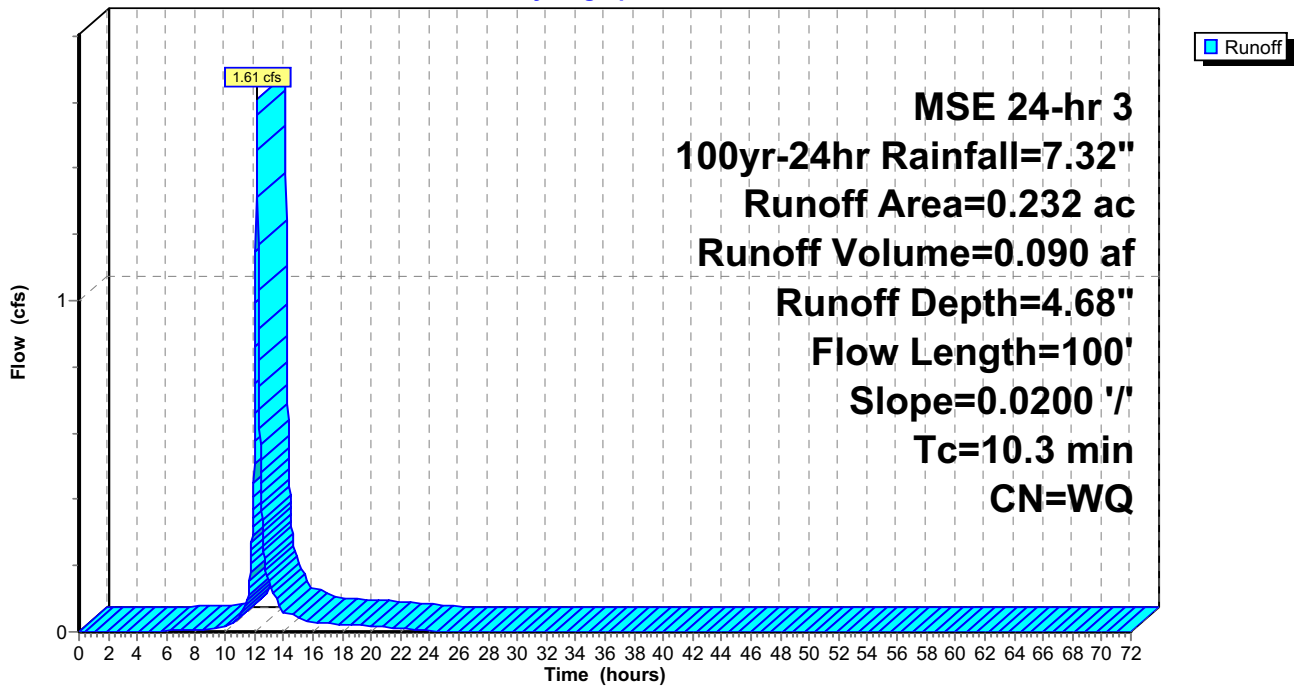
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.202	74	>75% Grass cover, Good, HSG C
* 0.030	98	Impervious
0.232		Weighted Average
0.202		87.07% Pervious Area
0.030		12.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	100	0.0200	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment EX_6: EX_6

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment EX_7: EX_7

Runoff = 4.53 cfs @ 12.24 hrs, Volume= 0.337 af, Depth= 6.08"

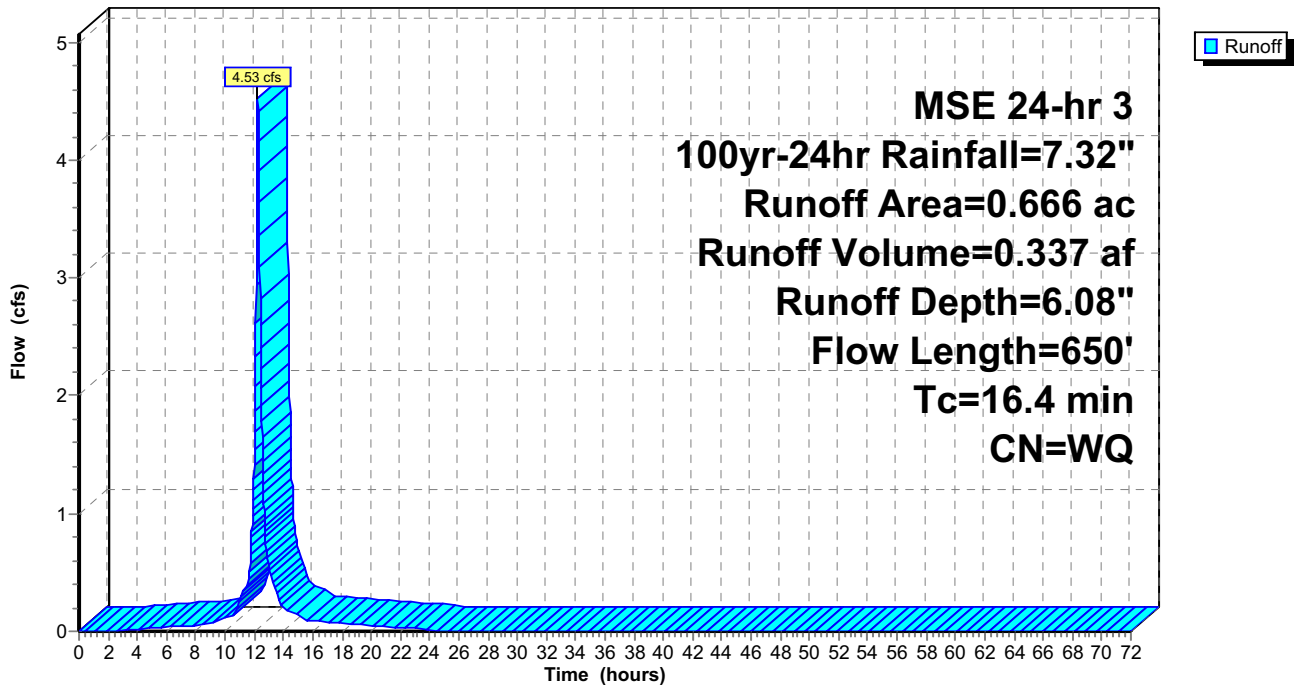
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.242	74	>75% Grass cover, Good, HSG C
* 0.424	98	Impervious
0.666		Weighted Average
0.242		36.34% Pervious Area
0.424		63.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	120	0.0170	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
3.6	530	0.0150	2.49		Shallow Concentrated Flow, Paved Kv= 20.3 fps
16.4	650	Total			

Subcatchment EX_7: EX_7

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Reach 1R: Wetland 6

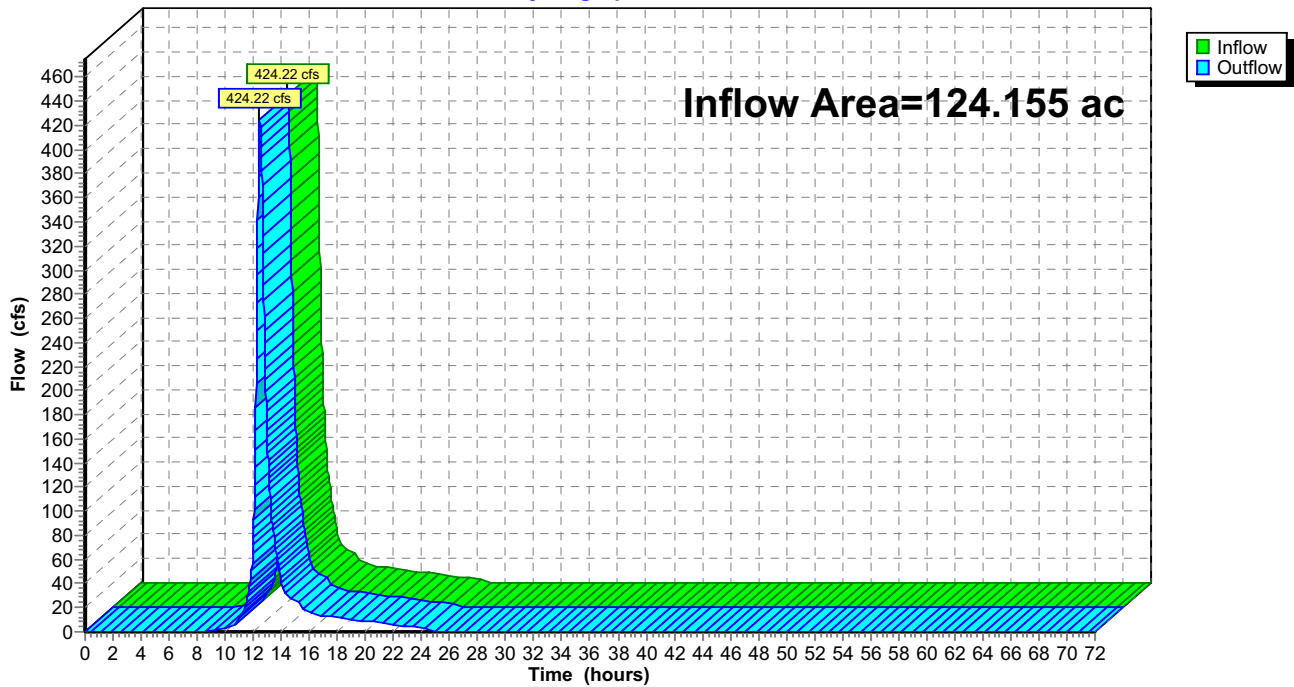
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 124.155 ac, 3.81% Impervious, Inflow Depth = 4.15" for 100yr-24hr event
Inflow = 424.22 cfs @ 12.47 hrs, Volume= 42.924 af
Outflow = 424.22 cfs @ 12.47 hrs, Volume= 42.924 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 1R: Wetland 6

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Reach 10R: Bassett Creek Watershed

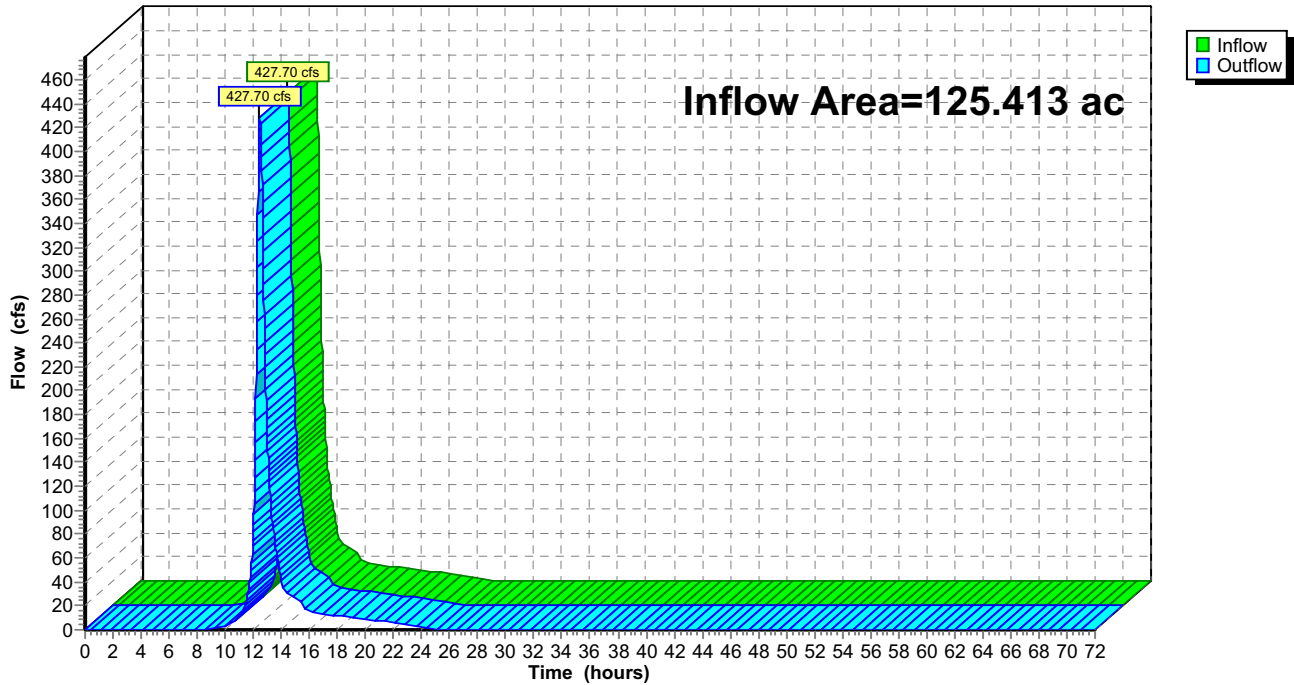
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 125.413 ac, 4.14% Impervious, Inflow Depth = 4.16" for 100yr-24hr event
Inflow = 427.70 cfs @ 12.47 hrs, Volume= 43.482 af
Outflow = 427.70 cfs @ 12.47 hrs, Volume= 43.482 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 10R: Bassett Creek Watershed

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Reach 11R: Elm Creek Watershed

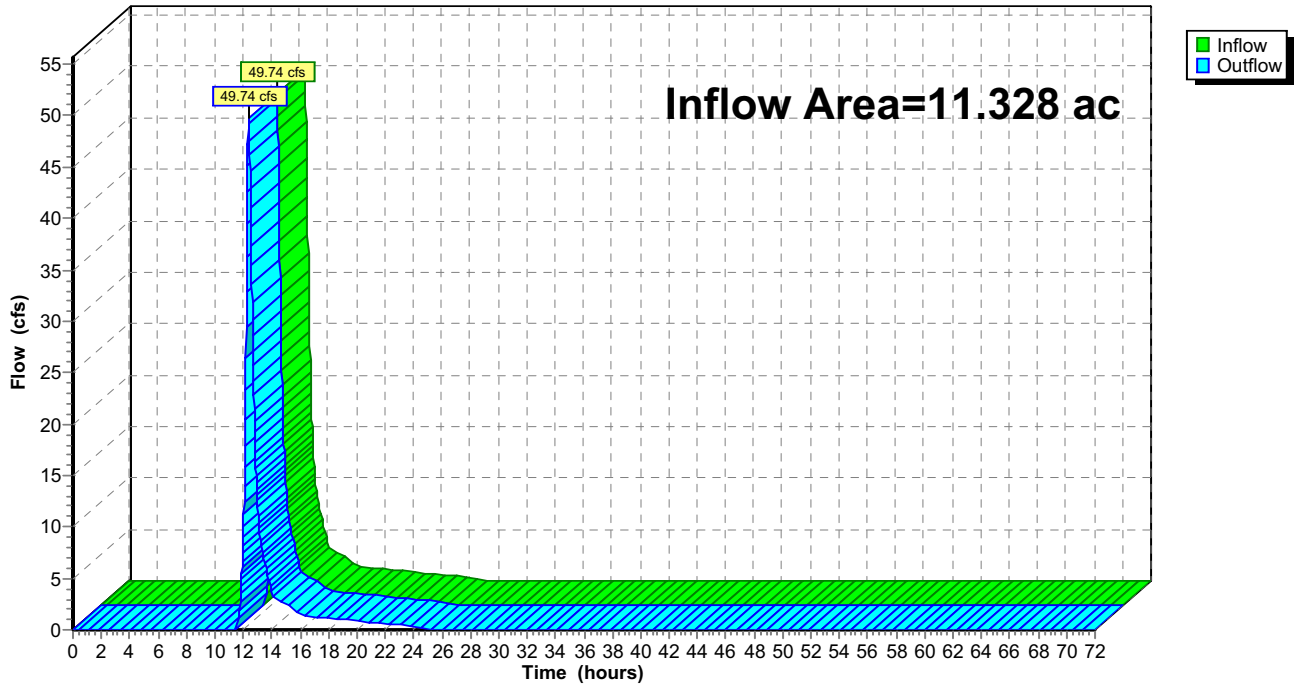
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 11.328 ac, 10.35% Impervious, Inflow Depth = 4.28" for 100yr-24hr event
Inflow = 49.74 cfs @ 12.38 hrs, Volume= 4.039 af
Outflow = 49.74 cfs @ 12.38 hrs, Volume= 4.039 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 11R: Elm Creek Watershed

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond 9P: Wetland 9

Inflow Area = 11.328 ac, 10.35% Impervious, Inflow Depth = 4.60" for 100yr-24hr event
 Inflow = 52.52 cfs @ 12.32 hrs, Volume= 4.339 af
 Outflow = 49.74 cfs @ 12.38 hrs, Volume= 4.039 af, Atten= 5%, Lag= 3.8 min
 Primary = 49.74 cfs @ 12.38 hrs, Volume= 4.039 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.00' Surf.Area= 9,469 sf Storage= 6,526 cf
 Peak Elev= 1,010.95' @ 12.38 hrs Surf.Area= 16,723 sf Storage= 35,531 cf (29,006 cf above start)

Plug-Flow detention time= 73.5 min calculated for 3.889 af (90% of inflow)
 Center-of-Mass det. time= 24.9 min (829.2 - 804.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,008.00'	36,345 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,008.00	3,582	0	0
1,009.00	9,469	6,526	6,526
1,010.00	16,723	13,096	19,622
1,011.00	16,723	16,723	36,345

Device	Routing	Invert	Outlet Devices
#1	Primary	1,010.00'	20.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=49.72 cfs @ 12.38 hrs HW=1,010.95' TW=0.00' (Dynamic Tailwater)
 ↑1=**Broad-Crested Rectangular Weir**(Weir Controls 49.72 cfs @ 2.61 fps)

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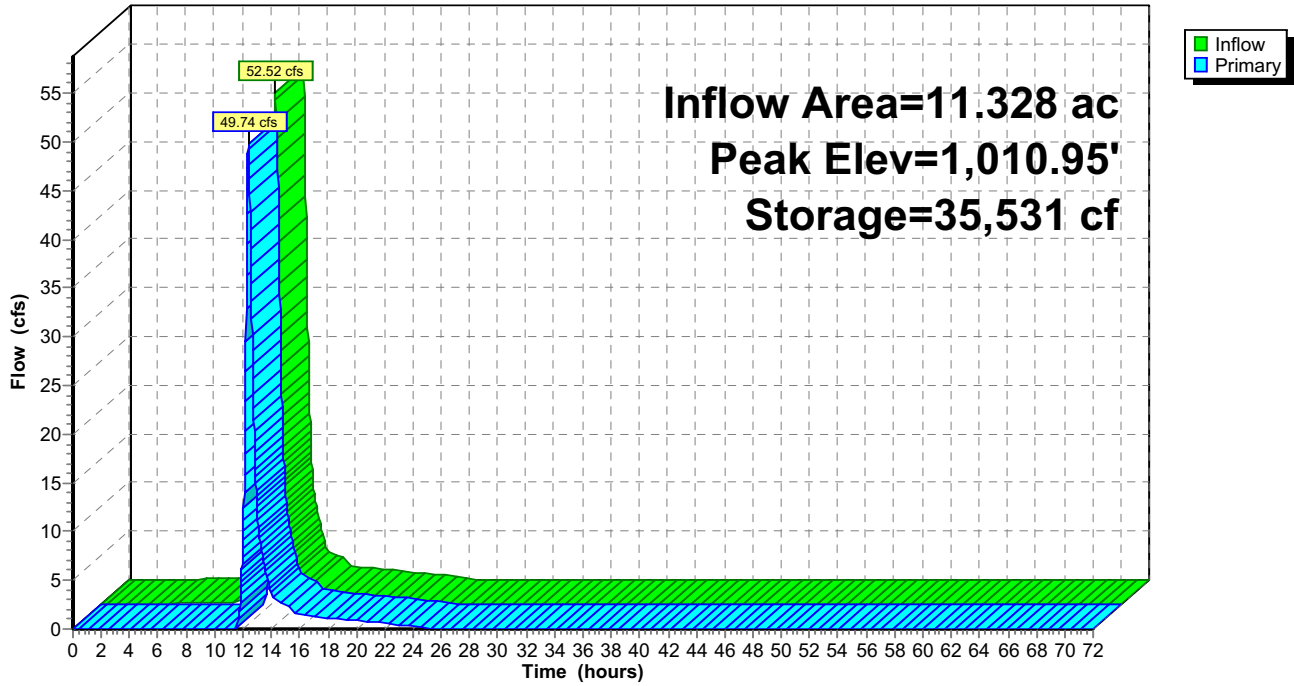
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

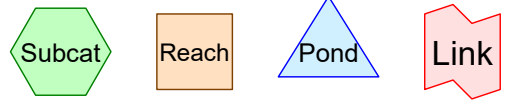
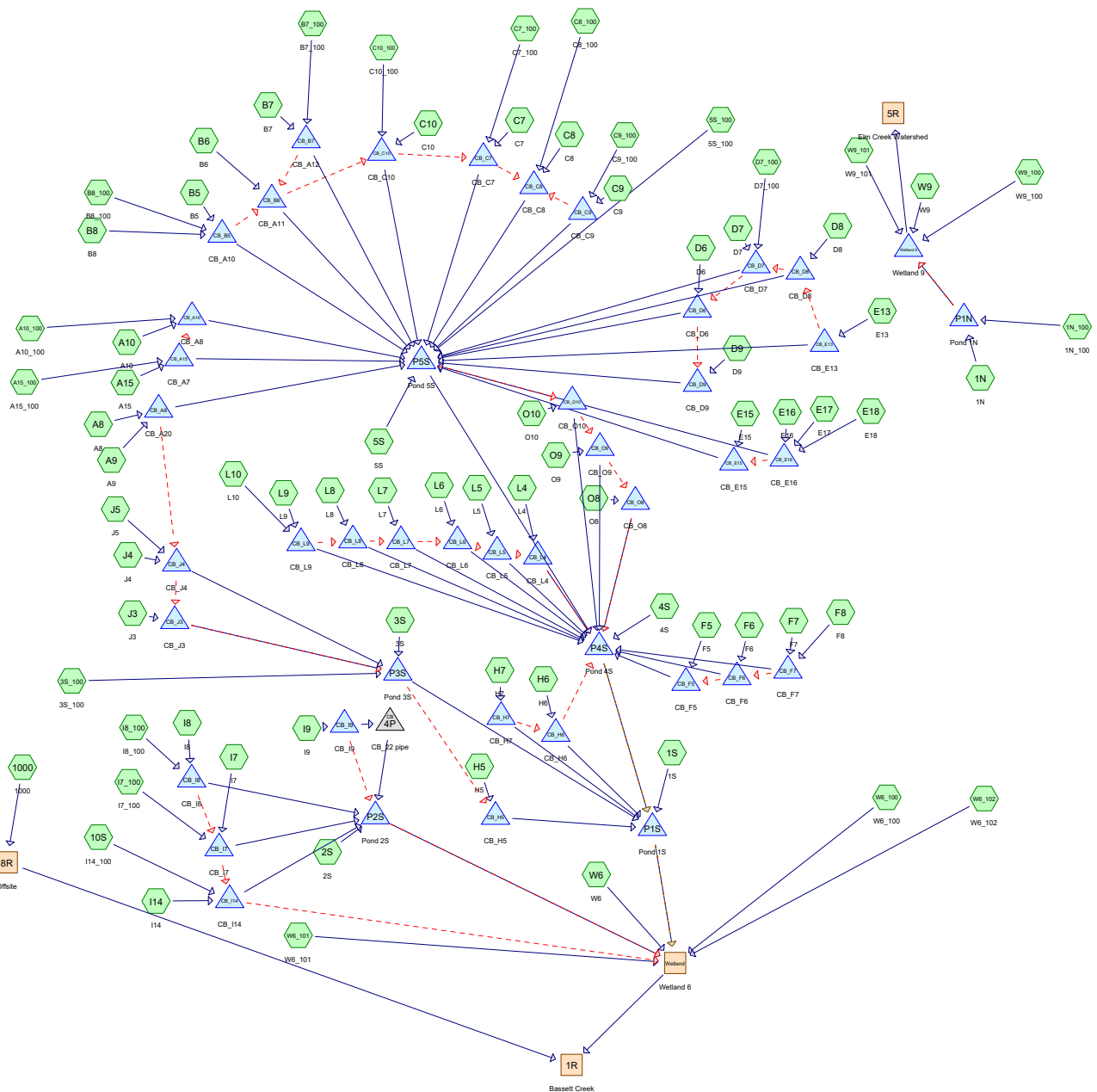
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Pond 9P: Wetland 9

Hydrograph





Routing Diagram for Hollydale - Proposed Conditions - 04.16.2021
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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.657	39	>75% Grass cover, Good, HSG A (5S, L8, L9)
6.223	61	>75% Grass cover, Good, HSG B (1S, 4S, H5, H6, H7, L4)
80.789	74	>75% Grass cover, Good, HSG C (1N, 1N_100, 1S, 2S, 3S, 3S_100, 4S, 5S, 5S_100, 10S, 1000, A10, A15, A8, A9, B5, B6, B7, B7_100, B8, B8_100, C10, C10_100, C7, C7_100, C8, C8_100, C9, C9_100, D6, D7, D7_100, D8, D9, E13, E15, E16, E17, E18, F5, F6, F7, F8, H5, H6, H7, I14, I7, I7_100, I8, I8_100, I9, J3, J4, J5, L10, L4, L5, L6, L7, L8, L9, O10, O8, O9, W6, W6_100, W6_101, W6_102, W9, W9_100, W9_101)
34.660	98	Impervious (1N, 1N_100, 1S, 2S, 3S, 3S_100, 4S, 5S, 5S_100, 1000, A10, A10_100, A15, A15_100, A8, A9, B5, B6, B7, B7_100, B8, B8_100, C10, C10_100, C7, C7_100, C8, C8_100, C9, C9_100, D6, D7, D7_100, D8, D9, E13, E15, E16, E17, E18, F5, F6, F7, F8, H5, H6, H7, I7, I7_100, I8, I8_100, I9, J3, J5, L10, L4, L5, L6, L7, L8, L9, O10, O8, O9, W6, W6_101, W9_100, W9_101)
8.970	98	Pond (1N, 1S, 2S, 3S, 4S, 5S, B7, W9)
3.336	73	Woods, Fair, HSG C (1N_100, B5, B8, W6, W6_100, W6_101, W9, W9_100)
0.101	98	impervious (10S, I14)
136.736	80	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
2.657	HSG A	5S, L8, L9
6.223	HSG B	1S, 4S, H5, H6, H7, L4
84.125	HSG C	1N, 1N_100, 1S, 2S, 3S, 3S_100, 4S, 5S, 5S_100, 10S, 1000, A10, A15, A8, A9, B5, B6, B7, B7_100, B8, B8_100, C10, C10_100, C7, C7_100, C8, C8_100, C9, C9_100, D6, D7, D7_100, D8, D9, E13, E15, E16, E17, E18, F5, F6, F7, F8, H5, H6, H7, I14, I7, I7_100, I8, I8_100, I9, J3, J4, J5, L10, L4, L5, L6, L7, L8, L9, O10, O8, O9, W6, W6_100, W6_101, W6_102, W9, W9_100, W9_101
0.000	HSG D	
43.731	Other	1N, 1N_100, 1S, 2S, 3S, 3S_100, 4S, 5S, 5S_100, 10S, 1000, A10, A10_100, A15, A15_100, A8, A9, B5, B6, B7, B7_100, B8, B8_100, C10, C10_100, C7, C7_100, C8, C8_100, C9, C9_100, D6, D7, D7_100, D8, D9, E13, E15, E16, E17, E18, F5, F6, F7, F8, H5, H6, H7, I14, I7, I7_100, I8, I8_100, I9, J3, J5, L10, L4, L5, L6, L7, L8, L9, O10, O8, O9, W6, W6_101, W9, W9_100, W9_101
136.736		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
2.657	6.223	80.789	0.000	0.000	89.669	>75% Grass cover, Good	1N, 1N_100, 1S, 2S, 3S, 3S_100, 4S, 5S, 5S_100, 10S, 1000, A10, A15, A8, A9, B5, B6, B7, B7_100, B8, B8_100, C10, C10_100, C7, C7_100, C8, C8_100, C9, C9_100, D6, D7, D7_100, D8, D9, E13, E15, E16, E17, E18, F5, F6, F7, F8, H5, H6, H7, I14, I7, I7_100, I8, I8_100, I9, J3, J4, J5, L10, L4, L5, L6, L7, L8, L9, O10,

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Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	34.660	34.660	Impervious	1N, 1N_100, 1S, 2S, 3S, 3S_100, 4S, 5S, 5S_100, 1000, A10, A10_100, A15, A15_100, A8, A9, B5, B6, B7, B7_100, B8, B8_100, C10, C10_100, C7, C7_100, C8, C8_100, C9, C9_100, D6, D7, D7_100, D8, D9, E13, E15, E16, E17, E18, F5, F6, F7, F8, H5, H6, H7, I7, I7_100, I8, I8_100, J9, J3, J5, L10, L4, L5, L6, L7,

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Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	8.970	8.970	Pond	1N, 1S, 2S, 3S, 4S, 5S, B7, W9
0.000	0.000	3.336	0.000	0.000	3.336	Woods, Fair	1N_100, B5, B8, W6, W6_100, W6_101, W9, W9_100
0.000	0.000	0.000	0.000	0.101	0.101	impervious	10S, I14
2.657	6.223	84.125	0.000	43.731	136.736	TOTAL AREA	

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Time span=0.00-72.00 hrs, dt=0.02 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1N: 1N	Runoff Area=4.840 ac 30.45% Impervious Runoff Depth=1.38" Tc=12.0 min CN=WQ Runoff=8.72 cfs 0.556 af
Subcatchment 1N_100: 1N_100 Flow Length=300'	Runoff Area=0.554 ac 22.74% Impervious Runoff Depth=1.23" Slope=0.0730 '/' Tc=14.8 min CN=WQ Runoff=0.81 cfs 0.057 af
Subcatchment 1S: 1S	Runoff Area=13.917 ac 49.29% Impervious Runoff Depth=1.65" Tc=12.0 min CN=WQ Runoff=29.30 cfs 1.916 af
Subcatchment 2S: 2S	Runoff Area=4.152 ac 49.86% Impervious Runoff Depth=1.73" Tc=12.0 min CN=WQ Runoff=9.29 cfs 0.599 af
Subcatchment 3S: 3S	Runoff Area=9.641 ac 44.37% Impervious Runoff Depth=1.63" Tc=12.0 min CN=WQ Runoff=20.38 cfs 1.310 af
Subcatchment 3S_100: 3S_100	Runoff Area=0.507 ac 69.43% Impervious Runoff Depth=2.08" Tc=12.0 min CN=WQ Runoff=1.36 cfs 0.088 af
Subcatchment 4S: 4S	Runoff Area=9.003 ac 34.97% Impervious Runoff Depth=1.31" Tc=12.0 min CN=WQ Runoff=14.82 cfs 0.985 af
Subcatchment 5S: 5S	Runoff Area=28.964 ac 47.03% Impervious Runoff Depth=1.61" Tc=12.0 min CN=WQ Runoff=60.07 cfs 3.876 af
Subcatchment 5S_100: 5S_100	Runoff Area=0.289 ac 46.02% Impervious Runoff Depth=1.66" Tc=12.0 min CN=WQ Runoff=0.62 cfs 0.040 af
Subcatchment 10S: 10S_100	Runoff Area=0.378 ac 6.88% Impervious Runoff Depth=0.95" Tc=12.0 min CN=WQ Runoff=0.48 cfs 0.030 af
Subcatchment 1000: 1000 Flow Length=115'	Runoff Area=0.038 ac 36.84% Impervious Runoff Depth=1.49" Slope=0.0170 '/' Tc=12.3 min CN=WQ Runoff=0.07 cfs 0.005 af
Subcatchment A10: A10	Runoff Area=0.830 ac 33.25% Impervious Runoff Depth=1.43" Tc=12.0 min CN=WQ Runoff=1.55 cfs 0.099 af
Subcatchment A10_100: A10_100	Runoff Area=0.034 ac 100.00% Impervious Runoff Depth=2.64" Tc=12.0 min CN=WQ Runoff=0.11 cfs 0.007 af
Subcatchment A15: A15	Runoff Area=0.669 ac 25.11% Impervious Runoff Depth=1.28" Tc=12.0 min CN=WQ Runoff=1.13 cfs 0.071 af
Subcatchment A15_100: A15_100	Runoff Area=0.027 ac 100.00% Impervious Runoff Depth=2.64" Tc=12.0 min CN=98 Runoff=0.09 cfs 0.006 af
Subcatchment A8: A8	Runoff Area=0.095 ac 10.53% Impervious Runoff Depth=1.02" Tc=12.0 min CN=WQ Runoff=0.13 cfs 0.008 af

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Subcatchment A9: A9	Runoff Area=0.671 ac 21.61% Impervious Runoff Depth=1.22" Tc=12.0 min CN=WQ Runoff=1.08 cfs 0.068 af
Subcatchment B5: B5	Runoff Area=0.552 ac 11.05% Impervious Runoff Depth=1.01" Tc=12.0 min CN=WQ Runoff=0.74 cfs 0.047 af
Subcatchment B6: B6	Runoff Area=1.508 ac 12.07% Impervious Runoff Depth=1.05" Tc=12.0 min CN=WQ Runoff=2.10 cfs 0.131 af
Subcatchment B7: B7	Runoff Area=0.782 ac 16.75% Impervious Runoff Depth=1.13" Tc=12.0 min CN=WQ Runoff=1.17 cfs 0.074 af
Subcatchment B7_100: B7_100	Runoff Area=0.211 ac 29.86% Impervious Runoff Depth=1.37" Tc=12.0 min CN=WQ Runoff=0.38 cfs 0.024 af
Subcatchment B8: B8	Runoff Area=1.110 ac 6.67% Impervious Runoff Depth=0.94" Tc=12.0 min CN=WQ Runoff=1.40 cfs 0.087 af
Subcatchment B8_100: B8_100	Runoff Area=0.030 ac 90.00% Impervious Runoff Depth=2.46" Tc=12.0 min CN=WQ Runoff=0.09 cfs 0.006 af
Subcatchment C10: C10	Runoff Area=1.521 ac 10.72% Impervious Runoff Depth=1.02" Tc=12.0 min CN=WQ Runoff=2.07 cfs 0.129 af
Subcatchment C10_100: C10_100	Runoff Area=0.546 ac 59.71% Impervious Runoff Depth=1.91" Tc=12.0 min CN=WQ Runoff=1.34 cfs 0.087 af
Subcatchment C7: C7	Runoff Area=1.440 ac 13.61% Impervious Runoff Depth=1.07" Tc=12.0 min CN=WQ Runoff=2.06 cfs 0.129 af
Subcatchment C7_100: C7_100	Runoff Area=0.268 ac 62.31% Impervious Runoff Depth=1.96" Flow Length=300' Slope=0.0870 '/' Tc=13.8 min CN=WQ Runoff=0.63 cfs 0.044 af
Subcatchment C8: C8	Runoff Area=1.457 ac 13.04% Impervious Runoff Depth=1.06" Tc=12.0 min CN=WQ Runoff=2.06 cfs 0.129 af
Subcatchment C8_100: C8_100	Runoff Area=0.470 ac 62.77% Impervious Runoff Depth=1.96" Flow Length=300' Slope=0.0870 '/' Tc=13.8 min CN=WQ Runoff=1.11 cfs 0.077 af
Subcatchment C9: C9	Runoff Area=1.762 ac 10.95% Impervious Runoff Depth=1.03" Tc=12.0 min CN=WQ Runoff=2.41 cfs 0.151 af
Subcatchment C9_100: C9_100	Runoff Area=0.301 ac 65.12% Impervious Runoff Depth=2.01" Tc=12.0 min CN=WQ Runoff=0.78 cfs 0.050 af
Subcatchment D6: D6	Runoff Area=0.376 ac 3.46% Impervious Runoff Depth=0.89" Tc=12.0 min CN=WQ Runoff=0.45 cfs 0.028 af
Subcatchment D7: D7	Runoff Area=0.511 ac 11.94% Impervious Runoff Depth=1.04" Tc=12.0 min CN=WQ Runoff=0.71 cfs 0.044 af

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Subcatchment D7_100: D7_100	Runoff Area=0.075 ac 56.00% Impervious Runoff Depth=1.84" Tc=12.0 min CN=WQ Runoff=0.18 cfs 0.012 af
Subcatchment D8: D8	Runoff Area=1.215 ac 7.98% Impervious Runoff Depth=0.97" Tc=12.0 min CN=WQ Runoff=1.58 cfs 0.098 af
Subcatchment D9: D9	Runoff Area=1.254 ac 16.11% Impervious Runoff Depth=1.12" Tc=12.0 min CN=WQ Runoff=1.86 cfs 0.117 af
Subcatchment E13: E13	Runoff Area=0.605 ac 27.77% Impervious Runoff Depth=1.33" Tc=12.0 min CN=WQ Runoff=1.05 cfs 0.067 af
Subcatchment E15: E15	Runoff Area=1.926 ac 26.90% Impervious Runoff Depth=1.31" Tc=12.0 min CN=WQ Runoff=3.32 cfs 0.211 af
Subcatchment E16: E16	Runoff Area=1.374 ac 25.84% Impervious Runoff Depth=1.30" Tc=12.0 min CN=WQ Runoff=2.33 cfs 0.148 af
Subcatchment E17: E17	Runoff Area=0.991 ac 20.48% Impervious Runoff Depth=1.20" Tc=12.0 min CN=WQ Runoff=1.57 cfs 0.099 af
Subcatchment E18: E18	Runoff Area=1.734 ac 9.86% Impervious Runoff Depth=1.01" Tc=15.0 min CN=WQ Runoff=2.10 cfs 0.145 af
Subcatchment F5: F5	Runoff Area=1.224 ac 21.24% Impervious Runoff Depth=1.21" Tc=12.0 min CN=WQ Runoff=1.95 cfs 0.124 af
Subcatchment F6: F6	Runoff Area=0.921 ac 21.06% Impervious Runoff Depth=1.21" Tc=12.0 min CN=WQ Runoff=1.47 cfs 0.093 af
Subcatchment F7: F7	Runoff Area=0.667 ac 11.69% Impervious Runoff Depth=1.04" Tc=12.0 min CN=WQ Runoff=0.92 cfs 0.058 af
Subcatchment F8: F8	Runoff Area=1.906 ac 16.00% Impervious Runoff Depth=1.12" Tc=15.0 min CN=WQ Runoff=2.54 cfs 0.177 af
Subcatchment H5: H5	Runoff Area=2.168 ac 27.21% Impervious Runoff Depth=1.20" Tc=12.0 min CN=WQ Runoff=3.28 cfs 0.216 af
Subcatchment H6: H6	Runoff Area=1.008 ac 19.54% Impervious Runoff Depth=0.86" Tc=12.0 min CN=WQ Runoff=1.00 cfs 0.072 af
Subcatchment H7: H7	Runoff Area=1.176 ac 19.64% Impervious Runoff Depth=0.93" Tc=12.0 min CN=WQ Runoff=1.31 cfs 0.091 af
Subcatchment I14: I14	Runoff Area=0.270 ac 27.78% Impervious Runoff Depth=1.33" Tc=12.0 min CN=WQ Runoff=0.47 cfs 0.030 af
Subcatchment I7: I7	Runoff Area=0.610 ac 22.62% Impervious Runoff Depth=1.24" Tc=12.0 min CN=WQ Runoff=0.99 cfs 0.063 af

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Subcatchment I7_100: I7_100	Runoff Area=0.205 ac 7.32% Impervious Runoff Depth=0.96" Tc=12.0 min CN=WQ Runoff=0.26 cfs 0.016 af
Subcatchment I8: I8	Runoff Area=1.003 ac 25.12% Impervious Runoff Depth=1.28" Tc=12.0 min CN=WQ Runoff=1.69 cfs 0.107 af
Subcatchment I8_100: I8_100	Runoff Area=0.170 ac 25.88% Impervious Runoff Depth=1.30" Tc=12.0 min CN=WQ Runoff=0.29 cfs 0.018 af
Subcatchment I9: I9	Runoff Area=0.256 ac 27.73% Impervious Runoff Depth=1.33" Tc=12.0 min CN=WQ Runoff=0.45 cfs 0.028 af
Subcatchment J3: J3	Runoff Area=1.496 ac 20.32% Impervious Runoff Depth=1.20" Tc=12.0 min CN=WQ Runoff=2.36 cfs 0.149 af
Subcatchment J4: J4	Runoff Area=0.310 ac 0.00% Impervious Runoff Depth=0.83" Tc=12.0 min CN=74 Runoff=0.35 cfs 0.021 af
Subcatchment J5: J5	Runoff Area=0.683 ac 17.72% Impervious Runoff Depth=1.15" Tc=12.0 min CN=WQ Runoff=1.04 cfs 0.065 af
Subcatchment L10: L10	Runoff Area=1.158 ac 17.53% Impervious Runoff Depth=1.14" Tc=12.0 min CN=WQ Runoff=1.75 cfs 0.110 af
Subcatchment L4: L4	Runoff Area=0.167 ac 20.96% Impervious Runoff Depth=1.19" Tc=12.0 min CN=WQ Runoff=0.26 cfs 0.017 af
Subcatchment L5: L5	Runoff Area=0.763 ac 22.02% Impervious Runoff Depth=1.23" Tc=12.0 min CN=WQ Runoff=1.23 cfs 0.078 af
Subcatchment L6: L6	Runoff Area=1.091 ac 19.98% Impervious Runoff Depth=1.19" Tc=12.0 min CN=WQ Runoff=1.71 cfs 0.108 af
Subcatchment L7: L7	Runoff Area=0.759 ac 21.21% Impervious Runoff Depth=1.21" Tc=12.0 min CN=WQ Runoff=1.21 cfs 0.077 af
Subcatchment L8: L8	Runoff Area=1.441 ac 22.07% Impervious Runoff Depth=1.18" Tc=12.0 min CN=WQ Runoff=2.23 cfs 0.141 af
Subcatchment L9: L9	Runoff Area=0.971 ac 21.11% Impervious Runoff Depth=1.21" Tc=12.0 min CN=WQ Runoff=1.54 cfs 0.098 af
Subcatchment O10: O10	Runoff Area=0.609 ac 15.44% Impervious Runoff Depth=1.11" Tc=12.0 min CN=WQ Runoff=0.89 cfs 0.056 af
Subcatchment O8: O8	Runoff Area=0.490 ac 12.24% Impervious Runoff Depth=1.05" Tc=12.0 min CN=WQ Runoff=0.68 cfs 0.043 af
Subcatchment O9: O9	Runoff Area=1.143 ac 19.86% Impervious Runoff Depth=1.19" Tc=12.0 min CN=WQ Runoff=1.79 cfs 0.113 af

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Subcatchment W6: W6	Runoff Area=9.984 ac 9.85% Impervious Runoff Depth=0.99" Flow Length=780' Tc=27.0 min CN=WQ Runoff=8.65 cfs 0.828 af
Subcatchment W6_100: W6_100	Runoff Area=0.217 ac 0.00% Impervious Runoff Depth=0.80" Flow Length=550' Tc=42.4 min CN=WQ Runoff=0.11 cfs 0.014 af
Subcatchment W6_101: W6_101	Runoff Area=2.158 ac 13.44% Impervious Runoff Depth=1.06" Flow Length=605' Tc=19.1 min CN=WQ Runoff=2.40 cfs 0.191 af
Subcatchment W6_102: W6_102	Runoff Area=0.261 ac 0.00% Impervious Runoff Depth=0.83" Tc=15.5 min CN=74 Runoff=0.26 cfs 0.018 af
Subcatchment W9: W9	Runoff Area=1.787 ac 12.14% Impervious Runoff Depth=1.04" Tc=12.0 min CN=WQ Runoff=2.48 cfs 0.155 af
Subcatchment W9_100: W9_100	Runoff Area=2.497 ac 22.31% Impervious Runoff Depth=1.23" Flow Length=1,013' Tc=34.0 min CN=WQ Runoff=2.33 cfs 0.256 af
Subcatchment W9_101: W9_101	Runoff Area=0.539 ac 49.17% Impervious Runoff Depth=1.72" Flow Length=300' Slope=0.0570 '/' Tc=16.4 min CN=WQ Runoff=1.04 cfs 0.077 af
Reach 1R: Bassett Creek Watershed	Inflow=21.08 cfs 13.503 af Outflow=21.08 cfs 13.503 af
Reach 5R: Elm Creek Watershed	Inflow=0.86 cfs 0.297 af Outflow=0.86 cfs 0.297 af
Reach 8R: Offsite	Inflow=0.07 cfs 0.005 af Outflow=0.07 cfs 0.005 af
Reach Wetland: Wetland 6	Inflow=21.06 cfs 13.498 af Outflow=21.06 cfs 13.498 af
Pond 4P: CB_22 pipe	Peak Elev=969.87' Inflow=0.45 cfs 0.028 af Outflow=0.45 cfs 0.028 af
Pond CB_A10: CB_A8	Peak Elev=996.17' Storage=21 cf Inflow=1.66 cfs 0.106 af Outflow=1.66 cfs 0.106 af
Pond CB_A15: CB_A7	Peak Elev=998.14' Storage=42 cf Inflow=1.22 cfs 0.077 af Primary=1.21 cfs 0.077 af Secondary=0.00 cfs 0.000 af Outflow=1.21 cfs 0.077 af
Pond CB_A8: CB_A20	Peak Elev=1,000.51' Storage=198 cf Inflow=1.21 cfs 0.076 af Primary=1.13 cfs 0.076 af Secondary=0.00 cfs 0.000 af Outflow=1.13 cfs 0.076 af
Pond CB_B5: CB_A10	Peak Elev=995.21' Storage=25 cf Inflow=2.24 cfs 0.140 af Primary=2.24 cfs 0.140 af Secondary=0.00 cfs 0.000 af Outflow=2.24 cfs 0.140 af
Pond CB_B6: CB_A11	Peak Elev=994.23' Storage=70 cf Inflow=2.63 cfs 0.166 af Primary=2.62 cfs 0.166 af Secondary=0.00 cfs 0.000 af Outflow=2.62 cfs 0.166 af

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_B7: CB_A12	Peak Elev=998.12' Storage=157 cf Inflow=1.55 cfs 0.098 af Primary=0.98 cfs 0.063 af Secondary=0.54 cfs 0.035 af Outflow=1.52 cfs 0.098 af
Pond CB_C10: CB_C10	Peak Elev=994.28' Storage=157 cf Inflow=3.41 cfs 0.216 af Primary=3.37 cfs 0.216 af Secondary=0.00 cfs 0.000 af Outflow=3.37 cfs 0.216 af
Pond CB_C7: CB_C7	Peak Elev=992.74' Storage=94 cf Inflow=2.69 cfs 0.173 af Primary=2.67 cfs 0.173 af Secondary=0.00 cfs 0.000 af Outflow=2.67 cfs 0.173 af
Pond CB_C8: CB_C8	Peak Elev=991.27' Storage=40 cf Inflow=3.17 cfs 0.206 af Outflow=3.17 cfs 0.206 af
Pond CB_C9: CB_C9	Peak Elev=992.27' Storage=90 cf Inflow=3.18 cfs 0.201 af Primary=3.17 cfs 0.201 af Secondary=0.00 cfs 0.000 af Outflow=3.17 cfs 0.201 af
Pond CB_D6: CB_D6	Peak Elev=1,000.07' Storage=13 cf Inflow=0.45 cfs 0.028 af Primary=0.45 cfs 0.028 af Secondary=0.00 cfs 0.000 af Outflow=0.45 cfs 0.028 af
Pond CB_D7: CB_D7	Peak Elev=1,002.11' Storage=26 cf Inflow=0.89 cfs 0.056 af Primary=0.88 cfs 0.056 af Secondary=0.00 cfs 0.000 af Outflow=0.88 cfs 0.056 af
Pond CB_D8: CB_D8	Peak Elev=1,002.17' Storage=62 cf Inflow=1.58 cfs 0.098 af Primary=1.57 cfs 0.098 af Secondary=0.00 cfs 0.000 af Outflow=1.57 cfs 0.098 af
Pond CB_D9: CB_D9	Peak Elev=995.67' Storage=244 cf Inflow=1.86 cfs 0.117 af Outflow=1.75 cfs 0.117 af
Pond CB_E13: CB_E13	Peak Elev=1,009.63' Storage=11 cf Inflow=1.05 cfs 0.067 af Primary=1.05 cfs 0.067 af Secondary=0.00 cfs 0.000 af Outflow=1.05 cfs 0.067 af
Pond CB_E15: CB_E15	Peak Elev=992.27' Storage=56 cf Inflow=3.32 cfs 0.211 af Outflow=3.31 cfs 0.211 af
Pond CB_E16: CB_E16	Peak Elev=996.47' Storage=532 cf Inflow=5.91 cfs 0.393 af Primary=5.44 cfs 0.393 af Secondary=0.00 cfs 0.000 af Outflow=5.44 cfs 0.393 af
Pond CB_F5: CB_F5	Peak Elev=983.19' Storage=53 cf Inflow=1.95 cfs 0.124 af Outflow=1.94 cfs 0.124 af
Pond CB_F6: CB_F6	Peak Elev=985.16' Storage=30 cf Inflow=1.47 cfs 0.093 af Primary=1.46 cfs 0.093 af Secondary=0.00 cfs 0.000 af Outflow=1.46 cfs 0.093 af
Pond CB_F7: CB_F7	Peak Elev=983.89' Storage=758 cf Inflow=3.44 cfs 0.235 af Primary=3.01 cfs 0.235 af Secondary=0.00 cfs 0.000 af Outflow=3.01 cfs 0.235 af
Pond CB_H5: CB_H5	Peak Elev=972.27' Storage=99 cf Inflow=3.28 cfs 0.216 af Outflow=3.26 cfs 0.216 af
Pond CB_H6: CB_H6	Peak Elev=973.12' Storage=44 cf Inflow=1.00 cfs 0.072 af Primary=0.99 cfs 0.072 af Secondary=0.00 cfs 0.000 af Outflow=0.99 cfs 0.072 af

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Pond CB_H7: CB_H7	Peak Elev=974.14' Storage=347 cf Inflow=1.31 cfs 0.091 af Primary=1.18 cfs 0.091 af Secondary=0.00 cfs 0.000 af Outflow=1.18 cfs 0.091 af
Pond CB_I14: CB_I14	Peak Elev=985.45' Storage=101 cf Inflow=0.95 cfs 0.060 af Primary=0.92 cfs 0.060 af Secondary=0.00 cfs 0.000 af Outflow=0.92 cfs 0.060 af
Pond CB_I7: CB_I7	Peak Elev=986.14' Storage=49 cf Inflow=1.26 cfs 0.079 af Primary=1.25 cfs 0.079 af Secondary=0.00 cfs 0.000 af Outflow=1.25 cfs 0.079 af
Pond CB_I8: CB_I8	Peak Elev=987.19' Storage=24 cf Inflow=1.98 cfs 0.126 af Primary=1.98 cfs 0.126 af Secondary=0.00 cfs 0.000 af Outflow=1.98 cfs 0.126 af
Pond CB_I9: CB_I9	Peak Elev=978.07' Storage=5 cf Inflow=0.45 cfs 0.028 af Primary=0.45 cfs 0.028 af Secondary=0.00 cfs 0.000 af Outflow=0.45 cfs 0.028 af
Pond CB_J3: CB_J3	Peak Elev=991.22' Storage=41 cf Inflow=2.36 cfs 0.149 af Primary=2.35 cfs 0.149 af Secondary=0.00 cfs 0.000 af Outflow=2.35 cfs 0.149 af
Pond CB_J4: CB_J4	Peak Elev=994.54' Storage=227 cf Inflow=1.39 cfs 0.087 af Primary=1.27 cfs 0.087 af Secondary=0.00 cfs 0.000 af Outflow=1.27 cfs 0.087 af
Pond CB_L4: CB_L4	Peak Elev=978.05' Storage=4 cf Inflow=0.26 cfs 0.017 af Primary=0.26 cfs 0.017 af Secondary=0.00 cfs 0.000 af Outflow=0.26 cfs 0.017 af
Pond CB_L5: CB_L5	Peak Elev=977.67' Storage=25 cf Inflow=1.61 cfs 0.116 af Primary=1.61 cfs 0.116 af Secondary=0.00 cfs 0.000 af Outflow=1.61 cfs 0.116 af
Pond CB_L6: CB_L6	Peak Elev=978.11' Storage=740 cf Inflow=1.71 cfs 0.108 af Primary=0.84 cfs 0.070 af Secondary=0.46 cfs 0.038 af Outflow=1.30 cfs 0.108 af
Pond CB_L7: CB_L7	Peak Elev=979.14' Storage=20 cf Inflow=1.21 cfs 0.077 af Primary=1.21 cfs 0.077 af Secondary=0.00 cfs 0.000 af Outflow=1.21 cfs 0.077 af
Pond CB_L8: CB_L8	Peak Elev=980.21' Storage=132 cf Inflow=2.23 cfs 0.141 af Primary=2.18 cfs 0.141 af Secondary=0.00 cfs 0.000 af Outflow=2.18 cfs 0.141 af
Pond CB_L9: CB_L9	Peak Elev=982.83' Storage=856 cf Inflow=3.30 cfs 0.208 af Primary=2.70 cfs 0.208 af Secondary=0.00 cfs 0.000 af Outflow=2.70 cfs 0.208 af
Pond CB_O10: CB_O10	Peak Elev=978.11' Storage=23 cf Inflow=0.89 cfs 0.056 af Primary=0.89 cfs 0.056 af Secondary=0.00 cfs 0.000 af Outflow=0.89 cfs 0.056 af
Pond CB_O8: CB_O8	Peak Elev=975.60' Storage=8 cf Inflow=0.68 cfs 0.043 af Primary=0.68 cfs 0.043 af Secondary=0.00 cfs 0.000 af Outflow=0.68 cfs 0.043 af
Pond CB_O9: CB_O9	Peak Elev=978.18' Storage=33 cf Inflow=1.79 cfs 0.113 af Primary=1.79 cfs 0.113 af Secondary=0.00 cfs 0.000 af Outflow=1.79 cfs 0.113 af
Pond P1N: Pond 1N	Peak Elev=1,010.04' Storage=193,106 cf Inflow=9.50 cfs 0.613 af Primary=0.28 cfs 0.110 af Secondary=0.00 cfs 0.000 af Outflow=0.28 cfs 0.110 af

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Pond P1S: Pond 1S Peak Elev=968.44' Storage=367,734 cf Inflow=46.53 cfs 11.843 af
 Primary=11.98 cfs 11.561 af Secondary=0.00 cfs 0.000 af Outflow=11.98 cfs 11.561 af

Pond P2S: Pond 2S Peak Elev=969.81' Storage=93,485 cf Inflow=13.82 cfs 0.892 af
 Primary=4.54 cfs 0.886 af Secondary=0.00 cfs 0.000 af Outflow=4.54 cfs 0.886 af

Pond P3S: Pond 3S Peak Elev=974.05' Storage=174,018 cf Inflow=25.22 cfs 1.634 af
 Primary=4.90 cfs 1.606 af Secondary=0.00 cfs 0.000 af Outflow=4.90 cfs 1.606 af

Pond P4S: Pond 4S Peak Elev=968.85' Storage=109,759 cf Inflow=34.15 cfs 8.014 af
 Primary=16.80 cfs 7.942 af Secondary=0.00 cfs 0.000 af Outflow=16.80 cfs 7.942 af

Pond P5S: Pond 5S Peak Elev=978.97' Storage=1,323,371 cf Inflow=96.54 cfs 6.309 af
 Primary=5.08 cfs 5.737 af Secondary=0.00 cfs 0.000 af Outflow=5.08 cfs 5.737 af

Pond Wetland 9: Wetland 9 Peak Elev=1,010.07' Storage=20,773 cf Inflow=4.86 cfs 0.598 af
 Outflow=0.86 cfs 0.297 af

Total Runoff Area = 136.736 ac Runoff Volume = 15.564 af Average Runoff Depth = 1.37"
68.02% Pervious = 93.005 ac 31.98% Impervious = 43.731 ac

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Summary for Subcatchment 1N: 1N

Runoff = 8.72 cfs @ 12.20 hrs, Volume= 0.556 af, Depth= 1.38"

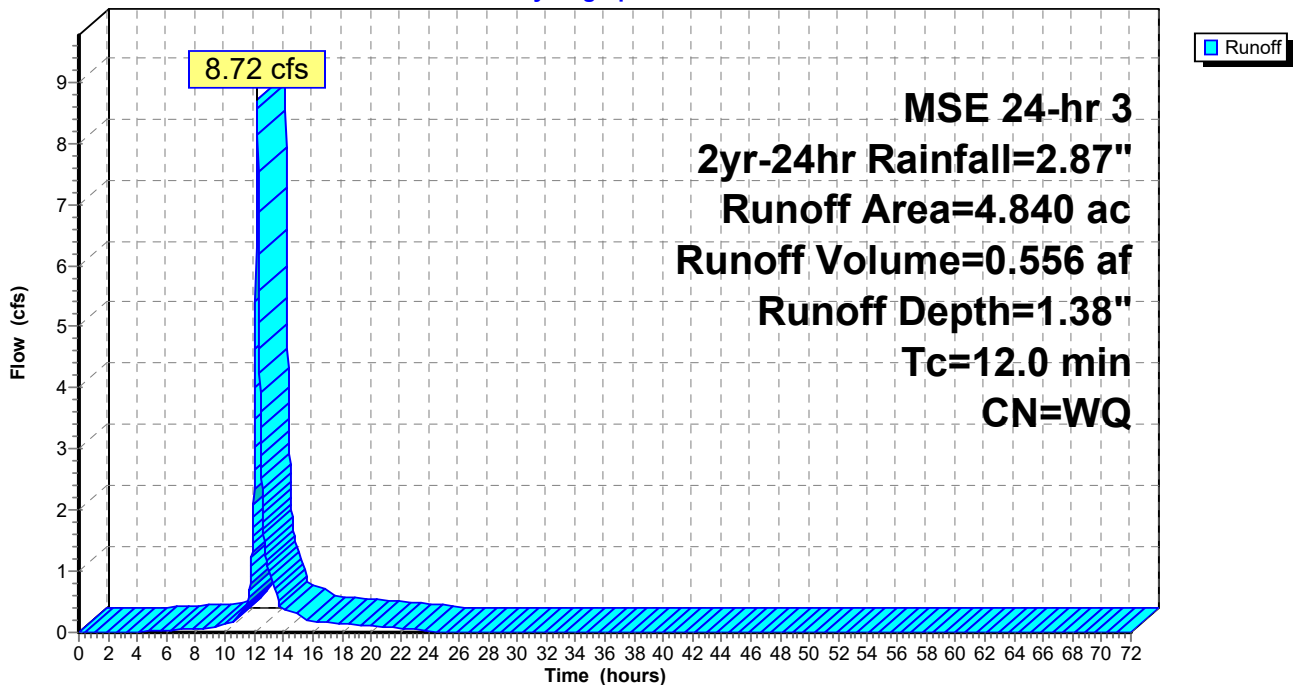
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.646	98	Impervious
3.366	74	>75% Grass cover, Good, HSG C
* 0.828	98	Pond
4.840		Weighted Average
3.366		69.55% Pervious Area
1.474		30.45% Impervious Area

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

Subcatchment 1N: 1N

Hydrograph



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Summary for Subcatchment 1N_100: 1N_100

Runoff = 0.81 cfs @ 12.24 hrs, Volume= 0.057 af, Depth= 1.23"

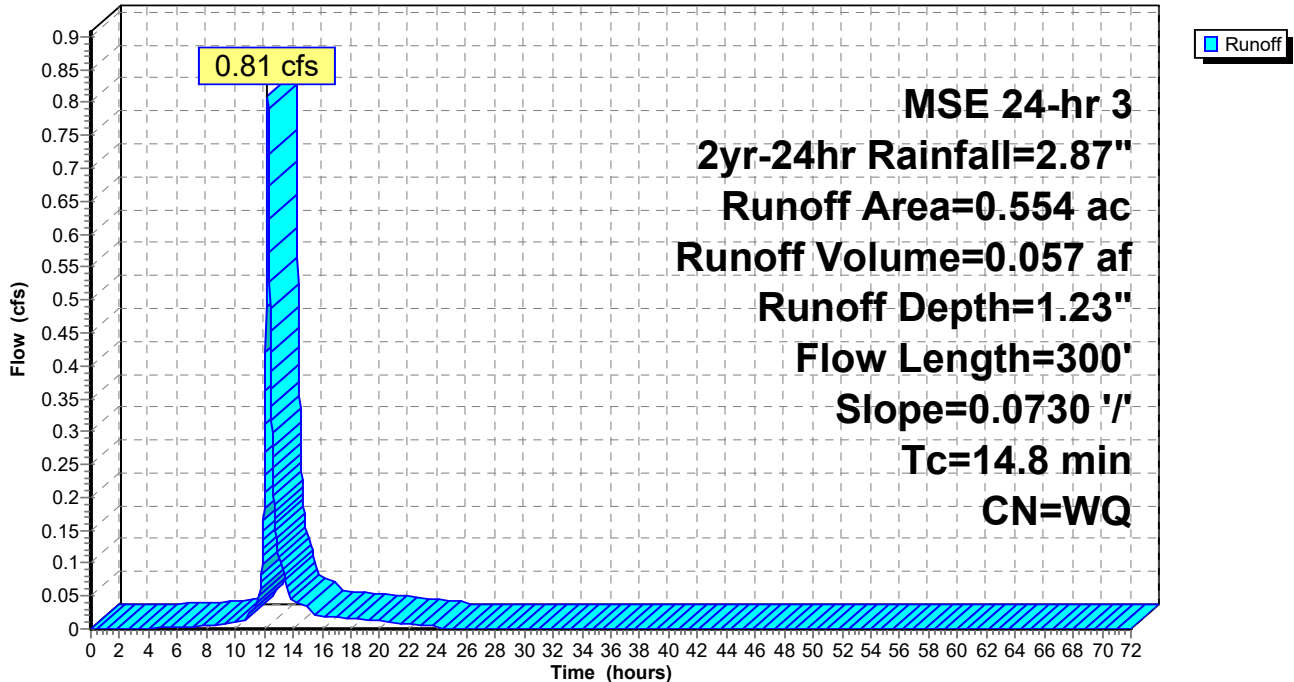
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.318	74	>75% Grass cover, Good, HSG C
* 0.126	98	Impervious
0.110	73	Woods, Fair, HSG C
0.554		Weighted Average
0.428		77.26% Pervious Area
0.126		22.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.8	300	0.0730	0.34		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment 1N_100: 1N_100

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 1S: 1S

Runoff = 29.30 cfs @ 12.20 hrs, Volume= 1.916 af, Depth= 1.65"

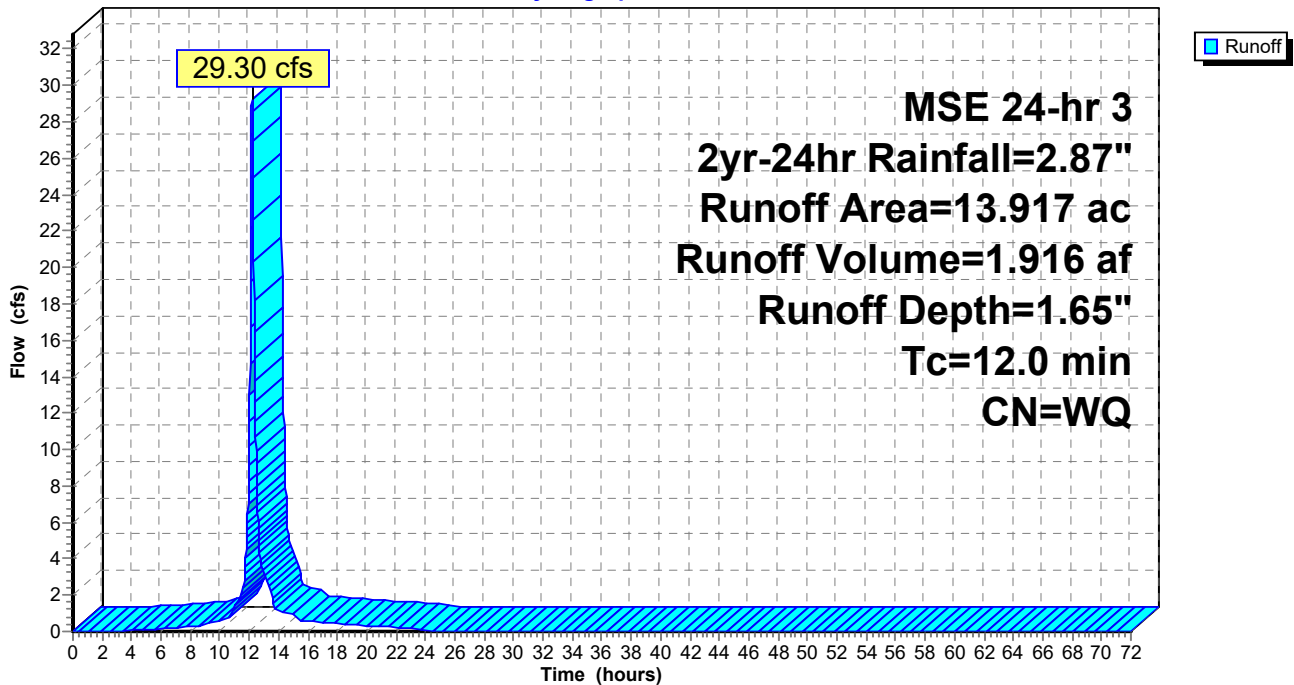
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 5.037	98	Impervious
1.856	61	>75% Grass cover, Good, HSG B
3.783	74	>75% Grass cover, Good, HSG C
1.419	74	>75% Grass cover, Good, HSG C
* 1.822	98	Pond
13.917		Weighted Average
7.058		50.71% Pervious Area
6.859		49.29% Impervious Area

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

Subcatchment 1S: 1S

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 2S: 2S

Runoff = 9.29 cfs @ 12.20 hrs, Volume= 0.599 af, Depth= 1.73"

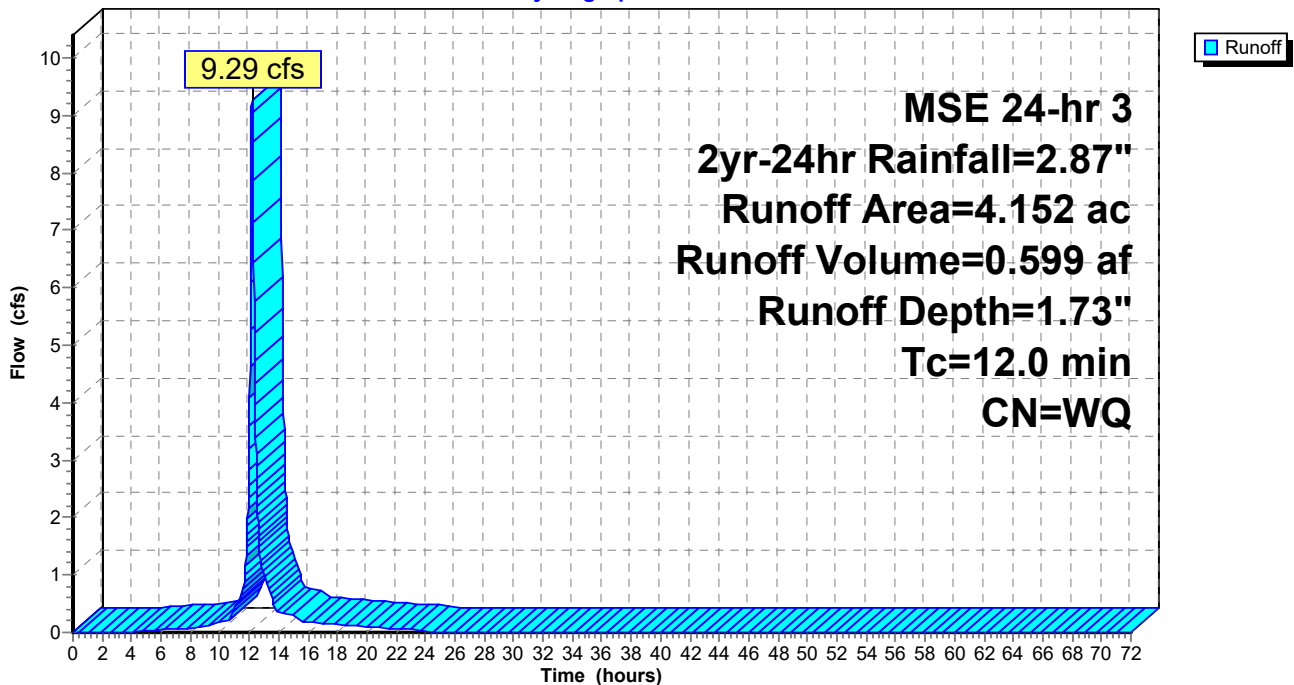
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 1.594	98	Impervious
2.082	74	>75% Grass cover, Good, HSG C
* 0.476	98	Pond
4.152		Weighted Average
2.082		50.14% Pervious Area
2.070		49.86% Impervious Area

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

Subcatchment 2S: 2S

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 3S: 3S

Runoff = 20.38 cfs @ 12.20 hrs, Volume= 1.310 af, Depth= 1.63"

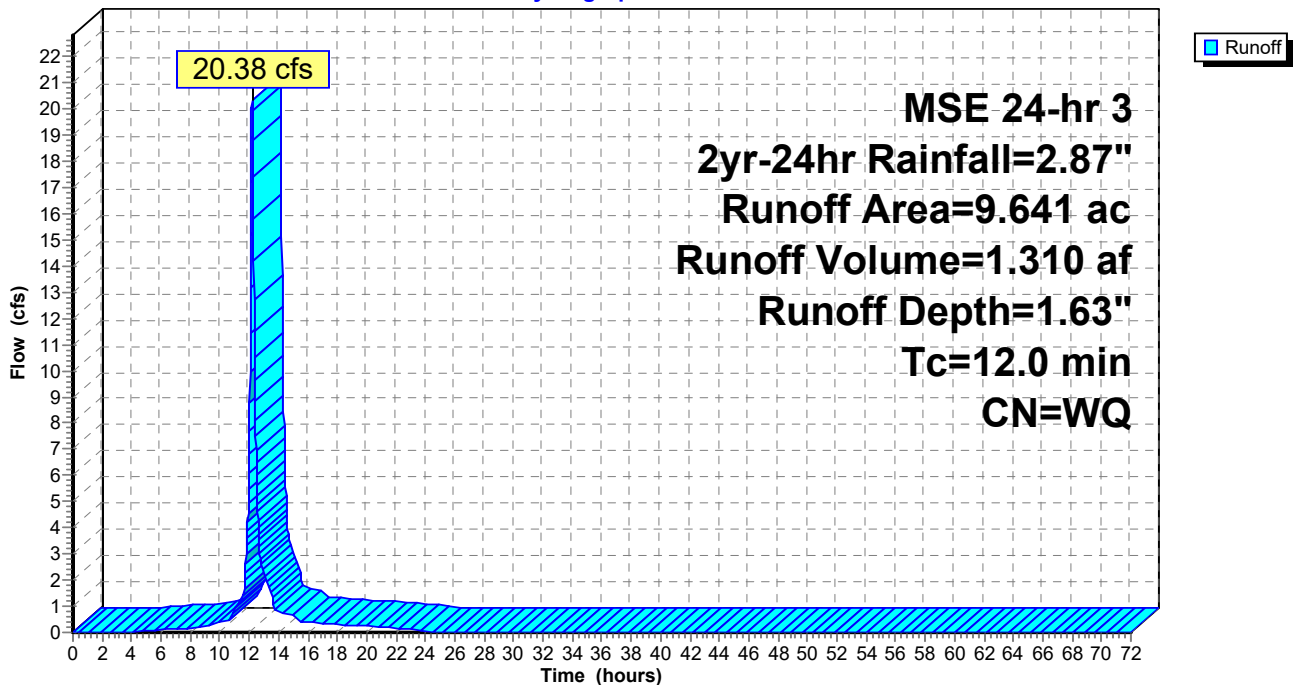
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 3.484	98	Impervious
5.363	74	>75% Grass cover, Good, HSG C
* 0.794	98	Pond
9.641		Weighted Average
5.363		55.63% Pervious Area
4.278		44.37% Impervious Area

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

Subcatchment 3S: 3S

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 3S_100: 3S_100

Runoff = 1.36 cfs @ 12.20 hrs, Volume= 0.088 af, Depth= 2.08"

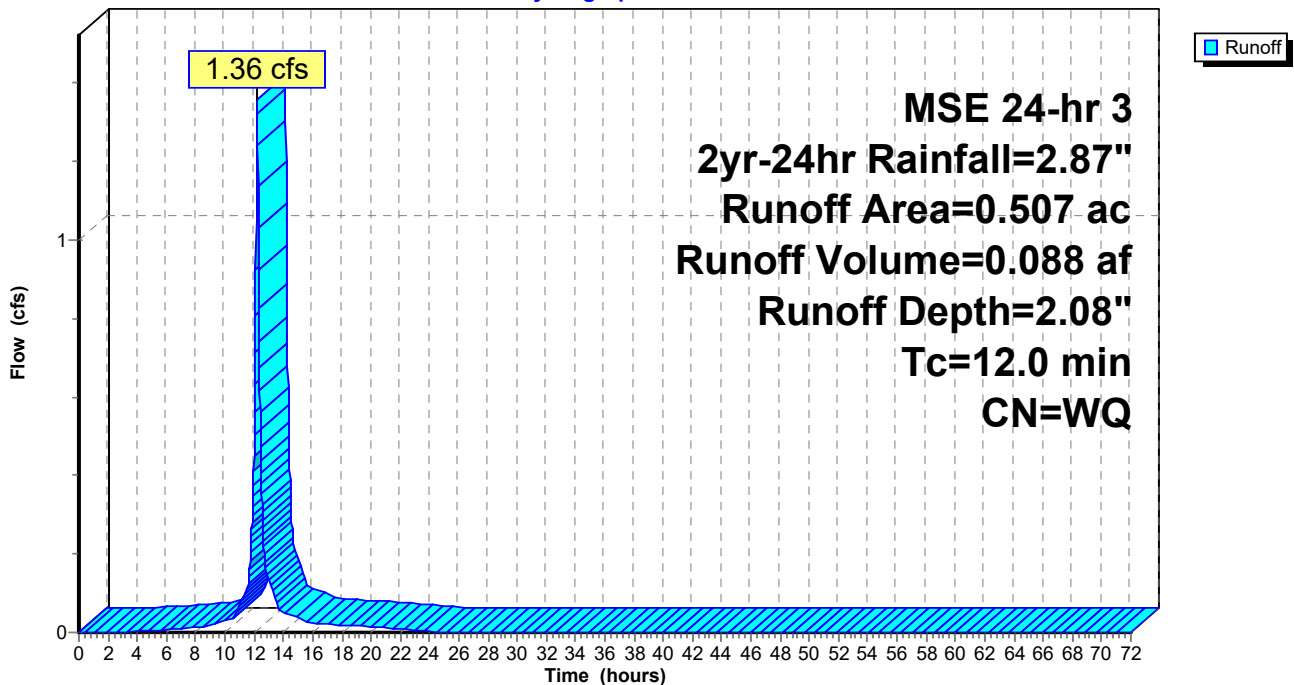
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.352	98	Impervious
0.031	74	>75% Grass cover, Good, HSG C
0.124	74	>75% Grass cover, Good, HSG C
0.507		Weighted Average
0.155		30.57% Pervious Area
0.352		69.43% Impervious Area

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

Subcatchment 3S_100: 3S_100

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 4S: 4S

Runoff = 14.82 cfs @ 12.20 hrs, Volume= 0.985 af, Depth= 1.31"

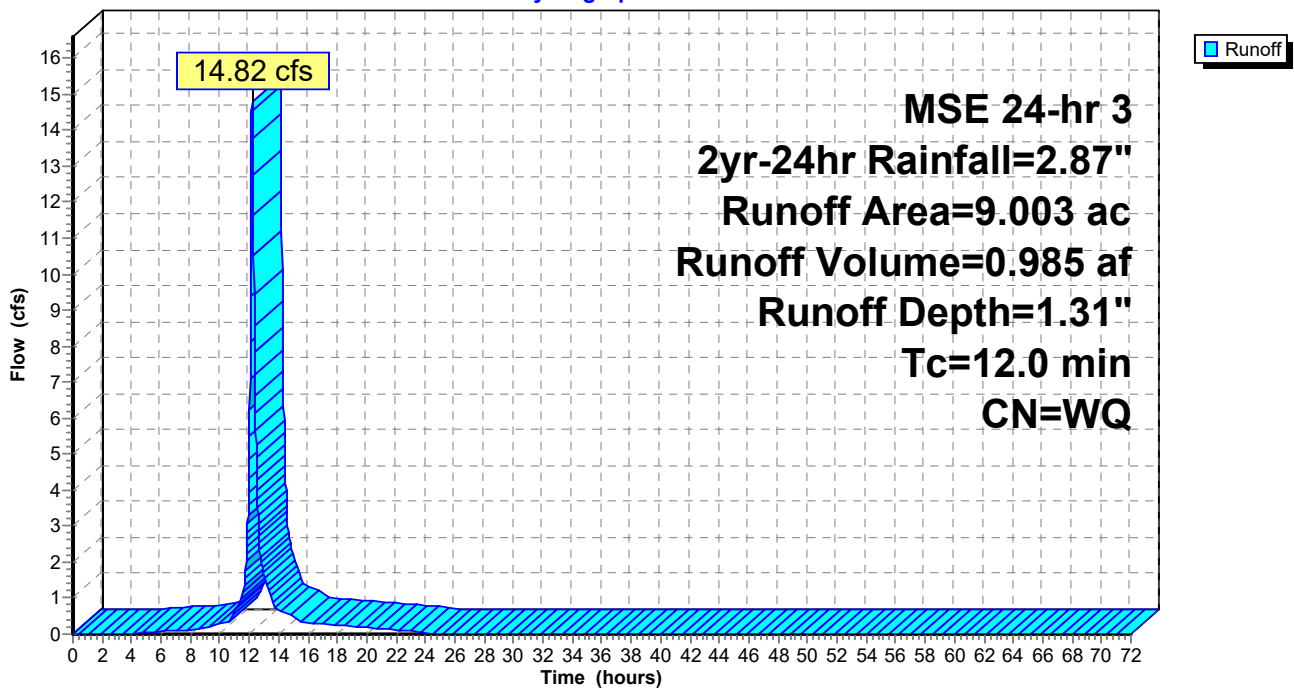
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 2.416	98	Impervious
2.605	61	>75% Grass cover, Good, HSG B
2.644	74	>75% Grass cover, Good, HSG C
0.606	74	>75% Grass cover, Good, HSG C
* 0.680	98	Pond
* 0.052	98	Impervious
9.003		Weighted Average
5.855		65.03% Pervious Area
3.148		34.97% Impervious Area

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

Subcatchment 4S: 4S

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 5S: 5S

Runoff = 60.07 cfs @ 12.20 hrs, Volume= 3.876 af, Depth= 1.61"

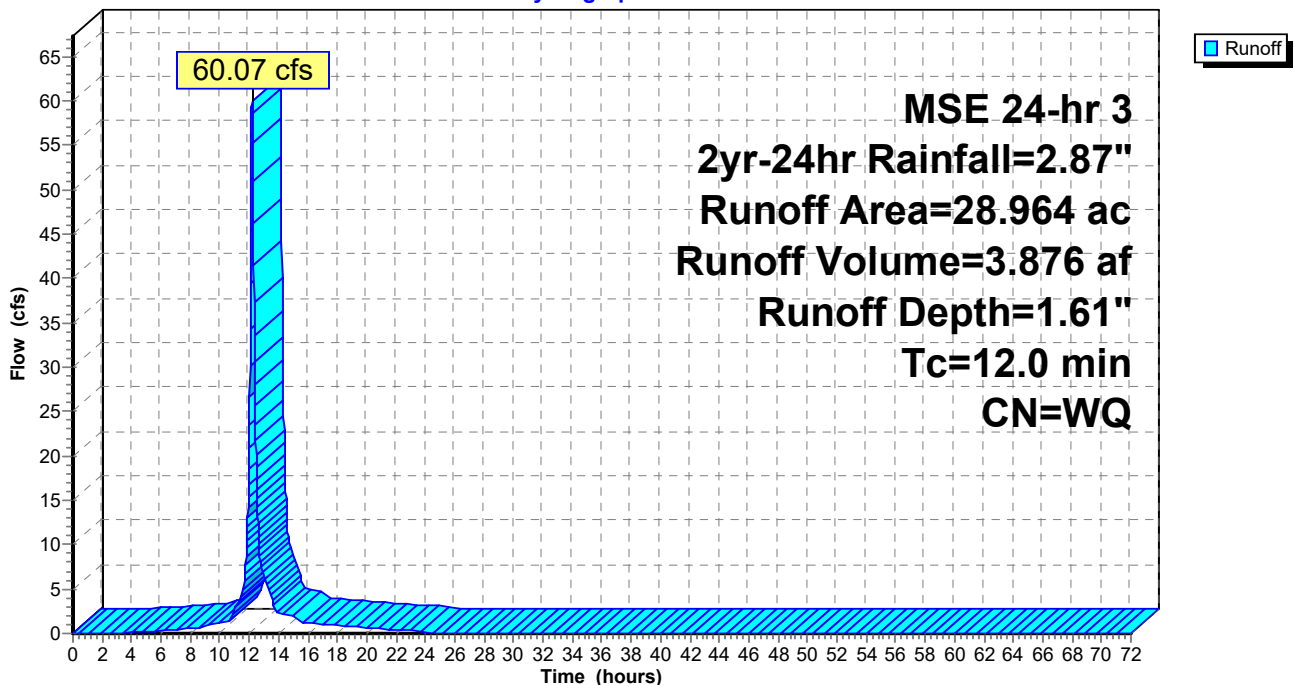
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 9.366	98	Impervious
2.568	39	>75% Grass cover, Good, HSG A
7.861	74	>75% Grass cover, Good, HSG C
4.450	74	>75% Grass cover, Good, HSG C
* 4.073	98	Pond
0.295	74	>75% Grass cover, Good, HSG C
* 0.080	98	Impervious
0.169	74	>75% Grass cover, Good, HSG C
* 0.102	98	Impervious
28.964		Weighted Average
15.343		52.97% Pervious Area
13.621		47.03% Impervious Area

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

Subcatchment 5S: 5S

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Summary for Subcatchment 5S_100: 5S_100

Runoff = 0.62 cfs @ 12.20 hrs, Volume= 0.040 af, Depth= 1.66"

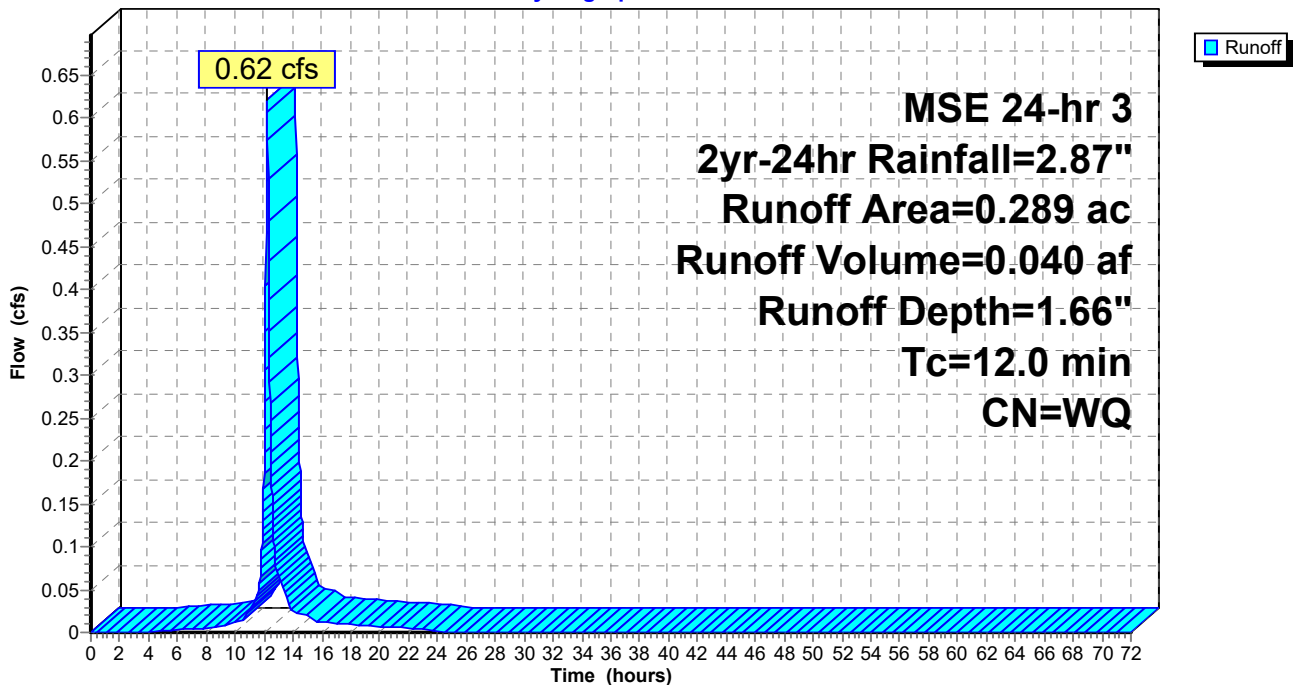
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.078	98	Impervious
0.156	74	>75% Grass cover, Good, HSG C
* 0.055	98	Impervious
0.289		Weighted Average
0.156		53.98% Pervious Area
0.133		46.02% Impervious Area

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

Subcatchment 5S_100: 5S_100

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Summary for Subcatchment 10S: I14_100

Runoff = 0.48 cfs @ 12.21 hrs, Volume= 0.030 af, Depth= 0.95"

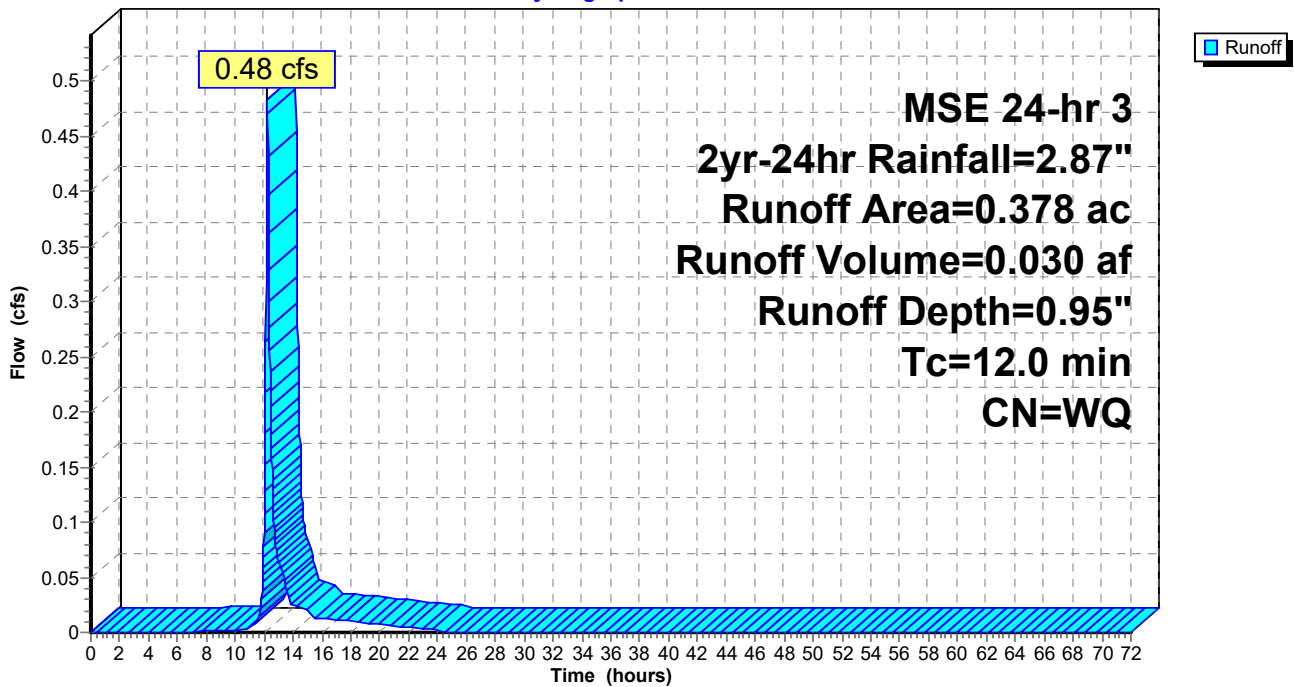
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.261	74	>75% Grass cover, Good, HSG C
* 0.026	98	impervious
0.091	74	>75% Grass cover, Good, HSG C
0.378		Weighted Average
0.352		93.12% Pervious Area
0.026		6.88% Impervious Area

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

Subcatchment 10S: I14_100

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment 1000: 1000

Runoff = 0.07 cfs @ 12.20 hrs, Volume= 0.005 af, Depth= 1.49"

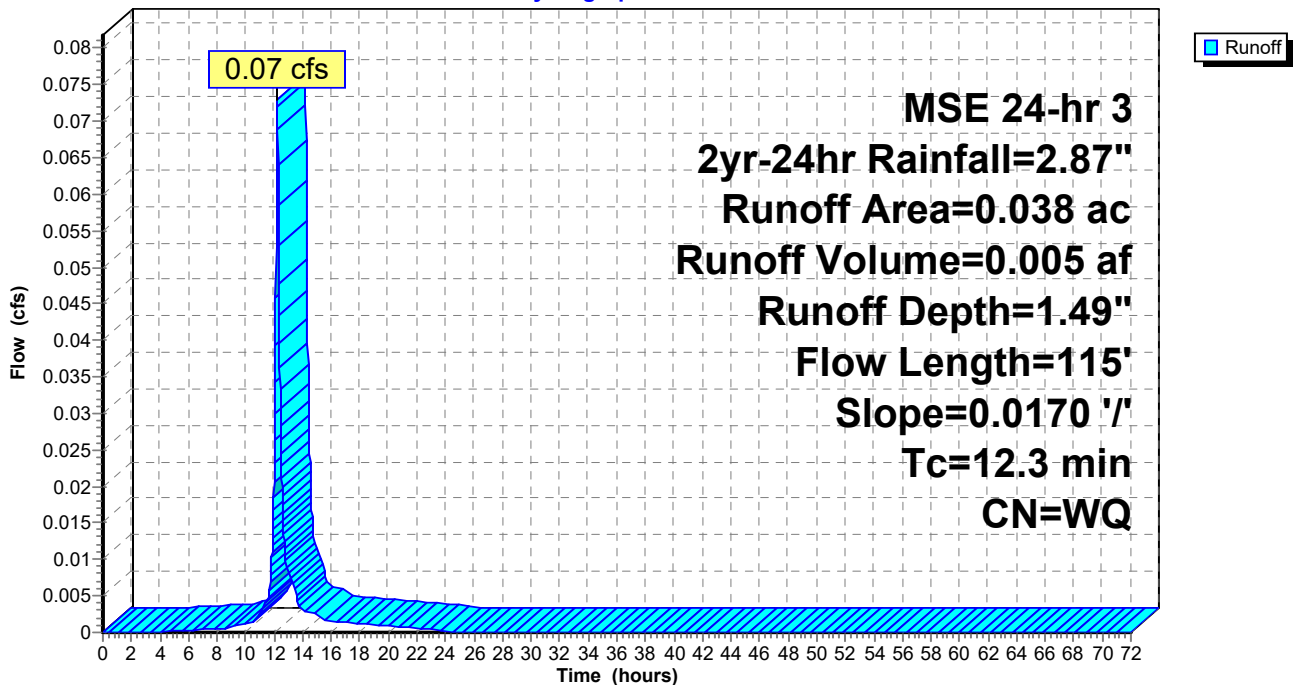
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.014	98	Impervious
0.024	74	>75% Grass cover, Good, HSG C
0.038		Weighted Average
0.024		63.16% Pervious Area
0.014		36.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	115	0.0170	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment 1000: 1000

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A10: A10

Runoff = 1.55 cfs @ 12.20 hrs, Volume= 0.099 af, Depth= 1.43"

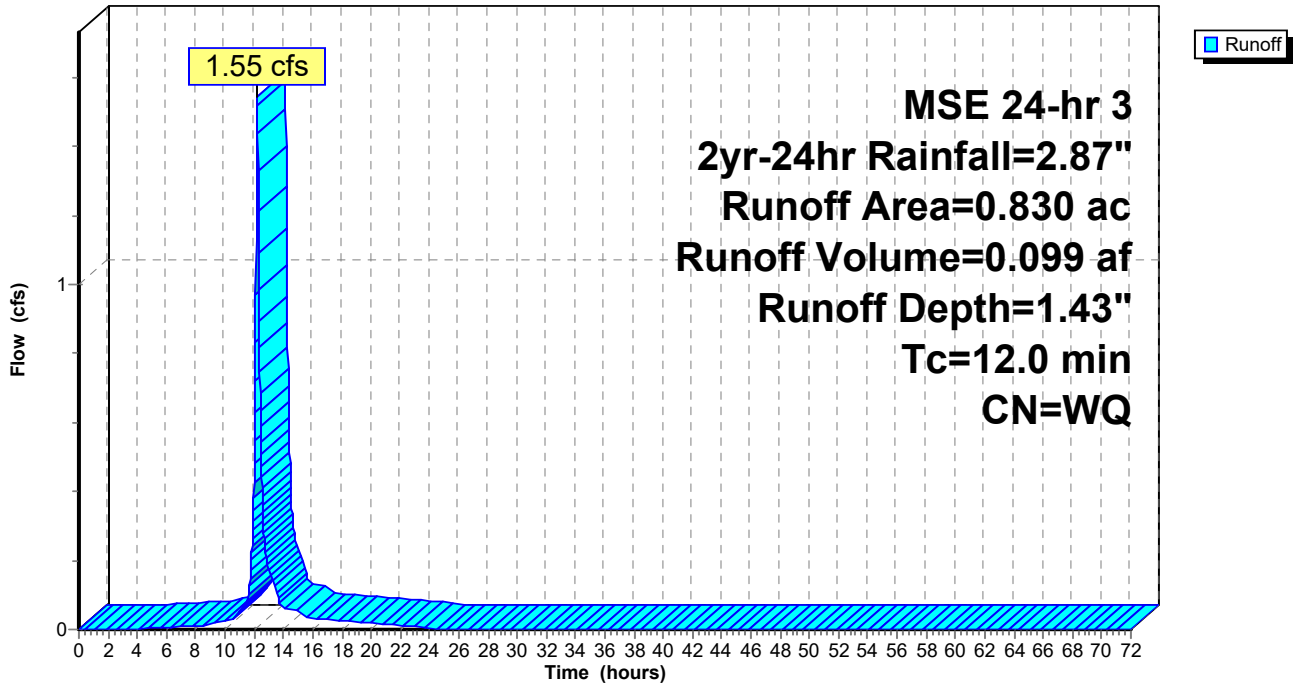
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.109	98	Impervious
0.531	74	>75% Grass cover, Good, HSG C
* 0.057	98	Impervious
* 0.110	98	Impervious
0.023	74	>75% Grass cover, Good, HSG C
0.830		Weighted Average
0.554		66.75% Pervious Area
0.276		33.25% Impervious Area

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

Subcatchment A10: A10

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A10_100: A10_100

Runoff = 0.11 cfs @ 12.19 hrs, Volume= 0.007 af, Depth= 2.64"

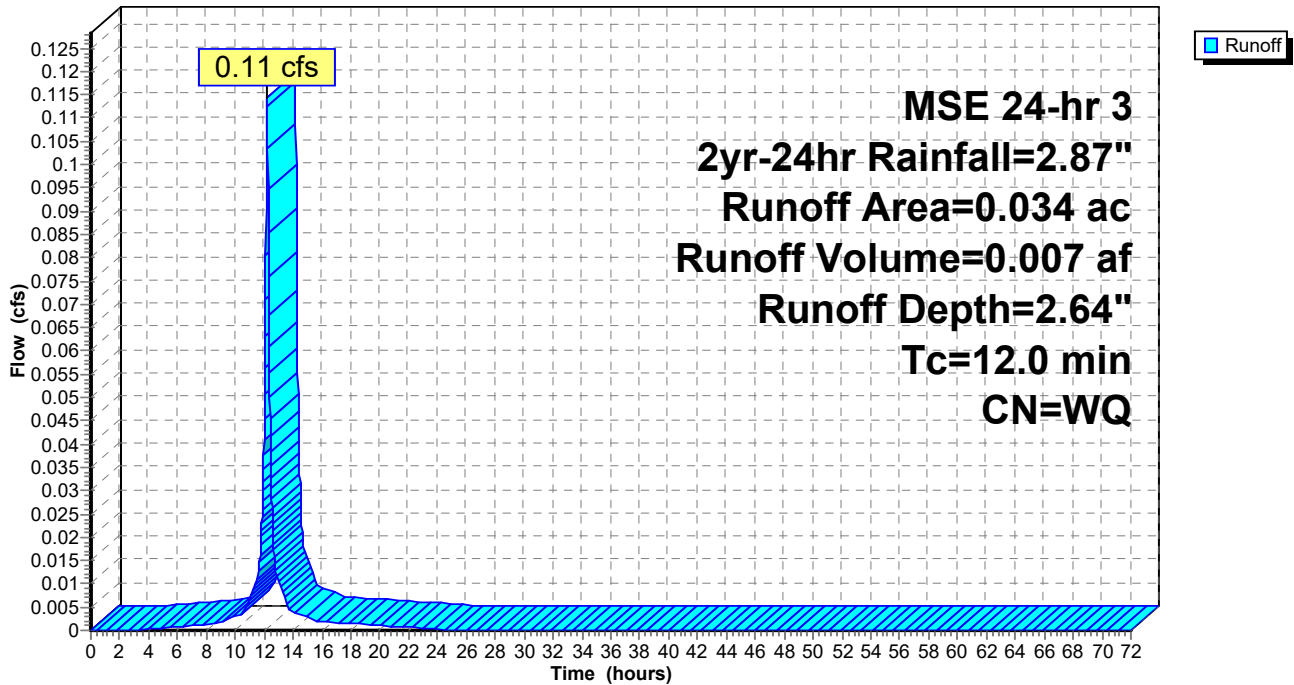
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.024	98	Impervious
* 0.010	98	Impervious
0.034		Weighted Average
0.034		100.00% Impervious Area

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

Subcatchment A10_100: A10_100

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A15: A15

Runoff = 1.13 cfs @ 12.20 hrs, Volume= 0.071 af, Depth= 1.28"

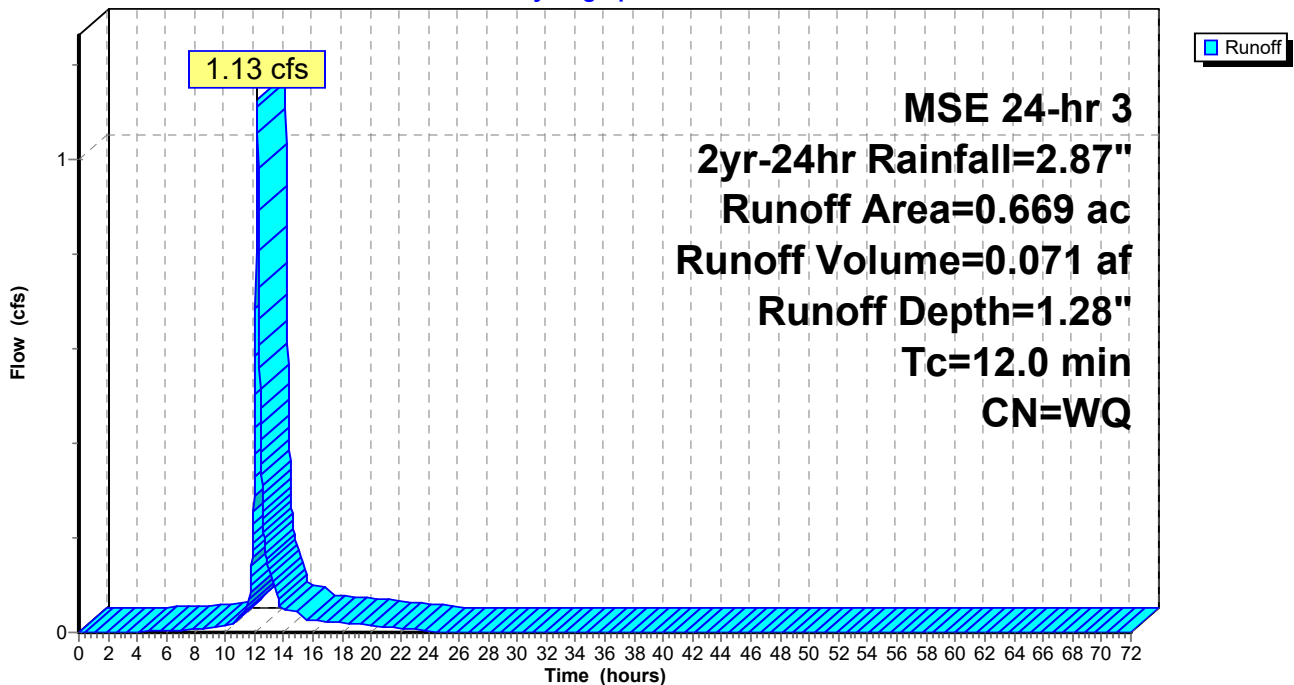
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.119	98	Impervious
0.501	74	>75% Grass cover, Good, HSG C
* 0.049	98	Impervious
0.669		Weighted Average
0.501		74.89% Pervious Area
0.168		25.11% Impervious Area

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

Subcatchment A15: A15

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A15_100: A15_100

Runoff = 0.09 cfs @ 12.19 hrs, Volume= 0.006 af, Depth= 2.64"

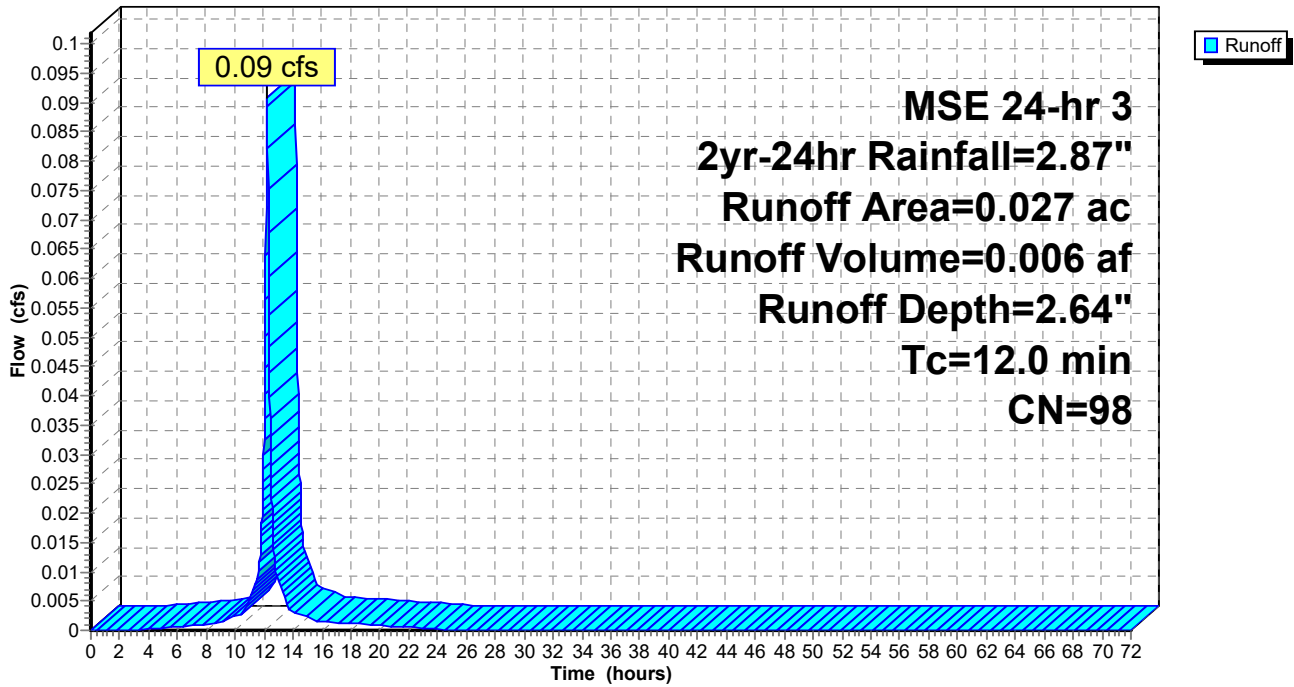
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.027	98	Impervious
0.027		100.00% Impervious Area

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

Subcatchment A15_100: A15_100

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A8: A8

Runoff = 0.13 cfs @ 12.21 hrs, Volume= 0.008 af, Depth= 1.02"

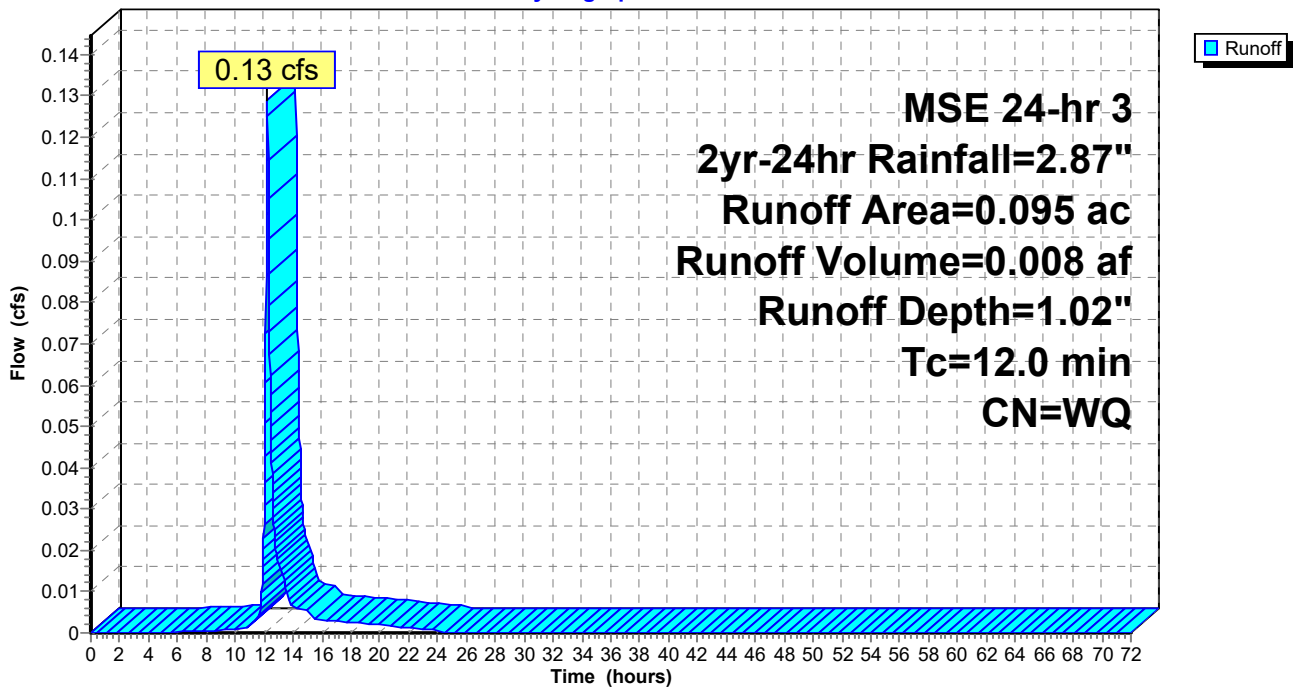
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.010	98	Impervious
0.085	74	>75% Grass cover, Good, HSG C
0.095		Weighted Average
0.085		89.47% Pervious Area
0.010		10.53% Impervious Area

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

Subcatchment A8: A8

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment A9: A9

Runoff = 1.08 cfs @ 12.20 hrs, Volume= 0.068 af, Depth= 1.22"

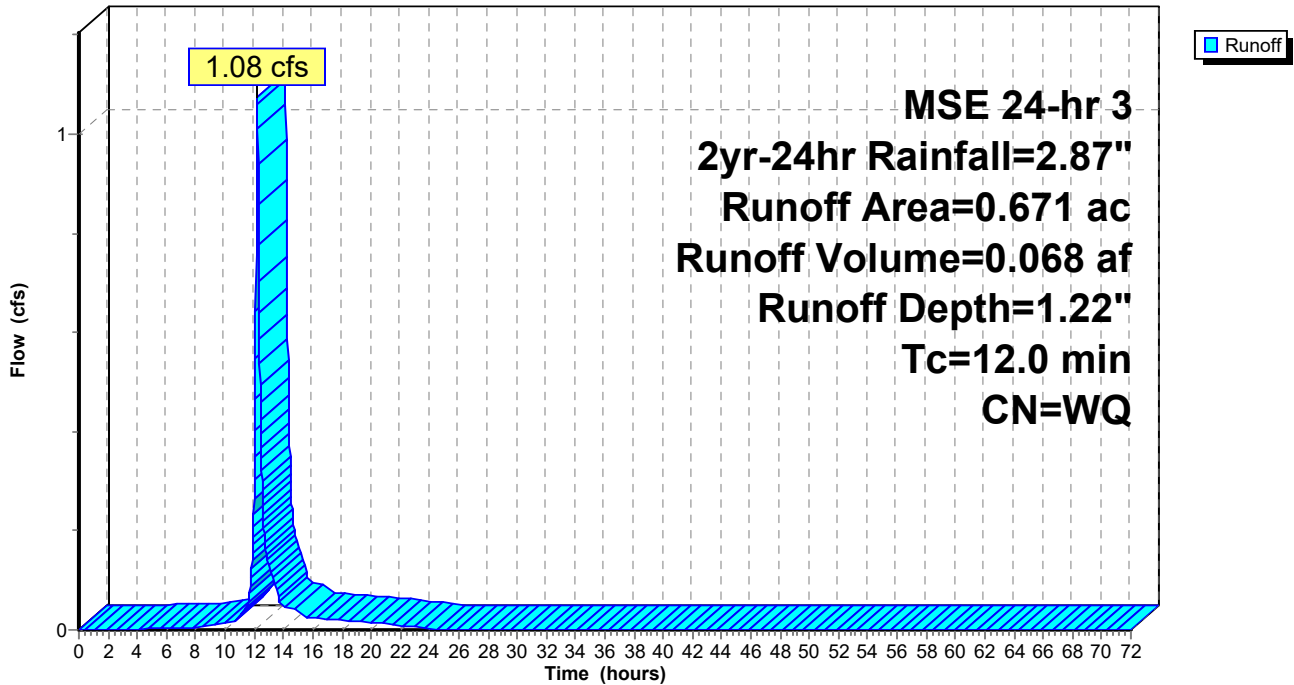
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.145	98	Impervious
0.526	74	>75% Grass cover, Good, HSG C
0.671		Weighted Average
0.526		78.39% Pervious Area
0.145		21.61% Impervious Area

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

Subcatchment A9: A9

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment B5: B5

Runoff = 0.74 cfs @ 12.21 hrs, Volume= 0.047 af, Depth= 1.01"

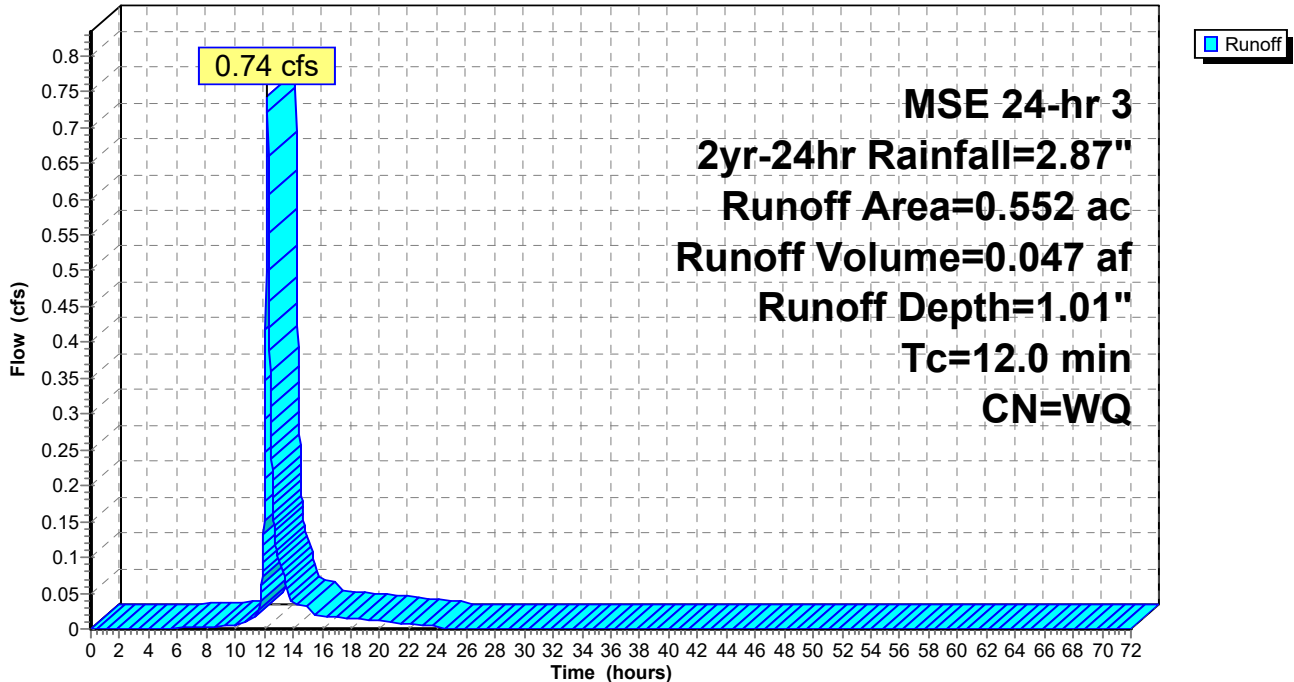
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.040	98	Impervious
0.337	74	>75% Grass cover, Good, HSG C
0.154	73	Woods, Fair, HSG C
* 0.021	98	Impervious
0.552		Weighted Average
0.491		88.95% Pervious Area
0.061		11.05% Impervious Area

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

Subcatchment B5: B5

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment B6: B6

Runoff = 2.10 cfs @ 12.21 hrs, Volume= 0.131 af, Depth= 1.05"

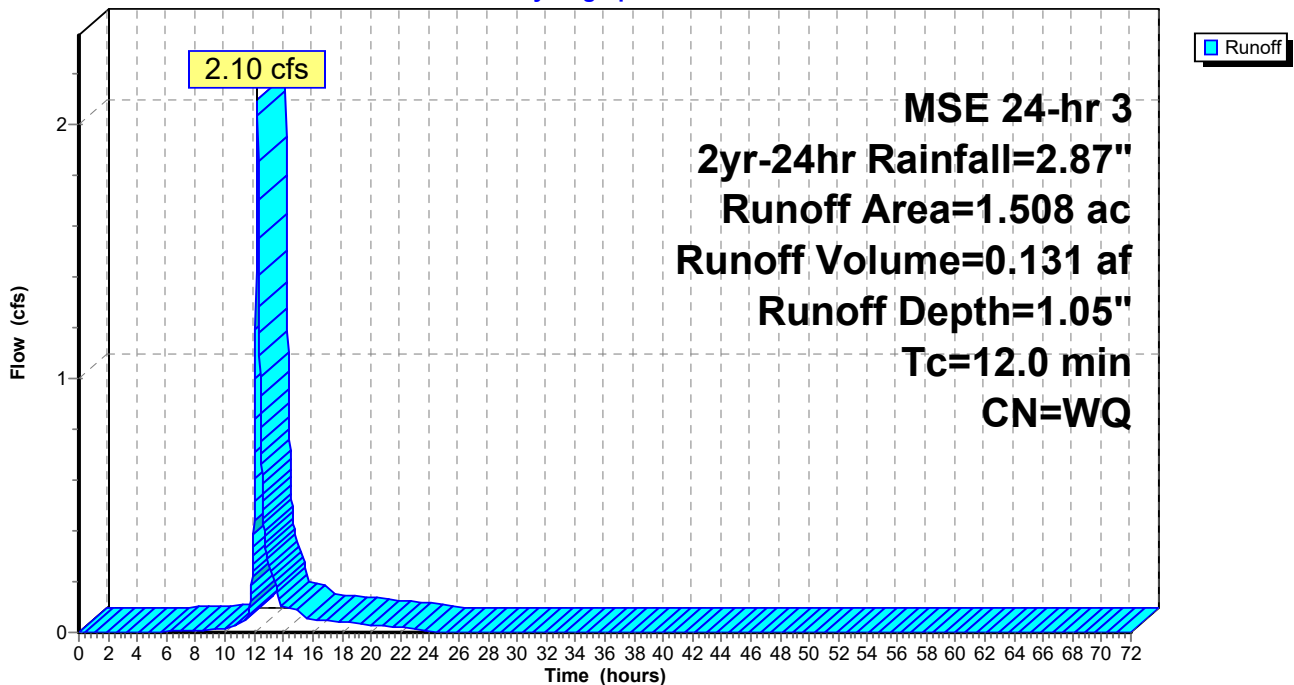
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.140	98	Impervious
1.326	74	>75% Grass cover, Good, HSG C
* 0.042	98	Impervious
1.508		Weighted Average
1.326		87.93% Pervious Area
0.182		12.07% Impervious Area

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

Subcatchment B6: B6

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment B7: B7

Runoff = 1.17 cfs @ 12.20 hrs, Volume= 0.074 af, Depth= 1.13"

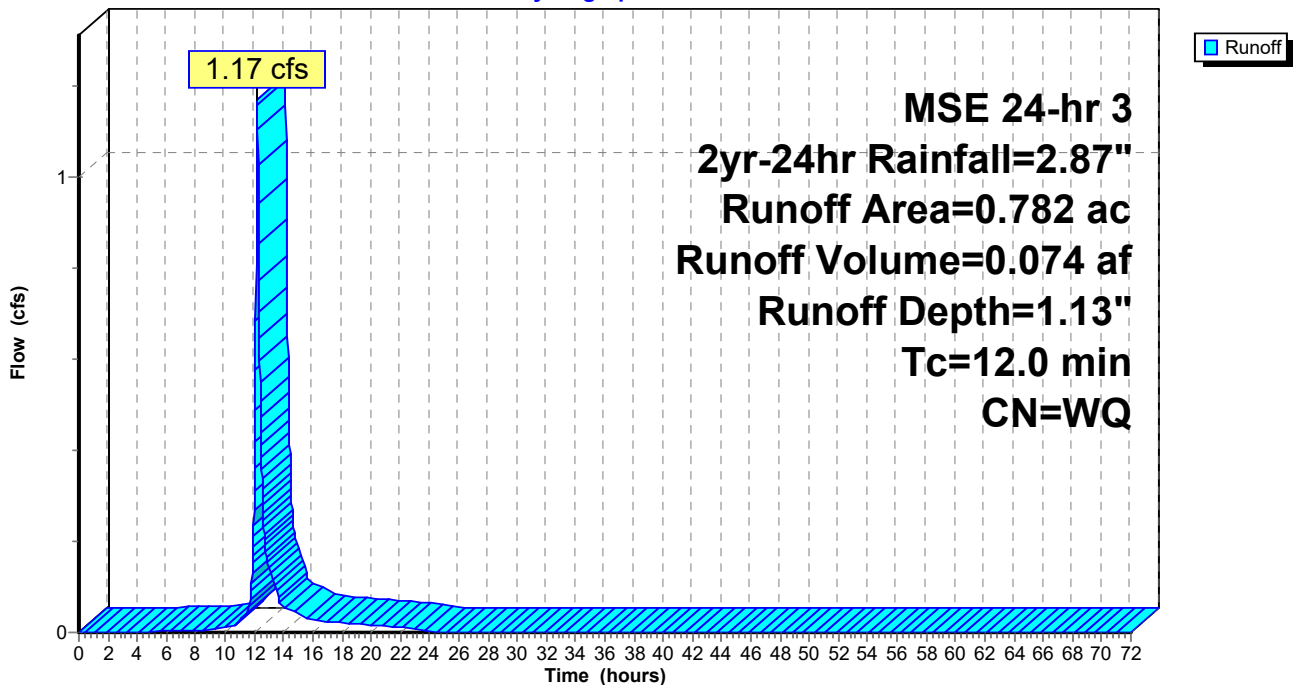
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.651	74	>75% Grass cover, Good, HSG C
* 0.080	98	Pond
* 0.051	98	Impervious
0.782		Weighted Average
0.651		83.25% Pervious Area
0.131		16.75% Impervious Area

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

Subcatchment B7: B7

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment B7_100: B7_100

Runoff = 0.38 cfs @ 12.20 hrs, Volume= 0.024 af, Depth= 1.37"

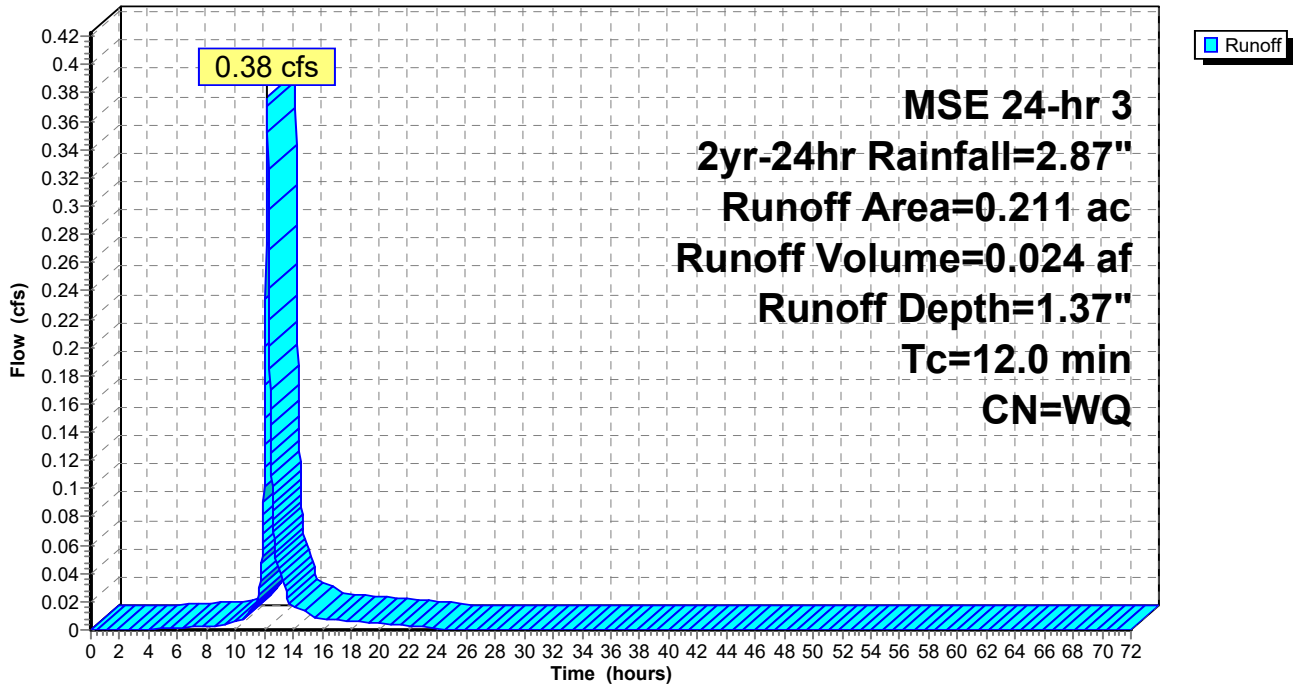
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.148	74	>75% Grass cover, Good, HSG C
* 0.063	98	Impervious
0.211		Weighted Average
0.148		70.14% Pervious Area
0.063		29.86% Impervious Area

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

Subcatchment B7_100: B7_100

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Summary for Subcatchment B8: B8

Runoff = 1.40 cfs @ 12.21 hrs, Volume= 0.087 af, Depth= 0.94"

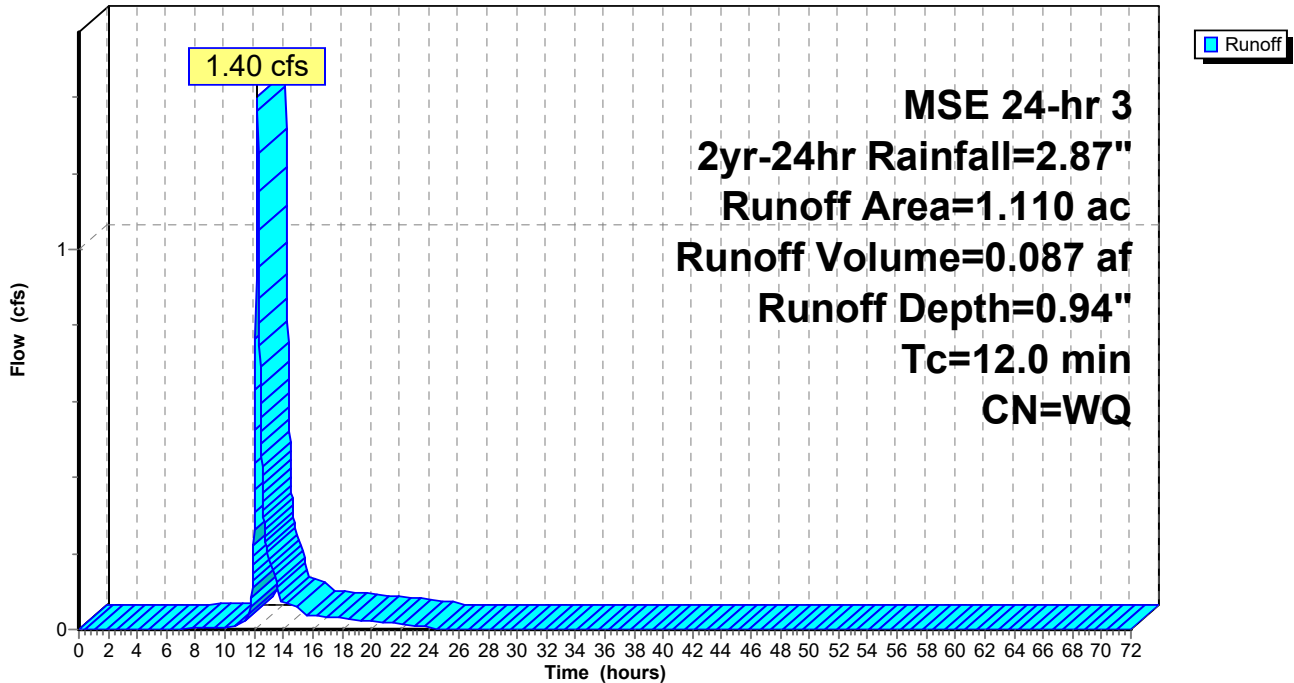
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.127	74	>75% Grass cover, Good, HSG C
0.647	74	>75% Grass cover, Good, HSG C
* 0.074	98	Impervious
0.165	73	Woods, Fair, HSG C
0.097	74	>75% Grass cover, Good, HSG C
1.110		Weighted Average
1.036		93.33% Pervious Area
0.074		6.67% Impervious Area

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

Subcatchment B8: B8

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment B8_100: B8_100

Runoff = 0.09 cfs @ 12.19 hrs, Volume= 0.006 af, Depth= 2.46"

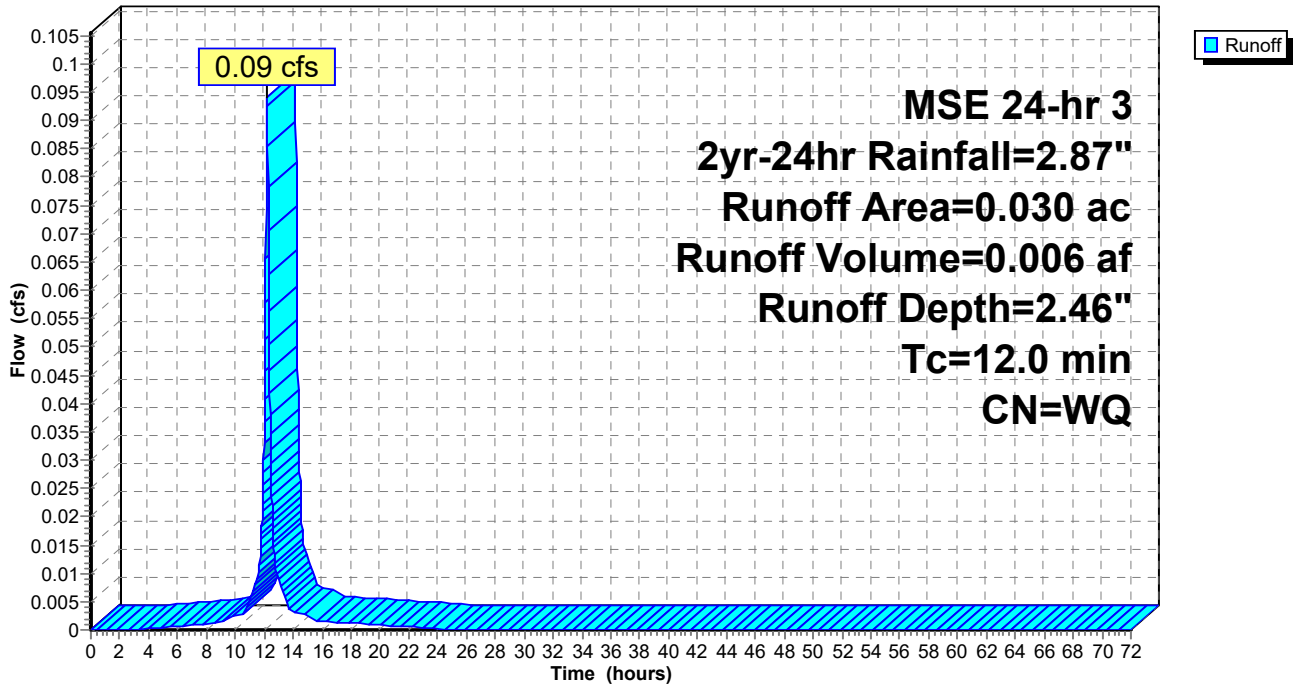
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.003	74	>75% Grass cover, Good, HSG C
* 0.027	98	Impervious
0.030		Weighted Average
0.003		10.00% Pervious Area
0.027		90.00% Impervious Area

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

Subcatchment B8_100: B8_100

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment C10: C10

Runoff = 2.07 cfs @ 12.21 hrs, Volume= 0.129 af, Depth= 1.02"

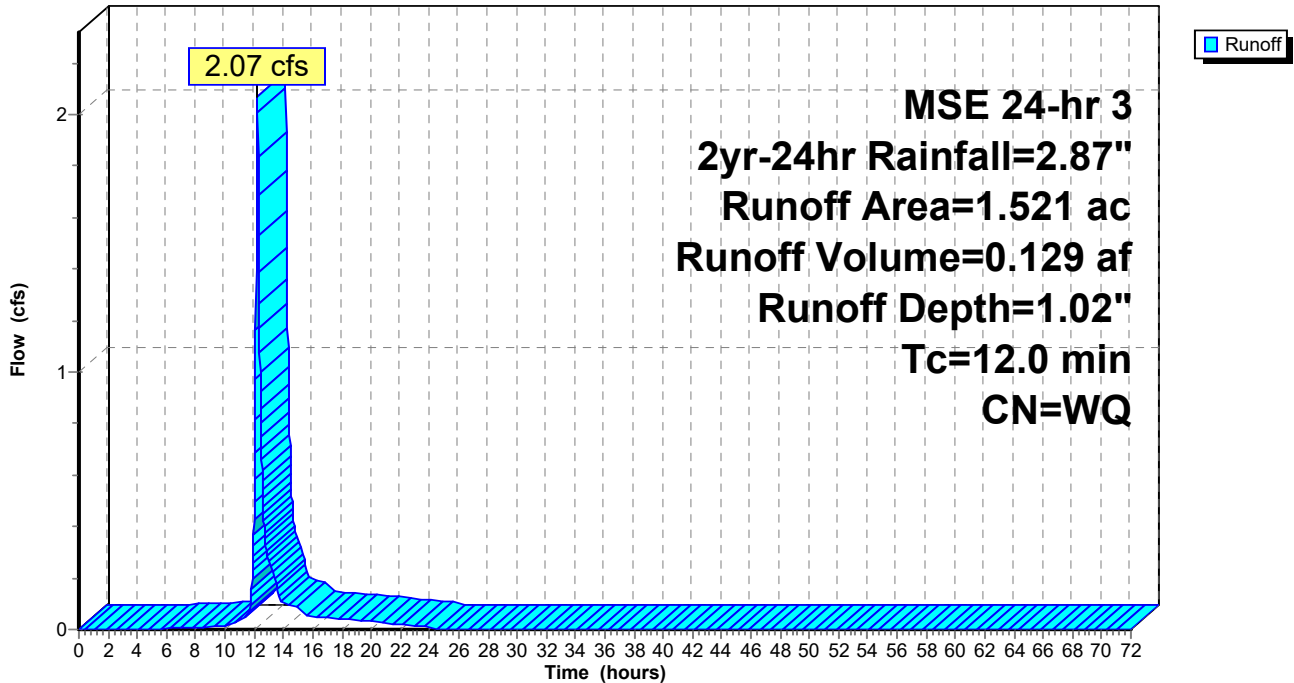
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.036	98	Impervious
1.278	74	>75% Grass cover, Good, HSG C
0.080	74	>75% Grass cover, Good, HSG C
* 0.078	98	Impervious
* 0.049	98	Impervious
1.521		Weighted Average
1.358		89.28% Pervious Area
0.163		10.72% Impervious Area

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

Subcatchment C10: C10

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment C10_100: C10_100

Runoff = 1.34 cfs @ 12.20 hrs, Volume= 0.087 af, Depth= 1.91"

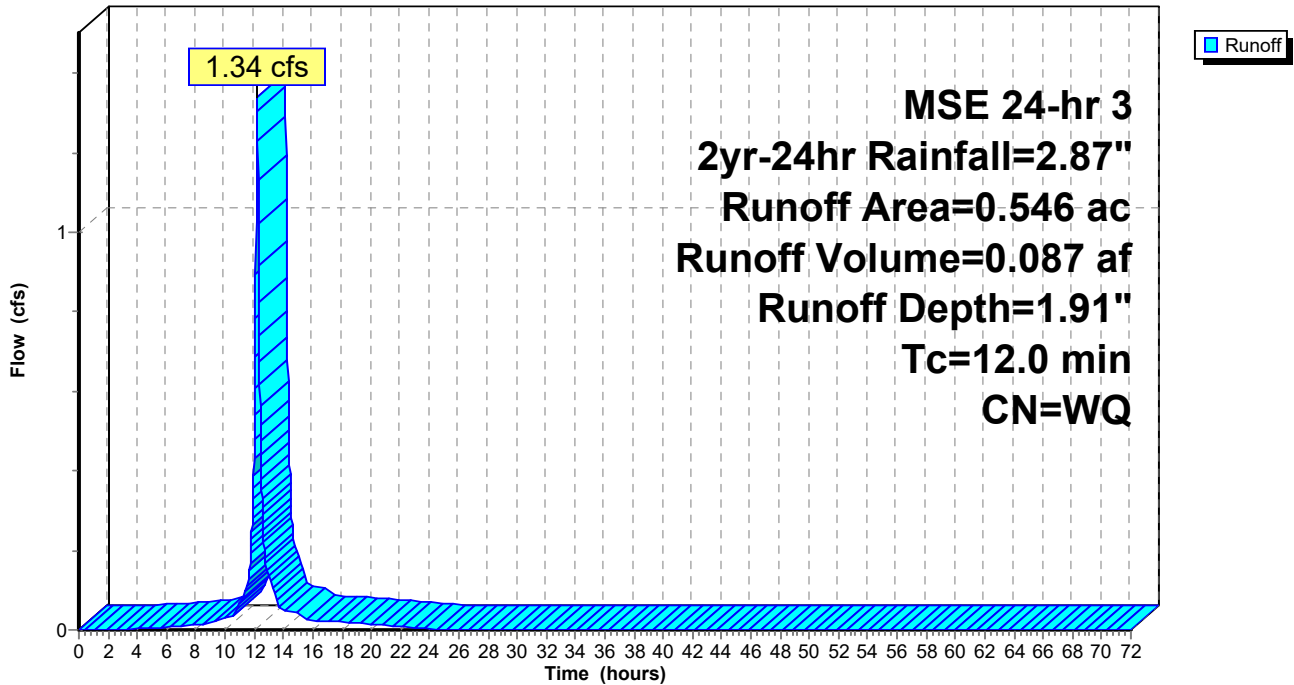
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.220	74	>75% Grass cover, Good, HSG C
* 0.326	98	Impervious
0.546		Weighted Average
0.220		40.29% Pervious Area
0.326		59.71% Impervious Area

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

Subcatchment C10_100: C10_100

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment C7: C7

Runoff = 2.06 cfs @ 12.21 hrs, Volume= 0.129 af, Depth= 1.07"

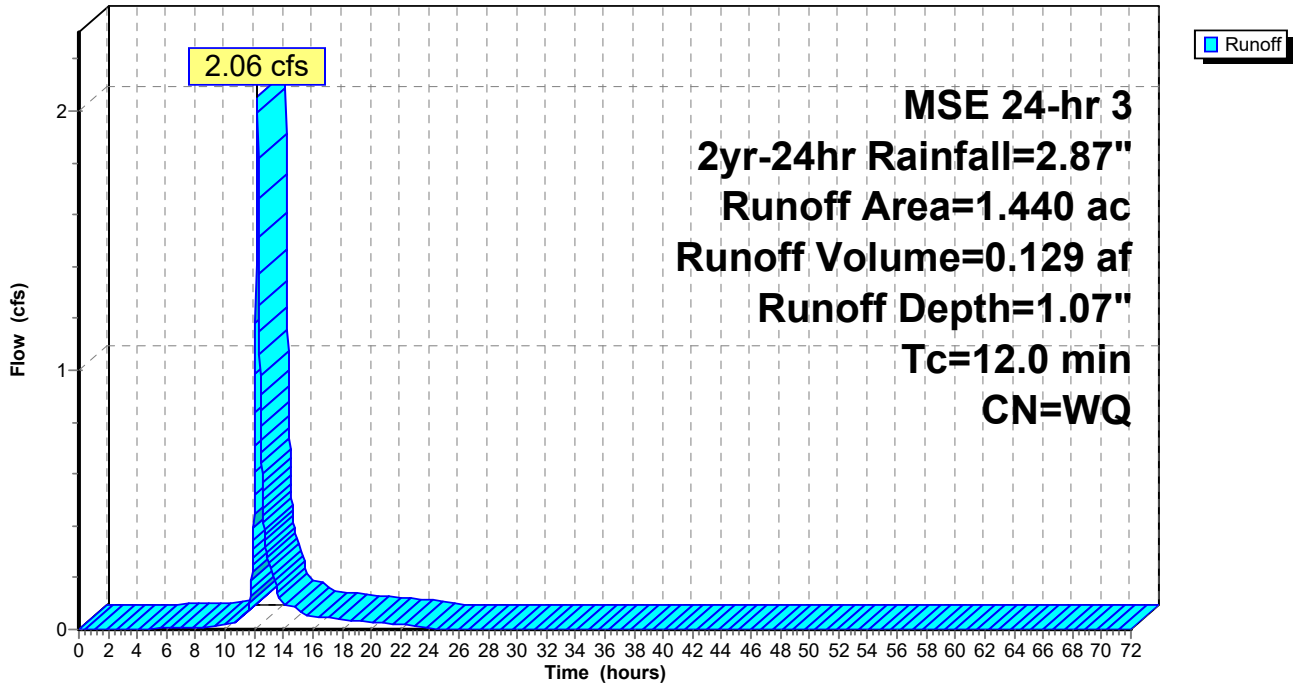
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.018	98	Impervious
1.011	74	>75% Grass cover, Good, HSG C
0.233	74	>75% Grass cover, Good, HSG C
* 0.128	98	Impervious
* 0.050	98	Impervious
1.440		Weighted Average
1.244		86.39% Pervious Area
0.196		13.61% Impervious Area

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

Subcatchment C7: C7

Hydrograph



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Summary for Subcatchment C7_100: C7_100

Runoff = 0.63 cfs @ 12.22 hrs, Volume= 0.044 af, Depth= 1.96"

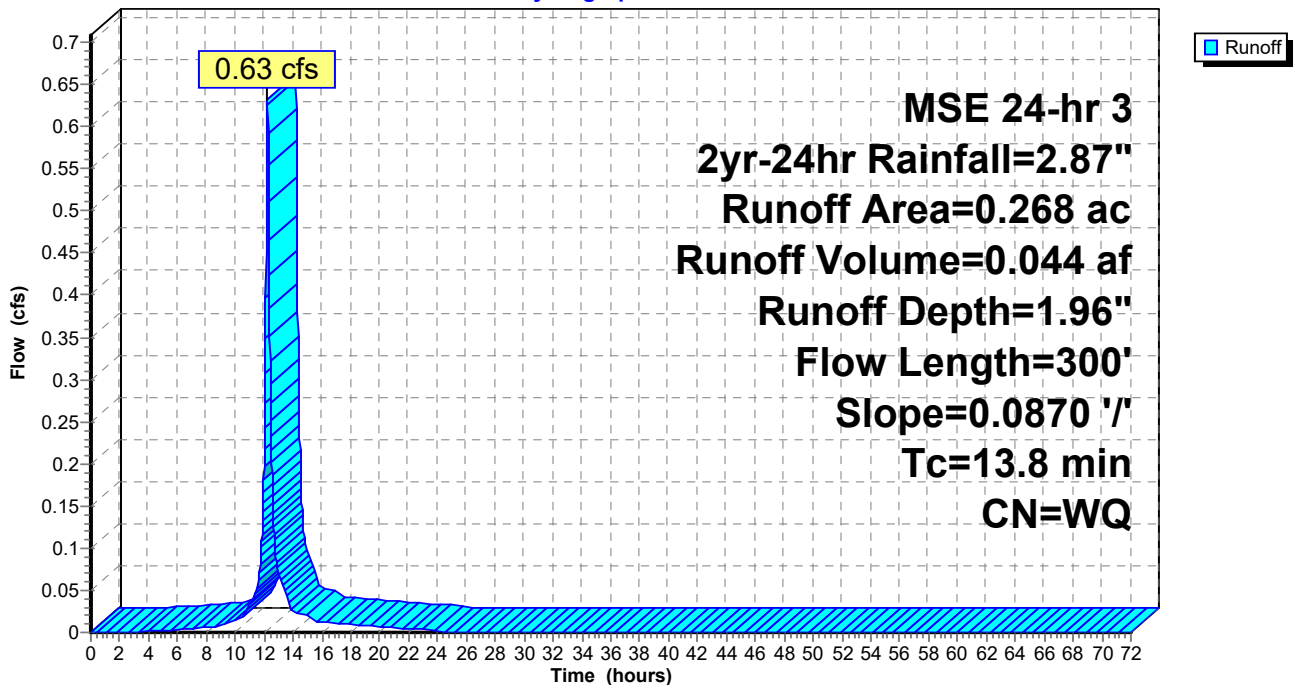
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.101	74	>75% Grass cover, Good, HSG C
* 0.167	98	Impervious
0.268		Weighted Average
0.101		37.69% Pervious Area
0.167		62.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	300	0.0870	0.36		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment C7_100: C7_100

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment C8: C8

Runoff = 2.06 cfs @ 12.21 hrs, Volume= 0.129 af, Depth= 1.06"

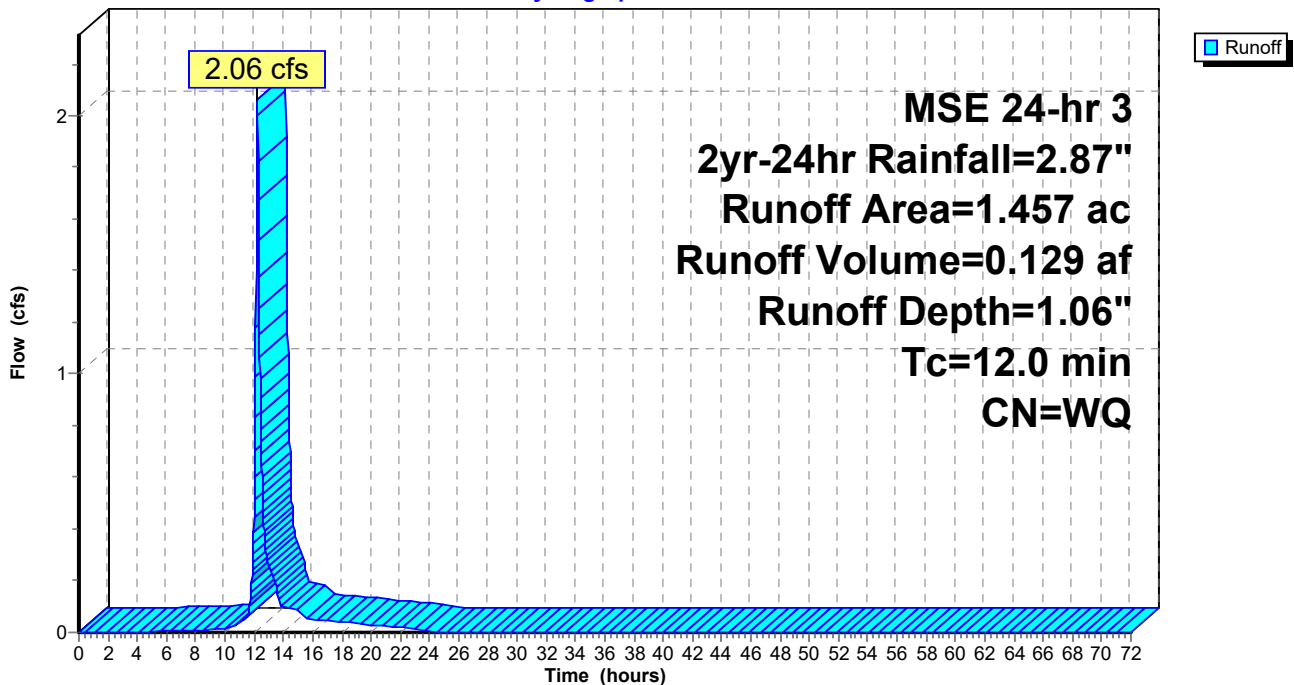
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.138	98	Impervious
1.267	74	>75% Grass cover, Good, HSG C
* 0.052	98	Impervious
1.457		Weighted Average
1.267		86.96% Pervious Area
0.190		13.04% Impervious Area

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

Subcatchment C8: C8

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment C8_100: C8_100

Runoff = 1.11 cfs @ 12.22 hrs, Volume= 0.077 af, Depth= 1.96"

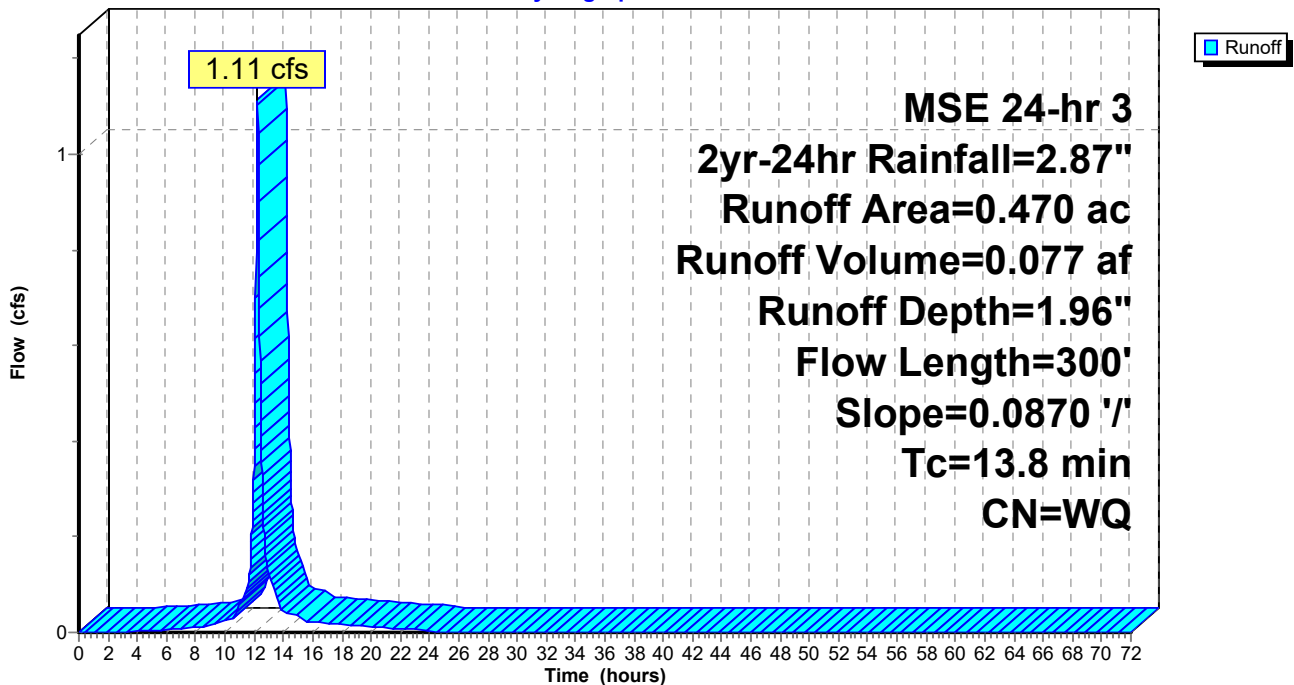
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.175	74	>75% Grass cover, Good, HSG C
* 0.295	98	Impervious
0.470		Weighted Average
0.175		37.23% Pervious Area
0.295		62.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	300	0.0870	0.36		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment C8_100: C8_100

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment C9: C9

Runoff = 2.41 cfs @ 12.21 hrs, Volume= 0.151 af, Depth= 1.03"

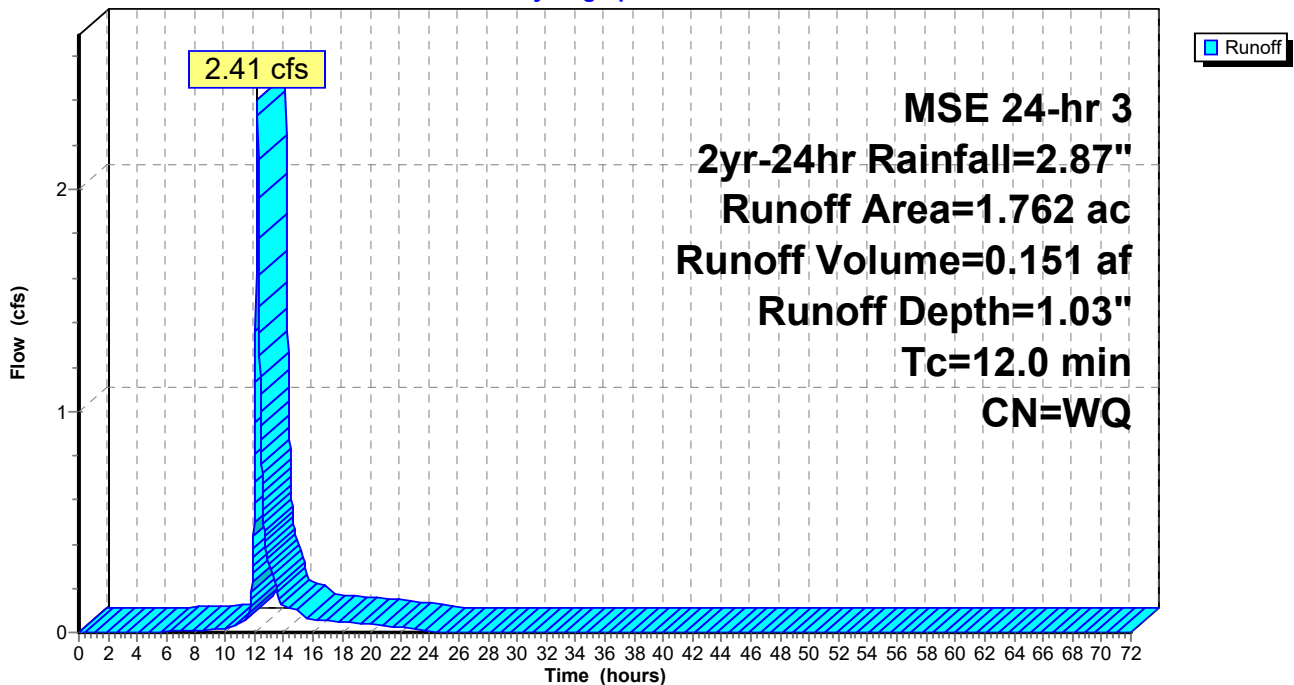
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.132	98	Impervious
1.569	74	>75% Grass cover, Good, HSG C
* 0.061	98	Impervious
1.762		Weighted Average
1.569		89.05% Pervious Area
0.193		10.95% Impervious Area

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

Subcatchment C9: C9

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment C9_100: C9_100

Runoff = 0.78 cfs @ 12.20 hrs, Volume= 0.050 af, Depth= 2.01"

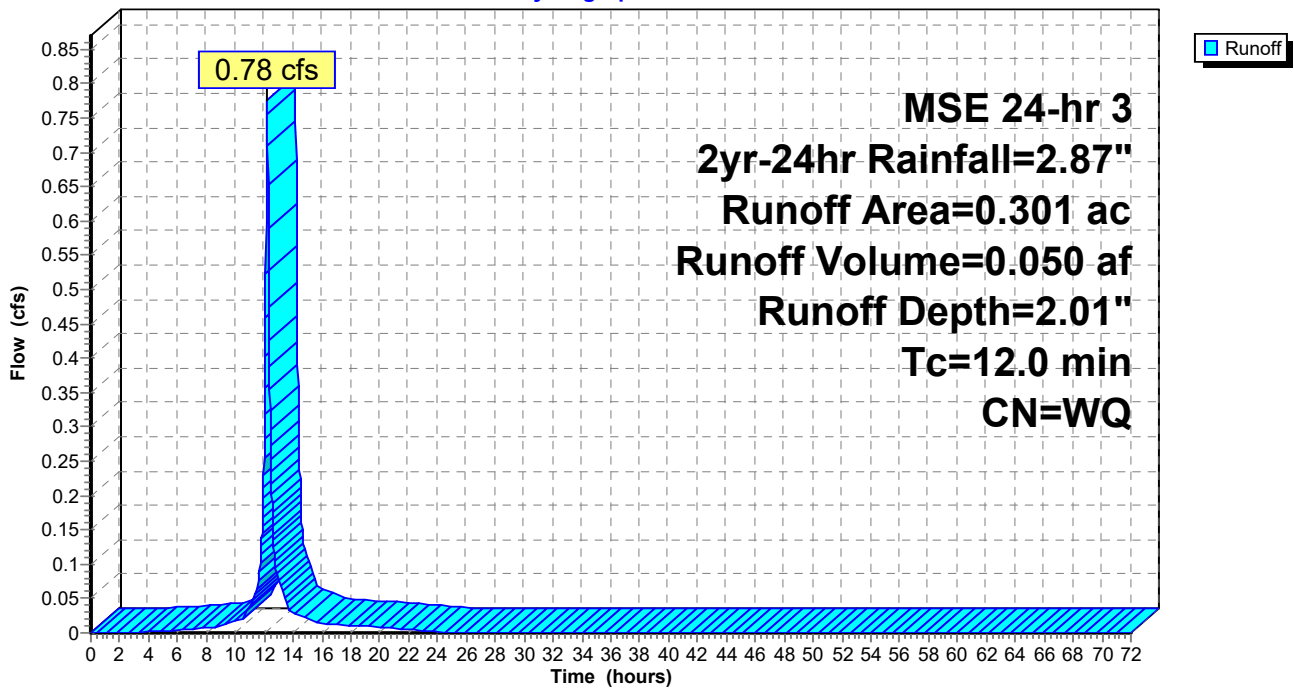
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.105	74	>75% Grass cover, Good, HSG C
* 0.196	98	Impervious
0.301		Weighted Average
0.105		34.88% Pervious Area
0.196		65.12% Impervious Area

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

Subcatchment C9_100: C9_100

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment D6: D6

Runoff = 0.45 cfs @ 12.21 hrs, Volume= 0.028 af, Depth= 0.89"

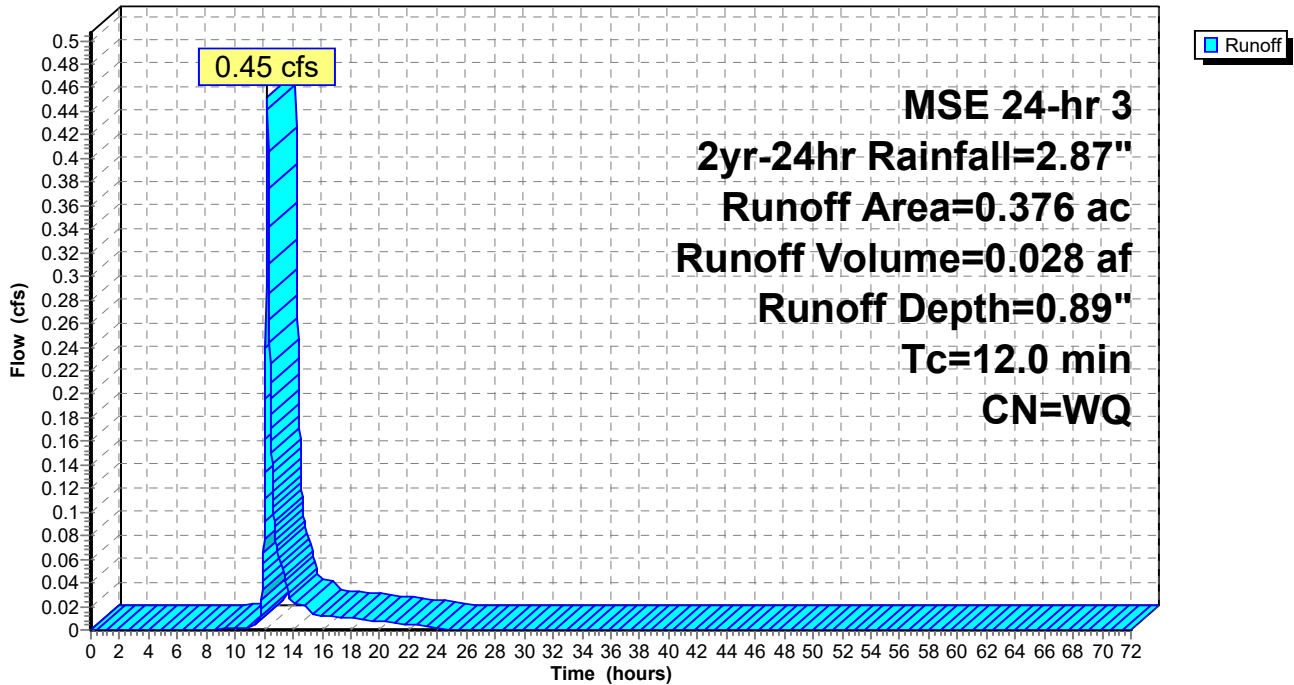
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.013	98	Impervious
0.363	74	>75% Grass cover, Good, HSG C
0.376		Weighted Average
0.363		96.54% Pervious Area
0.013		3.46% Impervious Area

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

Subcatchment D6: D6

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment D7: D7

Runoff = 0.71 cfs @ 12.21 hrs, Volume= 0.044 af, Depth= 1.04"

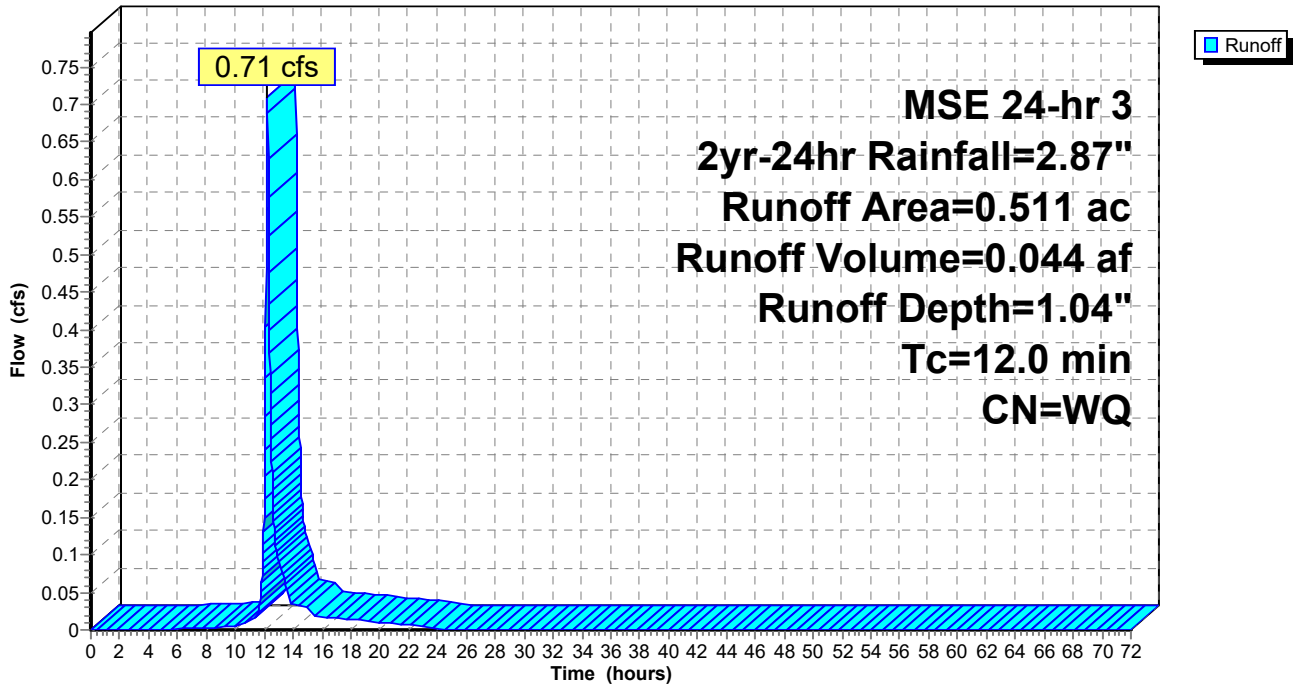
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.061	98	Impervious
0.450	74	>75% Grass cover, Good, HSG C
0.511		Weighted Average
0.450		88.06% Pervious Area
0.061		11.94% Impervious Area

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

Subcatchment D7: D7

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment D7_100: D7_100

Runoff = 0.18 cfs @ 12.20 hrs, Volume= 0.012 af, Depth= 1.84"

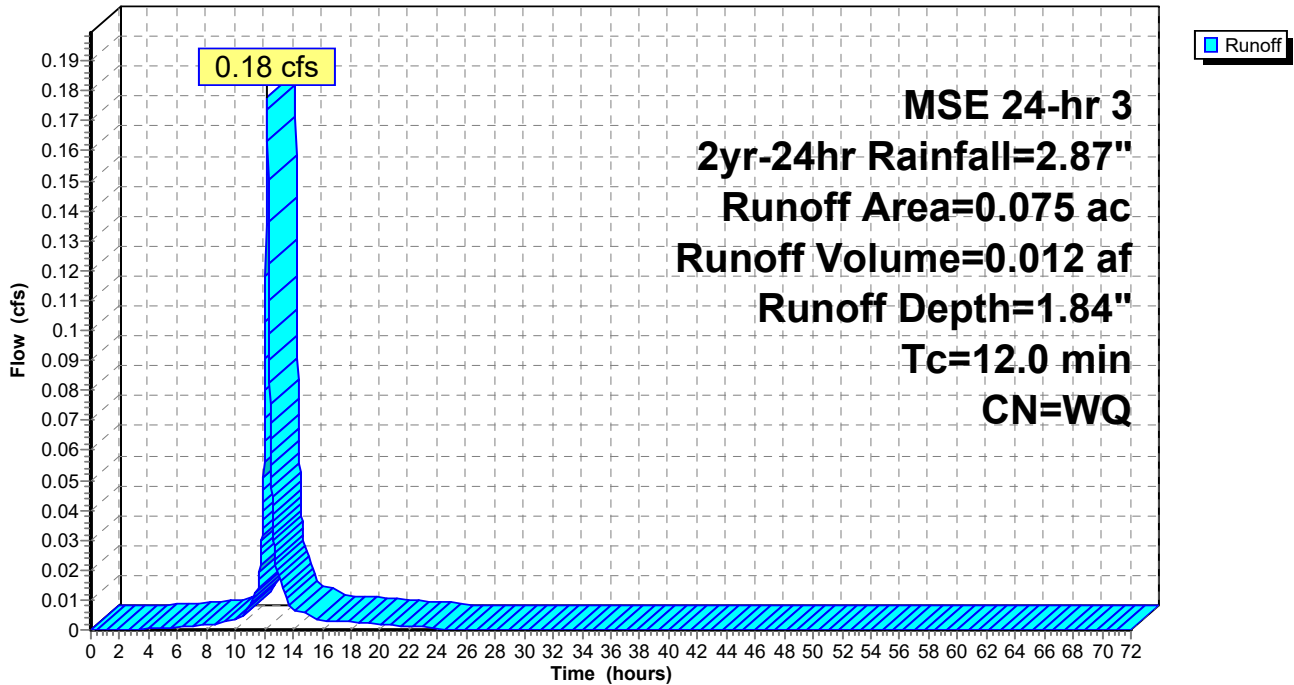
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.033	74	>75% Grass cover, Good, HSG C
* 0.042	98	Impervious
0.075		Weighted Average
0.033		44.00% Pervious Area
0.042		56.00% Impervious Area

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

Subcatchment D7_100: D7_100

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment D8: D8

Runoff = 1.58 cfs @ 12.21 hrs, Volume= 0.098 af, Depth= 0.97"

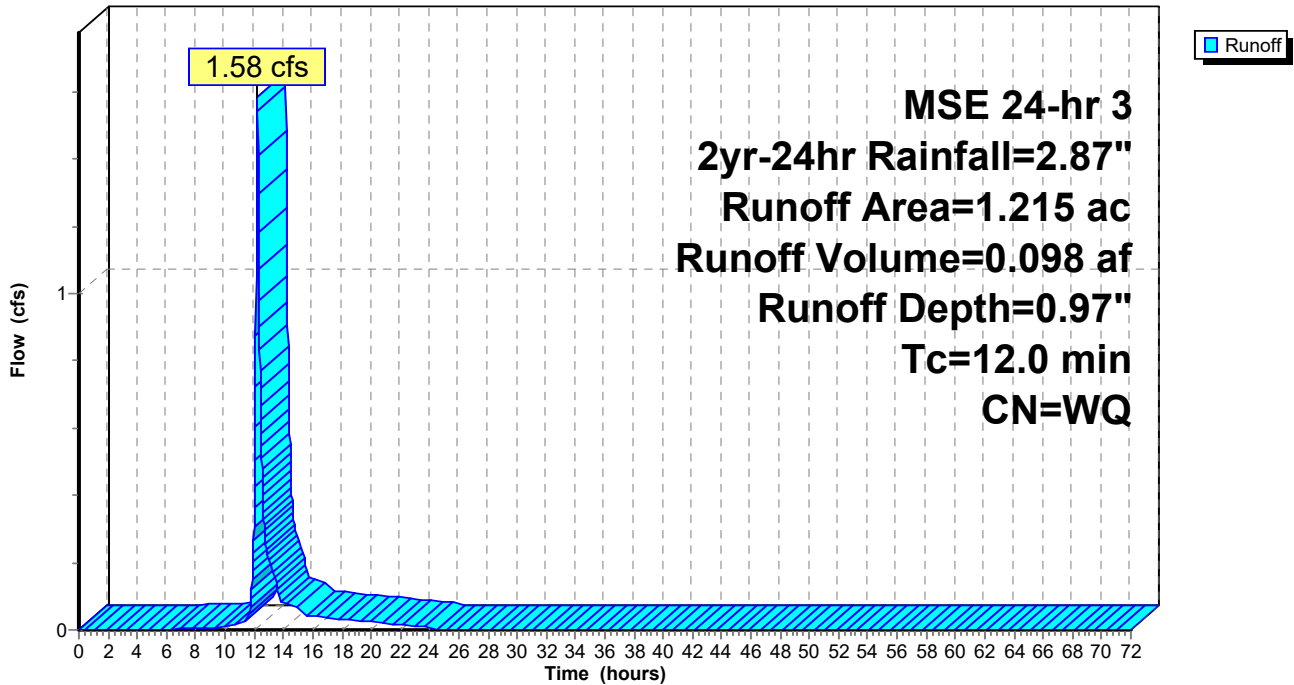
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.097	98	Impervious
1.118	74	>75% Grass cover, Good, HSG C
1.215		Weighted Average
1.118		92.02% Pervious Area
0.097		7.98% Impervious Area

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

Subcatchment D8: D8

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment D9: D9

Runoff = 1.86 cfs @ 12.20 hrs, Volume= 0.117 af, Depth= 1.12"

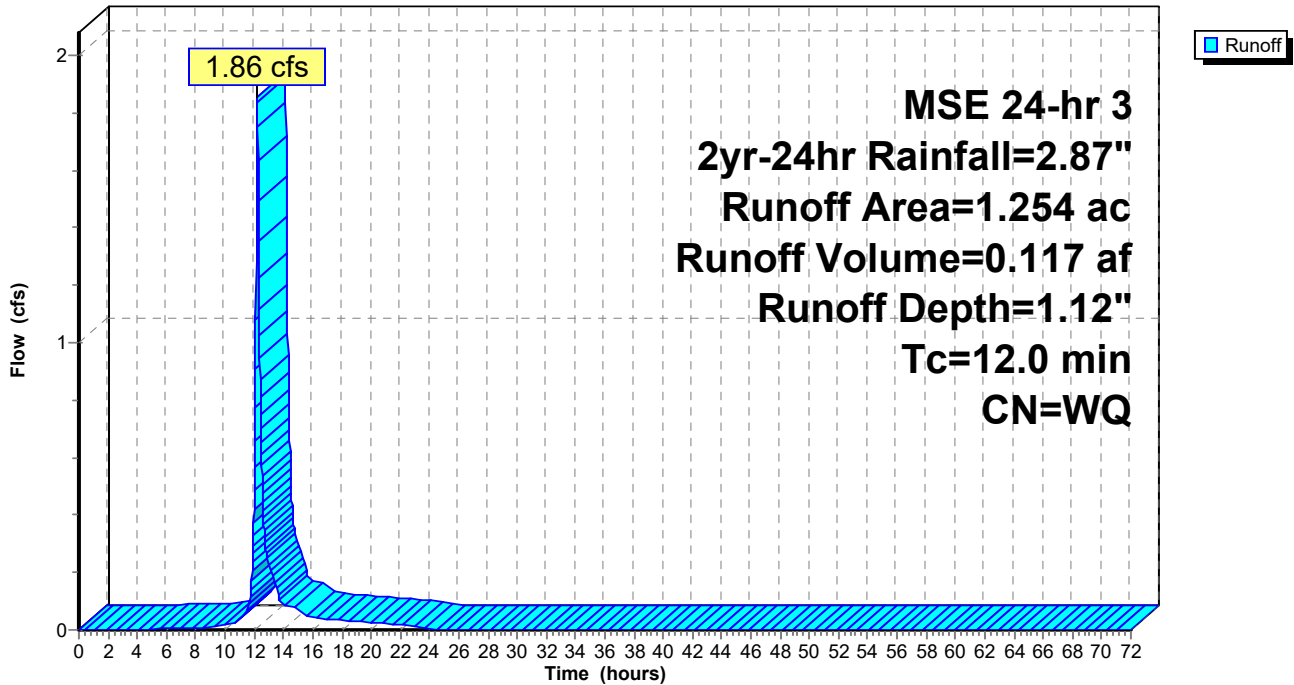
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.202	98	Impervious
1.052	74	>75% Grass cover, Good, HSG C
1.254		Weighted Average
1.052		83.89% Pervious Area
0.202		16.11% Impervious Area

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

Subcatchment D9: D9

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment E13: E13

Runoff = 1.05 cfs @ 12.20 hrs, Volume= 0.067 af, Depth= 1.33"

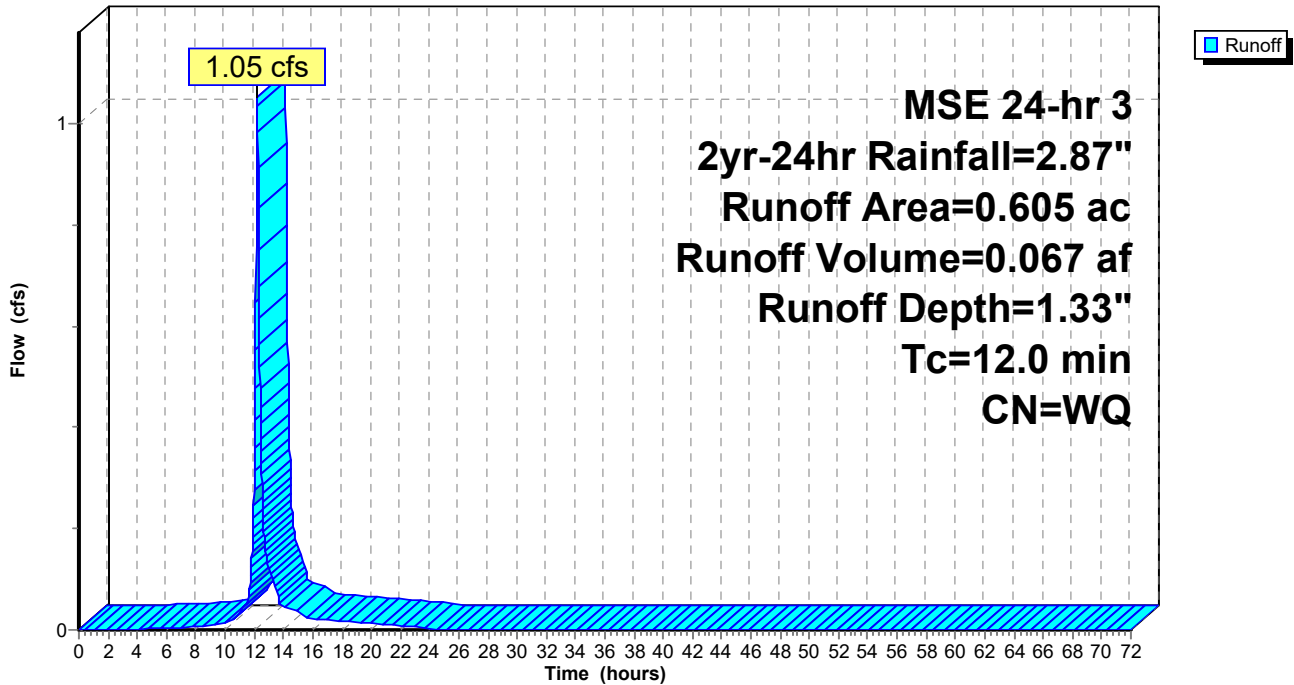
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.168	98	Impervious
0.437	74	>75% Grass cover, Good, HSG C
0.605		Weighted Average
0.437		72.23% Pervious Area
0.168		27.77% Impervious Area

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

Subcatchment E13: E13

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment E15: E15

Runoff = 3.32 cfs @ 12.20 hrs, Volume= 0.211 af, Depth= 1.31"

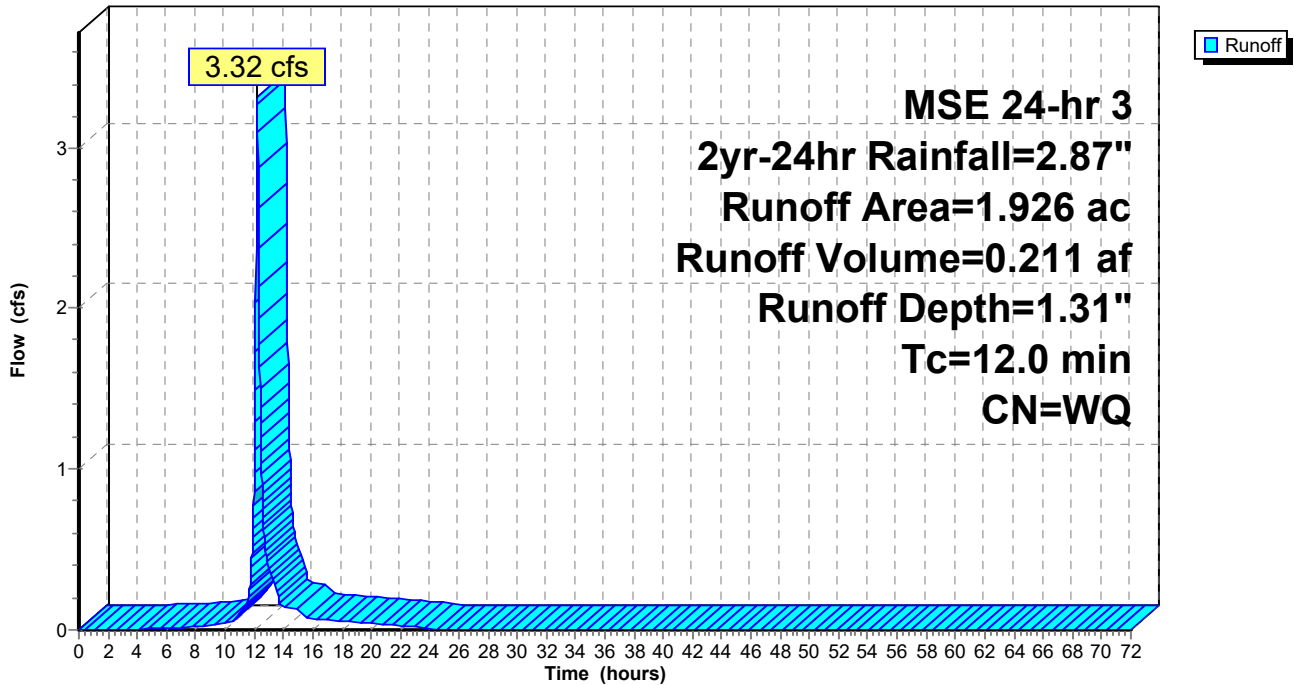
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.518	98	Impervious
1.408	74	>75% Grass cover, Good, HSG C
1.926		Weighted Average
1.408		73.10% Pervious Area
0.518		26.90% Impervious Area

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

Subcatchment E15: E15

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment E16: E16

Runoff = 2.33 cfs @ 12.20 hrs, Volume= 0.148 af, Depth= 1.30"

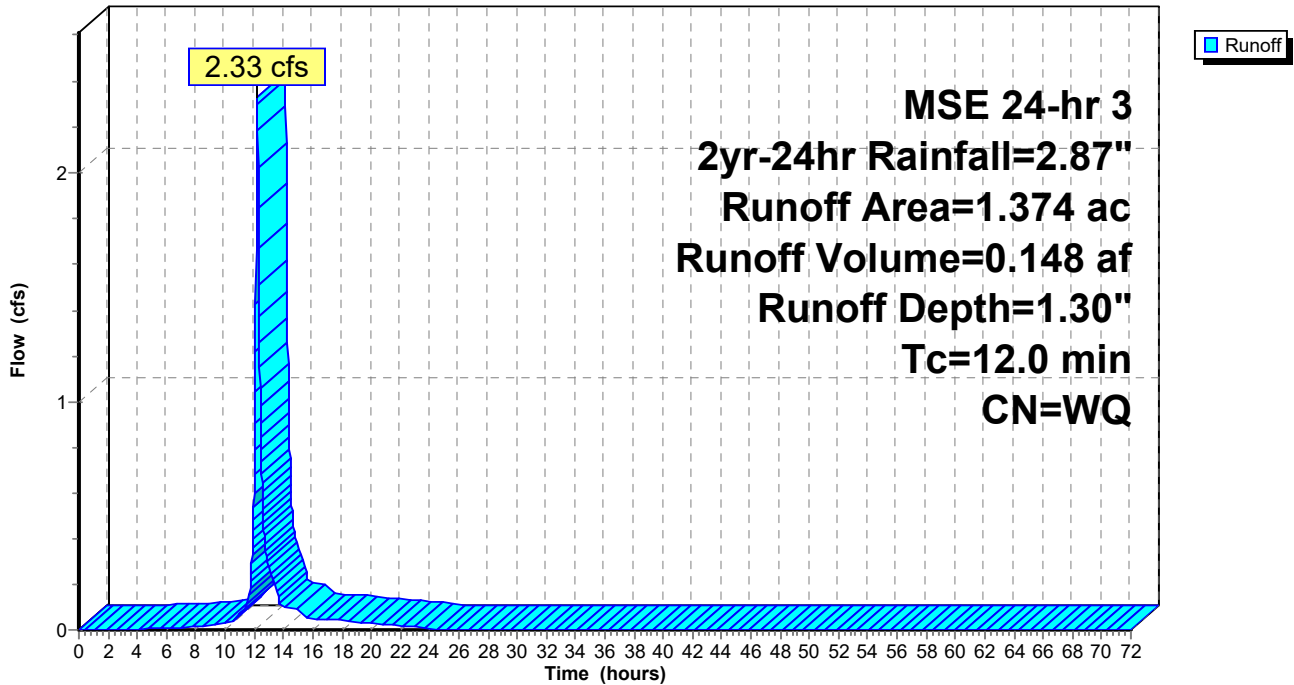
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.355	98	Impervious
1.019	74	>75% Grass cover, Good, HSG C
1.374		Weighted Average
1.019		74.16% Pervious Area
0.355		25.84% Impervious Area

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

Subcatchment E16: E16

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment E17: E17

Runoff = 1.57 cfs @ 12.20 hrs, Volume= 0.099 af, Depth= 1.20"

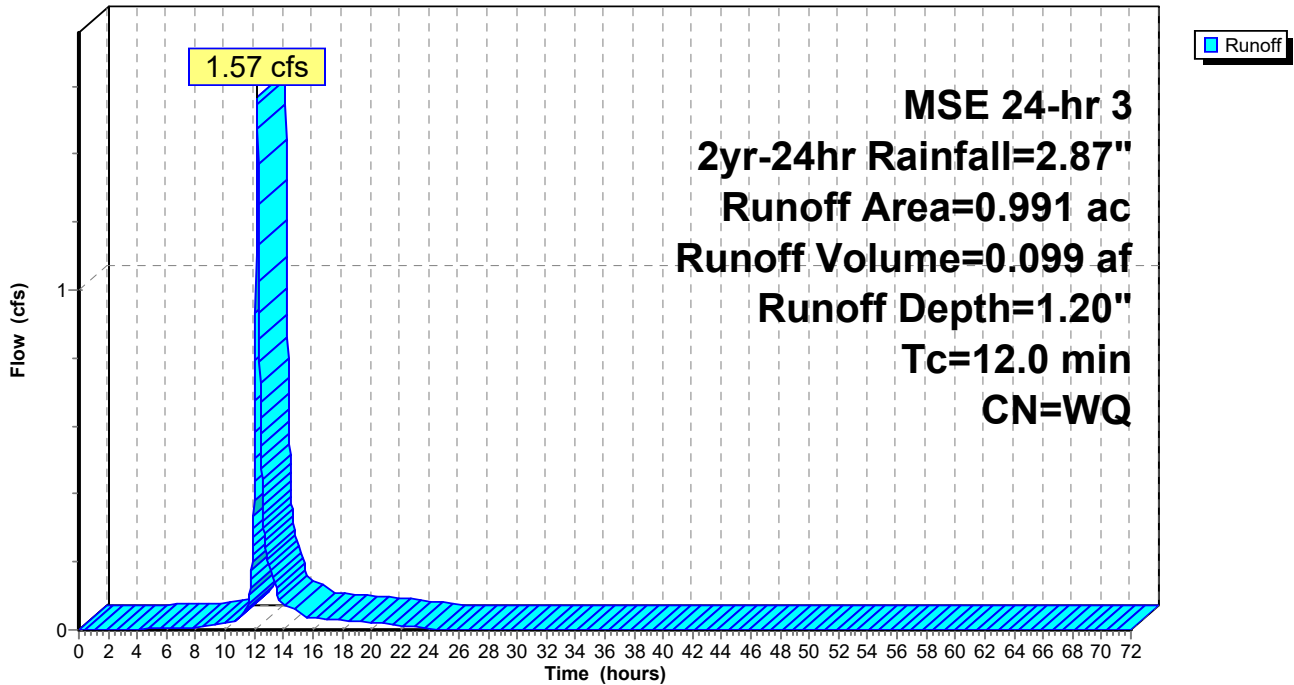
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.203	98	Impervious
0.788	74	>75% Grass cover, Good, HSG C
0.991		Weighted Average
0.788		79.52% Pervious Area
0.203		20.48% Impervious Area

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

Subcatchment E17: E17

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment E18: E18

Runoff = 2.10 cfs @ 12.24 hrs, Volume= 0.145 af, Depth= 1.01"

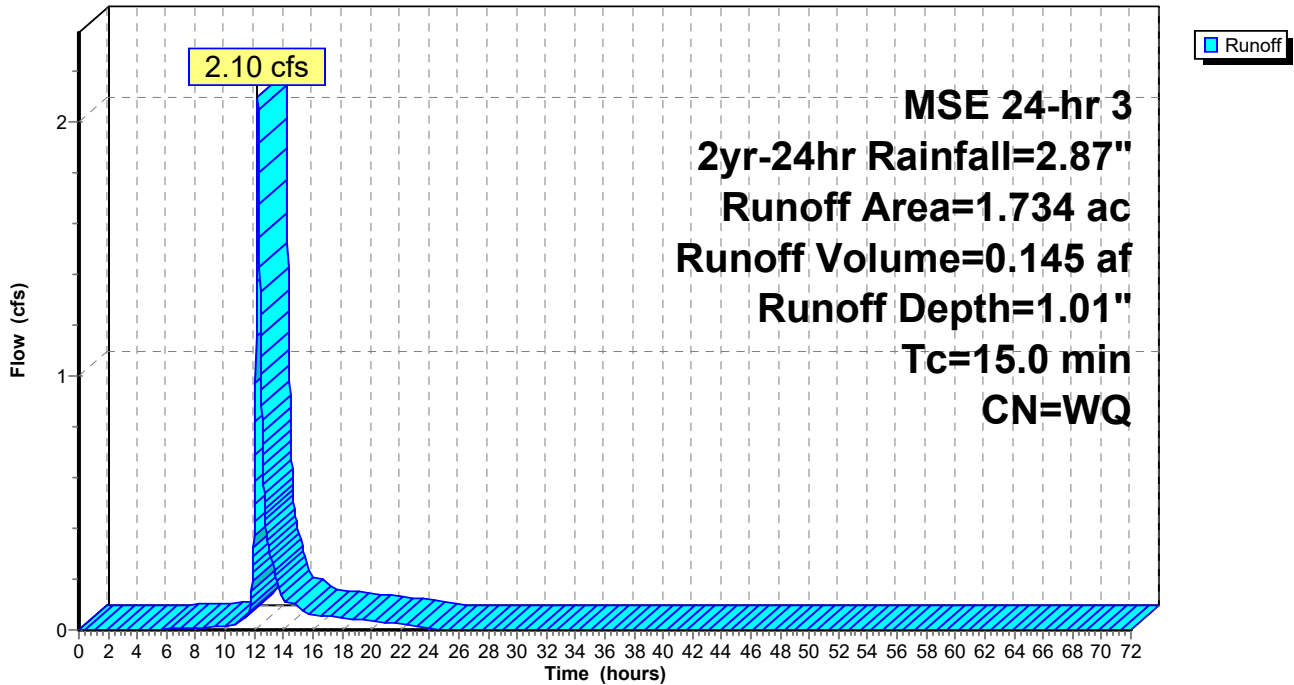
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.171	98	Impervious
1.563	74	>75% Grass cover, Good, HSG C
1.734		Weighted Average
1.563		90.14% Pervious Area
0.171		9.86% Impervious Area

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

Subcatchment E18: E18

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment F5: F5

Runoff = 1.95 cfs @ 12.20 hrs, Volume= 0.124 af, Depth= 1.21"

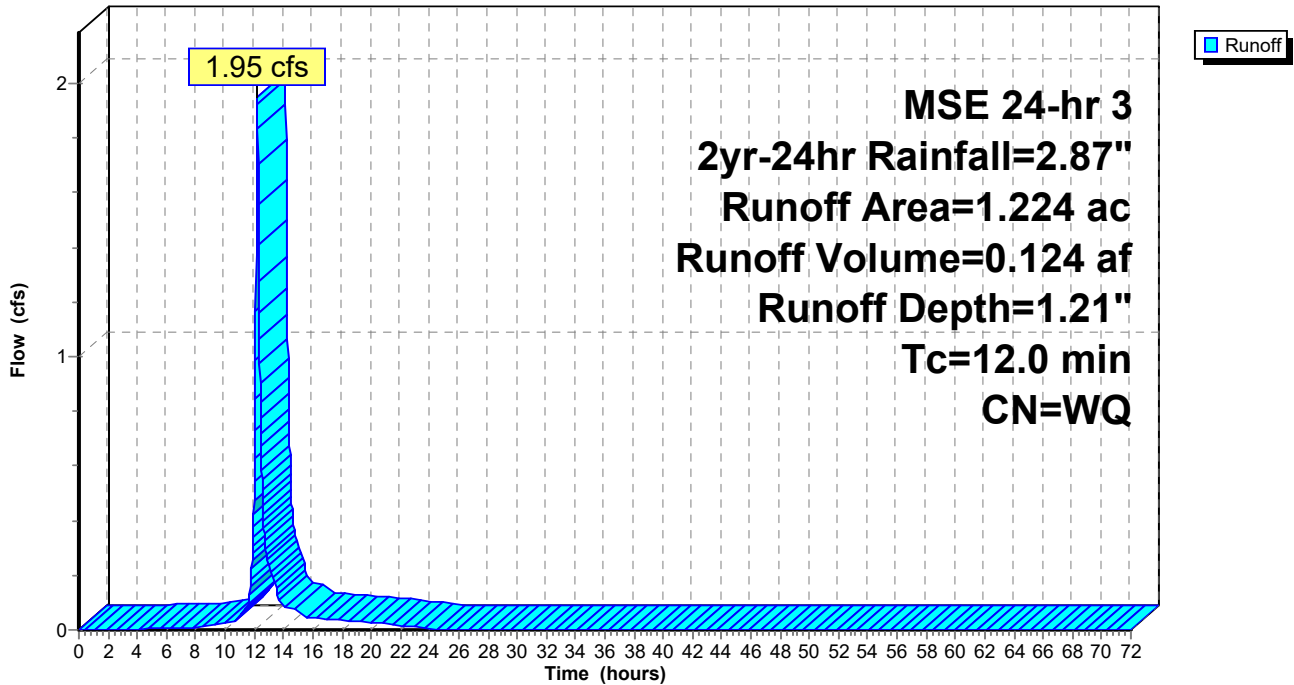
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.260	98	Impervious
0.964	74	>75% Grass cover, Good, HSG C
1.224		Weighted Average
0.964		78.76% Pervious Area
0.260		21.24% Impervious Area

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

Subcatchment F5: F5

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Summary for Subcatchment F6: F6

Runoff = 1.47 cfs @ 12.20 hrs, Volume= 0.093 af, Depth= 1.21"

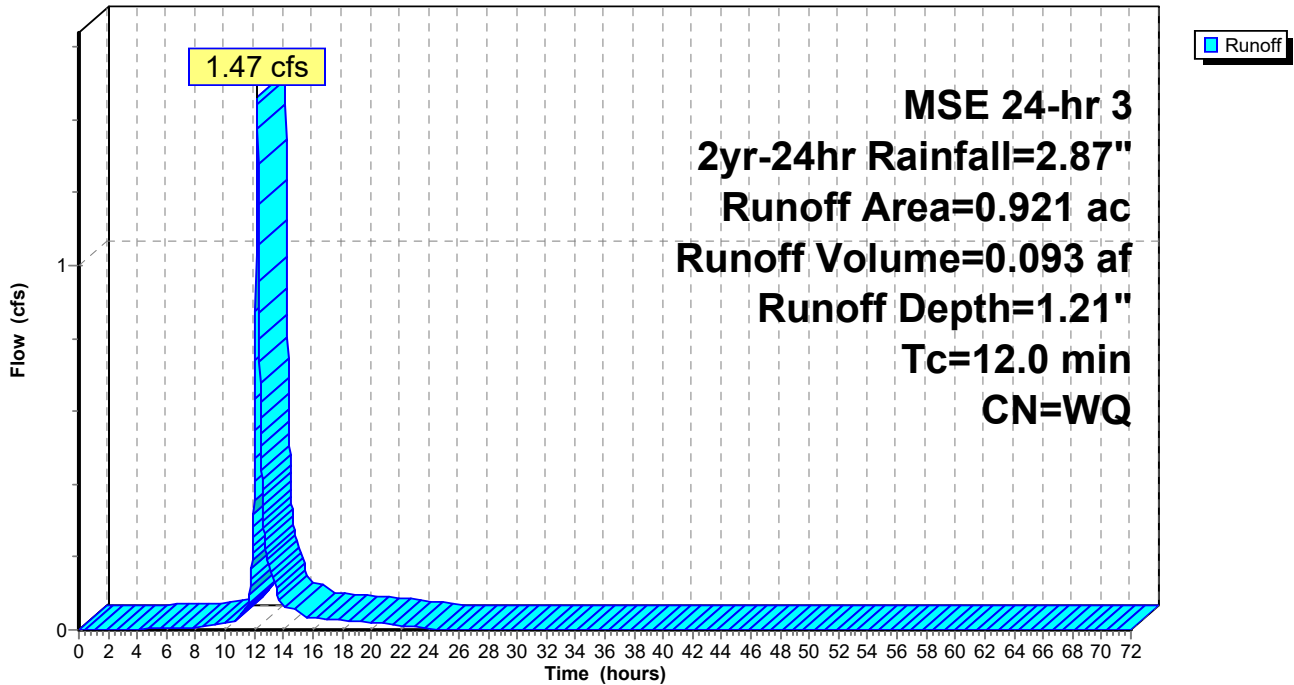
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.194	98	Impervious
0.727	74	>75% Grass cover, Good, HSG C
0.921		Weighted Average
0.727		78.94% Pervious Area
0.194		21.06% Impervious Area

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

Subcatchment F6: F6

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment F7: F7

Runoff = 0.92 cfs @ 12.21 hrs, Volume= 0.058 af, Depth= 1.04"

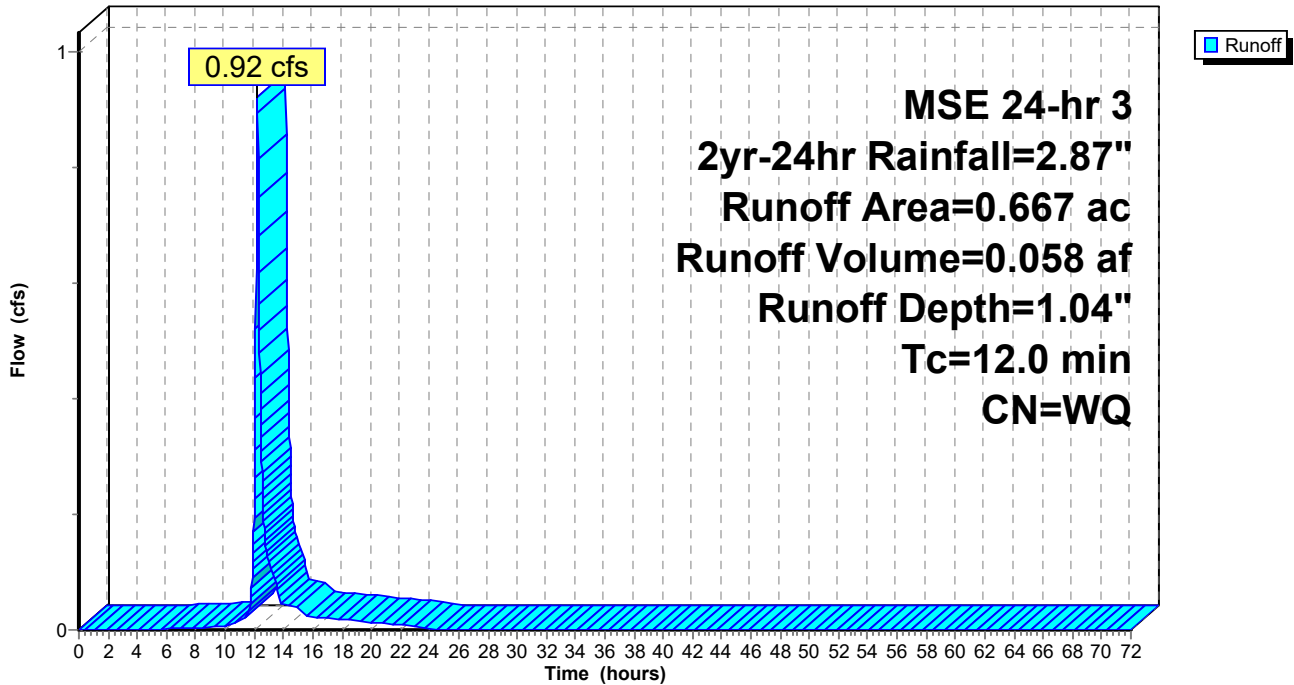
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.078	98	Impervious
0.589	74	>75% Grass cover, Good, HSG C
0.667		Weighted Average
0.589		88.31% Pervious Area
0.078		11.69% Impervious Area

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

Subcatchment F7: F7

Hydrograph



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Summary for Subcatchment F8: F8

Runoff = 2.54 cfs @ 12.24 hrs, Volume= 0.177 af, Depth= 1.12"

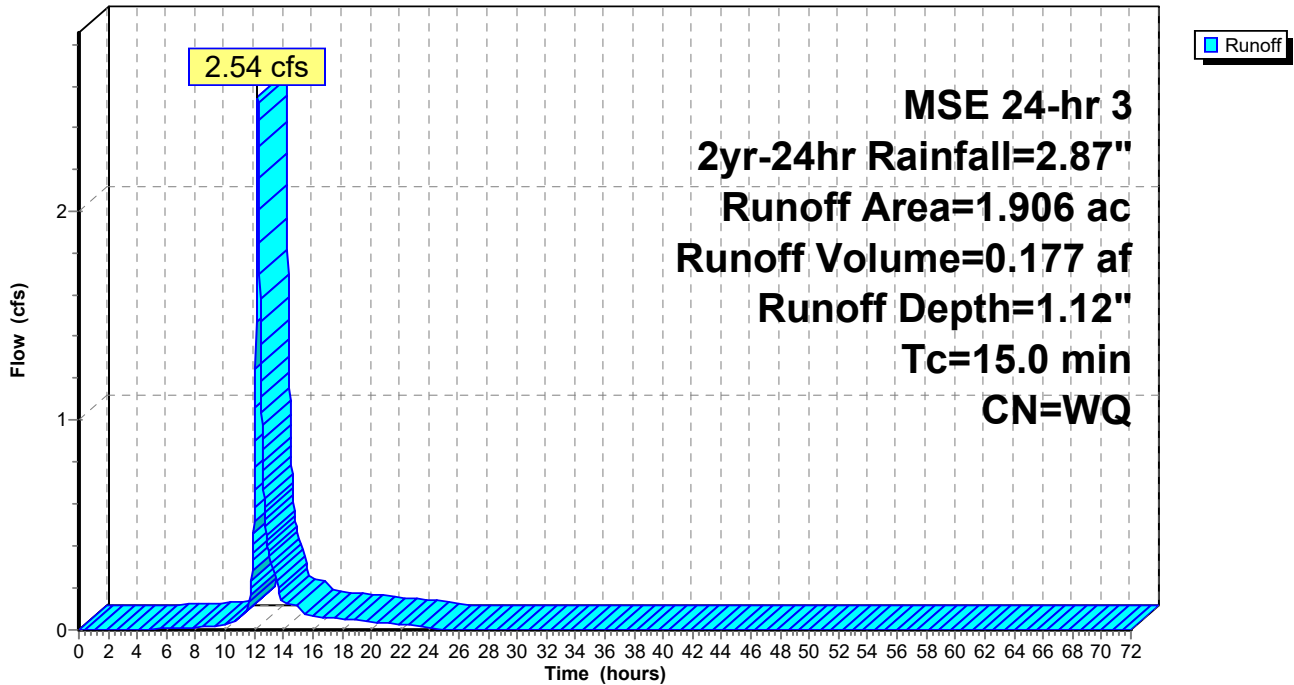
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.305	98	Impervious
1.601	74	>75% Grass cover, Good, HSG C
1.906		Weighted Average
1.601		84.00% Pervious Area
0.305		16.00% Impervious Area

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

Subcatchment F8: F8

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment H5: H5

Runoff = 3.28 cfs @ 12.20 hrs, Volume= 0.216 af, Depth= 1.20"

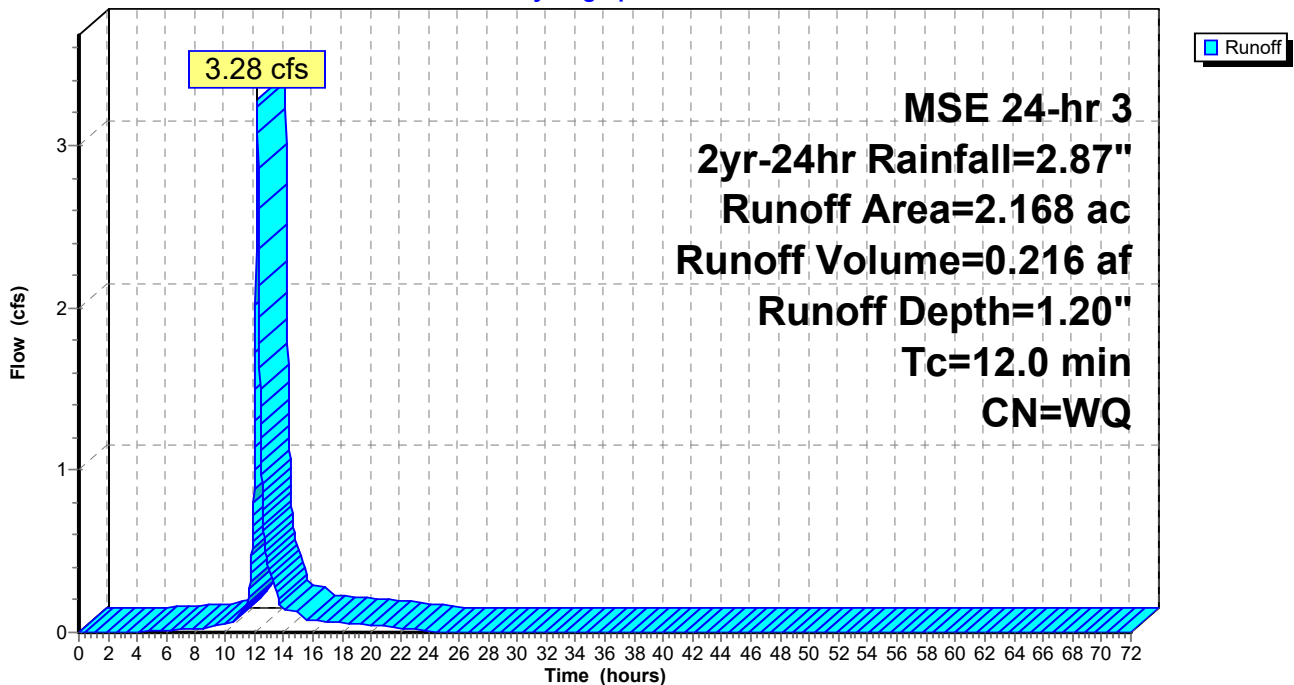
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.590	98	Impervious
0.526	61	>75% Grass cover, Good, HSG B
1.052	74	>75% Grass cover, Good, HSG C
<hr/>		
2.168		Weighted Average
1.578		72.79% Pervious Area
0.590		27.21% Impervious Area

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

Subcatchment H5: H5

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Summary for Subcatchment H6: H6

Runoff = 1.00 cfs @ 12.21 hrs, Volume= 0.072 af, Depth= 0.86"

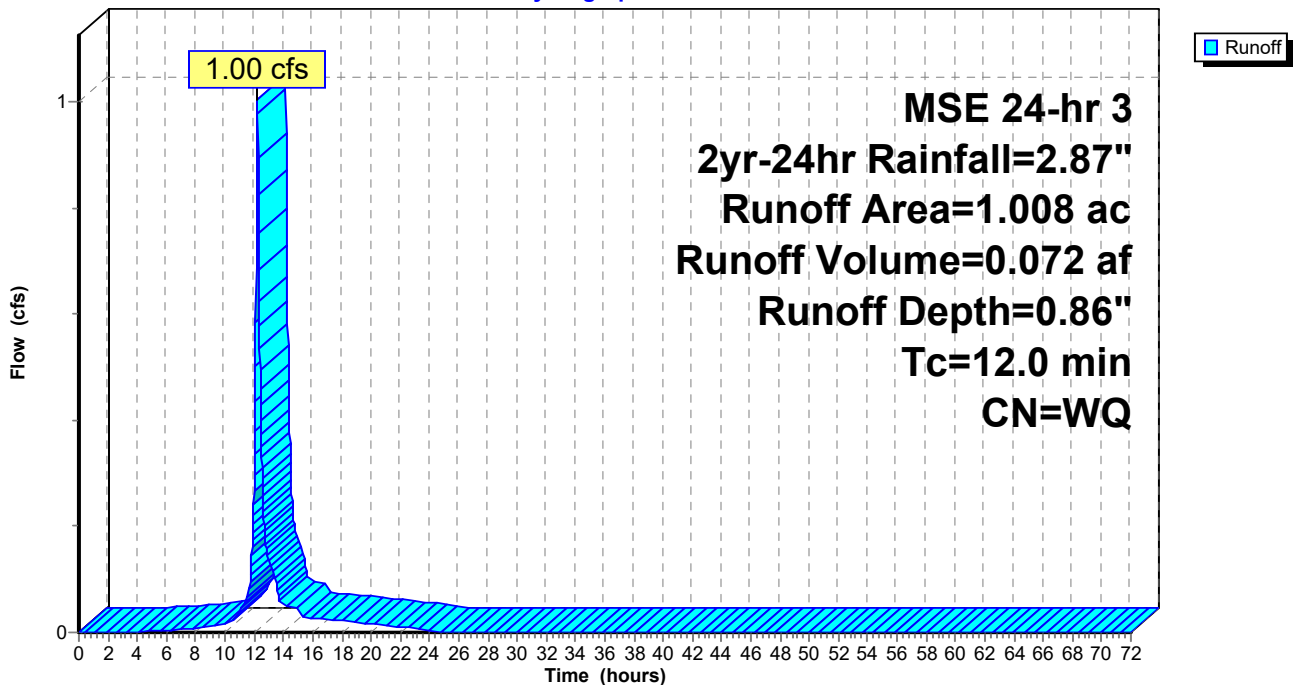
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.197	98	Impervious
0.640	61	>75% Grass cover, Good, HSG B
0.171	74	>75% Grass cover, Good, HSG C
1.008		Weighted Average
0.811		80.46% Pervious Area
0.197		19.54% Impervious Area

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

Subcatchment H6: H6

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Summary for Subcatchment H7: H7

Runoff = 1.31 cfs @ 12.21 hrs, Volume= 0.091 af, Depth= 0.93"

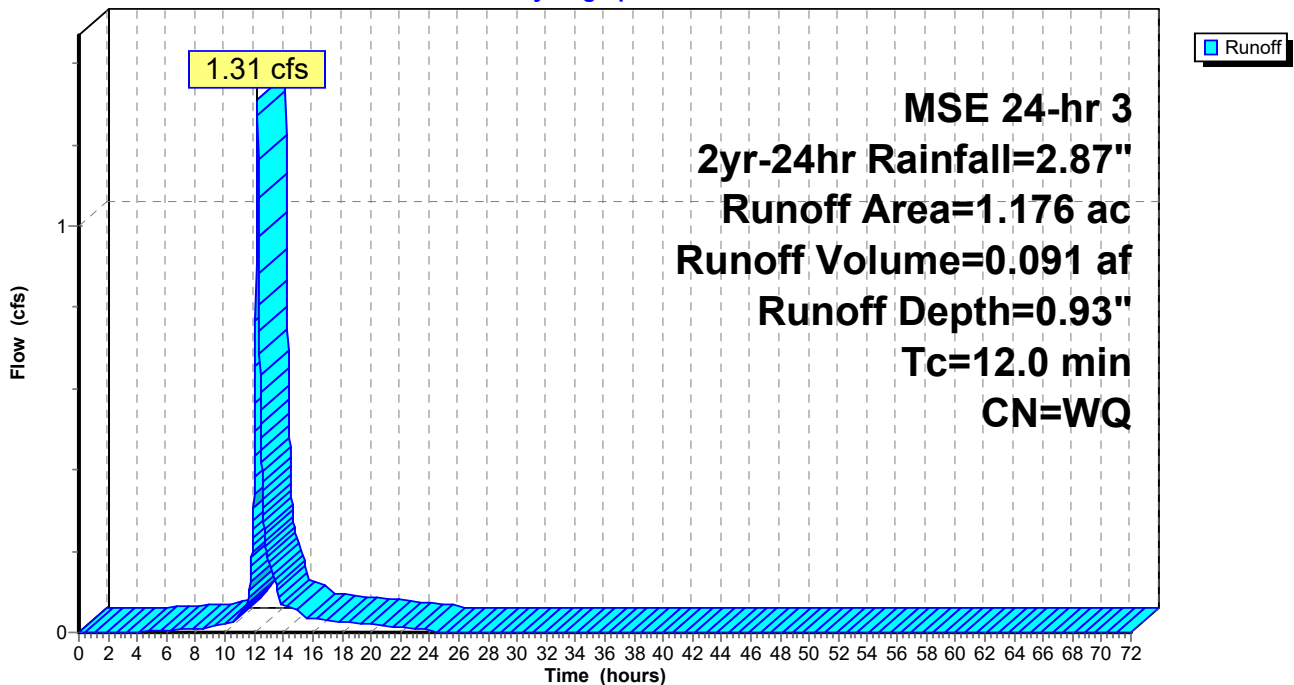
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.231	98	Impervious
0.591	61	>75% Grass cover, Good, HSG B
0.354	74	>75% Grass cover, Good, HSG C
1.176		Weighted Average
0.945		80.36% Pervious Area
0.231		19.64% Impervious Area

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

Subcatchment H7: H7

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment I14: I14

Runoff = 0.47 cfs @ 12.20 hrs, Volume= 0.030 af, Depth= 1.33"

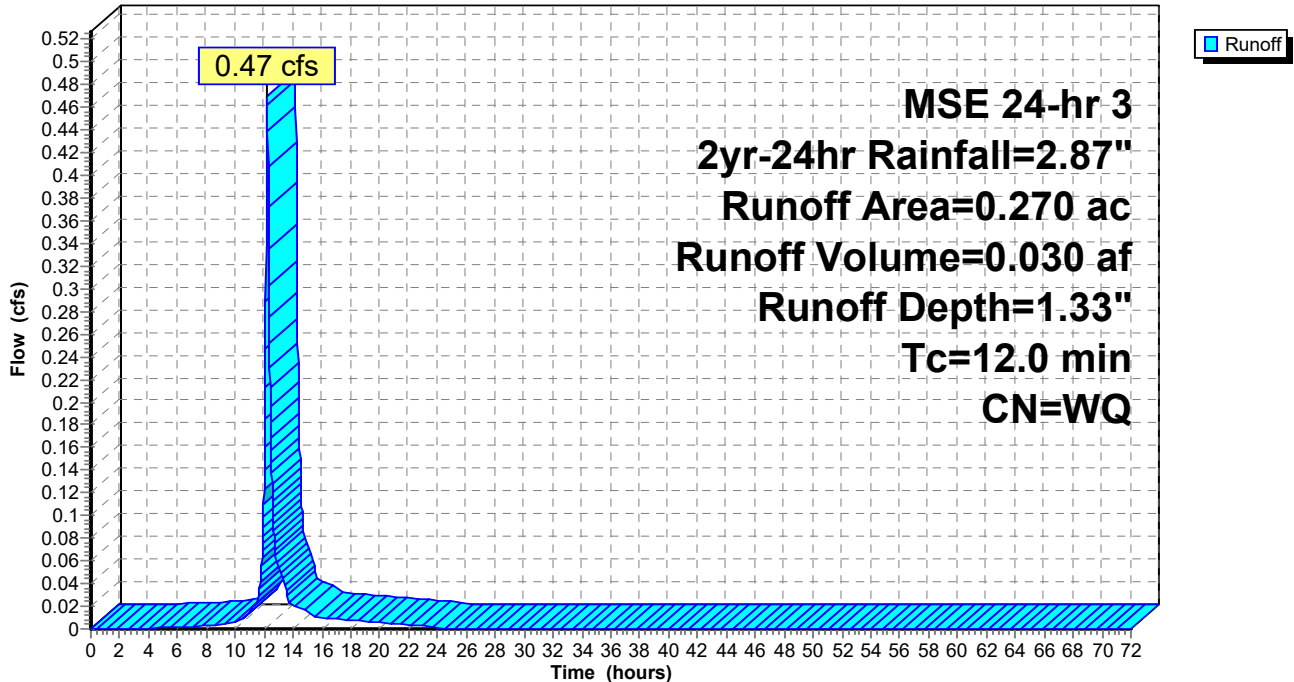
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.050	98	impervious
0.124	74	>75% Grass cover, Good, HSG C
* 0.025	98	impervious
0.071	74	>75% Grass cover, Good, HSG C
0.270		Weighted Average
0.195		72.22% Pervious Area
0.075		27.78% Impervious Area

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

Subcatchment I14: I14

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment I7: I7

Runoff = 0.99 cfs @ 12.20 hrs, Volume= 0.063 af, Depth= 1.24"

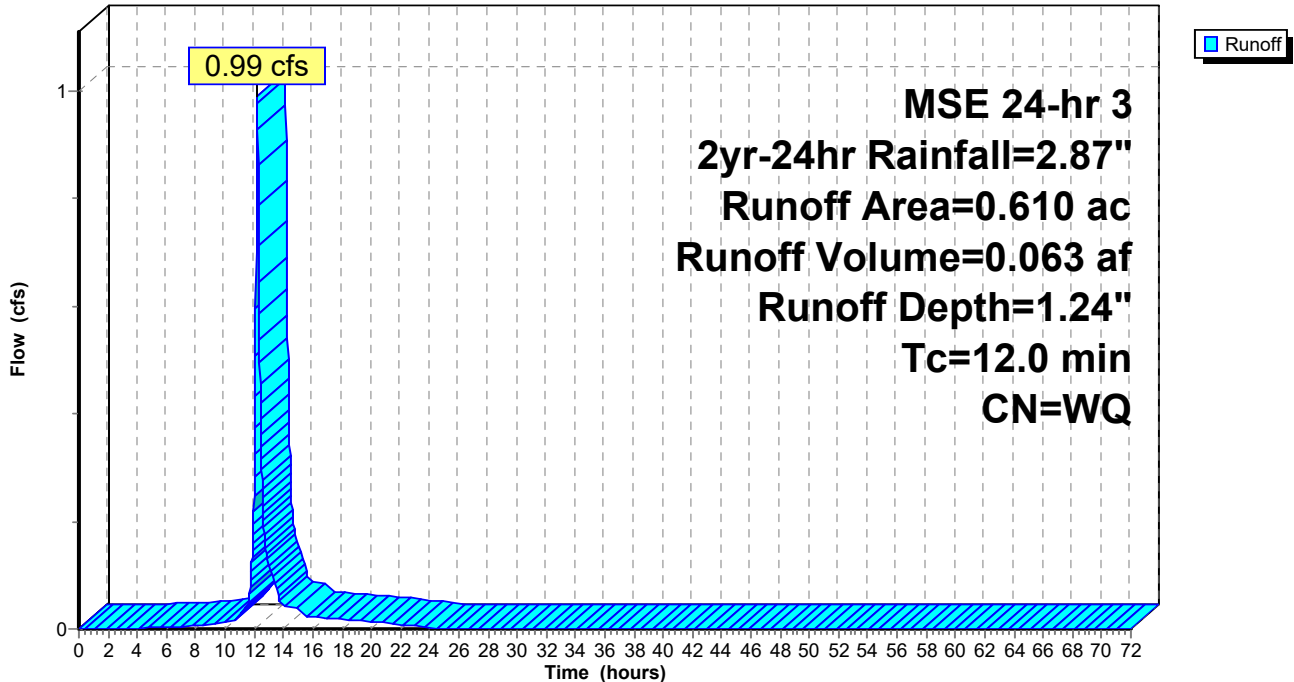
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.066	98	Impervious
0.252	74	>75% Grass cover, Good, HSG C
* 0.072	98	Impervious
0.220	74	>75% Grass cover, Good, HSG C
0.610		Weighted Average
0.472		77.38% Pervious Area
0.138		22.62% Impervious Area

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

Subcatchment I7: I7

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment I7_100: I7_100

Runoff = 0.26 cfs @ 12.21 hrs, Volume= 0.016 af, Depth= 0.96"

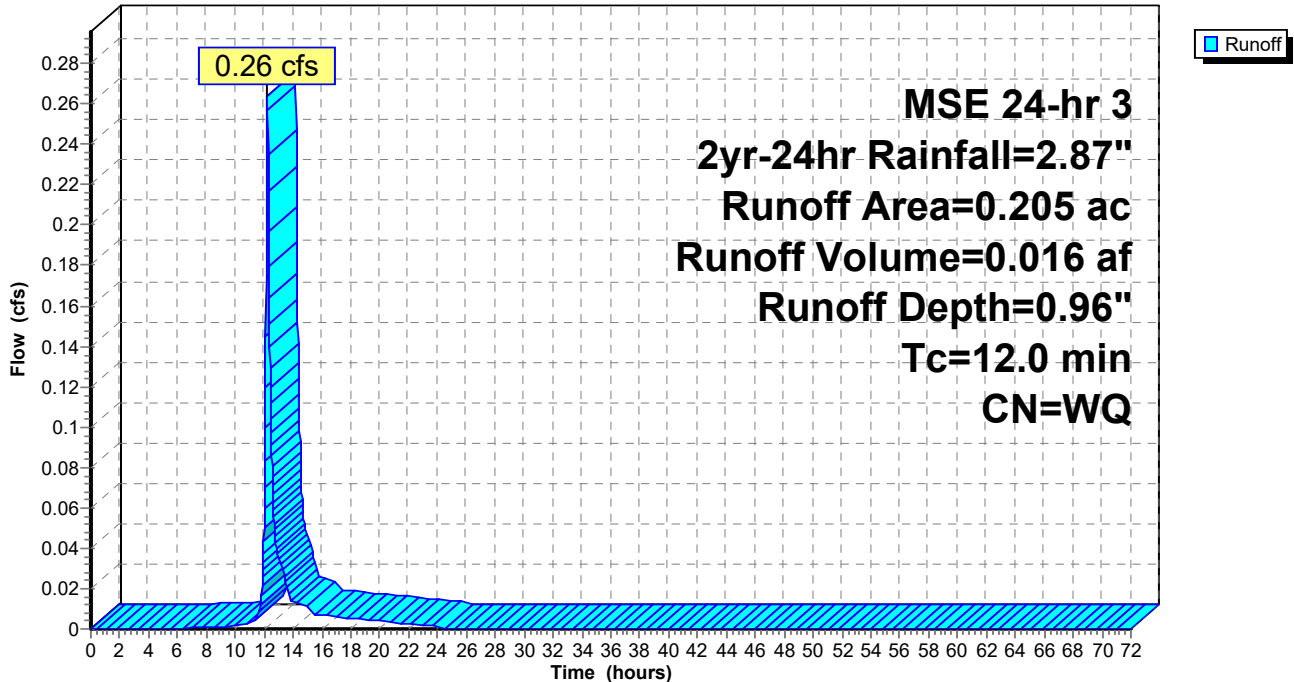
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.024	74	>75% Grass cover, Good, HSG C
* 0.008	98	Impervious
* 0.007	98	Impervious
0.166	74	>75% Grass cover, Good, HSG C
0.205		Weighted Average
0.190		92.68% Pervious Area
0.015		7.32% Impervious Area

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

Subcatchment I7_100: I7_100

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment I8: I8

Runoff = 1.69 cfs @ 12.20 hrs, Volume= 0.107 af, Depth= 1.28"

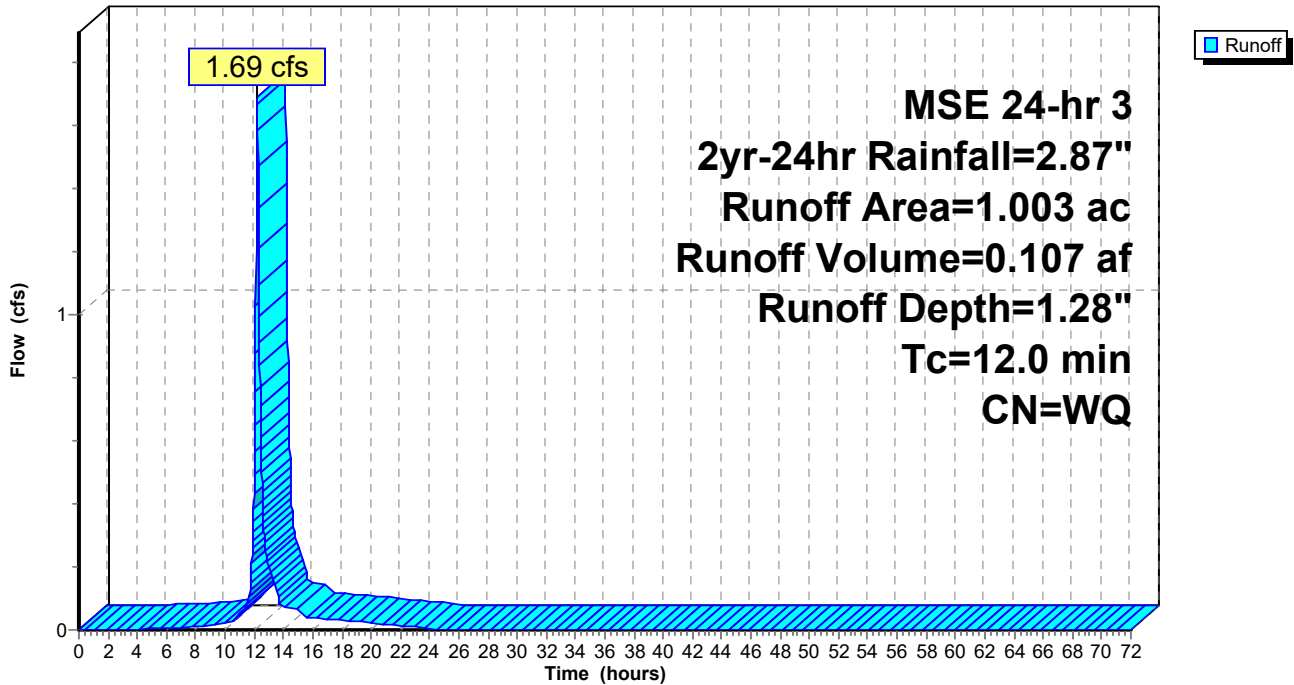
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.252	98	Impervious
0.751	74	>75% Grass cover, Good, HSG C
1.003		Weighted Average
0.751		74.88% Pervious Area
0.252		25.12% Impervious Area

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

Subcatchment I8: I8

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment I8_100: I8_100

Runoff = 0.29 cfs @ 12.20 hrs, Volume= 0.018 af, Depth= 1.30"

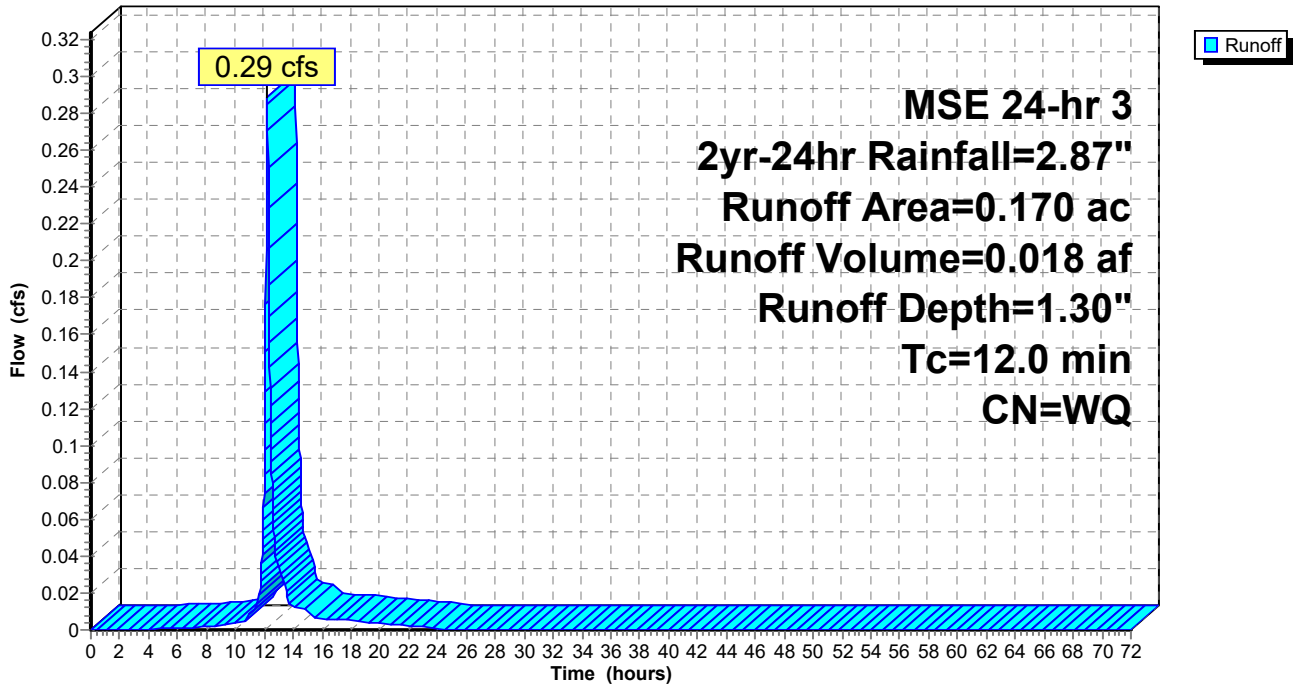
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.126	74	>75% Grass cover, Good, HSG C
* 0.044	98	Impervious
0.170		Weighted Average
0.126		74.12% Pervious Area
0.044		25.88% Impervious Area

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

Subcatchment I8_100: I8_100

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment I9: I9

Runoff = 0.45 cfs @ 12.20 hrs, Volume= 0.028 af, Depth= 1.33"

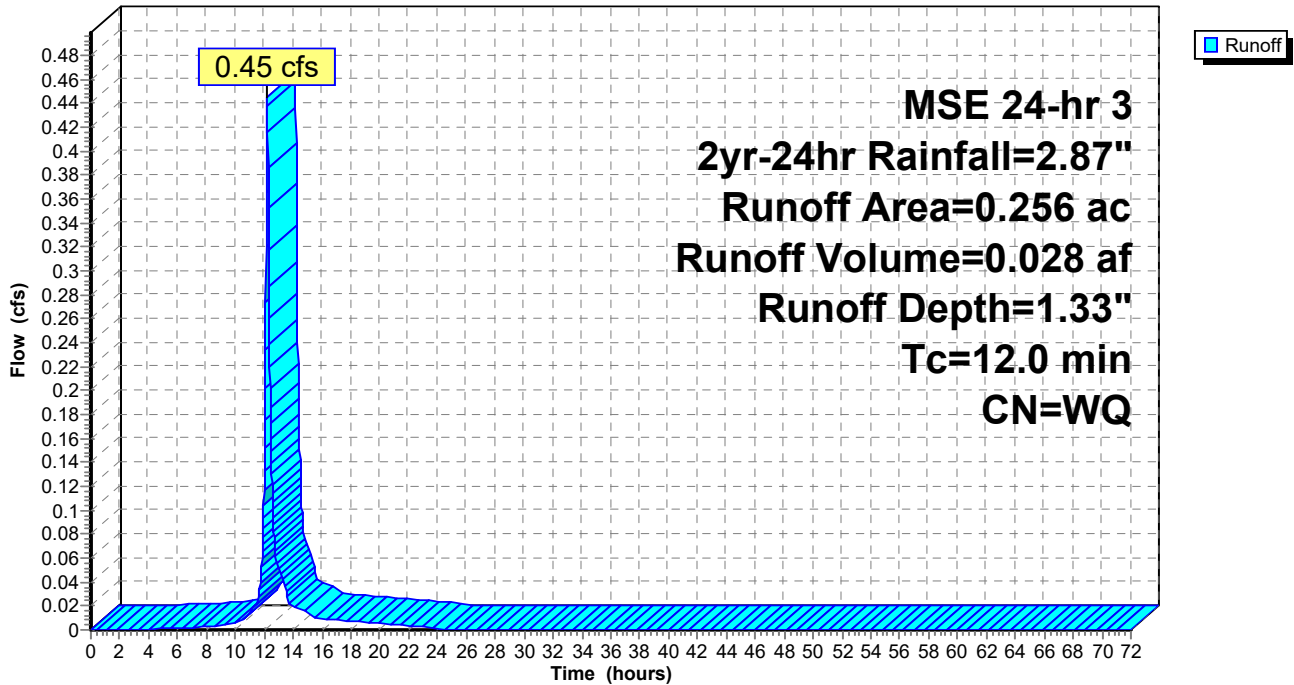
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.071	98	Impervious
0.185	74	>75% Grass cover, Good, HSG C
0.256		Weighted Average
0.185		72.27% Pervious Area
0.071		27.73% Impervious Area

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

Subcatchment I9: I9

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment J3: J3

Runoff = 2.36 cfs @ 12.20 hrs, Volume= 0.149 af, Depth= 1.20"

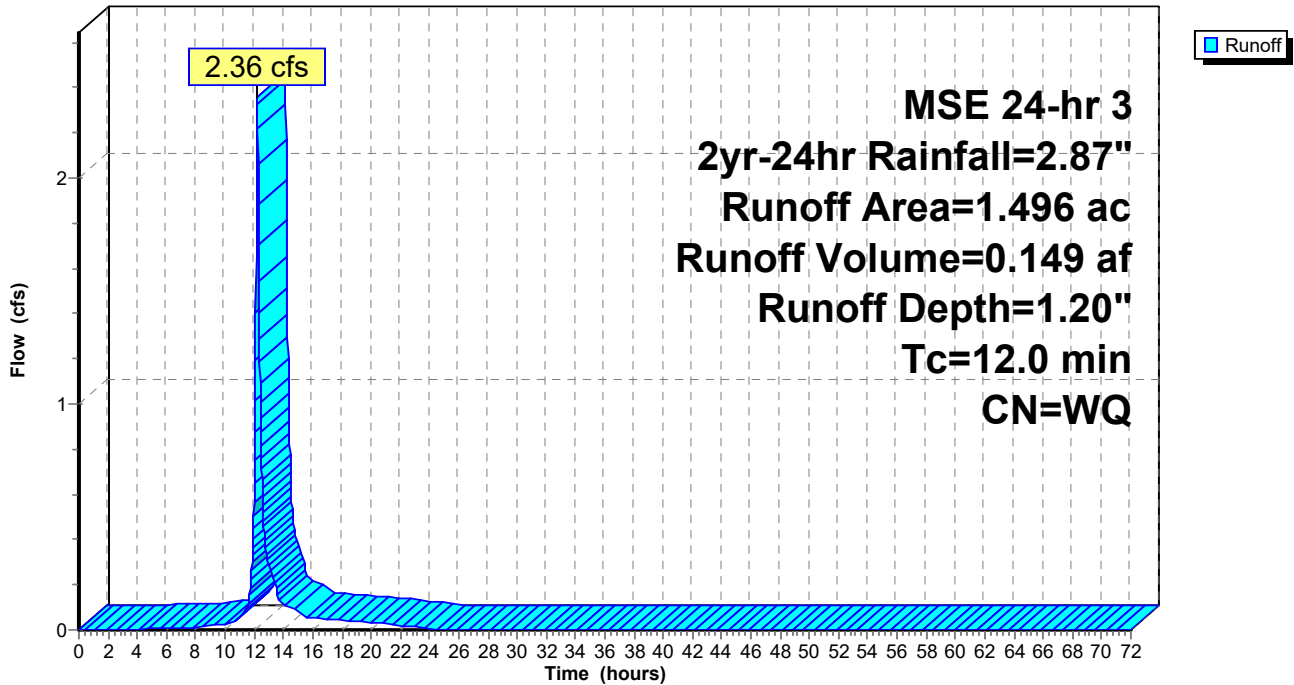
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.304	98	Impervious
1.192	74	>75% Grass cover, Good, HSG C
1.496		Weighted Average
1.192		79.68% Pervious Area
0.304		20.32% Impervious Area

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

Subcatchment J3: J3

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Summary for Subcatchment J4: J4

Runoff = 0.35 cfs @ 12.21 hrs, Volume= 0.021 af, Depth= 0.83"

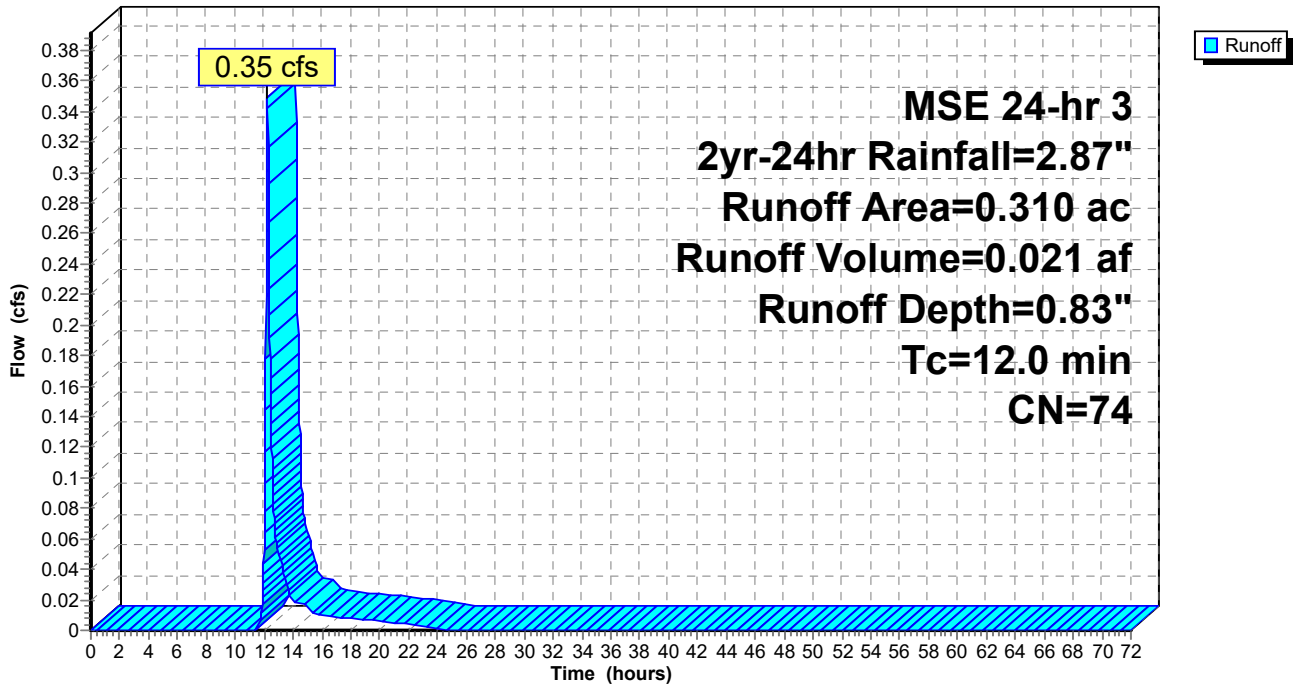
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.310	74	>75% Grass cover, Good, HSG C
0.310		100.00% Pervious Area

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

Subcatchment J4: J4

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment J5: J5

Runoff = 1.04 cfs @ 12.20 hrs, Volume= 0.065 af, Depth= 1.15"

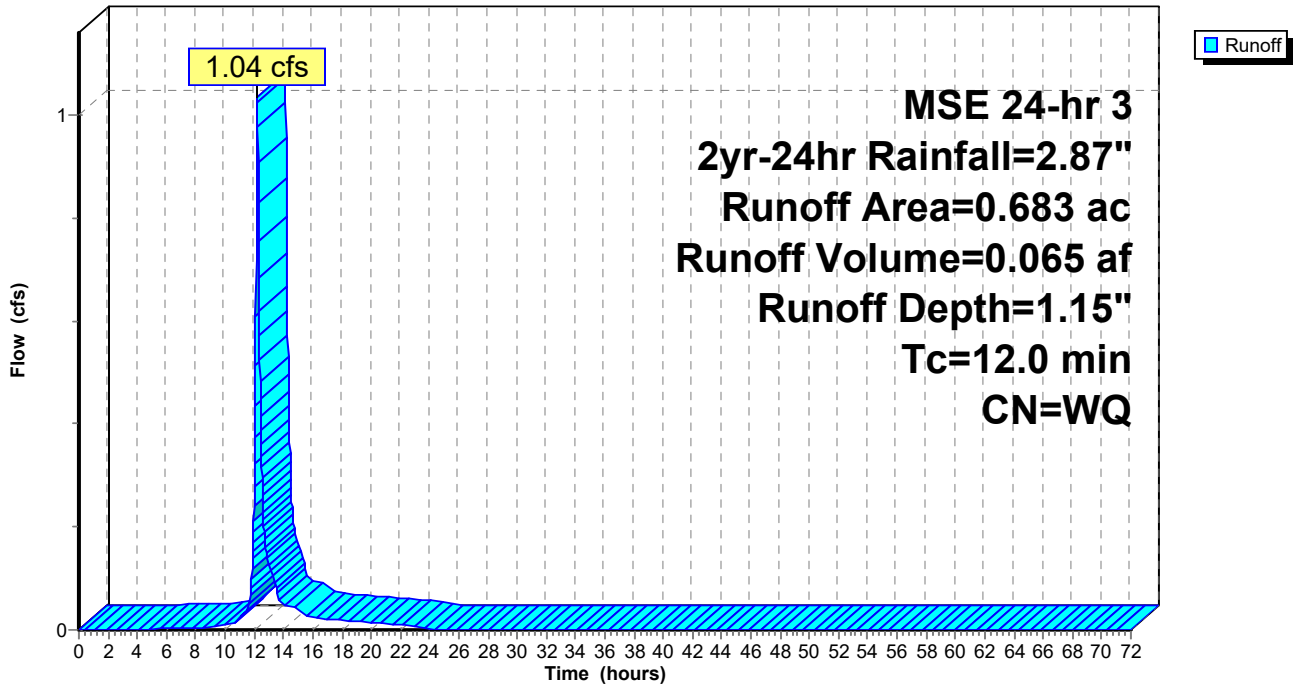
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.121	98	Impervious
0.562	74	>75% Grass cover, Good, HSG C
0.683		Weighted Average
0.562		82.28% Pervious Area
0.121		17.72% Impervious Area

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

Subcatchment J5: J5

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment L10: L10

Runoff = 1.75 cfs @ 12.20 hrs, Volume= 0.110 af, Depth= 1.14"

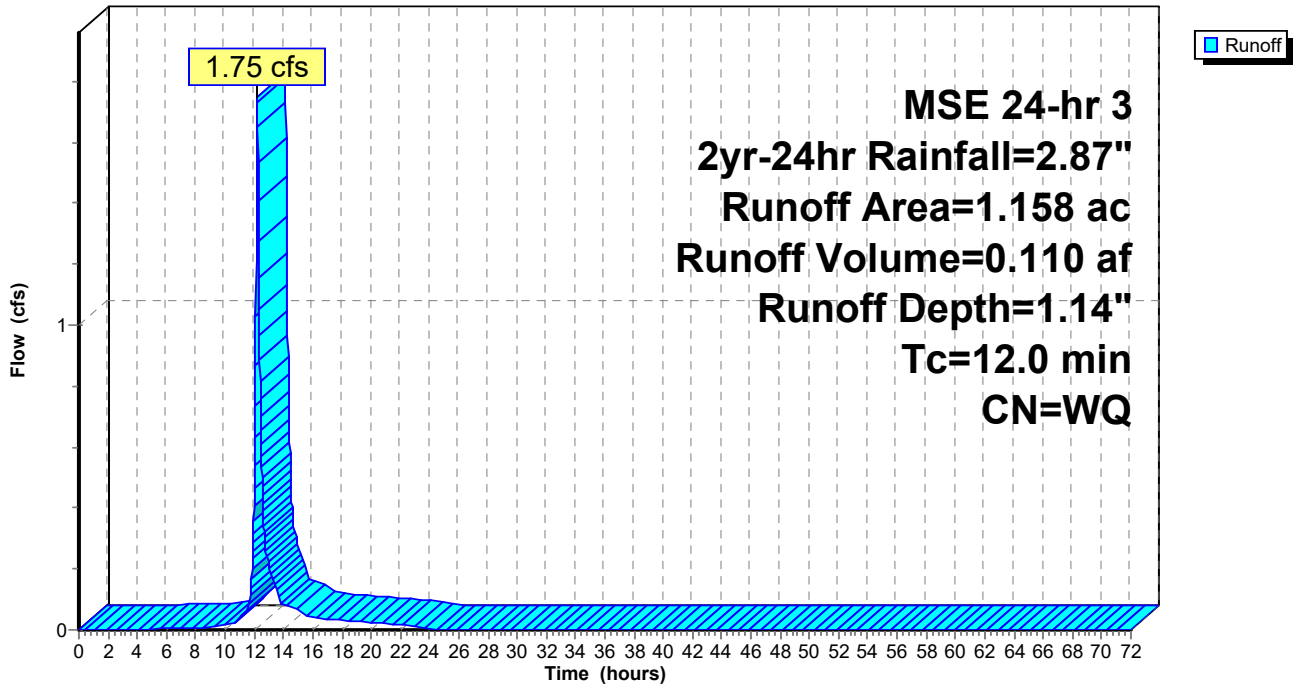
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.203	98	Impervious
0.955	74	>75% Grass cover, Good, HSG C
1.158		Weighted Average
0.955		82.47% Pervious Area
0.203		17.53% Impervious Area

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

Subcatchment L10: L10

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment L4: L4

Runoff = 0.26 cfs @ 12.20 hrs, Volume= 0.017 af, Depth= 1.19"

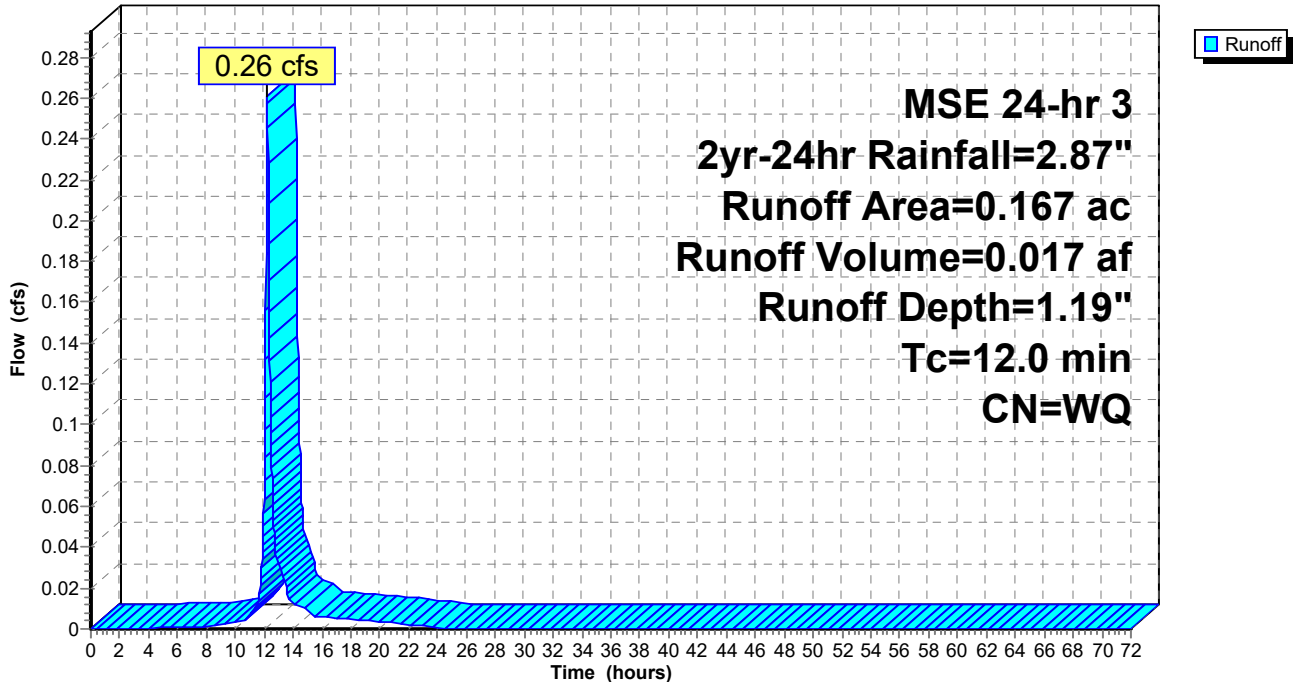
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.002	98	Impervious
0.005	61	>75% Grass cover, Good, HSG B
0.127	74	>75% Grass cover, Good, HSG C
* 0.033	98	Impervious
0.167		Weighted Average
0.132		79.04% Pervious Area
0.035		20.96% Impervious Area

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

Subcatchment L4: L4

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment L5: L5

Runoff = 1.23 cfs @ 12.20 hrs, Volume= 0.078 af, Depth= 1.23"

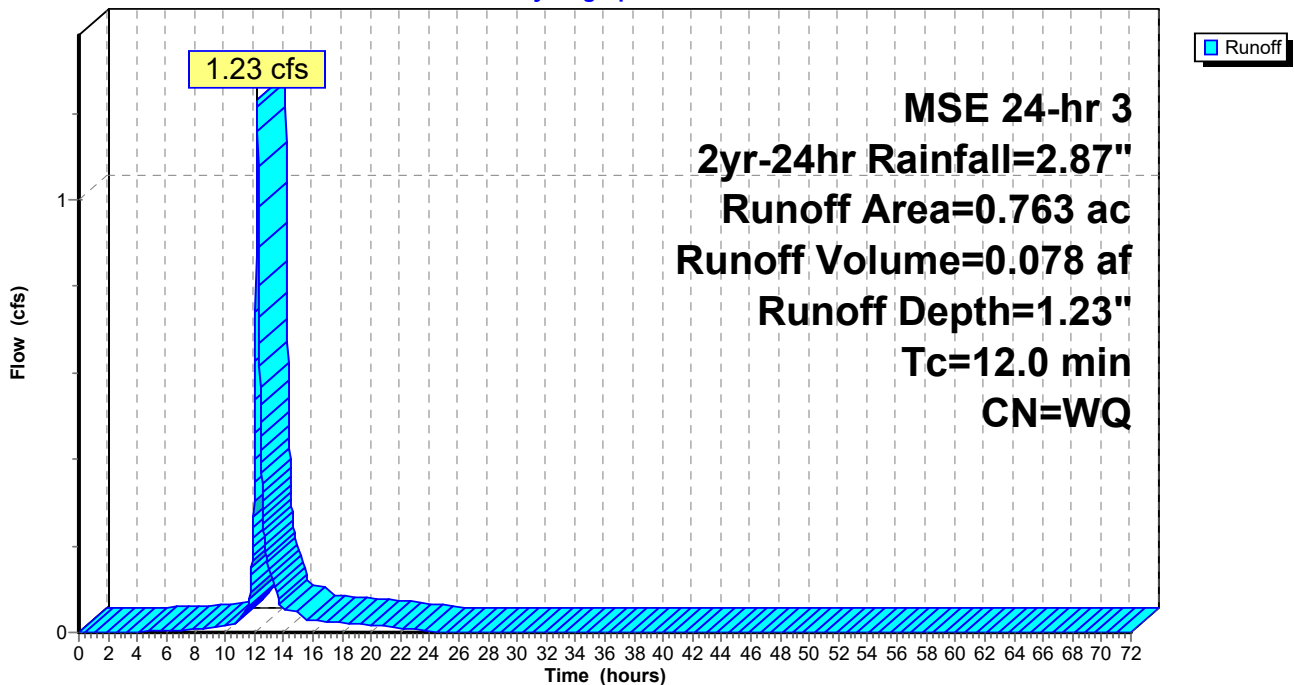
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.101	98	Impervious
0.595	74	>75% Grass cover, Good, HSG C
* 0.067	98	Impervious
0.763		Weighted Average
0.595		77.98% Pervious Area
0.168		22.02% Impervious Area

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

Subcatchment L5: L5

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment L6: L6

Runoff = 1.71 cfs @ 12.20 hrs, Volume= 0.108 af, Depth= 1.19"

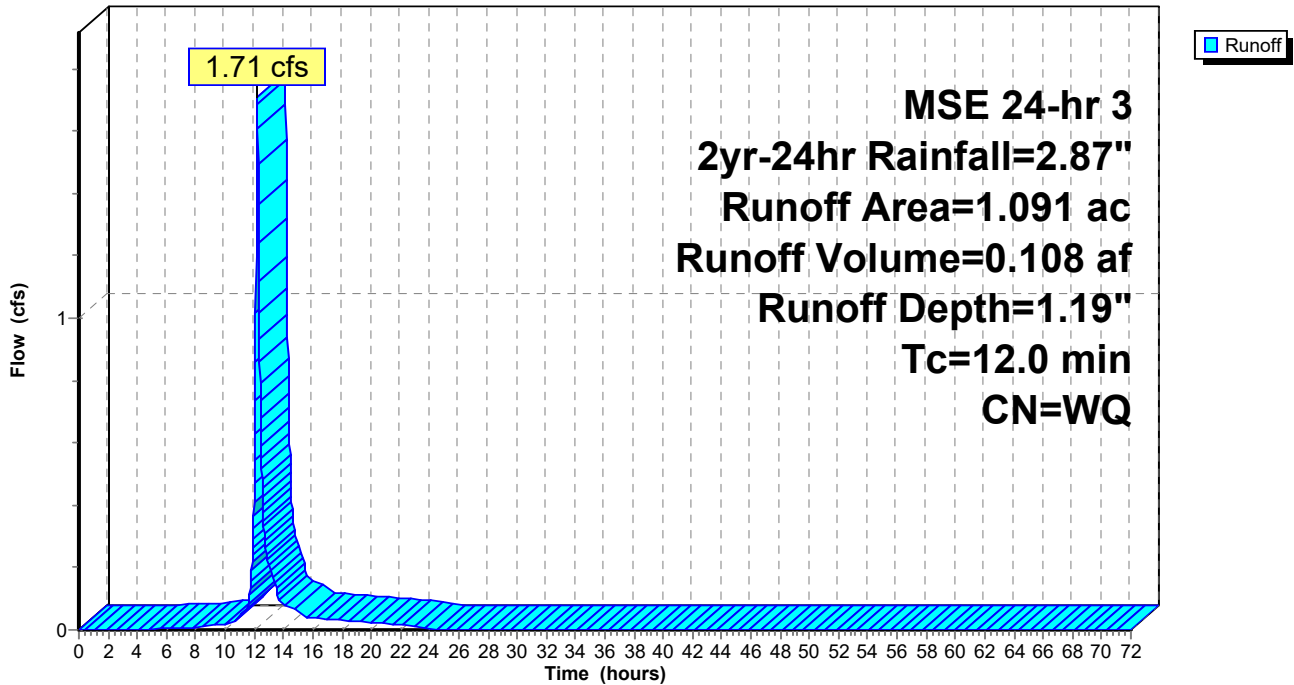
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.218	98	Impervious
0.873	74	>75% Grass cover, Good, HSG C
1.091		Weighted Average
0.873		80.02% Pervious Area
0.218		19.98% Impervious Area

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

Subcatchment L6: L6

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment L7: L7

Runoff = 1.21 cfs @ 12.20 hrs, Volume= 0.077 af, Depth= 1.21"

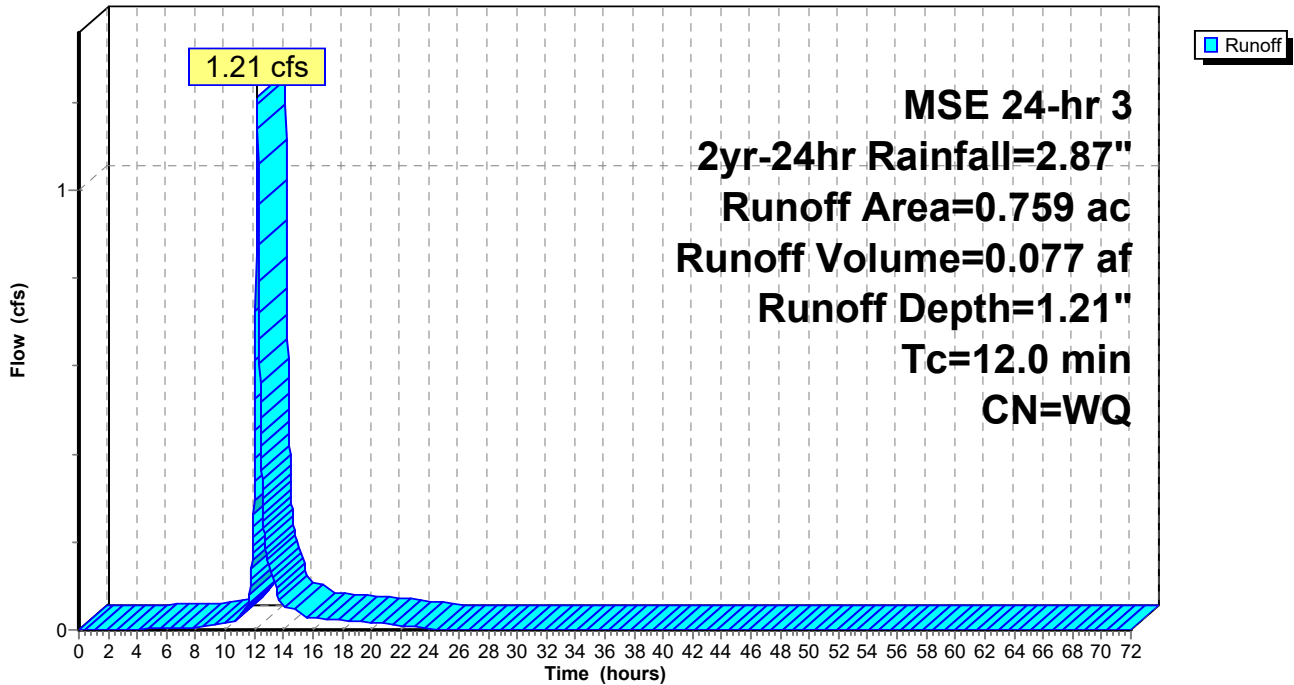
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.161	98	Impervious
0.598	74	>75% Grass cover, Good, HSG C
0.759		Weighted Average
0.598		78.79% Pervious Area
0.161		21.21% Impervious Area

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

Subcatchment L7: L7

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment L8: L8

Runoff = 2.23 cfs @ 12.20 hrs, Volume= 0.141 af, Depth= 1.18"

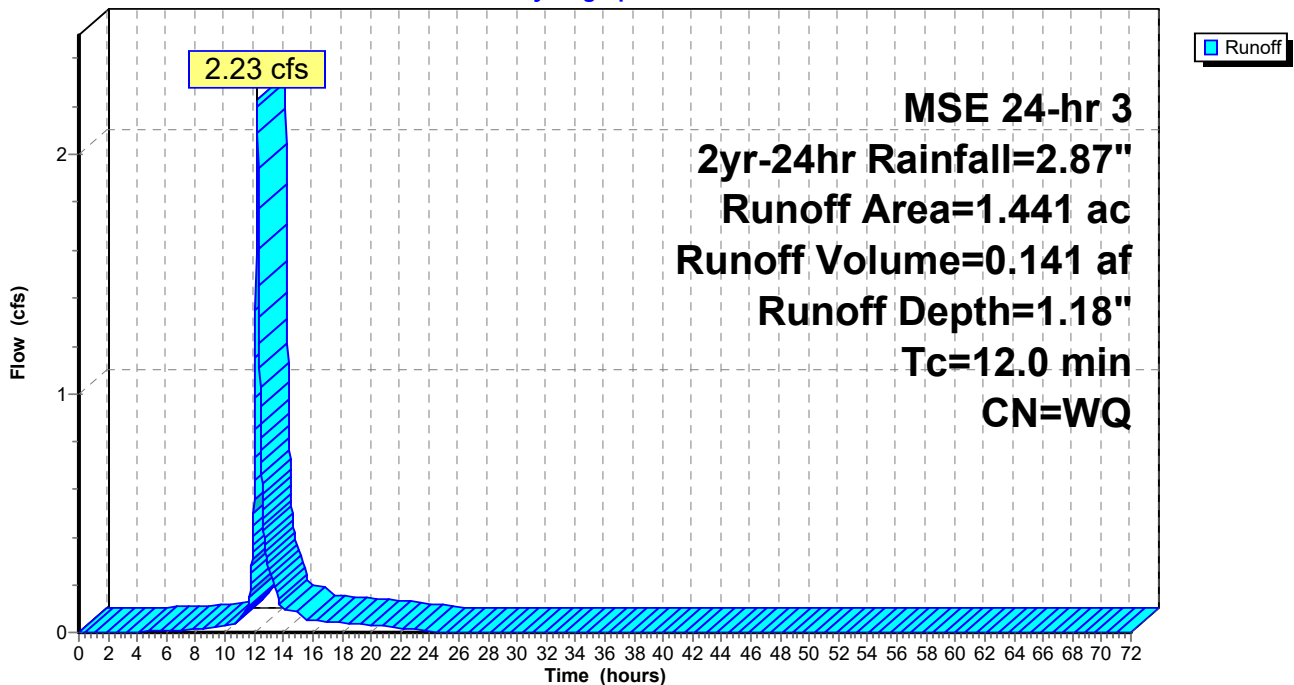
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.318	98	Impervious
0.086	39	>75% Grass cover, Good, HSG A
1.037	74	>75% Grass cover, Good, HSG C
1.441		Weighted Average
1.123		77.93% Pervious Area
0.318		22.07% Impervious Area

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

Subcatchment L8: L8

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment L9: L9

Runoff = 1.54 cfs @ 12.20 hrs, Volume= 0.098 af, Depth= 1.21"

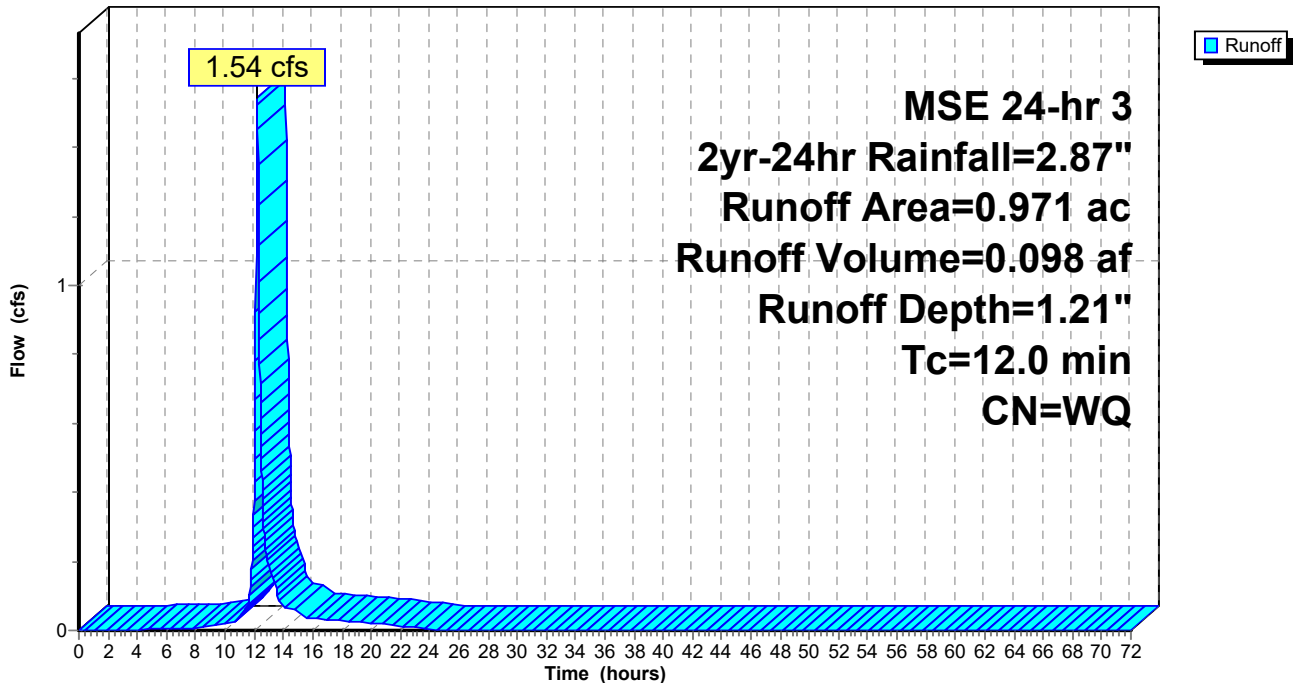
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.205	98	Impervious
0.003	39	>75% Grass cover, Good, HSG A
0.763	74	>75% Grass cover, Good, HSG C
<hr/>		
0.971		Weighted Average
0.766		78.89% Pervious Area
0.205		21.11% Impervious Area

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

Subcatchment L9: L9

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment O10: O10

Runoff = 0.89 cfs @ 12.21 hrs, Volume= 0.056 af, Depth= 1.11"

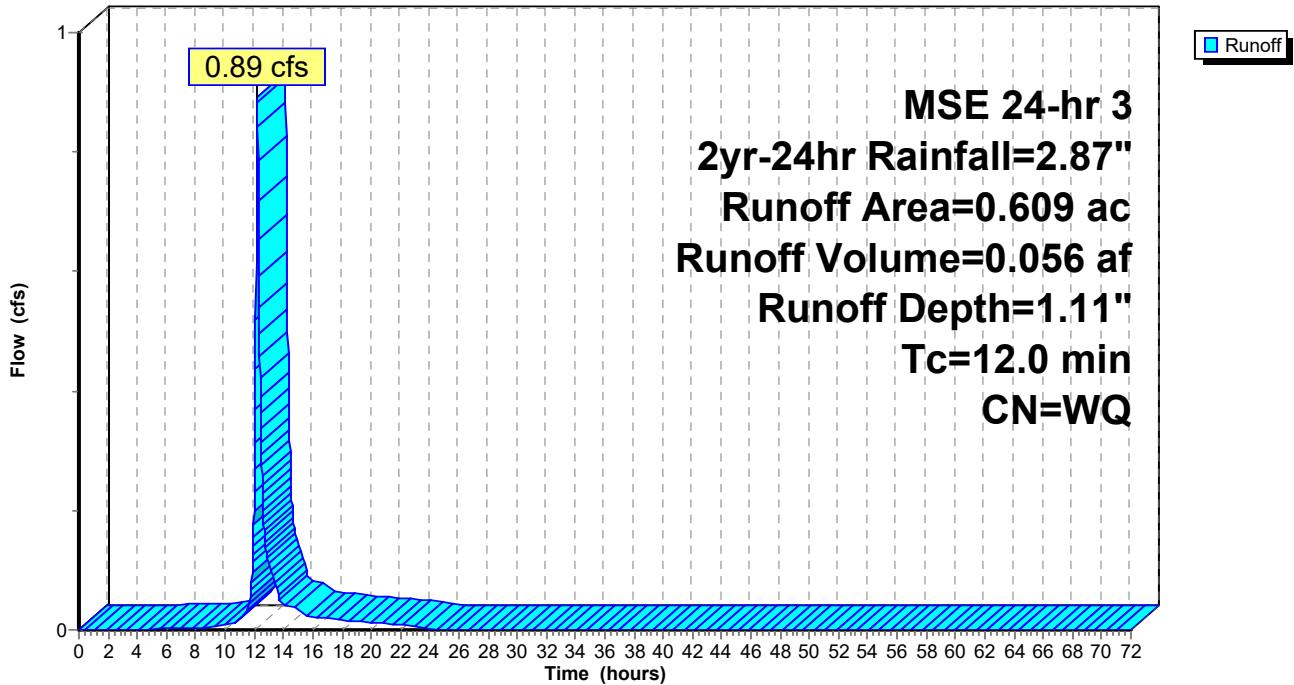
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.094	98	Impervious
0.515	74	>75% Grass cover, Good, HSG C
0.609		Weighted Average
0.515		84.56% Pervious Area
0.094		15.44% Impervious Area

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

Subcatchment O10: O10

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment O8: O8

Runoff = 0.68 cfs @ 12.21 hrs, Volume= 0.043 af, Depth= 1.05"

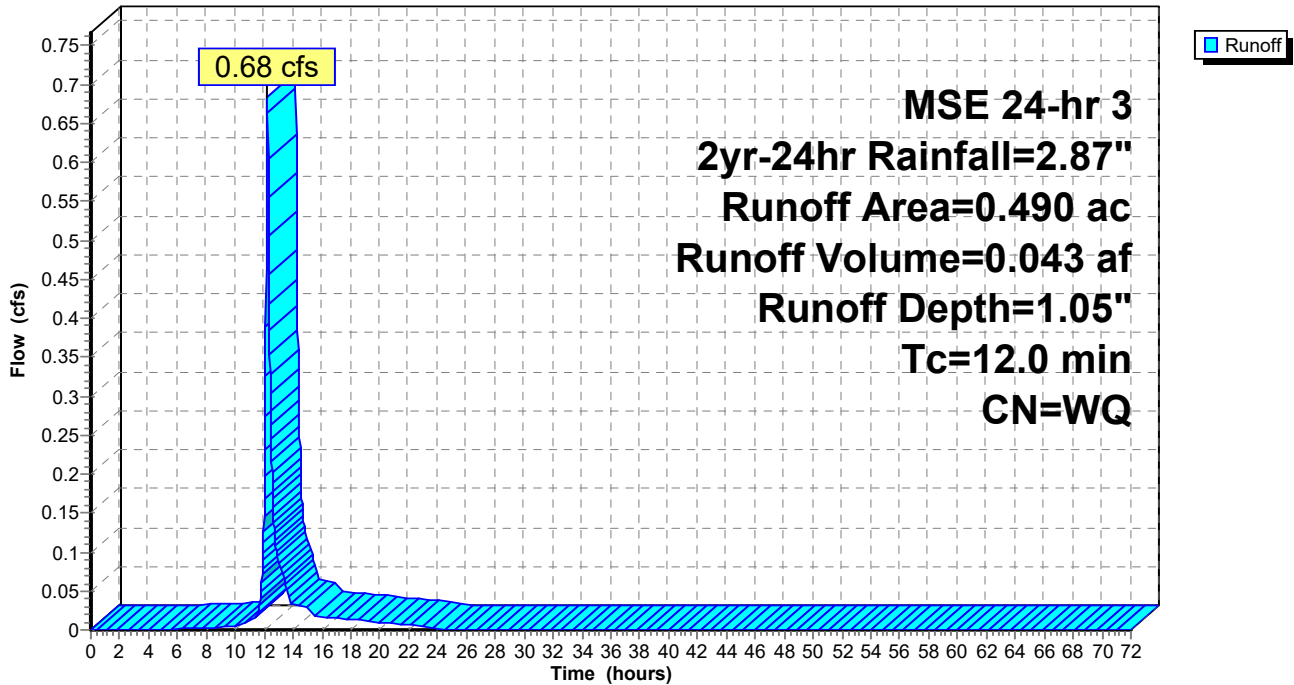
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.060	98	Impervious
0.430	74	>75% Grass cover, Good, HSG C
0.490		Weighted Average
0.430		87.76% Pervious Area
0.060		12.24% Impervious Area

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

Subcatchment O8: O8

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment O9: O9

Runoff = 1.79 cfs @ 12.20 hrs, Volume= 0.113 af, Depth= 1.19"

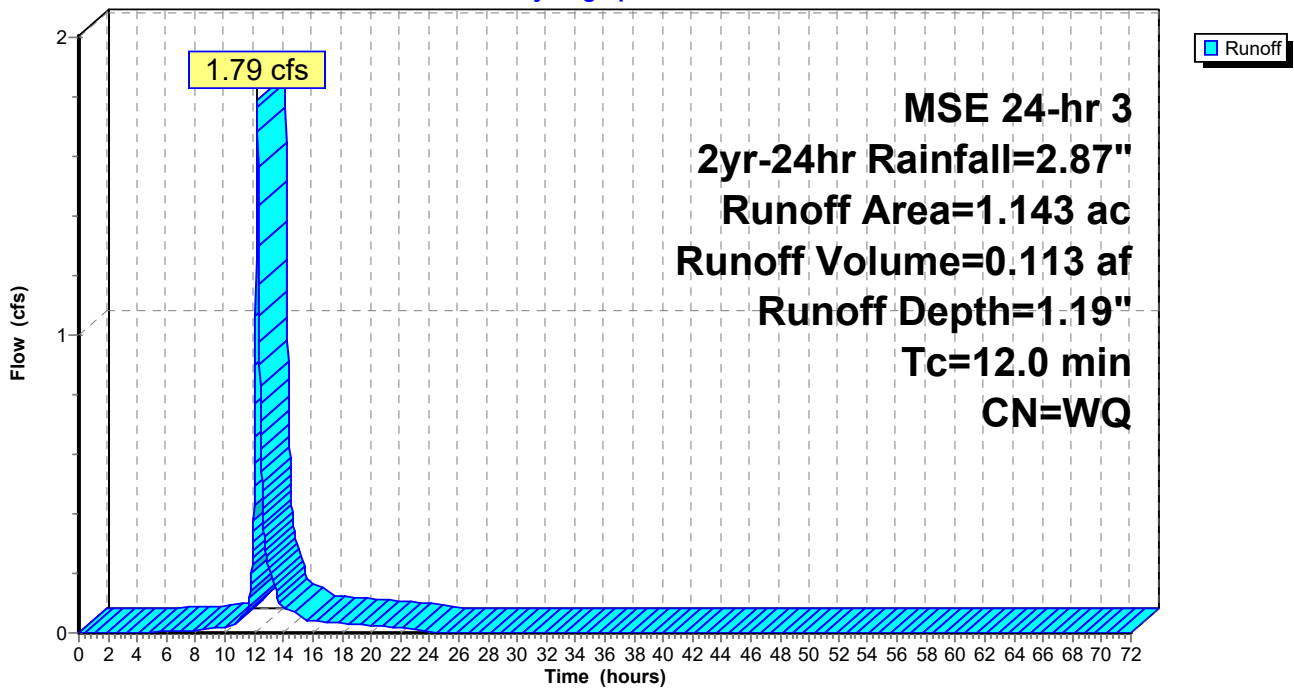
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.227	98	Impervious
0.916	74	>75% Grass cover, Good, HSG C
1.143		Weighted Average
0.916		80.14% Pervious Area
0.227		19.86% Impervious Area

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

Subcatchment O9: O9

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment W6: W6

Runoff = 8.65 cfs @ 12.41 hrs, Volume= 0.828 af, Depth= 0.99"

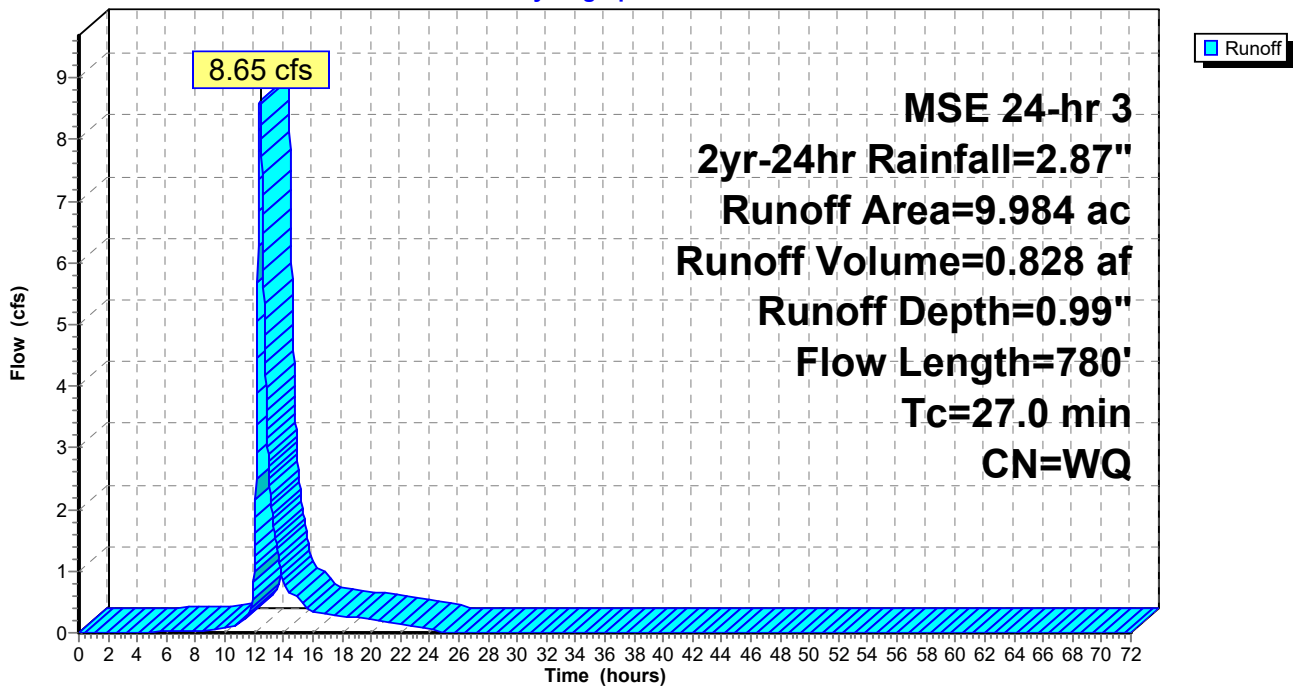
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
* 0.983	98	Impervious
6.862	74	>75% Grass cover, Good, HSG C
2.139	73	Woods, Fair, HSG C
9.984		Weighted Average
9.001		90.15% Pervious Area
0.983		9.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.4	300	0.0330	0.25		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
6.6	480	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
27.0	780	Total			

Subcatchment W6: W6

Hydrograph



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Summary for Subcatchment W6_100: W6_100

Runoff = 0.11 cfs @ 12.66 hrs, Volume= 0.014 af, Depth= 0.80"

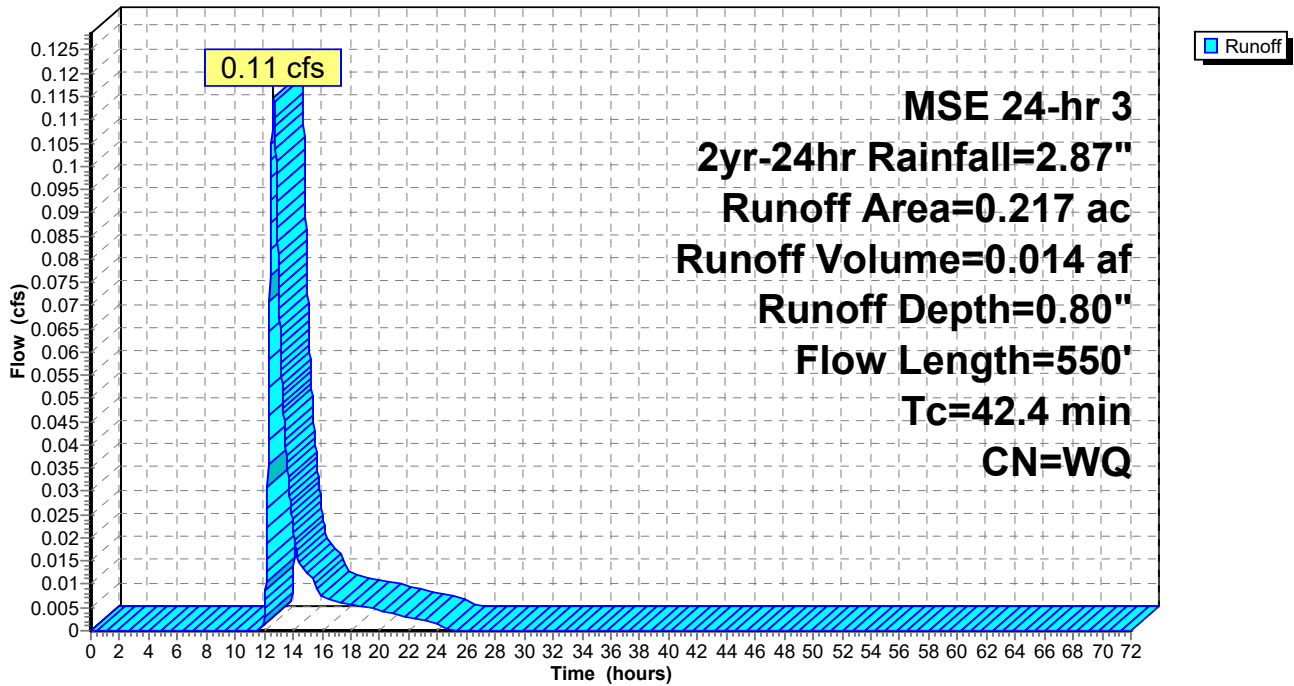
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.094	74	>75% Grass cover, Good, HSG C
0.123	73	Woods, Fair, HSG C
0.217		Weighted Average
0.217		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.8	300	0.0470	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.87"
3.6	250	0.0280	1.17		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
42.4	550	Total			

Subcatchment W6_100: W6_100

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Summary for Subcatchment W6_101: W6_101

Runoff = 2.40 cfs @ 12.29 hrs, Volume= 0.191 af, Depth= 1.06"

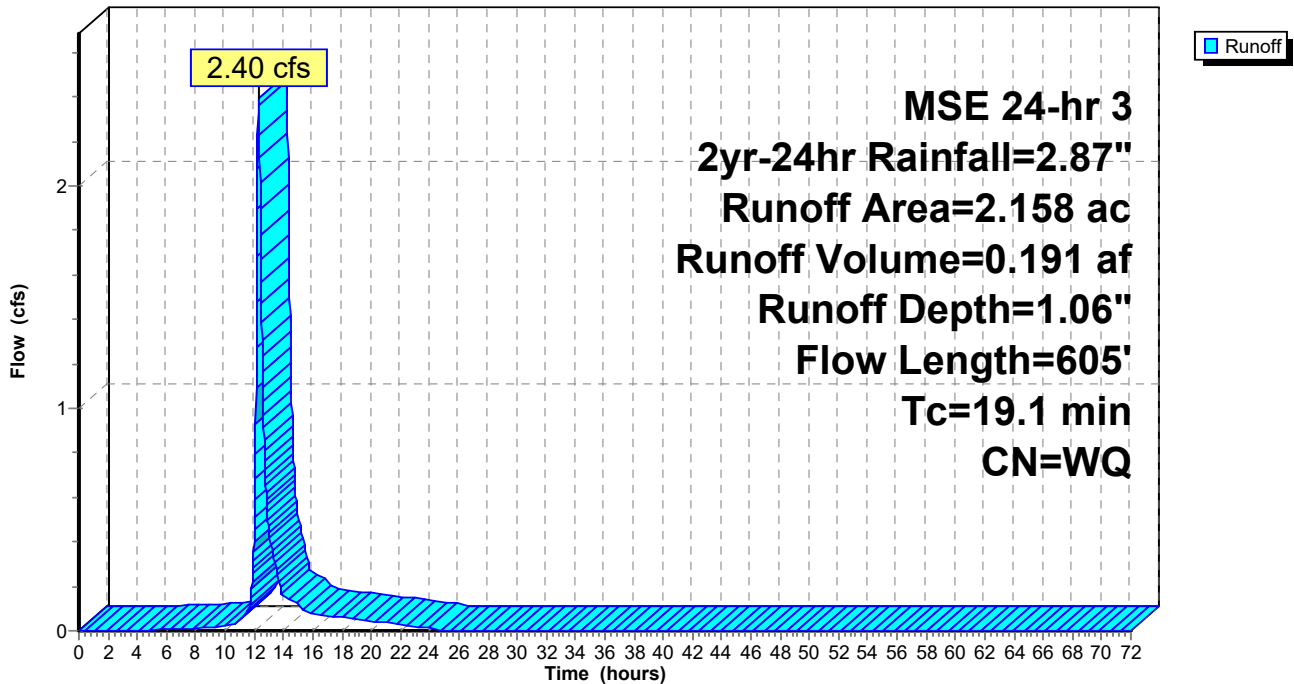
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
1.405	74	>75% Grass cover, Good, HSG C
* 0.290	98	Impervious
0.463	73	Woods, Fair, HSG C
2.158		Weighted Average
1.868		86.56% Pervious Area
0.290		13.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	295	0.0680	0.33		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
4.0	310	0.0340	1.29		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
19.1	605	Total			

Subcatchment W6_101: W6_101

Hydrograph



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Summary for Subcatchment W6_102: W6_102

Runoff = 0.26 cfs @ 12.26 hrs, Volume= 0.018 af, Depth= 0.83"

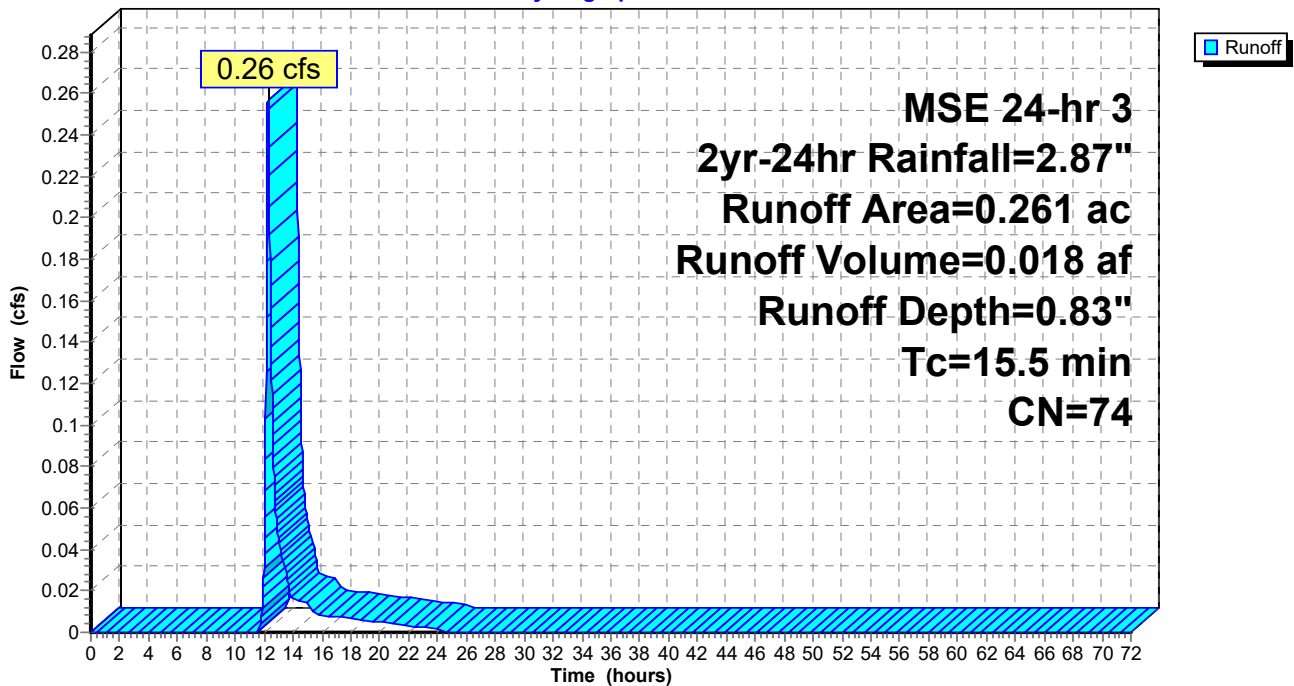
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.261	74	>75% Grass cover, Good, HSG C
0.261		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5					Direct Entry, From Existing Conditions (EX_5)

Subcatchment W6_102: W6_102

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment W9: W9

Runoff = 2.48 cfs @ 12.21 hrs, Volume= 0.155 af, Depth= 1.04"

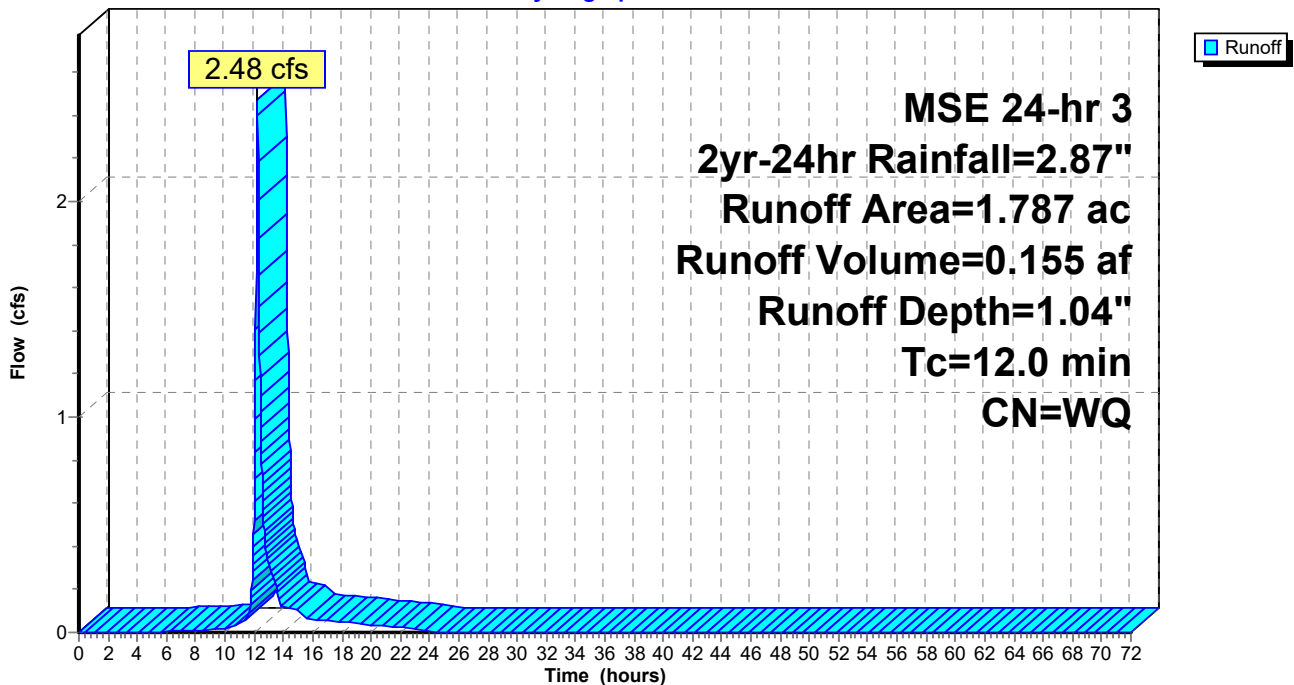
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
1.416	74	>75% Grass cover, Good, HSG C
* 0.217	98	Pond
0.154	73	Woods, Fair, HSG C
1.787		Weighted Average
1.570		87.86% Pervious Area
0.217		12.14% Impervious Area

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

Subcatchment W9: W9

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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Subcatchment W9_100: W9_100

Runoff = 2.33 cfs @ 12.50 hrs, Volume= 0.256 af, Depth= 1.23"

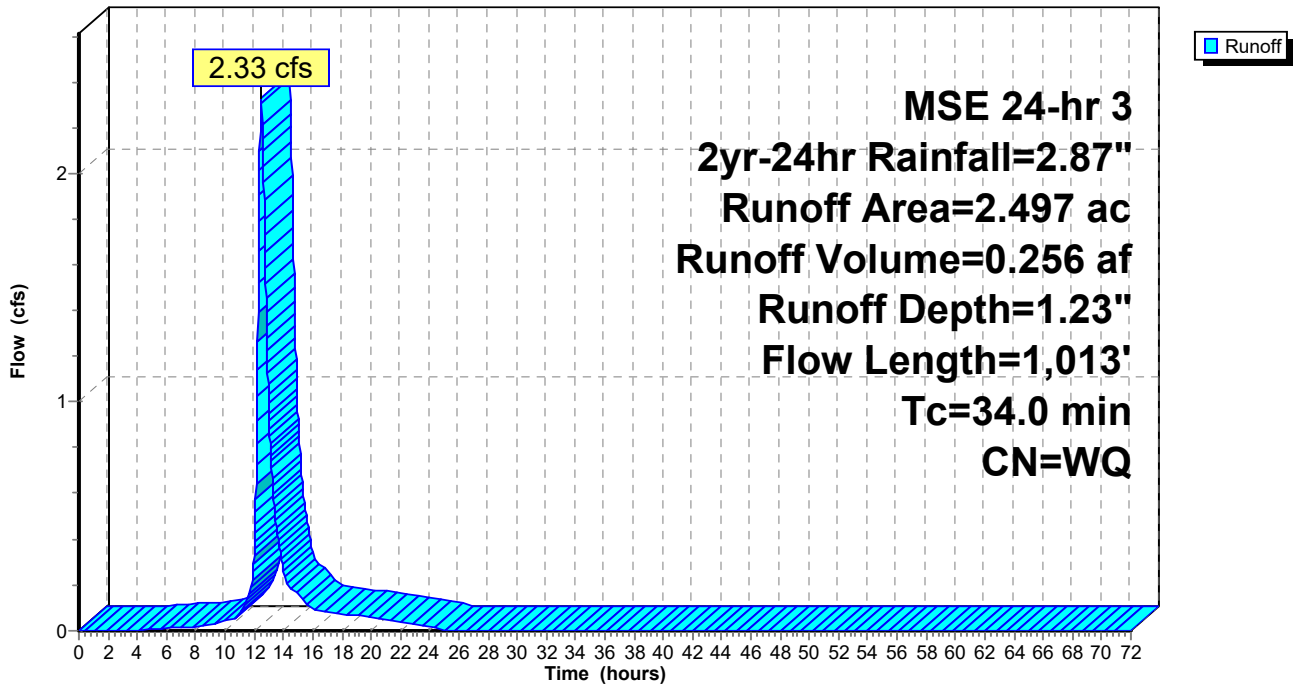
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
1.912	74	>75% Grass cover, Good, HSG C
* 0.557	98	Impervious
0.028	73	Woods, Fair, HSG C
<hr/>		
2.497		Weighted Average
1.940		77.69% Pervious Area
0.557		22.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	223	0.0450	0.26		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
19.8	790	0.0090	0.66		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
<hr/>					
34.0	1,013	Total			

Subcatchment W9_100: W9_100

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Summary for Subcatchment W9_101: W9_101

Runoff = 1.04 cfs @ 12.25 hrs, Volume= 0.077 af, Depth= 1.72"

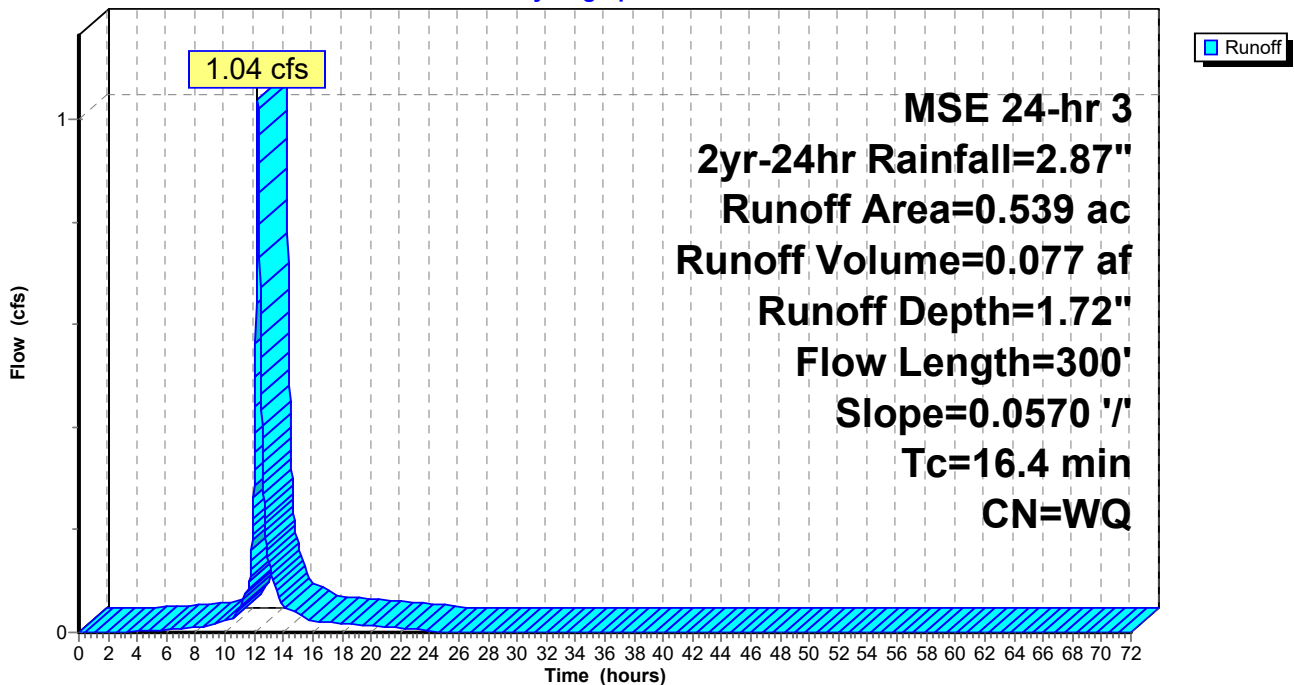
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

Area (ac)	CN	Description
0.274	74	>75% Grass cover, Good, HSG C
* 0.265	98	Impervious
0.539		Weighted Average
0.274		50.83% Pervious Area
0.265		49.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	300	0.0570	0.31		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment W9_101: W9_101

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Summary for Reach 1R: Bassett Creek Watershed

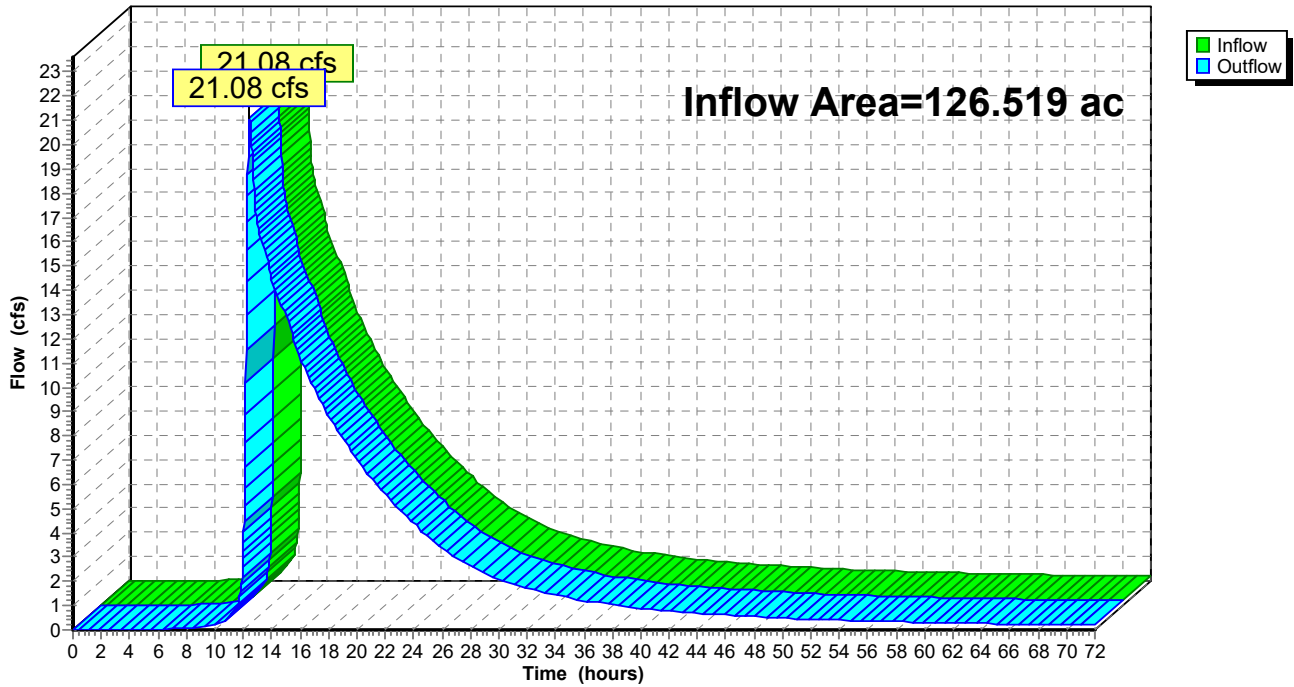
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 126.519 ac, 32.48% Impervious, Inflow Depth > 1.28" for 2yr-24hr event
Inflow = 21.08 cfs @ 12.46 hrs, Volume= 13.503 af
Outflow = 21.08 cfs @ 12.46 hrs, Volume= 13.503 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 1R: Bassett Creek Watershed

Hydrograph



Summary for Reach 5R: Elm Creek Watershed

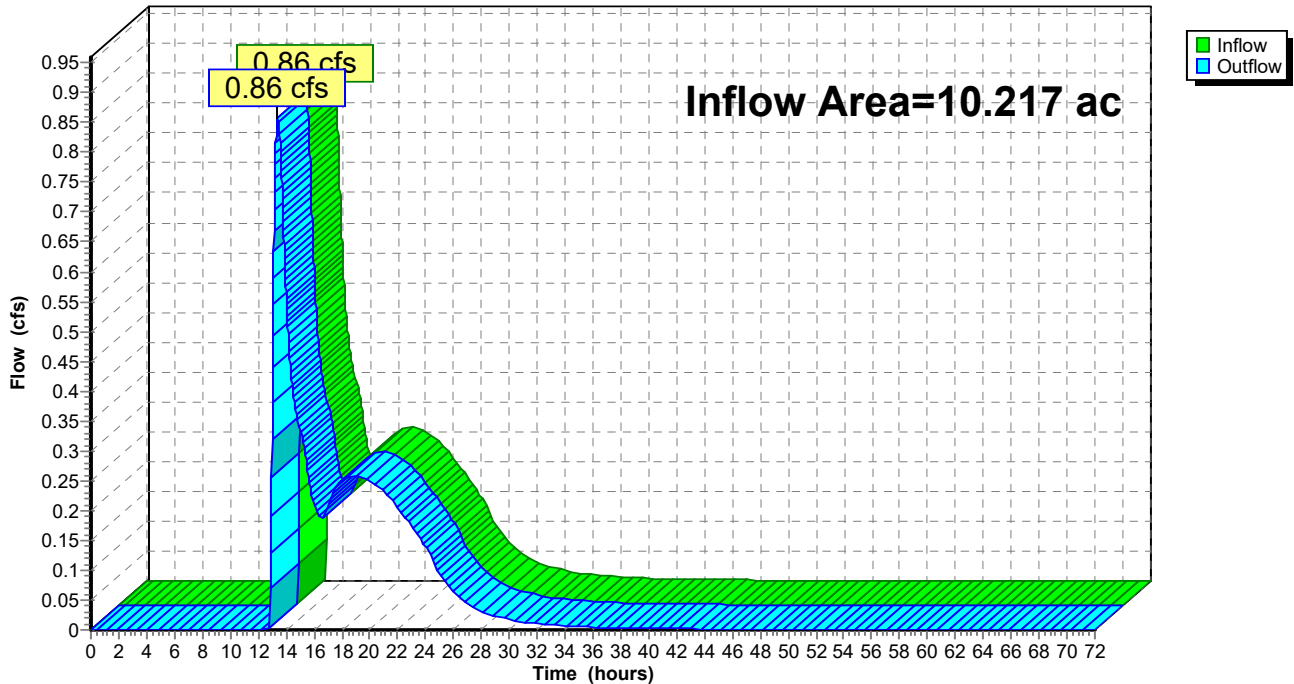
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 10.217 ac, 25.83% Impervious, Inflow Depth > 0.35" for 2yr-24hr event
Inflow = 0.86 cfs @ 13.40 hrs, Volume= 0.297 af
Outflow = 0.86 cfs @ 13.40 hrs, Volume= 0.297 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 5R: Elm Creek Watershed

Hydrograph



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Summary for Reach 8R: Offsite

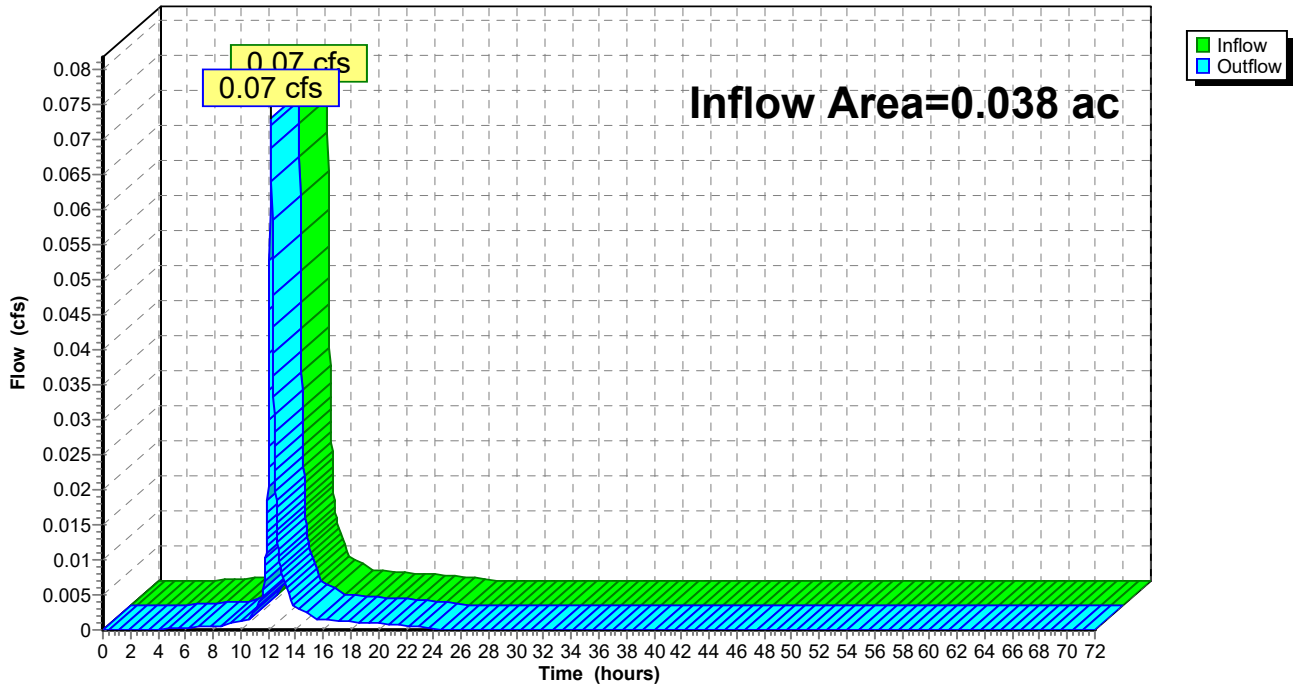
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.038 ac, 36.84% Impervious, Inflow Depth = 1.49" for 2yr-24hr event
Inflow = 0.07 cfs @ 12.20 hrs, Volume= 0.005 af
Outflow = 0.07 cfs @ 12.20 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 8R: Offsite

Hydrograph



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Summary for Reach Wetland: Wetland 6

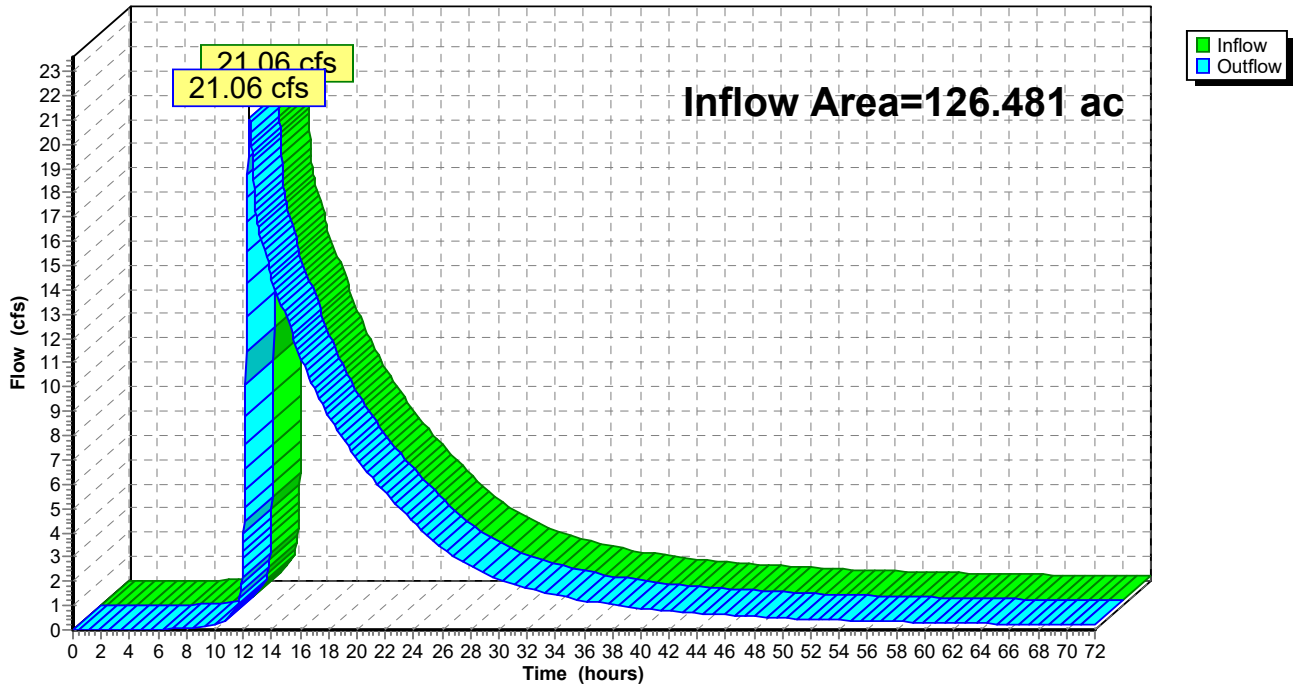
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 126.481 ac, 32.48% Impervious, Inflow Depth > 1.28" for 2yr-24hr event
Inflow = 21.06 cfs @ 12.46 hrs, Volume= 13.498 af
Outflow = 21.06 cfs @ 12.46 hrs, Volume= 13.498 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach Wetland: Wetland 6

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond 4P: CB_22 pipe

[57] Hint: Peaked at 969.87' (Flood elevation advised)

Inflow Area = 0.256 ac, 27.73% Impervious, Inflow Depth = 1.33" for 2yr-24hr event
 Inflow = 0.45 cfs @ 12.20 hrs, Volume= 0.028 af
 Outflow = 0.45 cfs @ 12.20 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.45 cfs @ 12.20 hrs, Volume= 0.028 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 969.87' @ 12.25 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	969.20'	24.0" Round Structure I2 to I1 L= 40.7' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.20' / 969.00' S= 0.0049 ' S= 0.0049 ' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	969.50'	21.0" Round Structure I9 to I2 L= 87.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.50' / 969.20' S= 0.0034 ' S= 0.0034 ' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf

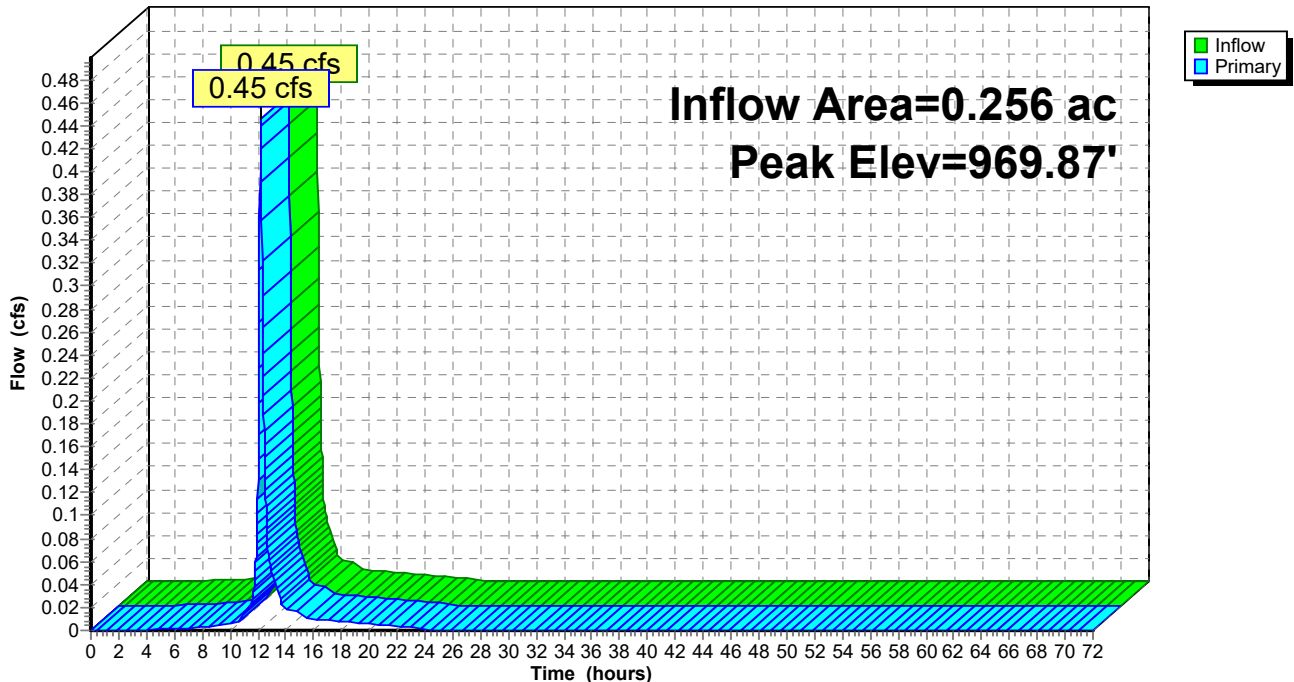
Primary OutFlow Max=0.42 cfs @ 12.20 hrs HW=969.86' TW=969.59' (Dynamic Tailwater)

1=Structure I2 to I1 (Passes 0.42 cfs of 1.71 cfs potential flow)

2=Structure I9 to I2 (Outlet Controls 0.42 cfs @ 1.74 fps)

Pond 4P: CB_22 pipe

Hydrograph



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Summary for Pond CB_A10: CB_A8

Inflow Area = 0.864 ac, 35.88% Impervious, Inflow Depth = 1.48" for 2yr-24hr event
 Inflow = 1.66 cfs @ 12.20 hrs, Volume= 0.106 af
 Outflow = 1.66 cfs @ 12.20 hrs, Volume= 0.106 af, Atten= 0%, Lag= 0.2 min
 Primary = 1.66 cfs @ 12.20 hrs, Volume= 0.106 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 996.17' @ 12.20 hrs Surf.Area= 193 sf Storage= 21 cf

Plug-Flow detention time= 0.3 min calculated for 0.106 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (788.3 - 788.0)

Volume	Invert	Avail.Storage	Storage Description
#1	996.00'	29,250 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
996.00	50	0	0
998.00	1,700	1,750	1,750
1,000.00	8,600	10,300	12,050
1,002.00	8,600	17,200	29,250

Device	Routing	Invert	Outlet Devices
#1	Primary	996.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.66 cfs @ 12.20 hrs HW=996.17' TW=978.51' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 1.66 cfs @ 1.36 fps)

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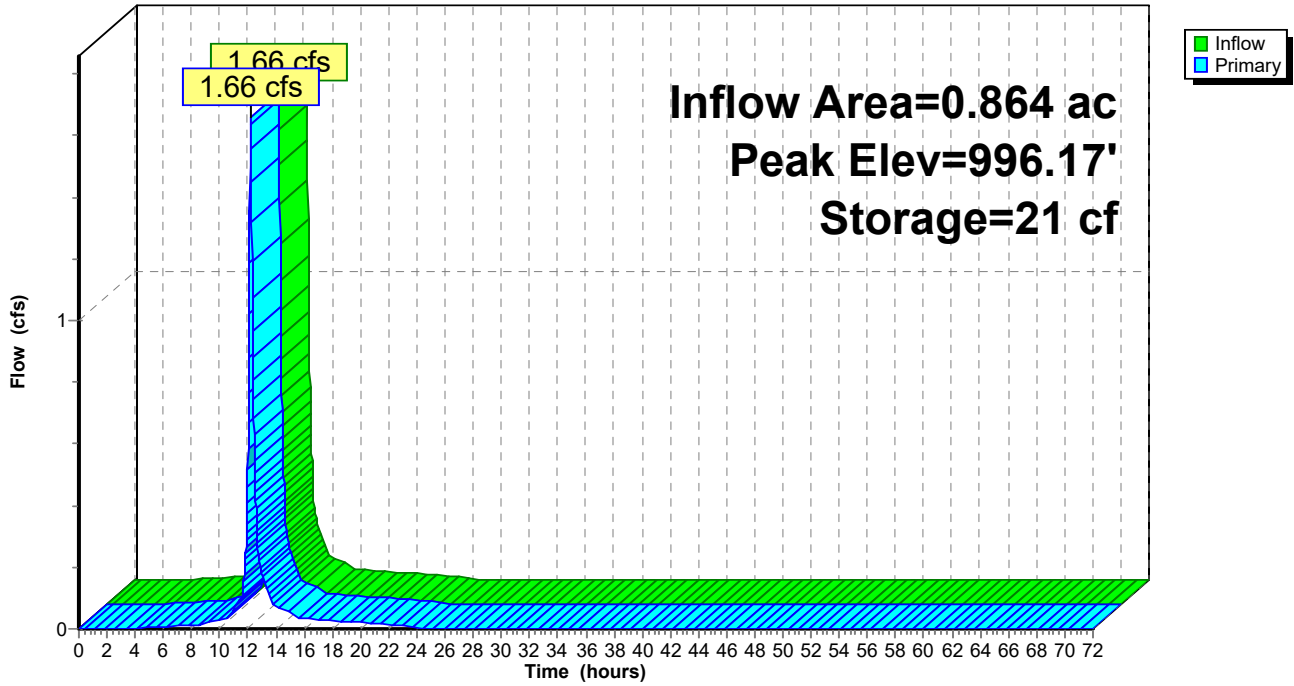
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_A10: CB_A8

Hydrograph



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Summary for Pond CB_A15: CB_A7

Inflow Area = 0.696 ac, 28.02% Impervious, Inflow Depth = 1.33" for 2yr-24hr event
 Inflow = 1.22 cfs @ 12.20 hrs, Volume= 0.077 af
 Outflow = 1.21 cfs @ 12.21 hrs, Volume= 0.077 af, Atten= 1%, Lag= 0.7 min
 Primary = 1.21 cfs @ 12.21 hrs, Volume= 0.077 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 998.14' @ 12.21 hrs Surf.Area= 552 sf Storage= 42 cf

Plug-Flow detention time= 0.5 min calculated for 0.077 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (795.5 - 795.0)

Volume	Invert	Avail.Storage	Storage Description
#1	998.00'	29,010 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
998.00	50	0	0
1,000.00	7,240	7,290	7,290
1,003.00	7,240	21,720	29,010

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,000.00'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.20 cfs @ 12.21 hrs HW=998.14' TW=978.53' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 1.20 cfs @ 1.22 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=998.00' TW=996.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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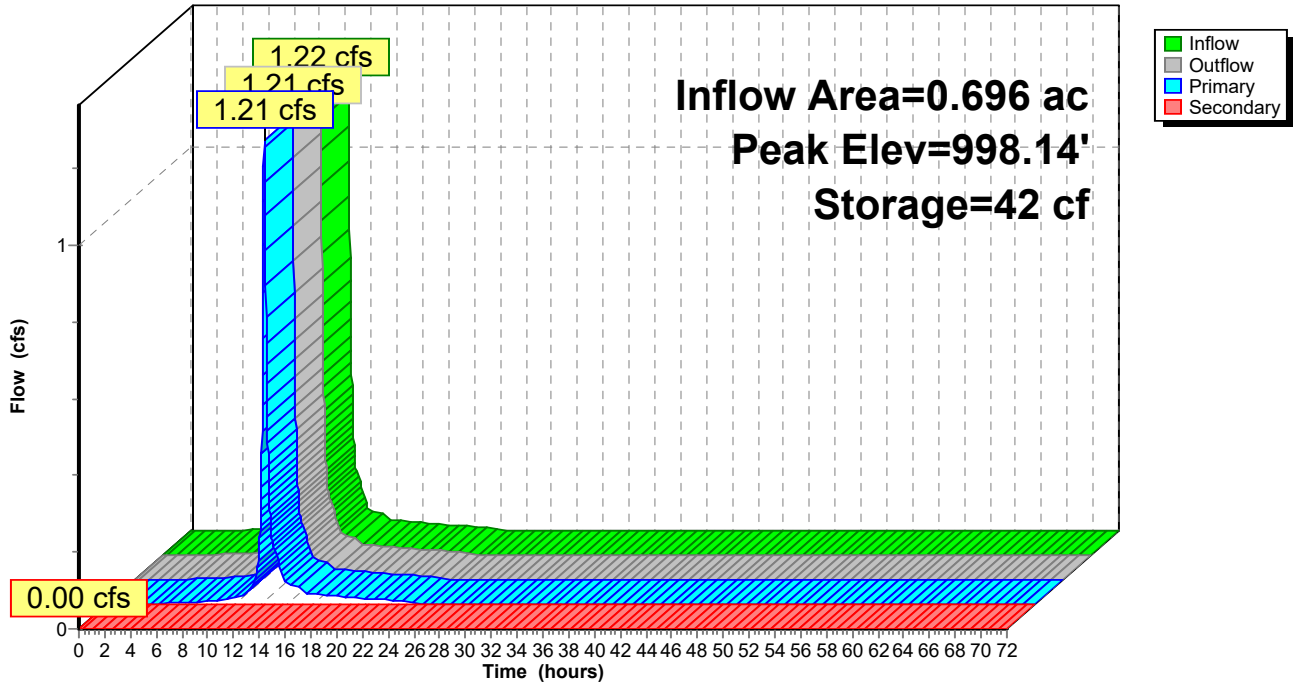
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_A15: CB_A7

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Summary for Pond CB_A8: CB_A20

Inflow Area = 0.766 ac, 20.23% Impervious, Inflow Depth = 1.19" for 2yr-24hr event
 Inflow = 1.21 cfs @ 12.20 hrs, Volume= 0.076 af
 Outflow = 1.13 cfs @ 12.24 hrs, Volume= 0.076 af, Atten= 6%, Lag= 2.2 min
 Primary = 1.13 cfs @ 12.24 hrs, Volume= 0.076 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,000.51' @ 12.24 hrs Surf.Area= 580 sf Storage= 198 cf

Plug-Flow detention time= 6.6 min calculated for 0.076 af (100% of inflow)
 Center-of-Mass det. time= 6.7 min (810.2 - 803.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	30,360 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,000.00	200	0	0
1,002.00	1,700	1,900	1,900
1,004.00	8,920	10,620	12,520
1,006.00	8,920	17,840	30,360

Device	Routing	Invert	Outlet Devices
#1	Primary	996.47'	18.0" Round Culvert L= 139.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 996.47' / 996.07' S= 0.0029 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#2	Device 1	1,000.00'	15.0" Round Culvert L= 37.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,000.00' / 996.47' S= 0.0954 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#3	Secondary	1,004.00'	5.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=1.13 cfs @ 12.24 hrs HW=1,000.51' TW=978.57' (Dynamic Tailwater)

↑ **1=Culvert** (Passes 1.13 cfs of 12.56 cfs potential flow)

↑ **2=Culvert** (Inlet Controls 1.13 cfs @ 2.42 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,000.00' TW=994.00' (Dynamic Tailwater)

↑ **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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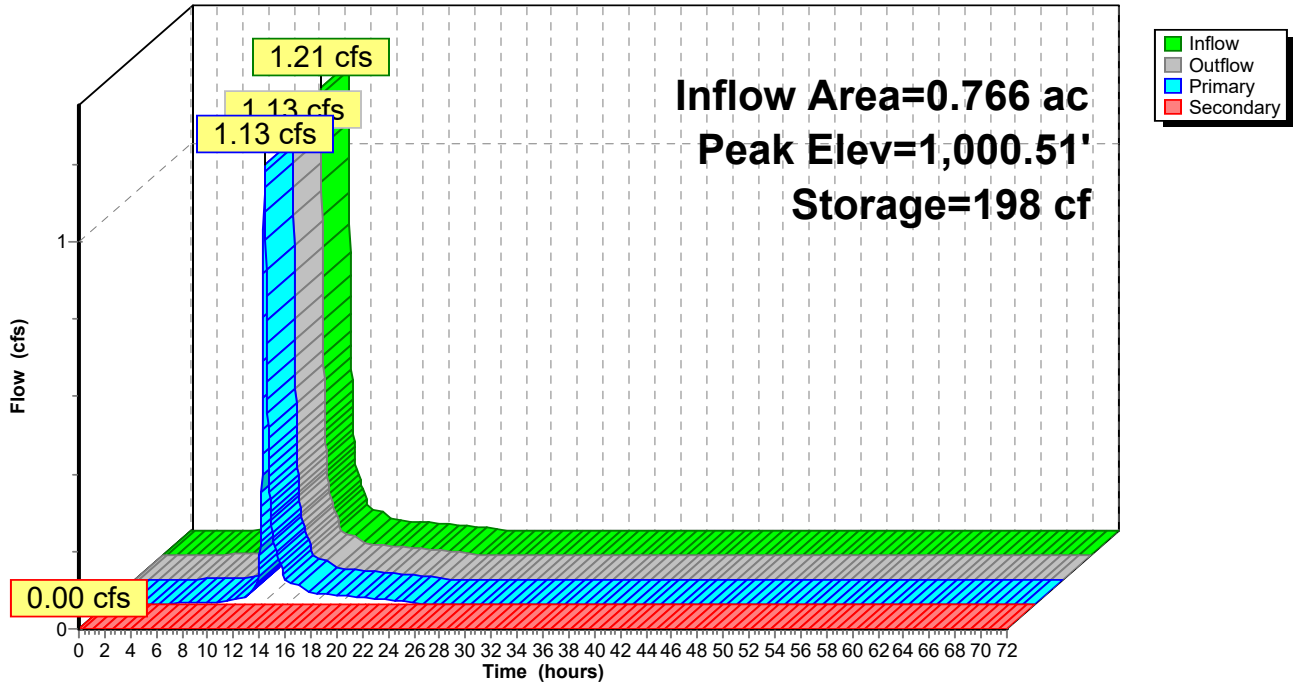
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_A8: CB_A20

Hydrograph



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Summary for Pond CB_B5: CB_A10

Inflow Area = 1.692 ac, 9.57% Impervious, Inflow Depth = 0.99" for 2yr-24hr event
 Inflow = 2.24 cfs @ 12.21 hrs, Volume= 0.140 af
 Outflow = 2.24 cfs @ 12.21 hrs, Volume= 0.140 af, Atten= 0%, Lag= 0.2 min
 Primary = 2.24 cfs @ 12.21 hrs, Volume= 0.140 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 995.21' @ 12.21 hrs Surf.Area= 187 sf Storage= 25 cf

Plug-Flow detention time= 0.2 min calculated for 0.140 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (819.6 - 819.3)

Volume	Invert	Avail.Storage	Storage Description
#1	995.00'	4,275 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
995.00	50	0	0
996.00	700	375	375
998.00	3,200	3,900	4,275

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	997.00'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.23 cfs @ 12.21 hrs HW=995.21' TW=978.52' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 2.23 cfs @ 1.50 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=995.00' TW=994.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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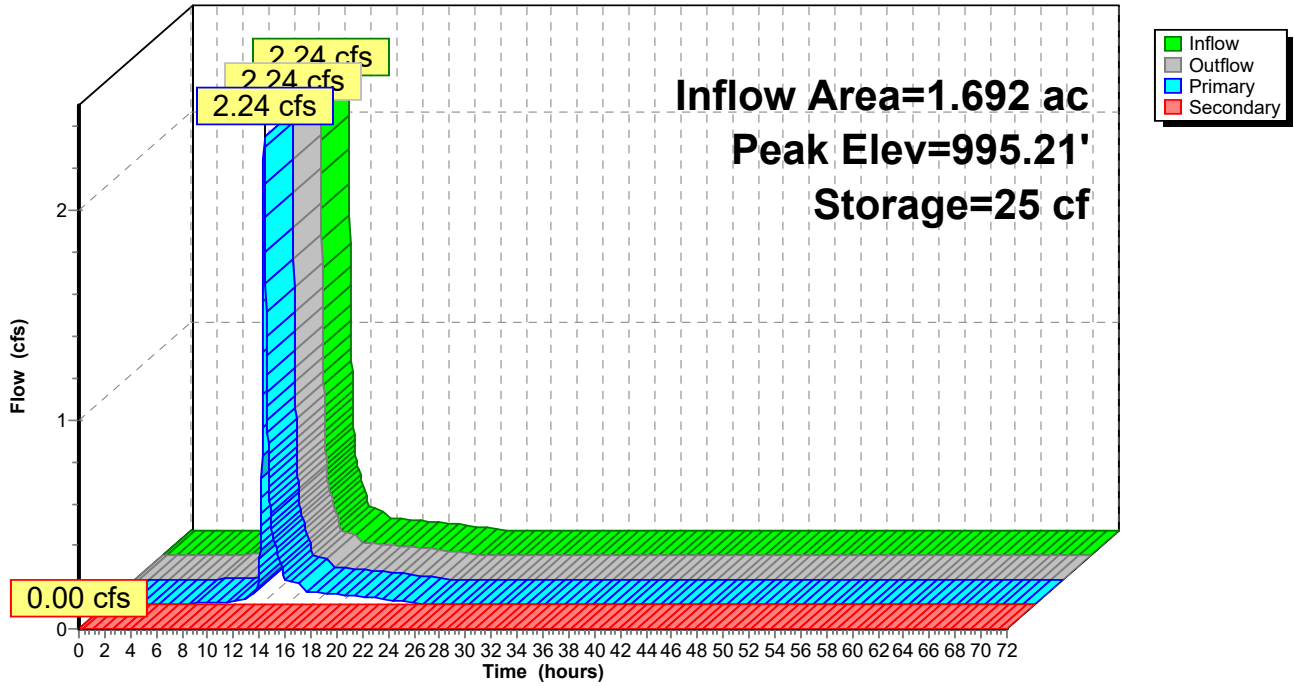
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_B5: CB_A10

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_B6: CB_A11

Inflow Area = 1.508 ac, 12.07% Impervious, Inflow Depth = 1.32" for 2yr-24hr event
 Inflow = 2.63 cfs @ 12.21 hrs, Volume= 0.166 af
 Outflow = 2.62 cfs @ 12.22 hrs, Volume= 0.166 af, Atten= 0%, Lag= 0.6 min
 Primary = 2.62 cfs @ 12.22 hrs, Volume= 0.166 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 994.23' @ 12.22 hrs Surf.Area= 546 sf Storage= 70 cf

Plug-Flow detention time= 0.4 min calculated for 0.166 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (814.1 - 813.7)

Volume	Invert	Avail.Storage	Storage Description
#1	994.00'	29,510 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.00	50	0	0
996.00	4,280	4,330	4,330
998.00	20,900	25,180	29,510

Device	Routing	Invert	Outlet Devices
#1	Primary	994.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	997.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.62 cfs @ 12.22 hrs HW=994.23' TW=978.54' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 2.62 cfs @ 1.58 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=994.00' TW=994.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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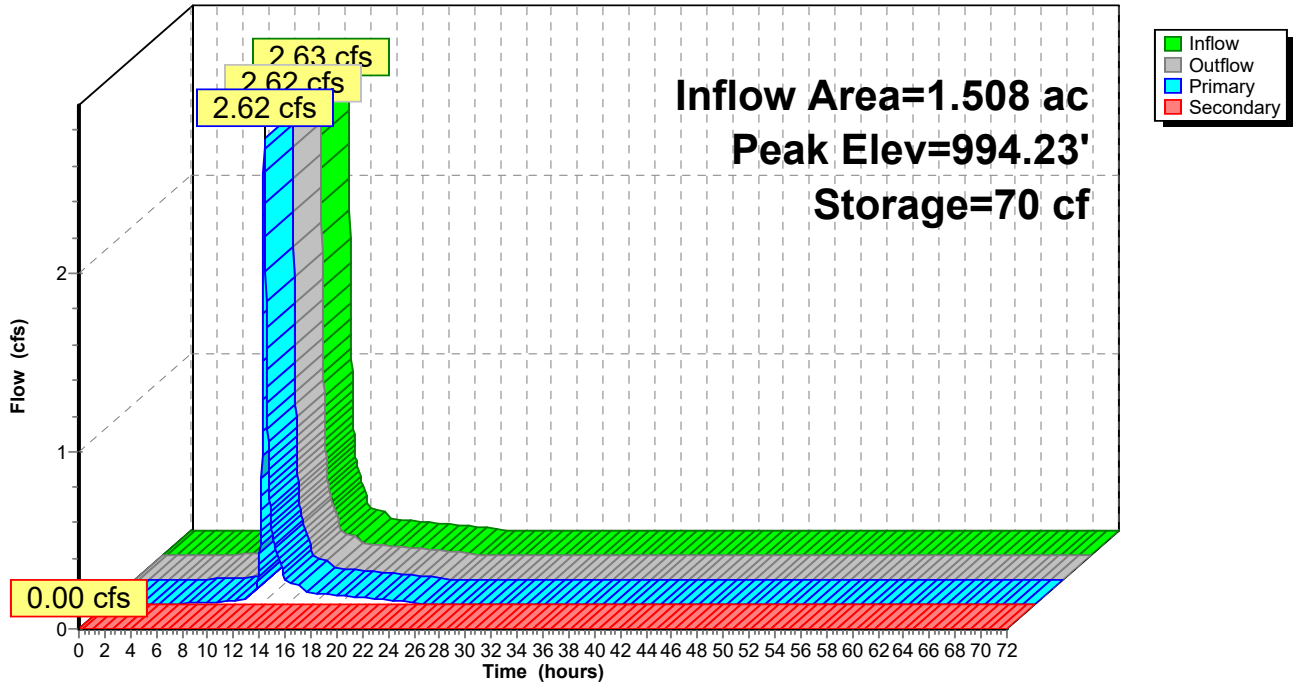
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_B6: CB_A11

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_B7: CB_A12

Inflow Area = 0.993 ac, 19.54% Impervious, Inflow Depth = 1.18" for 2yr-24hr event
 Inflow = 1.55 cfs @ 12.20 hrs, Volume= 0.098 af
 Outflow = 1.52 cfs @ 12.22 hrs, Volume= 0.098 af, Atten= 2%, Lag= 1.1 min
 Primary = 0.98 cfs @ 12.22 hrs, Volume= 0.063 af
 Secondary = 0.54 cfs @ 12.22 hrs, Volume= 0.035 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 998.12' @ 12.22 hrs Surf.Area= 1,240 sf Storage= 157 cf

Plug-Flow detention time= 5.9 min calculated for 0.098 af (100% of inflow)
 Center-of-Mass det. time= 4.6 min (808.9 - 804.4)

Volume	Invert	Avail.Storage	Storage Description
#1	997.99'	1,246 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
997.99	50	0	0
998.00	1,240	6	6
999.00	1,240	1,240	1,246

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	998.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.98 cfs @ 12.22 hrs HW=998.12' TW=978.54' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 0.98 cfs @ 1.14 fps)

Secondary OutFlow Max=0.54 cfs @ 12.22 hrs HW=998.12' TW=994.23' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 0.54 cfs @ 0.89 fps)

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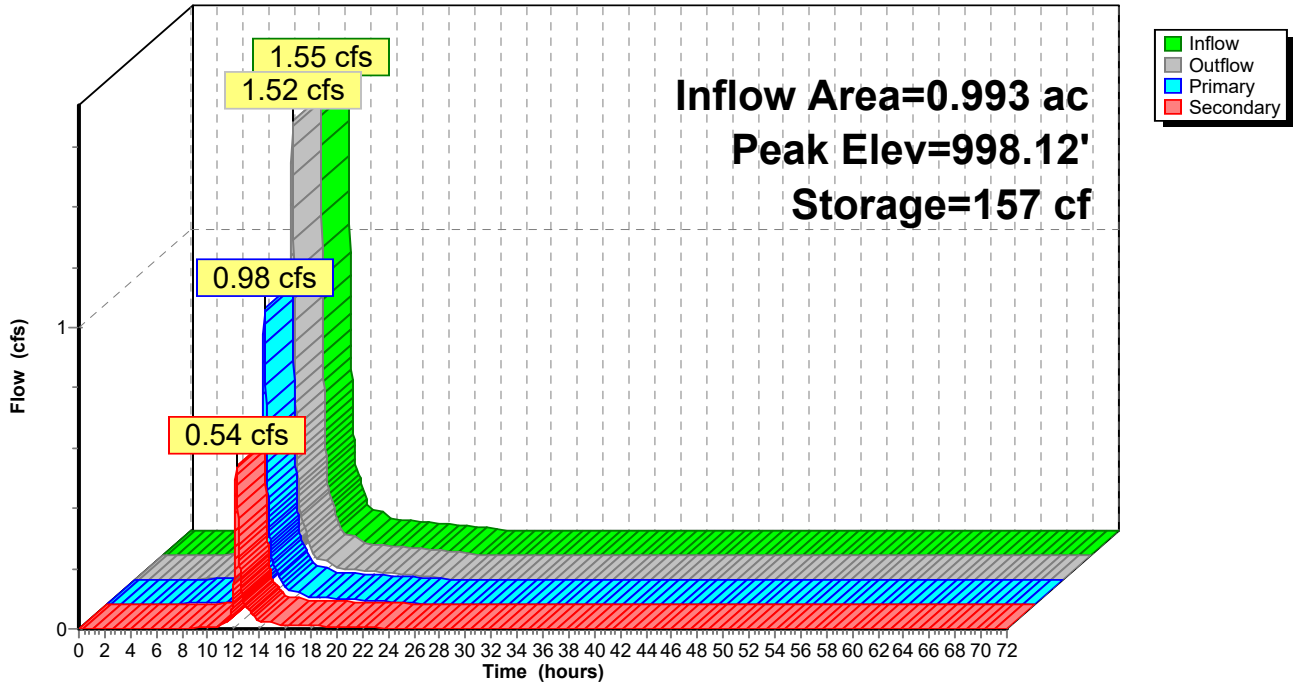
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_B7: CB_A12

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_C10: CB_C10

Inflow Area = 2.067 ac, 23.66% Impervious, Inflow Depth = 1.26" for 2yr-24hr event
 Inflow = 3.41 cfs @ 12.20 hrs, Volume= 0.216 af
 Outflow = 3.37 cfs @ 12.22 hrs, Volume= 0.216 af, Atten= 1%, Lag= 1.0 min
 Primary = 3.37 cfs @ 12.22 hrs, Volume= 0.216 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 994.28' @ 12.22 hrs Surf.Area= 1,081 sf Storage= 157 cf

Plug-Flow detention time= 0.6 min calculated for 0.216 af (100% of inflow)
 Center-of-Mass det. time= 0.6 min (800.1 - 799.5)

Volume	Invert	Avail.Storage	Storage Description
#1	994.00'	22,550 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.00	50	0	0
996.00	7,500	7,550	7,550
997.00	7,500	7,500	15,050
998.00	7,500	7,500	22,550

Device	Routing	Invert	Outlet Devices
#1	Primary	994.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	996.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.36 cfs @ 12.22 hrs HW=994.28' TW=978.54' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 3.36 cfs @ 1.72 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=994.00' TW=992.50' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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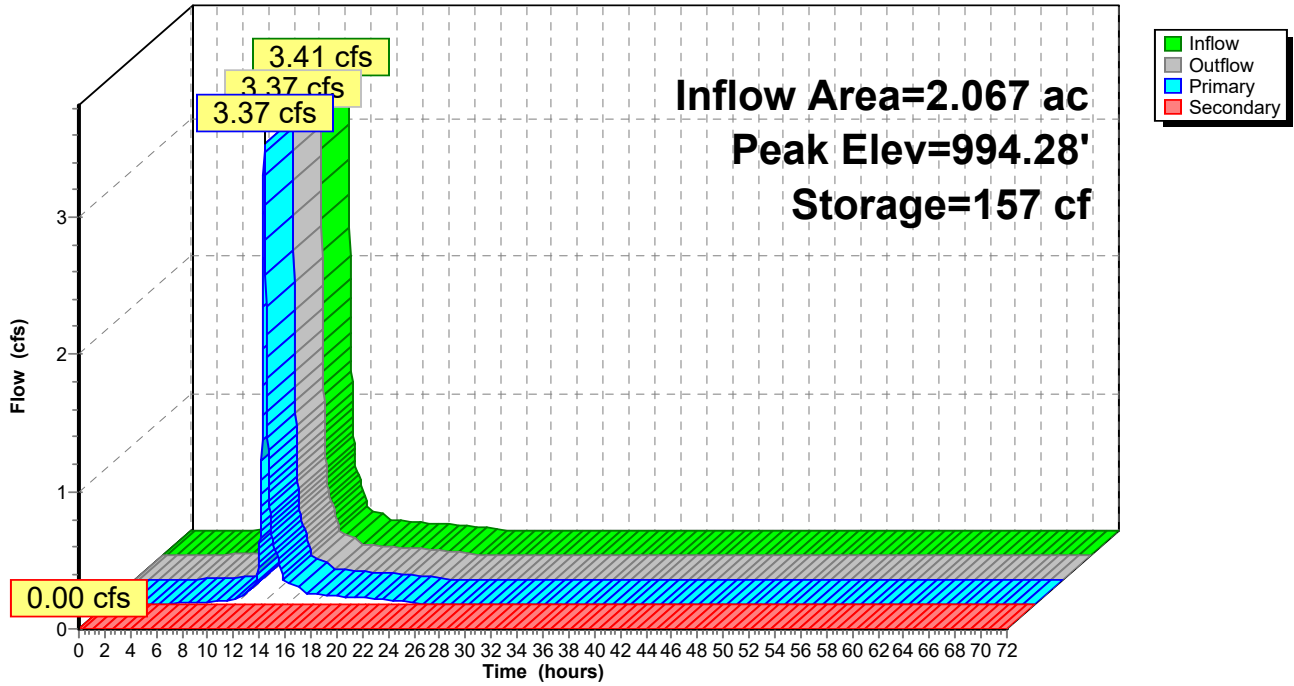
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_C10: CB_C10

Hydrograph



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Summary for Pond CB_C7: CB_C7

Inflow Area = 1.708 ac, 21.25% Impervious, Inflow Depth = 1.21" for 2yr-24hr event
 Inflow = 2.69 cfs @ 12.21 hrs, Volume= 0.173 af
 Outflow = 2.67 cfs @ 12.22 hrs, Volume= 0.173 af, Atten= 1%, Lag= 0.8 min
 Primary = 2.67 cfs @ 12.22 hrs, Volume= 0.173 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 992.74' @ 12.22 hrs Surf.Area= 747 sf Storage= 94 cf

Plug-Flow detention time= 0.5 min calculated for 0.172 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (803.2 - 802.7)

Volume	Invert	Avail.Storage	Storage Description
#1	992.50'	12,303 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.50	50	0	0
994.00	4,460	3,383	3,383
996.00	4,460	8,920	12,303

Device	Routing	Invert	Outlet Devices
#1	Primary	992.50'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	994.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.67 cfs @ 12.22 hrs HW=992.74' TW=978.54' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 2.67 cfs @ 1.59 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=992.50' TW=991.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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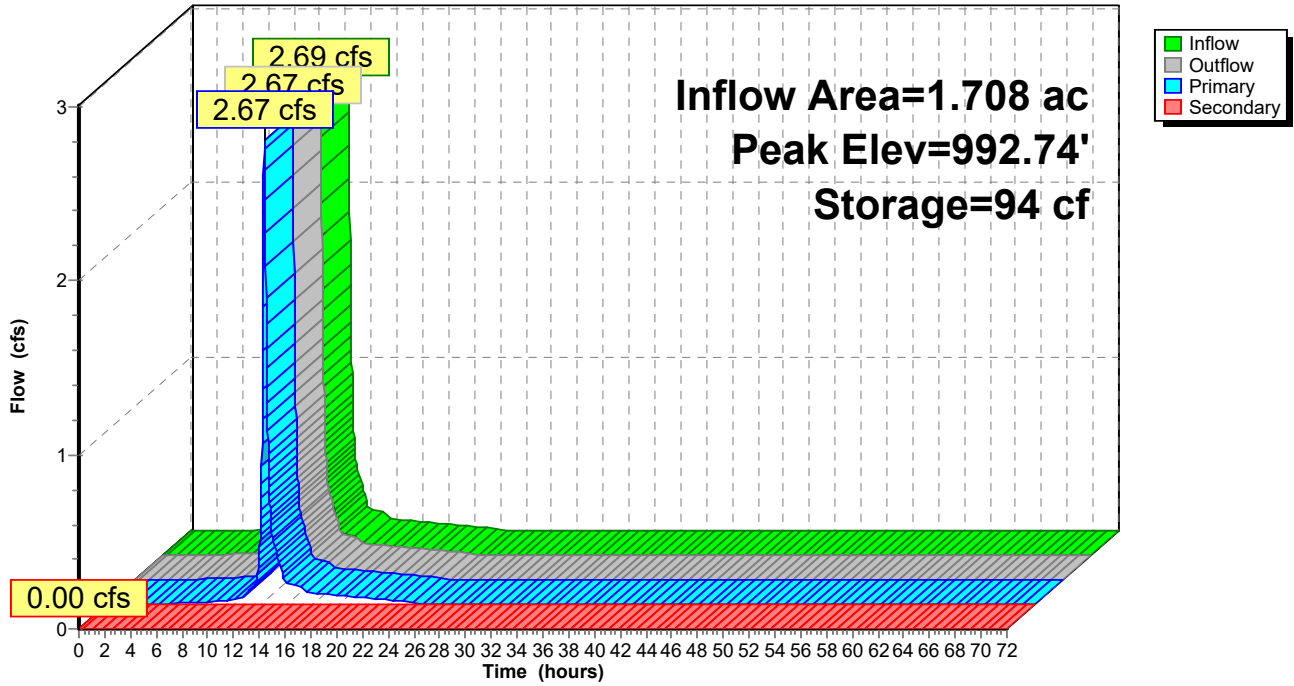
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_C7: CB_C7

Hydrograph



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Summary for Pond CB_C8: CB_C8

Inflow Area = 1.927 ac, 25.17% Impervious, Inflow Depth = 1.28" for 2yr-24hr event
 Inflow = 3.17 cfs @ 12.21 hrs, Volume= 0.206 af
 Outflow = 3.17 cfs @ 12.21 hrs, Volume= 0.206 af, Atten= 0%, Lag= 0.2 min
 Primary = 3.17 cfs @ 12.21 hrs, Volume= 0.206 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 991.27' @ 12.21 hrs Surf.Area= 253 sf Storage= 40 cf

Plug-Flow detention time= 0.2 min calculated for 0.206 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (798.7 - 798.5)

Volume	Invert	Avail.Storage	Storage Description
#1	991.00'	6,743 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
991.00	50	0	0
992.00	812	431	431
994.00	5,500	6,312	6,743

Device	Routing	Invert	Outlet Devices
#1	Primary	991.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.16 cfs @ 12.21 hrs HW=991.27' TW=978.53' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 3.16 cfs @ 1.68 fps)

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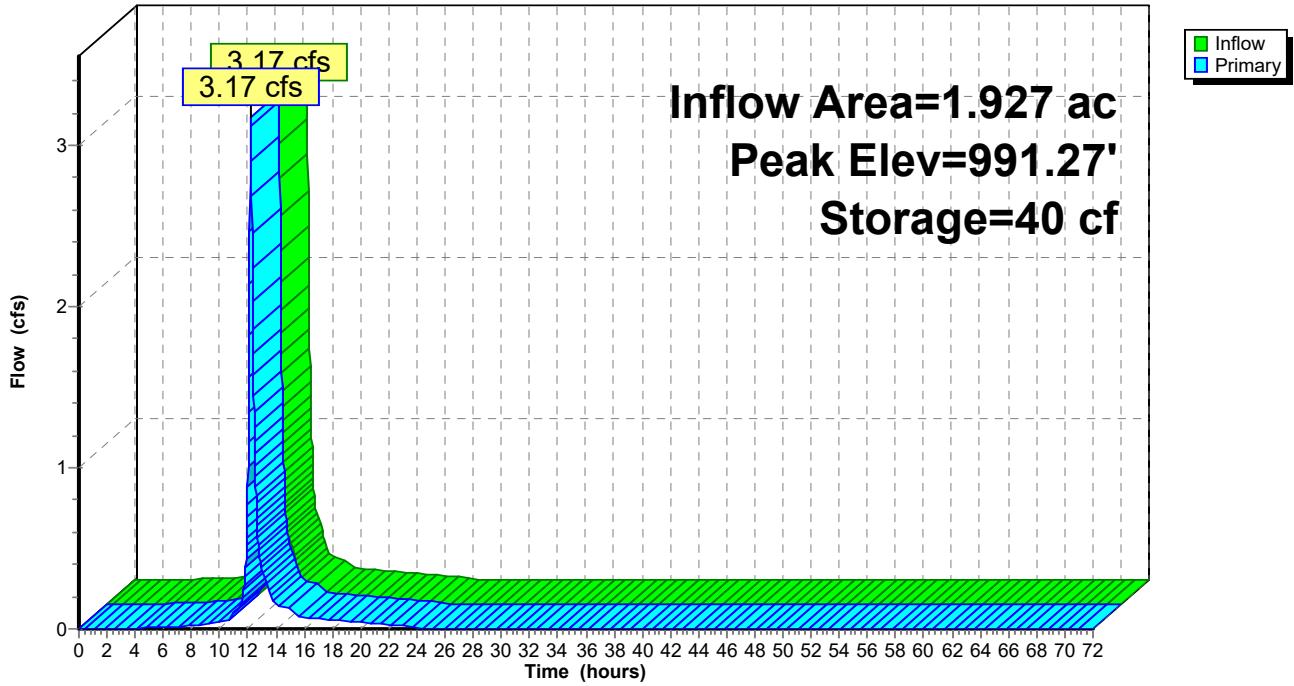
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_C8: CB_C8

Hydrograph



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Summary for Pond CB_C9: CB_C9

Inflow Area = 2.063 ac, 18.86% Impervious, Inflow Depth = 1.17" for 2yr-24hr event
 Inflow = 3.18 cfs @ 12.20 hrs, Volume= 0.201 af
 Outflow = 3.17 cfs @ 12.21 hrs, Volume= 0.201 af, Atten= 1%, Lag= 0.6 min
 Primary = 3.17 cfs @ 12.21 hrs, Volume= 0.201 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 992.27' @ 12.21 hrs Surf.Area= 631 sf Storage= 90 cf

Plug-Flow detention time= 0.4 min calculated for 0.201 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (805.6 - 805.2)

Volume	Invert	Avail.Storage	Storage Description
#1	992.00'	4,470 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.00	50	0	0
994.00	4,420	4,470	4,470

Device	Routing	Invert	Outlet Devices
#1	Primary	992.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	993.90'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.16 cfs @ 12.21 hrs HW=992.27' TW=978.53' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 3.16 cfs @ 1.68 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=992.00' TW=991.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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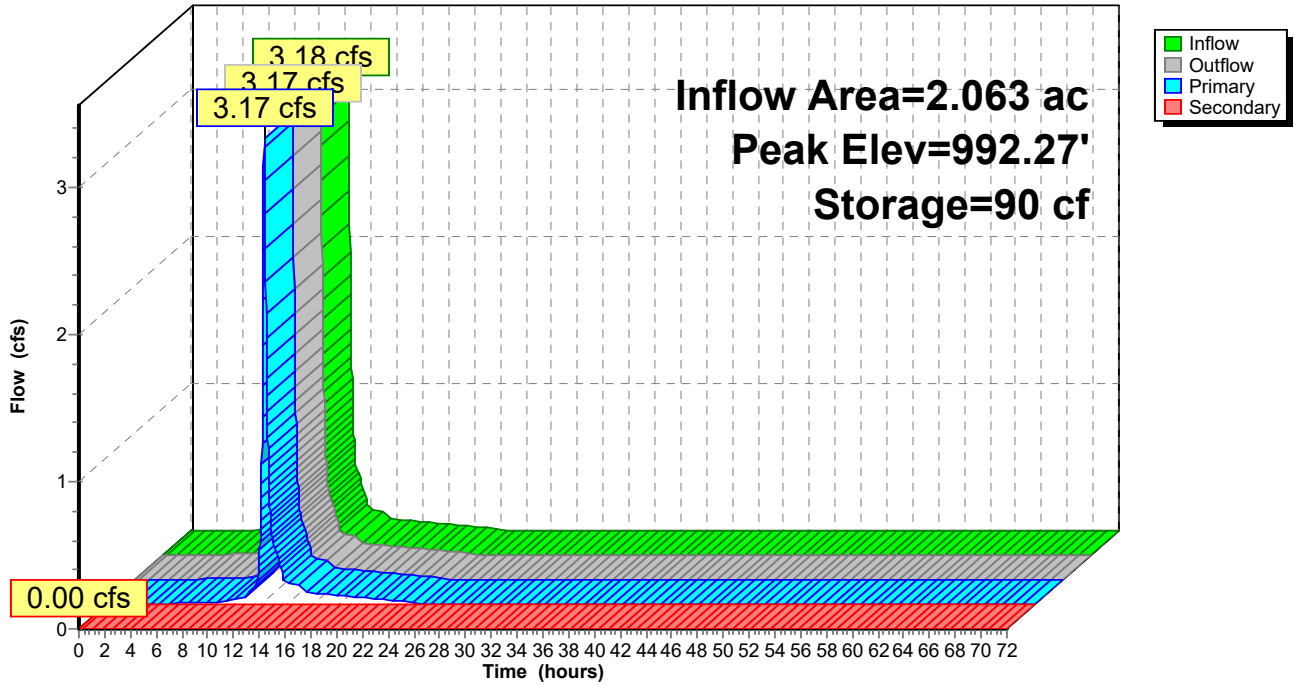
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_C9: CB_C9

Hydrograph



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Summary for Pond CB_D6: CB_D6

Inflow Area = 0.376 ac, 3.46% Impervious, Inflow Depth = 0.89" for 2yr-24hr event
 Inflow = 0.45 cfs @ 12.21 hrs, Volume= 0.028 af
 Outflow = 0.45 cfs @ 12.22 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.6 min
 Primary = 0.45 cfs @ 12.22 hrs, Volume= 0.028 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,000.07' @ 12.22 hrs Surf.Area= 308 sf Storage= 13 cf

Plug-Flow detention time= 0.5 min calculated for 0.028 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (831.6 - 831.1)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	5,448 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,000.00	50	0	0
1,001.00	3,615	1,833	1,833
1,002.00	3,615	3,615	5,448

Device	Routing	Invert	Outlet Devices
#1	Primary	1,000.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,001.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.45 cfs @ 12.22 hrs HW=1,000.07' TW=978.54' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 0.45 cfs @ 0.88 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,000.00' TW=995.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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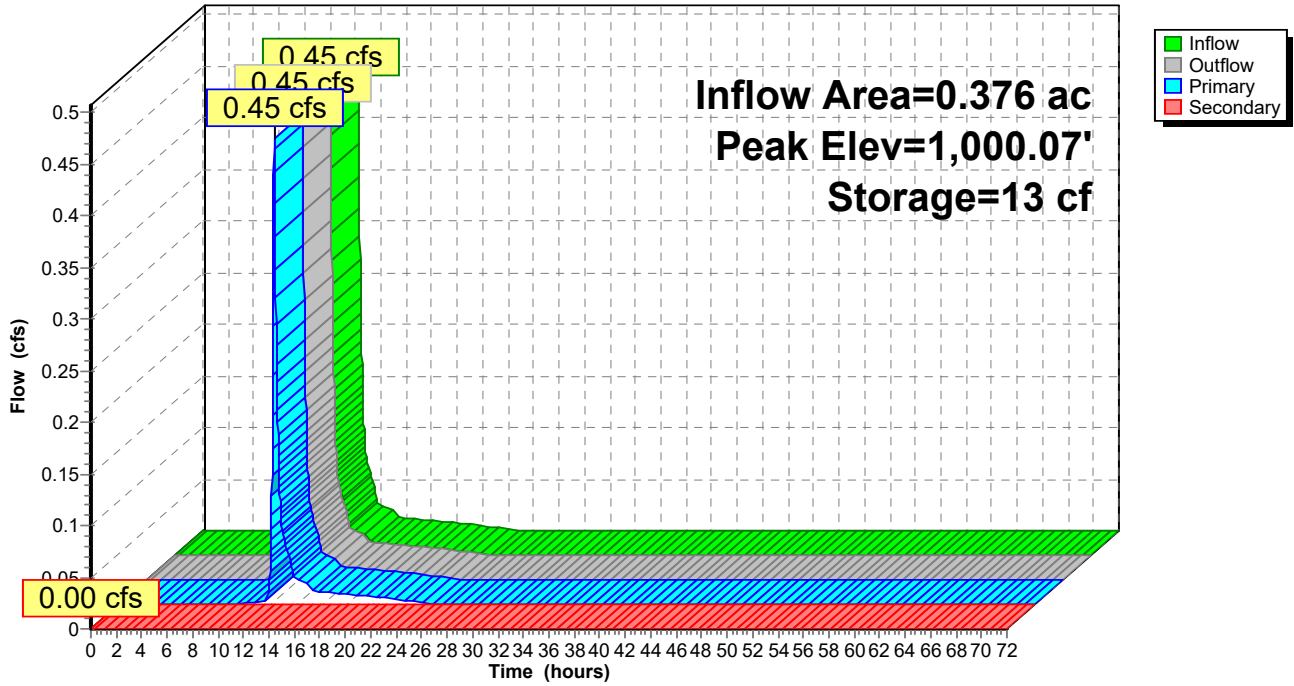
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_D6: CB_D6

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_D7: CB_D7

Inflow Area = 0.586 ac, 17.58% Impervious, Inflow Depth = 1.15" for 2yr-24hr event
 Inflow = 0.89 cfs @ 12.20 hrs, Volume= 0.056 af
 Outflow = 0.88 cfs @ 12.21 hrs, Volume= 0.056 af, Atten= 1%, Lag= 0.6 min
 Primary = 0.88 cfs @ 12.21 hrs, Volume= 0.056 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,002.11' @ 12.21 hrs Surf.Area= 402 sf Storage= 26 cf

Plug-Flow detention time= 0.5 min calculated for 0.056 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (807.4 - 806.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,002.00'	4,750 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,002.00	50	0	0
1,003.00	3,150	1,600	1,600
1,004.00	3,150	3,150	4,750

Device	Routing	Invert	Outlet Devices
#1	Primary	1,002.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,003.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.88 cfs @ 12.21 hrs HW=1,002.11' TW=978.53' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 0.88 cfs @ 1.10 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,002.00' TW=1,000.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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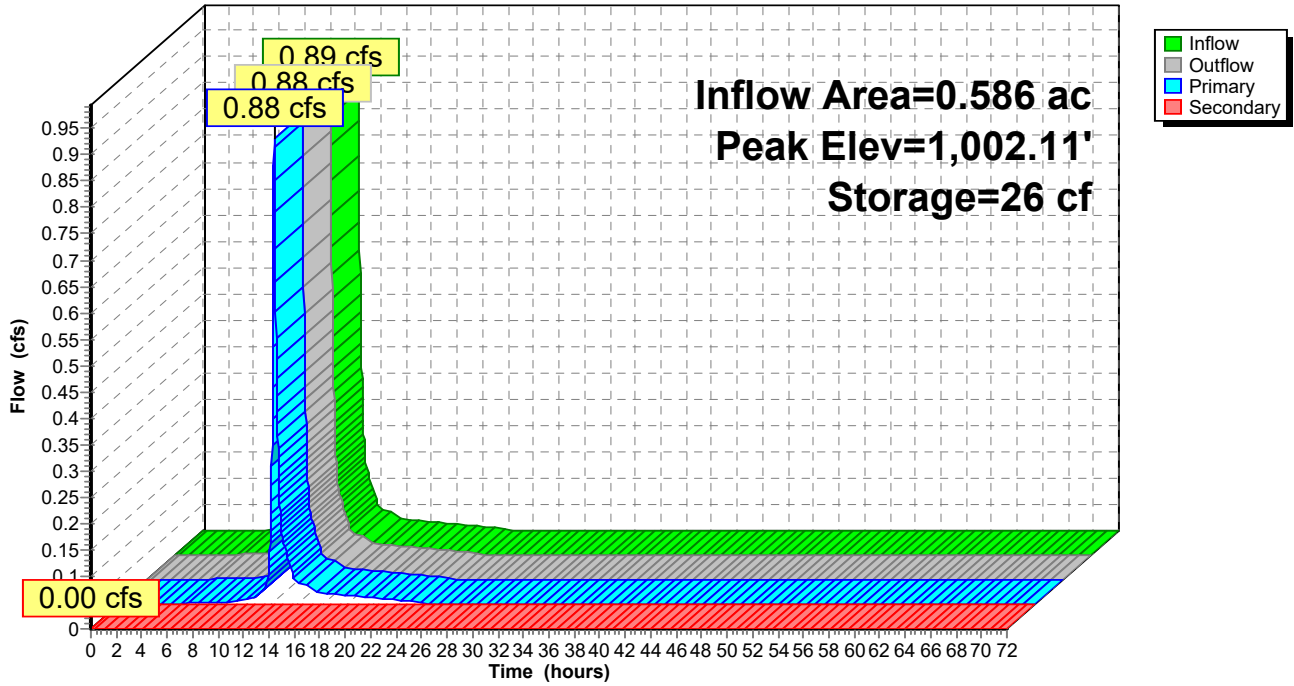
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_D7: CB_D7

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_D8: CB_D8

Inflow Area = 1.215 ac, 7.98% Impervious, Inflow Depth = 0.97" for 2yr-24hr event
 Inflow = 1.58 cfs @ 12.21 hrs, Volume= 0.098 af
 Outflow = 1.57 cfs @ 12.22 hrs, Volume= 0.098 af, Atten= 1%, Lag= 0.8 min
 Primary = 1.57 cfs @ 12.22 hrs, Volume= 0.098 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,002.17' @ 12.22 hrs Surf.Area= 695 sf Storage= 62 cf

Plug-Flow detention time= 0.5 min calculated for 0.098 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (822.5 - 822.0)

Volume	Invert	Avail.Storage	Storage Description
#1	1,002.00'	13,245 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,002.00	50	0	0
1,003.50	5,870	4,440	4,440
1,005.00	5,870	8,805	13,245

Device	Routing	Invert	Outlet Devices
#1	Primary	1,002.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,003.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.57 cfs @ 12.22 hrs HW=1,002.17' TW=978.54' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 1.57 cfs @ 1.33 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,002.00' TW=1,002.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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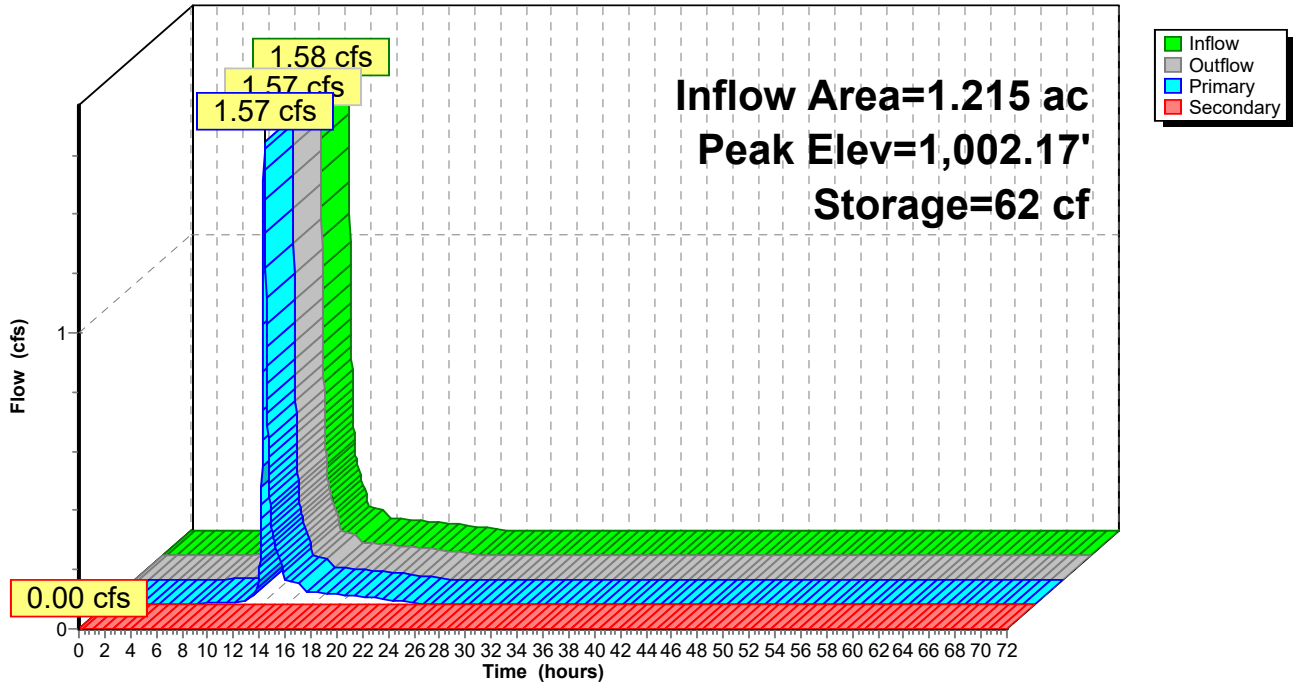
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_D8: CB_D8

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_D9: CB_D9

Inflow Area = 1.254 ac, 16.11% Impervious, Inflow Depth = 1.12" for 2yr-24hr event
 Inflow = 1.86 cfs @ 12.20 hrs, Volume= 0.117 af
 Outflow = 1.75 cfs @ 12.24 hrs, Volume= 0.117 af, Atten= 6%, Lag= 2.2 min
 Primary = 1.75 cfs @ 12.24 hrs, Volume= 0.117 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 995.67' @ 12.24 hrs Surf.Area= 632 sf Storage= 244 cf

Plug-Flow detention time= 4.1 min calculated for 0.117 af (100% of inflow)
 Center-of-Mass det. time= 3.7 min (812.6 - 808.9)

Volume	Invert	Avail.Storage	Storage Description
#1	995.00'	124,900 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
995.00	100	0	0
996.00	900	500	500
998.00	9,500	10,400	10,900
1,010.00	9,500	114,000	124,900

Device	Routing	Invert	Outlet Devices
#1	Primary	999.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	995.00'	15.0" Round Culvert L= 36.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 995.00' / 994.59' S= 0.0114 1' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=1.75 cfs @ 12.24 hrs HW=995.67' TW=978.57' (Dynamic Tailwater)

- 1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
- 2=Culvert (Barrel Controls 1.75 cfs @ 3.83 fps)

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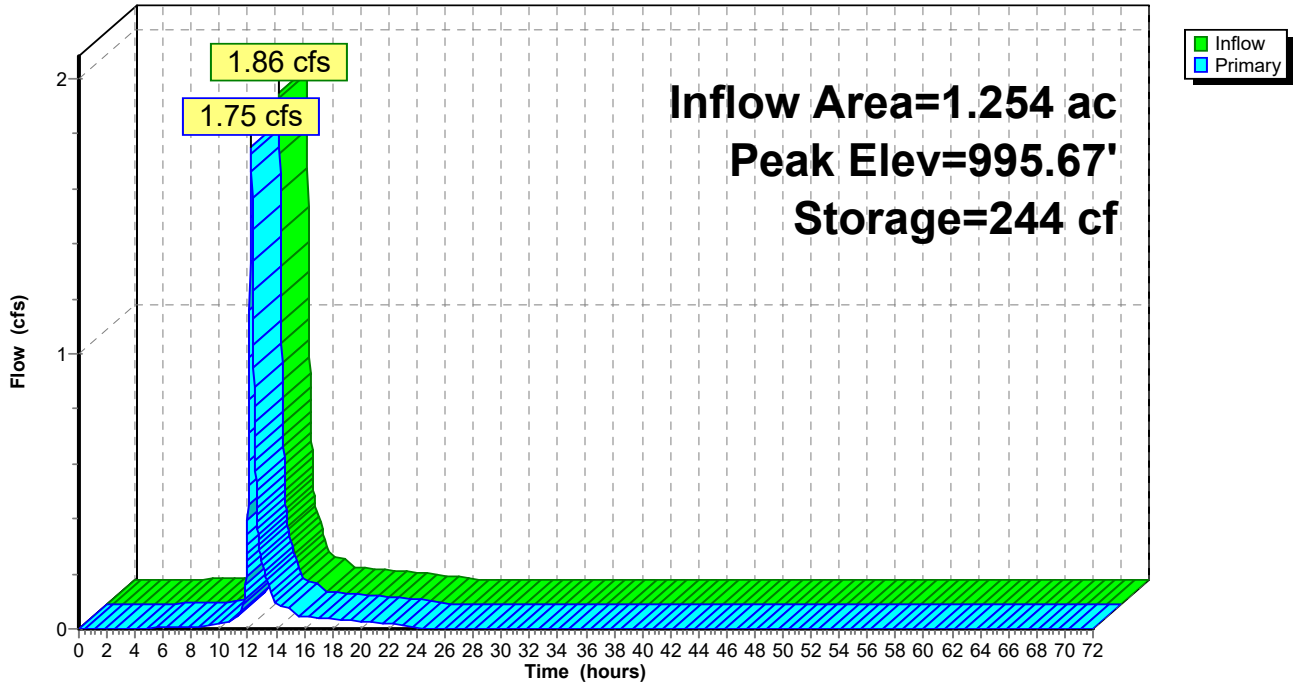
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_D9: CB_D9

Hydrograph



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Summary for Pond CB_E13: CB_E13

Inflow Area = 0.605 ac, 27.77% Impervious, Inflow Depth = 1.33" for 2yr-24hr event
 Inflow = 1.05 cfs @ 12.20 hrs, Volume= 0.067 af
 Outflow = 1.05 cfs @ 12.20 hrs, Volume= 0.067 af, Atten= 0%, Lag= 0.2 min
 Primary = 1.05 cfs @ 12.20 hrs, Volume= 0.067 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,009.63' @ 12.20 hrs Surf.Area= 122 sf Storage= 11 cf

Plug-Flow detention time= 0.3 min calculated for 0.067 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (795.5 - 795.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,009.50'	2,113 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,009.50	50	0	0
1,011.00	900	713	713
1,012.00	1,900	1,400	2,113

Device	Routing	Invert	Outlet Devices
#1	Primary	1,009.50'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,010.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.05 cfs @ 12.20 hrs HW=1,009.63' TW=978.51' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 1.05 cfs @ 1.17 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,009.50' TW=1,002.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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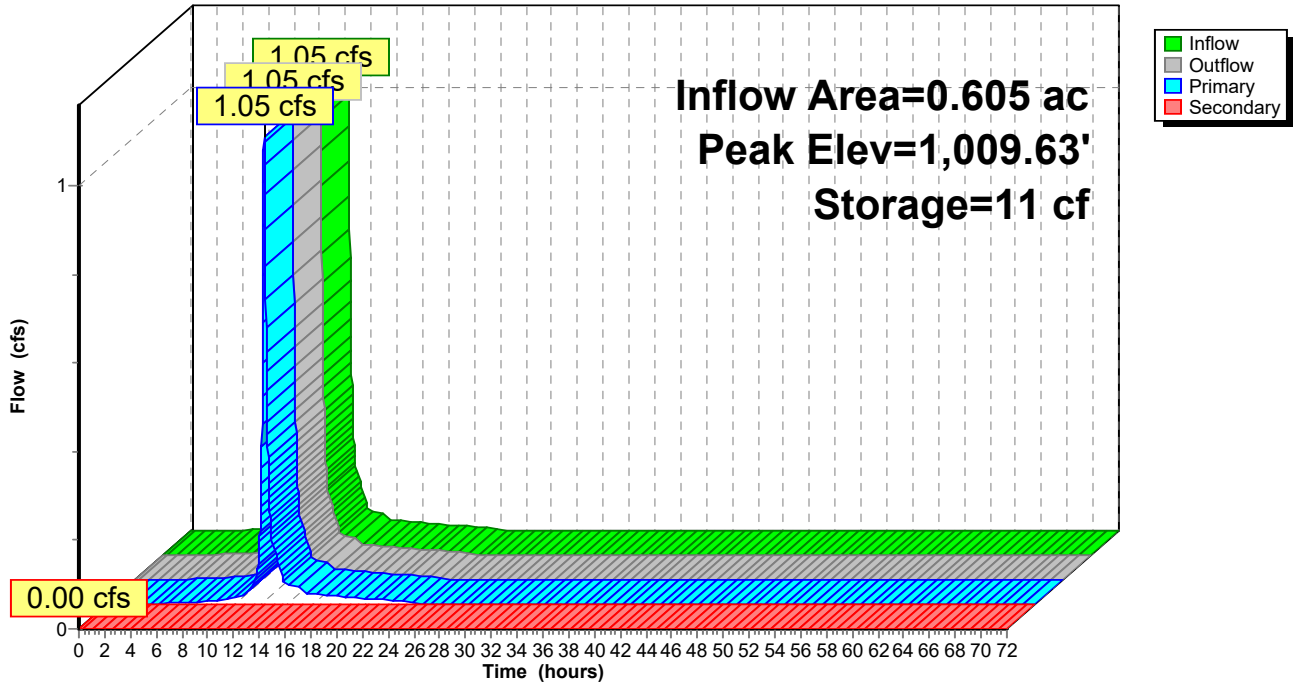
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_E13: CB_E13

Hydrograph



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Summary for Pond CB_E15: CB_E15

Inflow Area = 1.926 ac, 26.90% Impervious, Inflow Depth = 1.31" for 2yr-24hr event
 Inflow = 3.32 cfs @ 12.20 hrs, Volume= 0.211 af
 Outflow = 3.31 cfs @ 12.21 hrs, Volume= 0.211 af, Atten= 0%, Lag= 0.3 min
 Primary = 3.31 cfs @ 12.21 hrs, Volume= 0.211 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 992.27' @ 12.21 hrs Surf.Area= 356 sf Storage= 56 cf

Plug-Flow detention time= 0.3 min calculated for 0.211 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (796.4 - 796.1)

Volume	Invert	Avail.Storage	Storage Description
#1	992.00'	6,896 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.00	50	0	0
994.00	2,282	2,332	2,332
996.00	2,282	4,564	6,896

Device	Routing	Invert	Outlet Devices
#1	Primary	992.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.30 cfs @ 12.21 hrs HW=992.27' TW=978.52' (Dynamic Tailwater)
 ↑**1=Grate** (Weir Controls 3.30 cfs @ 1.71 fps)

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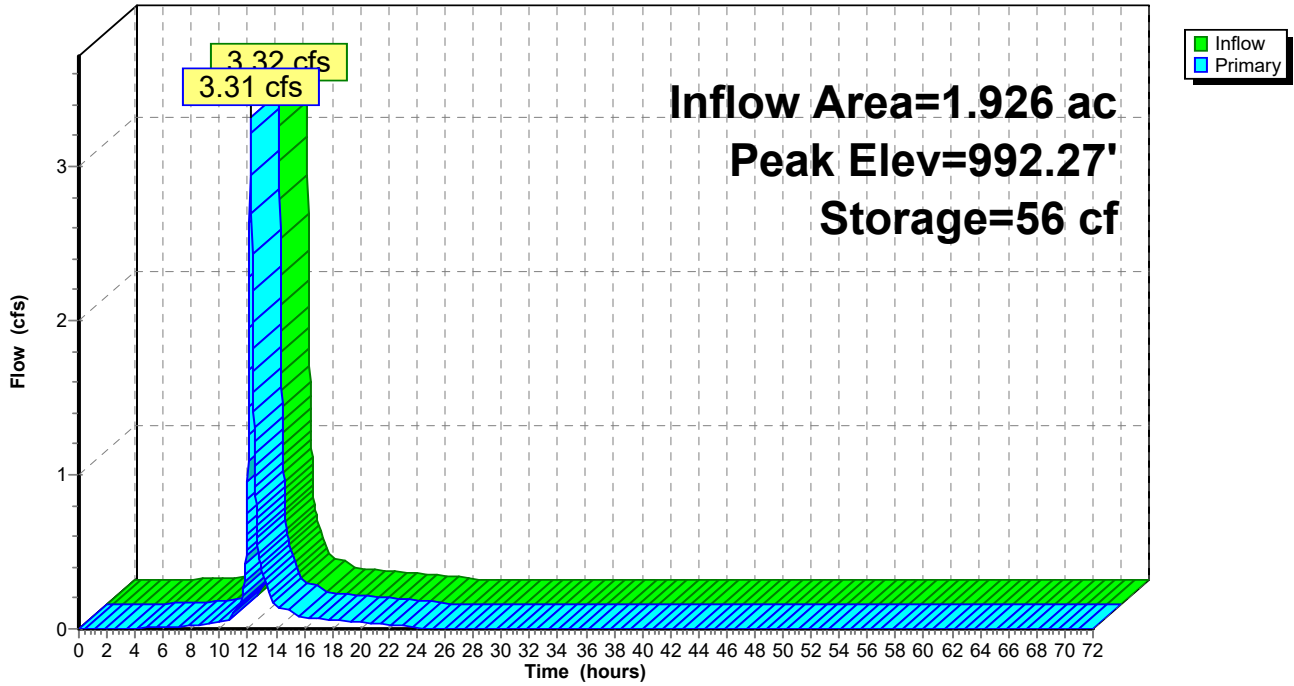
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_E15: CB_E15

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_E16: CB_E16

Inflow Area = 4.099 ac, 17.78% Impervious, Inflow Depth = 1.15" for 2yr-24hr event
 Inflow = 5.91 cfs @ 12.21 hrs, Volume= 0.393 af
 Outflow = 5.44 cfs @ 12.26 hrs, Volume= 0.393 af, Atten= 8%, Lag= 2.8 min
 Primary = 5.44 cfs @ 12.26 hrs, Volume= 0.393 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 996.47' @ 12.26 hrs Surf.Area= 898 sf Storage= 532 cf

Plug-Flow detention time= 2.2 min calculated for 0.393 af (100% of inflow)
 Center-of-Mass det. time= 1.8 min (809.5 - 807.6)

Volume	Invert	Avail.Storage	Storage Description
#1	995.00'	8,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
995.00	100	0	0
996.00	366	233	233
998.00	2,614	2,980	3,213
1,000.00	2,614	5,228	8,441

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	15.0" Round Culvert L= 227.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 995.00' / 987.40' S= 0.0335 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	997.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=5.44 cfs @ 12.26 hrs HW=996.47' TW=978.61' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 5.44 cfs @ 4.43 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=995.00' TW=992.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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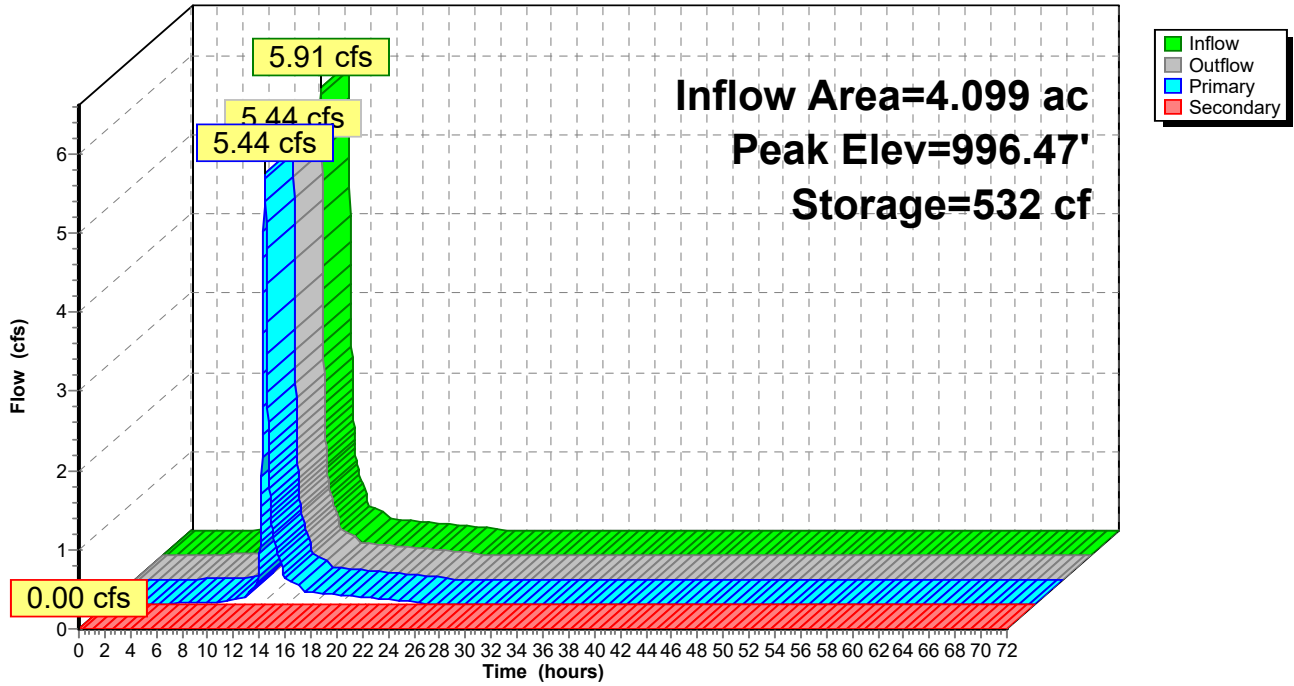
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_E16: CB_E16

Hydrograph



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Summary for Pond CB_F5: CB_F5

Inflow Area = 1.224 ac, 21.24% Impervious, Inflow Depth = 1.21" for 2yr-24hr event
 Inflow = 1.95 cfs @ 12.20 hrs, Volume= 0.124 af
 Outflow = 1.94 cfs @ 12.21 hrs, Volume= 0.124 af, Atten= 0%, Lag= 0.6 min
 Primary = 1.94 cfs @ 12.21 hrs, Volume= 0.124 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 983.19' @ 12.21 hrs Surf.Area= 501 sf Storage= 53 cf

Plug-Flow detention time= 0.4 min calculated for 0.124 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (802.7 - 802.3)

Volume	Invert	Avail.Storage	Storage Description
#1	983.00'	13,525 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
983.00	50	0	0
984.00	2,400	1,225	1,225
986.00	9,900	12,300	13,525

Device	Routing	Invert	Outlet Devices
#1	Primary	983.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.94 cfs @ 12.21 hrs HW=983.19' TW=968.49' (Dynamic Tailwater)
 ↑**1=Grate** (Weir Controls 1.94 cfs @ 1.43 fps)

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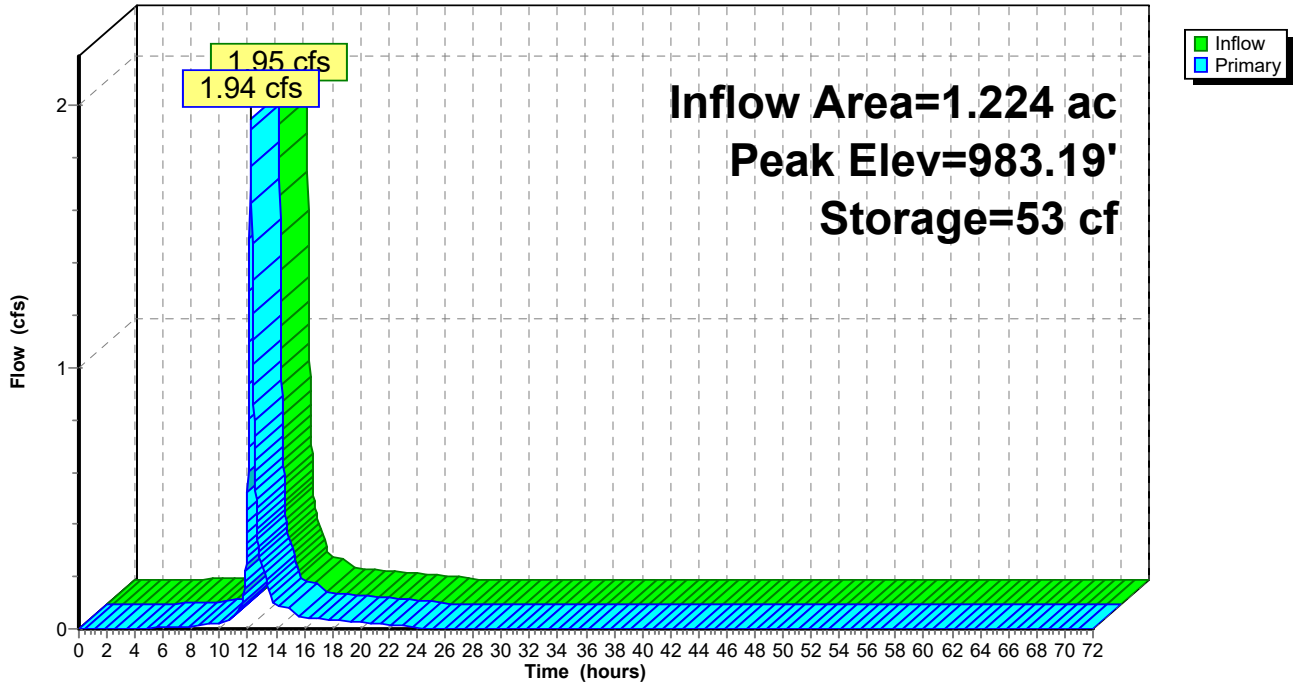
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_F5: CB_F5

Hydrograph



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Summary for Pond CB_F6: CB_F6

Inflow Area = 0.921 ac, 21.06% Impervious, Inflow Depth = 1.21" for 2yr-24hr event
 Inflow = 1.47 cfs @ 12.20 hrs, Volume= 0.093 af
 Outflow = 1.46 cfs @ 12.21 hrs, Volume= 0.093 af, Atten= 0%, Lag= 0.3 min
 Primary = 1.46 cfs @ 12.21 hrs, Volume= 0.093 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 985.16' @ 12.21 hrs Surf.Area= 282 sf Storage= 30 cf

Plug-Flow detention time= 0.5 min calculated for 0.093 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (803.0 - 802.5)

Volume	Invert	Avail.Storage	Storage Description
#1	985.00'	5,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
985.00	100	0	0
988.00	3,527	5,441	5,441

Device	Routing	Invert	Outlet Devices
#1	Primary	985.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	987.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.46 cfs @ 12.21 hrs HW=985.16' TW=968.47' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 1.46 cfs @ 1.30 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=985.00' TW=983.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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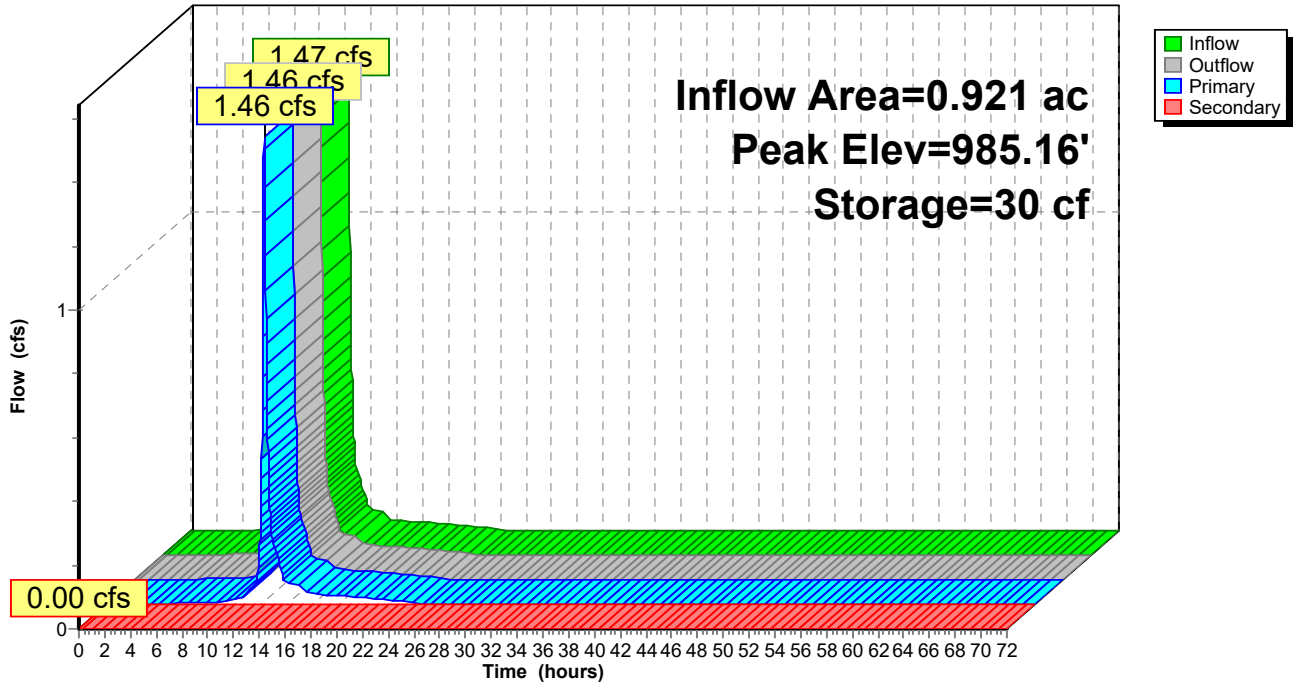
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_F6: CB_F6

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_F7: CB_F7

Inflow Area = 2.573 ac, 14.89% Impervious, Inflow Depth = 1.10" for 2yr-24hr event
 Inflow = 3.44 cfs @ 12.23 hrs, Volume= 0.235 af
 Outflow = 3.01 cfs @ 12.30 hrs, Volume= 0.235 af, Atten= 12%, Lag= 4.1 min
 Primary = 3.01 cfs @ 12.30 hrs, Volume= 0.235 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 983.89' @ 12.30 hrs Surf.Area= 1,599 sf Storage= 758 cf

Plug-Flow detention time= 4.7 min calculated for 0.235 af (100% of inflow)
 Center-of-Mass det. time= 4.7 min (817.4 - 812.7)

Volume	Invert	Avail.Storage	Storage Description
#1	983.00'	21,500 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
983.00	100	0	0
988.00	8,500	21,500	21,500

Device	Routing	Invert	Outlet Devices
#1	Primary	983.00'	15.0" Round Culvert L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 983.00' / 980.71' S= 0.0458 ' S= 0.0458 ' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	985.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.01 cfs @ 12.30 hrs HW=983.89' TW=968.70' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 3.01 cfs @ 3.22 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=983.00' TW=985.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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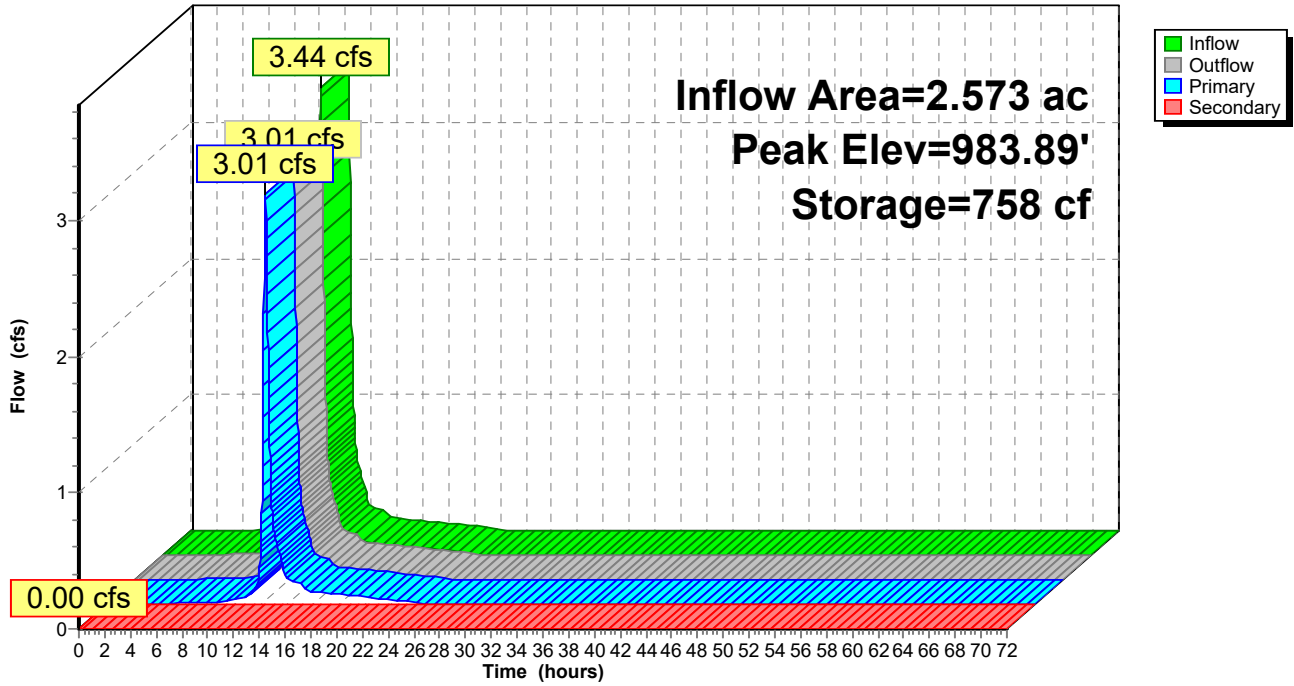
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_F7: CB_F7

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_H5: CB_H5

Inflow Area = 2.168 ac, 27.21% Impervious, Inflow Depth = 1.20" for 2yr-24hr event
 Inflow = 3.28 cfs @ 12.20 hrs, Volume= 0.216 af
 Outflow = 3.26 cfs @ 12.21 hrs, Volume= 0.216 af, Atten= 1%, Lag= 0.6 min
 Primary = 3.26 cfs @ 12.21 hrs, Volume= 0.216 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 972.27' @ 12.21 hrs Surf.Area= 677 sf Storage= 99 cf

Plug-Flow detention time= 0.4 min calculated for 0.216 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (794.7 - 794.3)

Volume	Invert	Avail.Storage	Storage Description
#1	972.00'	30,964 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
972.00	50	0	0
974.00	4,677	4,727	4,727
976.00	21,560	26,237	30,964

Device	Routing	Invert	Outlet Devices
#1	Primary	972.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.25 cfs @ 12.21 hrs HW=972.27' TW=967.63' (Dynamic Tailwater)
 ↑**1=Grate** (Weir Controls 3.25 cfs @ 1.70 fps)

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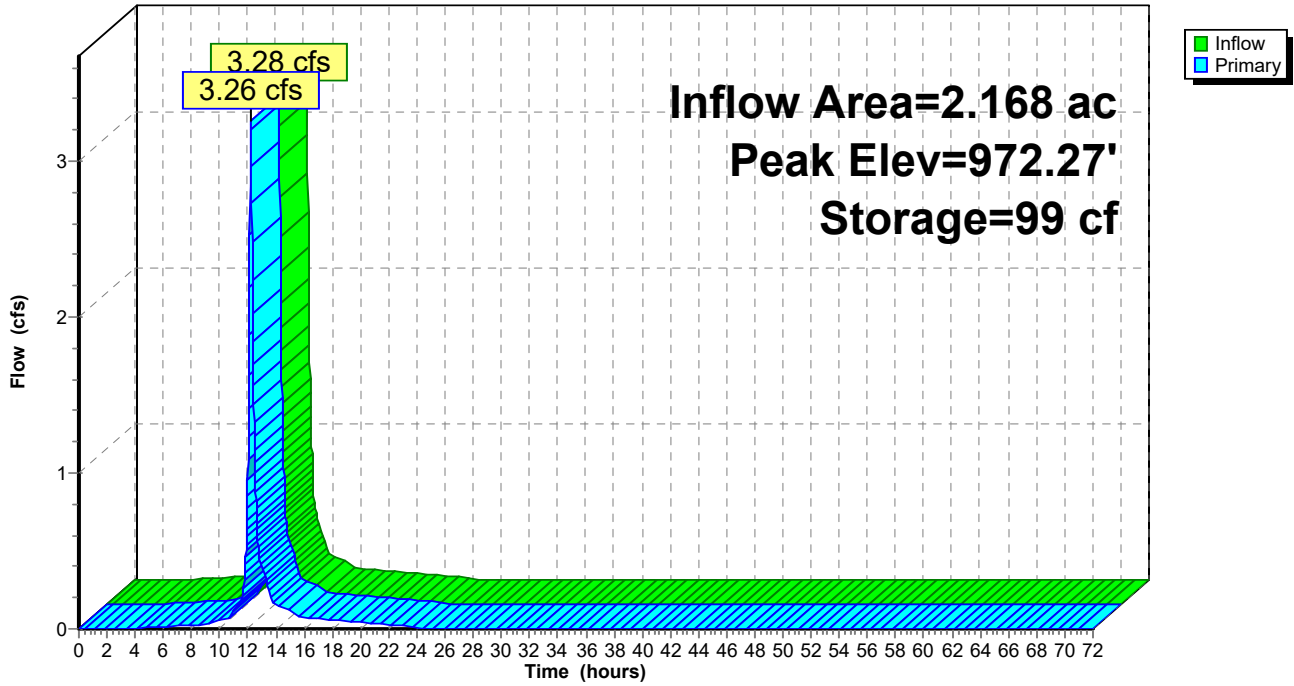
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_H5: CB_H5

Hydrograph



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Summary for Pond CB_H6: CB_H6

Inflow Area = 1.008 ac, 19.54% Impervious, Inflow Depth = 0.86" for 2yr-24hr event
 Inflow = 1.00 cfs @ 12.21 hrs, Volume= 0.072 af
 Outflow = 0.99 cfs @ 12.22 hrs, Volume= 0.072 af, Atten= 1%, Lag= 0.9 min
 Primary = 0.99 cfs @ 12.22 hrs, Volume= 0.072 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 973.12' @ 12.22 hrs Surf.Area= 669 sf Storage= 44 cf

Plug-Flow detention time= 0.6 min calculated for 0.072 af (100% of inflow)
 Center-of-Mass det. time= 0.6 min (802.8 - 802.2)

Volume	Invert	Avail.Storage	Storage Description
#1	973.00'	35,125 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
973.00	50	0	0
974.00	5,100	2,575	2,575
975.00	20,000	12,550	15,125
976.00	20,000	20,000	35,125

Device	Routing	Invert	Outlet Devices
#1	Primary	973.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	975.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.99 cfs @ 12.22 hrs HW=973.12' TW=967.65' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 0.99 cfs @ 1.14 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.00' TW=967.50' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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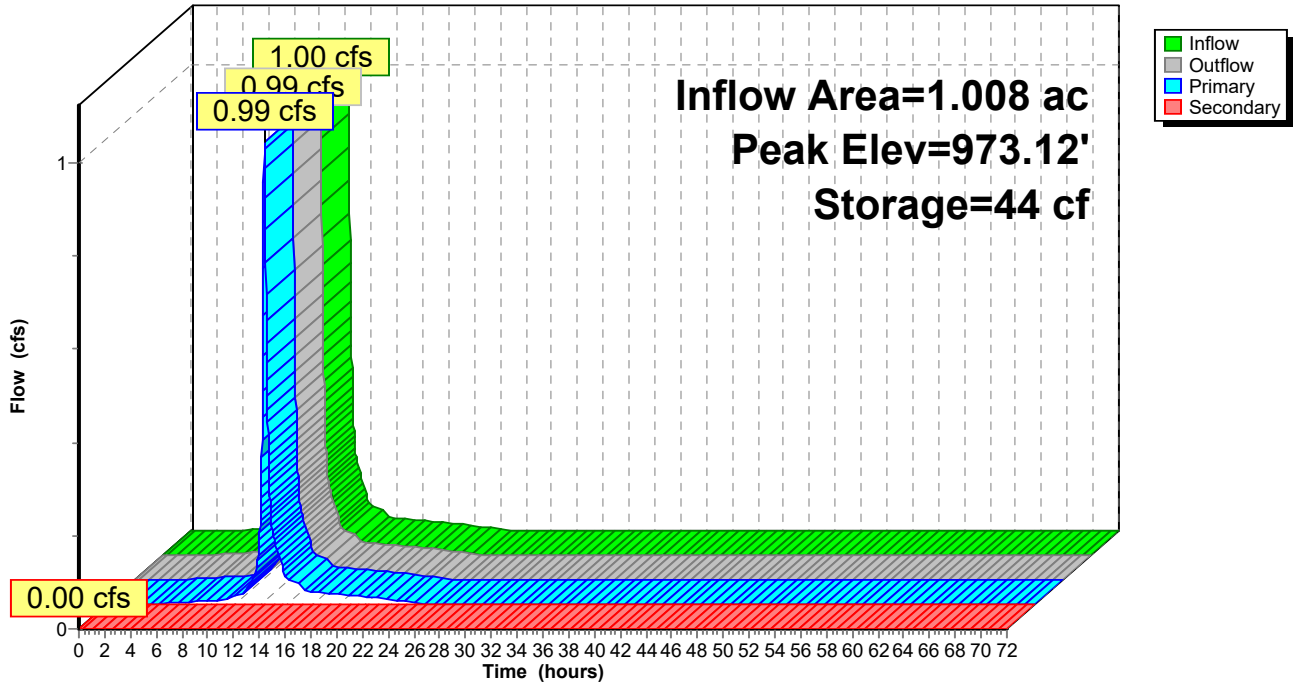
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_H6: CB_H6

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_H7: CB_H7

Inflow Area = 1.176 ac, 19.64% Impervious, Inflow Depth = 0.93" for 2yr-24hr event
 Inflow = 1.31 cfs @ 12.21 hrs, Volume= 0.091 af
 Outflow = 1.18 cfs @ 12.26 hrs, Volume= 0.091 af, Atten= 10%, Lag= 3.0 min
 Primary = 1.18 cfs @ 12.26 hrs, Volume= 0.091 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 974.14' @ 12.26 hrs Surf.Area= 2,430 sf Storage= 347 cf

Plug-Flow detention time= 14.3 min calculated for 0.091 af (100% of inflow)
 Center-of-Mass det. time= 12.0 min (814.6 - 802.6)

Volume	Invert	Avail.Storage	Storage Description
#1	973.99'	4,872 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
973.99	50	0	0
974.00	2,430	12	12
976.00	2,430	4,860	4,872

Device	Routing	Invert	Outlet Devices
#1	Primary	974.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	975.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.18 cfs @ 12.26 hrs HW=974.14' TW=967.71' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 1.18 cfs @ 1.21 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.99' TW=973.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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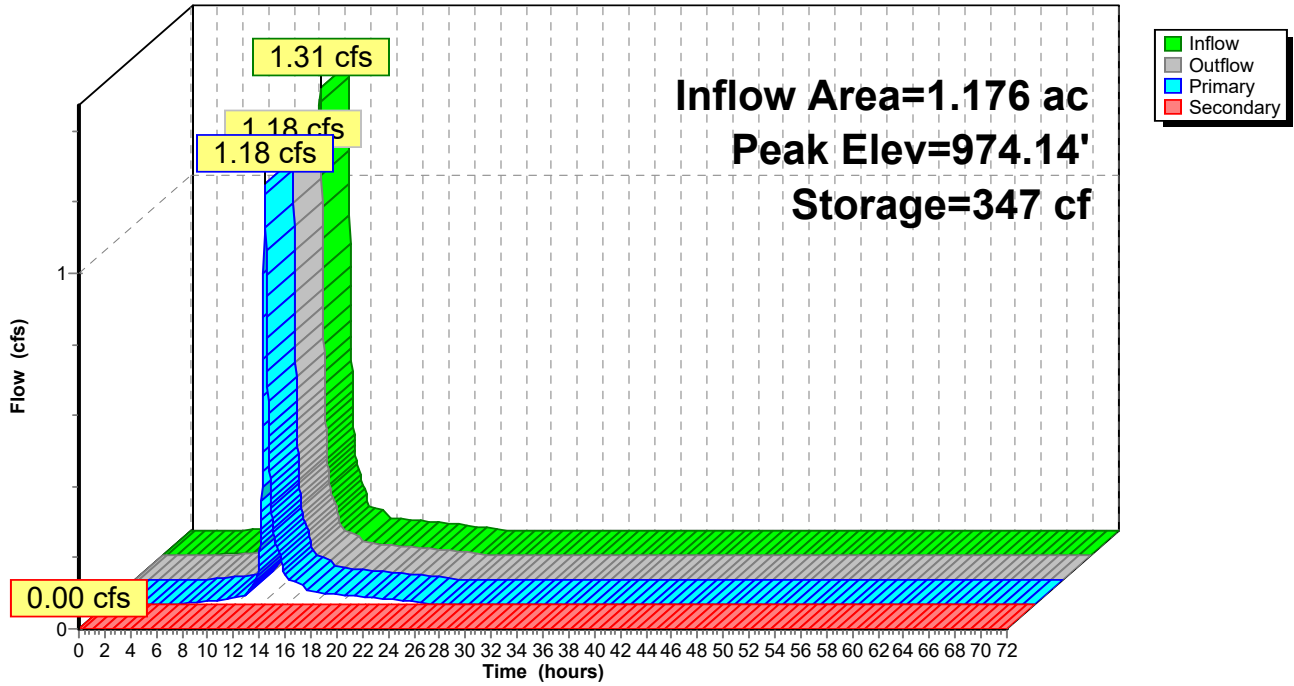
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_H7: CB_H7

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_I14: CB_I14

Inflow Area = 0.648 ac, 15.59% Impervious, Inflow Depth = 1.11" for 2yr-24hr event
 Inflow = 0.95 cfs @ 12.21 hrs, Volume= 0.060 af
 Outflow = 0.92 cfs @ 12.23 hrs, Volume= 0.060 af, Atten= 3%, Lag= 1.5 min
 Primary = 0.92 cfs @ 12.23 hrs, Volume= 0.060 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 985.45' @ 12.23 hrs Surf.Area= 345 sf Storage= 101 cf

Plug-Flow detention time= 3.9 min calculated for 0.060 af (100% of inflow)
 Center-of-Mass det. time= 3.9 min (813.5 - 809.6)

Volume	Invert	Avail.Storage	Storage Description
#1	985.00'	7,510 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
985.00	100	0	0
986.00	640	370	370
988.00	6,500	7,140	7,510

Device	Routing	Invert	Outlet Devices
#1	Primary	985.00'	15.0" Round FES_I14 L= 140.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 985.00' / 981.70' S= 0.0236 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	987.50'	10.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=0.92 cfs @ 12.23 hrs HW=985.45' TW=969.64' (Dynamic Tailwater)

↑1=FES_I14 (Inlet Controls 0.92 cfs @ 2.29 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=985.00' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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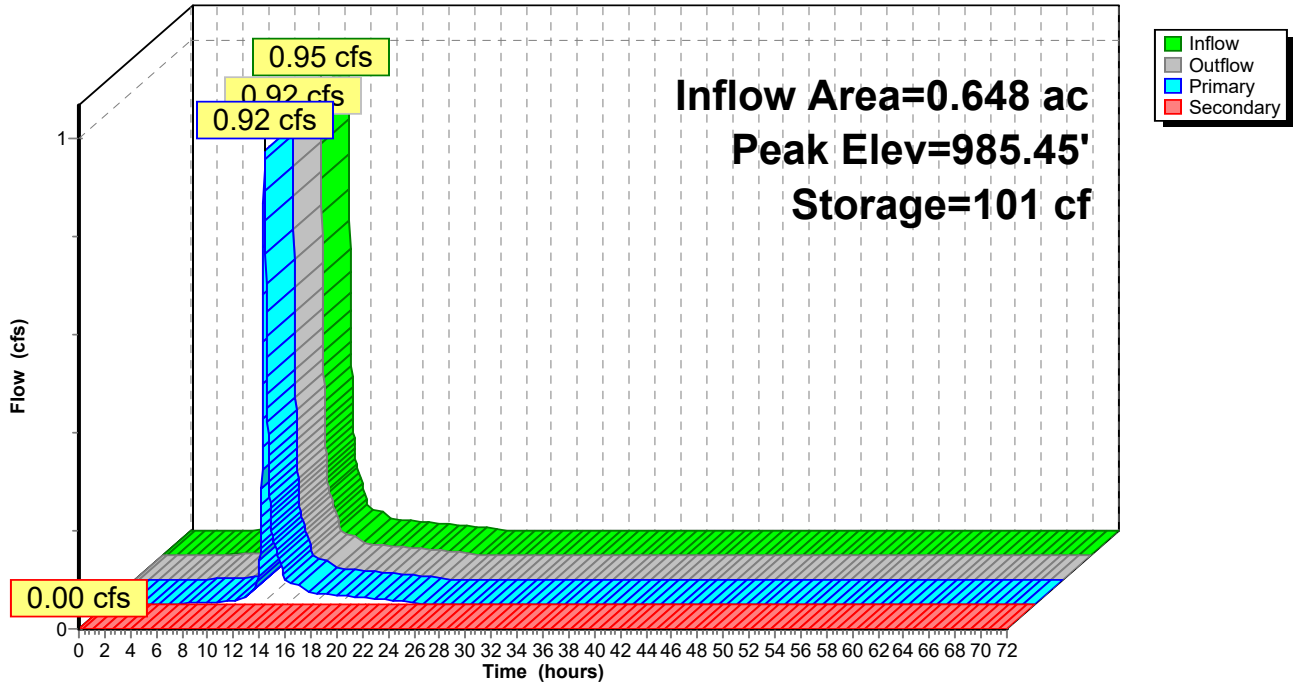
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_I14: CB_I14

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Summary for Pond CB_I7: CB_I7

Inflow Area = 0.815 ac, 18.77% Impervious, Inflow Depth = 1.17" for 2yr-24hr event
 Inflow = 1.26 cfs @ 12.20 hrs, Volume= 0.079 af
 Outflow = 1.25 cfs @ 12.22 hrs, Volume= 0.079 af, Atten= 1%, Lag= 0.8 min
 Primary = 1.25 cfs @ 12.22 hrs, Volume= 0.079 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 986.14' @ 12.22 hrs Surf.Area= 592 sf Storage= 49 cf

Plug-Flow detention time= 0.7 min calculated for 0.079 af (100% of inflow)
 Center-of-Mass det. time= 0.7 min (806.0 - 805.3)

Volume	Invert	Avail.Storage	Storage Description
#1	986.00'	21,100 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
986.00	100	0	0
988.00	7,000	7,100	7,100
990.00	7,000	14,000	21,100

Device	Routing	Invert	Outlet Devices
#1	Primary	986.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	989.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.24 cfs @ 12.22 hrs HW=986.14' TW=969.61' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 1.24 cfs @ 1.23 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=986.00' TW=985.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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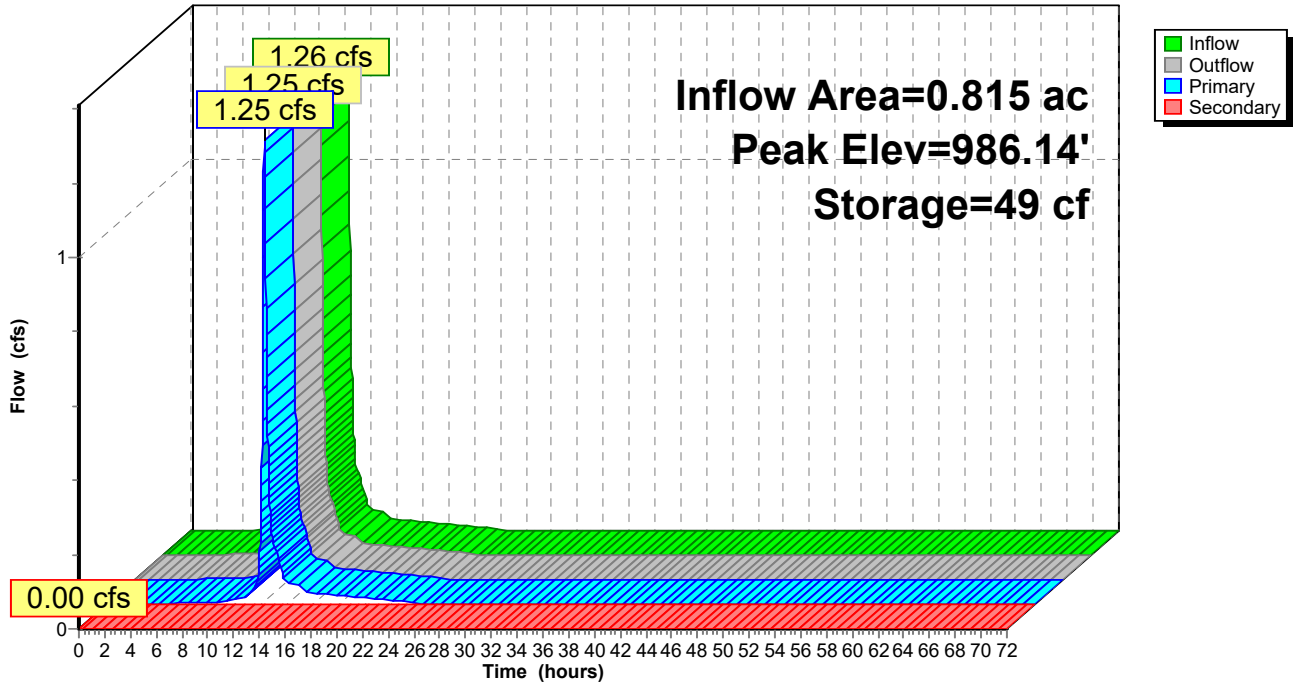
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_I7: CB_I7

Hydrograph



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Summary for Pond CB_I8: CB_I8

Inflow Area = 1.173 ac, 25.23% Impervious, Inflow Depth = 1.28" for 2yr-24hr event
 Inflow = 1.98 cfs @ 12.20 hrs, Volume= 0.126 af
 Outflow = 1.98 cfs @ 12.21 hrs, Volume= 0.126 af, Atten= 0%, Lag= 0.2 min
 Primary = 1.98 cfs @ 12.21 hrs, Volume= 0.126 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 987.19' @ 12.21 hrs Surf.Area= 201 sf Storage= 24 cf

Plug-Flow detention time= 0.3 min calculated for 0.125 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (798.1 - 797.8)

Volume	Invert	Avail.Storage	Storage Description
#1	987.00'	3,105 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
987.00	50	0	0
988.00	830	440	440
989.00	1,500	1,165	1,605
990.00	1,500	1,500	3,105

Device	Routing	Invert	Outlet Devices
#1	Primary	987.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	989.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.97 cfs @ 12.21 hrs HW=987.19' TW=969.59' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 1.97 cfs @ 1.44 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=987.00' TW=986.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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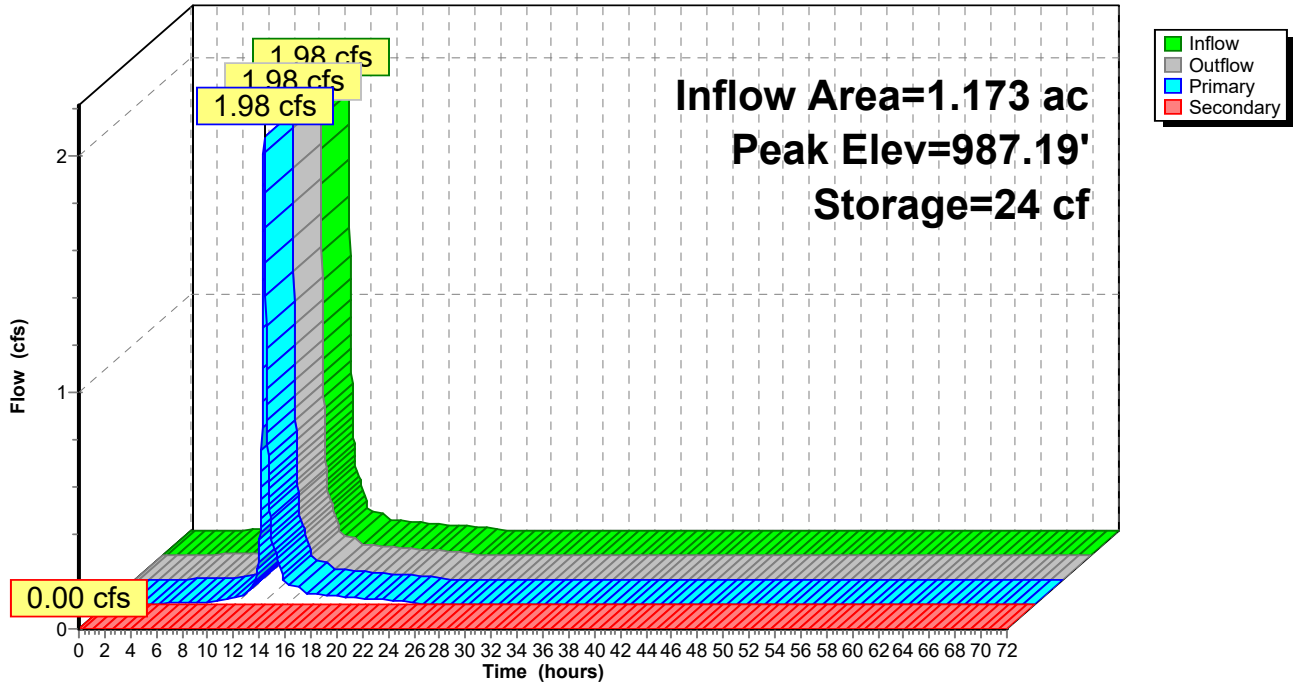
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_I8: CB_I8

Hydrograph



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Summary for Pond CB_I9: CB_I9

Inflow Area = 0.256 ac, 27.73% Impervious, Inflow Depth = 1.33" for 2yr-24hr event
 Inflow = 0.45 cfs @ 12.20 hrs, Volume= 0.028 af
 Outflow = 0.45 cfs @ 12.20 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.2 min
 Primary = 0.45 cfs @ 12.20 hrs, Volume= 0.028 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.07' @ 12.20 hrs Surf.Area= 86 sf Storage= 5 cf

Plug-Flow detention time= 0.3 min calculated for 0.028 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (795.6 - 795.2)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	1,818 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
978.50	300	88	88
980.00	300	450	538
984.00	340	1,280	1,818

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	978.50'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.44 cfs @ 12.20 hrs HW=978.07' TW=969.86' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 0.44 cfs @ 0.88 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=969.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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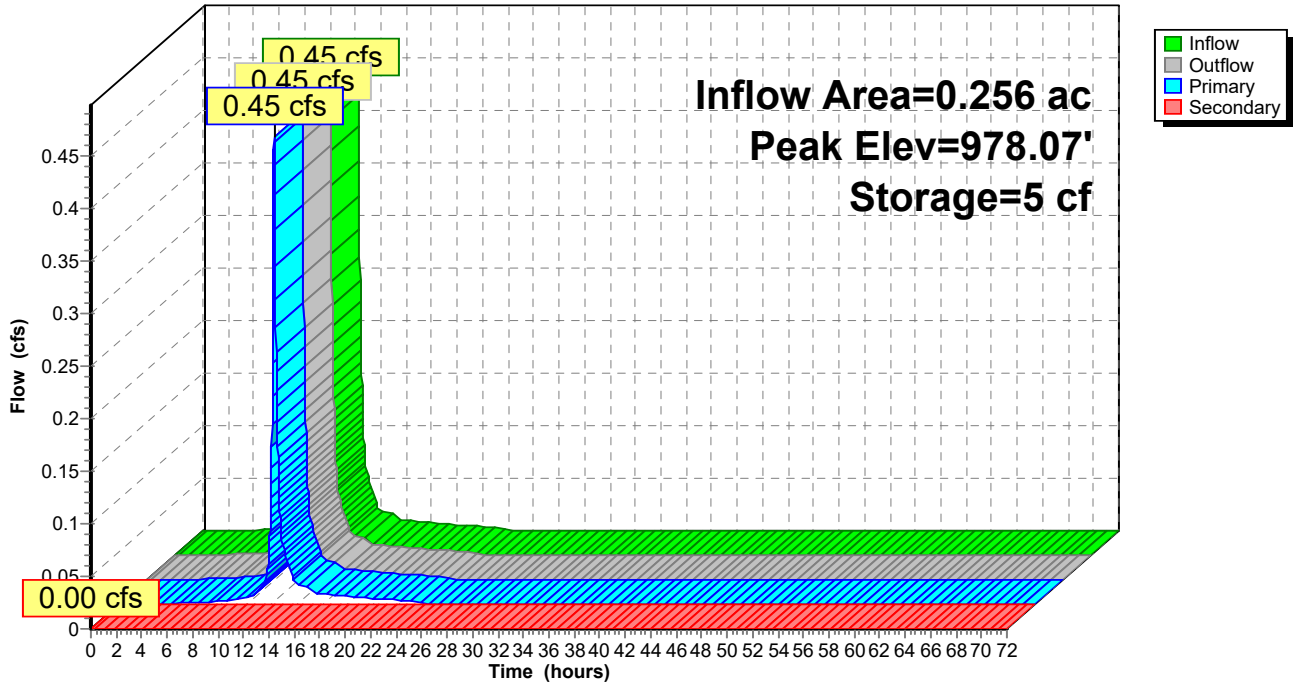
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_I9: CB_I9

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Summary for Pond CB_J3: CB_J3

Inflow Area = 1.496 ac, 20.32% Impervious, Inflow Depth = 1.20" for 2yr-24hr event
 Inflow = 2.36 cfs @ 12.20 hrs, Volume= 0.149 af
 Outflow = 2.35 cfs @ 12.21 hrs, Volume= 0.149 af, Atten= 0%, Lag= 0.3 min
 Primary = 2.35 cfs @ 12.21 hrs, Volume= 0.149 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 991.22' @ 12.21 hrs Surf.Area= 323 sf Storage= 41 cf

Plug-Flow detention time= 0.3 min calculated for 0.149 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (803.7 - 803.4)

Volume	Invert	Avail.Storage	Storage Description
#1	991.00'	4,575 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
991.00	50	0	0
992.00	1,300	675	675
993.00	1,300	1,300	1,975
995.00	1,300	2,600	4,575

Device	Routing	Invert	Outlet Devices
#1	Primary	991.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	992.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.34 cfs @ 12.21 hrs HW=991.22' TW=973.72' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 2.34 cfs @ 1.52 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=991.00' TW=973.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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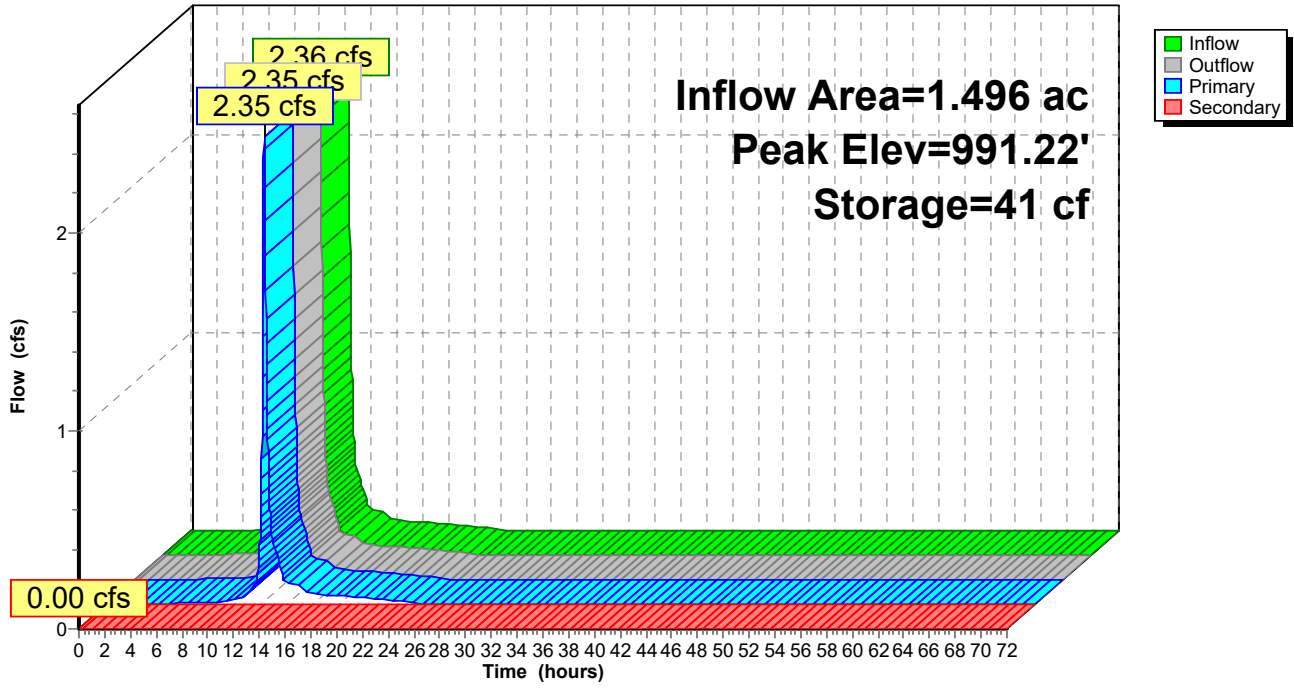
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_J3: CB_J3

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Summary for Pond CB_J4: CB_J4

Inflow Area = 0.993 ac, 12.19% Impervious, Inflow Depth = 1.05" for 2yr-24hr event
 Inflow = 1.39 cfs @ 12.21 hrs, Volume= 0.087 af
 Outflow = 1.27 cfs @ 12.25 hrs, Volume= 0.087 af, Atten= 9%, Lag= 2.7 min
 Primary = 1.27 cfs @ 12.25 hrs, Volume= 0.087 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 994.54' @ 12.25 hrs Surf.Area= 791 sf Storage= 227 cf

Plug-Flow detention time= 4.0 min calculated for 0.087 af (100% of inflow)
 Center-of-Mass det. time= 3.7 min (818.4 - 814.7)

Volume	Invert	Avail.Storage	Storage Description
#1	994.00'	5,650 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.00	50	0	0
996.00	2,800	2,850	2,850
997.00	2,800	2,800	5,650

Device	Routing	Invert	Outlet Devices
#1	Secondary	995.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	994.00'	15.0" Round Culvert L= 166.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 994.00' / 991.00' S= 0.0181 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=1.26 cfs @ 12.25 hrs HW=994.54' TW=973.81' (Dynamic Tailwater)

↑**2=Culvert** (Inlet Controls 1.26 cfs @ 2.50 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=994.00' TW=991.00' (Dynamic Tailwater)

↑**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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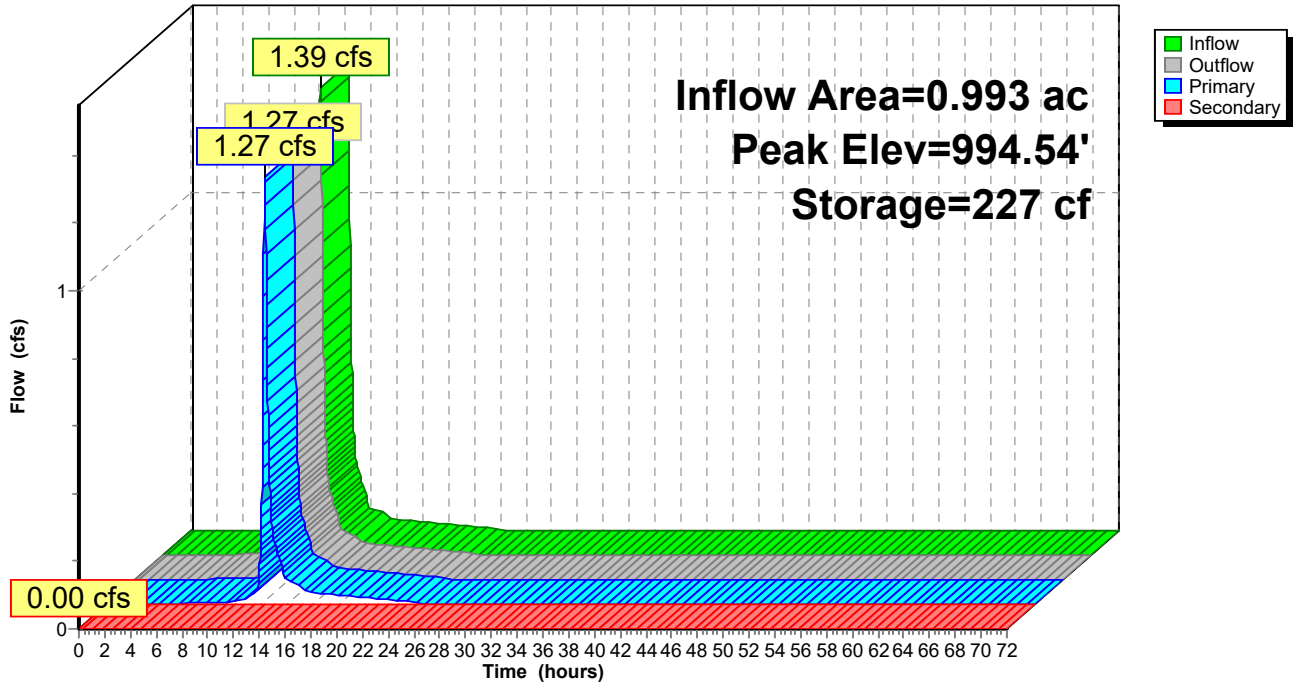
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_J4: CB_J4

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_L4: CB_L4

Inflow Area = 0.167 ac, 20.96% Impervious, Inflow Depth = 1.19" for 2yr-24hr event
 Inflow = 0.26 cfs @ 12.20 hrs, Volume= 0.017 af
 Outflow = 0.26 cfs @ 12.21 hrs, Volume= 0.017 af, Atten= 0%, Lag= 0.3 min
 Primary = 0.26 cfs @ 12.21 hrs, Volume= 0.017 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.05' @ 12.21 hrs Surf.Area= 120 sf Storage= 4 cf

Plug-Flow detention time= 0.4 min calculated for 0.017 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (803.0 - 802.5)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	1,325 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
978.50	750	200	200
980.00	750	1,125	1,325

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	978.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.26 cfs @ 12.21 hrs HW=978.05' TW=968.47' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 0.26 cfs @ 0.73 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=967.50' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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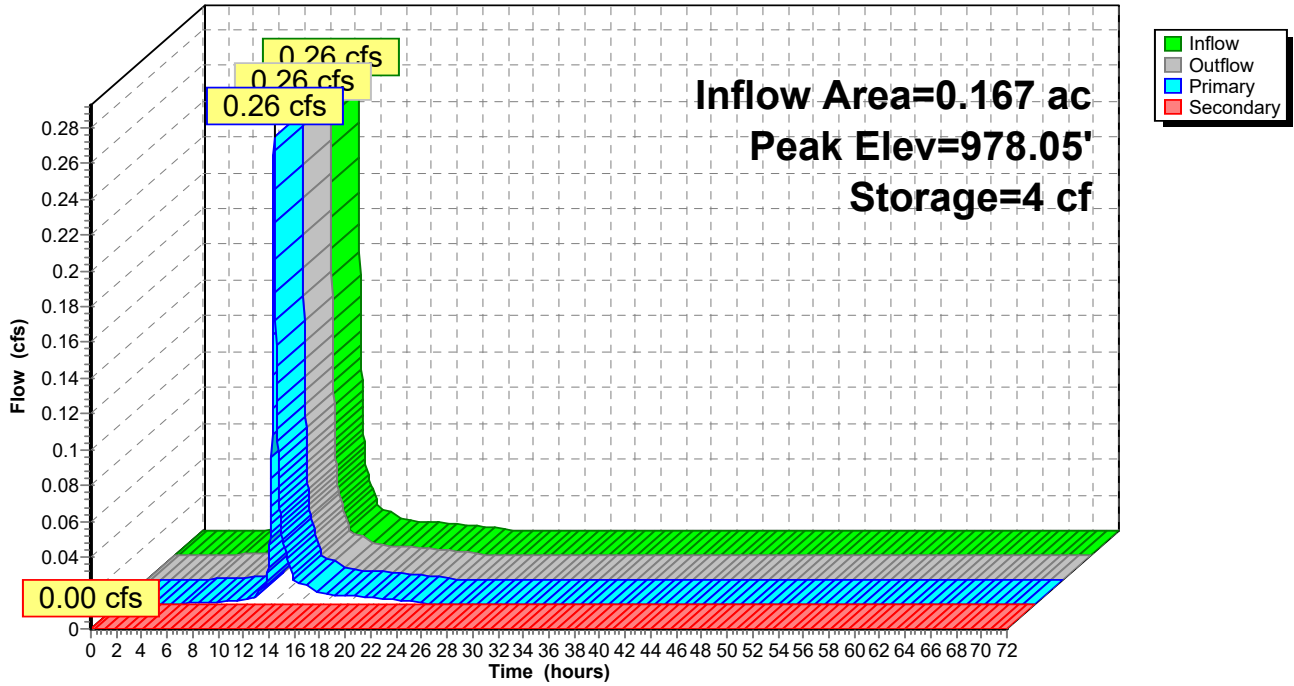
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_L4: CB_L4

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_L5: CB_L5

Inflow Area = 0.763 ac, 22.02% Impervious, Inflow Depth = 1.83" for 2yr-24hr event
 Inflow = 1.61 cfs @ 12.22 hrs, Volume= 0.116 af
 Outflow = 1.61 cfs @ 12.22 hrs, Volume= 0.116 af, Atten= 0%, Lag= 0.3 min
 Primary = 1.61 cfs @ 12.22 hrs, Volume= 0.116 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 977.67' @ 12.22 hrs Surf.Area= 246 sf Storage= 25 cf

Plug-Flow detention time= 0.3 min calculated for 0.116 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (809.1 - 808.8)

Volume	Invert	Avail.Storage	Storage Description
#1	977.50'	6,500 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
977.50	50	0	0
978.00	630	170	170
980.00	5,700	6,330	6,500

Device	Routing	Invert	Outlet Devices
#1	Primary	977.50'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.61 cfs @ 12.22 hrs HW=977.67' TW=968.52' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 1.61 cfs @ 1.34 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=977.50' TW=978.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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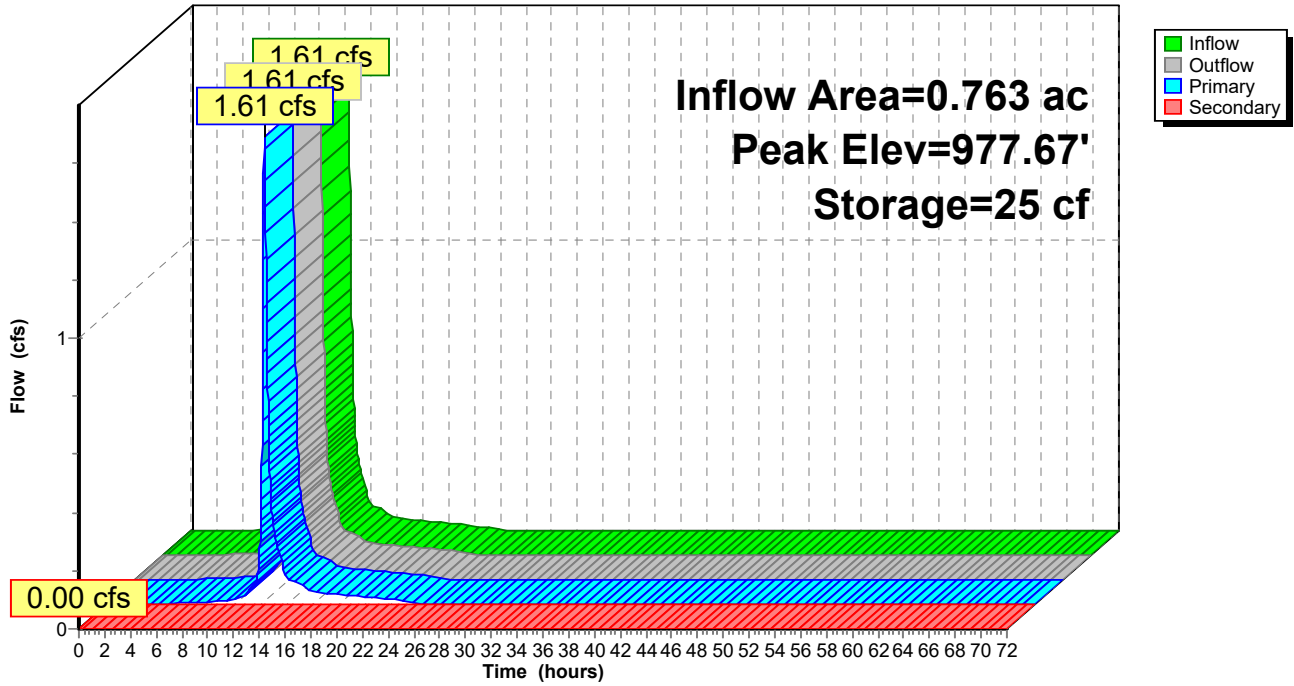
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_L5: CB_L5

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_L6: CB_L6

Inflow Area = 1.091 ac, 19.98% Impervious, Inflow Depth = 1.19" for 2yr-24hr event
 Inflow = 1.71 cfs @ 12.20 hrs, Volume= 0.108 af
 Outflow = 1.30 cfs @ 12.29 hrs, Volume= 0.108 af, Atten= 24%, Lag= 5.2 min
 Primary = 0.84 cfs @ 12.29 hrs, Volume= 0.070 af
 Secondary = 0.46 cfs @ 12.29 hrs, Volume= 0.038 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.11' @ 12.29 hrs Surf.Area= 829 sf Storage= 740 cf

Plug-Flow detention time= 20.3 min calculated for 0.108 af (100% of inflow)
 Center-of-Mass det. time= 20.1 min (823.9 - 803.8)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	13,500 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	100	0	0
980.00	13,400	13,500	13,500

Device	Routing	Invert	Outlet Devices
#1	Secondary	978.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.84 cfs @ 12.29 hrs HW=978.11' TW=968.69' (Dynamic Tailwater)
 ↑**2=Grate** (Weir Controls 0.84 cfs @ 1.08 fps)

Secondary OutFlow Max=0.46 cfs @ 12.29 hrs HW=978.11' TW=977.66' (Dynamic Tailwater)
 ↑**1=Broad-Crested Rectangular Weir** (Weir Controls 0.46 cfs @ 0.84 fps)

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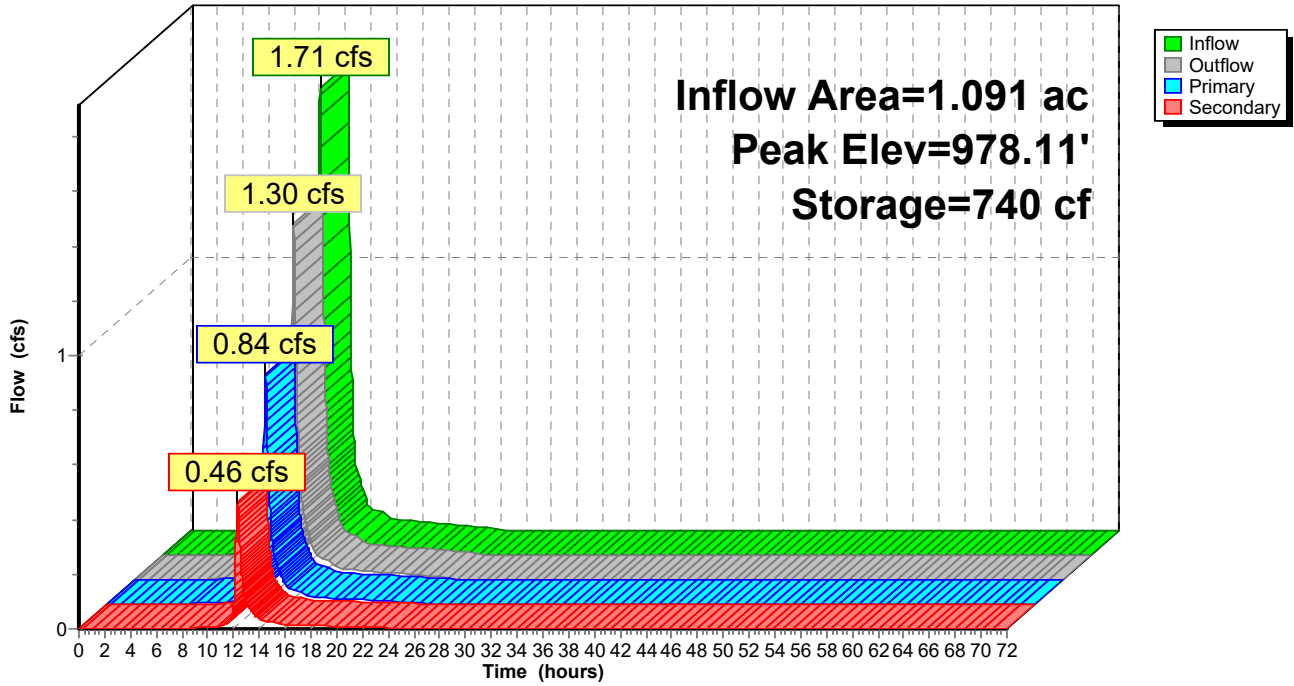
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_L6: CB_L6

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_L7: CB_L7

Inflow Area = 0.759 ac, 21.21% Impervious, Inflow Depth = 1.21" for 2yr-24hr event
 Inflow = 1.21 cfs @ 12.20 hrs, Volume= 0.077 af
 Outflow = 1.21 cfs @ 12.21 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.3 min
 Primary = 1.21 cfs @ 12.21 hrs, Volume= 0.077 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 979.14' @ 12.21 hrs Surf.Area= 236 sf Storage= 20 cf

Plug-Flow detention time= 0.3 min calculated for 0.077 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (802.6 - 802.3)

Volume	Invert	Avail.Storage	Storage Description
#1	979.00'	715 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
979.00	50	0	0
980.00	1,380	715	715

Device	Routing	Invert	Outlet Devices
#1	Primary	979.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.90'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.20 cfs @ 12.21 hrs HW=979.14' TW=968.47' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 1.20 cfs @ 1.22 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=979.00' TW=978.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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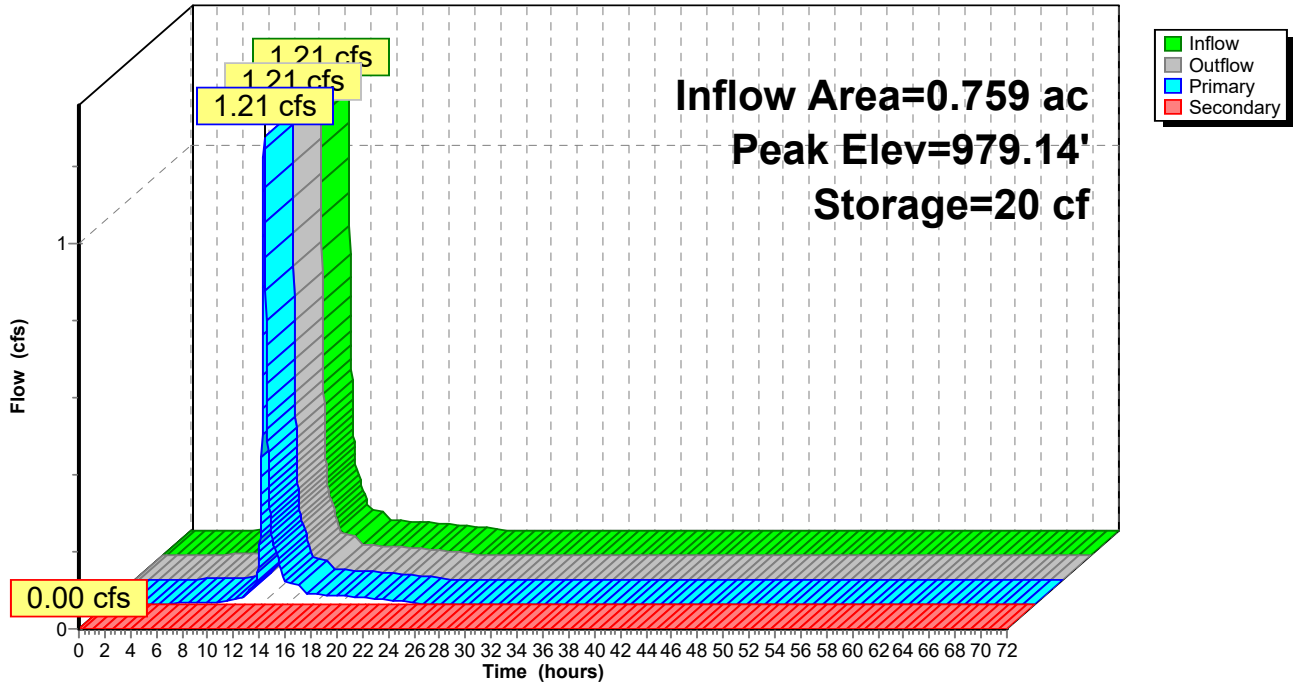
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_L7: CB_L7

Hydrograph



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Summary for Pond CB_L8: CB_L8

Inflow Area = 1.441 ac, 22.07% Impervious, Inflow Depth = 1.18" for 2yr-24hr event
 Inflow = 2.23 cfs @ 12.20 hrs, Volume= 0.141 af
 Outflow = 2.18 cfs @ 12.22 hrs, Volume= 0.141 af, Atten= 2%, Lag= 1.3 min
 Primary = 2.18 cfs @ 12.22 hrs, Volume= 0.141 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 980.21' @ 12.22 hrs Surf.Area= 1,227 sf Storage= 132 cf

Plug-Flow detention time= 0.7 min calculated for 0.141 af (100% of inflow)
 Center-of-Mass det. time= 0.7 min (800.4 - 799.7)

Volume	Invert	Avail.Storage	Storage Description
#1	980.00'	11,450 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
980.00	50	0	0
982.00	11,400	11,450	11,450

Device	Routing	Invert	Outlet Devices
#1	Primary	980.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	981.90'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.18 cfs @ 12.22 hrs HW=980.21' TW=968.52' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 2.18 cfs @ 1.49 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=980.00' TW=979.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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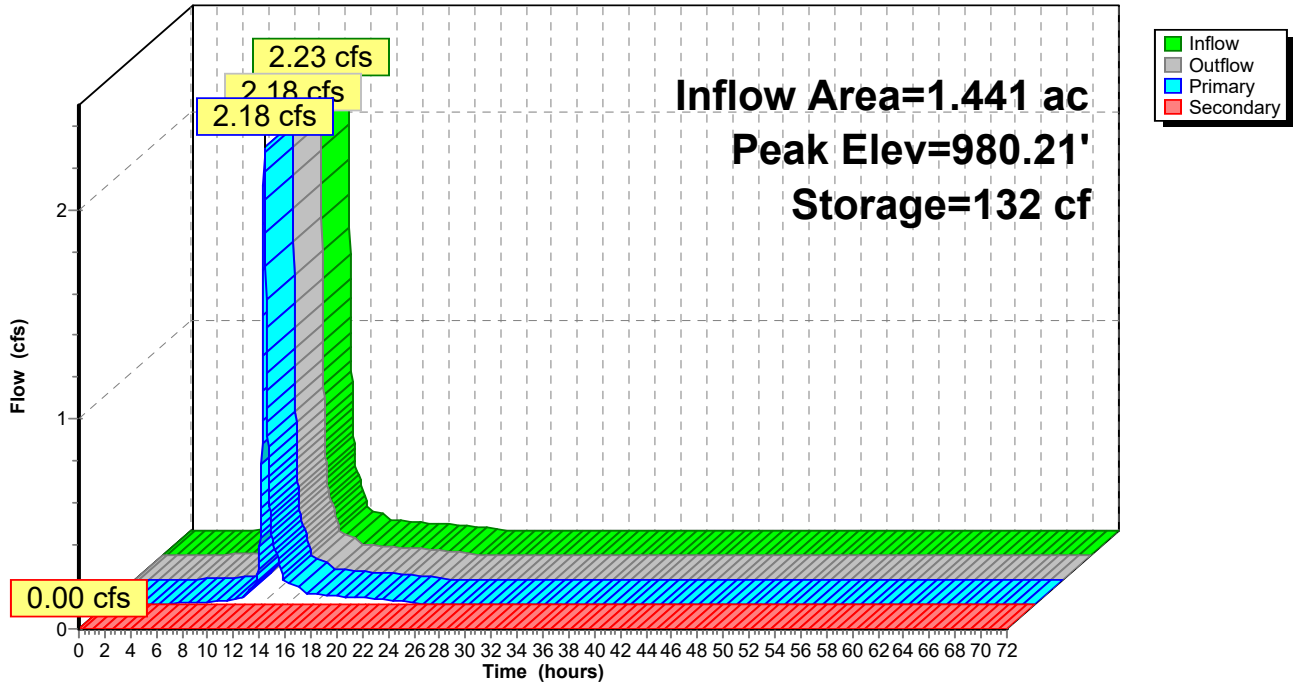
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_L8: CB_L8

Hydrograph



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Summary for Pond CB_L9: CB_L9

Inflow Area = 2.129 ac, 19.16% Impervious, Inflow Depth = 1.17" for 2yr-24hr event
 Inflow = 3.30 cfs @ 12.20 hrs, Volume= 0.208 af
 Outflow = 2.70 cfs @ 12.28 hrs, Volume= 0.208 af, Atten= 18%, Lag= 4.3 min
 Primary = 2.70 cfs @ 12.28 hrs, Volume= 0.208 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 982.83' @ 12.28 hrs Surf.Area= 1,955 sf Storage= 856 cf

Plug-Flow detention time= 5.7 min calculated for 0.208 af (100% of inflow)
 Center-of-Mass det. time= 5.8 min (810.6 - 804.8)

Volume	Invert	Avail.Storage	Storage Description
#1	982.00'	7,815 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
982.00	100	0	0
983.50	3,440	2,655	2,655
985.00	3,440	5,160	7,815

Device	Routing	Invert	Outlet Devices
#1	Primary	982.00'	15.0" Round Culvert L= 163.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 982.00' / 975.68' S= 0.0388 ' /' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	983.50'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.70 cfs @ 12.28 hrs HW=982.83' TW=968.66' (Dynamic Tailwater)

↑**1=Culvert** (Inlet Controls 2.70 cfs @ 3.11 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=982.00' TW=980.00' (Dynamic Tailwater)

↑**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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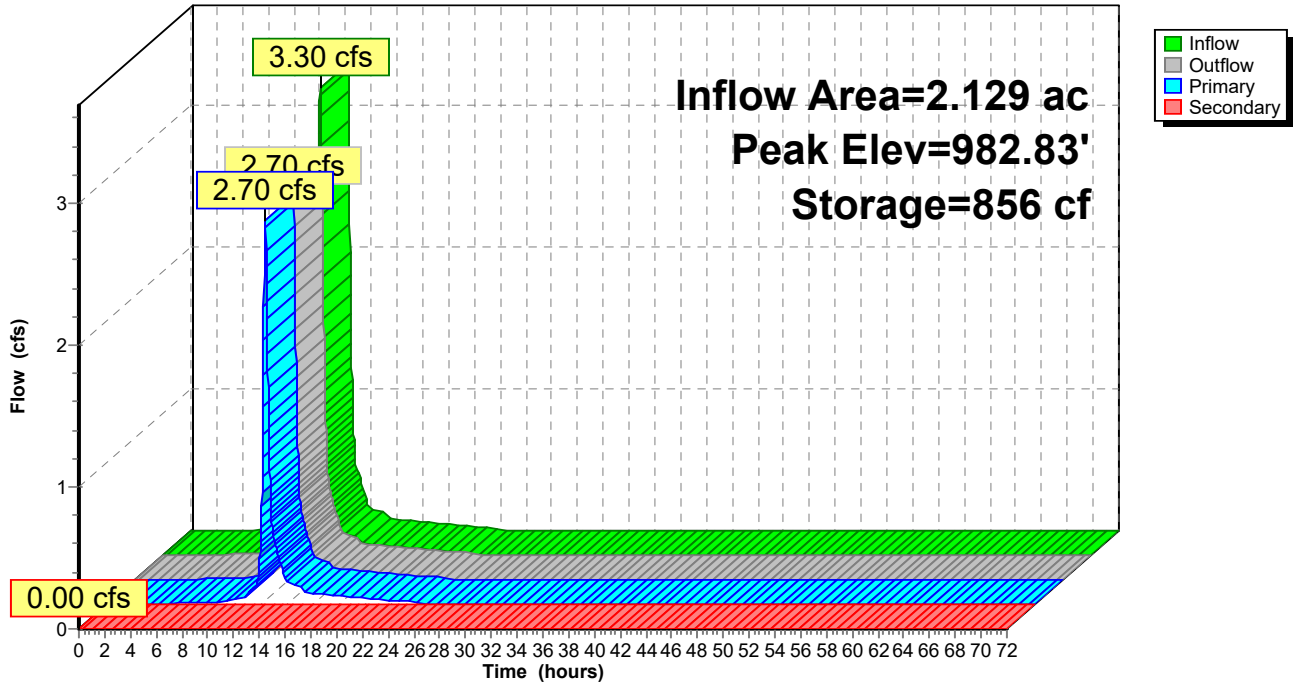
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_L9: CB_L9

Hydrograph



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Summary for Pond CB_O10: CB_O10

Inflow Area = 0.609 ac, 15.44% Impervious, Inflow Depth = 1.11" for 2yr-24hr event
 Inflow = 0.89 cfs @ 12.21 hrs, Volume= 0.056 af
 Outflow = 0.89 cfs @ 12.21 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.5 min
 Primary = 0.89 cfs @ 12.21 hrs, Volume= 0.056 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.11' @ 12.21 hrs Surf.Area= 346 sf Storage= 23 cf

Plug-Flow detention time= 0.4 min calculated for 0.056 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (810.3 - 809.8)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	25,530 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
980.00	5,240	5,290	5,290
982.00	15,000	20,240	25,530

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	980.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.89 cfs @ 12.21 hrs HW=978.11' TW=968.49' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 0.89 cfs @ 1.10 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=978.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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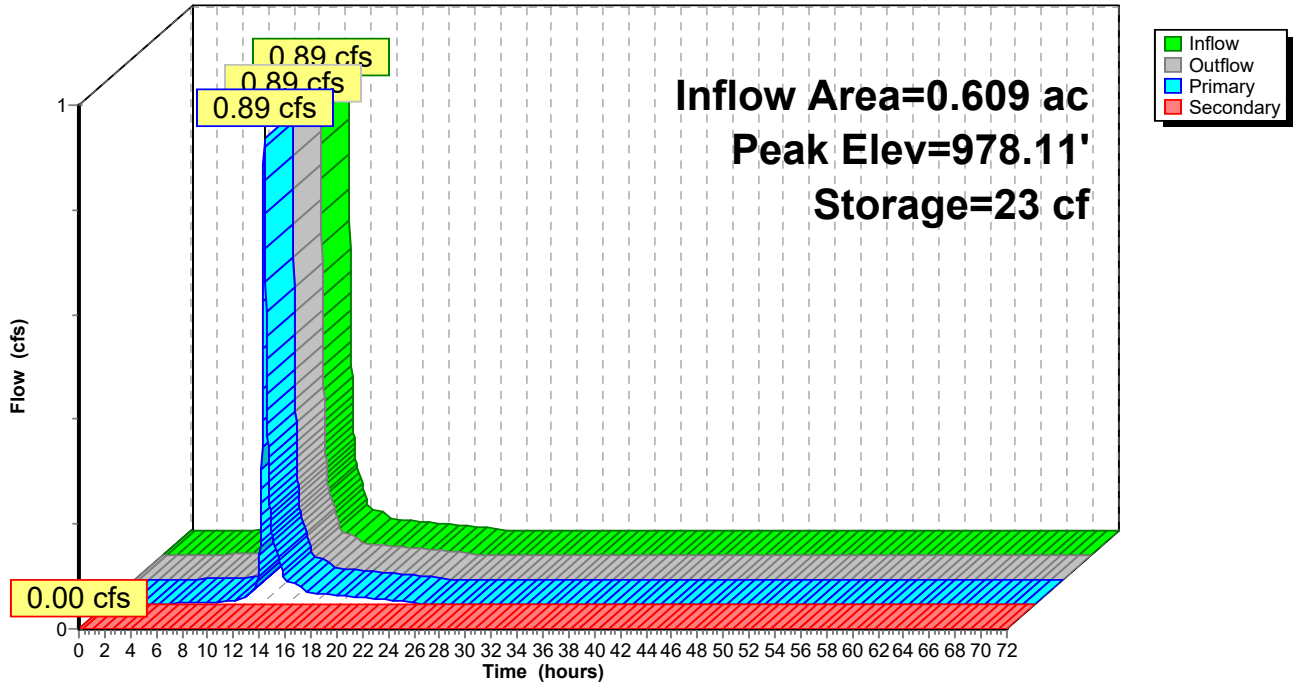
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_O10: CB_O10

Hydrograph



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Summary for Pond CB_O8: CB_O8

Inflow Area = 0.490 ac, 12.24% Impervious, Inflow Depth = 1.05" for 2yr-24hr event
 Inflow = 0.68 cfs @ 12.21 hrs, Volume= 0.043 af
 Outflow = 0.68 cfs @ 12.21 hrs, Volume= 0.043 af, Atten= 0%, Lag= 0.2 min
 Primary = 0.68 cfs @ 12.21 hrs, Volume= 0.043 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 975.60' @ 12.21 hrs Surf.Area= 117 sf Storage= 8 cf

Plug-Flow detention time= 0.3 min calculated for 0.043 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (815.0 - 814.6)

Volume	Invert	Avail.Storage	Storage Description
#1	975.50'	913 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
975.50	50	0	0
976.00	400	113	113
978.00	400	800	913

Device	Routing	Invert	Outlet Devices
#1	Primary	975.50'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	976.00'	4.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.68 cfs @ 12.21 hrs HW=975.60' TW=968.47' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 0.68 cfs @ 1.01 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=975.50' TW=967.50' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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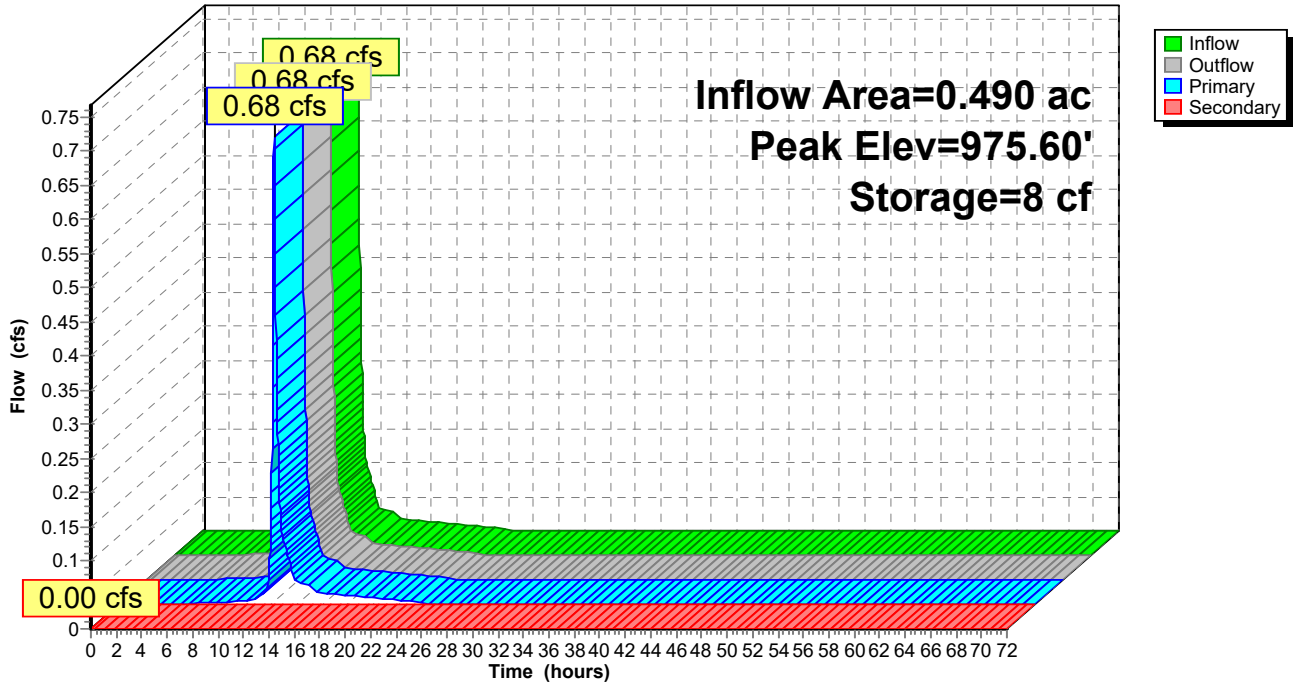
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_O8: CB_O8

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond CB_O9: CB_O9

Inflow Area = 1.143 ac, 19.86% Impervious, Inflow Depth = 1.19" for 2yr-24hr event
 Inflow = 1.79 cfs @ 12.20 hrs, Volume= 0.113 af
 Outflow = 1.79 cfs @ 12.21 hrs, Volume= 0.113 af, Atten= 0%, Lag= 0.4 min
 Primary = 1.79 cfs @ 12.21 hrs, Volume= 0.113 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.18' @ 12.21 hrs Surf.Area= 313 sf Storage= 33 cf

Plug-Flow detention time= 0.3 min calculated for 0.113 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (804.3 - 804.0)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	2,275 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
979.00	1,500	775	775
980.00	1,500	1,500	2,275

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.78 cfs @ 12.21 hrs HW=978.18' TW=968.48' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 1.78 cfs @ 1.39 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=975.50' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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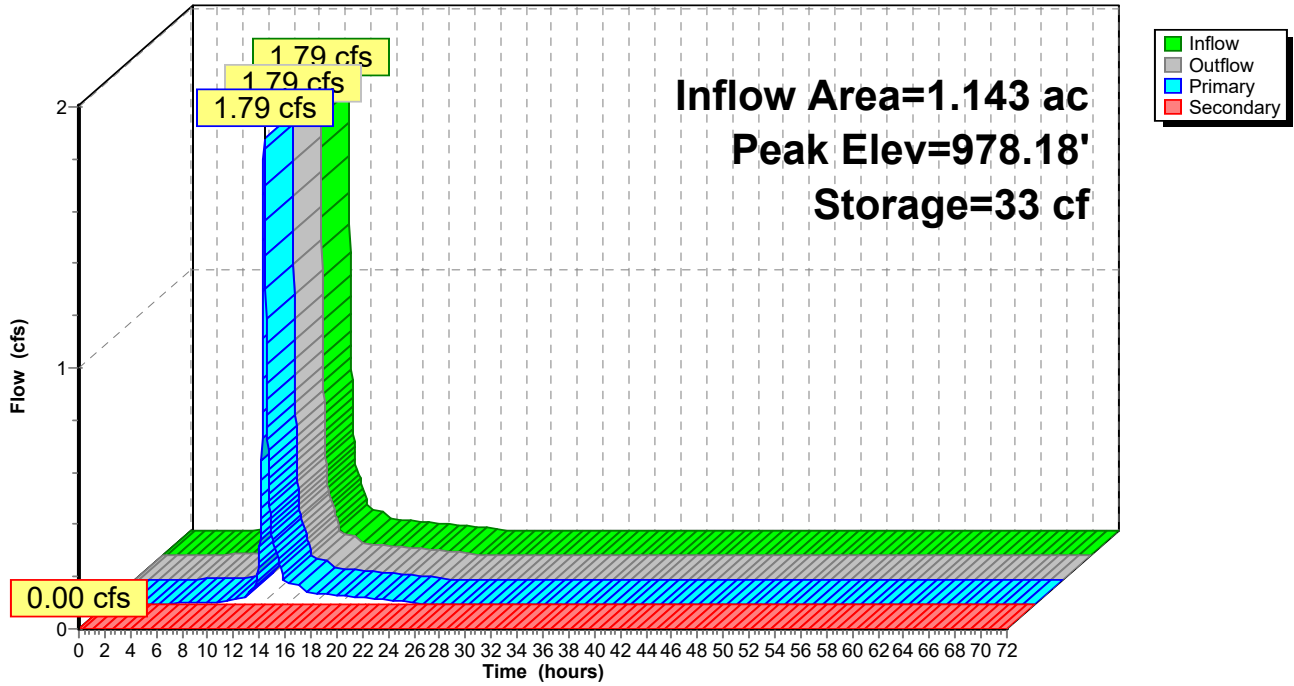
MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Pond CB_09: CB_09

Hydrograph



Hollydale - Proposed Conditions - 04.16.2021

MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond P1N: Pond 1N

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=175)

Inflow Area = 5.394 ac, 29.66% Impervious, Inflow Depth = 1.36" for 2yr-24hr event
 Inflow = 9.50 cfs @ 12.20 hrs, Volume= 0.613 af
 Outflow = 0.28 cfs @ 12.38 hrs, Volume= 0.110 af, Atten= 97%, Lag= 10.8 min
 Primary = 0.28 cfs @ 12.38 hrs, Volume= 0.110 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.50' Surf.Area= 41,136 sf Storage= 169,437 cf
 Peak Elev= 1,010.04' @ 19.39 hrs Surf.Area= 47,344 sf Storage= 193,106 cf (23,669 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 488.7 min (1,282.3 - 793.6)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	391,973 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,000.00	6,656	0	0
1,002.00	10,300	16,956	16,956
1,004.00	14,547	24,847	41,803
1,006.00	19,203	33,750	75,553
1,008.00	25,045	44,248	119,801
1,010.00	46,500	71,545	191,346
1,010.50	57,752	26,063	217,409
1,012.00	75,000	99,564	316,973
1,013.00	75,000	75,000	391,973

Device	Routing	Invert	Outlet Devices
#1	Primary	1,009.50'	15.0" Round Main outlet (Structure 248 to 249) L= 43.3' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 1,009.50' / 1,009.10' S= 0.0092 ' /' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	1,010.80'	48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,007.00'	15.0" Round low flow pipe L= 30.7' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,006.50' / 1,007.00' S= -0.0163 ' /' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#4	Secondary	1,012.00'	10.0' long x 2.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

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Primary OutFlow Max=0.26 cfs @ 12.38 hrs HW=1,009.82' TW=1,009.65' (Dynamic Tailwater)

↳ **1=Main outlet (Structure 248 to 249)** (Outlet Controls 0.26 cfs @ 1.62 fps)

↳ **2=Orifice/Grate** (Controls 0.00 cfs)

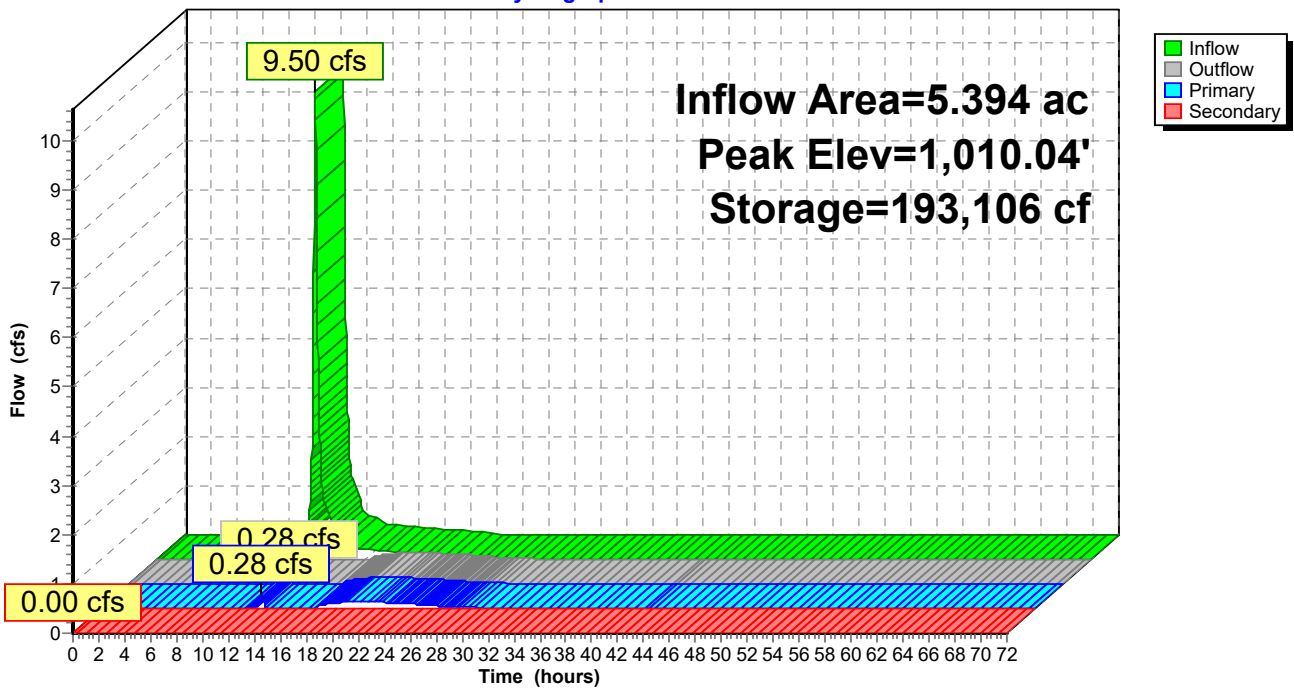
↳ **3=low flow pipe** (Passes 0.26 cfs of 2.40 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,009.50' TW=1,009.00' (Dynamic Tailwater)

↳ **4=EOF** (Controls 0.00 cfs)

Pond P1N: Pond 1N

Hydrograph



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MSE 24-hr 3 2yr-24hr Rainfall=2.87"

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Summary for Pond P1S: Pond 1S

Inflow Area = 106.817 ac, 34.75% Impervious, Inflow Depth > 1.33" for 2yr-24hr event
 Inflow = 46.53 cfs @ 12.23 hrs, Volume= 11.843 af
 Outflow = 11.98 cfs @ 13.87 hrs, Volume= 11.561 af, Atten= 74%, Lag= 98.7 min
 Primary = 11.98 cfs @ 13.87 hrs, Volume= 11.561 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 967.00' Surf.Area= 72,066 sf Storage= 246,162 cf
 Peak Elev= 968.44' @ 13.87 hrs Surf.Area= 94,424 sf Storage= 367,734 cf (121,572 cf above start)

Plug-Flow detention time= 1,066.6 min calculated for 5.908 af (50% of inflow)
 Center-of-Mass det. time= 205.9 min (1,403.5 - 1,197.6)

Volume	Invert	Avail.Storage	Storage Description
#1	960.00'	1,047,368 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
960.00	9,454	0	0
962.00	22,413	31,867	31,867
964.00	37,168	59,581	91,448
966.00	54,342	91,510	182,958
968.00	89,790	144,132	327,090
970.00	110,794	200,584	527,674
972.00	136,300	247,094	774,768
974.00	136,300	272,600	1,047,368

Device	Routing	Invert	Outlet Devices
#1	Primary	967.00'	30.0" Round Main outlet (Structure 294 to 295) L= 35.4' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 967.00' / 966.50' S= 0.0141 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf
#2	Device 1	971.00'	48.0" Horiz. Structure 294 Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	967.00'	30.0" Round low flow pipe L= 21.6' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 966.00' / 967.00' S= -0.0463 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf
#4	Secondary	971.00'	10.0' long x 4.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

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Primary OutFlow Max=11.98 cfs @ 13.87 hrs HW=968.44' TW=0.00' (Dynamic Tailwater)

↳ **1=Main outlet (Structure 294 to 295)** (Passes 11.98 cfs of 12.06 cfs potential flow)

↳ **2=Structure 294 Grate** (Controls 0.00 cfs)

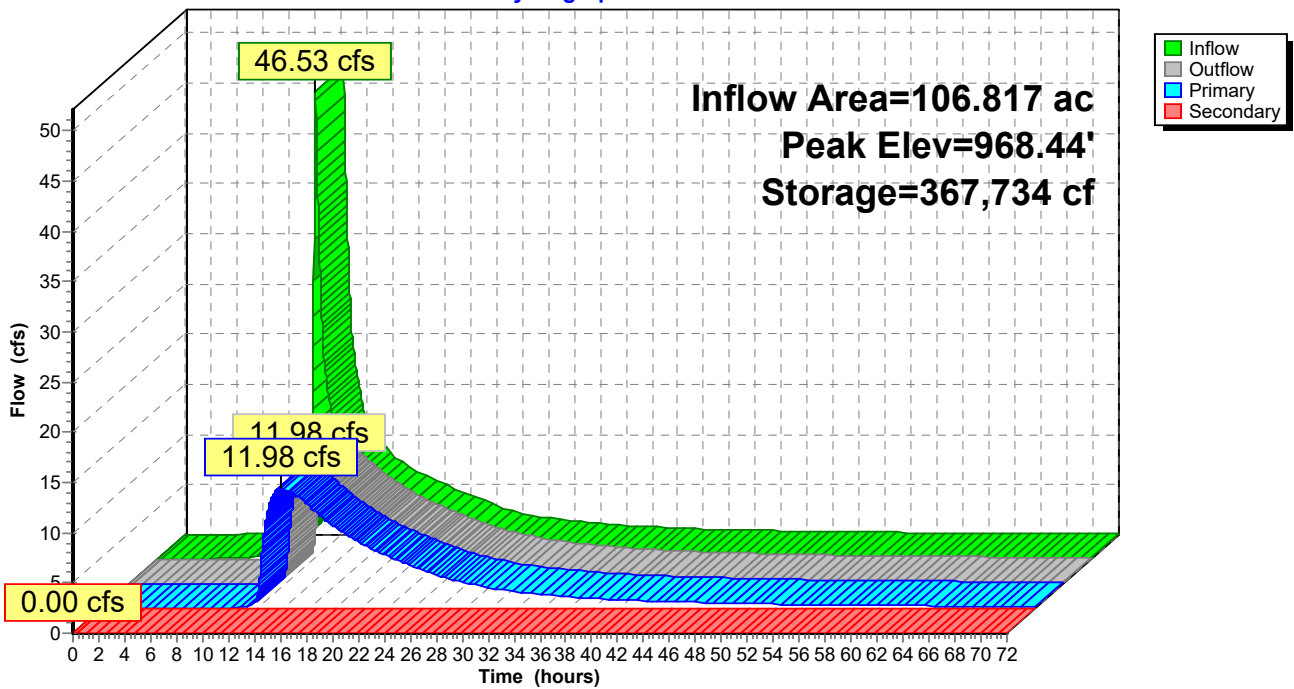
↳ **3=low flow pipe** (Inlet Controls 11.98 cfs @ 4.09 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=967.00' TW=0.00' (Dynamic Tailwater)

↳ **4=EOF** (Controls 0.00 cfs)

Pond P1S: Pond 1S

Hydrograph



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Summary for Pond P2S: Pond 2S

Inflow Area = 7.044 ac, 38.20% Impervious, Inflow Depth = 1.52" for 2yr-24hr event
 Inflow = 13.82 cfs @ 12.20 hrs, Volume= 0.892 af
 Outflow = 4.54 cfs @ 12.48 hrs, Volume= 0.886 af, Atten= 67%, Lag= 16.7 min
 Primary = 4.54 cfs @ 12.48 hrs, Volume= 0.886 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 969.00' Surf.Area= 18,607 sf Storage= 77,154 cf
 Peak Elev= 969.81' @ 12.48 hrs Surf.Area= 21,875 sf Storage= 93,485 cf (16,331 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 139.7 min (926.2 - 786.6)

Volume	Invert	Avail.Storage	Storage Description
#1	962.00'	200,412 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
962.00	6,074	0	0
964.00	8,571	14,645	14,645
966.00	11,401	19,972	34,617
968.00	14,555	25,956	60,573
970.00	22,658	37,213	97,786
972.00	26,656	49,314	147,100
974.00	26,656	53,312	200,412

Device	Routing	Invert	Outlet Devices
#1	Primary	969.00'	24.0" Round Main outlet (Structure 251 to 252) L= 32.8' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.00' / 967.90' S= 0.0335 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	972.00'	48.0" Horiz. Structure 251 Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	967.00'	24.0" Round low flow pipe L= 36.7' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 966.00' / 967.00' S= -0.0272 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#4	Secondary	972.00'	8.0' long x 32.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=4.54 cfs @ 12.48 hrs HW=969.81' TW=0.00' (Dynamic Tailwater)
 ↑ **1=Main outlet (Structure 251 to 252)** (Inlet Controls 4.54 cfs @ 3.82 fps)
 ↑ **2=Structure 251 Grate** (Controls 0.00 cfs)
 ↑ **3=low flow pipe** (Passes 4.54 cfs of 13.59 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=969.00' TW=0.00' (Dynamic Tailwater)
 ↑ **4=EOF** (Controls 0.00 cfs)

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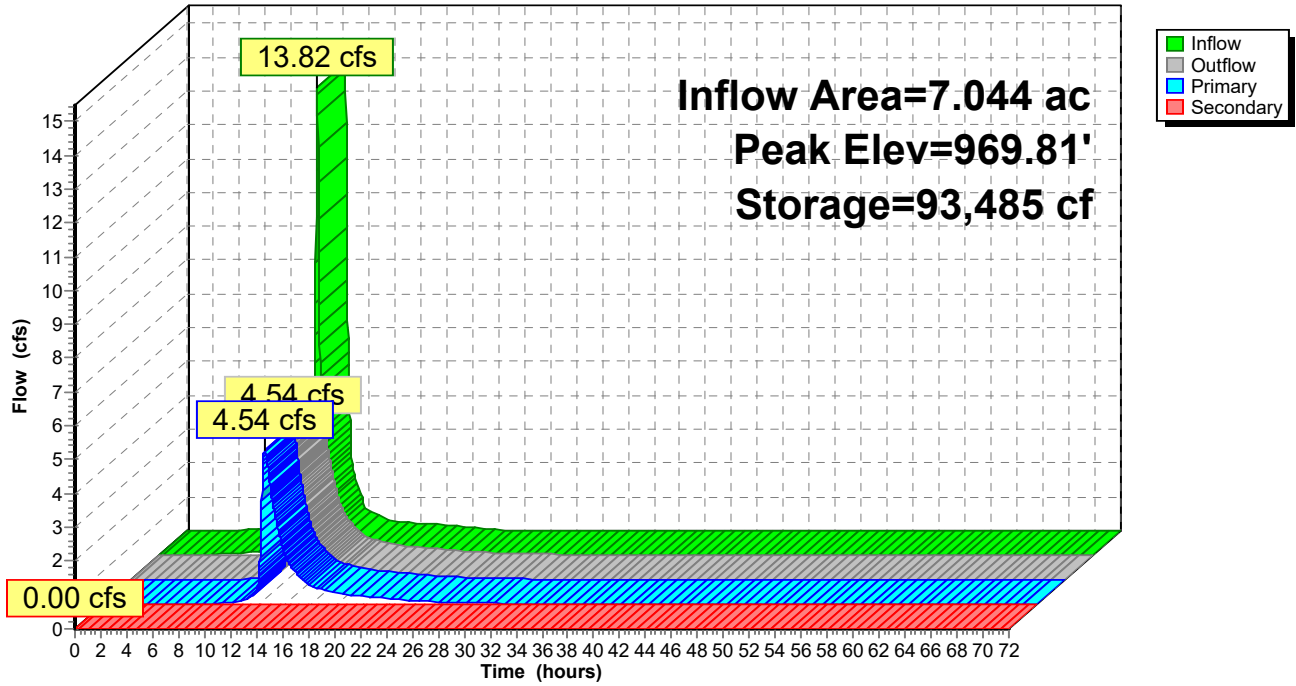
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Pond P2S: Pond 2S

Hydrograph



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Summary for Pond P3S: Pond 3S

Inflow Area = 12.637 ac, 40.00% Impervious, Inflow Depth = 1.55" for 2yr-24hr event
 Inflow = 25.22 cfs @ 12.20 hrs, Volume= 1.634 af
 Outflow = 4.90 cfs @ 12.64 hrs, Volume= 1.606 af, Atten= 81%, Lag= 26.1 min
 Primary = 4.90 cfs @ 12.64 hrs, Volume= 1.606 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 973.00' Surf.Area= 32,176 sf Storage= 137,120 cf
 Peak Elev= 974.05' @ 12.64 hrs Surf.Area= 38,288 sf Storage= 174,018 cf (36,899 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 237.0 min (1,022.1 - 785.1)

Volume	Invert	Avail.Storage	Storage Description
#1	966.00'	766,406 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
966.00	10,224	0	0
968.00	15,259	25,483	25,483
970.00	20,470	35,729	61,212
972.00	26,233	46,703	107,915
974.00	38,119	64,352	172,267
976.00	45,500	83,619	255,886
978.00	65,000	110,500	366,386
980.00	103,996	168,996	535,382
982.00	127,028	231,024	766,406

Device	Routing	Invert	Outlet Devices
#1	Primary	967.50'	24.0" Round H2 to H1 L= 174.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.50' / 967.00' S= 0.0029 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	967.80'	24.0" Round H3 to H2 L= 161.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.80' / 967.50' S= 0.0019 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#3	Device 2	968.00'	21.0" Round H4 to H3 L= 42.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 968.00' / 967.80' S= 0.0048 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#4	Device 3	968.40'	21.0" Round I101 to H4 L= 200.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 968.40' / 968.00' S= 0.0020 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#5	Device 4	968.70'	21.0" Round I100 to I101 L= 134.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 968.70' / 968.40' S= 0.0022 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf

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#6	Device 5	969.30'	21.0" Round Structure I11 to I100 L= 122.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.30' / 969.00' S= 0.0025 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#7	Device 6	972.00'	21.0" Round Structure I12 to I11 L= 26.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 972.00' / 971.80' S= 0.0077 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#8	Device 7	973.00'	21.0" Round Structure I13 to I12 L= 152.2' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 973.00' / 972.00' S= 0.0066 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#9	Device 8	976.10'	48.0" Horiz. I13 Grate C= 0.600 Limited to weir flow at low heads
#10	Device 8	970.00'	21.0" Round low flow pipe L= 35.6' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 968.00' / 970.00' S= -0.0562 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#11	Secondary	978.00'	5.0' long x 2.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=4.89 cfs @ 12.64 hrs HW=974.05' TW=968.15' (Dynamic Tailwater)

- ↑ 1=H2 to H1 (Passes 4.89 cfs of 30.86 cfs potential flow)
- ↑ 2=H3 to H2 (Passes 4.89 cfs of 30.02 cfs potential flow)
- ↑ 3=H4 to H3 (Passes 4.89 cfs of 30.29 cfs potential flow)
- ↑ 4=I101 to H4 (Passes 4.89 cfs of 19.57 cfs potential flow)
- ↑ 5=I100 to I101 (Passes 4.89 cfs of 21.31 cfs potential flow)
- ↑ 6=Structure I11 to I100 (Passes 4.89 cfs of 20.18 cfs potential flow)
- ↑ 7=Structure I12 to I11 (Passes 4.89 cfs of 12.35 cfs potential flow)
- ↑ 8=Structure I13 to I12 (Barrel Controls 4.89 cfs @ 4.69 fps)
- ↑ 9=I13 Grate (Controls 0.00 cfs)
- ↑ 10=low flow pipe (Passes 4.89 cfs of 11.84 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.00' TW=972.00' (Dynamic Tailwater)

- ↑ 11=EOF (Controls 0.00 cfs)

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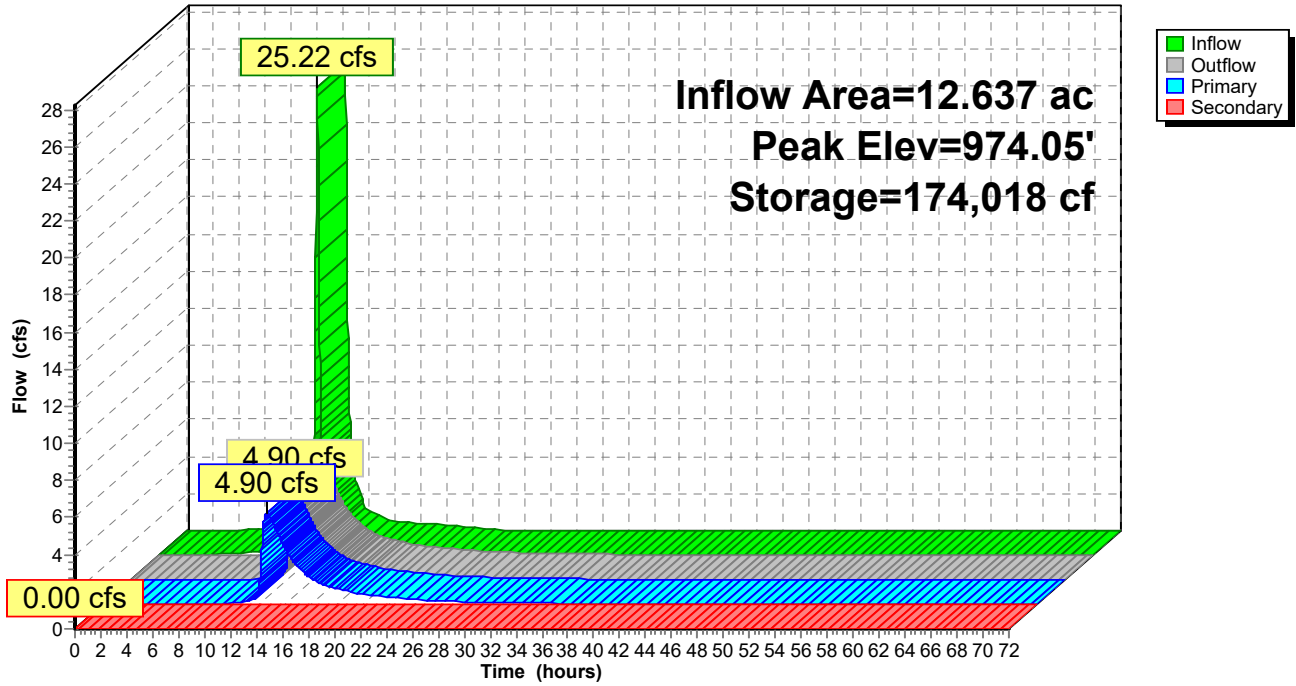
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Pond P3S: Pond 3S

Hydrograph



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Summary for Pond P4S: Pond 4S

Inflow Area = 75.911 ac, 31.86% Impervious, Inflow Depth > 1.27" for 2yr-24hr event
 Inflow = 34.15 cfs @ 12.22 hrs, Volume= 8.014 af
 Outflow = 16.80 cfs @ 12.48 hrs, Volume= 7.942 af, Atten= 51%, Lag= 15.6 min
 Primary = 16.80 cfs @ 12.48 hrs, Volume= 7.942 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 967.50' Surf.Area= 22,564 sf Storage= 74,427 cf
 Peak Elev= 968.85' @ 12.49 hrs Surf.Area= 30,572 sf Storage= 109,759 cf (35,332 cf above start)

Plug-Flow detention time= 541.6 min calculated for 6.234 af (78% of inflow)
 Center-of-Mass det. time= 75.2 min (1,353.3 - 1,278.2)

Volume	Invert	Avail.Storage	Storage Description
#1	960.00'	730,861 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
960.00	2,404	0	0
962.00	4,393	6,797	6,797
964.00	9,311	13,704	20,501
966.00	15,824	25,135	45,636
968.00	24,811	40,635	86,271
970.00	38,395	63,206	149,477
972.00	58,966	97,361	246,838
974.00	118,288	177,254	424,092
976.00	188,481	306,769	730,861

Device	Routing	Invert	Outlet Devices
#1	Primary	967.50'	58.5" W x 36.0" H, R=30.0"/84.0" Pipe Arch RCP_Arch 59x36 L= 258.6' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 967.50' / 967.00' S= 0.0019 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 11.40 sf
#2	Device 1	971.70'	60.0" Horiz. Structure 254 Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	964.00'	58.5" W x 36.0" H, R=30.0"/84.0" Pipe Arch RCP_Arch 59x36 L= 30.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 963.00' / 964.00' S= -0.0333 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 11.40 sf
#4	Secondary	969.00'	36.0" Round Secondary outlet (Structure 184 to 185) L= 147.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.00' / 967.00' S= 0.0136 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf
#5	Device 4	969.50'	36.0" Round Structure 187 to 184 L= 24.5' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.50' / 969.00' S= 0.0204 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

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#6	Device 5	970.50'	36.0" Round Structure 186 to 187 L= 64.7' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 970.50' / 969.50' S= 0.0155 1/1' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf
#7	Device 6	971.70'	10.0' long x 4.0' breadth Berm to Secondary EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=16.74 cfs @ 12.48 hrs HW=968.85' TW=968.02' (Dynamic Tailwater)

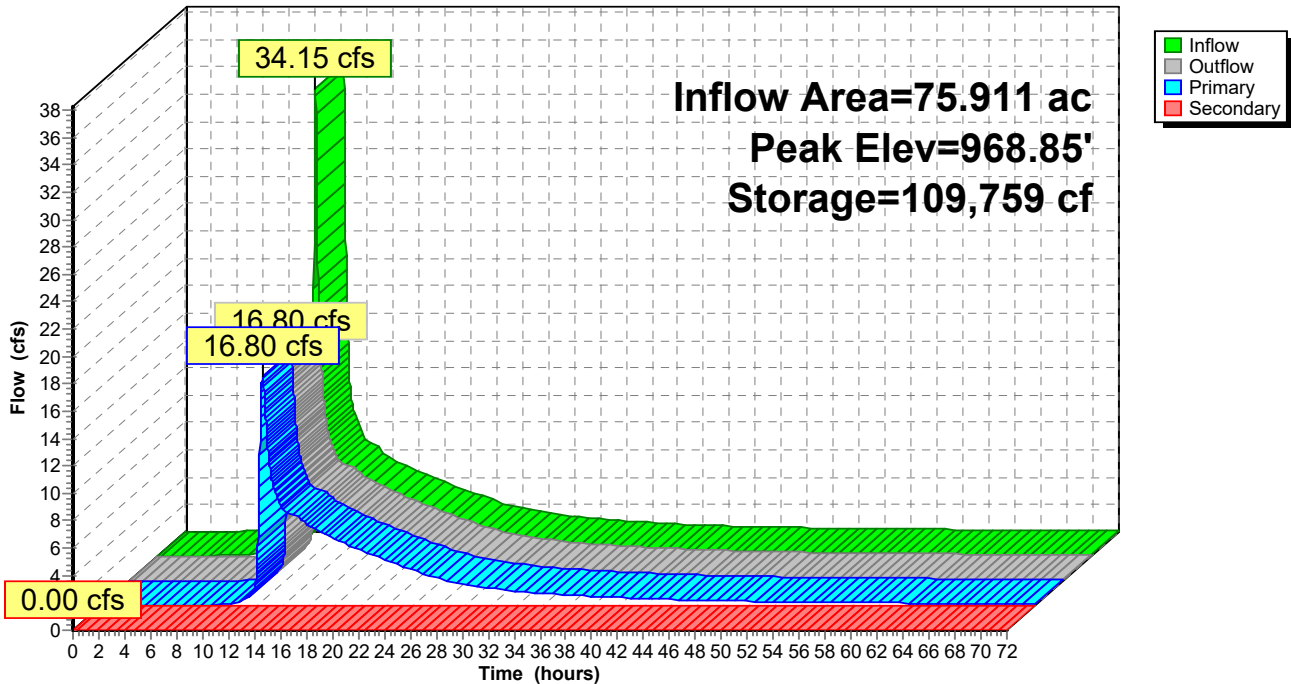
- ↑ 1=RCP_Arch 59x36 (Outlet Controls 16.74 cfs @ 4.07 fps)
- ↑ 2=Structure 254 Grate (Controls 0.00 cfs)
- ↑ 3=RCP_Arch 59x36 (Passes 16.74 cfs of 50.03 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=967.50' TW=967.00' (Dynamic Tailwater)

- ↑ 4=Secondary outlet (Structure 184 to 185) (Controls 0.00 cfs)
- ↑ 5=Structure 187 to 184 (Controls 0.00 cfs)
- ↑ 6=Structure 186 to 187 (Controls 0.00 cfs)
- ↑ 7=Berm to Secondary EOF (Controls 0.00 cfs)

Pond P4S: Pond 4S

Hydrograph



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Summary for Pond P5S: Pond 5S

Inflow Area = 53.598 ac, 34.53% Impervious, Inflow Depth = 1.41" for 2yr-24hr event
 Inflow = 96.54 cfs @ 12.21 hrs, Volume= 6.309 af
 Outflow = 5.08 cfs @ 13.69 hrs, Volume= 5.737 af, Atten= 95%, Lag= 89.0 min
 Primary = 5.08 cfs @ 13.69 hrs, Volume= 5.737 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 978.00' Surf.Area= 188,573 sf Storage= 1,134,893 cf
 Peak Elev= 978.97' @ 13.69 hrs Surf.Area= 199,391 sf Storage= 1,323,371 cf (188,478 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 680.1 min (1,468.3 - 788.2)

Volume	Invert	Avail.Storage	Storage Description
#1	970.00'	4,063,546 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
970.00	111,000	0	0
972.00	116,150	227,150	227,150
974.00	142,566	258,716	485,866
976.00	158,944	301,510	787,376
978.00	188,573	347,517	1,134,893
980.00	210,840	399,413	1,534,306
982.00	257,600	468,440	2,002,746
984.00	257,600	515,200	2,517,946
990.00	257,600	1,545,600	4,063,546

Device	Routing	Invert	Outlet Devices
#1	Primary	970.00'	18.0" Round Structure 273 to 246 L= 192.5' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 970.00' / 968.50' S= 0.0078 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#2	Device 1	972.00'	18.0" Round Structure 272 to 273 L= 70.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 972.00' / 970.00' S= 0.0286 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#3	Device 2	974.00'	18.0" Round Structure 271 to 272 L= 50.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 974.00' / 973.00' S= 0.0200 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#4	Device 3	978.00'	18.0" Round Structure 245 to 271 L= 108.6' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 978.00' / 974.00' S= 0.0368 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#5	Device 4	975.50'	21.0" Round low flow pipe L= 29.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 975.00' / 975.50' S= -0.0172 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf

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#6	Device 4	981.50'	48.0" Horiz. Structure 245 grate	C= 0.600															
			Limited to weir flow at low heads																
#7	Secondary	981.50'	10.0' long x 2.0' breadth EOF																
			Head (feet)	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.50	3.00	3.50			
			Coef. (English)	2.54	2.61	2.61	2.60	2.66	2.70	2.77	2.89	2.88	2.85	3.07	3.20	3.32			

Primary OutFlow Max=5.08 cfs @ 13.69 hrs HW=978.97' TW=968.69' (Dynamic Tailwater)

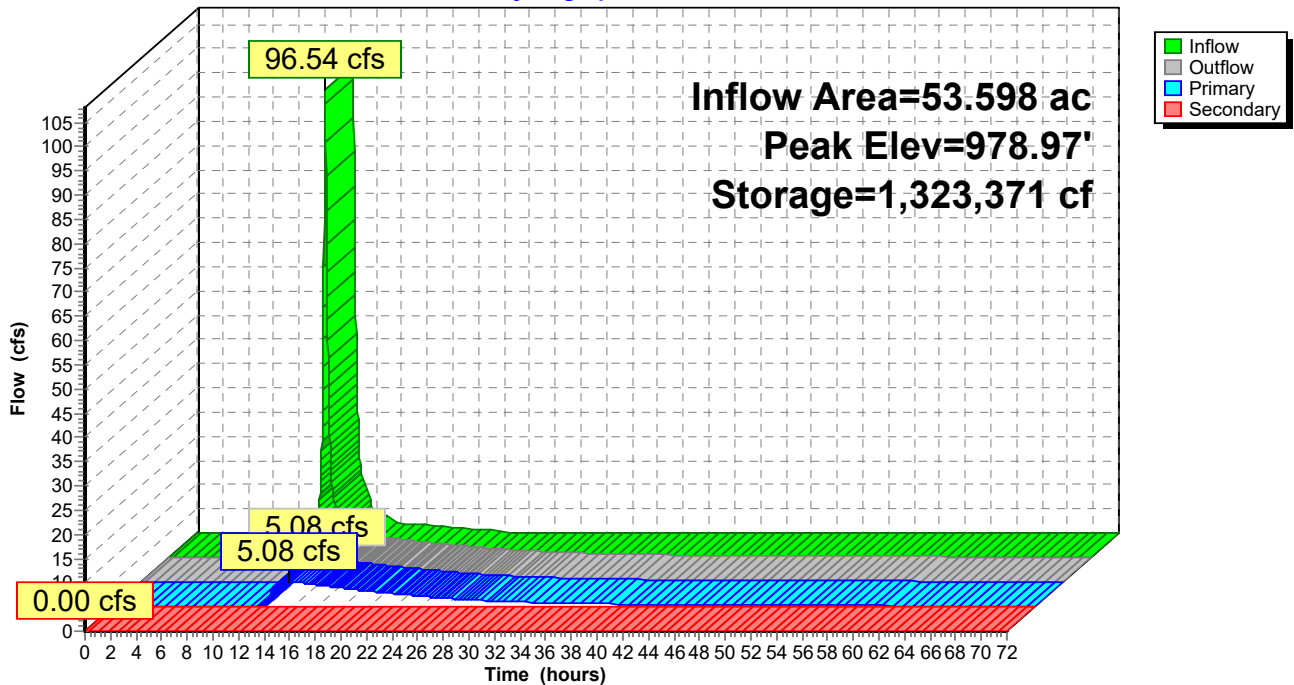
- 1=Structure 273 to 246 (Passes 5.08 cfs of 19.55 cfs potential flow)
- 2=Structure 272 to 273 (Passes 5.08 cfs of 24.61 cfs potential flow)
- 3=Structure 271 to 272 (Passes 5.08 cfs of 20.62 cfs potential flow)
- 4=Structure 245 to 271 (Inlet Controls 5.08 cfs @ 4.20 fps)
- 5=low flow pipe (Passes 5.08 cfs of 11.42 cfs potential flow)
- 6=Structure 245 grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=978.00' (Dynamic Tailwater)

- 7=EOF (Controls 0.00 cfs)

Pond P5S: Pond 5S

Hydrograph



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Summary for Pond Wetland 9: Wetland 9

[80] Warning: Exceeded Pond P1N by 0.14' @ 13.18 hrs (0.66 cfs 0.123 af)

Inflow Area = 10.217 ac, 25.83% Impervious, Inflow Depth = 0.70" for 2yr-24hr event
 Inflow = 4.86 cfs @ 12.25 hrs, Volume= 0.598 af
 Outflow = 0.86 cfs @ 13.40 hrs, Volume= 0.297 af, Atten= 82%, Lag= 68.9 min
 Primary = 0.86 cfs @ 13.40 hrs, Volume= 0.297 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.00' Surf.Area= 9,469 sf Storage= 6,526 cf
 Peak Elev= 1,010.07' @ 13.40 hrs Surf.Area= 16,723 sf Storage= 20,773 cf (14,248 cf above start)

Plug-Flow detention time= 657.8 min calculated for 0.148 af (25% of inflow)
 Center-of-Mass det. time= 215.2 min (1,114.4 - 899.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,008.00'	53,068 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,008.00	3,582	0	0
1,009.00	9,469	6,526	6,526
1,010.00	16,723	13,096	19,622
1,012.00	16,723	33,446	53,068

Device	Routing	Invert	Outlet Devices
#1	Primary	1,010.00'	20.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.86 cfs @ 13.40 hrs HW=1,010.07' TW=0.00' (Dynamic Tailwater)
 ↑1=Broad-Crested Rectangular Weir (Weir Controls 0.86 cfs @ 0.62 fps)

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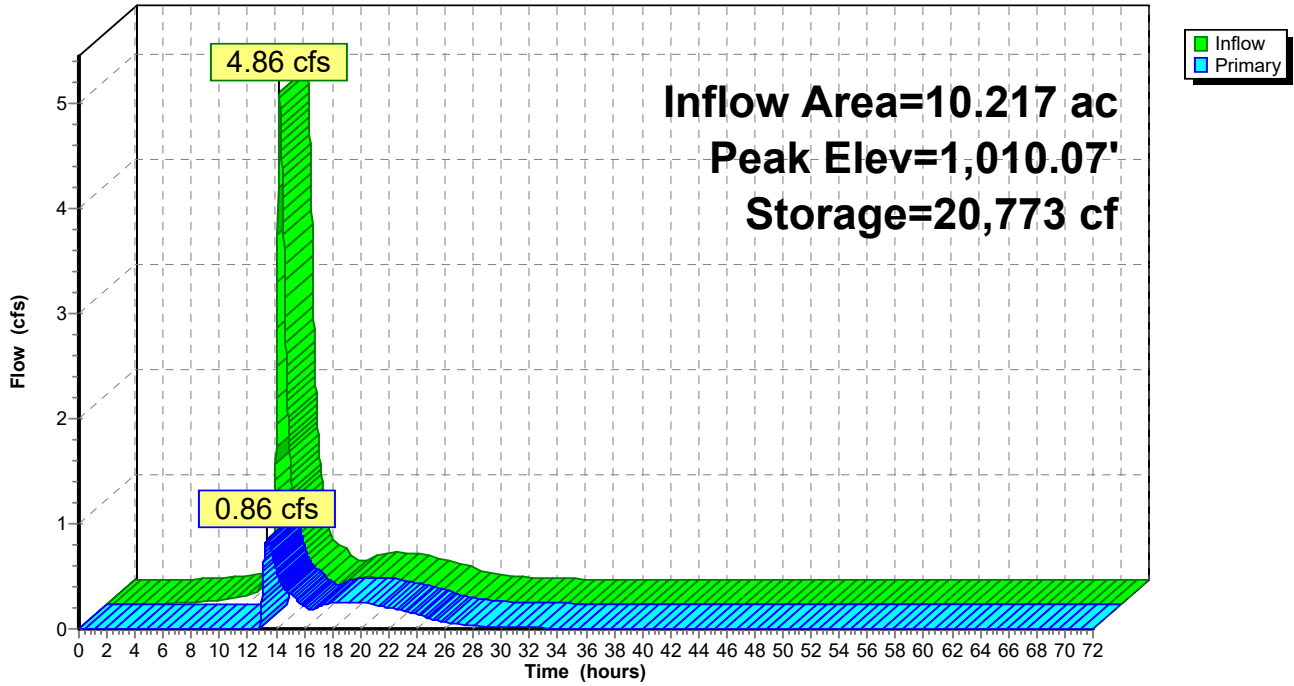
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Pond Wetland 9: Wetland 9

Hydrograph



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Time span=0.00-72.00 hrs, dt=0.02 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1N: 1N	Runoff Area=4.840 ac 30.45% Impervious Runoff Depth=2.48" Tc=12.0 min CN=WQ Runoff=16.08 cfs 1.000 af
Subcatchment 1N_100: 1N_100 Flow Length=300'	Runoff Area=0.554 ac 22.74% Impervious Runoff Depth=2.29" Slope=0.0730 '/' Tc=14.8 min CN=WQ Runoff=1.56 cfs 0.106 af
Subcatchment 1S: 1S	Runoff Area=13.917 ac 49.29% Impervious Runoff Depth=2.79" Tc=12.0 min CN=WQ Runoff=50.17 cfs 3.233 af
Subcatchment 2S: 2S	Runoff Area=4.152 ac 49.86% Impervious Runoff Depth=2.91" Tc=12.0 min CN=WQ Runoff=15.79 cfs 1.008 af
Subcatchment 3S: 3S	Runoff Area=9.641 ac 44.37% Impervious Runoff Depth=2.79" Tc=12.0 min CN=WQ Runoff=35.35 cfs 2.241 af
Subcatchment 3S_100: 3S_100	Runoff Area=0.507 ac 69.43% Impervious Runoff Depth=3.35" Tc=12.0 min CN=WQ Runoff=2.17 cfs 0.142 af
Subcatchment 4S: 4S	Runoff Area=9.003 ac 34.97% Impervious Runoff Depth=2.34" Tc=12.0 min CN=WQ Runoff=27.33 cfs 1.752 af
Subcatchment 5S: 5S	Runoff Area=28.964 ac 47.03% Impervious Runoff Depth=2.70" Tc=12.0 min CN=WQ Runoff=101.52 cfs 6.509 af
Subcatchment 5S_100: 5S_100	Runoff Area=0.289 ac 46.02% Impervious Runoff Depth=2.83" Tc=12.0 min CN=WQ Runoff=1.07 cfs 0.068 af
Subcatchment 10S: 10S_100	Runoff Area=0.378 ac 6.88% Impervious Runoff Depth=1.95" Tc=12.0 min CN=WQ Runoff=1.04 cfs 0.061 af
Subcatchment 1000: 1000 Flow Length=115'	Runoff Area=0.038 ac 36.84% Impervious Runoff Depth=2.62" Slope=0.0170 '/' Tc=12.3 min CN=WQ Runoff=0.13 cfs 0.008 af
Subcatchment A10: A10	Runoff Area=0.830 ac 33.25% Impervious Runoff Depth=2.54" Tc=12.0 min CN=WQ Runoff=2.81 cfs 0.176 af
Subcatchment A10_100: A10_100	Runoff Area=0.034 ac 100.00% Impervious Runoff Depth=4.03" Tc=12.0 min CN=WQ Runoff=0.17 cfs 0.011 af
Subcatchment A15: A15	Runoff Area=0.669 ac 25.11% Impervious Runoff Depth=2.36" Tc=12.0 min CN=WQ Runoff=2.13 cfs 0.132 af
Subcatchment A15_100: A15_100	Runoff Area=0.027 ac 100.00% Impervious Runoff Depth=4.03" Tc=12.0 min CN=98 Runoff=0.14 cfs 0.009 af
Subcatchment A8: A8	Runoff Area=0.095 ac 10.53% Impervious Runoff Depth=2.03" Tc=12.0 min CN=WQ Runoff=0.27 cfs 0.016 af

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Subcatchment A9: A9	Runoff Area=0.671 ac 21.61% Impervious Runoff Depth=2.28" Tc=12.0 min CN=WQ Runoff=2.08 cfs 0.128 af
Subcatchment B5: B5	Runoff Area=0.552 ac 11.05% Impervious Runoff Depth=2.02" Tc=12.0 min CN=WQ Runoff=1.55 cfs 0.093 af
Subcatchment B6: B6	Runoff Area=1.508 ac 12.07% Impervious Runoff Depth=2.07" Tc=12.0 min CN=WQ Runoff=4.33 cfs 0.260 af
Subcatchment B7: B7	Runoff Area=0.782 ac 16.75% Impervious Runoff Depth=2.17" Tc=12.0 min CN=WQ Runoff=2.33 cfs 0.142 af
Subcatchment B7_100: B7_100	Runoff Area=0.211 ac 29.86% Impervious Runoff Depth=2.47" Tc=12.0 min CN=WQ Runoff=0.70 cfs 0.043 af
Subcatchment B8: B8	Runoff Area=1.110 ac 6.67% Impervious Runoff Depth=1.94" Tc=12.0 min CN=WQ Runoff=3.02 cfs 0.179 af
Subcatchment B8_100: B8_100	Runoff Area=0.030 ac 90.00% Impervious Runoff Depth=3.81" Tc=12.0 min CN=WQ Runoff=0.14 cfs 0.010 af
Subcatchment C10: C10	Runoff Area=1.521 ac 10.72% Impervious Runoff Depth=2.04" Tc=12.0 min CN=WQ Runoff=4.31 cfs 0.258 af
Subcatchment C10_100: C10_100	Runoff Area=0.546 ac 59.71% Impervious Runoff Depth=3.13" Tc=12.0 min CN=WQ Runoff=2.21 cfs 0.143 af
Subcatchment C7: C7	Runoff Area=1.440 ac 13.61% Impervious Runoff Depth=2.10" Tc=12.0 min CN=WQ Runoff=4.19 cfs 0.252 af
Subcatchment C7_100: C7_100	Runoff Area=0.268 ac 62.31% Impervious Runoff Depth=3.19" Flow Length=300' Slope=0.0870 '/ Tc=13.8 min CN=WQ Runoff=1.03 cfs 0.071 af
Subcatchment C8: C8	Runoff Area=1.457 ac 13.04% Impervious Runoff Depth=2.09" Tc=12.0 min CN=WQ Runoff=4.21 cfs 0.254 af
Subcatchment C8_100: C8_100	Runoff Area=0.470 ac 62.77% Impervious Runoff Depth=3.20" Flow Length=300' Slope=0.0870 '/ Tc=13.8 min CN=WQ Runoff=1.82 cfs 0.125 af
Subcatchment C9: C9	Runoff Area=1.762 ac 10.95% Impervious Runoff Depth=2.04" Tc=12.0 min CN=WQ Runoff=5.01 cfs 0.300 af
Subcatchment C9_100: C9_100	Runoff Area=0.301 ac 65.12% Impervious Runoff Depth=3.25" Tc=12.0 min CN=WQ Runoff=1.26 cfs 0.082 af
Subcatchment D6: D6	Runoff Area=0.376 ac 3.46% Impervious Runoff Depth=1.87" Tc=12.0 min CN=WQ Runoff=1.00 cfs 0.059 af
Subcatchment D7: D7	Runoff Area=0.511 ac 11.94% Impervious Runoff Depth=2.06" Tc=12.0 min CN=WQ Runoff=1.46 cfs 0.088 af

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Subcatchment D7_100: D7_100	Runoff Area=0.075 ac 56.00% Impervious Runoff Depth=3.05" Tc=12.0 min CN=WQ Runoff=0.30 cfs 0.019 af
Subcatchment D8: D8	Runoff Area=1.215 ac 7.98% Impervious Runoff Depth=1.98" Tc=12.0 min CN=WQ Runoff=3.36 cfs 0.200 af
Subcatchment D9: D9	Runoff Area=1.254 ac 16.11% Impervious Runoff Depth=2.16" Tc=12.0 min CN=WQ Runoff=3.72 cfs 0.225 af
Subcatchment E13: E13	Runoff Area=0.605 ac 27.77% Impervious Runoff Depth=2.42" Tc=12.0 min CN=WQ Runoff=1.97 cfs 0.122 af
Subcatchment E15: E15	Runoff Area=1.926 ac 26.90% Impervious Runoff Depth=2.40" Tc=12.0 min CN=WQ Runoff=6.23 cfs 0.385 af
Subcatchment E16: E16	Runoff Area=1.374 ac 25.84% Impervious Runoff Depth=2.38" Tc=12.0 min CN=WQ Runoff=4.41 cfs 0.272 af
Subcatchment E17: E17	Runoff Area=0.991 ac 20.48% Impervious Runoff Depth=2.26" Tc=12.0 min CN=WQ Runoff=3.05 cfs 0.186 af
Subcatchment E18: E18	Runoff Area=1.734 ac 9.86% Impervious Runoff Depth=2.02" Tc=15.0 min CN=WQ Runoff=4.41 cfs 0.292 af
Subcatchment F5: F5	Runoff Area=1.224 ac 21.24% Impervious Runoff Depth=2.27" Tc=12.0 min CN=WQ Runoff=3.79 cfs 0.232 af
Subcatchment F6: F6	Runoff Area=0.921 ac 21.06% Impervious Runoff Depth=2.27" Tc=12.0 min CN=WQ Runoff=2.85 cfs 0.174 af
Subcatchment F7: F7	Runoff Area=0.667 ac 11.69% Impervious Runoff Depth=2.06" Tc=12.0 min CN=WQ Runoff=1.91 cfs 0.114 af
Subcatchment F8: F8	Runoff Area=1.906 ac 16.00% Impervious Runoff Depth=2.16" Tc=15.0 min CN=WQ Runoff=5.11 cfs 0.342 af
Subcatchment H5: H5	Runoff Area=2.168 ac 27.21% Impervious Runoff Depth=2.20" Tc=12.0 min CN=WQ Runoff=6.31 cfs 0.398 af
Subcatchment H6: H6	Runoff Area=1.008 ac 19.54% Impervious Runoff Depth=1.70" Tc=12.0 min CN=WQ Runoff=2.20 cfs 0.143 af
Subcatchment H7: H7	Runoff Area=1.176 ac 19.64% Impervious Runoff Depth=1.81" Tc=12.0 min CN=WQ Runoff=2.78 cfs 0.178 af
Subcatchment I14: I14	Runoff Area=0.270 ac 27.78% Impervious Runoff Depth=2.42" Tc=12.0 min CN=WQ Runoff=0.88 cfs 0.054 af
Subcatchment I7: I7	Runoff Area=0.610 ac 22.62% Impervious Runoff Depth=2.30" Tc=12.0 min CN=WQ Runoff=1.91 cfs 0.117 af

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Subcatchment I7_100: I7_100	Runoff Area=0.205 ac 7.32% Impervious Runoff Depth=1.96" Tc=12.0 min CN=WQ Runoff=0.56 cfs 0.033 af
Subcatchment I8: I8	Runoff Area=1.003 ac 25.12% Impervious Runoff Depth=2.36" Tc=12.0 min CN=WQ Runoff=3.20 cfs 0.197 af
Subcatchment I8_100: I8_100	Runoff Area=0.170 ac 25.88% Impervious Runoff Depth=2.38" Tc=12.0 min CN=WQ Runoff=0.55 cfs 0.034 af
Subcatchment I9: I9	Runoff Area=0.256 ac 27.73% Impervious Runoff Depth=2.42" Tc=12.0 min CN=WQ Runoff=0.83 cfs 0.052 af
Subcatchment J3: J3	Runoff Area=1.496 ac 20.32% Impervious Runoff Depth=2.25" Tc=12.0 min CN=WQ Runoff=4.60 cfs 0.281 af
Subcatchment J4: J4	Runoff Area=0.310 ac 0.00% Impervious Runoff Depth=1.80" Tc=12.0 min CN=74 Runoff=0.80 cfs 0.046 af
Subcatchment J5: J5	Runoff Area=0.683 ac 17.72% Impervious Runoff Depth=2.19" Tc=12.0 min CN=WQ Runoff=2.05 cfs 0.125 af
Subcatchment L10: L10	Runoff Area=1.158 ac 17.53% Impervious Runoff Depth=2.19" Tc=12.0 min CN=WQ Runoff=3.48 cfs 0.211 af
Subcatchment L4: L4	Runoff Area=0.167 ac 20.96% Impervious Runoff Depth=2.24" Tc=12.0 min CN=WQ Runoff=0.51 cfs 0.031 af
Subcatchment L5: L5	Runoff Area=0.763 ac 22.02% Impervious Runoff Depth=2.29" Tc=12.0 min CN=WQ Runoff=2.38 cfs 0.146 af
Subcatchment L6: L6	Runoff Area=1.091 ac 19.98% Impervious Runoff Depth=2.24" Tc=12.0 min CN=WQ Runoff=3.34 cfs 0.204 af
Subcatchment L7: L7	Runoff Area=0.759 ac 21.21% Impervious Runoff Depth=2.27" Tc=12.0 min CN=WQ Runoff=2.35 cfs 0.144 af
Subcatchment L8: L8	Runoff Area=1.441 ac 22.07% Impervious Runoff Depth=2.19" Tc=12.0 min CN=WQ Runoff=4.27 cfs 0.263 af
Subcatchment L9: L9	Runoff Area=0.971 ac 21.11% Impervious Runoff Depth=2.26" Tc=12.0 min CN=WQ Runoff=2.99 cfs 0.183 af
Subcatchment O10: O10	Runoff Area=0.609 ac 15.44% Impervious Runoff Depth=2.14" Tc=12.0 min CN=WQ Runoff=1.80 cfs 0.109 af
Subcatchment O8: O8	Runoff Area=0.490 ac 12.24% Impervious Runoff Depth=2.07" Tc=12.0 min CN=WQ Runoff=1.41 cfs 0.085 af
Subcatchment O9: O9	Runoff Area=1.143 ac 19.86% Impervious Runoff Depth=2.24" Tc=12.0 min CN=WQ Runoff=3.50 cfs 0.214 af

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Subcatchment W6: W6	Runoff Area=9.984 ac 9.85% Impervious Runoff Depth=2.00" Flow Length=780' Tc=27.0 min CN=WQ Runoff=18.37 cfs 1.665 af
Subcatchment W6_100: W6_100	Runoff Area=0.217 ac 0.00% Impervious Runoff Depth=1.76" Flow Length=550' Tc=42.4 min CN=WQ Runoff=0.27 cfs 0.032 af
Subcatchment W6_101: W6_101	Runoff Area=2.158 ac 13.44% Impervious Runoff Depth=2.08" Flow Length=605' Tc=19.1 min CN=WQ Runoff=4.95 cfs 0.374 af
Subcatchment W6_102: W6_102	Runoff Area=0.261 ac 0.00% Impervious Runoff Depth=1.80" Tc=15.5 min CN=74 Runoff=0.59 cfs 0.039 af
Subcatchment W9: W9	Runoff Area=1.787 ac 12.14% Impervious Runoff Depth=2.06" Tc=12.0 min CN=WQ Runoff=5.11 cfs 0.307 af
Subcatchment W9_100: W9_100	Runoff Area=2.497 ac 22.31% Impervious Runoff Depth=2.30" Flow Length=1,013' Tc=34.0 min CN=WQ Runoff=4.51 cfs 0.478 af
Subcatchment W9_101: W9_101	Runoff Area=0.539 ac 49.17% Impervious Runoff Depth=2.90" Flow Length=300' Slope=0.0570 '/' Tc=16.4 min CN=WQ Runoff=1.77 cfs 0.130 af
Reach 1R: Bassett Creek Watershed	Inflow=47.30 cfs 24.738 af Outflow=47.30 cfs 24.738 af
Reach 5R: Elm Creek Watershed	Inflow=5.63 cfs 1.217 af Outflow=5.63 cfs 1.217 af
Reach 8R: Offsite	Inflow=0.13 cfs 0.008 af Outflow=0.13 cfs 0.008 af
Reach Wetland: Wetland 6	Inflow=47.25 cfs 24.730 af Outflow=47.25 cfs 24.730 af
Pond 4P: CB_22 pipe	Peak Elev=970.24' Inflow=0.83 cfs 0.052 af Outflow=0.83 cfs 0.052 af
Pond CB_A10: CB_A8	Peak Elev=996.26' Storage=40 cf Inflow=2.99 cfs 0.187 af Outflow=2.98 cfs 0.187 af
Pond CB_A15: CB_A7	Peak Elev=998.21' Storage=91 cf Inflow=2.27 cfs 0.141 af Primary=2.25 cfs 0.141 af Secondary=0.00 cfs 0.000 af Outflow=2.25 cfs 0.141 af
Pond CB_A8: CB_A20	Peak Elev=1,000.74' Storage=352 cf Inflow=2.35 cfs 0.144 af Primary=2.21 cfs 0.144 af Secondary=0.00 cfs 0.000 af Outflow=2.21 cfs 0.144 af
Pond CB_B5: CB_A10	Peak Elev=995.35' Storage=56 cf Inflow=4.71 cfs 0.282 af Primary=4.71 cfs 0.282 af Secondary=0.00 cfs 0.000 af Outflow=4.71 cfs 0.282 af
Pond CB_B6: CB_A11	Peak Elev=994.38' Storage=169 cf Inflow=5.38 cfs 0.325 af Primary=5.35 cfs 0.325 af Secondary=0.00 cfs 0.000 af Outflow=5.35 cfs 0.325 af

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Pond CB_B7: CB_A12 Peak Elev=998.19' Storage=244 cf Inflow=3.03 cfs 0.185 af
Primary=1.93 cfs 0.119 af Secondary=1.06 cfs 0.066 af Outflow=3.00 cfs 0.185 af

Pond CB_C10: CB_C10 Peak Elev=994.42' Storage=357 cf Inflow=6.52 cfs 0.401 af
Primary=6.40 cfs 0.401 af Secondary=0.00 cfs 0.000 af Outflow=6.40 cfs 0.401 af

Pond CB_C7: CB_C7 Peak Elev=992.87' Storage=217 cf Inflow=5.21 cfs 0.323 af
Primary=5.16 cfs 0.323 af Secondary=0.00 cfs 0.000 af Outflow=5.16 cfs 0.323 af

Pond CB_C8: CB_C8 Peak Elev=991.41' Storage=84 cf Inflow=6.02 cfs 0.379 af
Outflow=6.02 cfs 0.379 af

Pond CB_C9: CB_C9 Peak Elev=992.42' Storage=210 cf Inflow=6.26 cfs 0.381 af
Primary=6.22 cfs 0.381 af Secondary=0.00 cfs 0.000 af Outflow=6.22 cfs 0.381 af

Pond CB_D6: CB_D6 Peak Elev=1,000.12' Storage=33 cf Inflow=1.00 cfs 0.059 af
Primary=0.99 cfs 0.059 af Secondary=0.00 cfs 0.000 af Outflow=0.99 cfs 0.059 af

Pond CB_D7: CB_D7 Peak Elev=1,002.18' Storage=59 cf Inflow=1.76 cfs 0.107 af
Primary=1.75 cfs 0.107 af Secondary=0.00 cfs 0.000 af Outflow=1.75 cfs 0.107 af

Pond CB_D8: CB_D8 Peak Elev=1,002.27' Storage=159 cf Inflow=3.36 cfs 0.200 af
Primary=3.32 cfs 0.200 af Secondary=0.00 cfs 0.000 af Outflow=3.32 cfs 0.200 af

Pond CB_D9: CB_D9 Peak Elev=996.02' Storage=516 cf Inflow=3.72 cfs 0.225 af
Outflow=3.44 cfs 0.225 af

Pond CB_E13: CB_E13 Peak Elev=1,009.69' Storage=20 cf Inflow=1.97 cfs 0.122 af
Primary=1.97 cfs 0.122 af Secondary=0.00 cfs 0.000 af Outflow=1.97 cfs 0.122 af

Pond CB_E15: CB_E15 Peak Elev=992.52' Storage=176 cf Inflow=8.66 cfs 0.419 af
Outflow=8.63 cfs 0.419 af

Pond CB_E16: CB_E16 Peak Elev=997.38' Storage=1,803 cf Inflow=11.71 cfs 0.750 af
Primary=7.82 cfs 0.716 af Secondary=3.01 cfs 0.034 af Outflow=10.83 cfs 0.750 af

Pond CB_F5: CB_F5 Peak Elev=983.30' Storage=119 cf Inflow=3.79 cfs 0.232 af
Outflow=3.76 cfs 0.232 af

Pond CB_F6: CB_F6 Peak Elev=985.25' Storage=60 cf Inflow=2.85 cfs 0.174 af
Primary=2.84 cfs 0.174 af Secondary=0.00 cfs 0.000 af Outflow=2.84 cfs 0.174 af

Pond CB_F7: CB_F7 Peak Elev=984.46' Storage=1,928 cf Inflow=6.96 cfs 0.457 af
Primary=5.39 cfs 0.457 af Secondary=0.00 cfs 0.000 af Outflow=5.39 cfs 0.457 af

Pond CB_H5: CB_H5 Peak Elev=972.42' Storage=223 cf Inflow=6.31 cfs 0.398 af
Outflow=6.26 cfs 0.398 af

Pond CB_H6: CB_H6 Peak Elev=973.21' Storage=118 cf Inflow=2.20 cfs 0.143 af
Primary=2.16 cfs 0.143 af Secondary=0.00 cfs 0.000 af Outflow=2.16 cfs 0.143 af

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Pond CB_H7: CB_H7	Peak Elev=974.23' Storage=577 cf Inflow=2.78 cfs 0.178 af Primary=2.59 cfs 0.177 af Secondary=0.00 cfs 0.000 af Outflow=2.59 cfs 0.177 af
Pond CB_I14: CB_I14	Peak Elev=985.67' Storage=187 cf Inflow=1.91 cfs 0.116 af Primary=1.86 cfs 0.116 af Secondary=0.00 cfs 0.000 af Outflow=1.86 cfs 0.116 af
Pond CB_I7: CB_I7	Peak Elev=986.22' Storage=109 cf Inflow=2.47 cfs 0.151 af Primary=2.45 cfs 0.151 af Secondary=0.00 cfs 0.000 af Outflow=2.45 cfs 0.151 af
Pond CB_I8: CB_I8	Peak Elev=987.30' Storage=49 cf Inflow=3.75 cfs 0.231 af Primary=3.74 cfs 0.231 af Secondary=0.00 cfs 0.000 af Outflow=3.74 cfs 0.231 af
Pond CB_I9: CB_I9	Peak Elev=978.11' Storage=8 cf Inflow=0.83 cfs 0.052 af Primary=0.83 cfs 0.052 af Secondary=0.00 cfs 0.000 af Outflow=0.83 cfs 0.052 af
Pond CB_J3: CB_J3	Peak Elev=991.34' Storage=89 cf Inflow=4.60 cfs 0.281 af Primary=4.59 cfs 0.281 af Secondary=0.00 cfs 0.000 af Outflow=4.59 cfs 0.281 af
Pond CB_J4: CB_J4	Peak Elev=994.81' Storage=489 cf Inflow=2.85 cfs 0.171 af Primary=2.57 cfs 0.171 af Secondary=0.00 cfs 0.000 af Outflow=2.57 cfs 0.171 af
Pond CB_L4: CB_L4	Peak Elev=978.08' Storage=8 cf Inflow=0.51 cfs 0.031 af Primary=0.51 cfs 0.031 af Secondary=0.00 cfs 0.000 af Outflow=0.51 cfs 0.031 af
Pond CB_L5: CB_L5	Peak Elev=977.77' Storage=55 cf Inflow=3.23 cfs 0.218 af Primary=3.23 cfs 0.218 af Secondary=0.00 cfs 0.000 af Outflow=3.23 cfs 0.218 af
Pond CB_L6: CB_L6	Peak Elev=978.18' Storage=1,219 cf Inflow=3.34 cfs 0.204 af Primary=1.77 cfs 0.132 af Secondary=0.98 cfs 0.072 af Outflow=2.75 cfs 0.204 af
Pond CB_L7: CB_L7	Peak Elev=979.22' Storage=42 cf Inflow=2.35 cfs 0.144 af Primary=2.34 cfs 0.144 af Secondary=0.00 cfs 0.000 af Outflow=2.34 cfs 0.144 af
Pond CB_L8: CB_L8	Peak Elev=980.32' Storage=303 cf Inflow=4.27 cfs 0.263 af Primary=4.14 cfs 0.263 af Secondary=0.00 cfs 0.000 af Outflow=4.14 cfs 0.263 af
Pond CB_L9: CB_L9	Peak Elev=983.28' Storage=1,943 cf Inflow=6.47 cfs 0.394 af Primary=4.77 cfs 0.394 af Secondary=0.00 cfs 0.000 af Outflow=4.77 cfs 0.394 af
Pond CB_O10: CB_O10	Peak Elev=978.18' Storage=52 cf Inflow=1.80 cfs 0.109 af Primary=1.79 cfs 0.109 af Secondary=0.00 cfs 0.000 af Outflow=1.79 cfs 0.109 af
Pond CB_O8: CB_O8	Peak Elev=975.65' Storage=16 cf Inflow=1.41 cfs 0.085 af Primary=1.41 cfs 0.085 af Secondary=0.00 cfs 0.000 af Outflow=1.41 cfs 0.085 af
Pond CB_O9: CB_O9	Peak Elev=978.28' Storage=72 cf Inflow=3.50 cfs 0.214 af Primary=3.49 cfs 0.214 af Secondary=0.00 cfs 0.000 af Outflow=3.49 cfs 0.214 af
Pond P1N: Pond 1N	Peak Elev=1,010.26' Storage=203,999 cf Inflow=17.58 cfs 1.105 af Primary=1.02 cfs 0.602 af Secondary=0.00 cfs 0.000 af Outflow=1.02 cfs 0.602 af

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Pond P1S: Pond 1S Peak Elev=969.31' Storage=453,621 cf Inflow=89.58 cfs 21.372 af
Primary=24.51 cfs 21.068 af Secondary=0.00 cfs 0.000 af Outflow=24.51 cfs 21.068 af

Pond P2S: Pond 2S Peak Elev=970.23' Storage=103,106 cf Inflow=24.57 cfs 1.557 af
Primary=9.60 cfs 1.551 af Secondary=0.00 cfs 0.000 af Outflow=9.60 cfs 1.551 af

Pond P3S: Pond 3S Peak Elev=974.65' Storage=197,826 cf Inflow=44.43 cfs 2.835 af
Primary=10.01 cfs 2.806 af Secondary=0.00 cfs 0.000 af Outflow=10.01 cfs 2.806 af

Pond P4S: Pond 4S Peak Elev=969.63' Storage=135,789 cf Inflow=65.96 cfs 14.693 af
Primary=34.40 cfs 14.615 af Secondary=0.00 cfs 0.000 af Outflow=34.40 cfs 14.615 af

Pond P5S: Pond 5S Peak Elev=979.65' Storage=1,460,904 cf Inflow=171.60 cfs 11.108 af
Primary=10.08 cfs 10.489 af Secondary=0.00 cfs 0.000 af Outflow=10.08 cfs 10.489 af

Pond Wetland 9: Wetland 9 Peak Elev=1,010.24' Storage=23,631 cf Inflow=9.57 cfs 1.517 af
Outflow=5.63 cfs 1.217 af

Total Runoff Area = 136.736 ac Runoff Volume = 27.793 af Average Runoff Depth = 2.44"
68.02% Pervious = 93.005 ac 31.98% Impervious = 43.731 ac

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 1N: 1N

Runoff = 16.08 cfs @ 12.20 hrs, Volume= 1.000 af, Depth= 2.48"

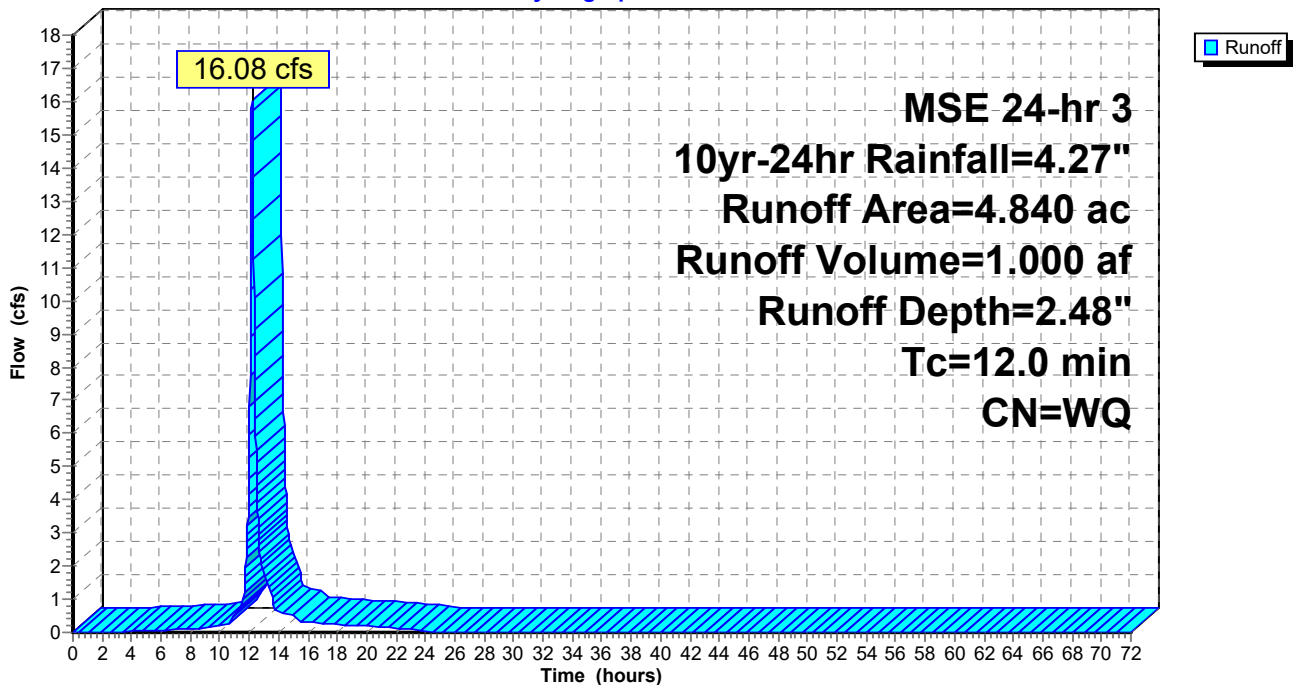
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.646	98	Impervious
3.366	74	>75% Grass cover, Good, HSG C
* 0.828	98	Pond
4.840		Weighted Average
3.366		69.55% Pervious Area
1.474		30.45% Impervious Area

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

Subcatchment 1N: 1N

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 1N_100: 1N_100

Runoff = 1.56 cfs @ 12.23 hrs, Volume= 0.106 af, Depth= 2.29"

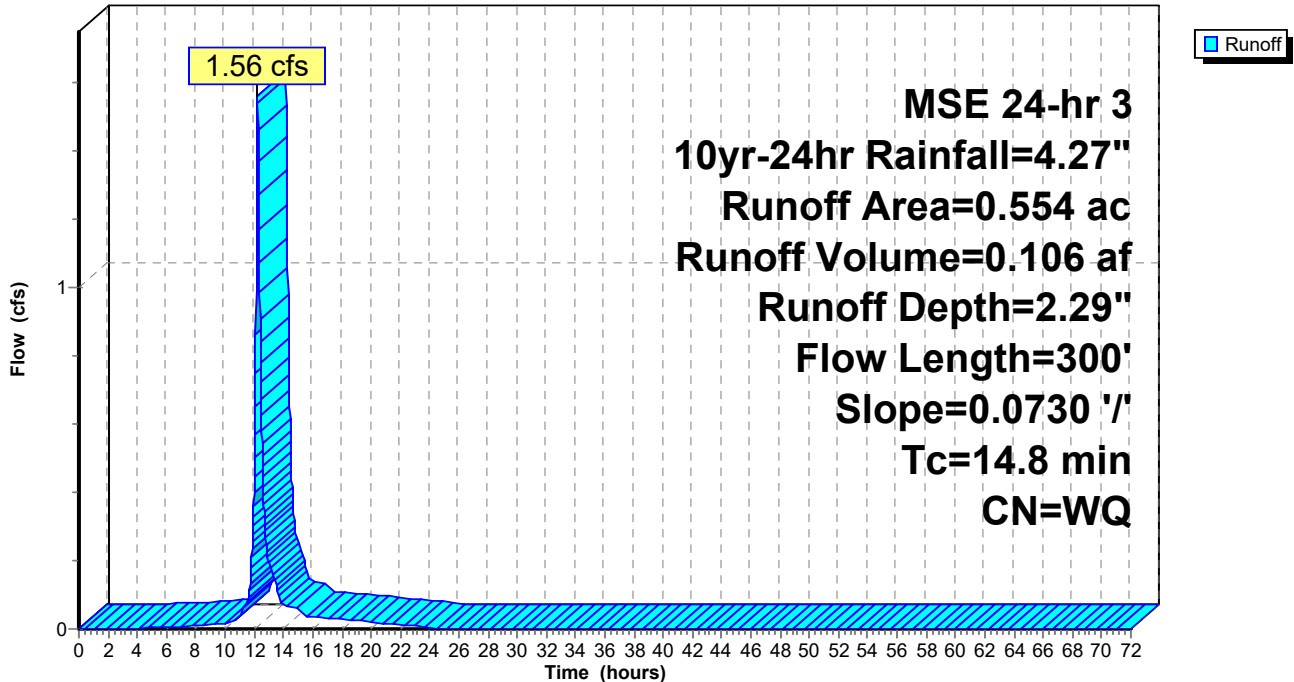
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.318	74	>75% Grass cover, Good, HSG C
* 0.126	98	Impervious
0.110	73	Woods, Fair, HSG C
0.554		Weighted Average
0.428		77.26% Pervious Area
0.126		22.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.8	300	0.0730	0.34		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment 1N_100: 1N_100

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 1S: 1S

Runoff = 50.17 cfs @ 12.20 hrs, Volume= 3.233 af, Depth= 2.79"

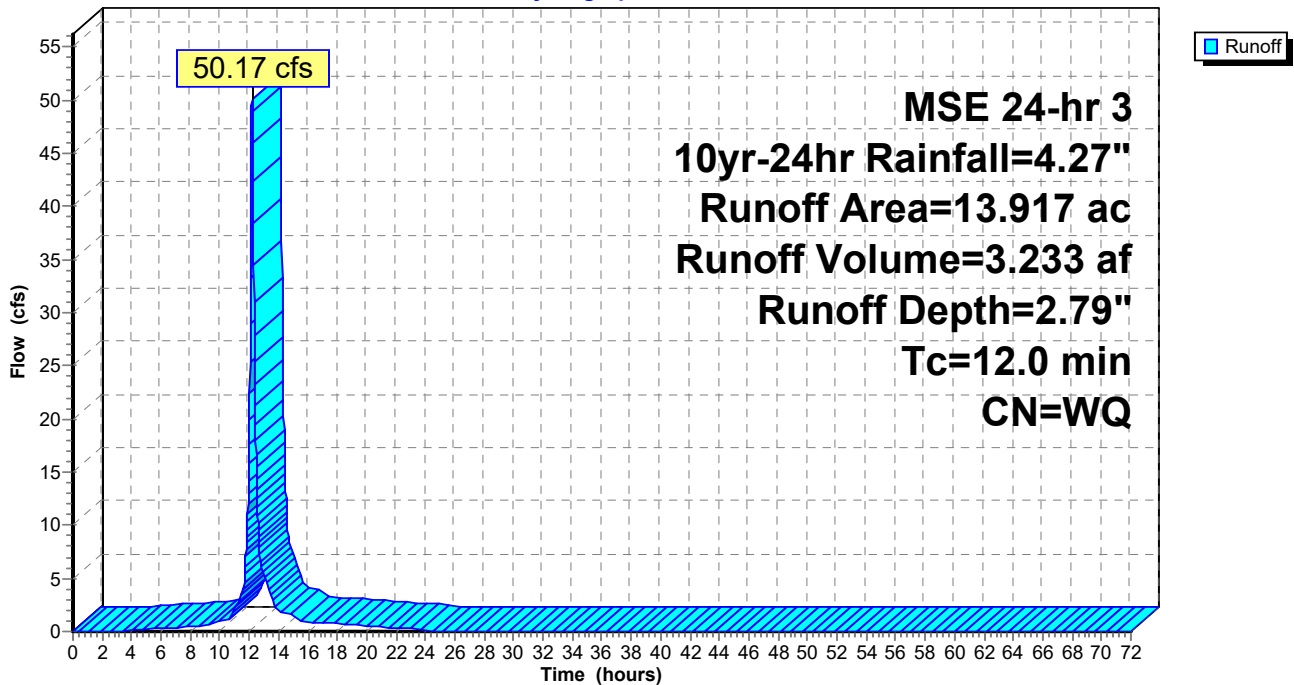
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 5.037	98	Impervious
1.856	61	>75% Grass cover, Good, HSG B
3.783	74	>75% Grass cover, Good, HSG C
1.419	74	>75% Grass cover, Good, HSG C
* 1.822	98	Pond
13.917		Weighted Average
7.058		50.71% Pervious Area
6.859		49.29% Impervious Area

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

Subcatchment 1S: 1S

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 2S: 2S

Runoff = 15.79 cfs @ 12.20 hrs, Volume= 1.008 af, Depth= 2.91"

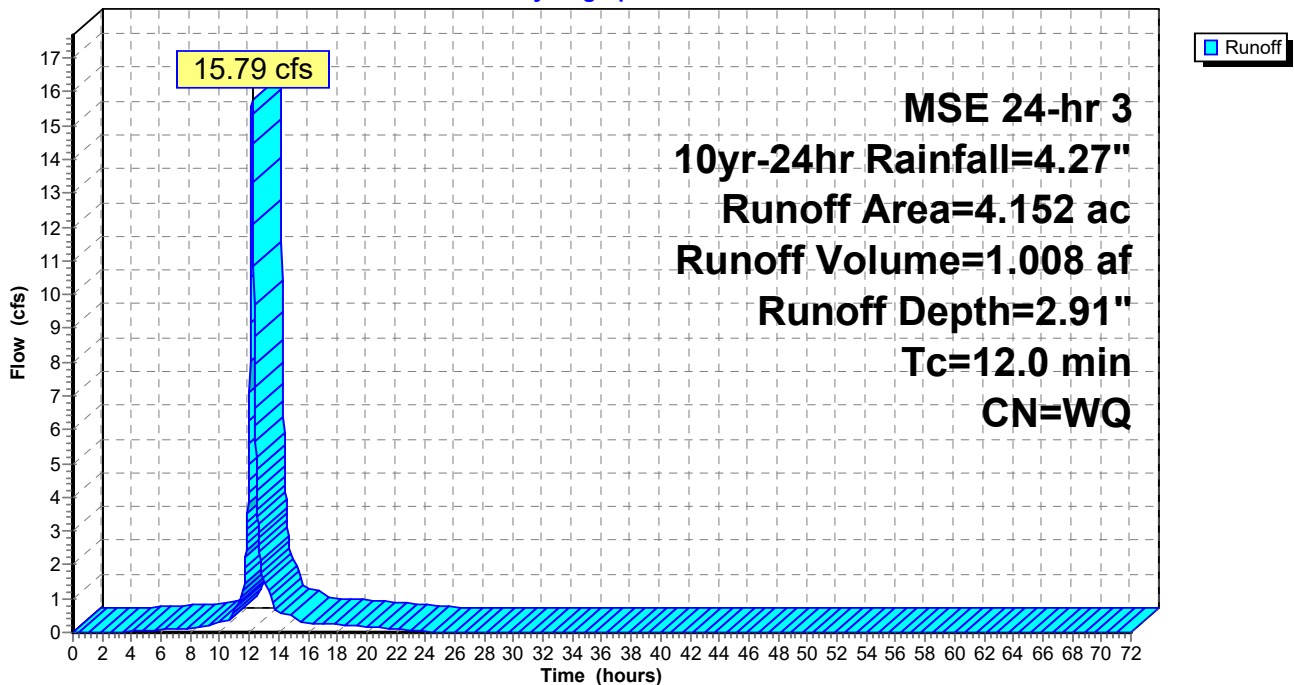
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 1.594	98	Impervious
2.082	74	>75% Grass cover, Good, HSG C
* 0.476	98	Pond
4.152		Weighted Average
2.082		50.14% Pervious Area
2.070		49.86% Impervious Area

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

Subcatchment 2S: 2S

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 3S: 3S

Runoff = 35.35 cfs @ 12.20 hrs, Volume= 2.241 af, Depth= 2.79"

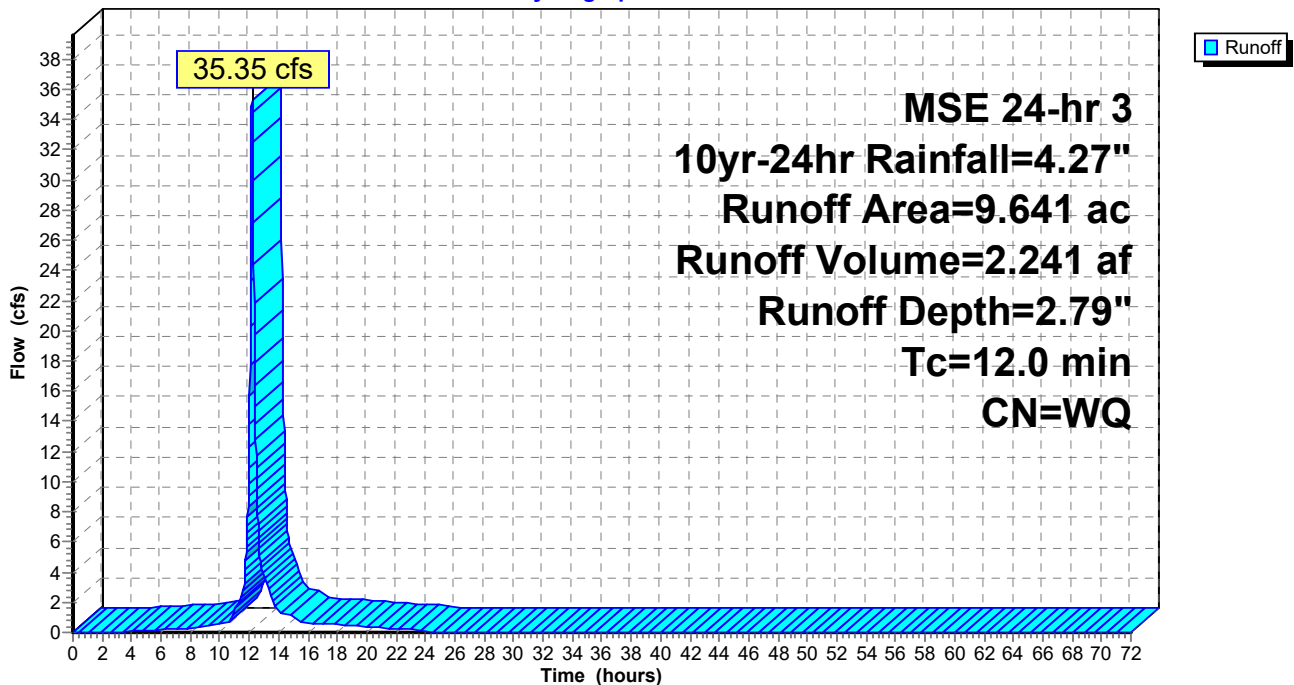
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 3.484	98	Impervious
5.363	74	>75% Grass cover, Good, HSG C
* 0.794	98	Pond
9.641		Weighted Average
5.363		55.63% Pervious Area
4.278		44.37% Impervious Area

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

Subcatchment 3S: 3S

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 3S_100: 3S_100

Runoff = 2.17 cfs @ 12.19 hrs, Volume= 0.142 af, Depth= 3.35"

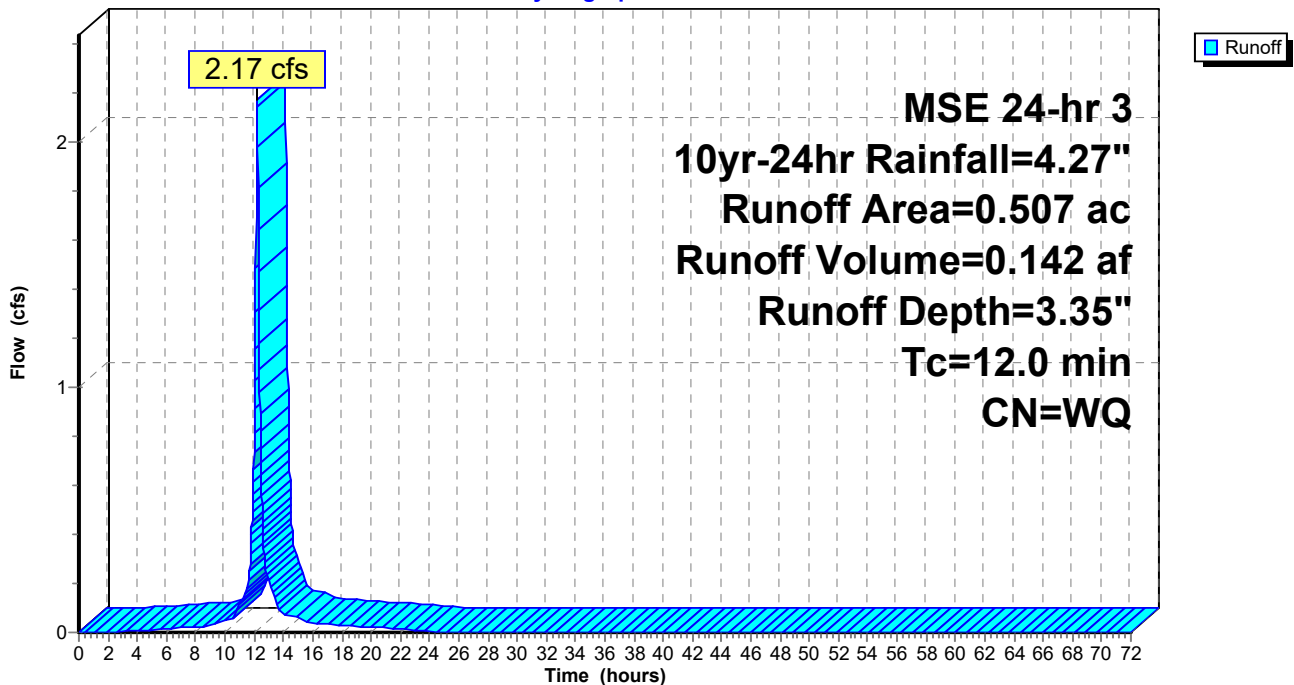
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.352	98	Impervious
0.031	74	>75% Grass cover, Good, HSG C
0.124	74	>75% Grass cover, Good, HSG C
0.507		Weighted Average
0.155		30.57% Pervious Area
0.352		69.43% Impervious Area

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

Subcatchment 3S_100: 3S_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 4S: 4S

Runoff = 27.33 cfs @ 12.20 hrs, Volume= 1.752 af, Depth= 2.34"

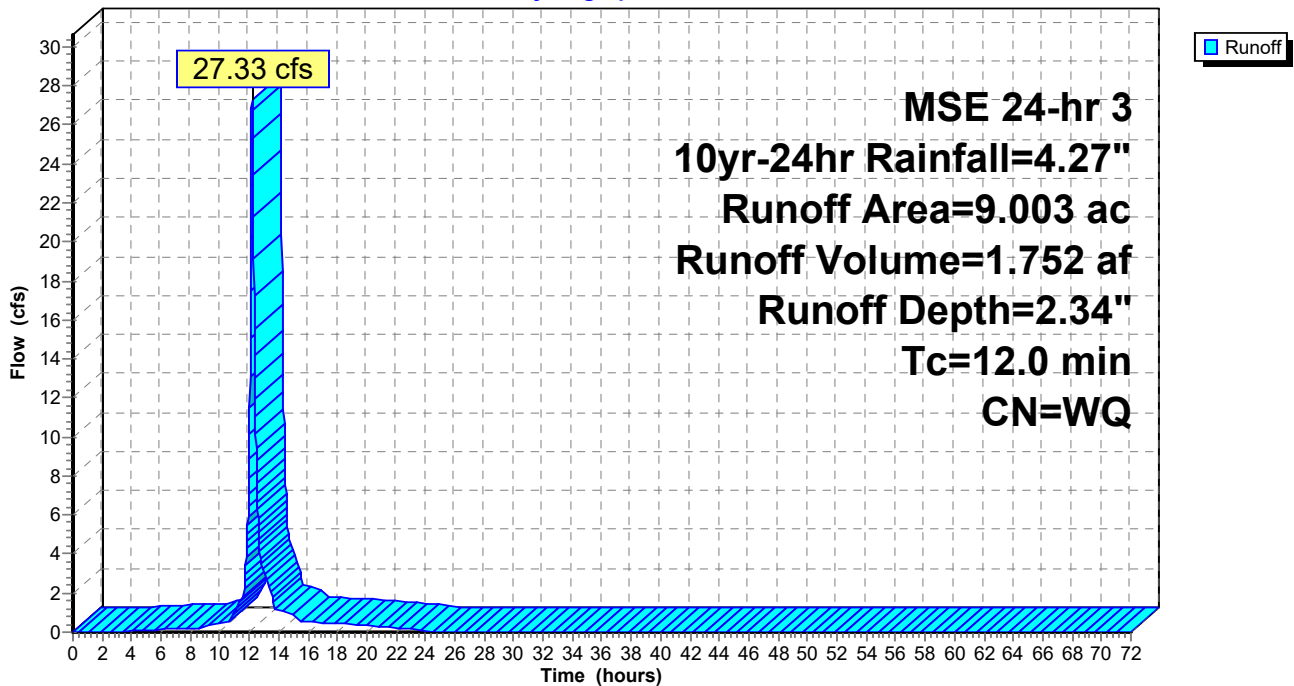
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 2.416	98	Impervious
2.605	61	>75% Grass cover, Good, HSG B
2.644	74	>75% Grass cover, Good, HSG C
0.606	74	>75% Grass cover, Good, HSG C
* 0.680	98	Pond
* 0.052	98	Impervious
9.003		Weighted Average
5.855		65.03% Pervious Area
3.148		34.97% Impervious Area

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

Subcatchment 4S: 4S

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 5S: 5S

Runoff = 101.52 cfs @ 12.20 hrs, Volume= 6.509 af, Depth= 2.70"

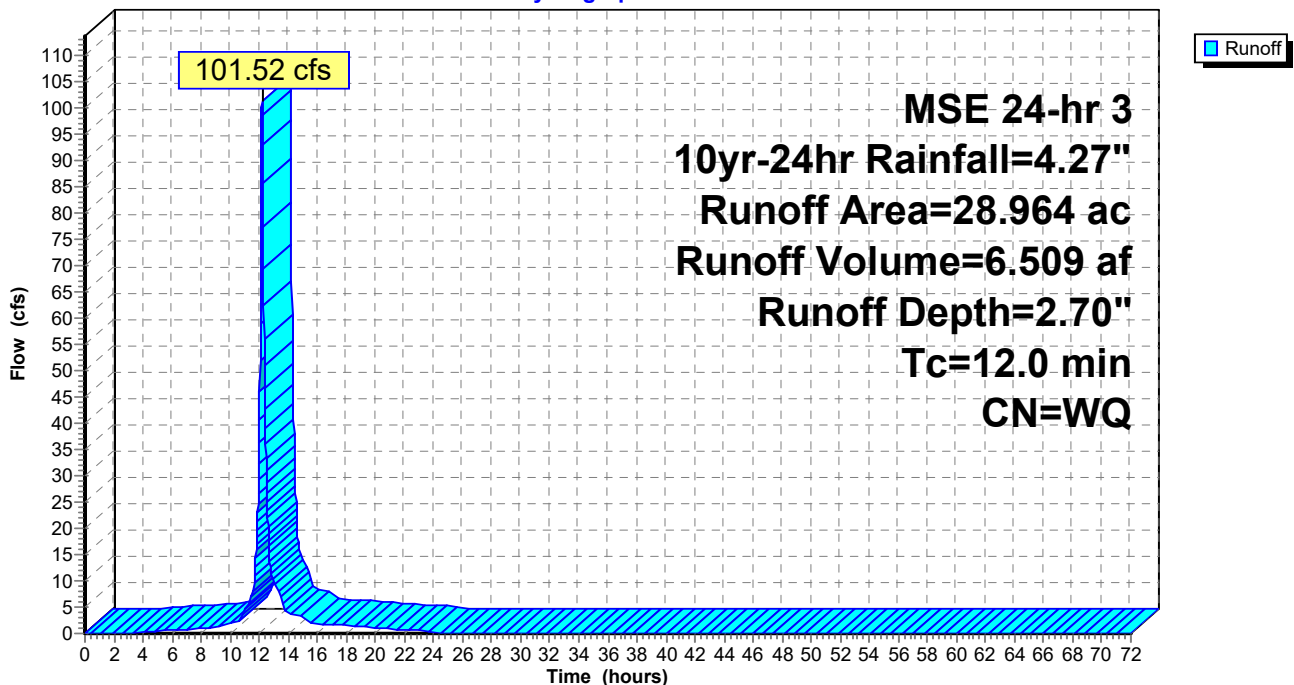
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 9.366	98	Impervious
2.568	39	>75% Grass cover, Good, HSG A
7.861	74	>75% Grass cover, Good, HSG C
4.450	74	>75% Grass cover, Good, HSG C
* 4.073	98	Pond
0.295	74	>75% Grass cover, Good, HSG C
* 0.080	98	Impervious
0.169	74	>75% Grass cover, Good, HSG C
* 0.102	98	Impervious
28.964		Weighted Average
15.343		52.97% Pervious Area
13.621		47.03% Impervious Area

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

Subcatchment 5S: 5S

Hydrograph



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Summary for Subcatchment 5S_100: 5S_100

Runoff = 1.07 cfs @ 12.20 hrs, Volume= 0.068 af, Depth= 2.83"

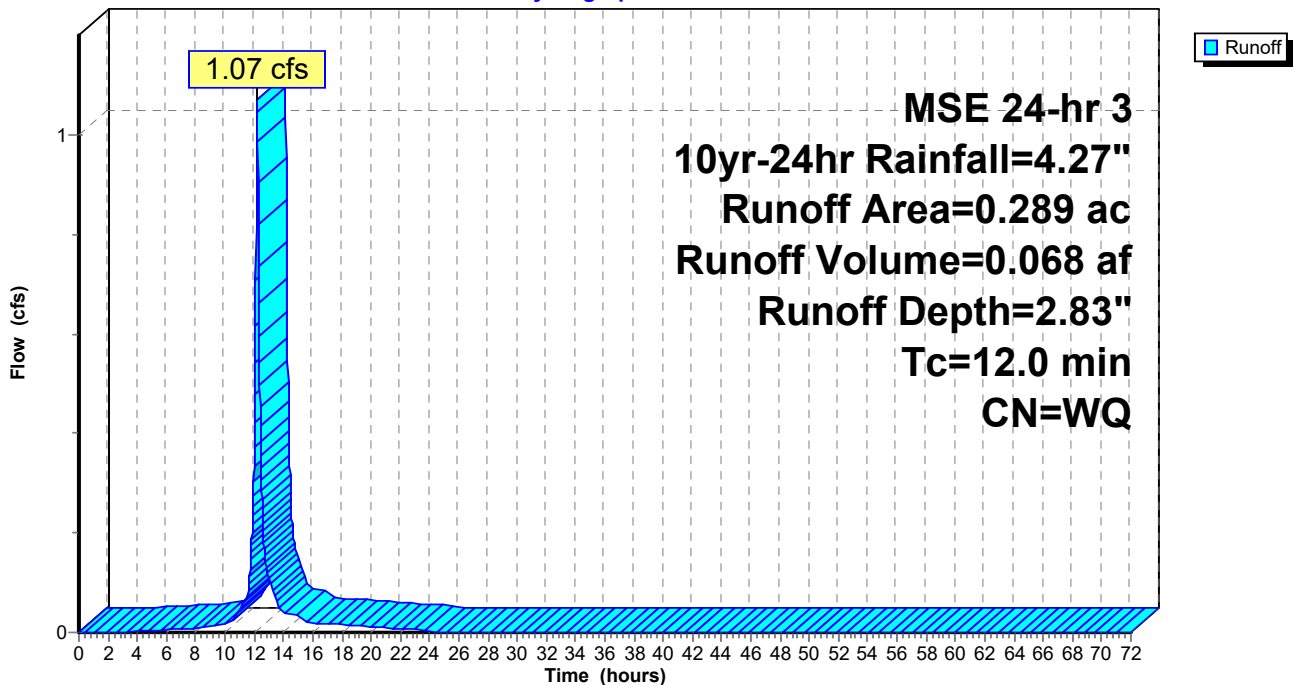
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.078	98	Impervious
0.156	74	>75% Grass cover, Good, HSG C
* 0.055	98	Impervious
0.289		Weighted Average
0.156		53.98% Pervious Area
0.133		46.02% Impervious Area

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

Subcatchment 5S_100: 5S_100

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment 10S: I14_100

Runoff = 1.04 cfs @ 12.20 hrs, Volume= 0.061 af, Depth= 1.95"

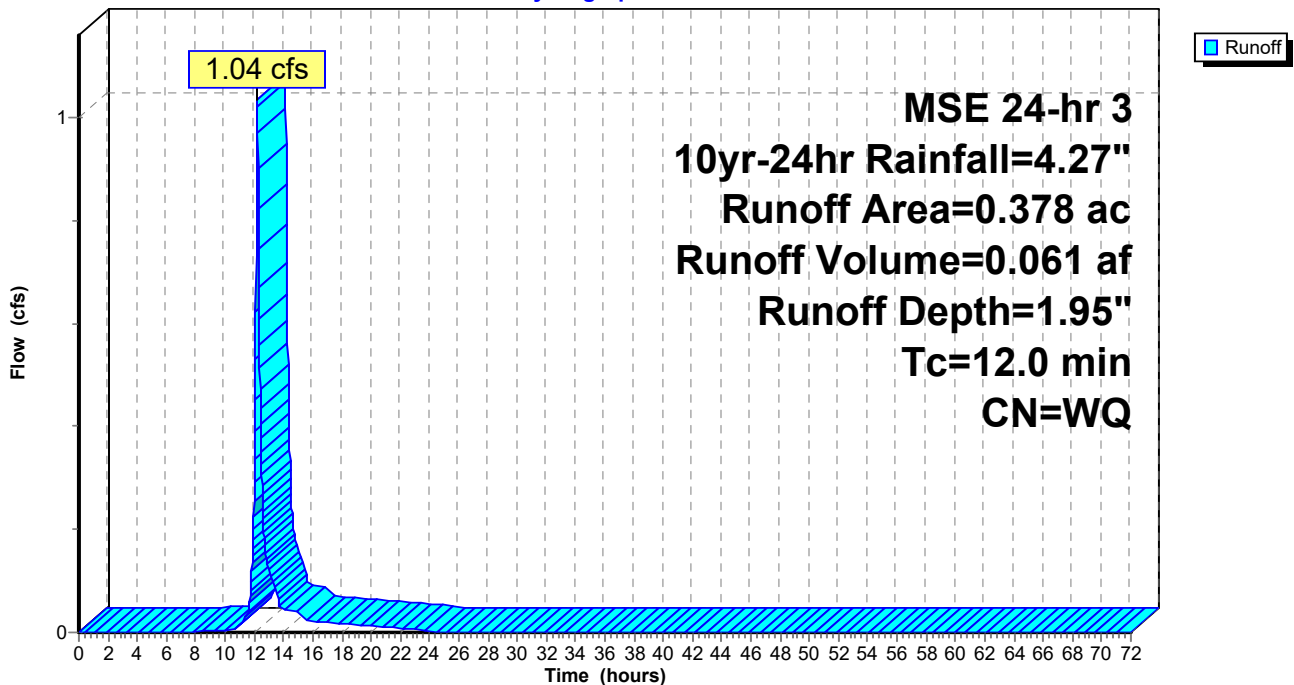
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.261	74	>75% Grass cover, Good, HSG C
* 0.026	98	impervious
0.091	74	>75% Grass cover, Good, HSG C
0.378		Weighted Average
0.352		93.12% Pervious Area
0.026		6.88% Impervious Area

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

Subcatchment 10S: I14_100

Hydrograph



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Summary for Subcatchment 1000: 1000

Runoff = 0.13 cfs @ 12.20 hrs, Volume= 0.008 af, Depth= 2.62"

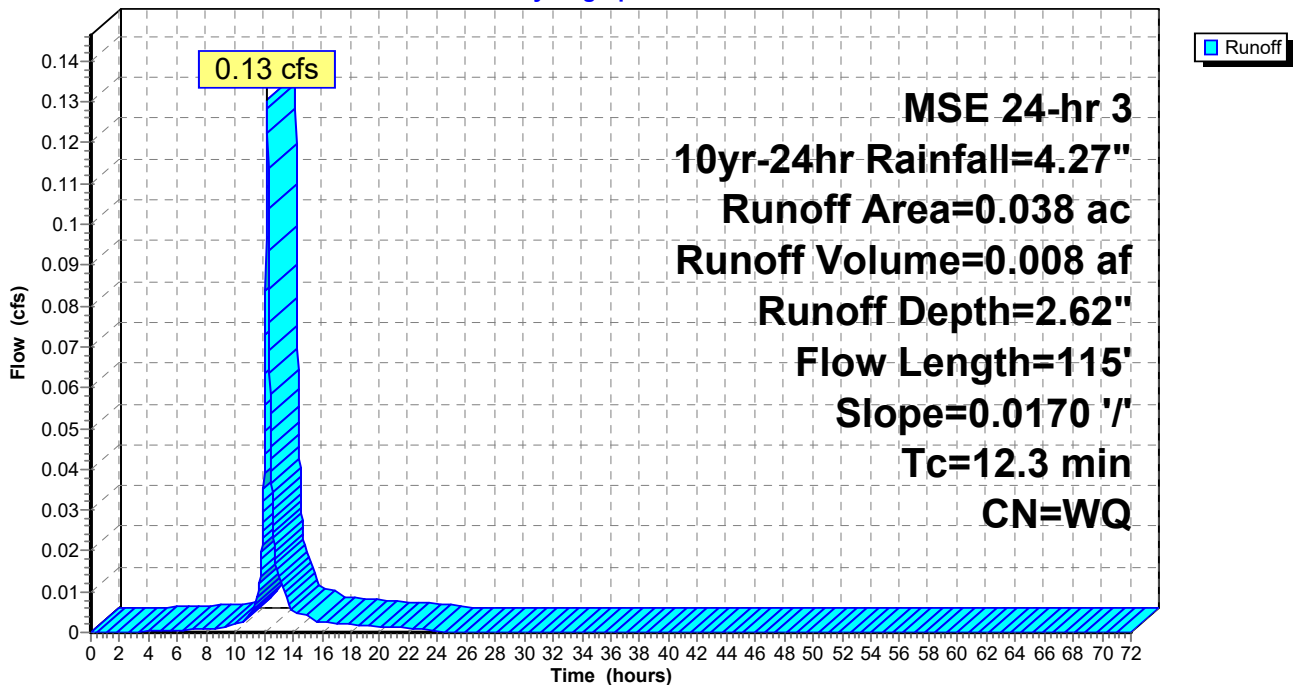
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.014	98	Impervious
0.024	74	>75% Grass cover, Good, HSG C
0.038		Weighted Average
0.024		63.16% Pervious Area
0.014		36.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	115	0.0170	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment 1000: 1000

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A10: A10

Runoff = 2.81 cfs @ 12.20 hrs, Volume= 0.176 af, Depth= 2.54"

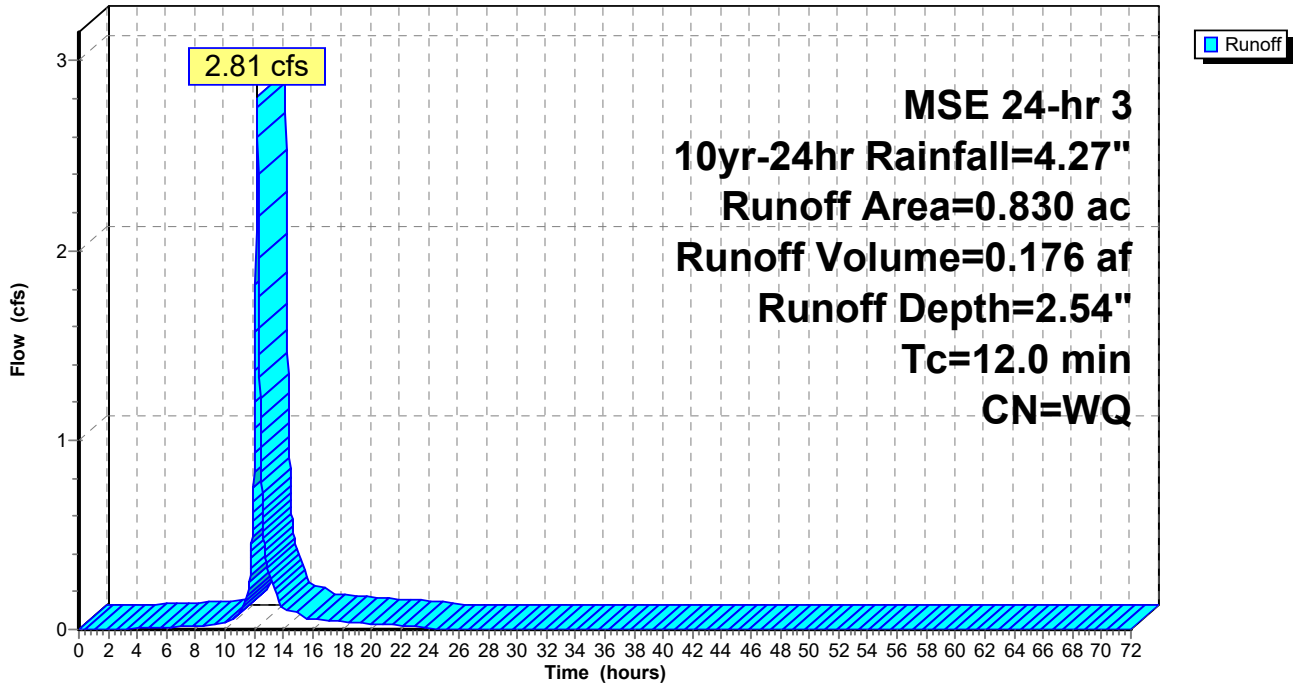
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.109	98	Impervious
0.531	74	>75% Grass cover, Good, HSG C
* 0.057	98	Impervious
* 0.110	98	Impervious
0.023	74	>75% Grass cover, Good, HSG C
0.830		Weighted Average
0.554		66.75% Pervious Area
0.276		33.25% Impervious Area

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

Subcatchment A10: A10

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A10_100: A10_100

Runoff = 0.17 cfs @ 12.19 hrs, Volume= 0.011 af, Depth= 4.03"

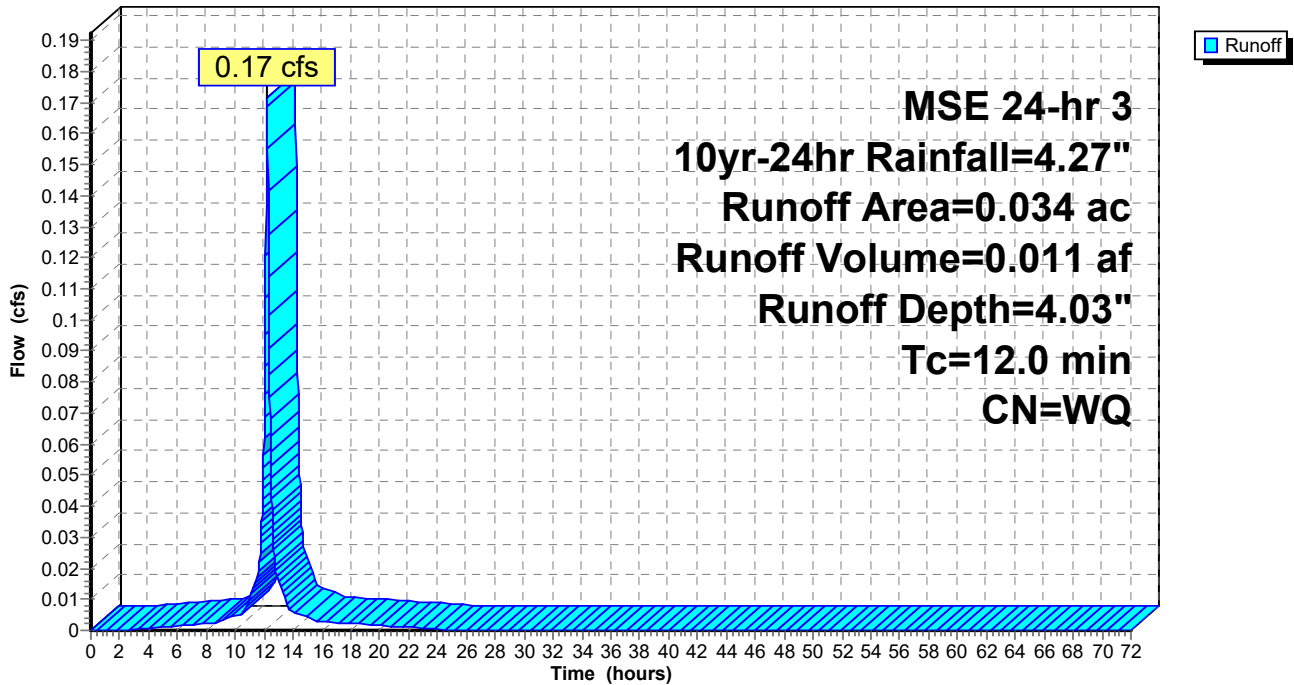
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.024	98	Impervious
* 0.010	98	Impervious
0.034		Weighted Average
0.034		100.00% Impervious Area

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

Subcatchment A10_100: A10_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A15: A15

Runoff = 2.13 cfs @ 12.20 hrs, Volume= 0.132 af, Depth= 2.36"

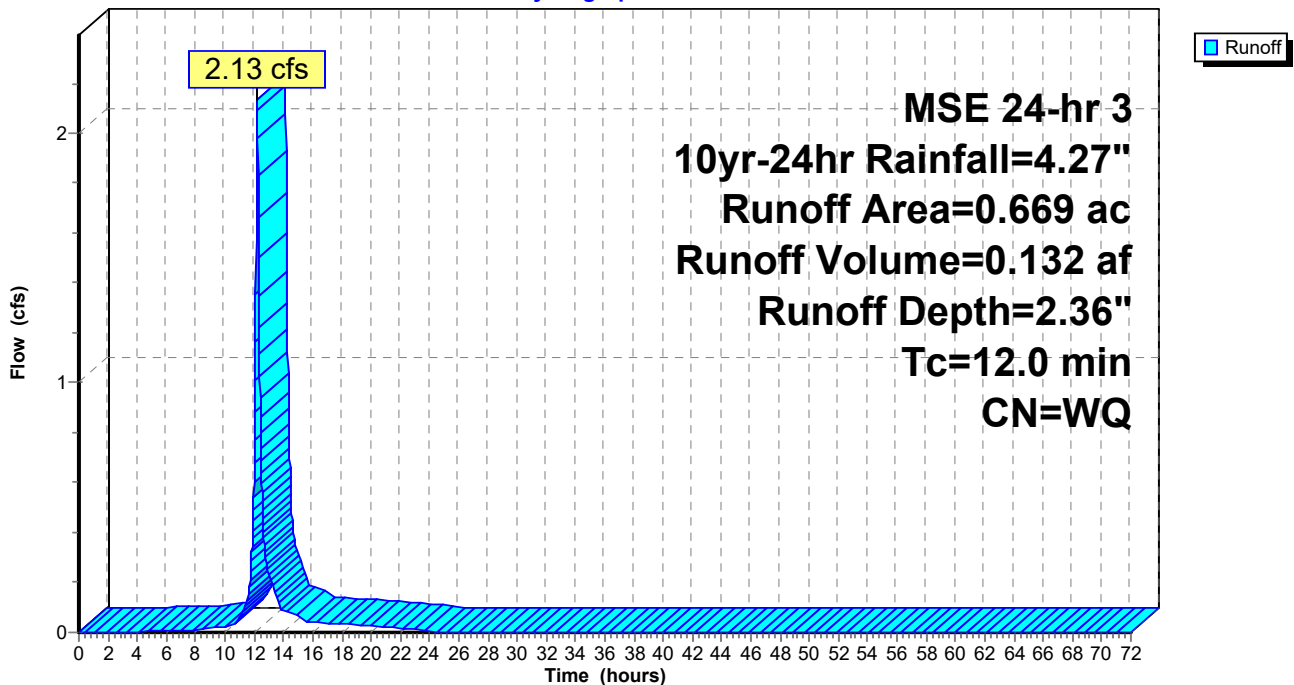
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.119	98	Impervious
0.501	74	>75% Grass cover, Good, HSG C
* 0.049	98	Impervious
0.669		Weighted Average
0.501		74.89% Pervious Area
0.168		25.11% Impervious Area

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

Subcatchment A15: A15

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A15_100: A15_100

Runoff = 0.14 cfs @ 12.19 hrs, Volume= 0.009 af, Depth= 4.03"

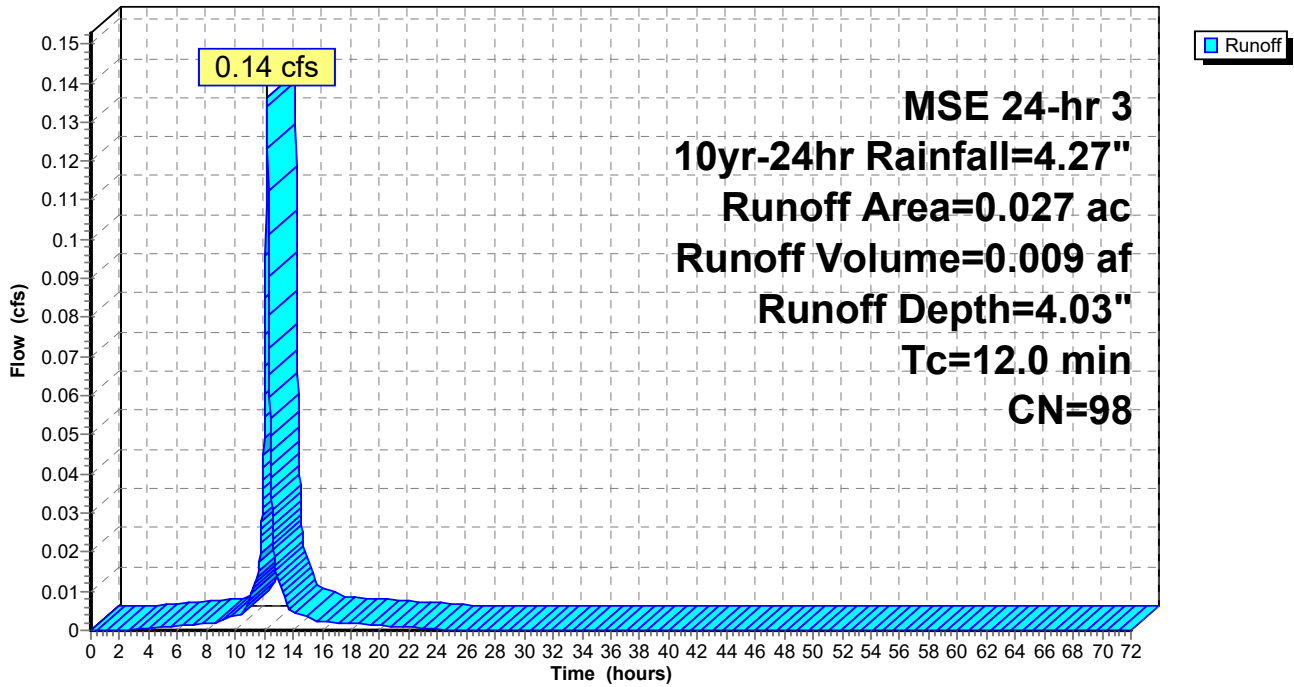
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.027	98	Impervious
0.027		100.00% Impervious Area

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

Subcatchment A15_100: A15_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A8: A8

Runoff = 0.27 cfs @ 12.20 hrs, Volume= 0.016 af, Depth= 2.03"

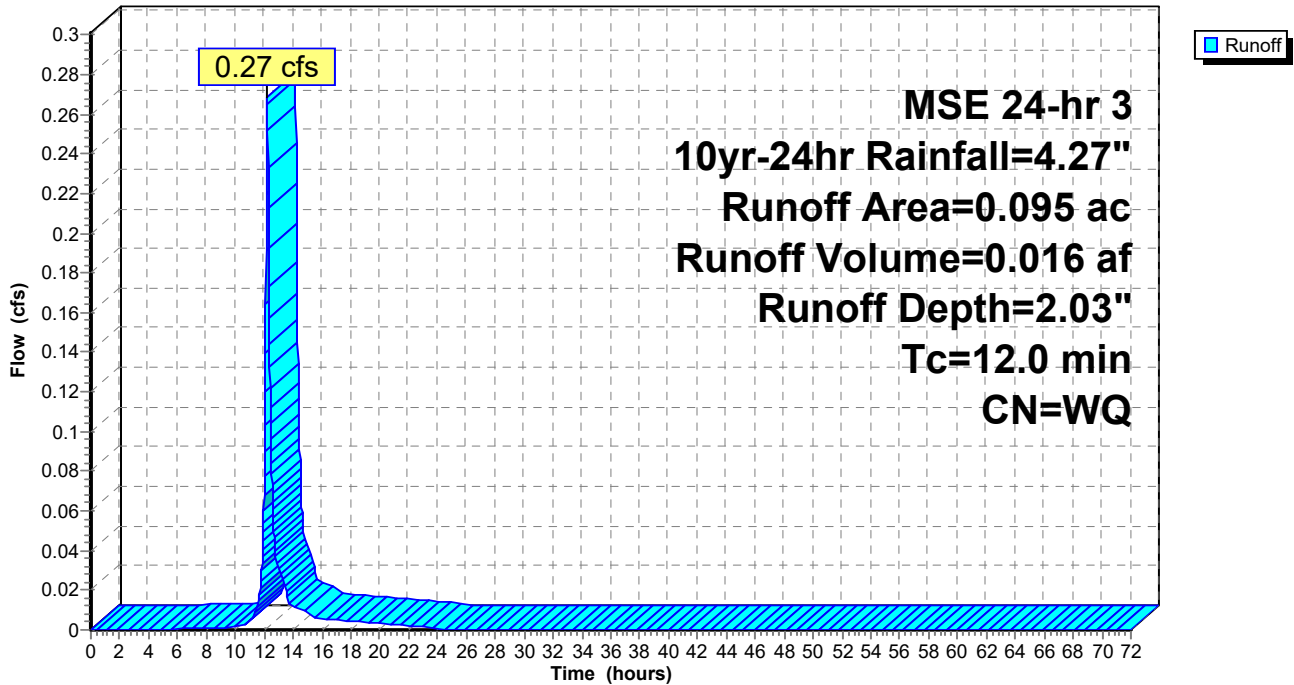
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.010	98	Impervious
0.085	74	>75% Grass cover, Good, HSG C
0.095		Weighted Average
0.085		89.47% Pervious Area
0.010		10.53% Impervious Area

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

Subcatchment A8: A8

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment A9: A9

Runoff = 2.08 cfs @ 12.20 hrs, Volume= 0.128 af, Depth= 2.28"

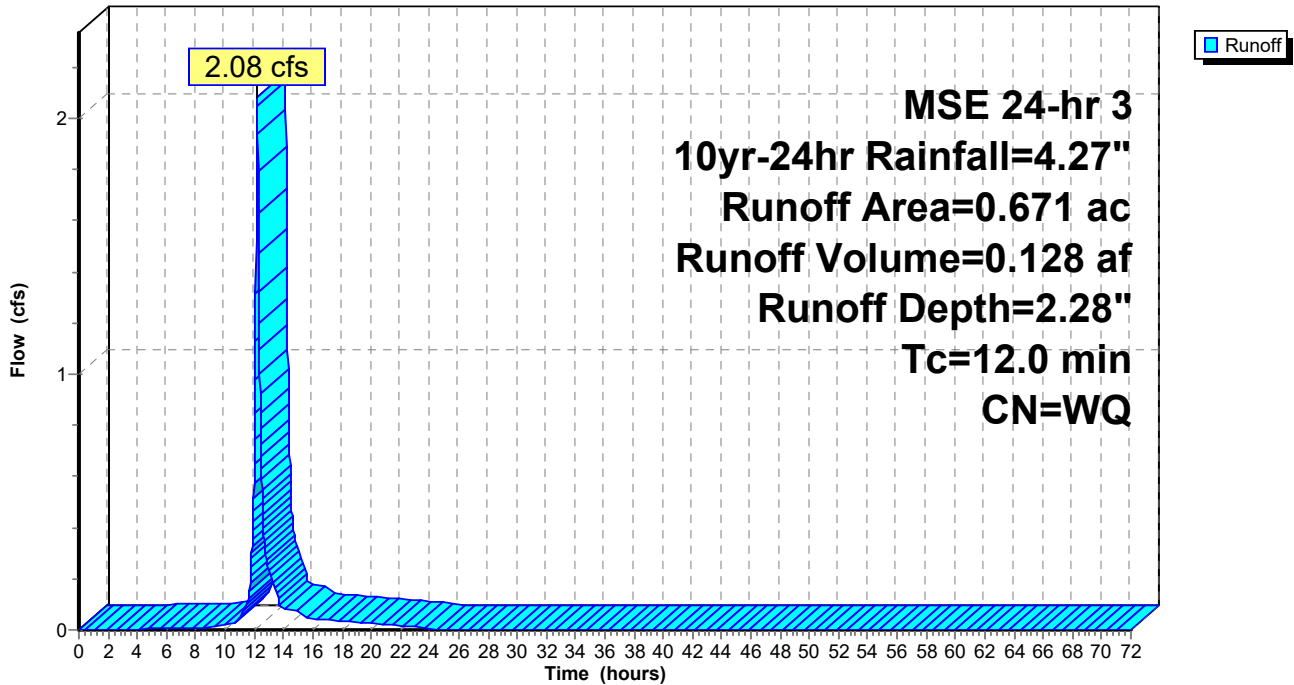
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.145	98	Impervious
0.526	74	>75% Grass cover, Good, HSG C
0.671		Weighted Average
0.526		78.39% Pervious Area
0.145		21.61% Impervious Area

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

Subcatchment A9: A9

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment B5: B5

Runoff = 1.55 cfs @ 12.20 hrs, Volume= 0.093 af, Depth= 2.02"

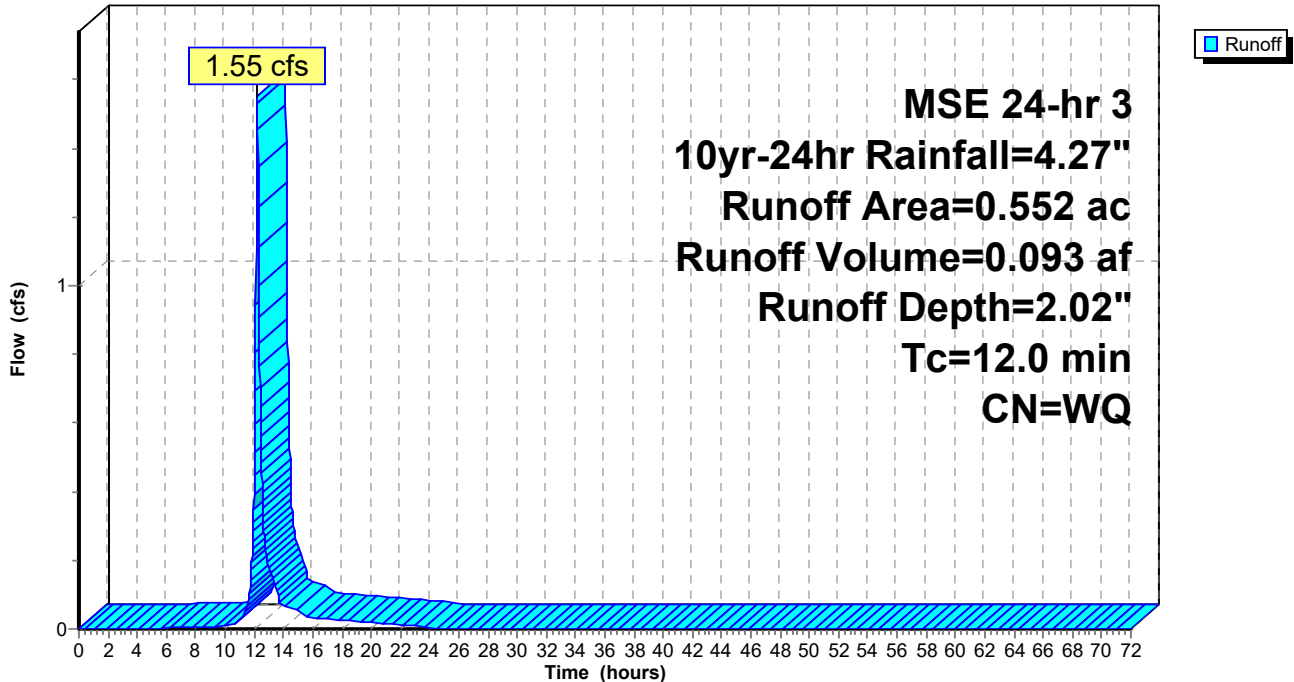
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.040	98	Impervious
0.337	74	>75% Grass cover, Good, HSG C
0.154	73	Woods, Fair, HSG C
* 0.021	98	Impervious
0.552		Weighted Average
0.491		88.95% Pervious Area
0.061		11.05% Impervious Area

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

Subcatchment B5: B5

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment B6: B6

Runoff = 4.33 cfs @ 12.20 hrs, Volume= 0.260 af, Depth= 2.07"

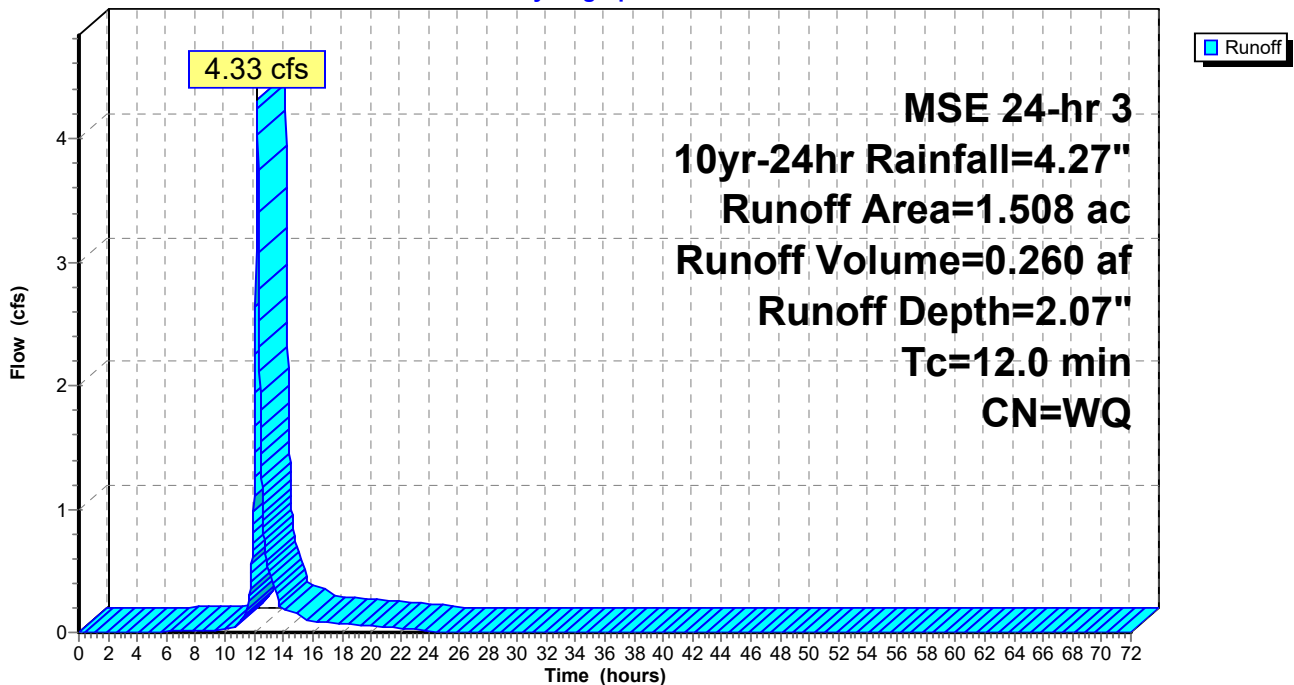
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.140	98	Impervious
1.326	74	>75% Grass cover, Good, HSG C
* 0.042	98	Impervious
1.508		Weighted Average
1.326		87.93% Pervious Area
0.182		12.07% Impervious Area

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

Subcatchment B6: B6

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment B7: B7

Runoff = 2.33 cfs @ 12.20 hrs, Volume= 0.142 af, Depth= 2.17"

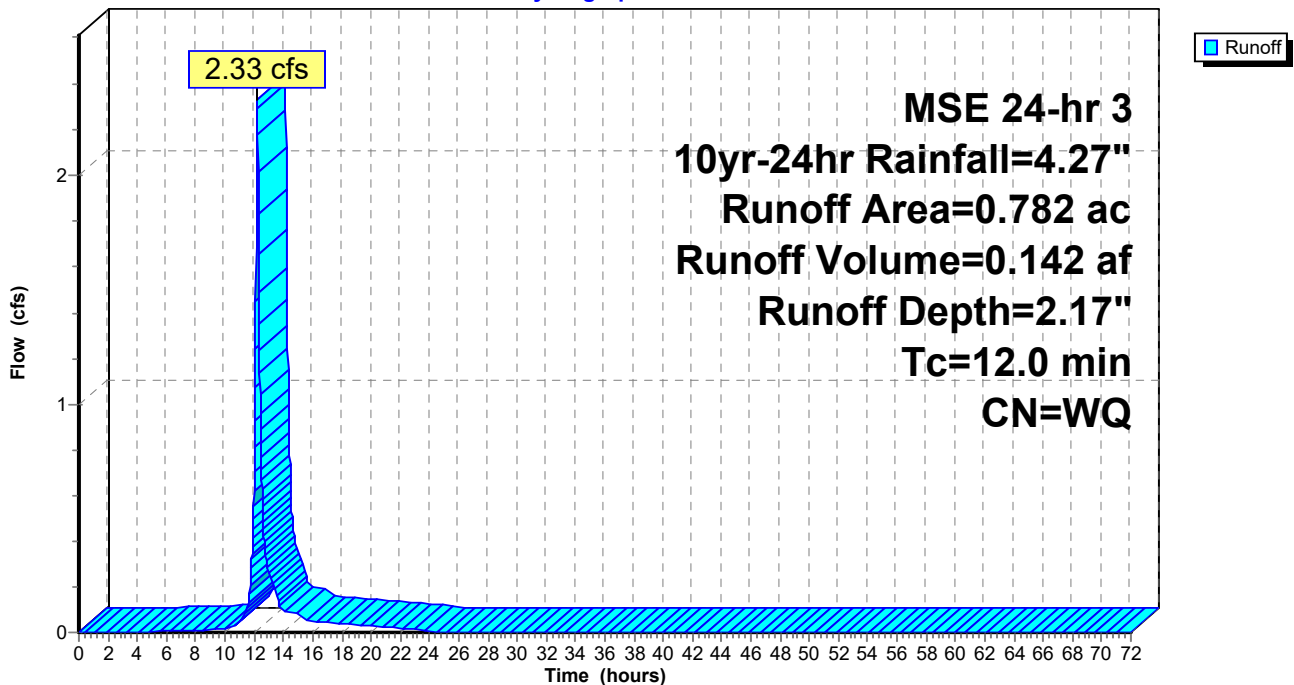
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.651	74	>75% Grass cover, Good, HSG C
* 0.080	98	Pond
* 0.051	98	Impervious
0.782		Weighted Average
0.651		83.25% Pervious Area
0.131		16.75% Impervious Area

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

Subcatchment B7: B7

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment B7_100: B7_100

Runoff = 0.70 cfs @ 12.20 hrs, Volume= 0.043 af, Depth= 2.47"

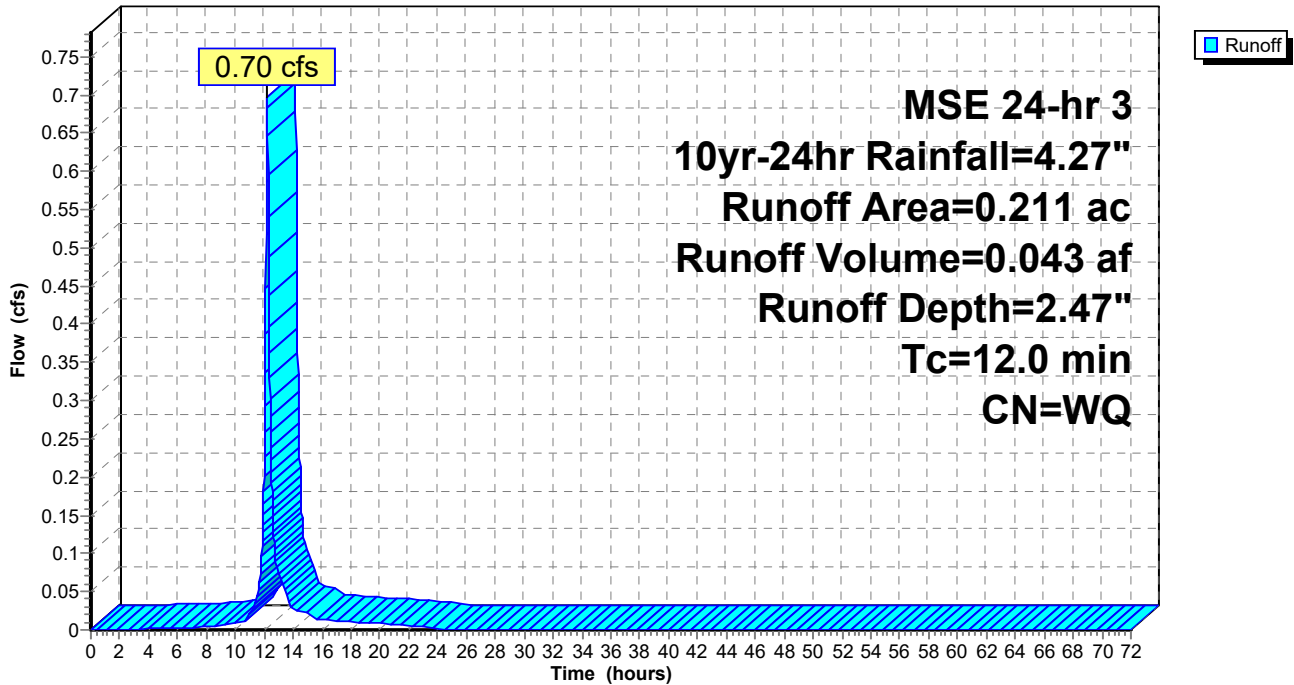
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.148	74	>75% Grass cover, Good, HSG C
* 0.063	98	Impervious
0.211		Weighted Average
0.148		70.14% Pervious Area
0.063		29.86% Impervious Area

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

Subcatchment B7_100: B7_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment B8: B8

Runoff = 3.02 cfs @ 12.20 hrs, Volume= 0.179 af, Depth= 1.94"

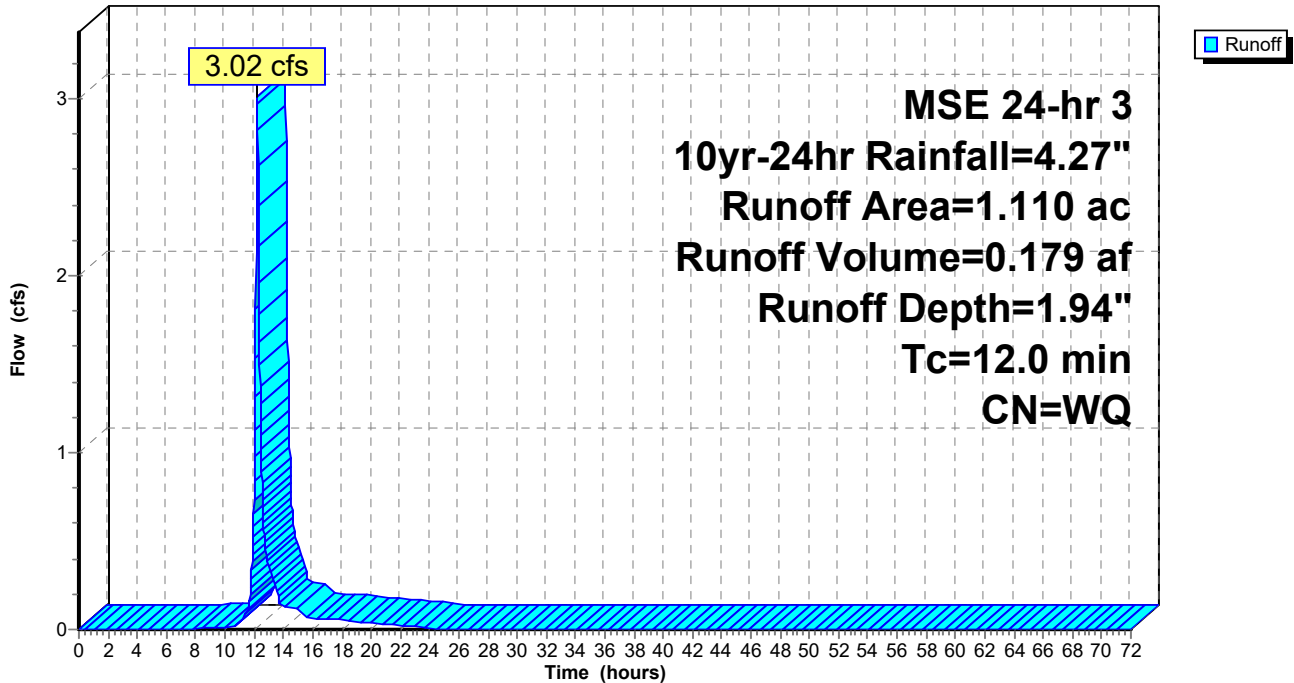
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.127	74	>75% Grass cover, Good, HSG C
0.647	74	>75% Grass cover, Good, HSG C
* 0.074	98	Impervious
0.165	73	Woods, Fair, HSG C
0.097	74	>75% Grass cover, Good, HSG C
1.110		Weighted Average
1.036		93.33% Pervious Area
0.074		6.67% Impervious Area

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

Subcatchment B8: B8

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment B8_100: B8_100

Runoff = 0.14 cfs @ 12.19 hrs, Volume= 0.010 af, Depth= 3.81"

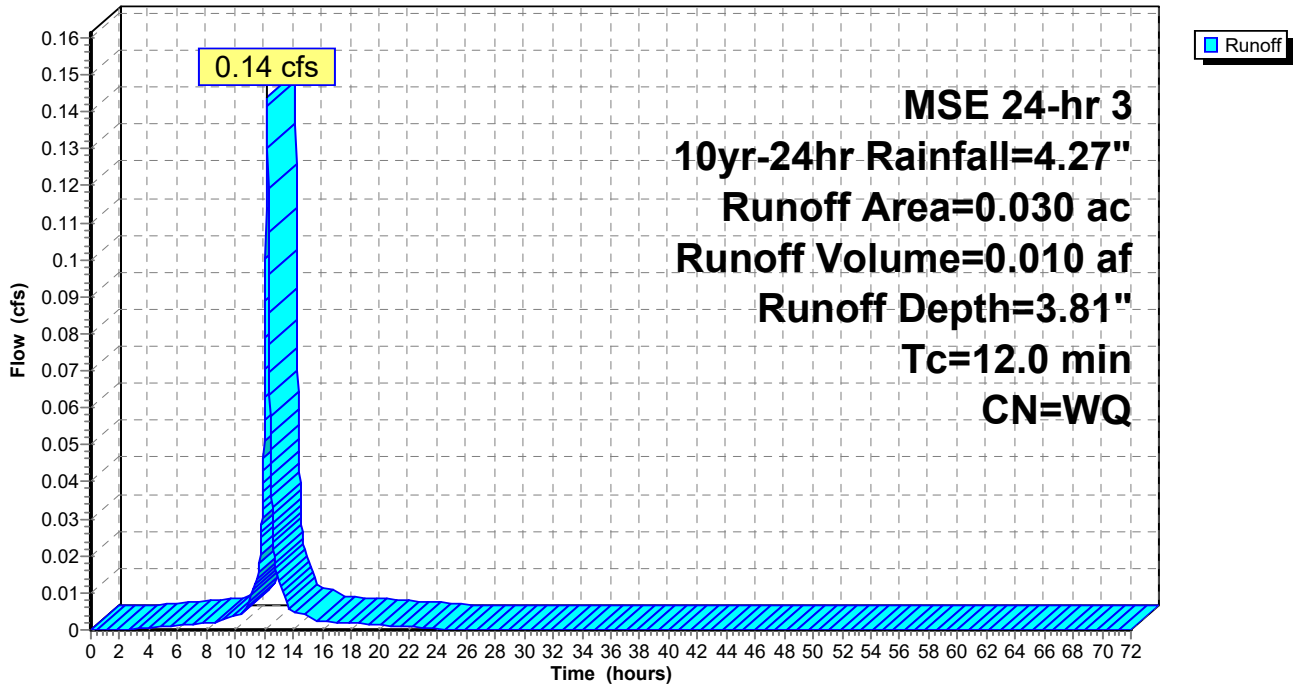
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.003	74	>75% Grass cover, Good, HSG C
* 0.027	98	Impervious
0.030		Weighted Average
0.003		10.00% Pervious Area
0.027		90.00% Impervious Area

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

Subcatchment B8_100: B8_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment C10: C10

Runoff = 4.31 cfs @ 12.20 hrs, Volume= 0.258 af, Depth= 2.04"

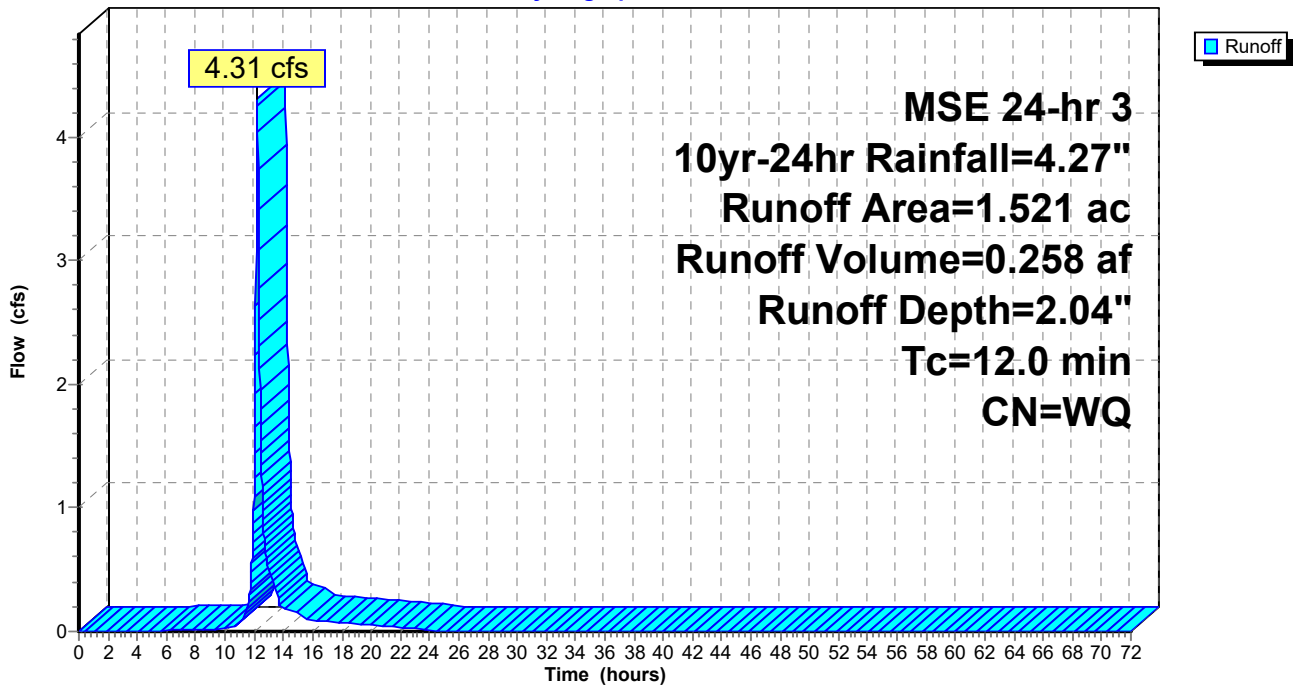
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.036	98	Impervious
1.278	74	>75% Grass cover, Good, HSG C
0.080	74	>75% Grass cover, Good, HSG C
* 0.078	98	Impervious
* 0.049	98	Impervious
1.521		Weighted Average
1.358		89.28% Pervious Area
0.163		10.72% Impervious Area

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

Subcatchment C10: C10

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment C10_100: C10_100

Runoff = 2.21 cfs @ 12.20 hrs, Volume= 0.143 af, Depth= 3.13"

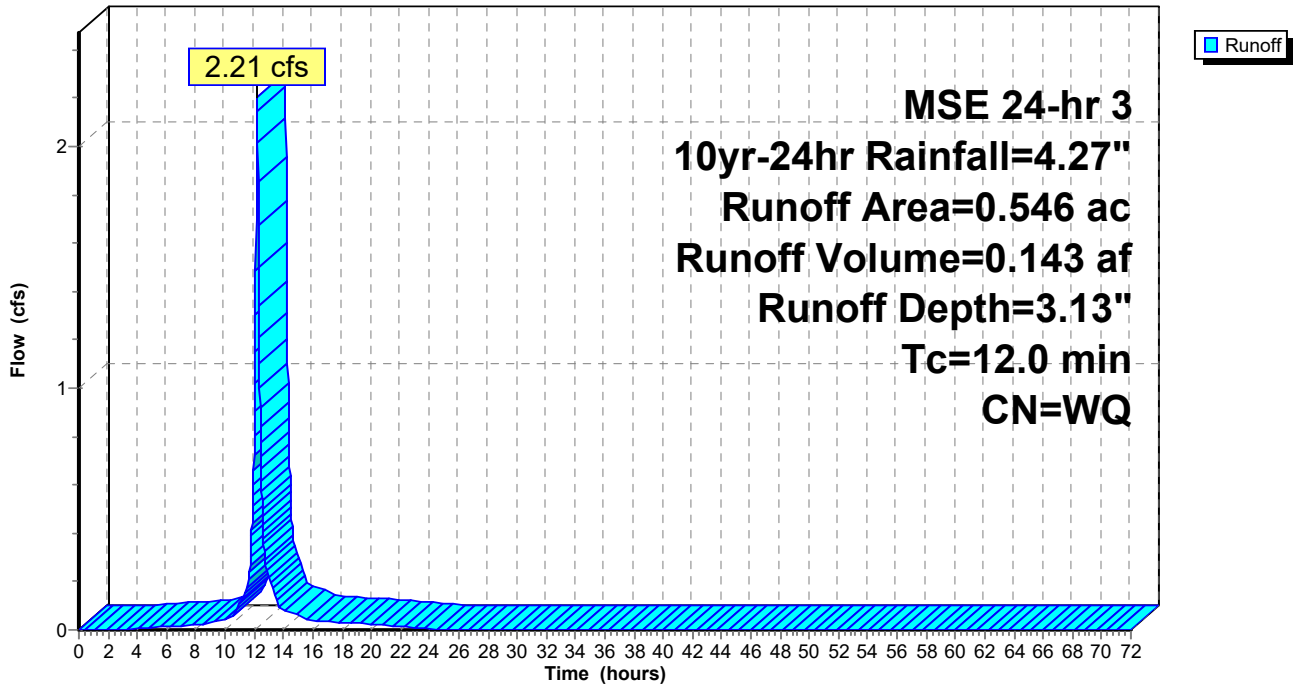
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.220	74	>75% Grass cover, Good, HSG C
* 0.326	98	Impervious
0.546		Weighted Average
0.220		40.29% Pervious Area
0.326		59.71% Impervious Area

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

Subcatchment C10_100: C10_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment C7: C7

Runoff = 4.19 cfs @ 12.20 hrs, Volume= 0.252 af, Depth= 2.10"

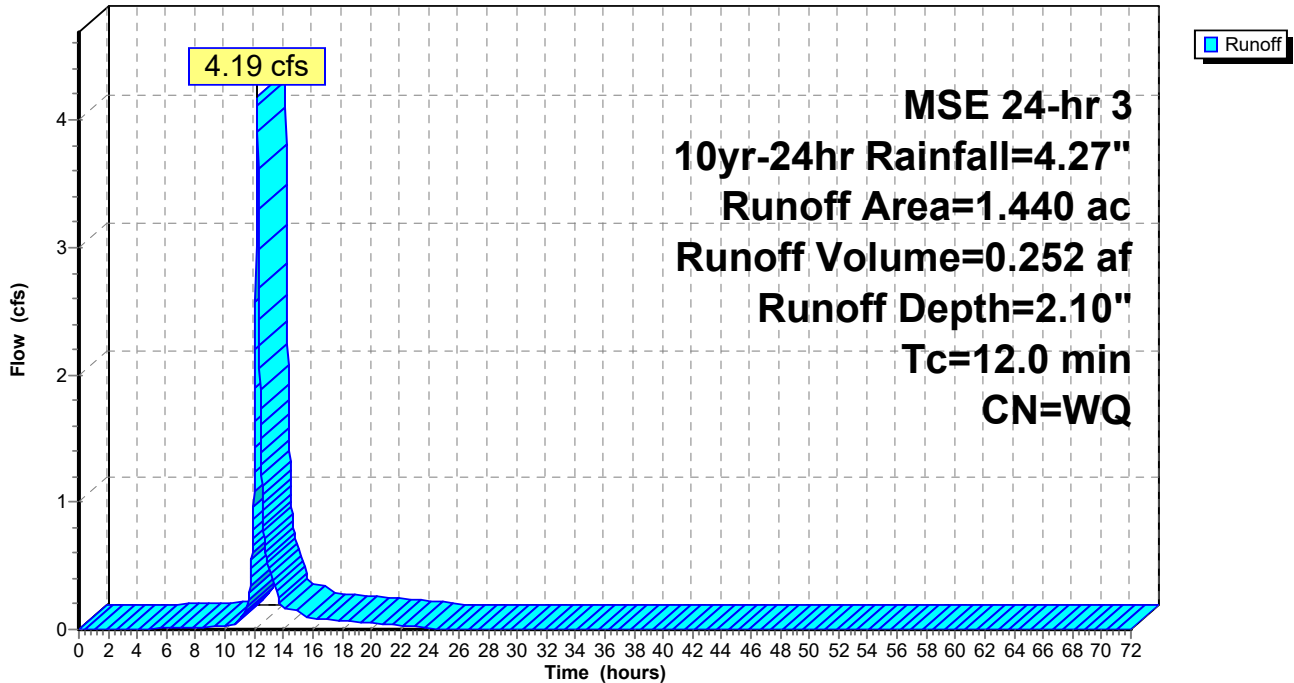
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.018	98	Impervious
1.011	74	>75% Grass cover, Good, HSG C
0.233	74	>75% Grass cover, Good, HSG C
* 0.128	98	Impervious
* 0.050	98	Impervious
1.440		Weighted Average
1.244		86.39% Pervious Area
0.196		13.61% Impervious Area

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

Subcatchment C7: C7

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment C7_100: C7_100

Runoff = 1.03 cfs @ 12.22 hrs, Volume= 0.071 af, Depth= 3.19"

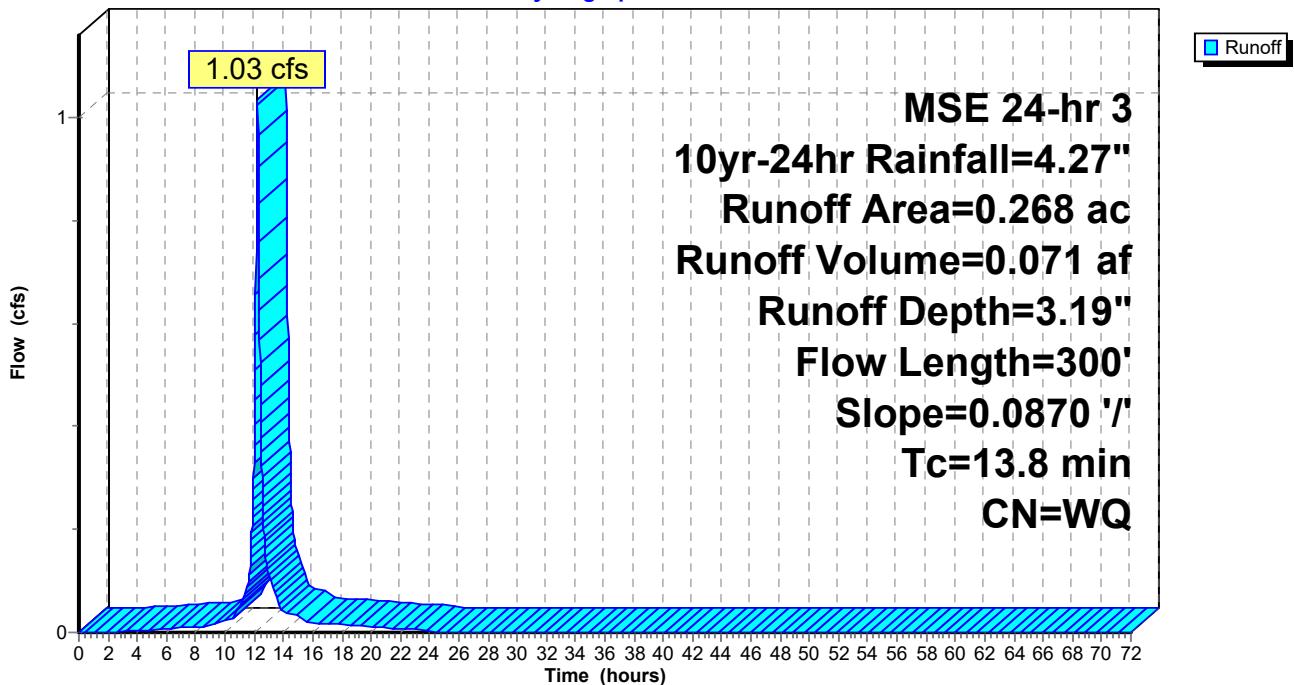
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.101	74	>75% Grass cover, Good, HSG C
* 0.167	98	Impervious
0.268		Weighted Average
0.101		37.69% Pervious Area
0.167		62.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	300	0.0870	0.36		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment C7_100: C7_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment C8: C8

Runoff = 4.21 cfs @ 12.20 hrs, Volume= 0.254 af, Depth= 2.09"

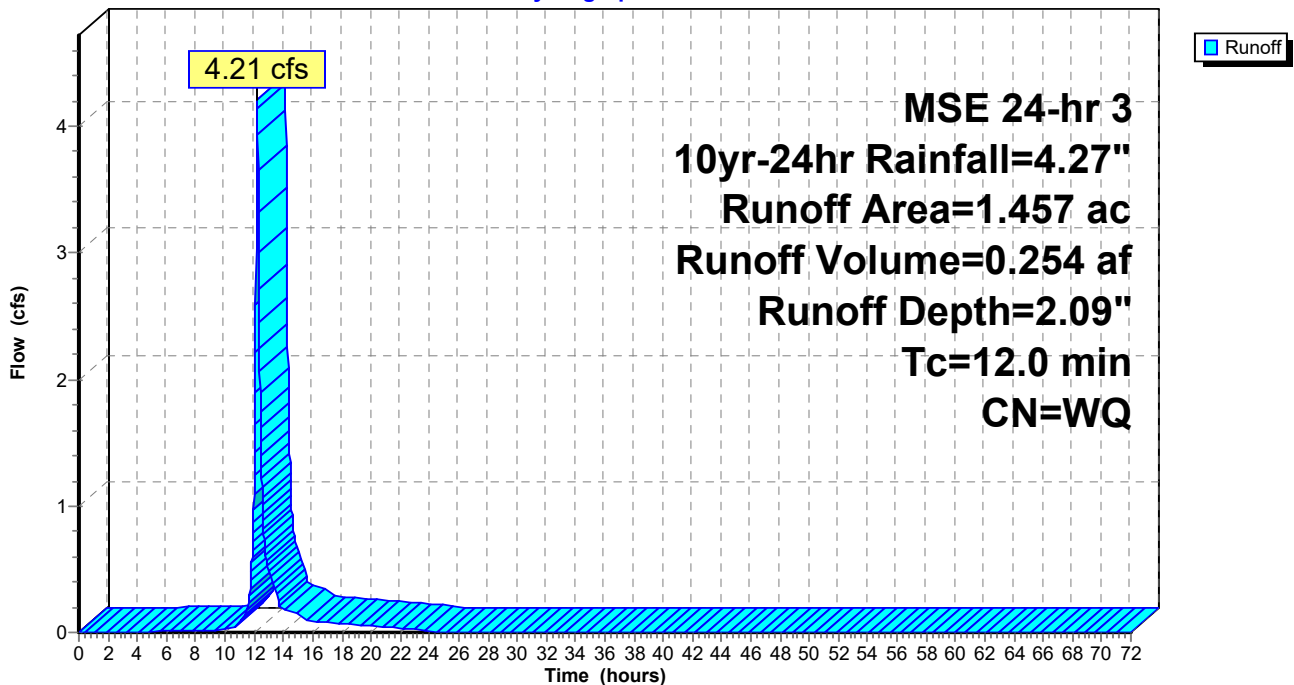
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.138	98	Impervious
1.267	74	>75% Grass cover, Good, HSG C
* 0.052	98	Impervious
1.457		Weighted Average
1.267		86.96% Pervious Area
0.190		13.04% Impervious Area

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

Subcatchment C8: C8

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment C8_100: C8_100

Runoff = 1.82 cfs @ 12.22 hrs, Volume= 0.125 af, Depth= 3.20"

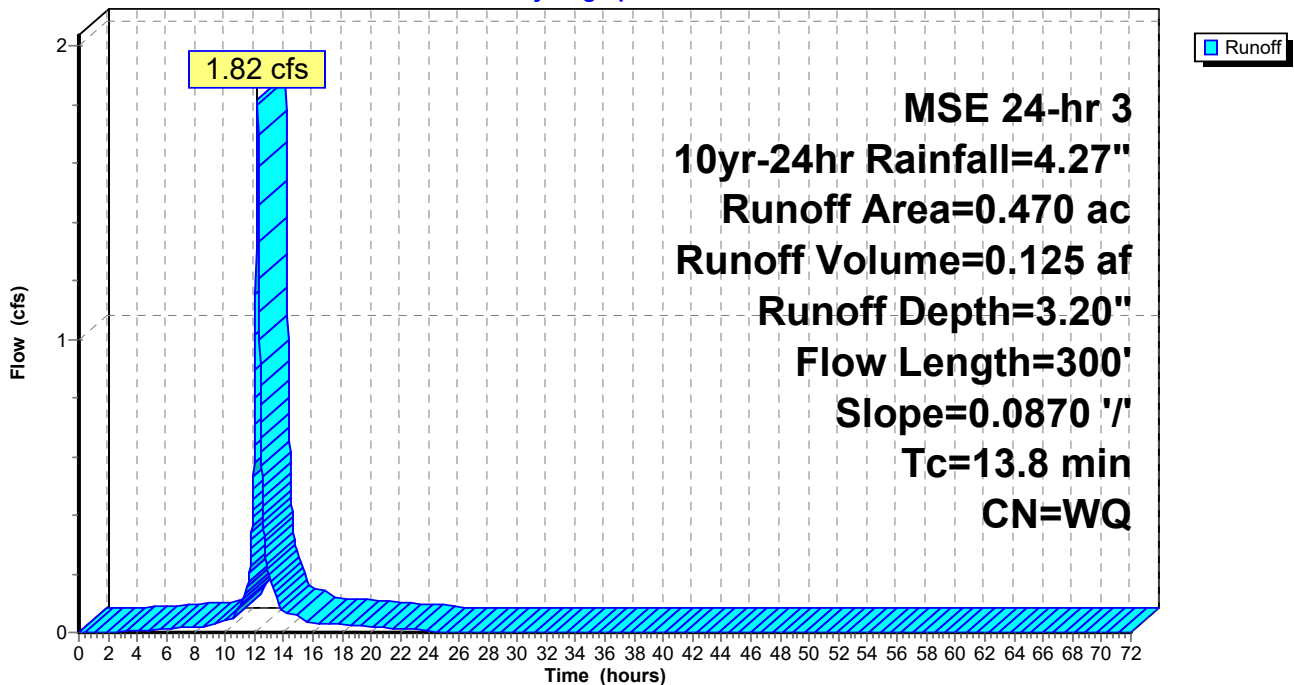
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.175	74	>75% Grass cover, Good, HSG C
* 0.295	98	Impervious
0.470		Weighted Average
0.175		37.23% Pervious Area
0.295		62.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	300	0.0870	0.36		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment C8_100: C8_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment C9: C9

Runoff = 5.01 cfs @ 12.20 hrs, Volume= 0.300 af, Depth= 2.04"

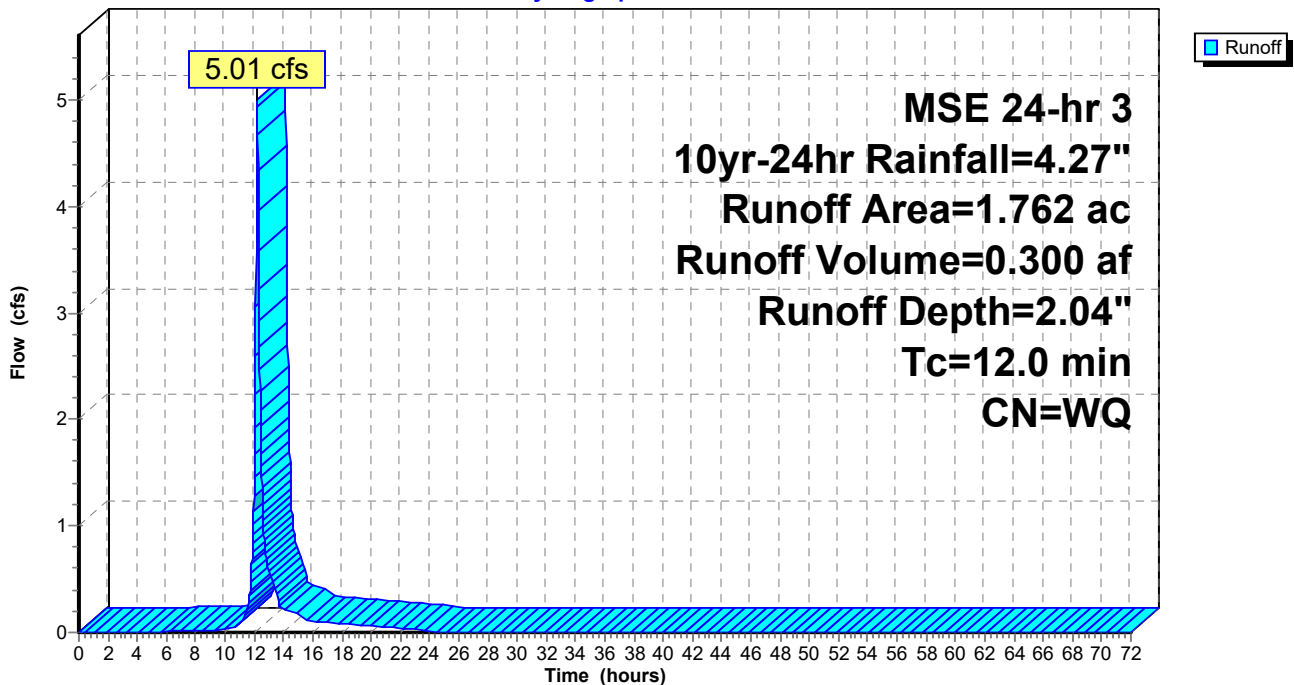
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.132	98	Impervious
1.569	74	>75% Grass cover, Good, HSG C
* 0.061	98	Impervious
1.762		Weighted Average
1.569		89.05% Pervious Area
0.193		10.95% Impervious Area

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

Subcatchment C9: C9

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment C9_100: C9_100

Runoff = 1.26 cfs @ 12.20 hrs, Volume= 0.082 af, Depth= 3.25"

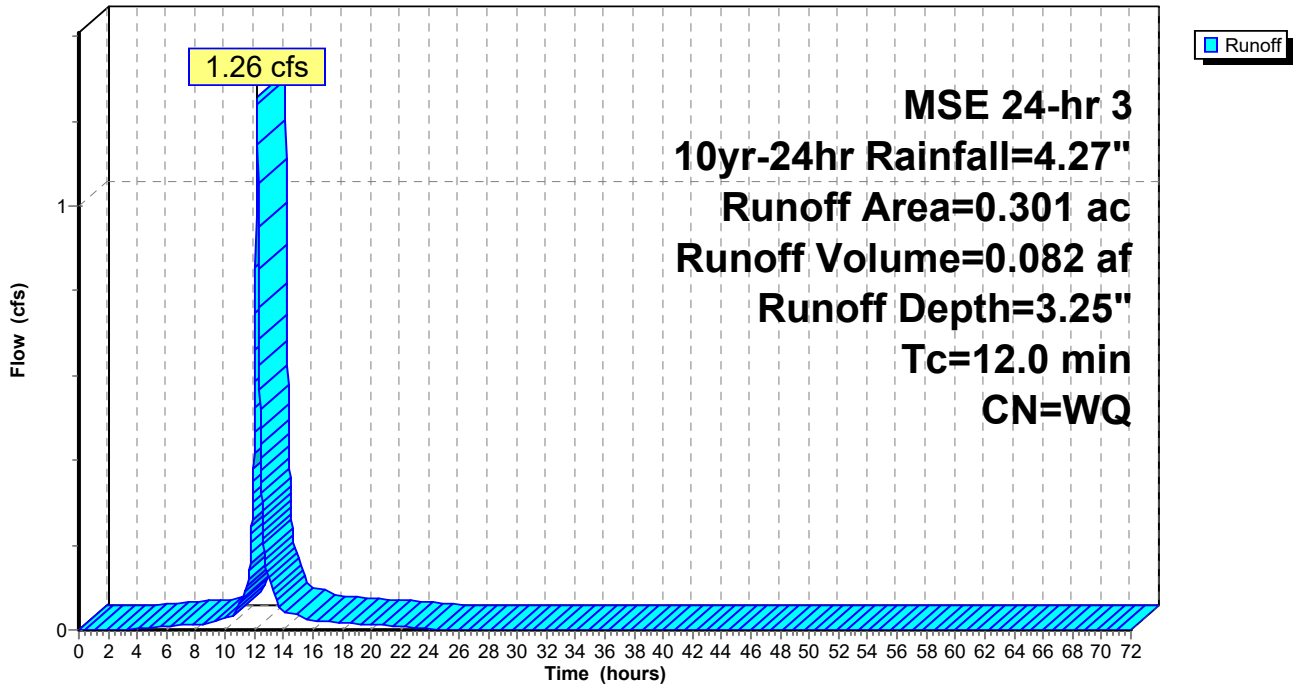
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.105	74	>75% Grass cover, Good, HSG C
* 0.196	98	Impervious
0.301		Weighted Average
0.105		34.88% Pervious Area
0.196		65.12% Impervious Area

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

Subcatchment C9_100: C9_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment D6: D6

Runoff = 1.00 cfs @ 12.20 hrs, Volume= 0.059 af, Depth= 1.87"

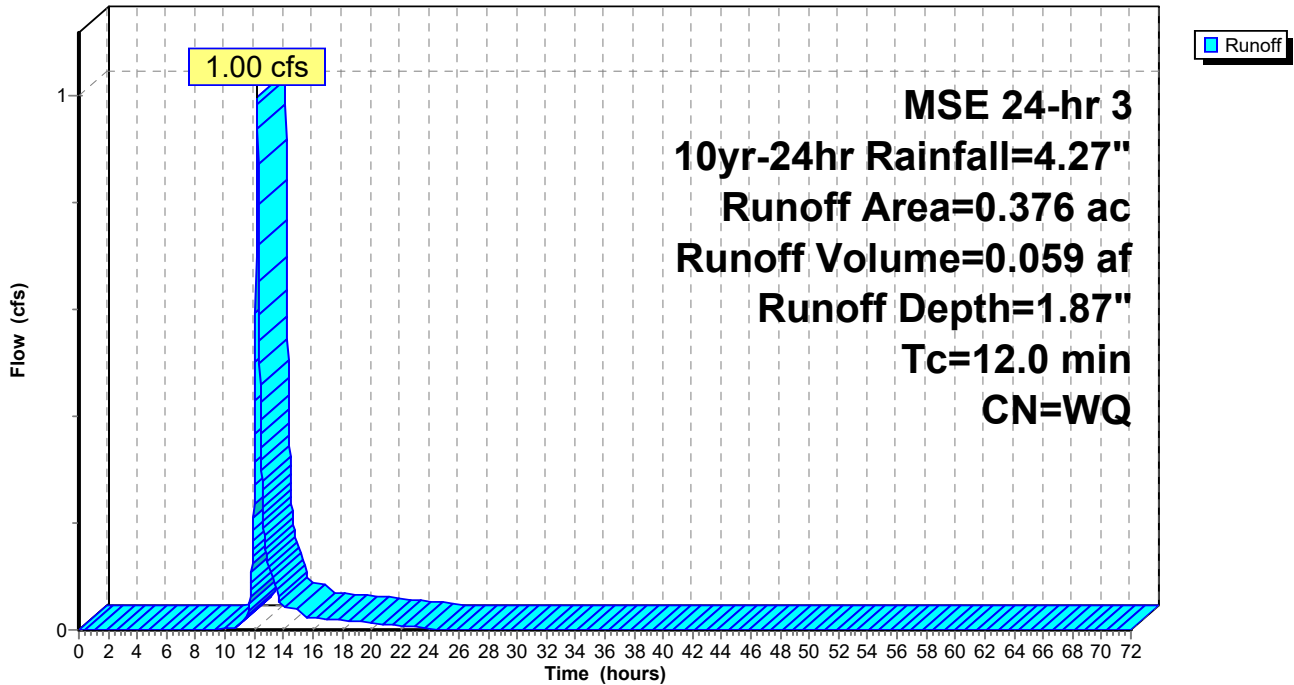
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.013	98	Impervious
0.363	74	>75% Grass cover, Good, HSG C
0.376		Weighted Average
0.363		96.54% Pervious Area
0.013		3.46% Impervious Area

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

Subcatchment D6: D6

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment D7: D7

Runoff = 1.46 cfs @ 12.20 hrs, Volume= 0.088 af, Depth= 2.06"

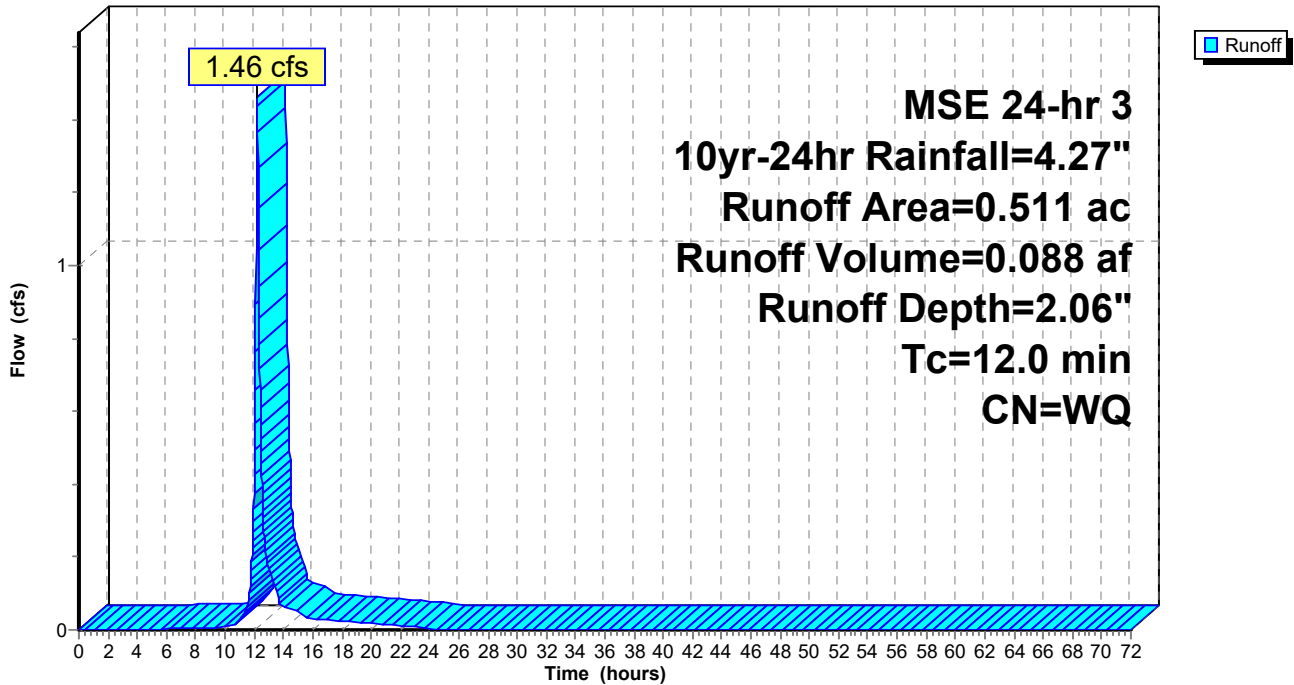
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.061	98	Impervious
0.450	74	>75% Grass cover, Good, HSG C
0.511		Weighted Average
0.450		88.06% Pervious Area
0.061		11.94% Impervious Area

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

Subcatchment D7: D7

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment D7_100: D7_100

Runoff = 0.30 cfs @ 12.20 hrs, Volume= 0.019 af, Depth= 3.05"

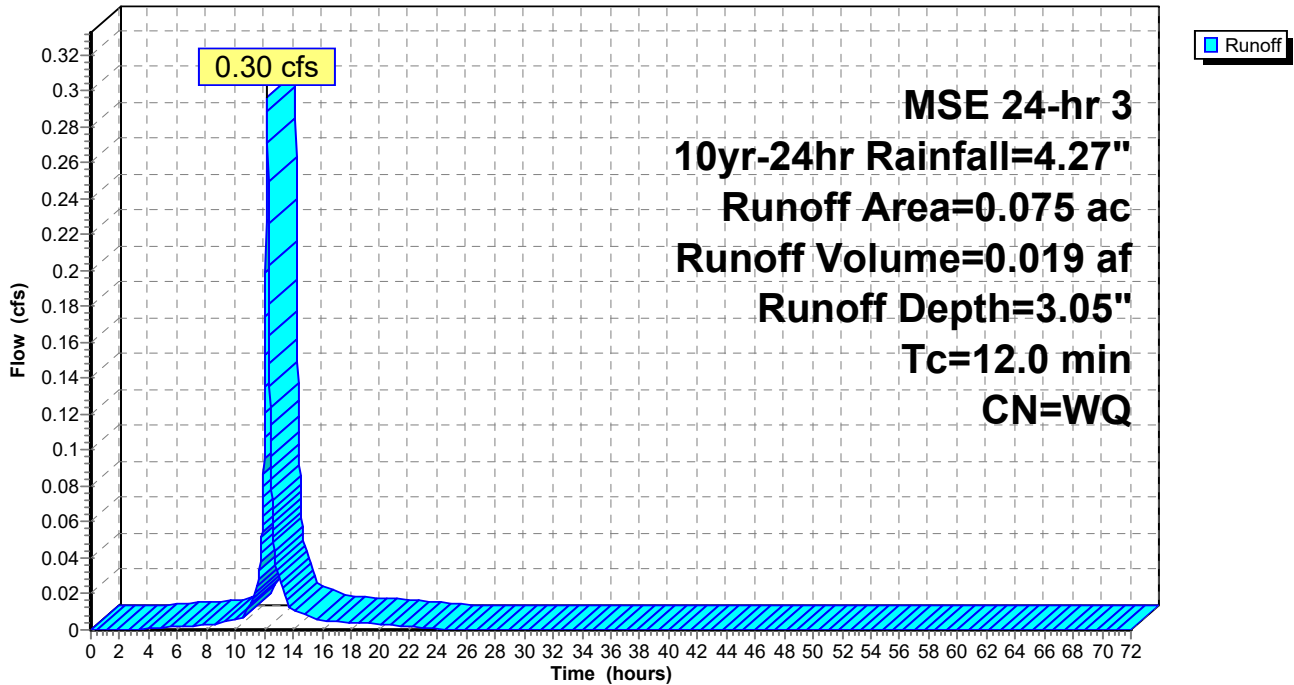
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.033	74	>75% Grass cover, Good, HSG C
* 0.042	98	Impervious
0.075		Weighted Average
0.033		44.00% Pervious Area
0.042		56.00% Impervious Area

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

Subcatchment D7_100: D7_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment D8: D8

Runoff = 3.36 cfs @ 12.20 hrs, Volume= 0.200 af, Depth= 1.98"

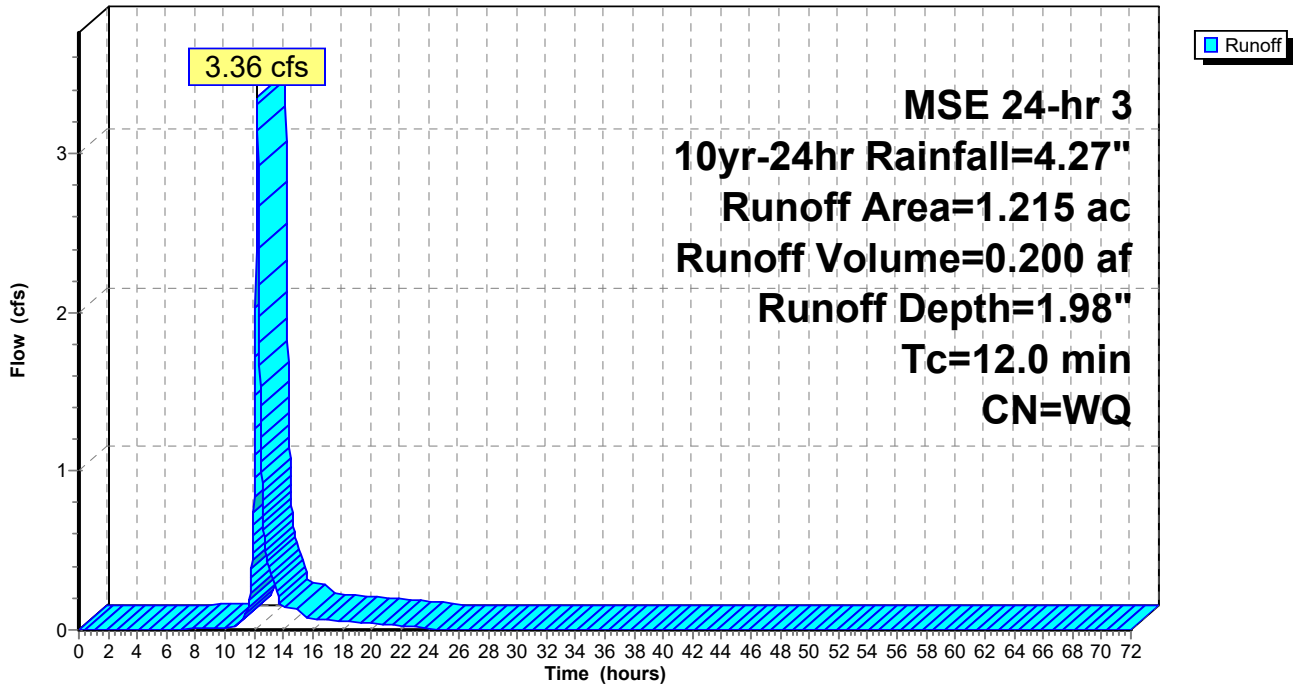
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.097	98	Impervious
1.118	74	>75% Grass cover, Good, HSG C
1.215		Weighted Average
1.118		92.02% Pervious Area
0.097		7.98% Impervious Area

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

Subcatchment D8: D8

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment D9: D9

Runoff = 3.72 cfs @ 12.20 hrs, Volume= 0.225 af, Depth= 2.16"

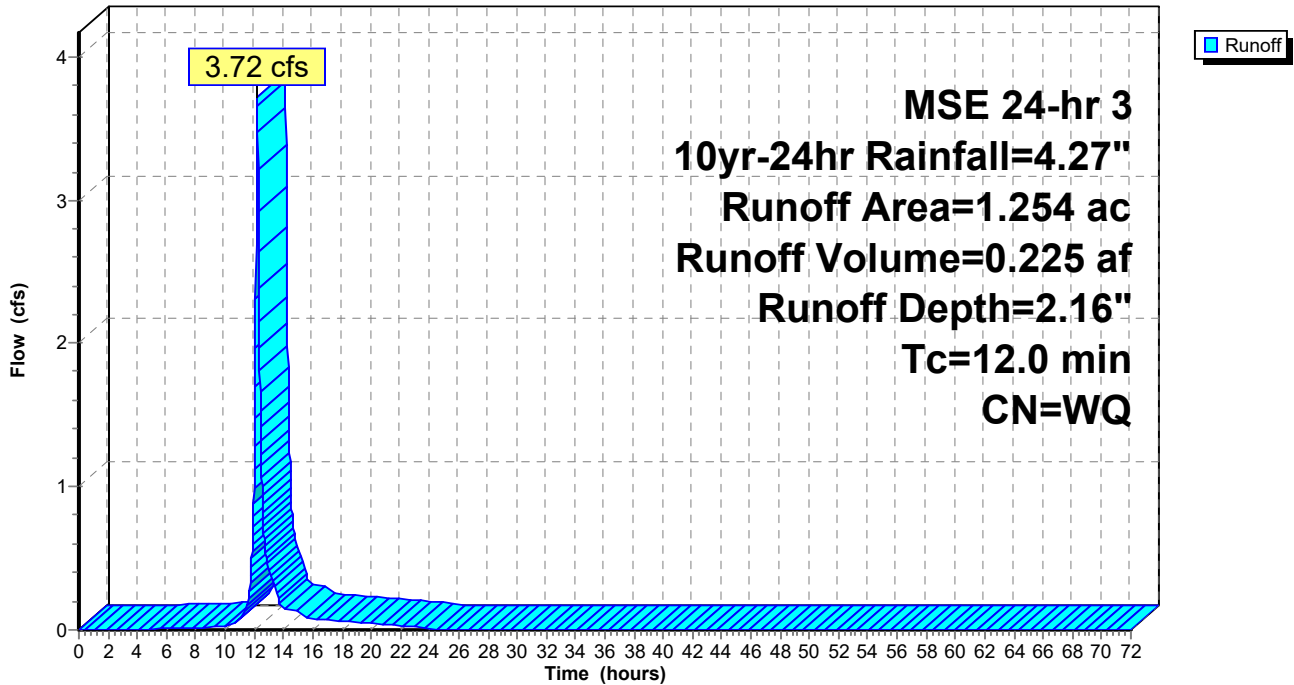
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.202	98	Impervious
1.052	74	>75% Grass cover, Good, HSG C
1.254		Weighted Average
1.052		83.89% Pervious Area
0.202		16.11% Impervious Area

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

Subcatchment D9: D9

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment E13: E13

Runoff = 1.97 cfs @ 12.20 hrs, Volume= 0.122 af, Depth= 2.42"

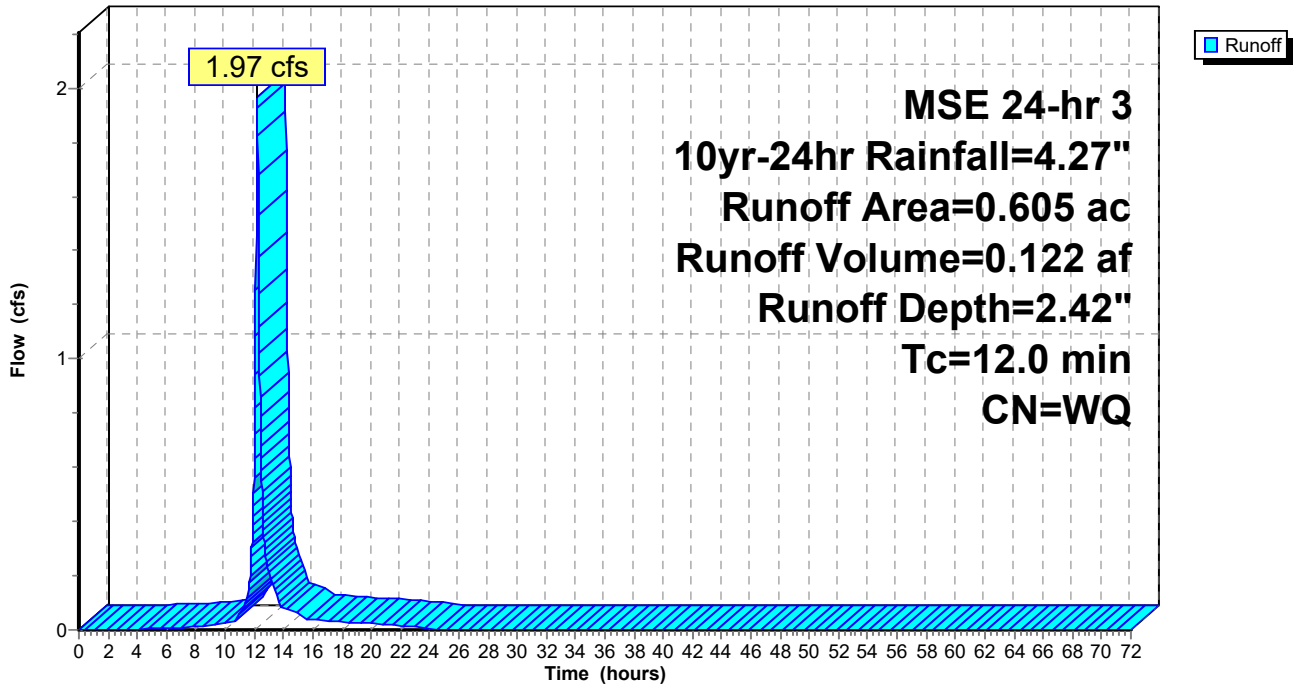
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.168	98	Impervious
0.437	74	>75% Grass cover, Good, HSG C
0.605		Weighted Average
0.437		72.23% Pervious Area
0.168		27.77% Impervious Area

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

Subcatchment E13: E13

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment E15: E15

Runoff = 6.23 cfs @ 12.20 hrs, Volume= 0.385 af, Depth= 2.40"

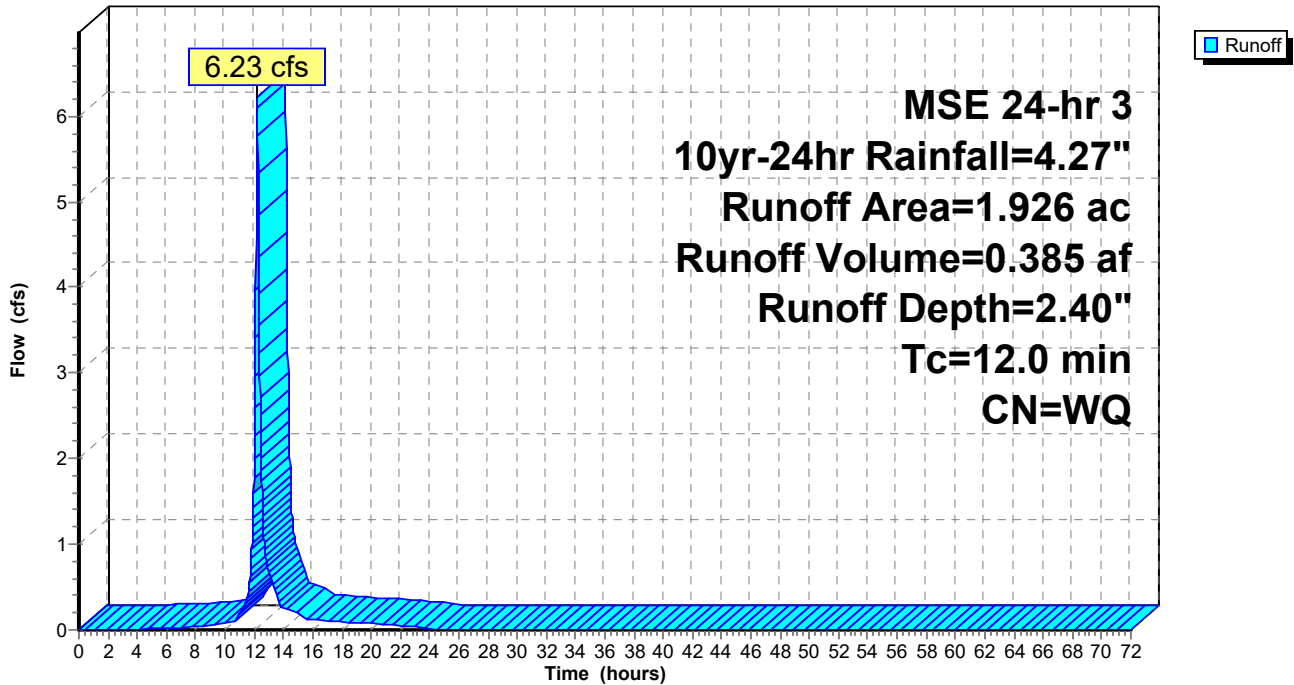
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.518	98	Impervious
1.408	74	>75% Grass cover, Good, HSG C
1.926		Weighted Average
1.408		73.10% Pervious Area
0.518		26.90% Impervious Area

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

Subcatchment E15: E15

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment E16: E16

Runoff = 4.41 cfs @ 12.20 hrs, Volume= 0.272 af, Depth= 2.38"

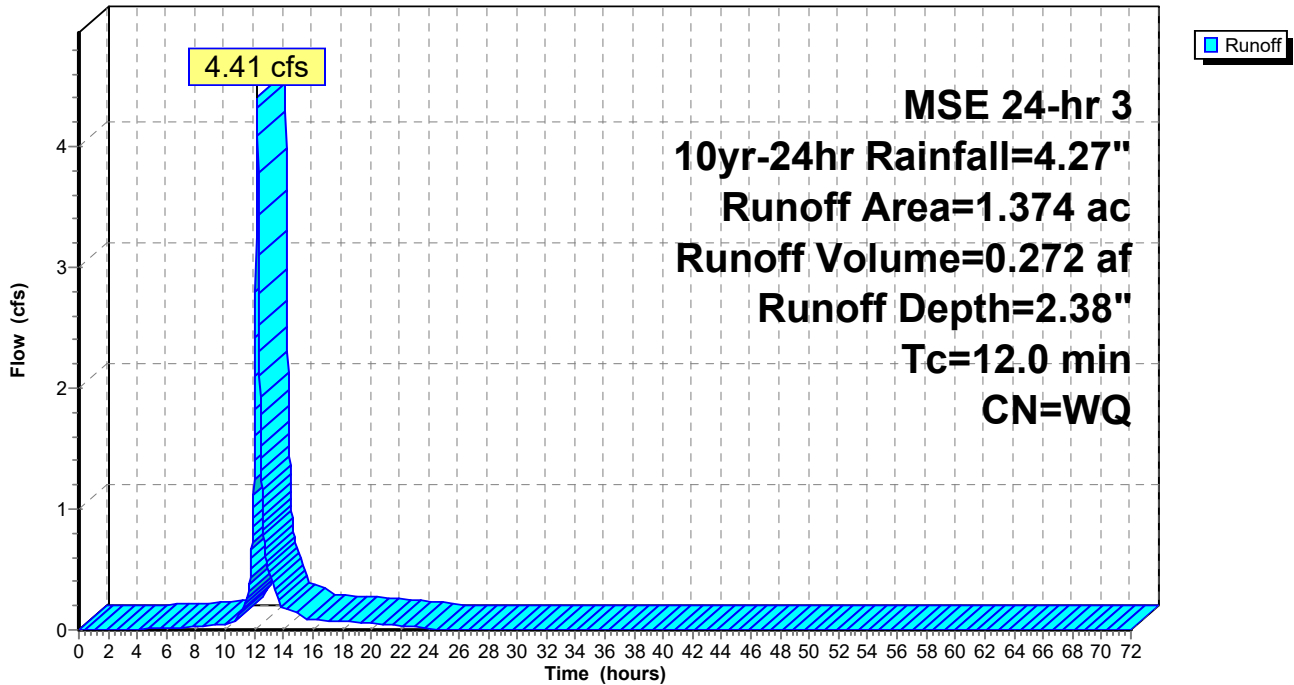
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.355	98	Impervious
1.019	74	>75% Grass cover, Good, HSG C
1.374		Weighted Average
1.019		74.16% Pervious Area
0.355		25.84% Impervious Area

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

Subcatchment E16: E16

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment E17: E17

Runoff = 3.05 cfs @ 12.20 hrs, Volume= 0.186 af, Depth= 2.26"

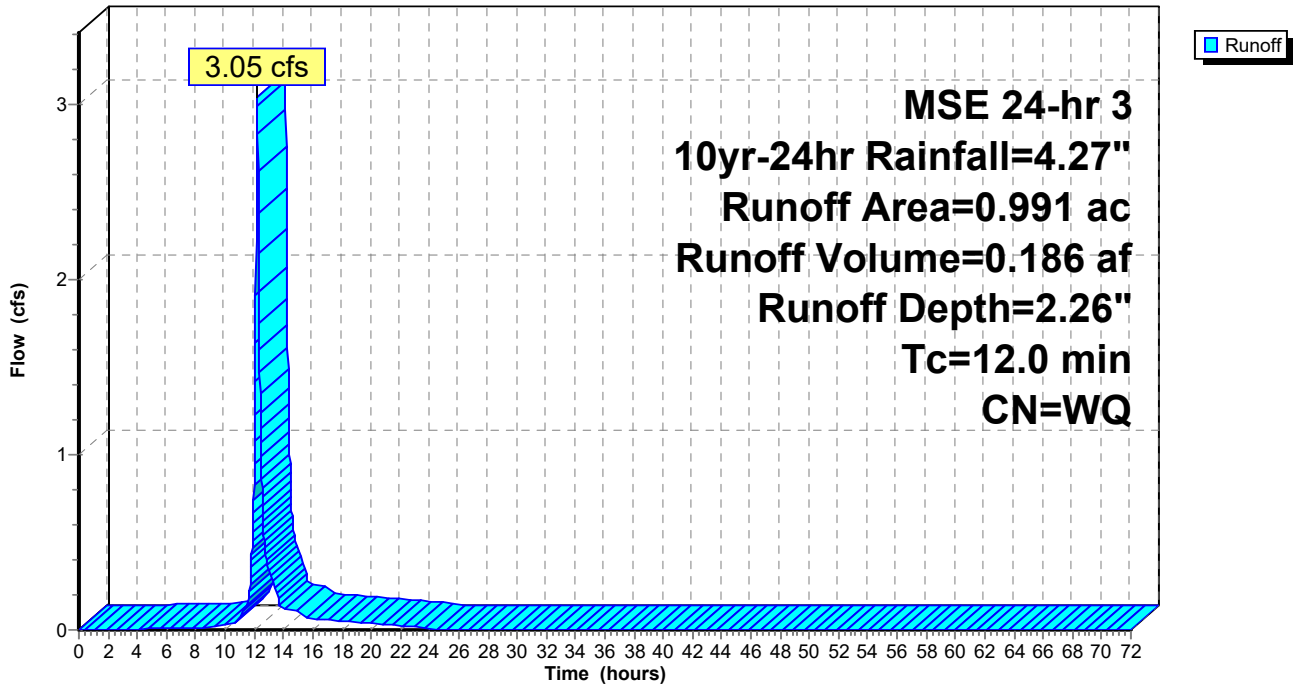
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.203	98	Impervious
0.788	74	>75% Grass cover, Good, HSG C
0.991		Weighted Average
0.788		79.52% Pervious Area
0.203		20.48% Impervious Area

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

Subcatchment E17: E17

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment E18: E18

Runoff = 4.41 cfs @ 12.24 hrs, Volume= 0.292 af, Depth= 2.02"

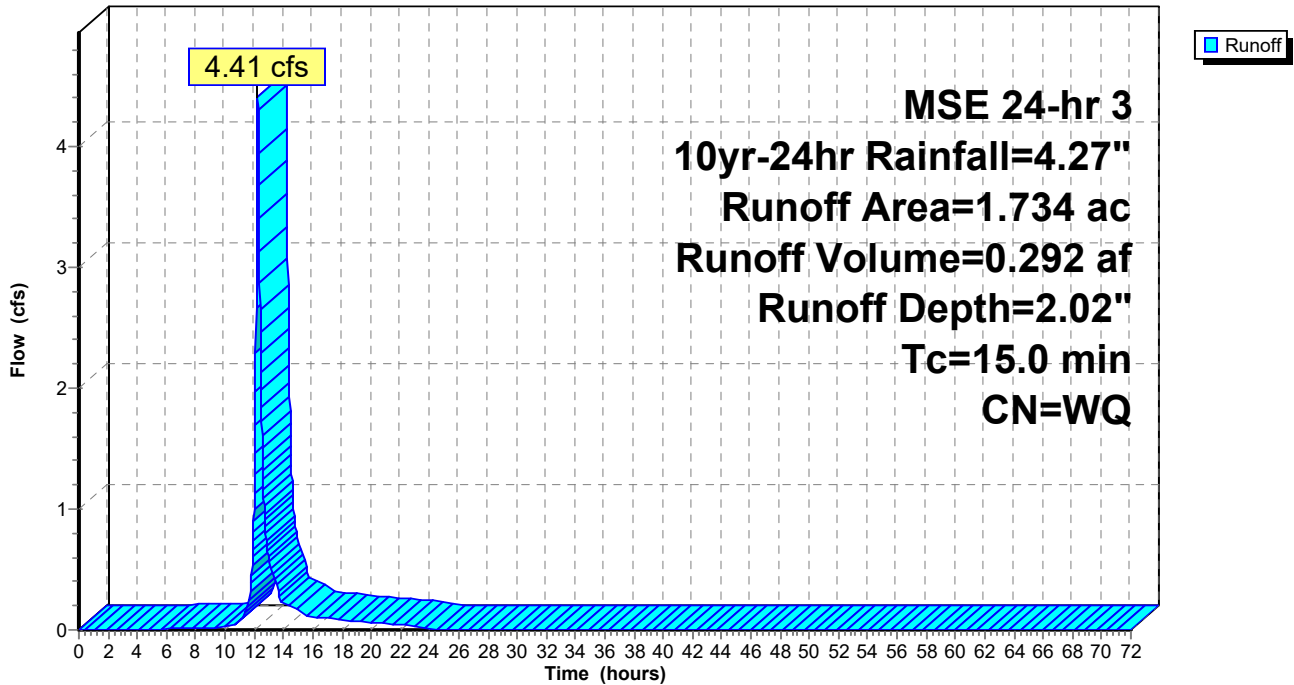
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.171	98	Impervious
1.563	74	>75% Grass cover, Good, HSG C
1.734		Weighted Average
1.563		90.14% Pervious Area
0.171		9.86% Impervious Area

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

Subcatchment E18: E18

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment F5: F5

Runoff = 3.79 cfs @ 12.20 hrs, Volume= 0.232 af, Depth= 2.27"

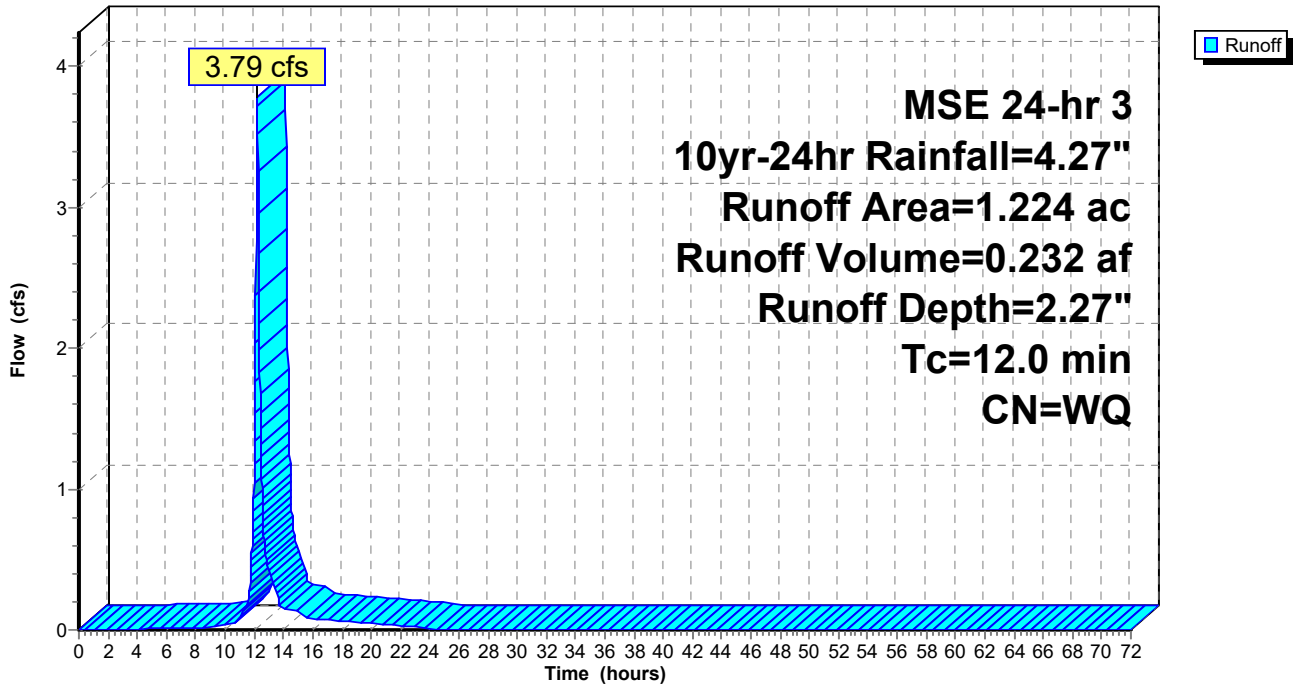
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.260	98	Impervious
0.964	74	>75% Grass cover, Good, HSG C
1.224		Weighted Average
0.964		78.76% Pervious Area
0.260		21.24% Impervious Area

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

Subcatchment F5: F5

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment F6: F6

Runoff = 2.85 cfs @ 12.20 hrs, Volume= 0.174 af, Depth= 2.27"

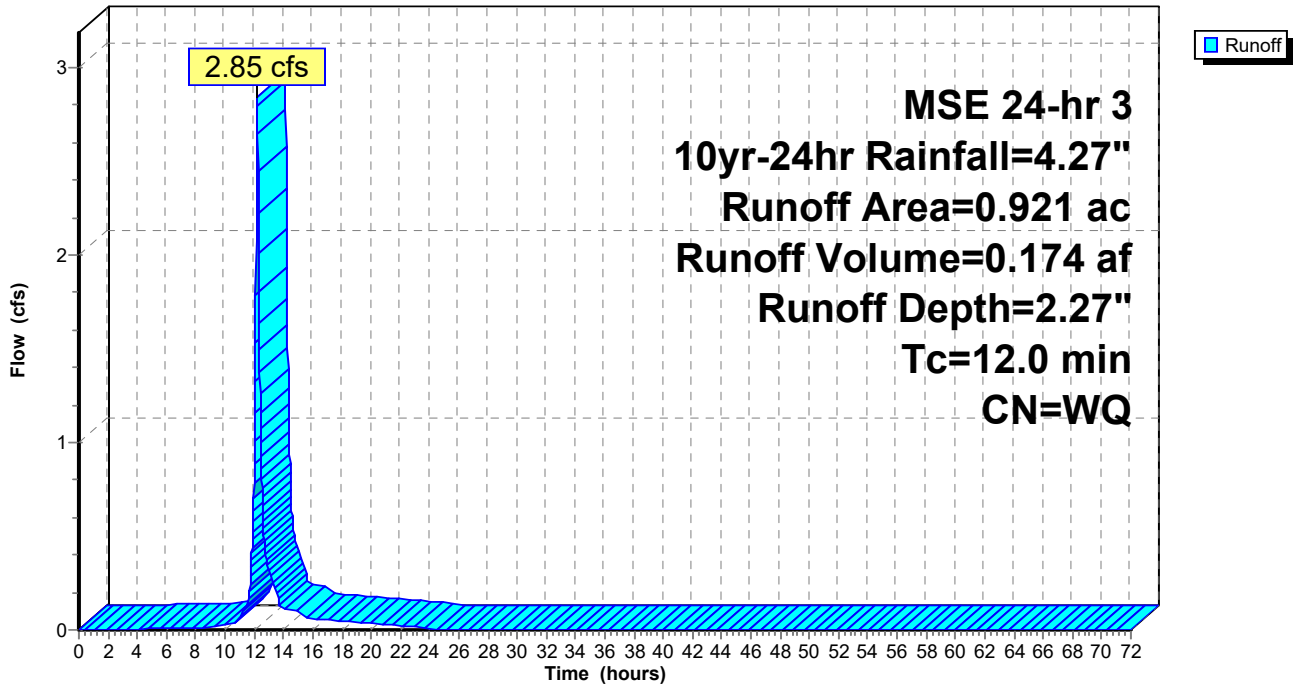
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.194	98	Impervious
0.727	74	>75% Grass cover, Good, HSG C
0.921		Weighted Average
0.727		78.94% Pervious Area
0.194		21.06% Impervious Area

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

Subcatchment F6: F6

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment F7: F7

Runoff = 1.91 cfs @ 12.20 hrs, Volume= 0.114 af, Depth= 2.06"

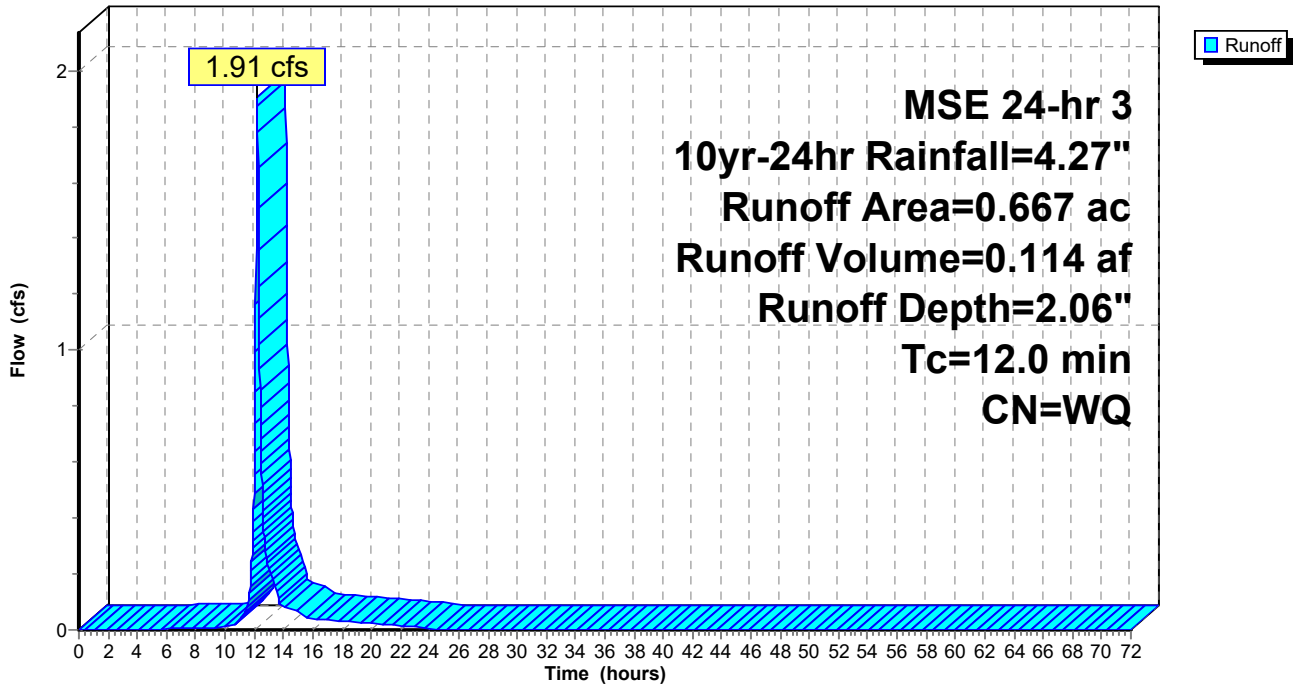
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.078	98	Impervious
0.589	74	>75% Grass cover, Good, HSG C
0.667		Weighted Average
0.589		88.31% Pervious Area
0.078		11.69% Impervious Area

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

Subcatchment F7: F7

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment F8: F8

Runoff = 5.11 cfs @ 12.24 hrs, Volume= 0.342 af, Depth= 2.16"

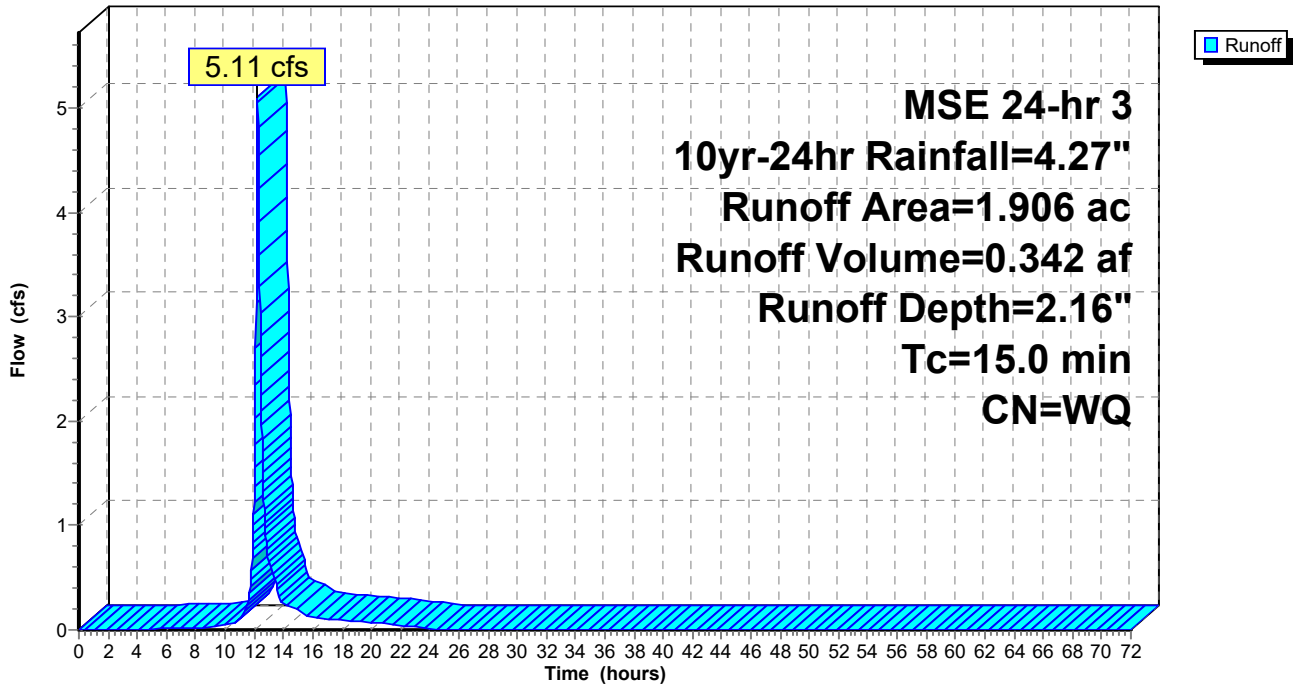
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.305	98	Impervious
1.601	74	>75% Grass cover, Good, HSG C
1.906		Weighted Average
1.601		84.00% Pervious Area
0.305		16.00% Impervious Area

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

Subcatchment F8: F8

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment H5: H5

Runoff = 6.31 cfs @ 12.20 hrs, Volume= 0.398 af, Depth= 2.20"

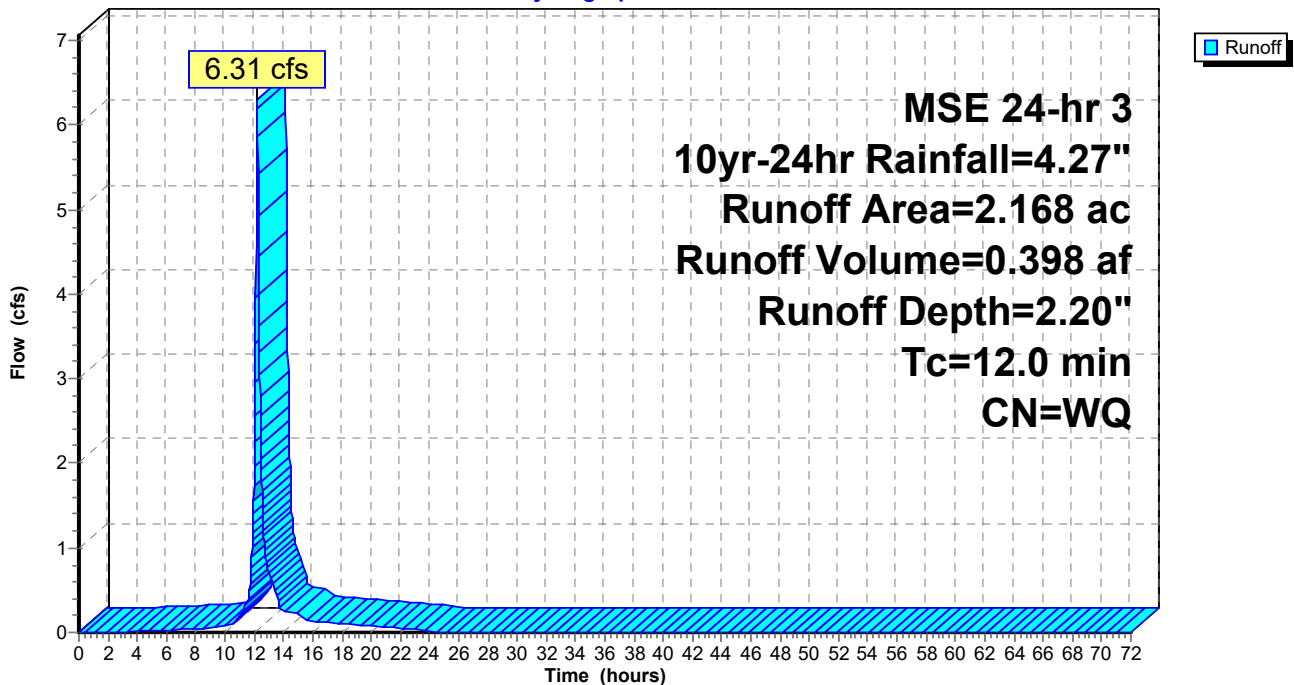
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.590	98	Impervious
0.526	61	>75% Grass cover, Good, HSG B
1.052	74	>75% Grass cover, Good, HSG C
<hr/>		
2.168		Weighted Average
1.578		72.79% Pervious Area
0.590		27.21% Impervious Area

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

Subcatchment H5: H5

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment H6: H6

Runoff = 2.20 cfs @ 12.20 hrs, Volume= 0.143 af, Depth= 1.70"

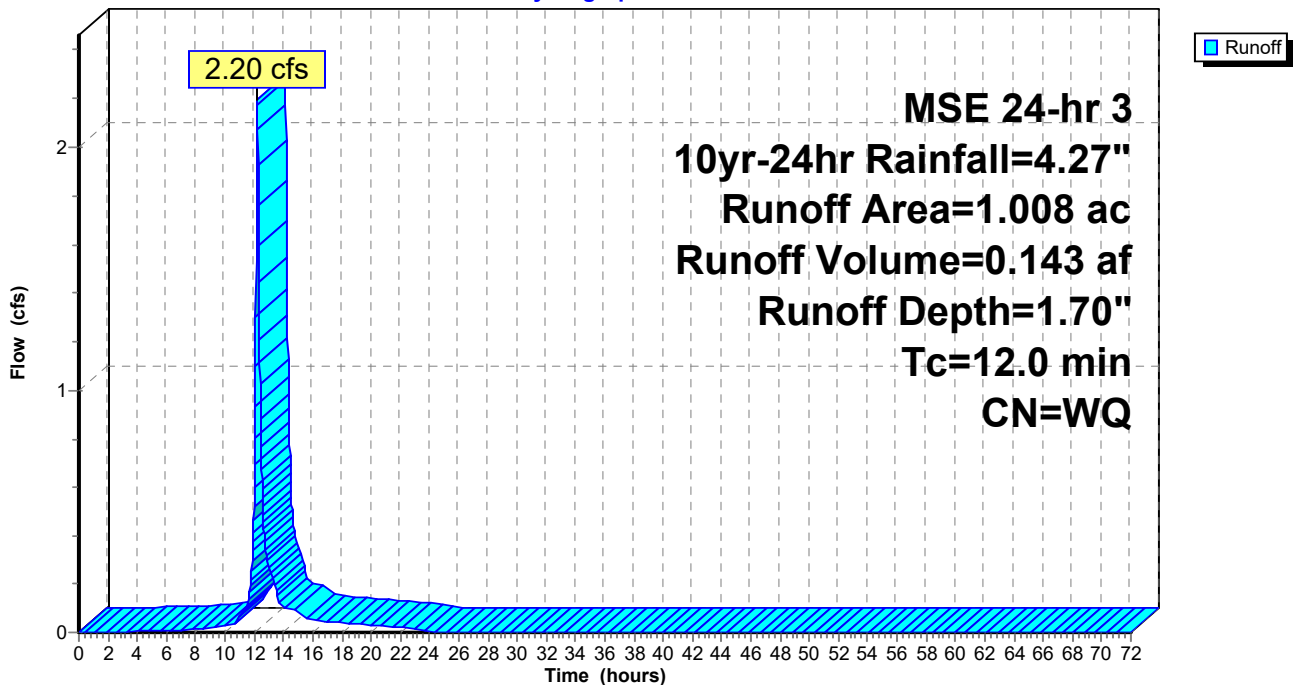
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.197	98	Impervious
0.640	61	>75% Grass cover, Good, HSG B
0.171	74	>75% Grass cover, Good, HSG C
1.008		Weighted Average
0.811		80.46% Pervious Area
0.197		19.54% Impervious Area

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

Subcatchment H6: H6

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment H7: H7

Runoff = 2.78 cfs @ 12.20 hrs, Volume= 0.178 af, Depth= 1.81"

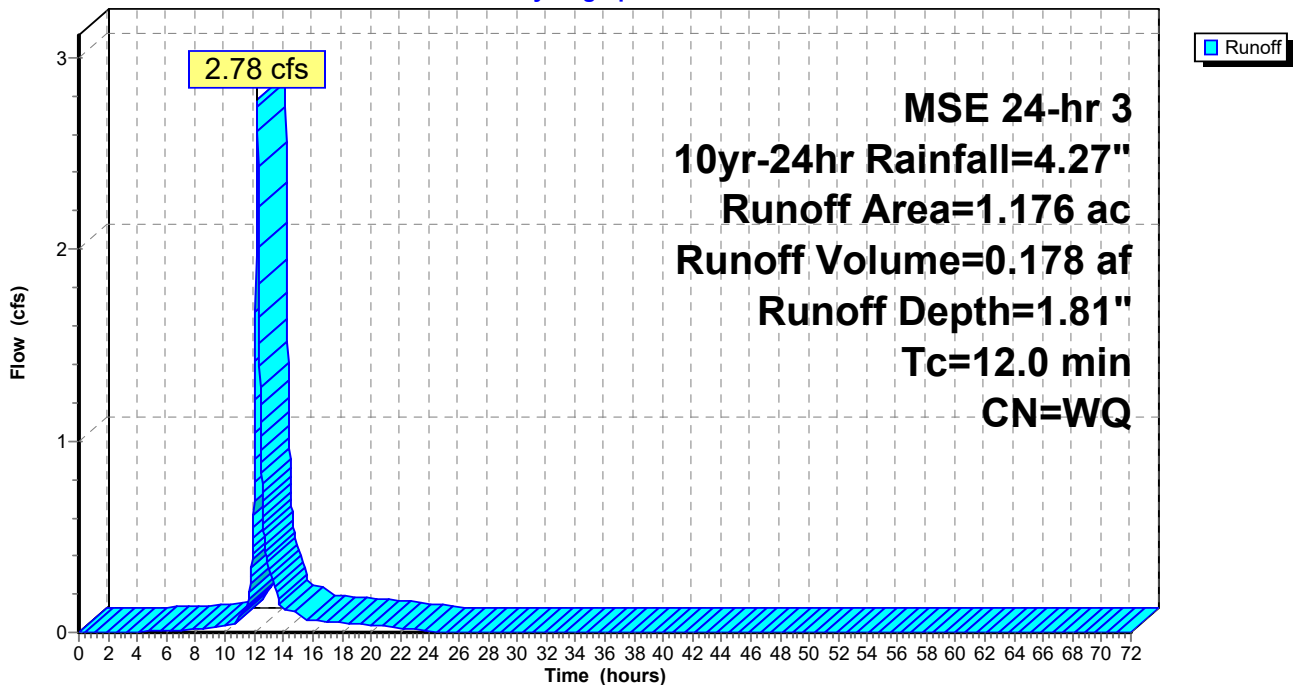
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.231	98	Impervious
0.591	61	>75% Grass cover, Good, HSG B
0.354	74	>75% Grass cover, Good, HSG C
1.176		Weighted Average
0.945		80.36% Pervious Area
0.231		19.64% Impervious Area

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

Subcatchment H7: H7

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment I14: I14

Runoff = 0.88 cfs @ 12.20 hrs, Volume= 0.054 af, Depth= 2.42"

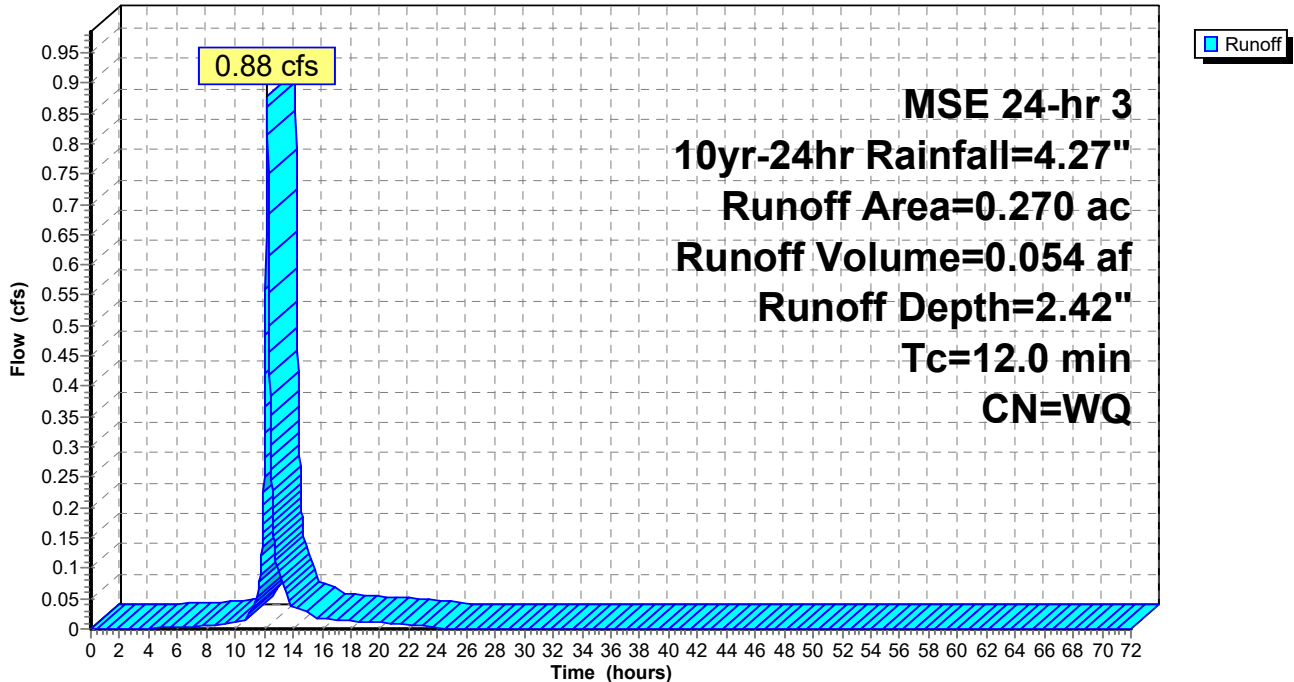
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.050	98	impervious
0.124	74	>75% Grass cover, Good, HSG C
* 0.025	98	impervious
0.071	74	>75% Grass cover, Good, HSG C
0.270		Weighted Average
0.195		72.22% Pervious Area
0.075		27.78% Impervious Area

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

Subcatchment I14: I14

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment I7: I7

Runoff = 1.91 cfs @ 12.20 hrs, Volume= 0.117 af, Depth= 2.30"

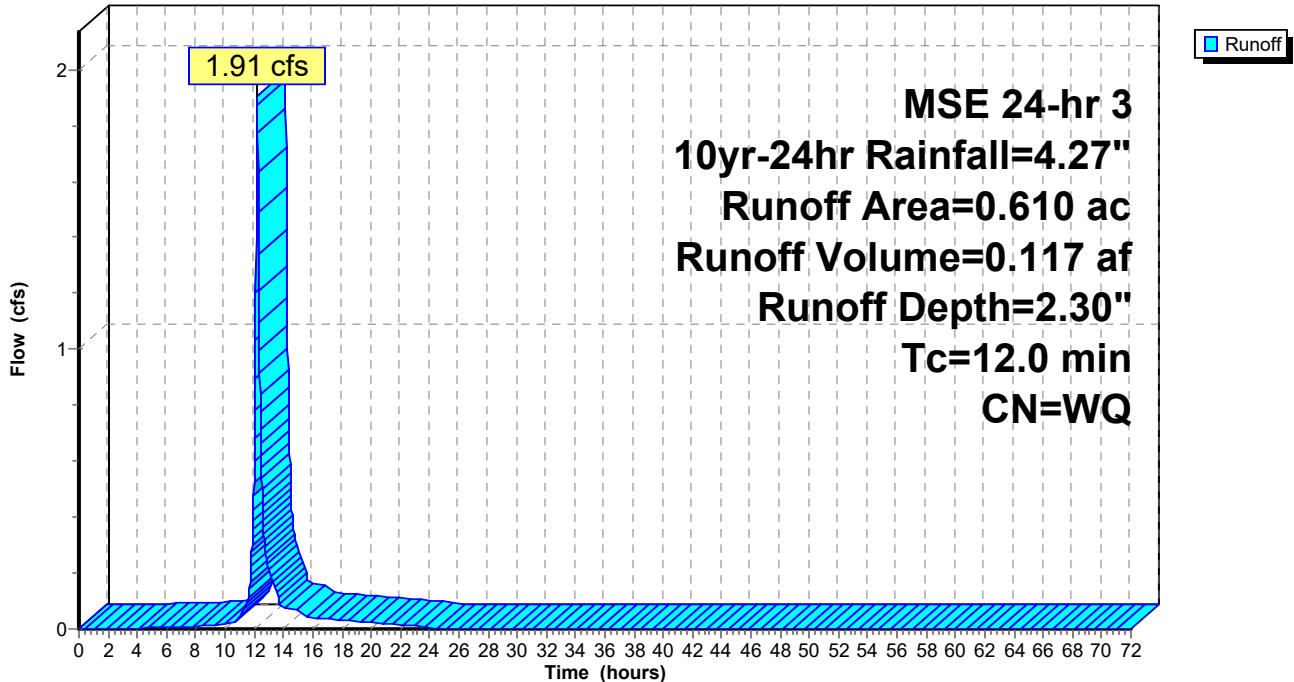
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.066	98	Impervious
0.252	74	>75% Grass cover, Good, HSG C
* 0.072	98	Impervious
0.220	74	>75% Grass cover, Good, HSG C
0.610		Weighted Average
0.472		77.38% Pervious Area
0.138		22.62% Impervious Area

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

Subcatchment I7: I7

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Summary for Subcatchment I7_100: I7_100

Runoff = 0.56 cfs @ 12.20 hrs, Volume= 0.033 af, Depth= 1.96"

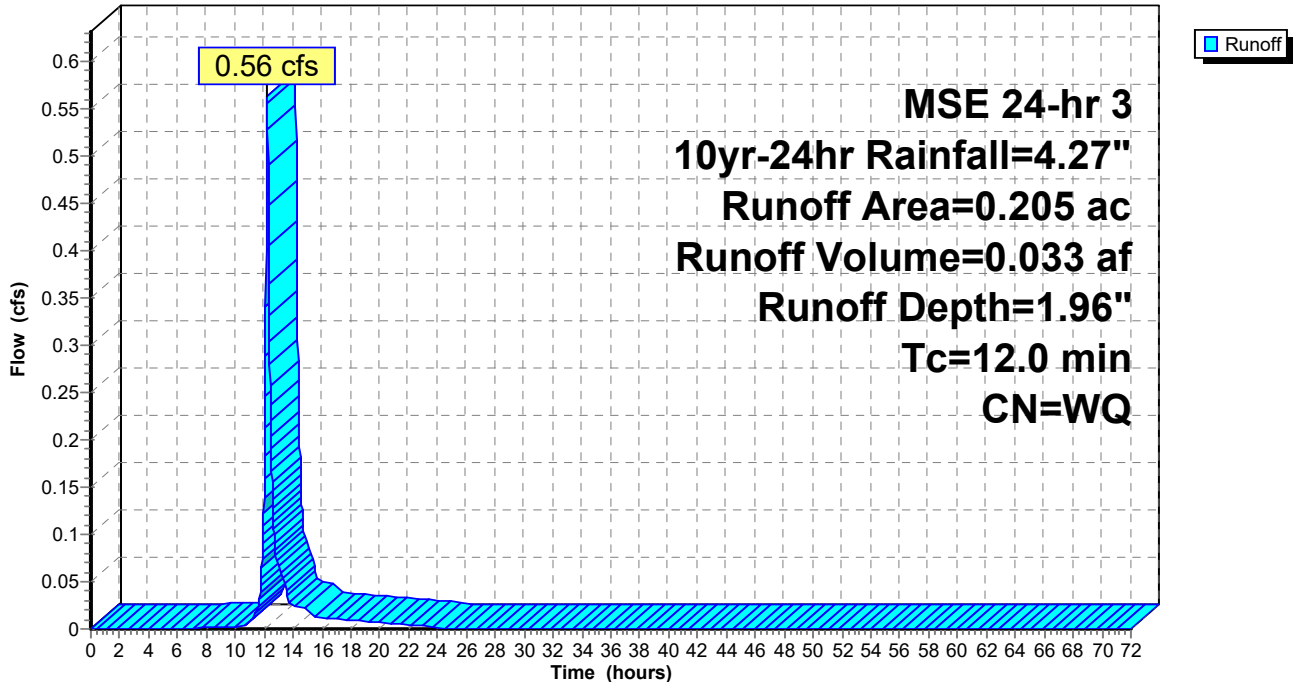
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.024	74	>75% Grass cover, Good, HSG C
* 0.008	98	Impervious
* 0.007	98	Impervious
0.166	74	>75% Grass cover, Good, HSG C
0.205		Weighted Average
0.190		92.68% Pervious Area
0.015		7.32% Impervious Area

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

Subcatchment I7_100: I7_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment I8: I8

Runoff = 3.20 cfs @ 12.20 hrs, Volume= 0.197 af, Depth= 2.36"

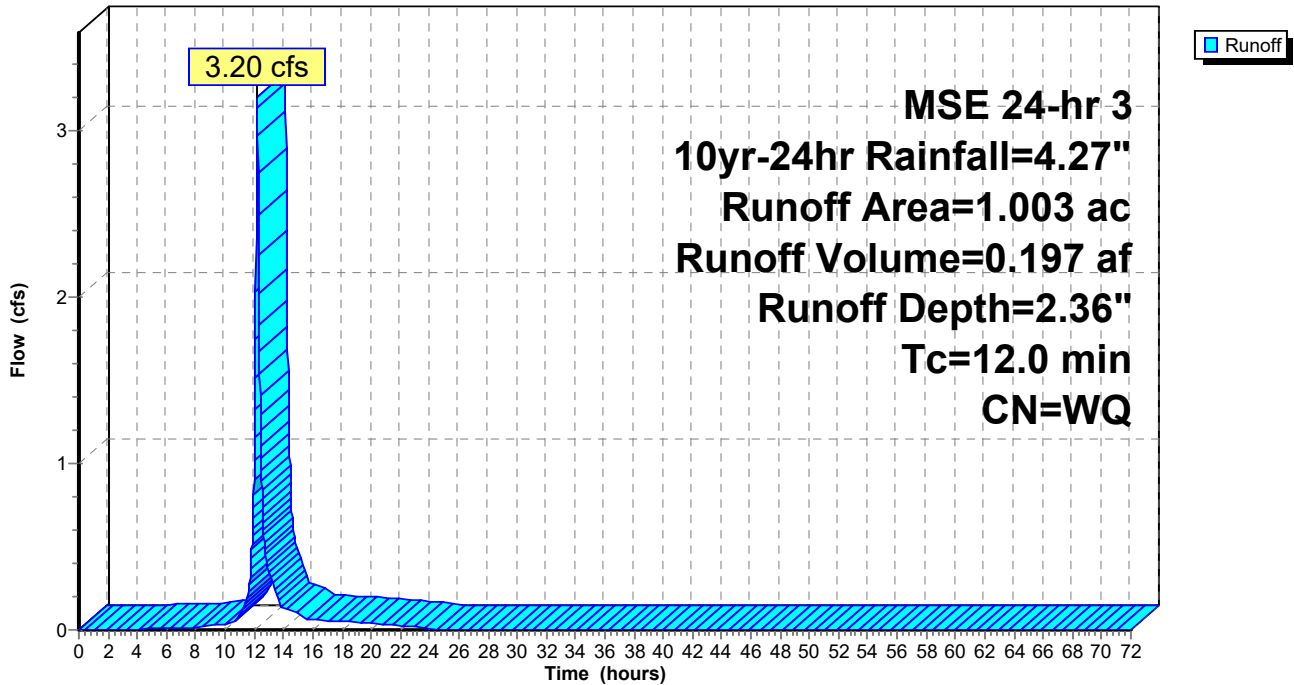
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.252	98	Impervious
0.751	74	>75% Grass cover, Good, HSG C
1.003		Weighted Average
0.751		74.88% Pervious Area
0.252		25.12% Impervious Area

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

Subcatchment I8: I8

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Summary for Subcatchment I8_100: I8_100

Runoff = 0.55 cfs @ 12.20 hrs, Volume= 0.034 af, Depth= 2.38"

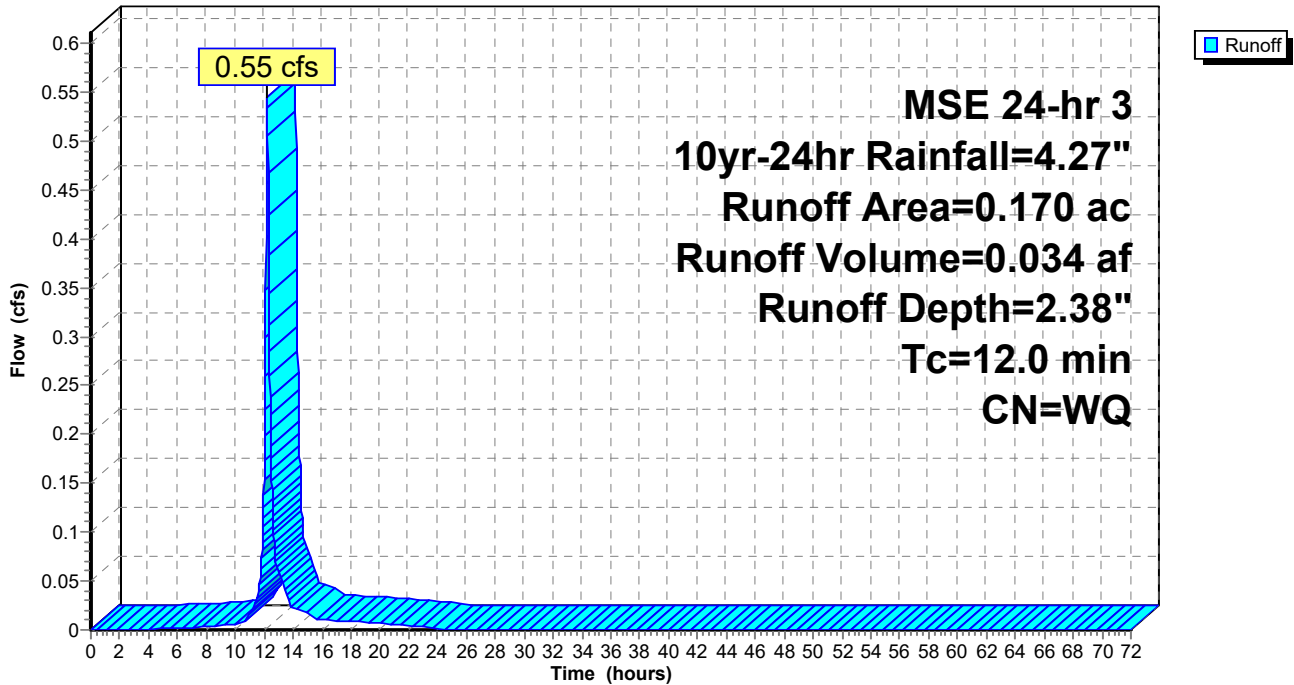
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.126	74	>75% Grass cover, Good, HSG C
* 0.044	98	Impervious
0.170		Weighted Average
0.126		74.12% Pervious Area
0.044		25.88% Impervious Area

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

Subcatchment I8_100: I8_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment I9: I9

Runoff = 0.83 cfs @ 12.20 hrs, Volume= 0.052 af, Depth= 2.42"

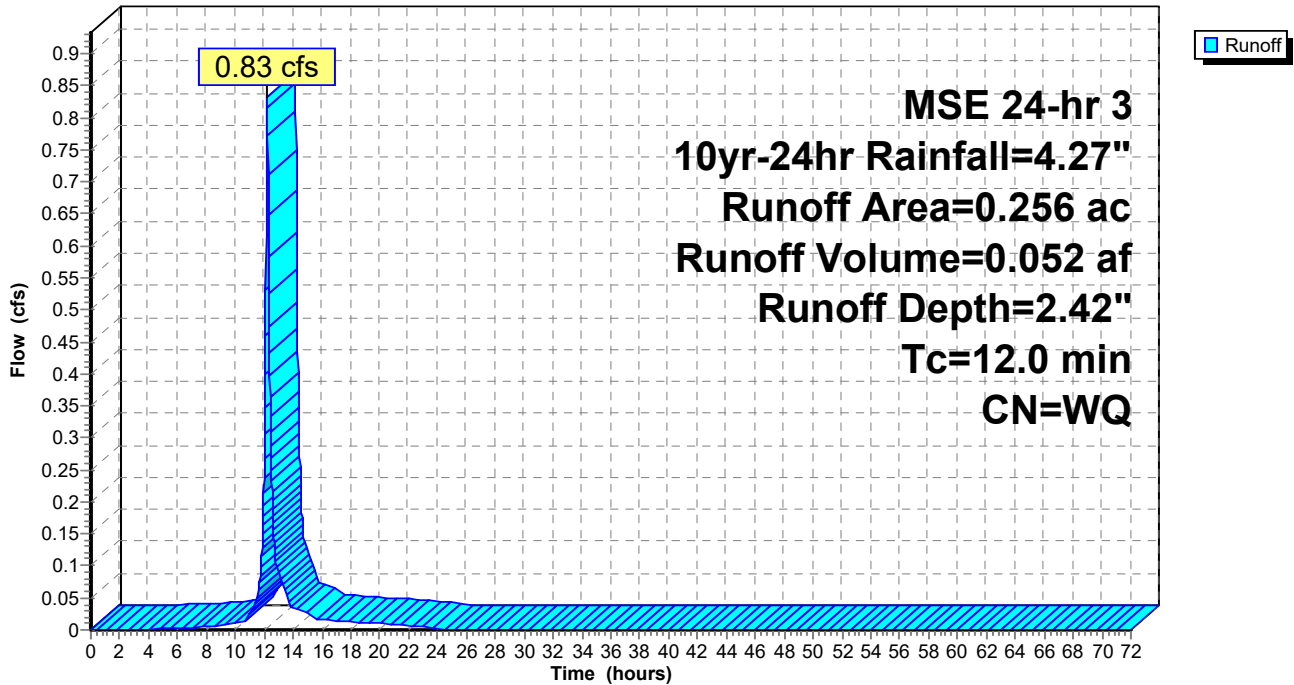
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.071	98	Impervious
0.185	74	>75% Grass cover, Good, HSG C
0.256		Weighted Average
0.185		72.27% Pervious Area
0.071		27.73% Impervious Area

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

Subcatchment I9: I9

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment J3: J3

Runoff = 4.60 cfs @ 12.20 hrs, Volume= 0.281 af, Depth= 2.25"

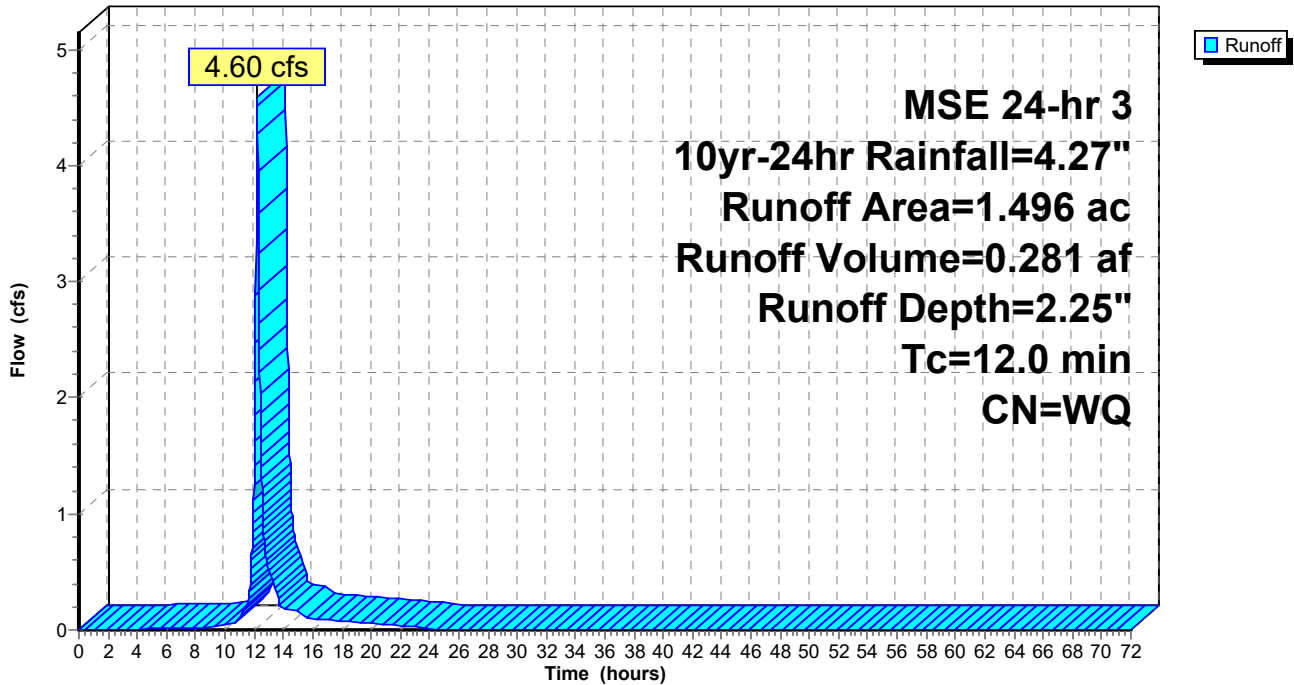
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.304	98	Impervious
1.192	74	>75% Grass cover, Good, HSG C
1.496		Weighted Average
1.192		79.68% Pervious Area
0.304		20.32% Impervious Area

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

Subcatchment J3: J3

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment J4: J4

Runoff = 0.80 cfs @ 12.20 hrs, Volume= 0.046 af, Depth= 1.80"

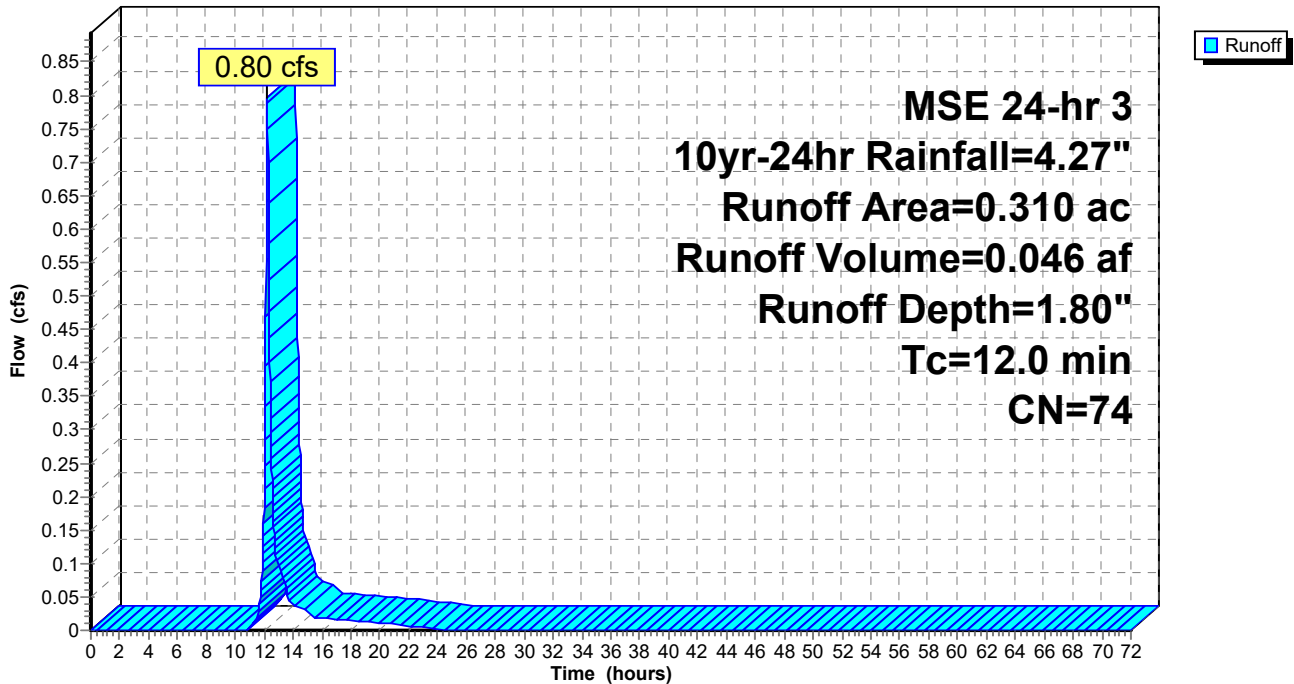
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.310	74	>75% Grass cover, Good, HSG C
0.310		100.00% Pervious Area

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

Subcatchment J4: J4

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment J5: J5

Runoff = 2.05 cfs @ 12.20 hrs, Volume= 0.125 af, Depth= 2.19"

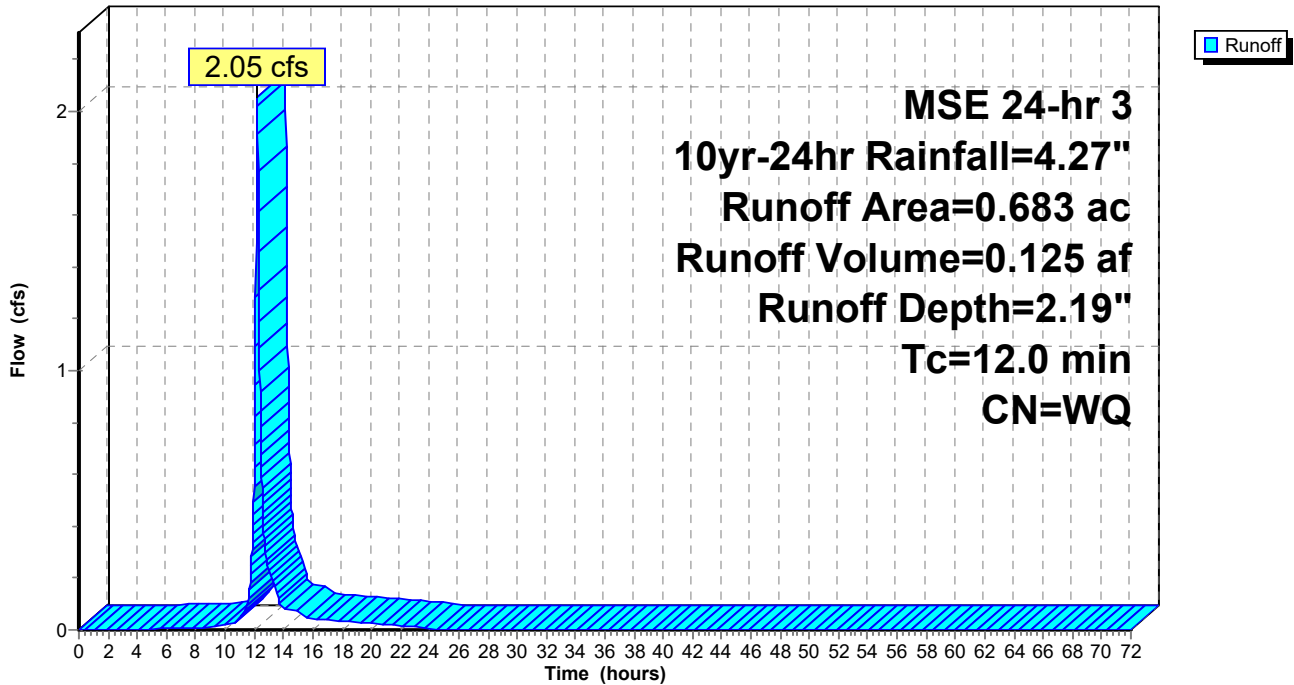
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.121	98	Impervious
0.562	74	>75% Grass cover, Good, HSG C
0.683		Weighted Average
0.562		82.28% Pervious Area
0.121		17.72% Impervious Area

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

Subcatchment J5: J5

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment L10: L10

Runoff = 3.48 cfs @ 12.20 hrs, Volume= 0.211 af, Depth= 2.19"

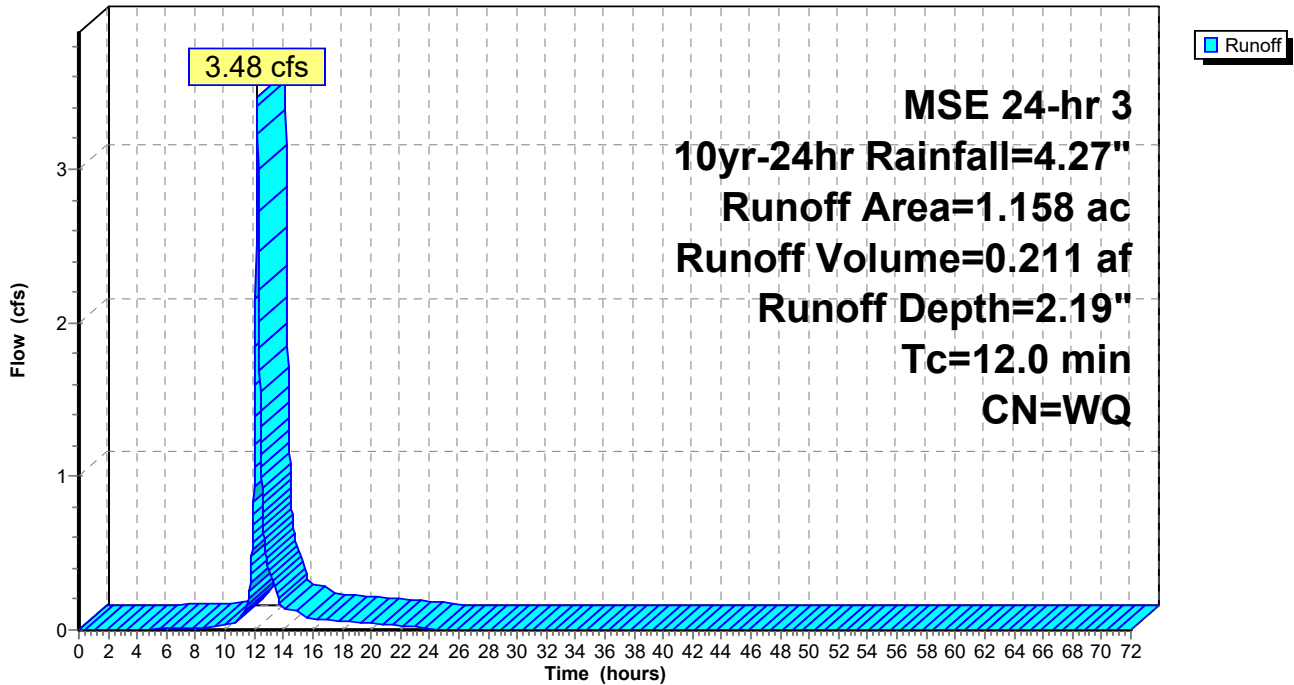
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.203	98	Impervious
0.955	74	>75% Grass cover, Good, HSG C
1.158		Weighted Average
0.955		82.47% Pervious Area
0.203		17.53% Impervious Area

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

Subcatchment L10: L10

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment L4: L4

Runoff = 0.51 cfs @ 12.20 hrs, Volume= 0.031 af, Depth= 2.24"

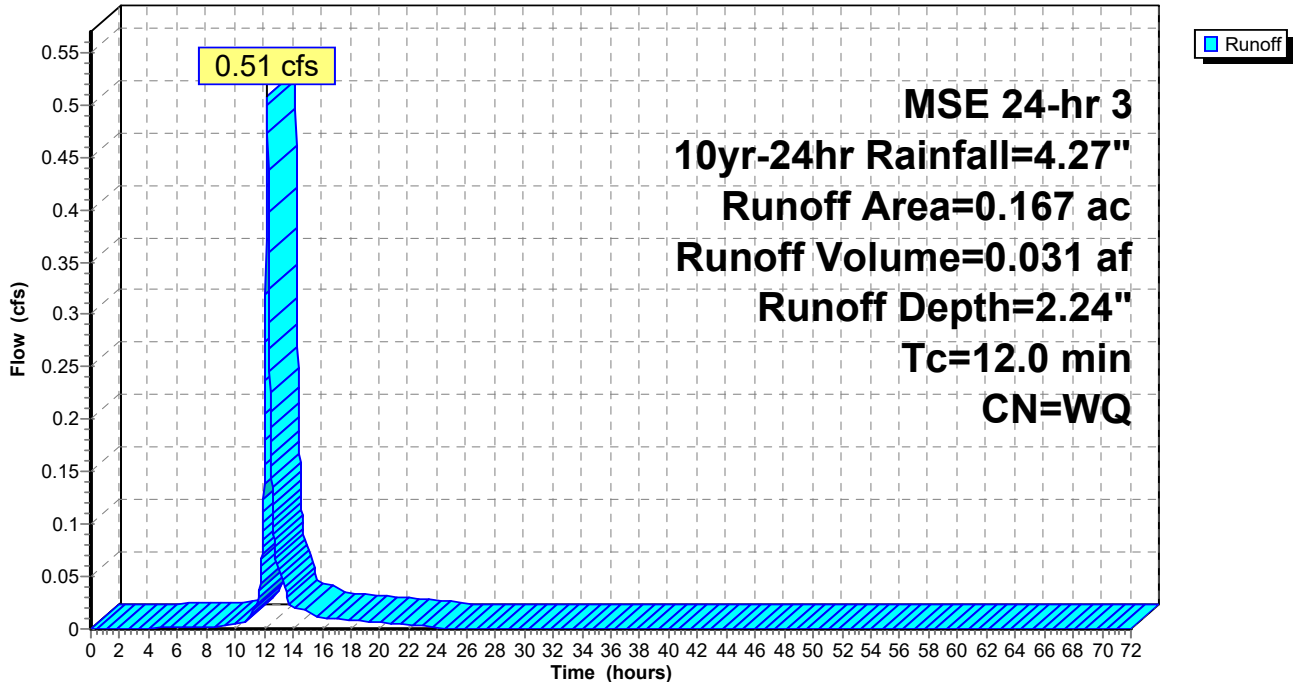
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.002	98	Impervious
0.005	61	>75% Grass cover, Good, HSG B
0.127	74	>75% Grass cover, Good, HSG C
* 0.033	98	Impervious
0.167		Weighted Average
0.132		79.04% Pervious Area
0.035		20.96% Impervious Area

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

Subcatchment L4: L4

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment L5: L5

Runoff = 2.38 cfs @ 12.20 hrs, Volume= 0.146 af, Depth= 2.29"

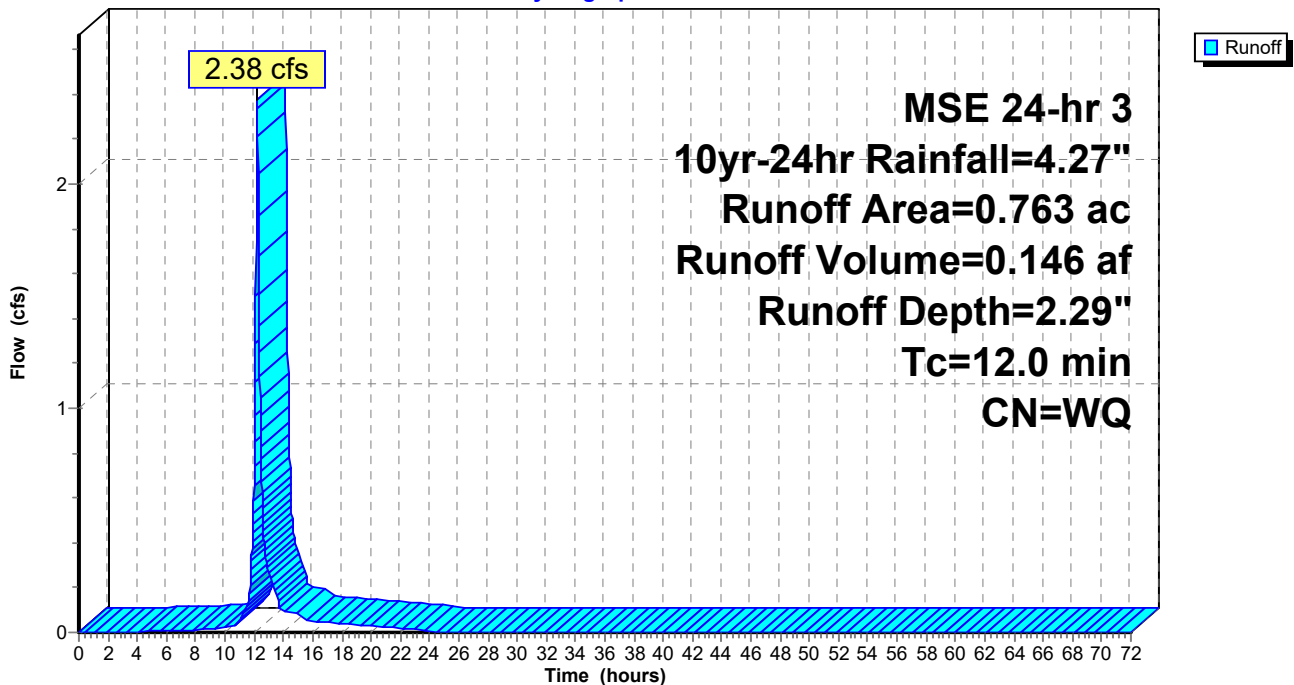
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.101	98	Impervious
0.595	74	>75% Grass cover, Good, HSG C
* 0.067	98	Impervious
0.763		Weighted Average
0.595		77.98% Pervious Area
0.168		22.02% Impervious Area

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

Subcatchment L5: L5

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment L6: L6

Runoff = 3.34 cfs @ 12.20 hrs, Volume= 0.204 af, Depth= 2.24"

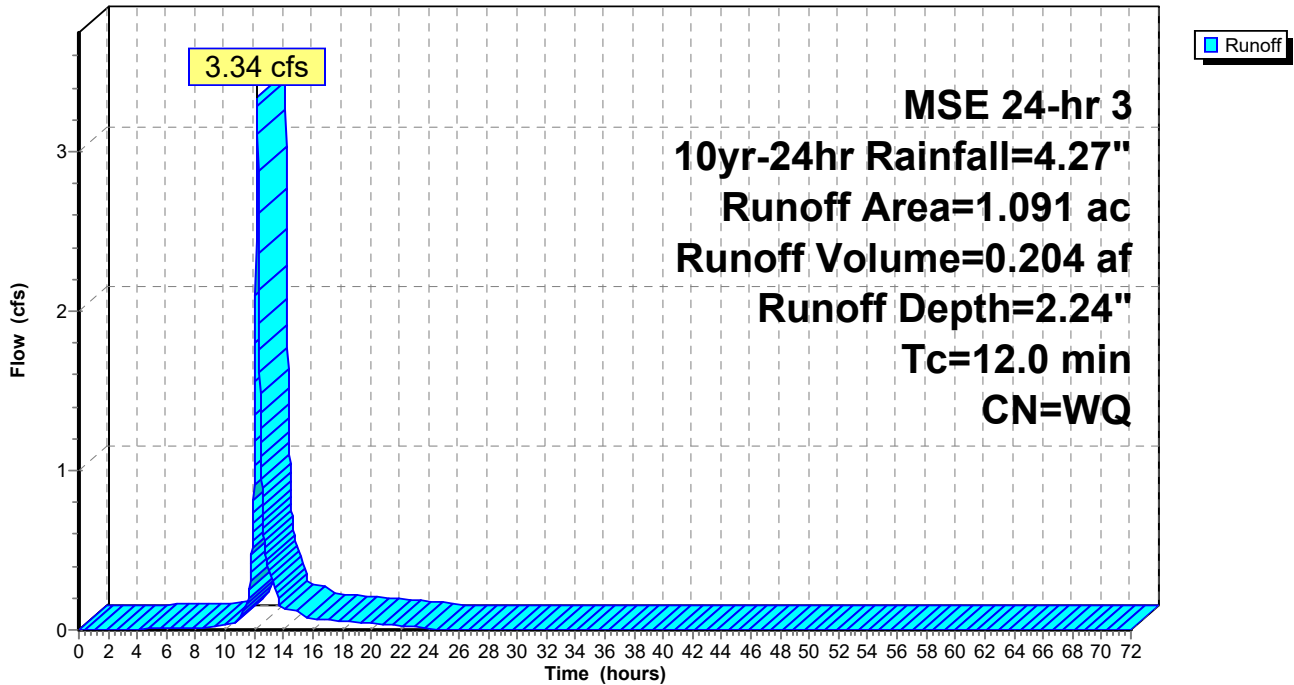
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.218	98	Impervious
0.873	74	>75% Grass cover, Good, HSG C
1.091		Weighted Average
0.873		80.02% Pervious Area
0.218		19.98% Impervious Area

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

Subcatchment L6: L6

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment L7: L7

Runoff = 2.35 cfs @ 12.20 hrs, Volume= 0.144 af, Depth= 2.27"

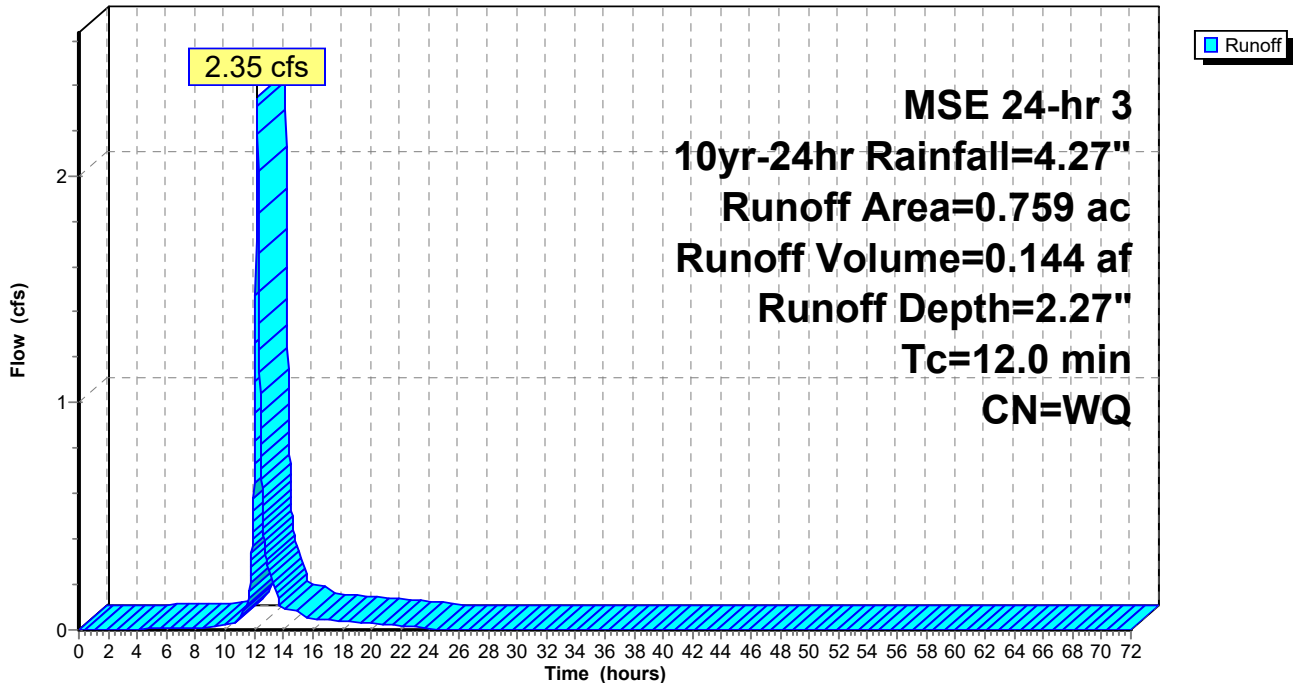
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.161	98	Impervious
0.598	74	>75% Grass cover, Good, HSG C
0.759		Weighted Average
0.598		78.79% Pervious Area
0.161		21.21% Impervious Area

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

Subcatchment L7: L7

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment L8: L8

Runoff = 4.27 cfs @ 12.20 hrs, Volume= 0.263 af, Depth= 2.19"

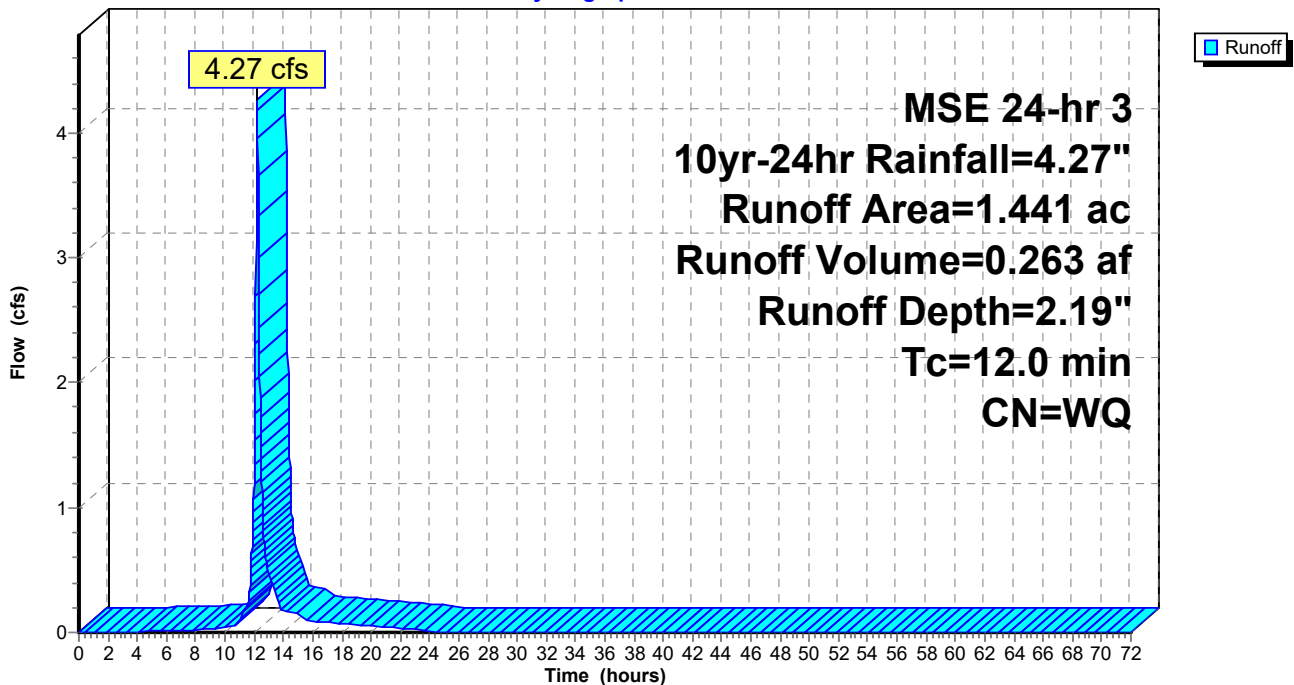
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.318	98	Impervious
0.086	39	>75% Grass cover, Good, HSG A
1.037	74	>75% Grass cover, Good, HSG C
1.441		Weighted Average
1.123		77.93% Pervious Area
0.318		22.07% Impervious Area

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

Subcatchment L8: L8

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment L9: L9

Runoff = 2.99 cfs @ 12.20 hrs, Volume= 0.183 af, Depth= 2.26"

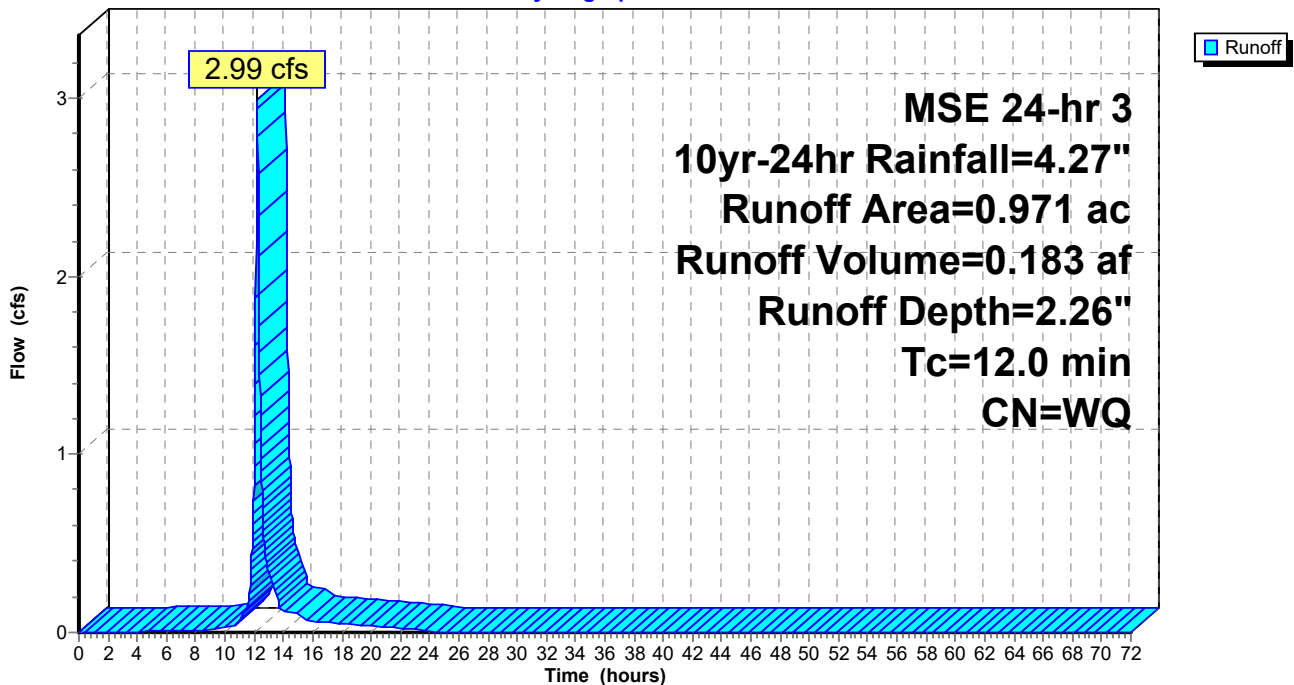
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.205	98	Impervious
0.003	39	>75% Grass cover, Good, HSG A
0.763	74	>75% Grass cover, Good, HSG C
<hr/>		
0.971		Weighted Average
0.766		78.89% Pervious Area
0.205		21.11% Impervious Area

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

Subcatchment L9: L9

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment O10: O10

Runoff = 1.80 cfs @ 12.20 hrs, Volume= 0.109 af, Depth= 2.14"

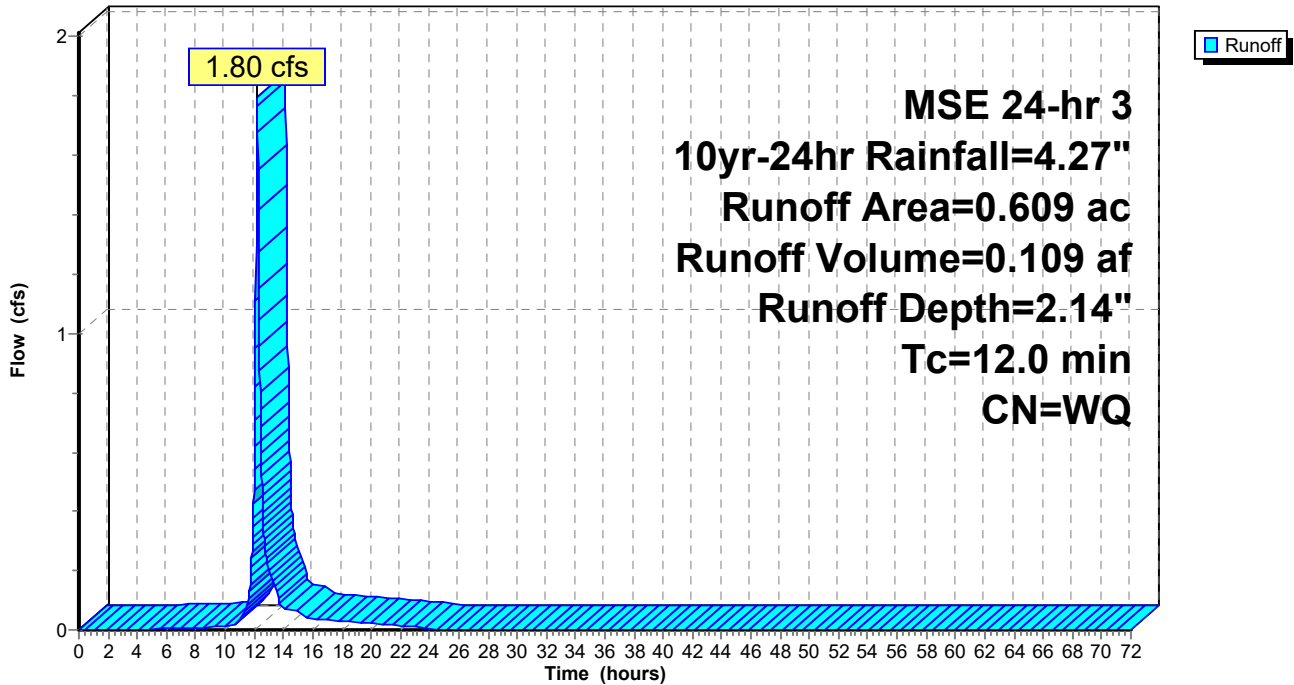
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.094	98	Impervious
0.515	74	>75% Grass cover, Good, HSG C
0.609		Weighted Average
0.515		84.56% Pervious Area
0.094		15.44% Impervious Area

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

Subcatchment O10: O10

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment O8: O8

Runoff = 1.41 cfs @ 12.20 hrs, Volume= 0.085 af, Depth= 2.07"

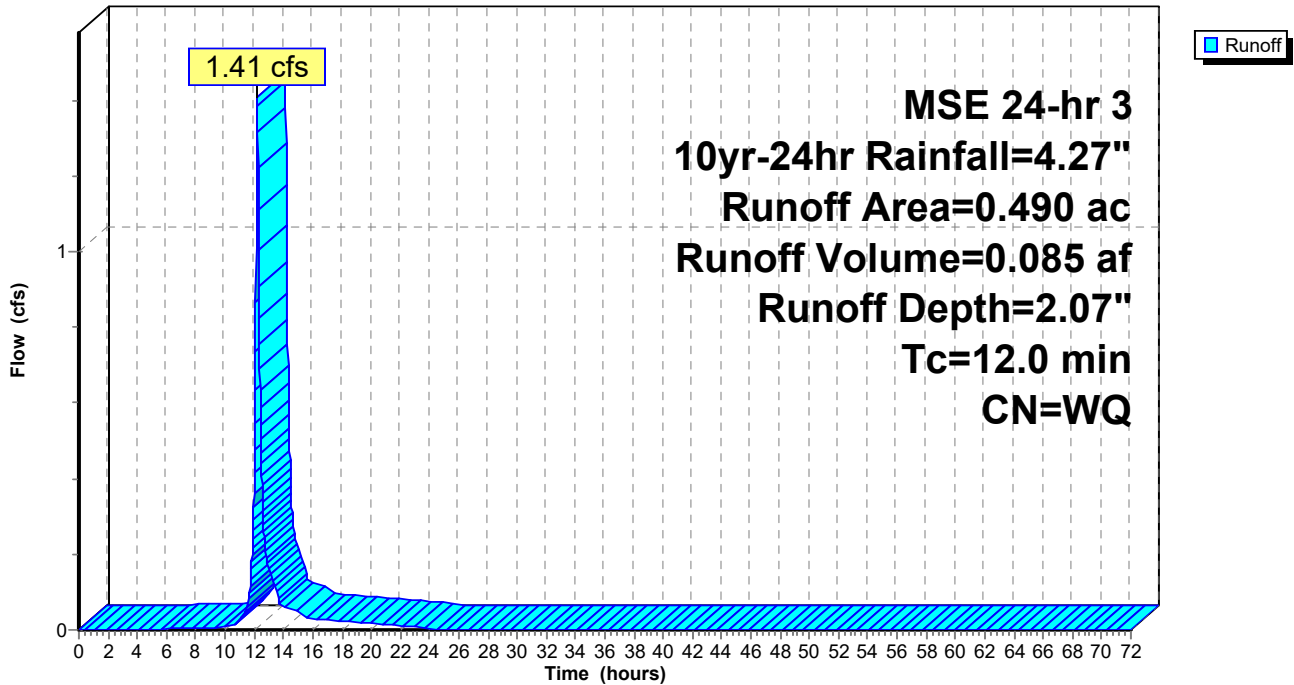
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.060	98	Impervious
0.430	74	>75% Grass cover, Good, HSG C
0.490		Weighted Average
0.430		87.76% Pervious Area
0.060		12.24% Impervious Area

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

Subcatchment O8: O8

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment O9: O9

Runoff = 3.50 cfs @ 12.20 hrs, Volume= 0.214 af, Depth= 2.24"

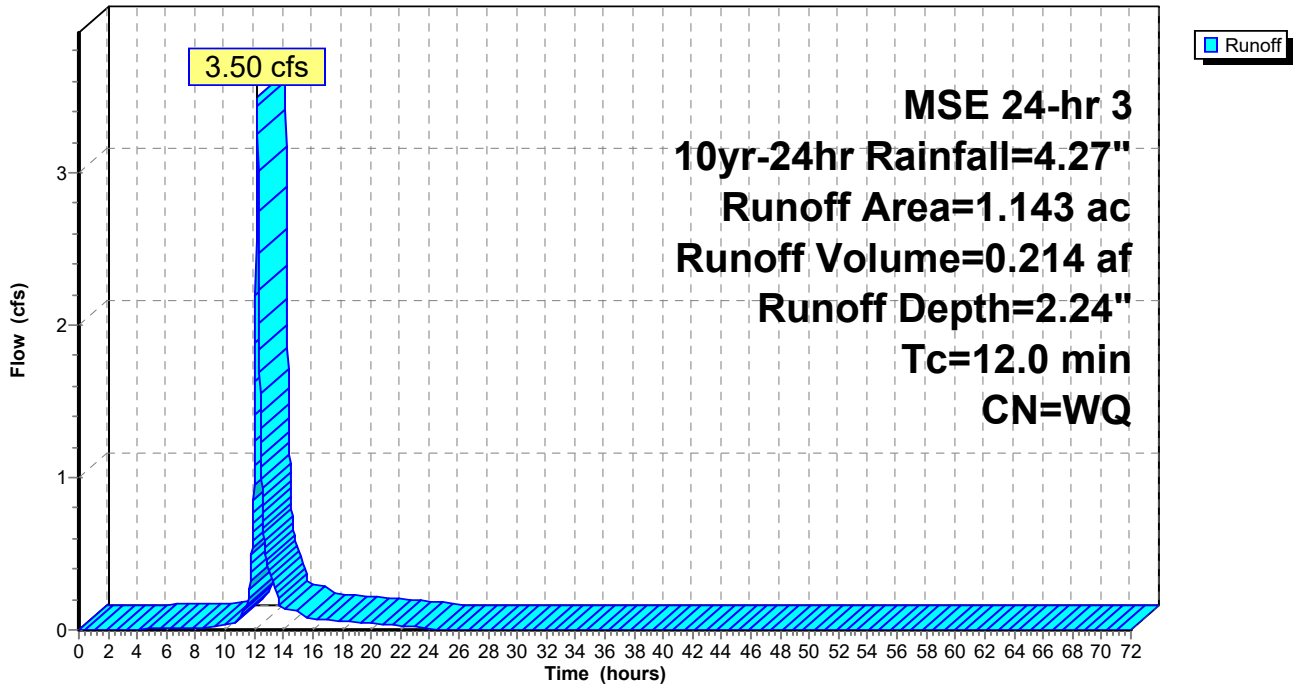
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.227	98	Impervious
0.916	74	>75% Grass cover, Good, HSG C
1.143		Weighted Average
0.916		80.14% Pervious Area
0.227		19.86% Impervious Area

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

Subcatchment O9: O9

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment W6: W6

Runoff = 18.37 cfs @ 12.39 hrs, Volume= 1.665 af, Depth= 2.00"

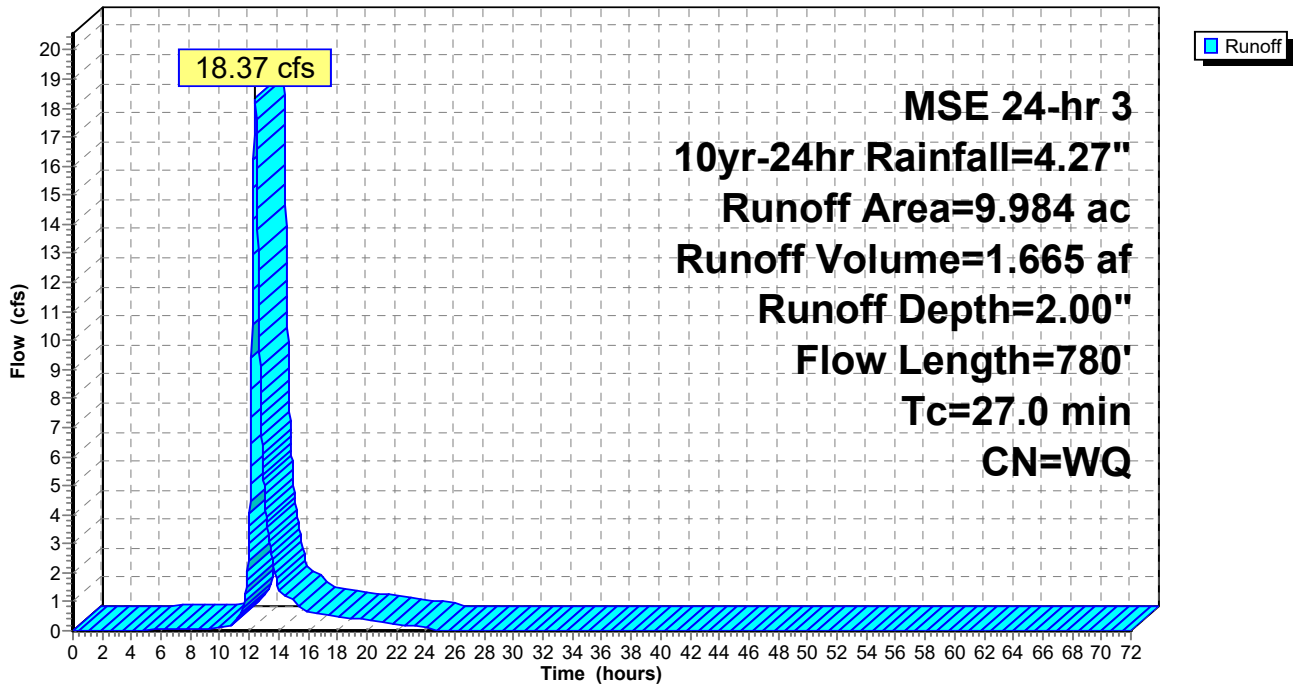
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
* 0.983	98	Impervious
6.862	74	>75% Grass cover, Good, HSG C
2.139	73	Woods, Fair, HSG C
9.984		Weighted Average
9.001		90.15% Pervious Area
0.983		9.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.4	300	0.0330	0.25		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
6.6	480	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
27.0	780	Total			

Subcatchment W6: W6

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment W6_100: W6_100

Runoff = 0.27 cfs @ 12.61 hrs, Volume= 0.032 af, Depth= 1.76"

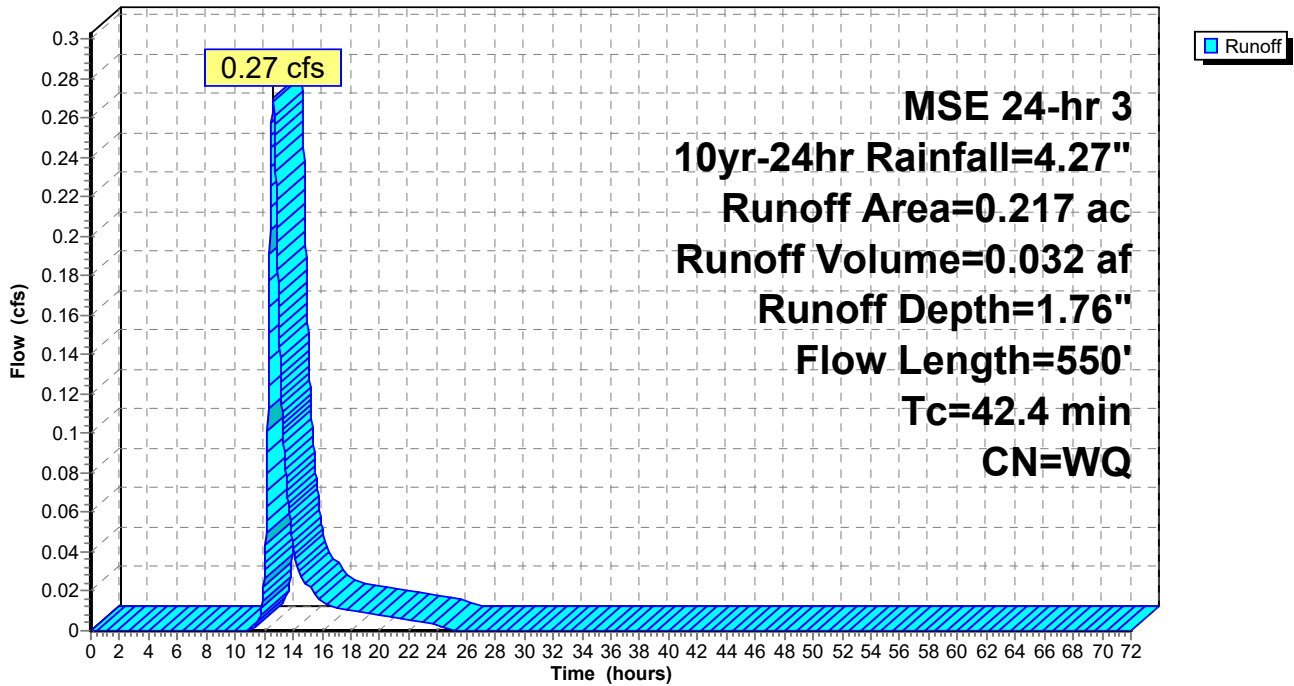
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.094	74	>75% Grass cover, Good, HSG C
0.123	73	Woods, Fair, HSG C
0.217		Weighted Average
0.217		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.8	300	0.0470	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.87"
3.6	250	0.0280	1.17		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
42.4	550	Total			

Subcatchment W6_100: W6_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment W6_101: W6_101

Runoff = 4.95 cfs @ 12.29 hrs, Volume= 0.374 af, Depth= 2.08"

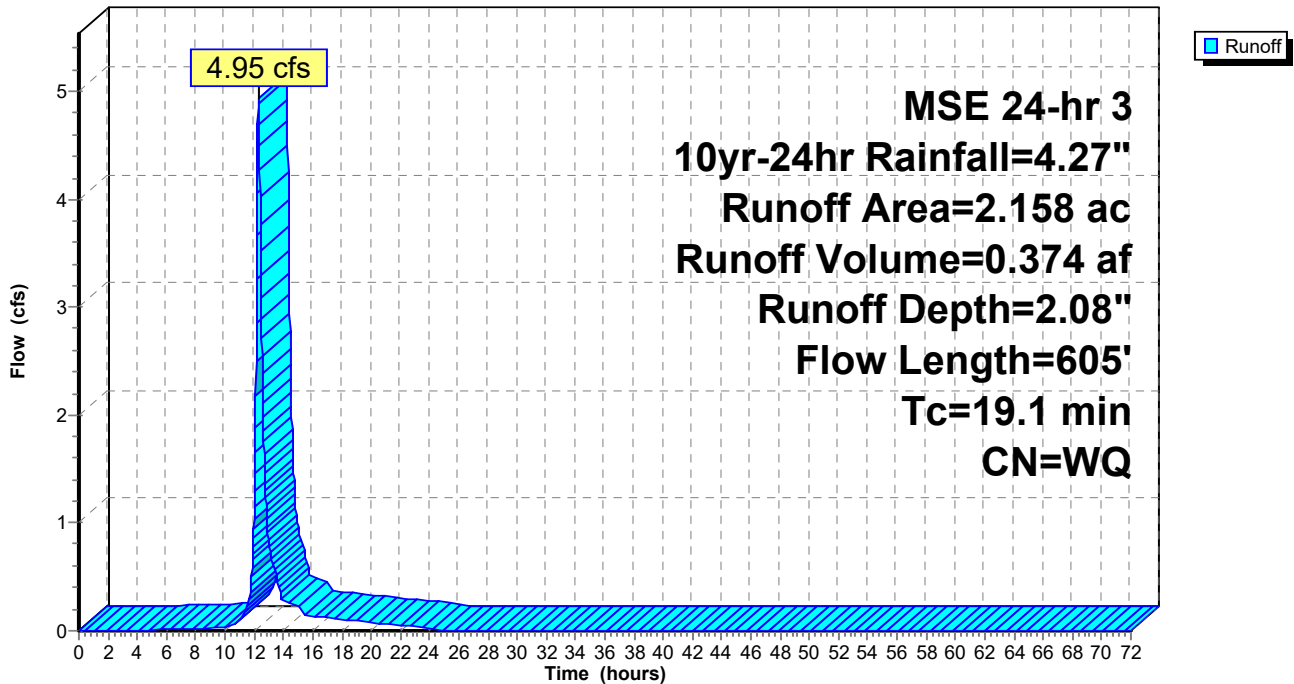
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
1.405	74	>75% Grass cover, Good, HSG C
* 0.290	98	Impervious
0.463	73	Woods, Fair, HSG C
<hr/>		
2.158		Weighted Average
1.868		86.56% Pervious Area
0.290		13.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	295	0.0680	0.33		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
4.0	310	0.0340	1.29		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
<hr/>					
19.1	605	Total			

Subcatchment W6_101: W6_101

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment W6_102: W6_102

Runoff = 0.59 cfs @ 12.25 hrs, Volume= 0.039 af, Depth= 1.80"

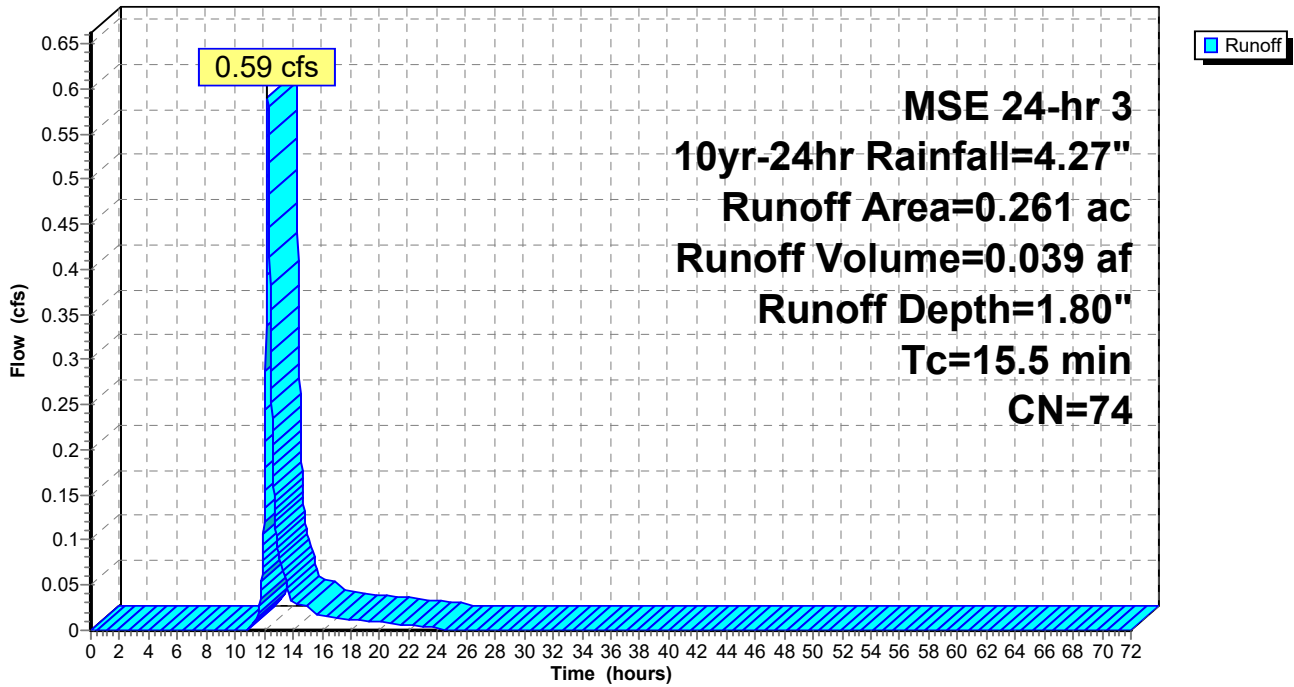
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.261	74	>75% Grass cover, Good, HSG C
0.261		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5					Direct Entry, From Existing Conditions (EX_5)

Subcatchment W6_102: W6_102

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment W9: W9

Runoff = 5.11 cfs @ 12.20 hrs, Volume= 0.307 af, Depth= 2.06"

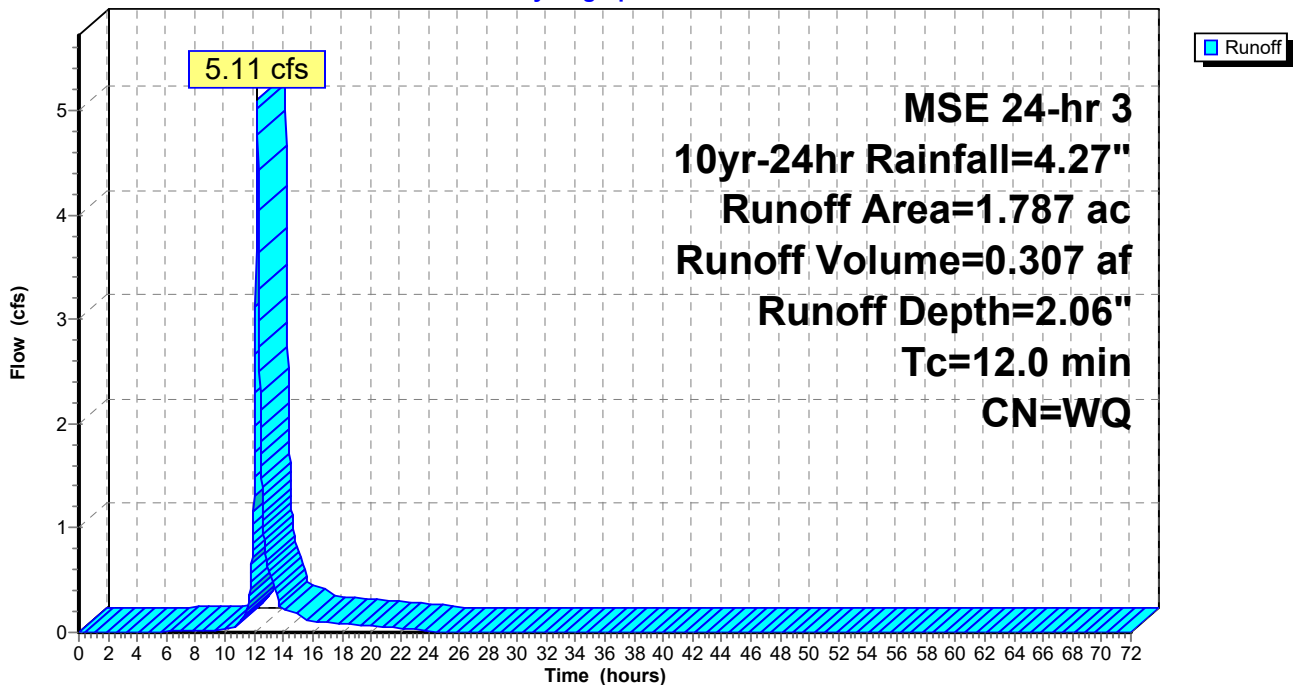
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
1.416	74	>75% Grass cover, Good, HSG C
* 0.217	98	Pond
0.154	73	Woods, Fair, HSG C
1.787		Weighted Average
1.570		87.86% Pervious Area
0.217		12.14% Impervious Area

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

Subcatchment W9: W9

Hydrograph



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Summary for Subcatchment W9_100: W9_100

Runoff = 4.51 cfs @ 12.49 hrs, Volume= 0.478 af, Depth= 2.30"

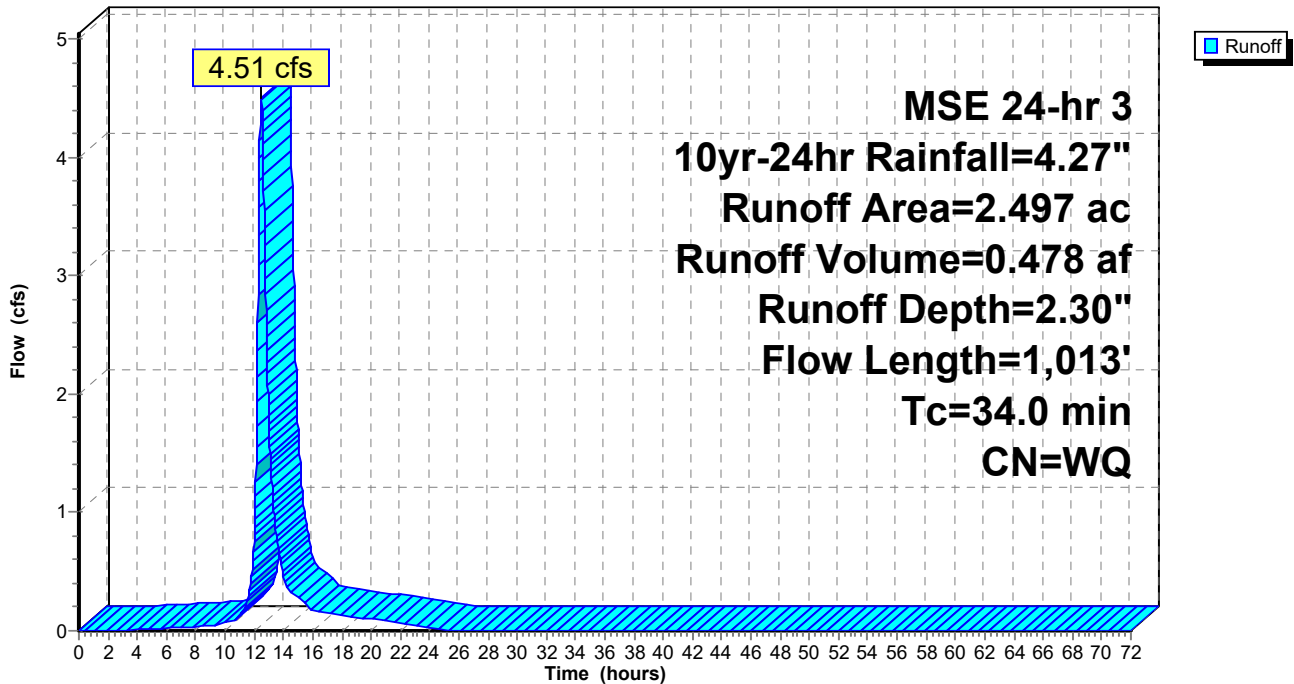
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
1.912	74	>75% Grass cover, Good, HSG C
* 0.557	98	Impervious
0.028	73	Woods, Fair, HSG C
<hr/>		
2.497		Weighted Average
1.940		77.69% Pervious Area
0.557		22.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	223	0.0450	0.26		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
19.8	790	0.0090	0.66		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
<hr/>					
34.0	1,013	Total			

Subcatchment W9_100: W9_100

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Subcatchment W9_101: W9_101

Runoff = 1.77 cfs @ 12.25 hrs, Volume= 0.130 af, Depth= 2.90"

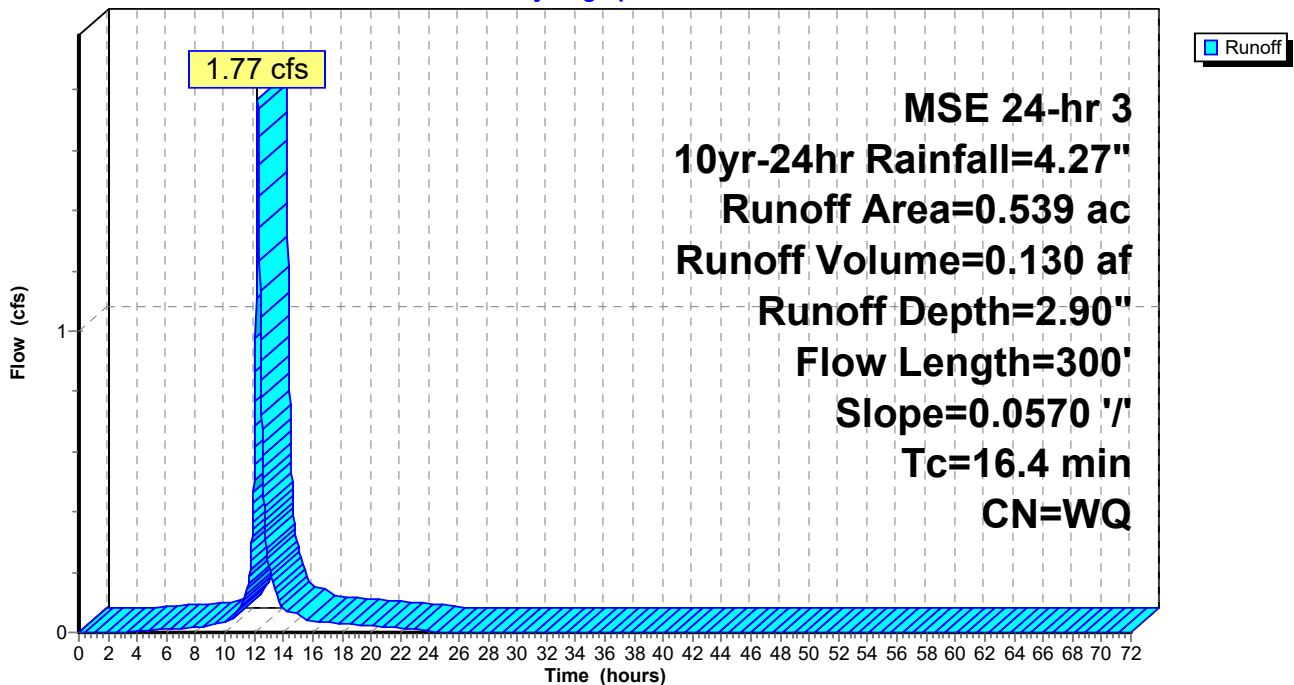
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

Area (ac)	CN	Description
0.274	74	>75% Grass cover, Good, HSG C
* 0.265	98	Impervious
0.539		Weighted Average
0.274		50.83% Pervious Area
0.265		49.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	300	0.0570	0.31		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment W9_101: W9_101

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Reach 1R: Bassett Creek Watershed

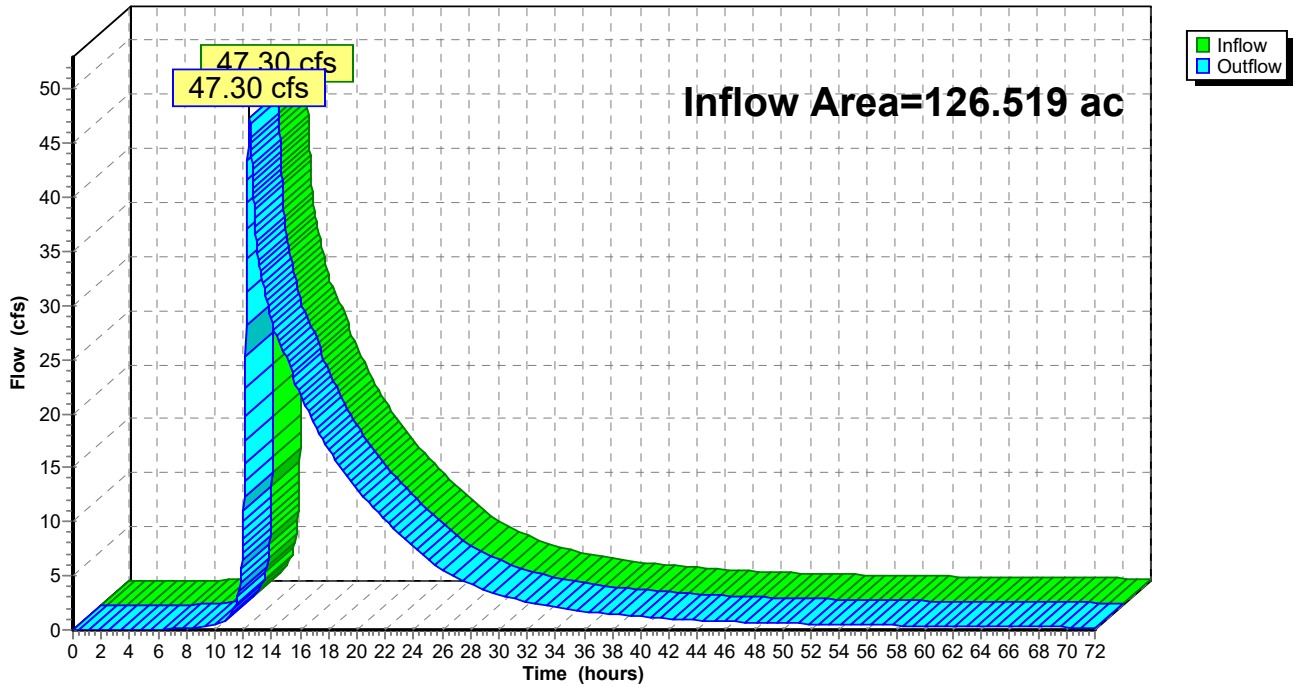
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 126.519 ac, 32.48% Impervious, Inflow Depth > 2.35" for 10yr-24hr event
Inflow = 47.30 cfs @ 12.44 hrs, Volume= 24.738 af
Outflow = 47.30 cfs @ 12.44 hrs, Volume= 24.738 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 1R: Bassett Creek Watershed

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Reach 5R: Elm Creek Watershed

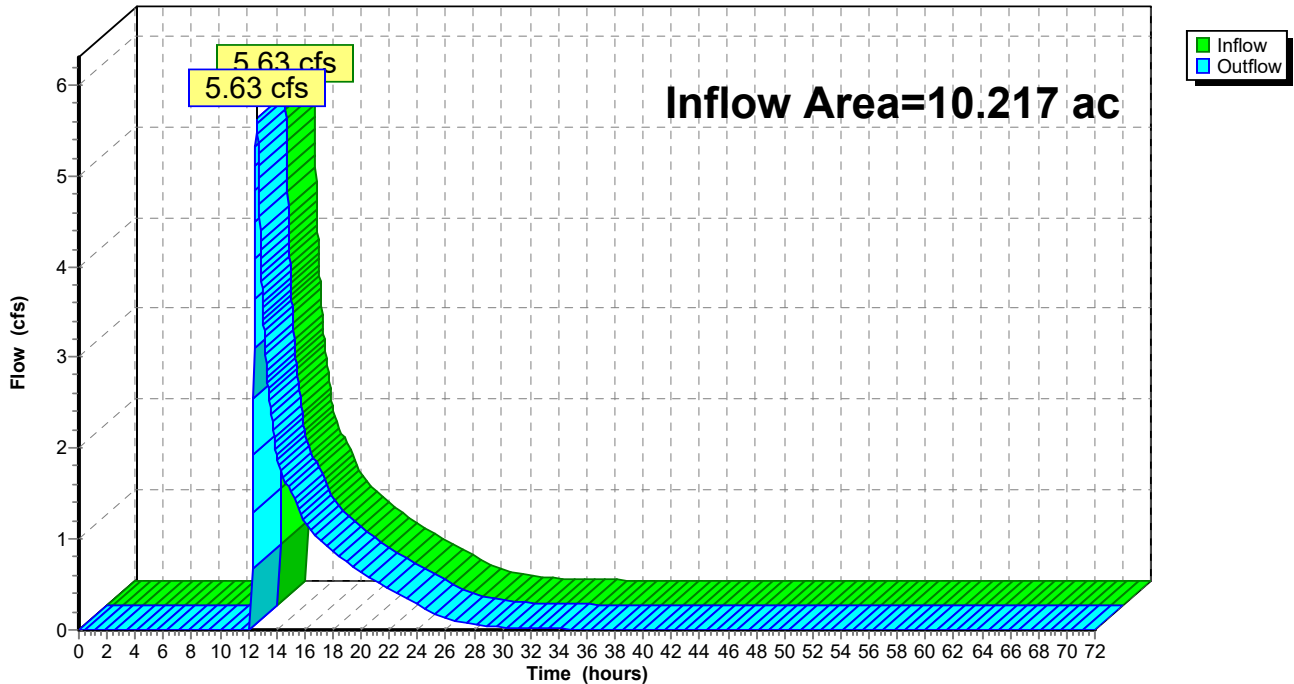
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 10.217 ac, 25.83% Impervious, Inflow Depth = 1.43" for 10yr-24hr event
Inflow = 5.63 cfs @ 12.62 hrs, Volume= 1.217 af
Outflow = 5.63 cfs @ 12.62 hrs, Volume= 1.217 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 5R: Elm Creek Watershed

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Reach 8R: Offsite

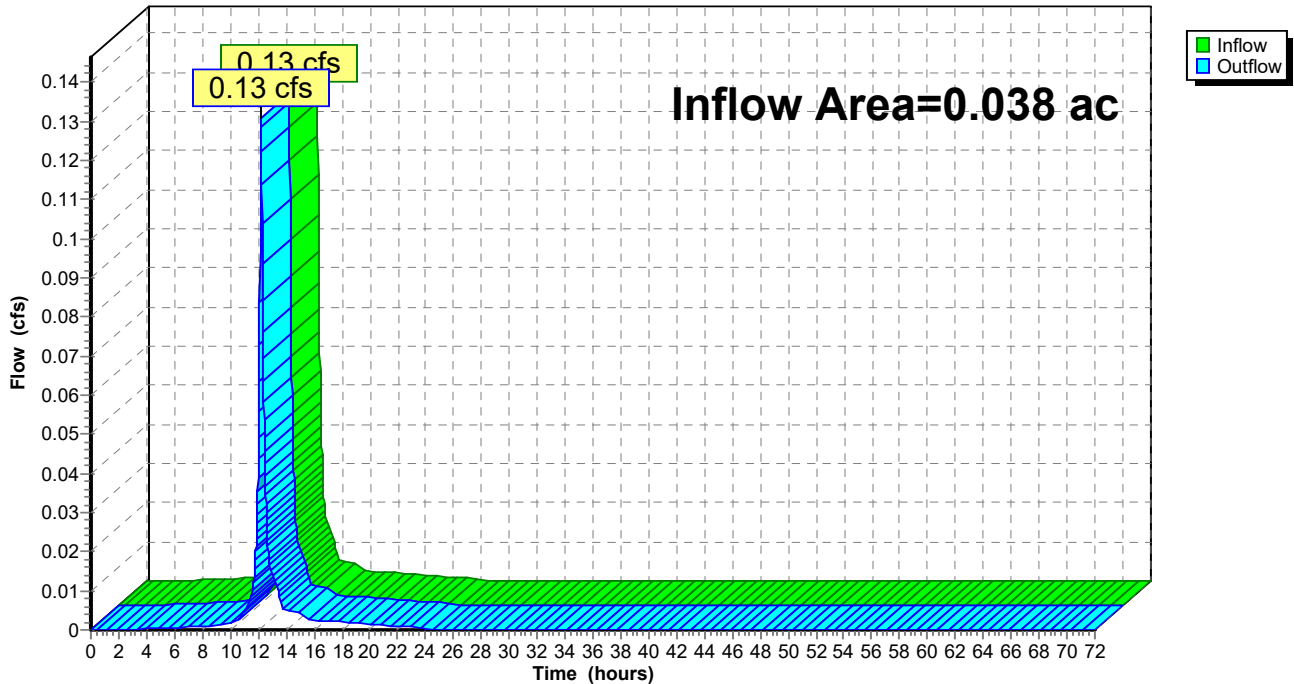
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.038 ac, 36.84% Impervious, Inflow Depth = 2.62" for 10yr-24hr event
Inflow = 0.13 cfs @ 12.20 hrs, Volume= 0.008 af
Outflow = 0.13 cfs @ 12.20 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 8R: Offsite

Hydrograph



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Summary for Reach Wetland: Wetland 6

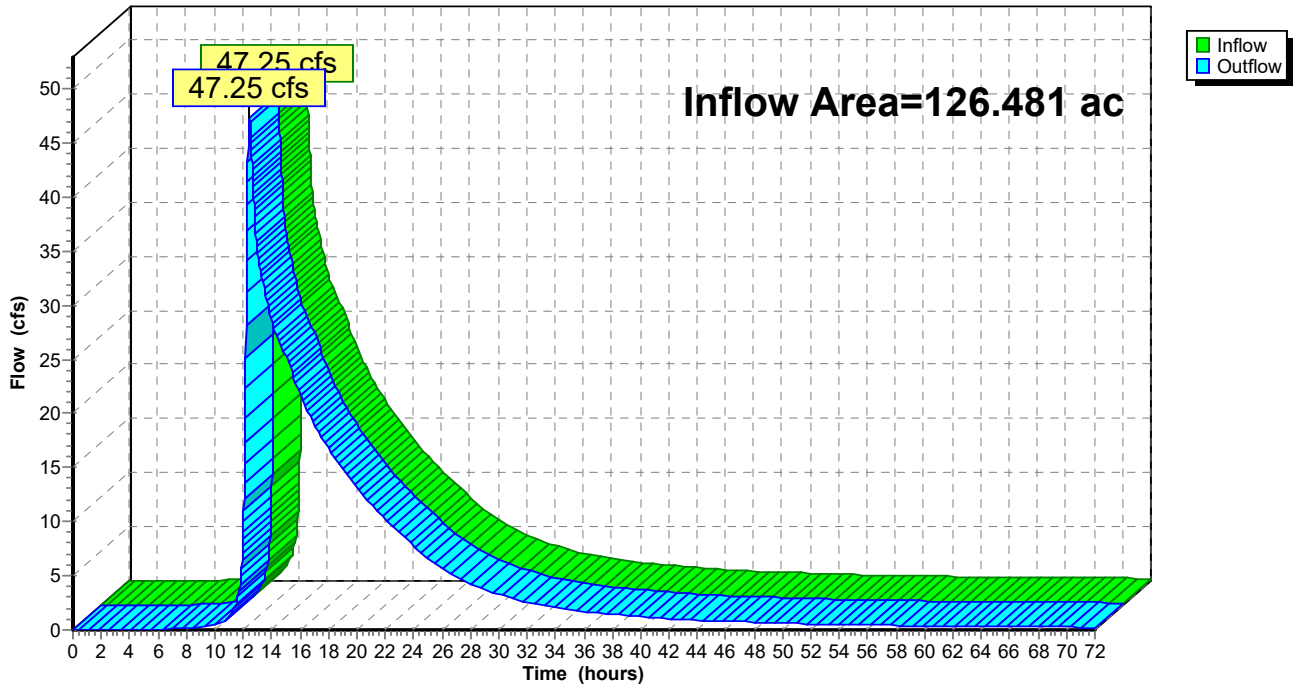
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 126.481 ac, 32.48% Impervious, Inflow Depth > 2.35" for 10yr-24hr event
Inflow = 47.25 cfs @ 12.44 hrs, Volume= 24.730 af
Outflow = 47.25 cfs @ 12.44 hrs, Volume= 24.730 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach Wetland: Wetland 6

Hydrograph



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Summary for Pond 4P: CB_22 pipe

[57] Hint: Peaked at 970.24' (Flood elevation advised)

Inflow Area = 0.256 ac, 27.73% Impervious, Inflow Depth = 2.42" for 10yr-24hr event
 Inflow = 0.83 cfs @ 12.20 hrs, Volume= 0.052 af
 Outflow = 0.83 cfs @ 12.20 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.83 cfs @ 12.20 hrs, Volume= 0.052 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 970.24' @ 12.43 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	969.20'	24.0" Round Structure I2 to I1 L= 40.7' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.20' / 969.00' S= 0.0049 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	969.50'	21.0" Round Structure I9 to I2 L= 87.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.50' / 969.20' S= 0.0034 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf

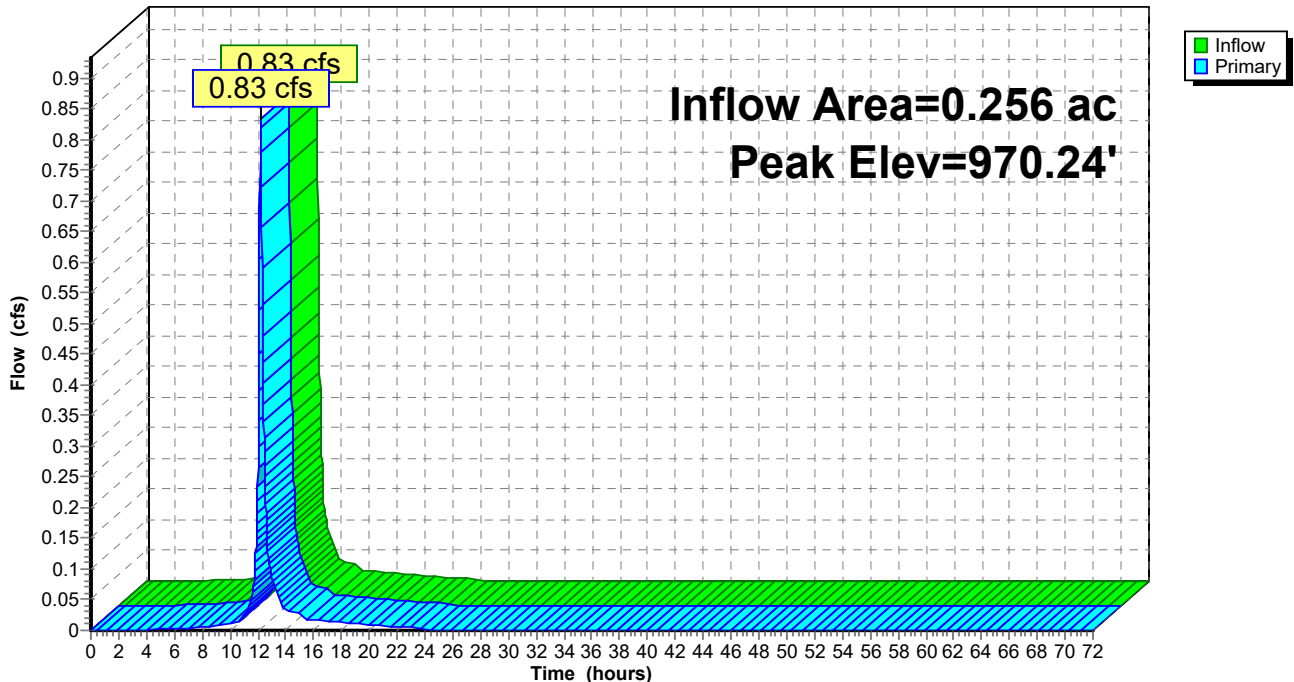
Primary OutFlow Max=0.69 cfs @ 12.20 hrs HW=970.07' TW=969.94' (Dynamic Tailwater)

1=Structure I2 to I1 (Passes 0.69 cfs of 1.90 cfs potential flow)

2=Structure I9 to I2 (Outlet Controls 0.69 cfs @ 1.51 fps)

Pond 4P: CB_22 pipe

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_A10: CB_A8

Inflow Area = 0.864 ac, 35.88% Impervious, Inflow Depth = 2.60" for 10yr-24hr event
 Inflow = 2.99 cfs @ 12.20 hrs, Volume= 0.187 af
 Outflow = 2.98 cfs @ 12.20 hrs, Volume= 0.187 af, Atten= 0%, Lag= 0.2 min
 Primary = 2.98 cfs @ 12.20 hrs, Volume= 0.187 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 996.26' @ 12.20 hrs Surf.Area= 261 sf Storage= 40 cf

Plug-Flow detention time= 0.3 min calculated for 0.187 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (783.7 - 783.5)

Volume	Invert	Avail.Storage	Storage Description
#1	996.00'	29,250 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
996.00	50	0	0
998.00	1,700	1,750	1,750
1,000.00	8,600	10,300	12,050
1,002.00	8,600	17,200	29,250

Device	Routing	Invert	Outlet Devices
#1	Primary	996.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.98 cfs @ 12.20 hrs HW=996.26' TW=978.90' (Dynamic Tailwater)
 ↑**1=Grate** (Weir Controls 2.98 cfs @ 1.65 fps)

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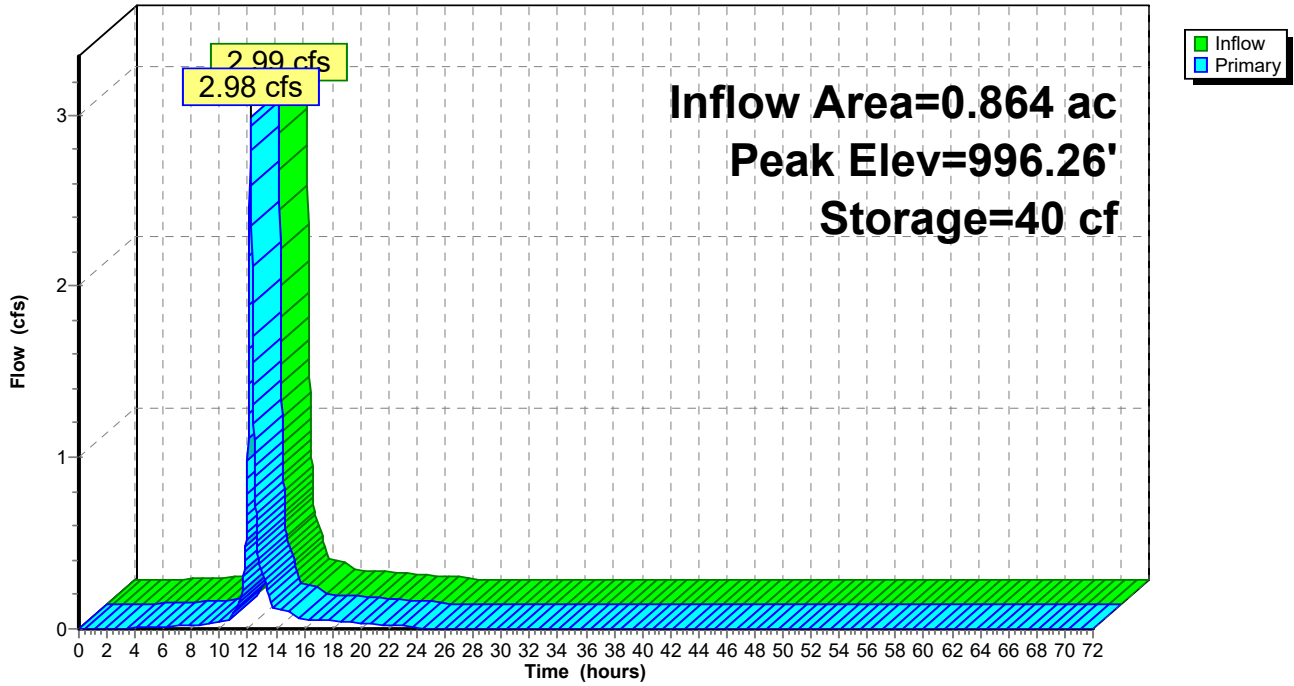
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_A10: CB_A8

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_A15: CB_A7

Inflow Area = 0.696 ac, 28.02% Impervious, Inflow Depth = 2.42" for 10yr-24hr event
 Inflow = 2.27 cfs @ 12.20 hrs, Volume= 0.141 af
 Outflow = 2.25 cfs @ 12.21 hrs, Volume= 0.141 af, Atten= 1%, Lag= 0.8 min
 Primary = 2.25 cfs @ 12.21 hrs, Volume= 0.141 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 998.21' @ 12.21 hrs Surf.Area= 810 sf Storage= 91 cf

Plug-Flow detention time= 0.5 min calculated for 0.141 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (790.2 - 789.7)

Volume	Invert	Avail.Storage	Storage Description
#1	998.00'	29,010 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
998.00	50	0	0
1,000.00	7,240	7,290	7,290
1,003.00	7,240	21,720	29,010

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,000.00'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.24 cfs @ 12.21 hrs HW=998.21' TW=978.93' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 2.24 cfs @ 1.50 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=998.00' TW=996.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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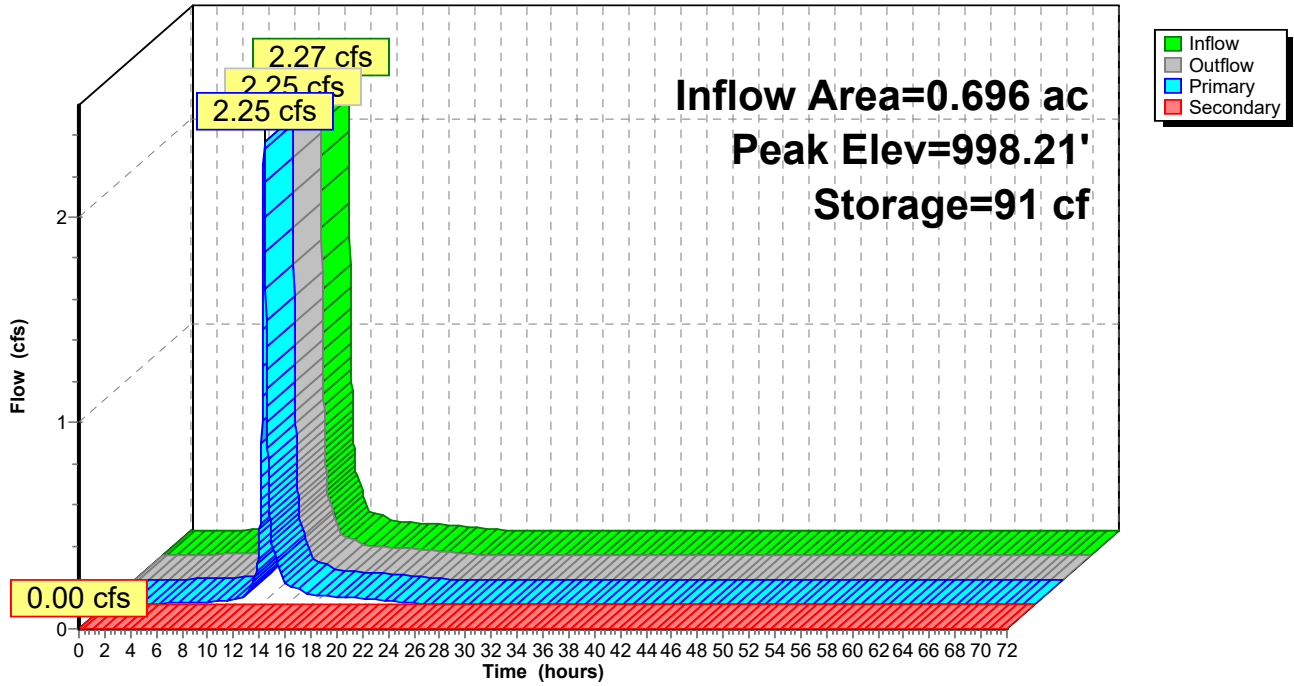
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_A15: CB_A7

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_A8: CB_A20

Inflow Area = 0.766 ac, 20.23% Impervious, Inflow Depth = 2.25" for 10yr-24hr event
 Inflow = 2.35 cfs @ 12.20 hrs, Volume= 0.144 af
 Outflow = 2.21 cfs @ 12.24 hrs, Volume= 0.144 af, Atten= 6%, Lag= 2.2 min
 Primary = 2.21 cfs @ 12.24 hrs, Volume= 0.144 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,000.74' @ 12.24 hrs Surf.Area= 754 sf Storage= 352 cf

Plug-Flow detention time= 5.6 min calculated for 0.144 af (100% of inflow)
 Center-of-Mass det. time= 5.2 min (802.1 - 796.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	30,360 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,000.00	200	0	0
1,002.00	1,700	1,900	1,900
1,004.00	8,920	10,620	12,520
1,006.00	8,920	17,840	30,360

Device	Routing	Invert	Outlet Devices
#1	Primary	996.47'	18.0" Round Culvert L= 139.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 996.47' / 996.07' S= 0.0029 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#2	Device 1	1,000.00'	15.0" Round Culvert L= 37.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,000.00' / 996.47' S= 0.0954 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#3	Secondary	1,004.00'	5.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=2.21 cfs @ 12.24 hrs HW=1,000.74' TW=979.00' (Dynamic Tailwater)

↑ **1=Culvert** (Passes 2.21 cfs of 13.05 cfs potential flow)

↑ **2=Culvert** (Inlet Controls 2.21 cfs @ 2.92 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,000.00' TW=994.00' (Dynamic Tailwater)

↑ **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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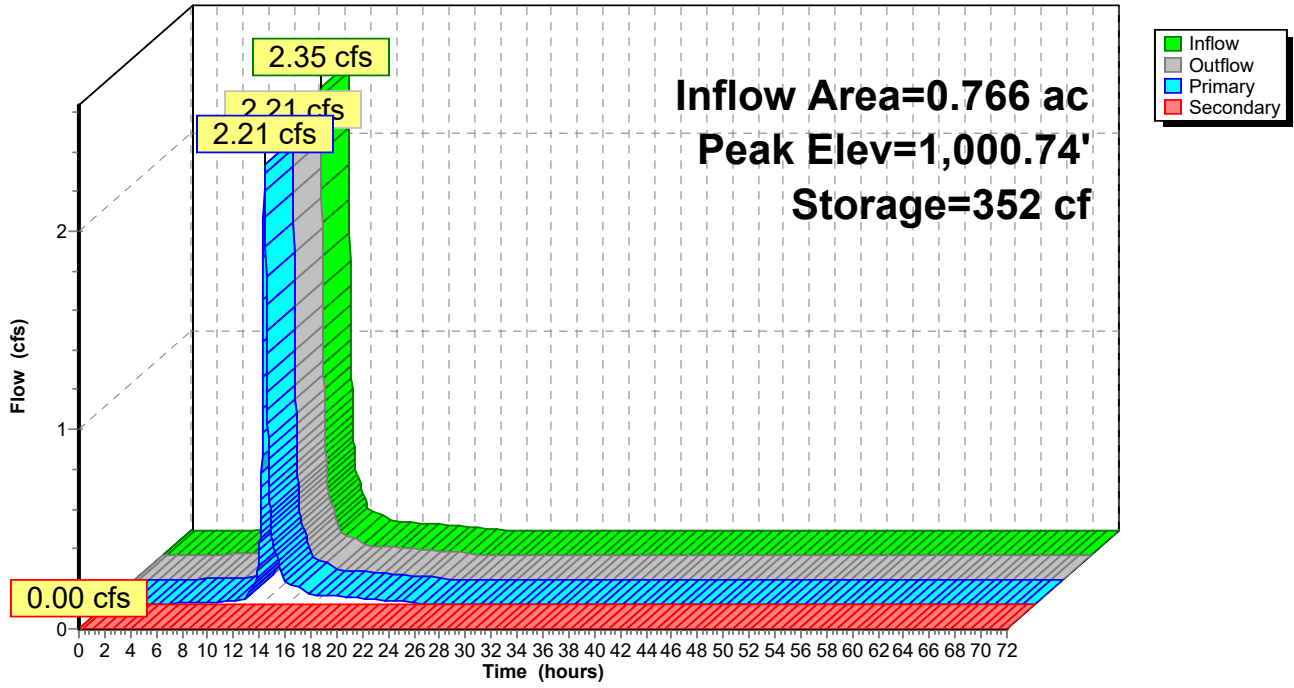
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_A8: CB_A20

Hydrograph



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Summary for Pond CB_B5: CB_A10

Inflow Area = 1.692 ac, 9.57% Impervious, Inflow Depth = 2.00" for 10yr-24hr event
 Inflow = 4.71 cfs @ 12.20 hrs, Volume= 0.282 af
 Outflow = 4.71 cfs @ 12.21 hrs, Volume= 0.282 af, Atten= 0%, Lag= 0.2 min
 Primary = 4.71 cfs @ 12.21 hrs, Volume= 0.282 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 995.35' @ 12.21 hrs Surf.Area= 275 sf Storage= 56 cf

Plug-Flow detention time= 0.2 min calculated for 0.282 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (809.0 - 808.8)

Volume	Invert	Avail.Storage	Storage Description
#1	995.00'	4,275 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
995.00	50	0	0
996.00	700	375	375
998.00	3,200	3,900	4,275

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	997.00'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=4.69 cfs @ 12.21 hrs HW=995.35' TW=978.91' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 4.69 cfs @ 1.92 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=995.00' TW=994.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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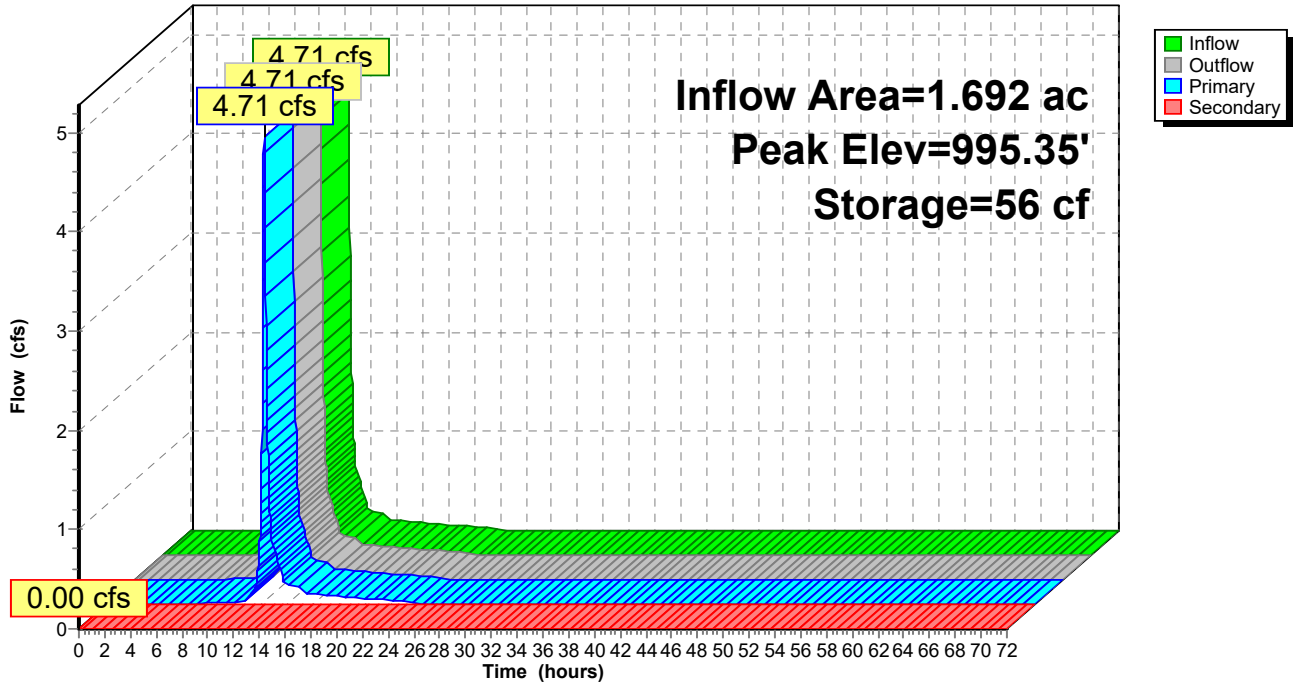
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_B5: CB_A10

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_B6: CB_A11

Inflow Area = 1.508 ac, 12.07% Impervious, Inflow Depth = 2.59" for 10yr-24hr event
 Inflow = 5.38 cfs @ 12.20 hrs, Volume= 0.325 af
 Outflow = 5.35 cfs @ 12.22 hrs, Volume= 0.325 af, Atten= 1%, Lag= 0.7 min
 Primary = 5.35 cfs @ 12.22 hrs, Volume= 0.325 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 994.38' @ 12.22 hrs Surf.Area= 847 sf Storage= 169 cf

Plug-Flow detention time= 0.4 min calculated for 0.325 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (805.1 - 804.7)

Volume	Invert	Avail.Storage	Storage Description
#1	994.00'	29,510 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.00	50	0	0
996.00	4,280	4,330	4,330
998.00	20,900	25,180	29,510

Device	Routing	Invert	Outlet Devices
#1	Primary	994.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	997.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=5.33 cfs @ 12.22 hrs HW=994.38' TW=978.94' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 5.33 cfs @ 2.01 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=994.00' TW=994.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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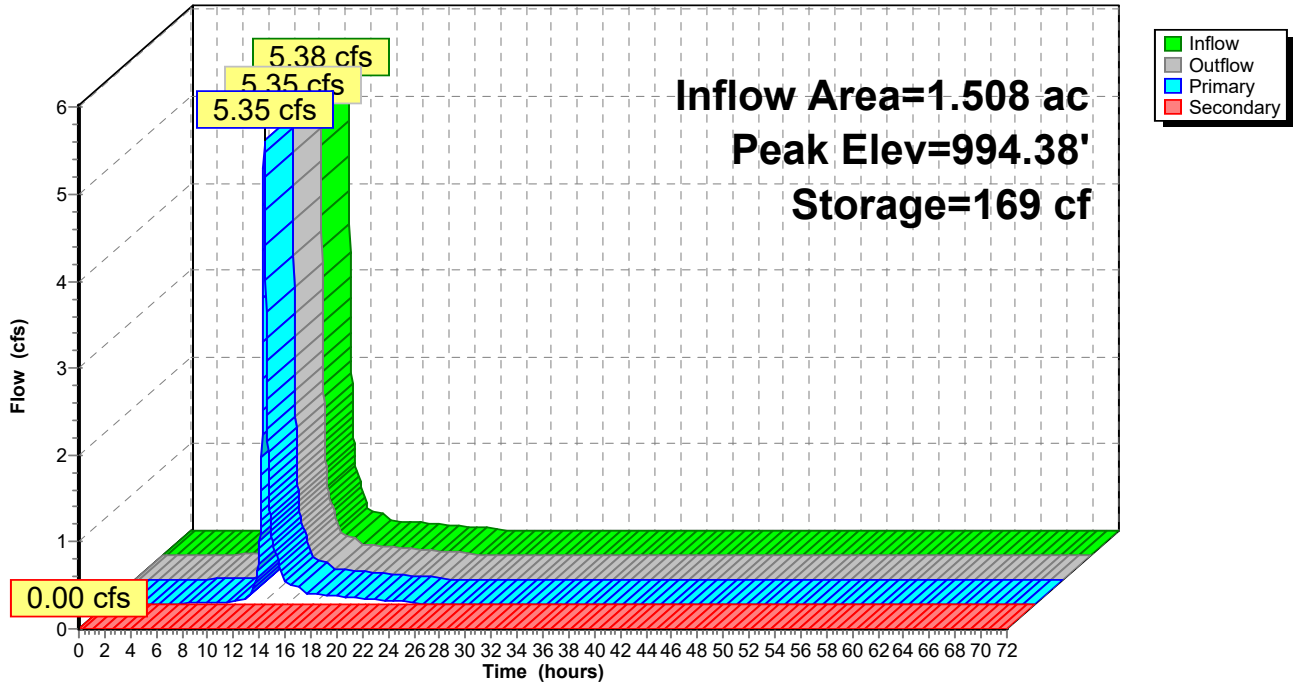
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_B6: CB_A11

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_B7: CB_A12

Inflow Area = 0.993 ac, 19.54% Impervious, Inflow Depth = 2.23" for 10yr-24hr event
 Inflow = 3.03 cfs @ 12.20 hrs, Volume= 0.185 af
 Outflow = 3.00 cfs @ 12.22 hrs, Volume= 0.185 af, Atten= 1%, Lag= 0.9 min
 Primary = 1.93 cfs @ 12.22 hrs, Volume= 0.119 af
 Secondary = 1.06 cfs @ 12.22 hrs, Volume= 0.066 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 998.19' @ 12.22 hrs Surf.Area= 1,240 sf Storage= 244 cf

Plug-Flow detention time= 3.9 min calculated for 0.185 af (100% of inflow)
 Center-of-Mass det. time= 3.5 min (801.0 - 797.5)

Volume	Invert	Avail.Storage	Storage Description
#1	997.99'	1,246 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
997.99	50	0	0
998.00	1,240	6	6
999.00	1,240	1,240	1,246

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	998.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.93 cfs @ 12.22 hrs HW=998.19' TW=978.94' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 1.93 cfs @ 1.43 fps)

Secondary OutFlow Max=1.06 cfs @ 12.22 hrs HW=998.19' TW=994.38' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 1.06 cfs @ 1.11 fps)

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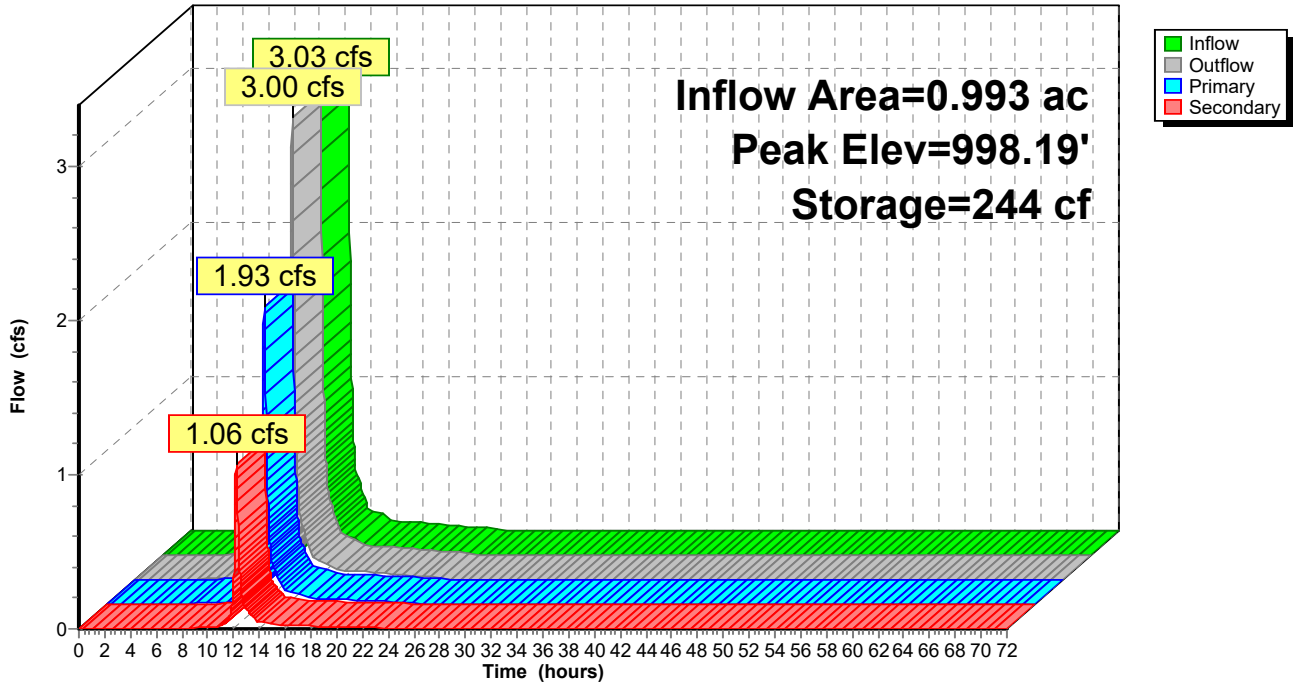
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_B7: CB_A12

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_C10: CB_C10

Inflow Area = 2.067 ac, 23.66% Impervious, Inflow Depth = 2.33" for 10yr-24hr event
 Inflow = 6.52 cfs @ 12.20 hrs, Volume= 0.401 af
 Outflow = 6.40 cfs @ 12.22 hrs, Volume= 0.401 af, Atten= 2%, Lag= 1.2 min
 Primary = 6.40 cfs @ 12.22 hrs, Volume= 0.401 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 994.42' @ 12.22 hrs Surf.Area= 1,632 sf Storage= 357 cf

Plug-Flow detention time= 0.6 min calculated for 0.401 af (100% of inflow)
 Center-of-Mass det. time= 0.6 min (794.2 - 793.6)

Volume	Invert	Avail.Storage	Storage Description
#1	994.00'	22,550 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.00	50	0	0
996.00	7,500	7,550	7,550
997.00	7,500	7,500	15,050
998.00	7,500	7,500	22,550

Device	Routing	Invert	Outlet Devices
#1	Primary	994.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	996.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=6.40 cfs @ 12.22 hrs HW=994.42' TW=978.95' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 6.40 cfs @ 2.13 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=994.00' TW=992.50' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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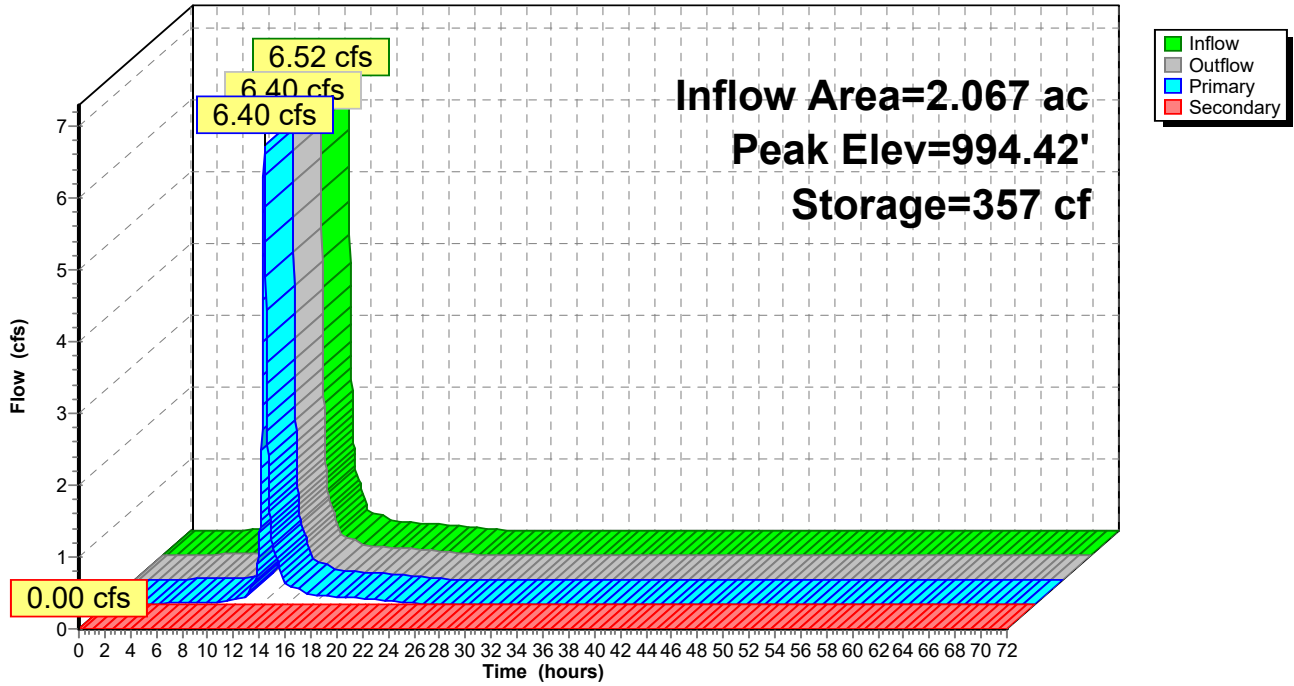
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_C10: CB_C10

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_C7: CB_C7

Inflow Area = 1.708 ac, 21.25% Impervious, Inflow Depth = 2.27" for 10yr-24hr event
 Inflow = 5.21 cfs @ 12.20 hrs, Volume= 0.323 af
 Outflow = 5.16 cfs @ 12.22 hrs, Volume= 0.323 af, Atten= 1%, Lag= 0.9 min
 Primary = 5.16 cfs @ 12.22 hrs, Volume= 0.323 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 992.87' @ 12.22 hrs Surf.Area= 1,132 sf Storage= 217 cf

Plug-Flow detention time= 0.5 min calculated for 0.323 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (796.7 - 796.2)

Volume	Invert	Avail.Storage	Storage Description
#1	992.50'	12,303 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.50	50	0	0
994.00	4,460	3,383	3,383
996.00	4,460	8,920	12,303

Device	Routing	Invert	Outlet Devices
#1	Primary	992.50'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	994.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=5.15 cfs @ 12.22 hrs HW=992.87' TW=978.95' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 5.15 cfs @ 1.98 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=992.50' TW=991.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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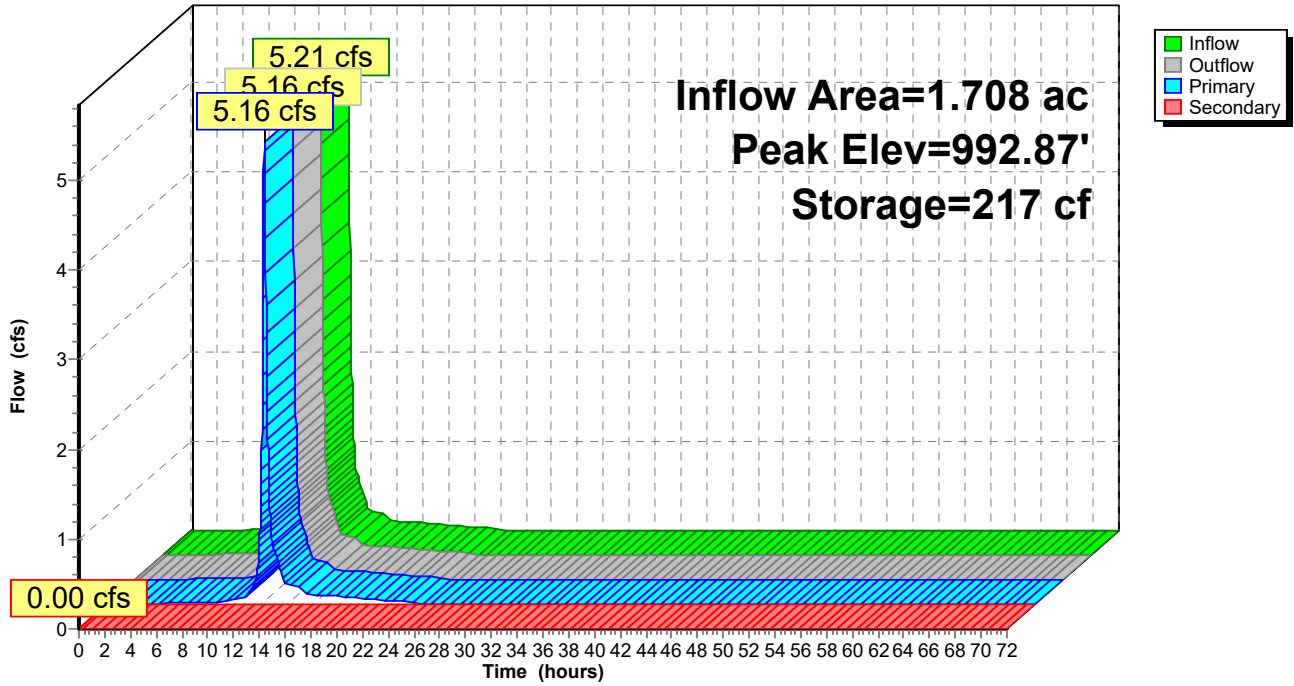
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_C7: CB_C7

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_C8: CB_C8

Inflow Area = 1.927 ac, 25.17% Impervious, Inflow Depth = 2.36" for 10yr-24hr event
 Inflow = 6.02 cfs @ 12.21 hrs, Volume= 0.379 af
 Outflow = 6.02 cfs @ 12.21 hrs, Volume= 0.379 af, Atten= 0%, Lag= 0.3 min
 Primary = 6.02 cfs @ 12.21 hrs, Volume= 0.379 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 991.41' @ 12.21 hrs Surf.Area= 361 sf Storage= 84 cf

Plug-Flow detention time= 0.2 min calculated for 0.379 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (793.0 - 792.7)

Volume	Invert	Avail.Storage	Storage Description
#1	991.00'	6,743 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
991.00	50	0	0
992.00	812	431	431
994.00	5,500	6,312	6,743

Device	Routing	Invert	Outlet Devices
#1	Primary	991.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.99 cfs @ 12.21 hrs HW=991.41' TW=978.92' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 5.99 cfs @ 2.08 fps)

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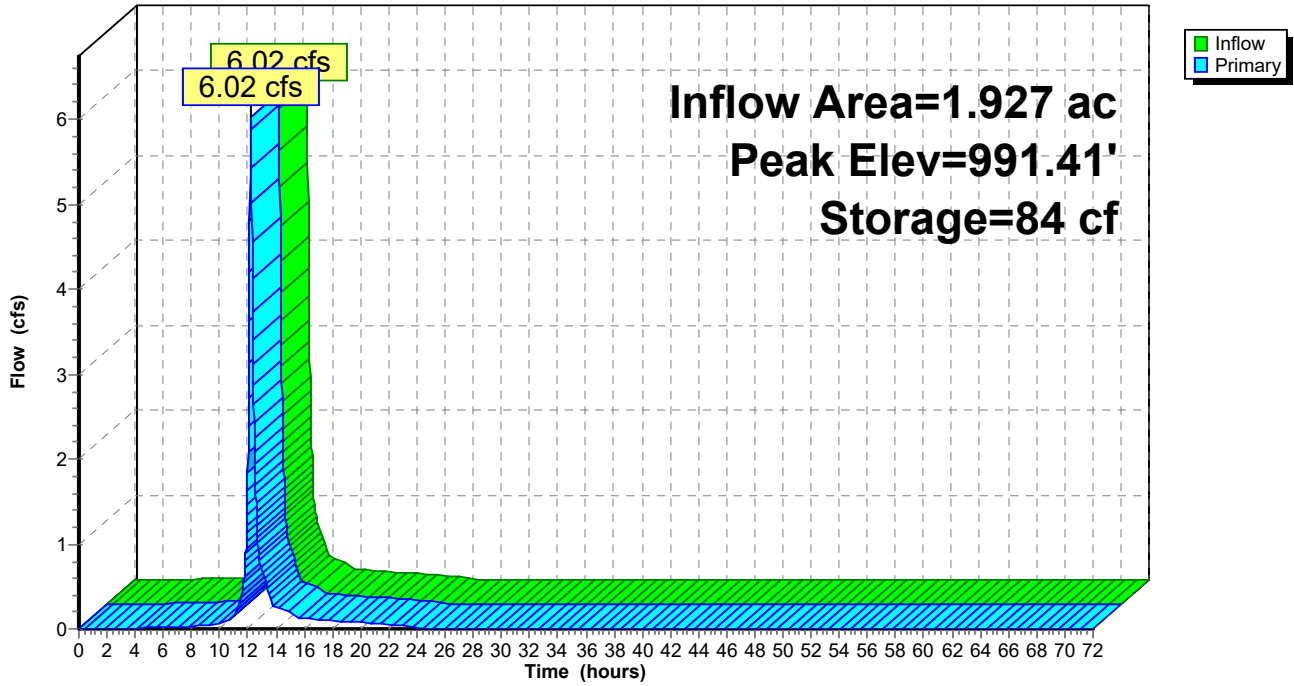
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_C8: CB_C8

Hydrograph



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Summary for Pond CB_C9: CB_C9

Inflow Area = 2.063 ac, 18.86% Impervious, Inflow Depth = 2.22" for 10yr-24hr event
 Inflow = 6.26 cfs @ 12.20 hrs, Volume= 0.381 af
 Outflow = 6.22 cfs @ 12.21 hrs, Volume= 0.381 af, Atten= 1%, Lag= 0.7 min
 Primary = 6.22 cfs @ 12.21 hrs, Volume= 0.381 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 992.42' @ 12.21 hrs Surf.Area= 960 sf Storage= 210 cf

Plug-Flow detention time= 0.4 min calculated for 0.381 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (798.6 - 798.2)

Volume	Invert	Avail.Storage	Storage Description
#1	992.00'	4,470 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.00	50	0	0
994.00	4,420	4,470	4,470

Device	Routing	Invert	Outlet Devices
#1	Primary	992.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	993.90'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=6.19 cfs @ 12.21 hrs HW=992.42' TW=978.93' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 6.19 cfs @ 2.11 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=992.00' TW=991.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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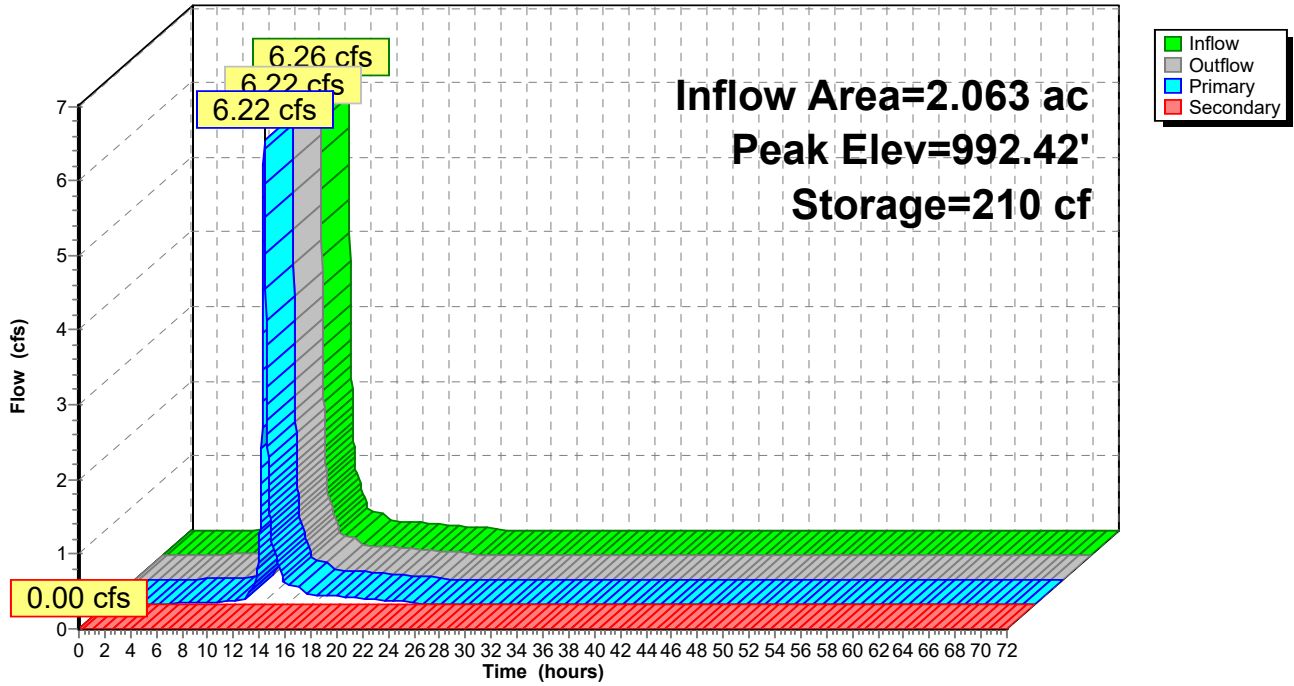
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_C9: CB_C9

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_D6: CB_D6

Inflow Area = 0.376 ac, 3.46% Impervious, Inflow Depth = 1.87" for 10yr-24hr event
 Inflow = 1.00 cfs @ 12.20 hrs, Volume= 0.059 af
 Outflow = 0.99 cfs @ 12.22 hrs, Volume= 0.059 af, Atten= 1%, Lag= 0.7 min
 Primary = 0.99 cfs @ 12.22 hrs, Volume= 0.059 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,000.12' @ 12.22 hrs Surf.Area= 487 sf Storage= 33 cf

Plug-Flow detention time= 0.5 min calculated for 0.059 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (817.2 - 816.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	5,448 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,000.00	50	0	0
1,001.00	3,615	1,833	1,833
1,002.00	3,615	3,615	5,448

Device	Routing	Invert	Outlet Devices
#1	Primary	1,000.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,001.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.99 cfs @ 12.22 hrs HW=1,000.12' TW=978.94' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 0.99 cfs @ 1.14 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,000.00' TW=995.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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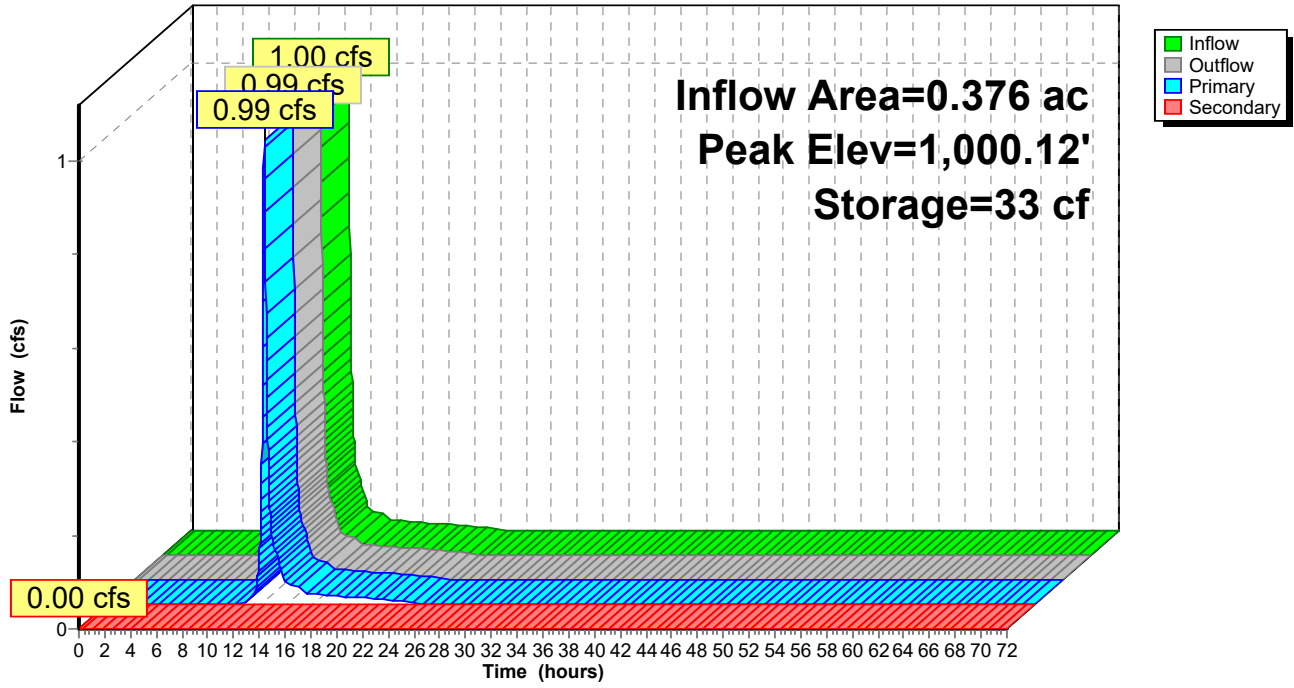
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_D6: CB_D6

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_D7: CB_D7

Inflow Area = 0.586 ac, 17.58% Impervious, Inflow Depth = 2.19" for 10yr-24hr event
 Inflow = 1.76 cfs @ 12.20 hrs, Volume= 0.107 af
 Outflow = 1.75 cfs @ 12.21 hrs, Volume= 0.107 af, Atten= 1%, Lag= 0.7 min
 Primary = 1.75 cfs @ 12.21 hrs, Volume= 0.107 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,002.18' @ 12.21 hrs Surf.Area= 604 sf Storage= 59 cf

Plug-Flow detention time= 0.5 min calculated for 0.107 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (800.0 - 799.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,002.00'	4,750 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,002.00	50	0	0
1,003.00	3,150	1,600	1,600
1,004.00	3,150	3,150	4,750

Device	Routing	Invert	Outlet Devices
#1	Primary	1,002.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,003.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.74 cfs @ 12.21 hrs HW=1,002.18' TW=978.93' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 1.74 cfs @ 1.38 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,002.00' TW=1,000.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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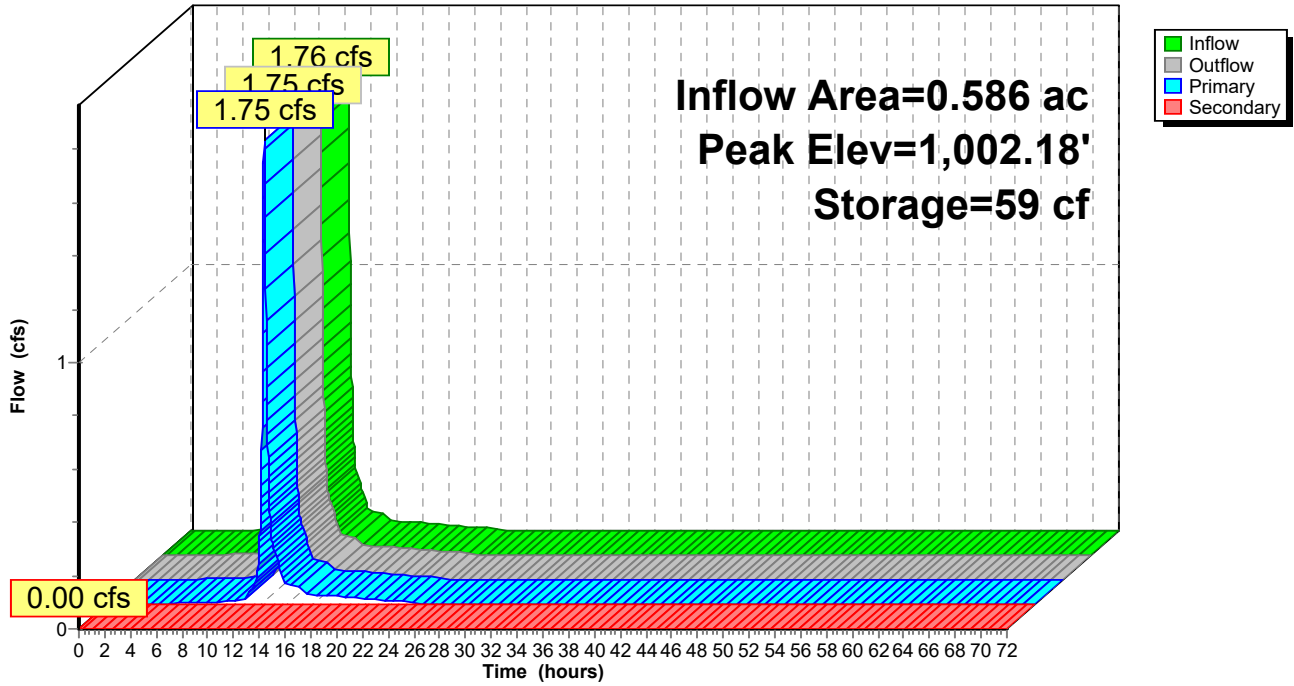
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_D7: CB_D7

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_D8: CB_D8

Inflow Area = 1.215 ac, 7.98% Impervious, Inflow Depth = 1.98" for 10yr-24hr event
 Inflow = 3.36 cfs @ 12.20 hrs, Volume= 0.200 af
 Outflow = 3.32 cfs @ 12.22 hrs, Volume= 0.200 af, Atten= 1%, Lag= 1.0 min
 Primary = 3.32 cfs @ 12.22 hrs, Volume= 0.200 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,002.27' @ 12.22 hrs Surf.Area= 1,113 sf Storage= 159 cf

Plug-Flow detention time= 0.6 min calculated for 0.200 af (100% of inflow)
 Center-of-Mass det. time= 0.6 min (811.2 - 810.6)

Volume	Invert	Avail.Storage	Storage Description
#1	1,002.00'	13,245 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,002.00	50	0	0
1,003.50	5,870	4,440	4,440
1,005.00	5,870	8,805	13,245

Device	Routing	Invert	Outlet Devices
#1	Primary	1,002.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,003.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.32 cfs @ 12.22 hrs HW=1,002.27' TW=978.95' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 3.32 cfs @ 1.71 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,002.00' TW=1,002.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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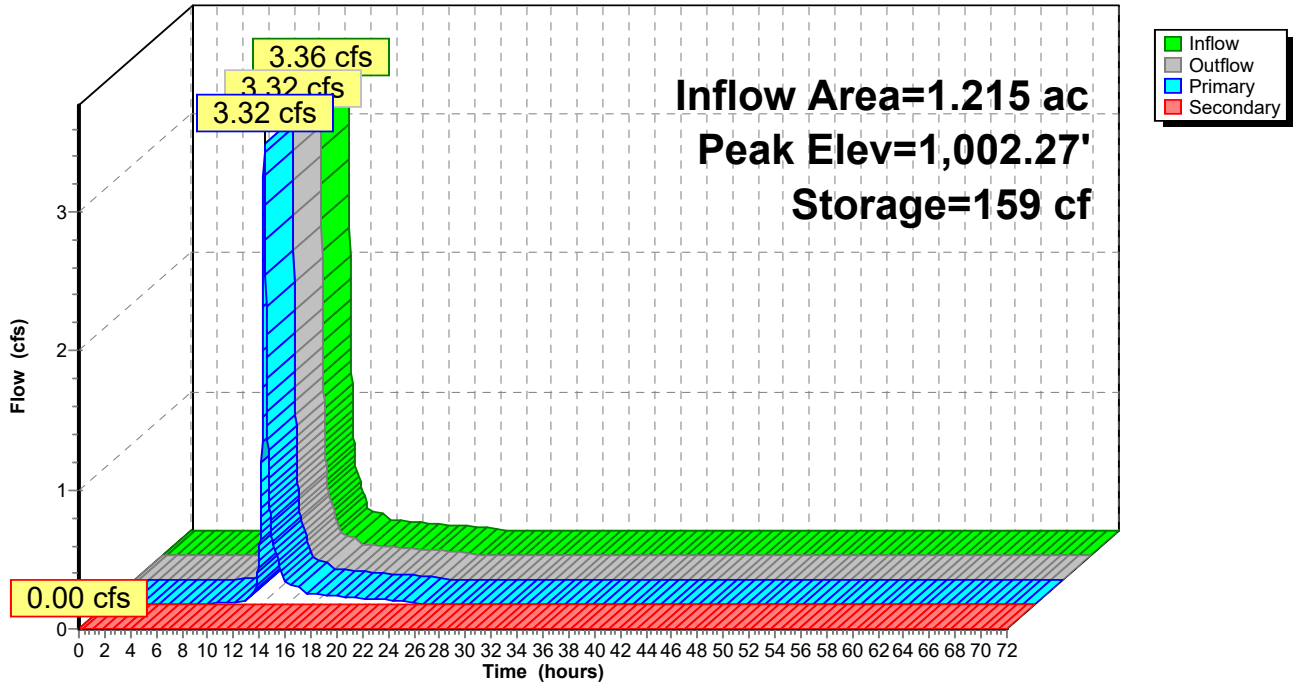
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_D8: CB_D8

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_D9: CB_D9

Inflow Area = 1.254 ac, 16.11% Impervious, Inflow Depth = 2.16" for 10yr-24hr event
 Inflow = 3.72 cfs @ 12.20 hrs, Volume= 0.225 af
 Outflow = 3.44 cfs @ 12.24 hrs, Volume= 0.225 af, Atten= 8%, Lag= 2.5 min
 Primary = 3.44 cfs @ 12.24 hrs, Volume= 0.225 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 996.02' @ 12.24 hrs Surf.Area= 973 sf Storage= 516 cf

Plug-Flow detention time= 3.6 min calculated for 0.225 af (100% of inflow)
 Center-of-Mass det. time= 3.2 min (804.3 - 801.1)

Volume	Invert	Avail.Storage	Storage Description
#1	995.00'	124,900 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
995.00	100	0	0
996.00	900	500	500
998.00	9,500	10,400	10,900
1,010.00	9,500	114,000	124,900

Device	Routing	Invert	Outlet Devices
#1	Primary	999.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	995.00'	15.0" Round Culvert L= 36.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 995.00' / 994.59' S= 0.0114 1' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=3.44 cfs @ 12.24 hrs HW=996.02' TW=979.02' (Dynamic Tailwater)

- 1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
- 2=Culvert (Barrel Controls 3.44 cfs @ 4.39 fps)

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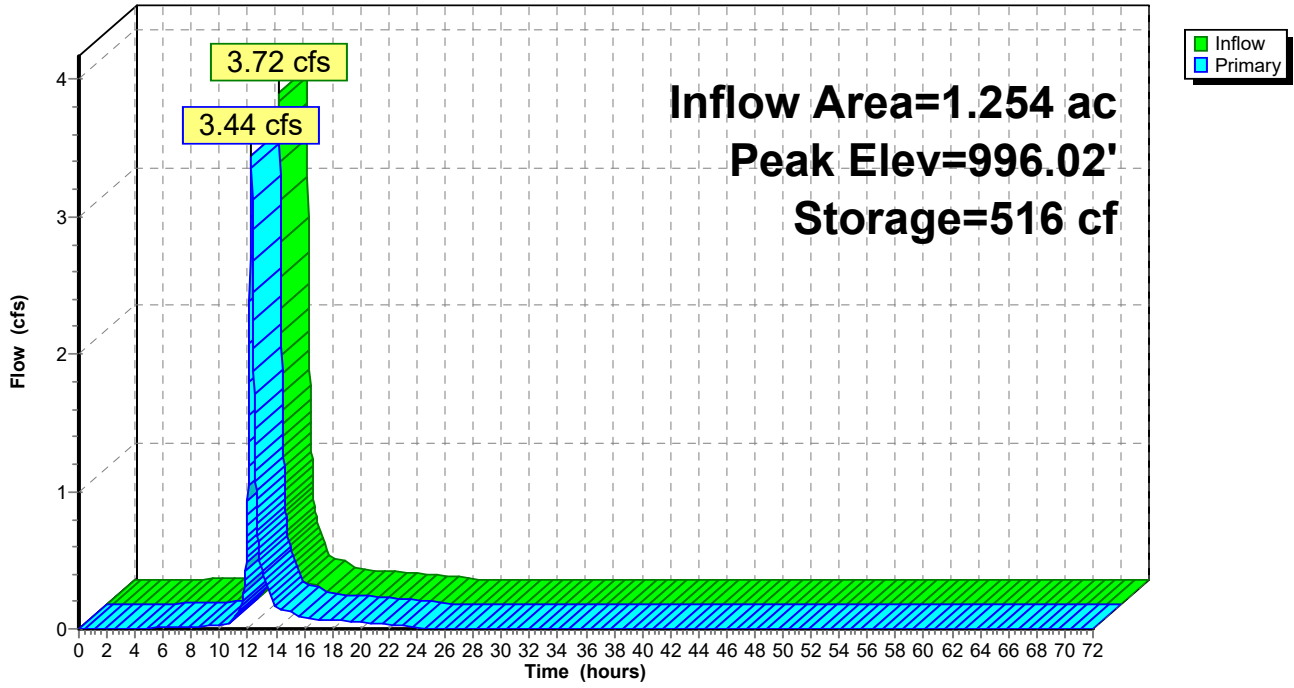
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_D9: CB_D9

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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_E13: CB_E13

Inflow Area = 0.605 ac, 27.77% Impervious, Inflow Depth = 2.42" for 10yr-24hr event
 Inflow = 1.97 cfs @ 12.20 hrs, Volume= 0.122 af
 Outflow = 1.97 cfs @ 12.20 hrs, Volume= 0.122 af, Atten= 0%, Lag= 0.2 min
 Primary = 1.97 cfs @ 12.20 hrs, Volume= 0.122 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,009.69' @ 12.20 hrs Surf.Area= 160 sf Storage= 20 cf

Plug-Flow detention time= 0.2 min calculated for 0.122 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (790.2 - 789.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,009.50'	2,113 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,009.50	50	0	0
1,011.00	900	713	713
1,012.00	1,900	1,400	2,113

Device	Routing	Invert	Outlet Devices
#1	Primary	1,009.50'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,010.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.96 cfs @ 12.20 hrs HW=1,009.69' TW=978.90' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 1.96 cfs @ 1.44 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,009.50' TW=1,002.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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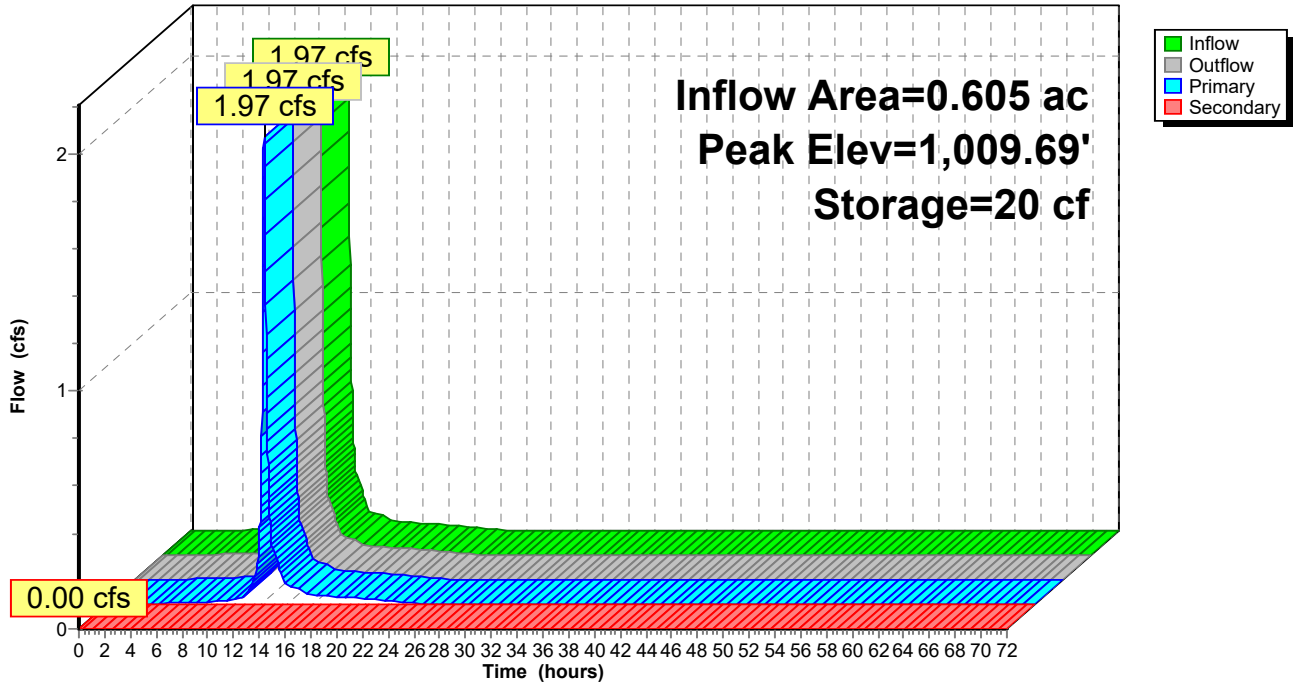
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_E13: CB_E13

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_E15: CB_E15

Inflow Area = 1.926 ac, 26.90% Impervious, Inflow Depth = 2.61" for 10yr-24hr event
 Inflow = 8.66 cfs @ 12.24 hrs, Volume= 0.419 af
 Outflow = 8.63 cfs @ 12.24 hrs, Volume= 0.419 af, Atten= 0%, Lag= 0.4 min
 Primary = 8.63 cfs @ 12.24 hrs, Volume= 0.419 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 992.52' @ 12.24 hrs Surf.Area= 629 sf Storage= 176 cf

Plug-Flow detention time= 0.3 min calculated for 0.419 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (786.5 - 786.2)

Volume	Invert	Avail.Storage	Storage Description
#1	992.00'	6,896 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.00	50	0	0
994.00	2,282	2,332	2,332
996.00	2,282	4,564	6,896

Device	Routing	Invert	Outlet Devices
#1	Primary	992.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.59 cfs @ 12.24 hrs HW=992.52' TW=979.02' (Dynamic Tailwater)
 ↑**1=Grate** (Weir Controls 8.59 cfs @ 2.35 fps)

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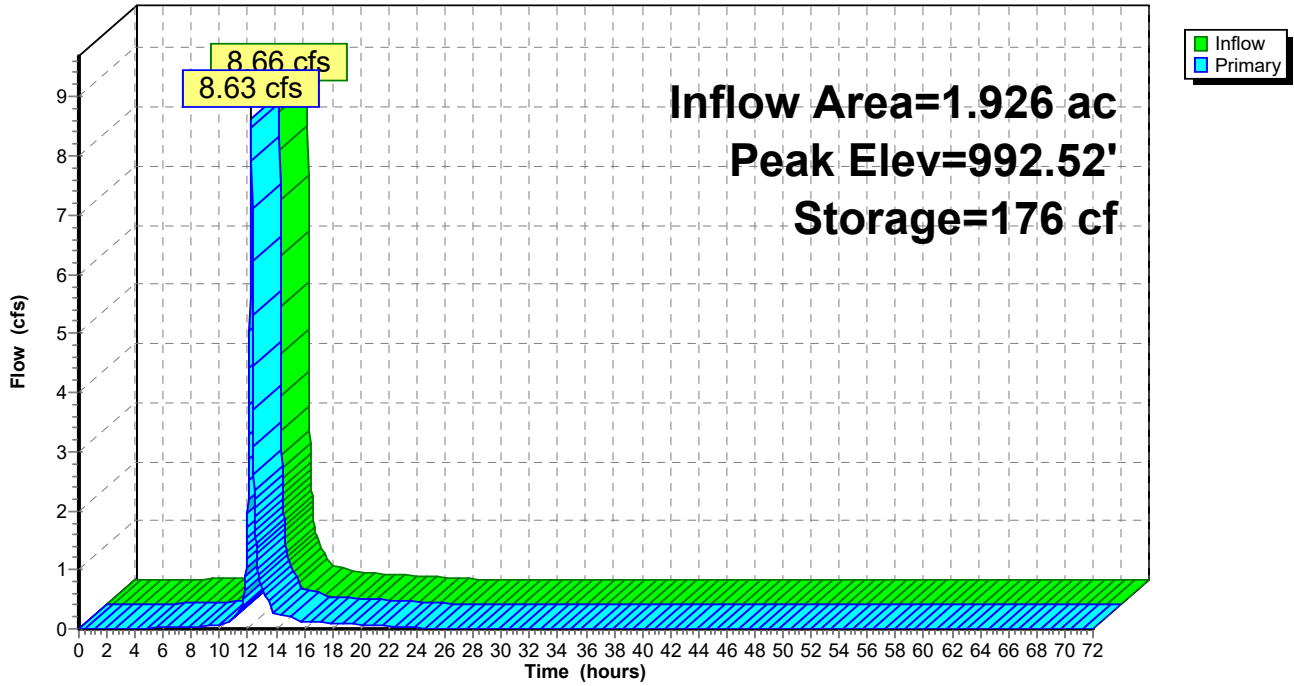
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_E15: CB_E15

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_E16: CB_E16

Inflow Area = 4.099 ac, 17.78% Impervious, Inflow Depth = 2.20" for 10yr-24hr event
 Inflow = 11.71 cfs @ 12.21 hrs, Volume= 0.750 af
 Outflow = 10.83 cfs @ 12.26 hrs, Volume= 0.750 af, Atten= 8%, Lag= 2.8 min
 Primary = 7.82 cfs @ 12.26 hrs, Volume= 0.716 af
 Secondary = 3.01 cfs @ 12.26 hrs, Volume= 0.034 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 997.38' @ 12.26 hrs Surf.Area= 1,914 sf Storage= 1,803 cf

Plug-Flow detention time= 2.5 min calculated for 0.750 af (100% of inflow)
 Center-of-Mass det. time= 2.1 min (802.4 - 800.4)

Volume	Invert	Avail.Storage	Storage Description
#1	995.00'	8,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
995.00	100	0	0
996.00	366	233	233
998.00	2,614	2,980	3,213
1,000.00	2,614	5,228	8,441

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	15.0" Round Culvert L= 227.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 995.00' / 987.40' S= 0.0335 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	997.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=7.82 cfs @ 12.26 hrs HW=997.38' TW=979.06' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 7.82 cfs @ 6.37 fps)

Secondary OutFlow Max=3.00 cfs @ 12.26 hrs HW=997.38' TW=992.51' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 3.00 cfs @ 1.60 fps)

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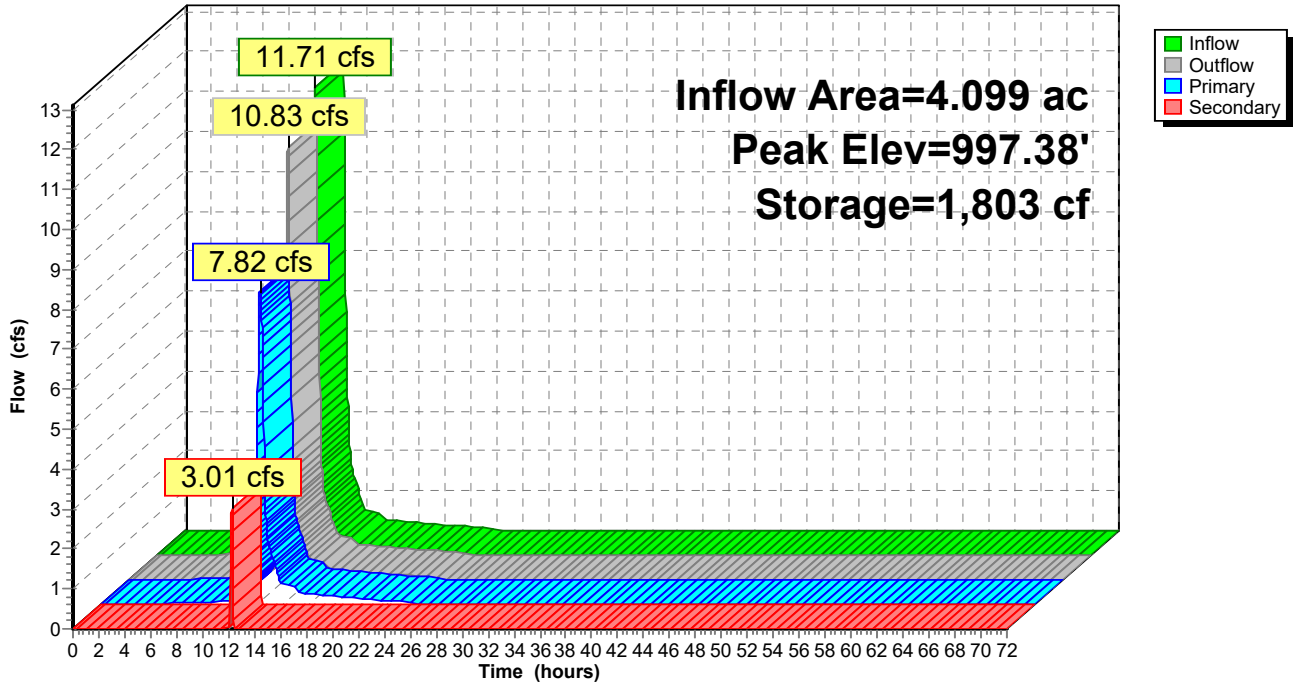
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_E16: CB_E16

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_F5: CB_F5

Inflow Area = 1.224 ac, 21.24% Impervious, Inflow Depth = 2.27" for 10yr-24hr event
 Inflow = 3.79 cfs @ 12.20 hrs, Volume= 0.232 af
 Outflow = 3.76 cfs @ 12.21 hrs, Volume= 0.232 af, Atten= 1%, Lag= 0.7 min
 Primary = 3.76 cfs @ 12.21 hrs, Volume= 0.232 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 983.30' @ 12.21 hrs Surf.Area= 751 sf Storage= 119 cf

Plug-Flow detention time= 0.4 min calculated for 0.232 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (796.3 - 795.8)

Volume	Invert	Avail.Storage	Storage Description
#1	983.00'	13,525 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
983.00	50	0	0
984.00	2,400	1,225	1,225
986.00	9,900	12,300	13,525

Device	Routing	Invert	Outlet Devices
#1	Primary	983.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.75 cfs @ 12.21 hrs HW=983.30' TW=969.09' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 3.75 cfs @ 1.78 fps)

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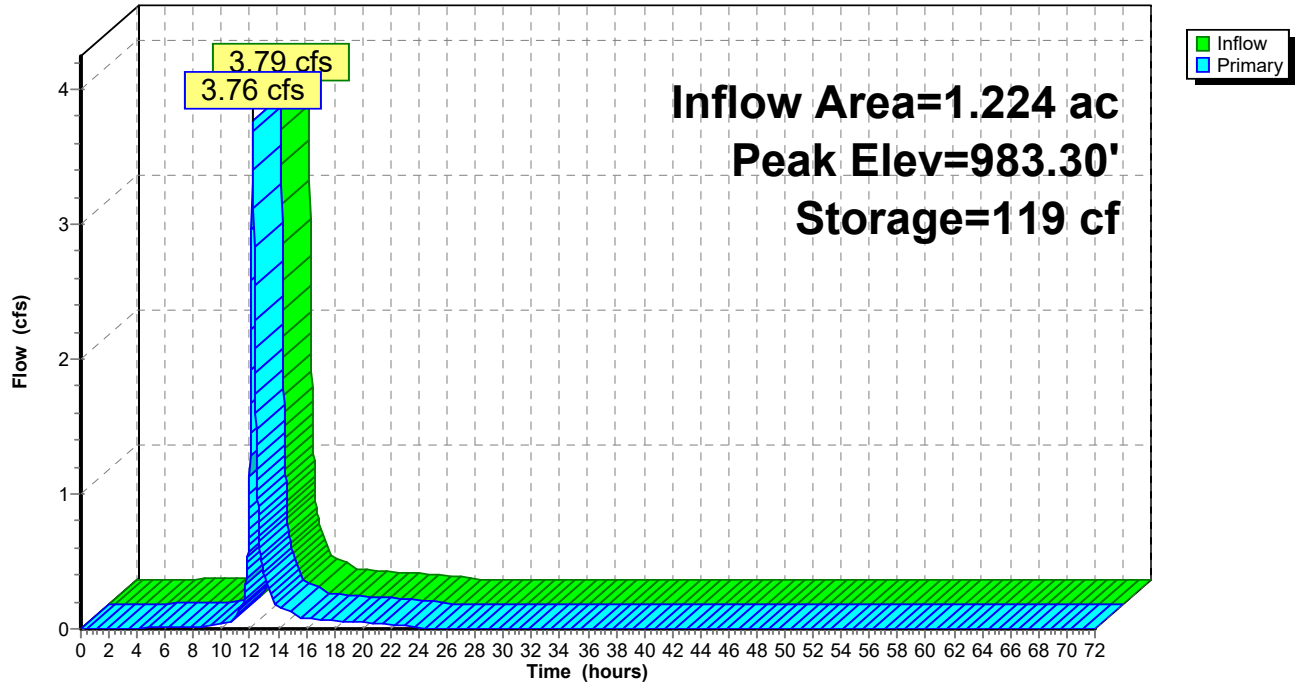
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_F5: CB_F5

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_F6: CB_F6

Inflow Area = 0.921 ac, 21.06% Impervious, Inflow Depth = 2.27" for 10yr-24hr event
 Inflow = 2.85 cfs @ 12.20 hrs, Volume= 0.174 af
 Outflow = 2.84 cfs @ 12.21 hrs, Volume= 0.174 af, Atten= 0%, Lag= 0.4 min
 Primary = 2.84 cfs @ 12.21 hrs, Volume= 0.174 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 985.25' @ 12.21 hrs Surf.Area= 382 sf Storage= 60 cf

Plug-Flow detention time= 0.8 min calculated for 0.174 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (796.5 - 796.0)

Volume	Invert	Avail.Storage	Storage Description
#1	985.00'	5,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
985.00	100	0	0
988.00	3,527	5,441	5,441

Device	Routing	Invert	Outlet Devices
#1	Primary	985.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	987.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.83 cfs @ 12.21 hrs HW=985.25' TW=969.07' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 2.83 cfs @ 1.62 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=985.00' TW=983.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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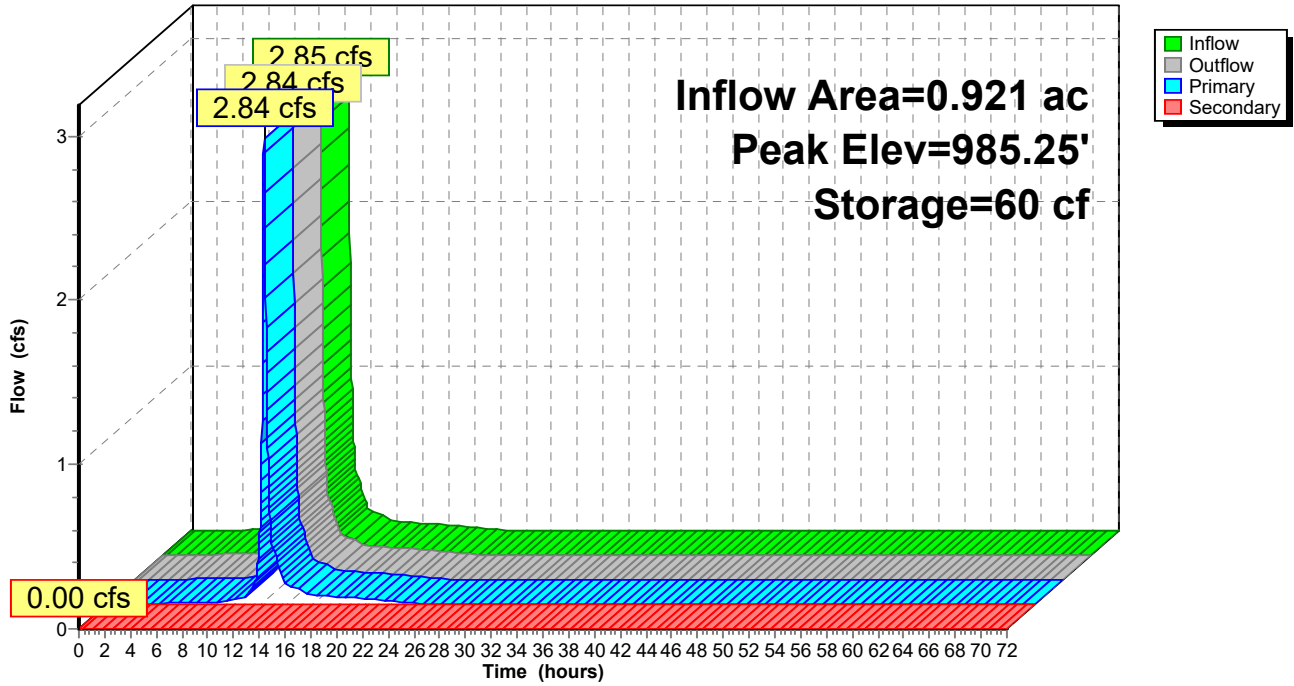
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_F6: CB_F6

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_F7: CB_F7

Inflow Area = 2.573 ac, 14.89% Impervious, Inflow Depth = 2.13" for 10yr-24hr event
 Inflow = 6.96 cfs @ 12.22 hrs, Volume= 0.457 af
 Outflow = 5.39 cfs @ 12.32 hrs, Volume= 0.457 af, Atten= 23%, Lag= 6.0 min
 Primary = 5.39 cfs @ 12.32 hrs, Volume= 0.457 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 984.46' @ 12.32 hrs Surf.Area= 2,547 sf Storage= 1,928 cf

Plug-Flow detention time= 5.2 min calculated for 0.457 af (100% of inflow)
 Center-of-Mass det. time= 4.8 min (809.3 - 804.5)

Volume	Invert	Avail.Storage	Storage Description
#1	983.00'	21,500 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
983.00	100	0	0
988.00	8,500	21,500	21,500

Device	Routing	Invert	Outlet Devices
#1	Primary	983.00'	15.0" Round Culvert L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 983.00' / 980.71' S= 0.0458 ' S= 0.0458 ' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	985.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=5.39 cfs @ 12.32 hrs HW=984.46' TW=969.49' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 5.39 cfs @ 4.39 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=983.00' TW=985.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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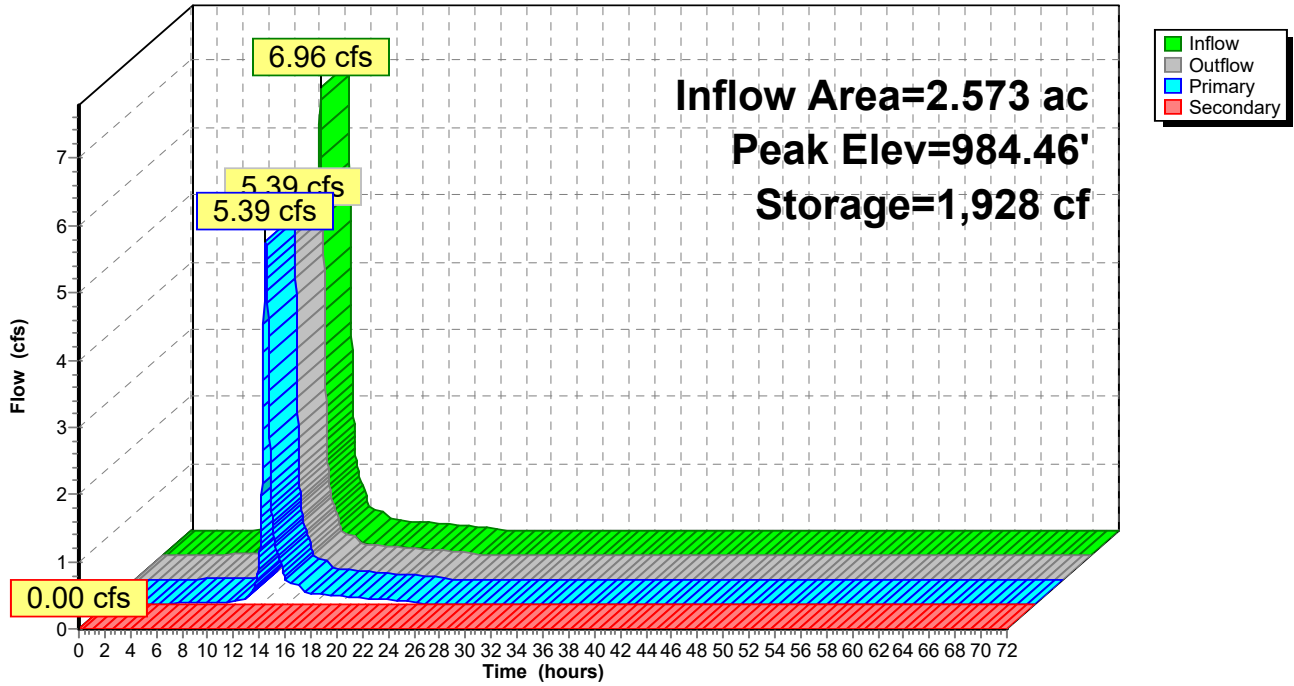
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_F7: CB_F7

Hydrograph



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Summary for Pond CB_H5: CB_H5

Inflow Area = 2.168 ac, 27.21% Impervious, Inflow Depth = 2.20" for 10yr-24hr event
 Inflow = 6.31 cfs @ 12.20 hrs, Volume= 0.398 af
 Outflow = 6.26 cfs @ 12.21 hrs, Volume= 0.398 af, Atten= 1%, Lag= 0.8 min
 Primary = 6.26 cfs @ 12.21 hrs, Volume= 0.398 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 972.42' @ 12.21 hrs Surf.Area= 1,018 sf Storage= 223 cf

Plug-Flow detention time= 0.4 min calculated for 0.398 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (791.0 - 790.5)

Volume	Invert	Avail.Storage	Storage Description
#1	972.00'	30,964 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
972.00	50	0	0
974.00	4,677	4,727	4,727
976.00	21,560	26,237	30,964

Device	Routing	Invert	Outlet Devices
#1	Primary	972.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.23 cfs @ 12.21 hrs HW=972.42' TW=968.11' (Dynamic Tailwater)
 ↑**1=Grate** (Weir Controls 6.23 cfs @ 2.11 fps)

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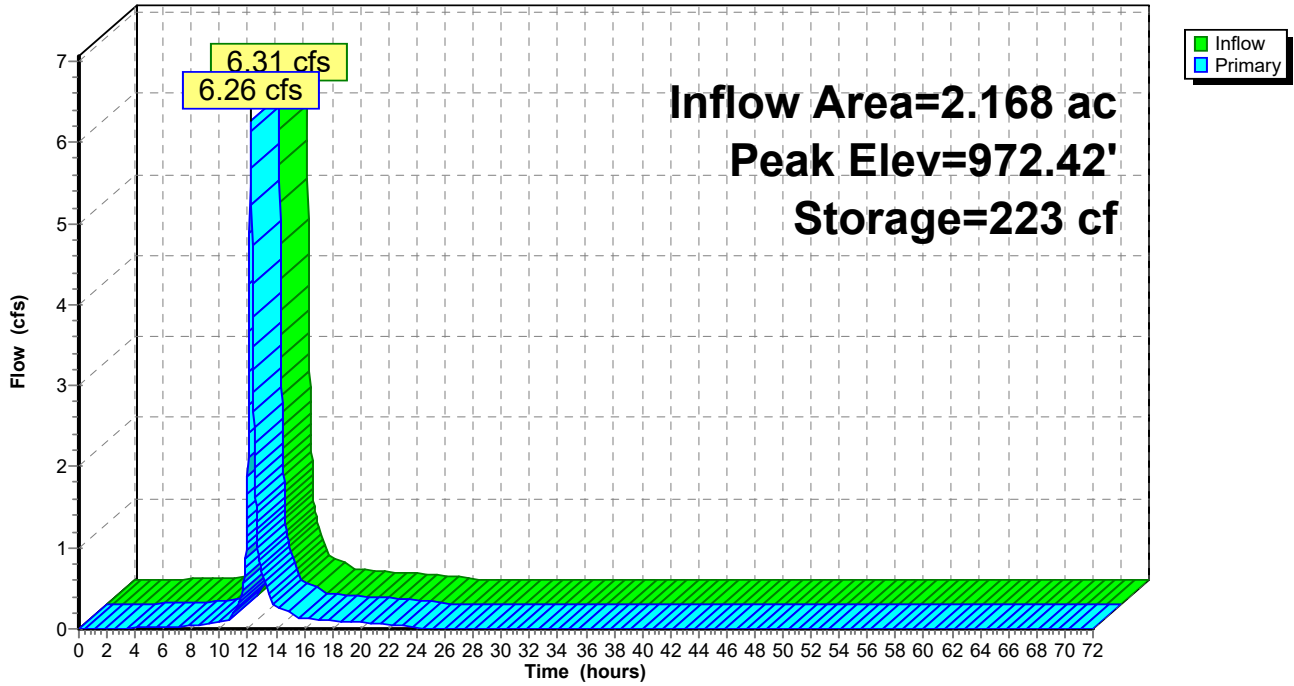
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_H5: CB_H5

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_H6: CB_H6

Inflow Area = 1.008 ac, 19.54% Impervious, Inflow Depth = 1.70" for 10yr-24hr event
 Inflow = 2.20 cfs @ 12.20 hrs, Volume= 0.143 af
 Outflow = 2.16 cfs @ 12.22 hrs, Volume= 0.143 af, Atten= 2%, Lag= 1.1 min
 Primary = 2.16 cfs @ 12.22 hrs, Volume= 0.143 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 973.21' @ 12.22 hrs Surf.Area= 1,091 sf Storage= 118 cf

Plug-Flow detention time= 0.7 min calculated for 0.143 af (100% of inflow)
 Center-of-Mass det. time= 0.7 min (800.9 - 800.3)

Volume	Invert	Avail.Storage	Storage Description
#1	973.00'	35,125 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
973.00	50	0	0
974.00	5,100	2,575	2,575
975.00	20,000	12,550	15,125
976.00	20,000	20,000	35,125

Device	Routing	Invert	Outlet Devices
#1	Primary	973.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	975.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.16 cfs @ 12.22 hrs HW=973.21' TW=968.14' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 2.16 cfs @ 1.48 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.00' TW=967.50' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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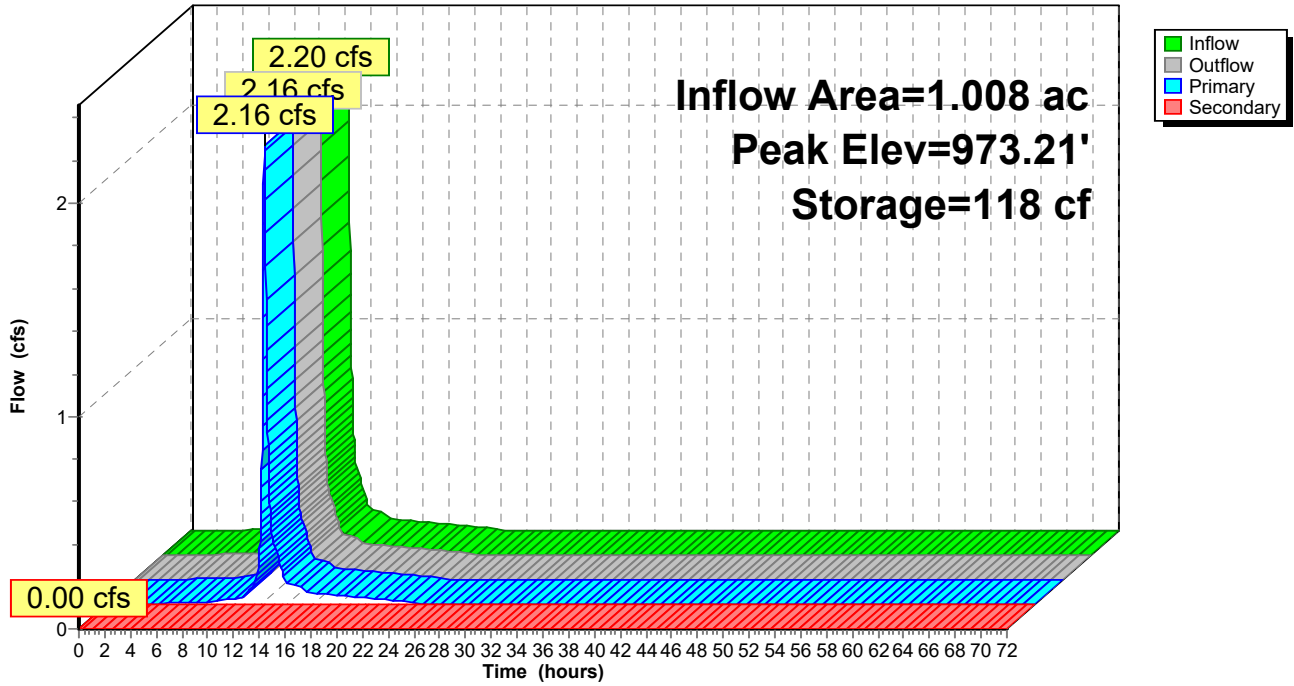
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_H6: CB_H6

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_H7: CB_H7

Inflow Area = 1.176 ac, 19.64% Impervious, Inflow Depth = 1.81" for 10yr-24hr event
 Inflow = 2.78 cfs @ 12.20 hrs, Volume= 0.178 af
 Outflow = 2.59 cfs @ 12.24 hrs, Volume= 0.177 af, Atten= 7%, Lag= 2.4 min
 Primary = 2.59 cfs @ 12.24 hrs, Volume= 0.177 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 974.23' @ 12.24 hrs Surf.Area= 2,430 sf Storage= 577 cf

Plug-Flow detention time= 10.0 min calculated for 0.177 af (100% of inflow)
 Center-of-Mass det. time= 9.1 min (808.5 - 799.4)

Volume	Invert	Avail.Storage	Storage Description
#1	973.99'	4,872 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
973.99	50	0	0
974.00	2,430	12	12
976.00	2,430	4,860	4,872

Device	Routing	Invert	Outlet Devices
#1	Primary	974.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	975.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.59 cfs @ 12.24 hrs HW=974.23' TW=968.20' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 2.59 cfs @ 1.58 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.99' TW=973.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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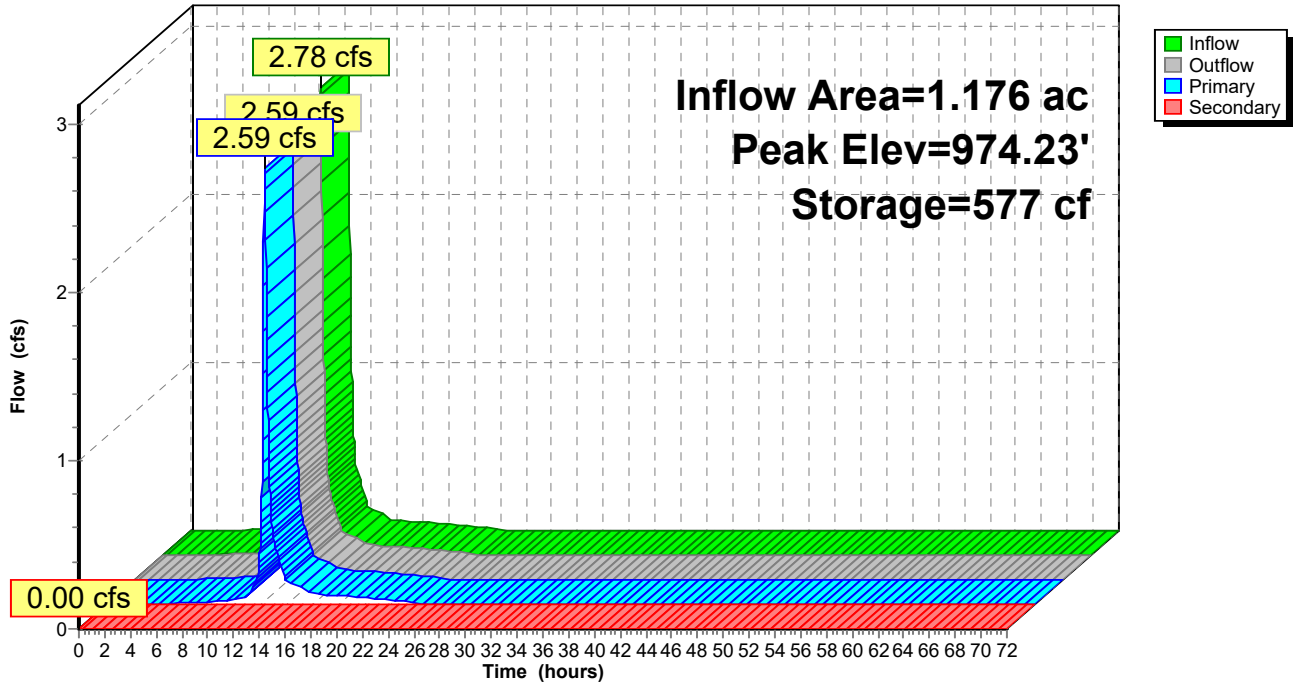
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_H7: CB_H7

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_I14: CB_I14

Inflow Area = 0.648 ac, 15.59% Impervious, Inflow Depth = 2.15" for 10yr-24hr event
 Inflow = 1.91 cfs @ 12.20 hrs, Volume= 0.116 af
 Outflow = 1.86 cfs @ 12.23 hrs, Volume= 0.116 af, Atten= 3%, Lag= 1.5 min
 Primary = 1.86 cfs @ 12.23 hrs, Volume= 0.116 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 985.67' @ 12.23 hrs Surf.Area= 461 sf Storage= 187 cf

Plug-Flow detention time= 3.4 min calculated for 0.116 af (100% of inflow)
 Center-of-Mass det. time= 3.1 min (804.7 - 801.6)

Volume	Invert	Avail.Storage	Storage Description
#1	985.00'	7,510 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
985.00	100	0	0
986.00	640	370	370
988.00	6,500	7,140	7,510

Device	Routing	Invert	Outlet Devices
#1	Primary	985.00'	15.0" Round FES_I14 L= 140.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 985.00' / 981.70' S= 0.0236 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	987.50'	10.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=1.85 cfs @ 12.23 hrs HW=985.67' TW=970.01' (Dynamic Tailwater)
 ↑1=FES_I14 (Inlet Controls 1.85 cfs @ 2.78 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=985.00' TW=0.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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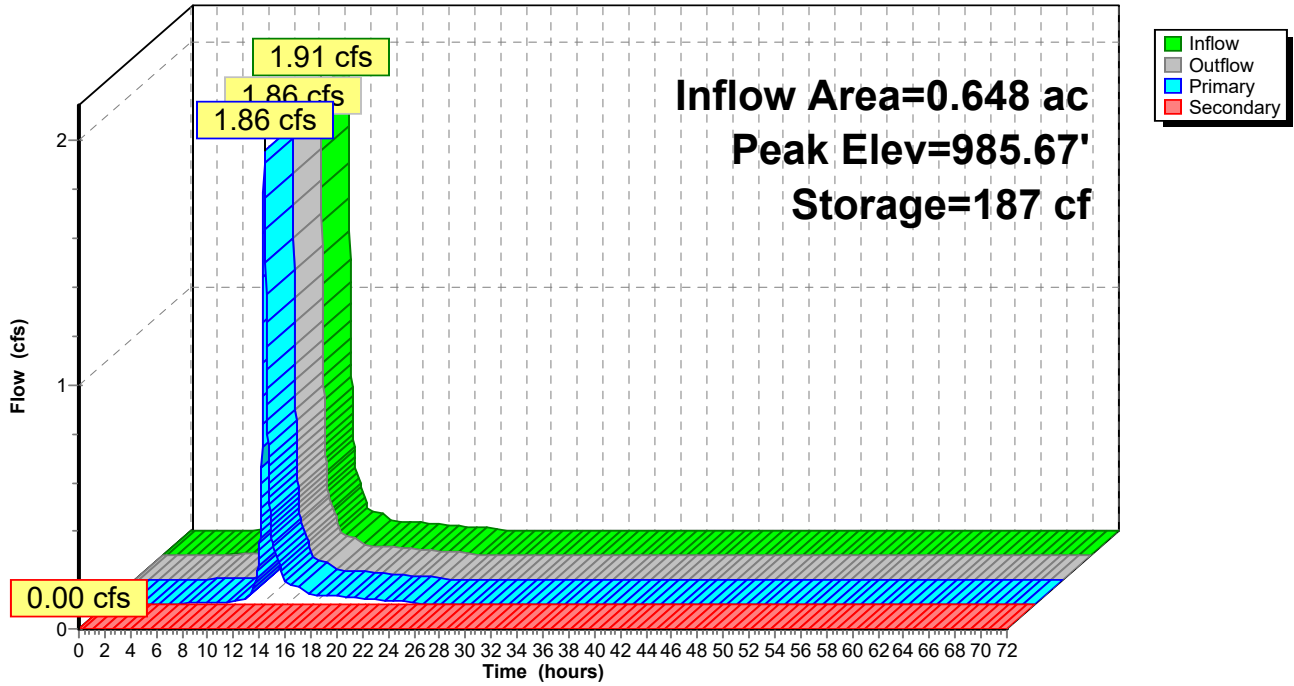
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_I14: CB_I14

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_I7: CB_I7

Inflow Area = 0.815 ac, 18.77% Impervious, Inflow Depth = 2.22" for 10yr-24hr event
 Inflow = 2.47 cfs @ 12.20 hrs, Volume= 0.151 af
 Outflow = 2.45 cfs @ 12.22 hrs, Volume= 0.151 af, Atten= 1%, Lag= 0.9 min
 Primary = 2.45 cfs @ 12.22 hrs, Volume= 0.151 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 986.22' @ 12.22 hrs Surf.Area= 872 sf Storage= 109 cf

Plug-Flow detention time= 0.7 min calculated for 0.151 af (100% of inflow)
 Center-of-Mass det. time= 0.7 min (799.0 - 798.3)

Volume	Invert	Avail.Storage	Storage Description
#1	986.00'	21,100 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
986.00	100	0	0
988.00	7,000	7,100	7,100
990.00	7,000	14,000	21,100

Device	Routing	Invert	Outlet Devices
#1	Primary	986.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	989.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.44 cfs @ 12.22 hrs HW=986.22' TW=969.98' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 2.44 cfs @ 1.54 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=986.00' TW=985.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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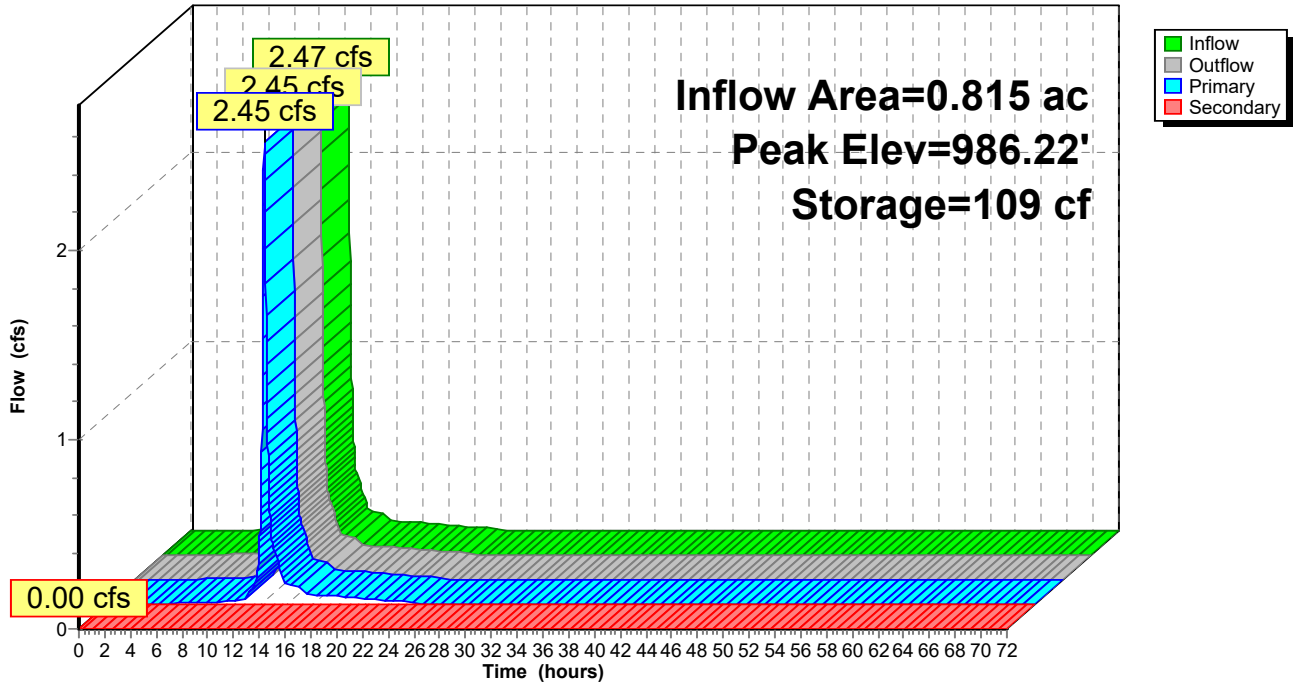
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_I7: CB_I7

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_I8: CB_I8

Inflow Area = 1.173 ac, 25.23% Impervious, Inflow Depth = 2.36" for 10yr-24hr event
 Inflow = 3.75 cfs @ 12.20 hrs, Volume= 0.231 af
 Outflow = 3.74 cfs @ 12.20 hrs, Volume= 0.231 af, Atten= 0%, Lag= 0.2 min
 Primary = 3.74 cfs @ 12.20 hrs, Volume= 0.231 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 987.30' @ 12.20 hrs Surf.Area= 282 sf Storage= 49 cf

Plug-Flow detention time= 0.2 min calculated for 0.231 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (792.4 - 792.1)

Volume	Invert	Avail.Storage	Storage Description
#1	987.00'	3,105 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
987.00	50	0	0
988.00	830	440	440
989.00	1,500	1,165	1,605
990.00	1,500	1,500	3,105

Device	Routing	Invert	Outlet Devices
#1	Primary	987.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	989.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.73 cfs @ 12.20 hrs HW=987.30' TW=969.94' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 3.73 cfs @ 1.78 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=987.00' TW=986.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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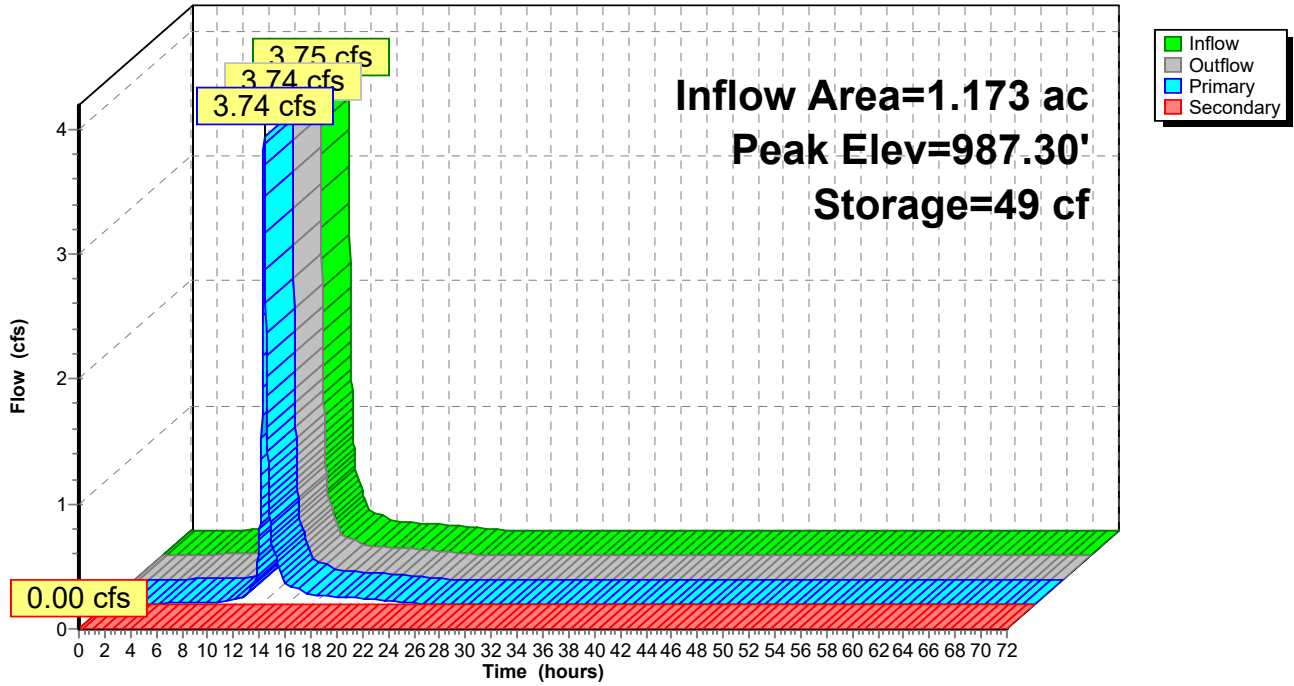
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_I8: CB_I8

Hydrograph



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Summary for Pond CB_I9: CB_I9

Inflow Area = 0.256 ac, 27.73% Impervious, Inflow Depth = 2.42" for 10yr-24hr event
 Inflow = 0.83 cfs @ 12.20 hrs, Volume= 0.052 af
 Outflow = 0.83 cfs @ 12.20 hrs, Volume= 0.052 af, Atten= 0%, Lag= 0.2 min
 Primary = 0.83 cfs @ 12.20 hrs, Volume= 0.052 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.11' @ 12.20 hrs Surf.Area= 105 sf Storage= 8 cf

Plug-Flow detention time= 0.3 min calculated for 0.052 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (790.2 - 789.9)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	1,818 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
978.50	300	88	88
980.00	300	450	538
984.00	340	1,280	1,818

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	978.50'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.83 cfs @ 12.20 hrs HW=978.11' TW=970.07' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 0.83 cfs @ 1.08 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=969.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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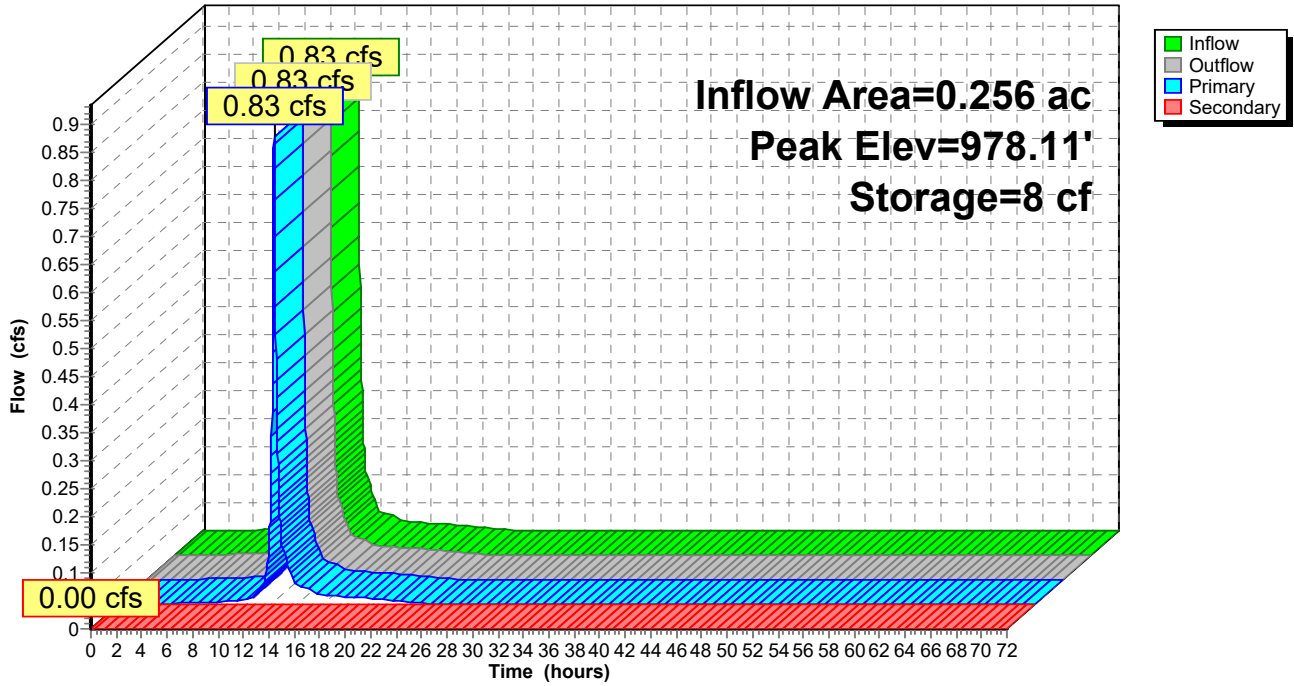
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_I9: CB_I9

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_J3: CB_J3

Inflow Area = 1.496 ac, 20.32% Impervious, Inflow Depth = 2.25" for 10yr-24hr event
 Inflow = 4.60 cfs @ 12.20 hrs, Volume= 0.281 af
 Outflow = 4.59 cfs @ 12.21 hrs, Volume= 0.281 af, Atten= 0%, Lag= 0.4 min
 Primary = 4.59 cfs @ 12.21 hrs, Volume= 0.281 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 991.34' @ 12.21 hrs Surf.Area= 475 sf Storage= 89 cf

Plug-Flow detention time= 0.3 min calculated for 0.281 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (797.0 - 796.7)

Volume	Invert	Avail.Storage	Storage Description
#1	991.00'	4,575 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
991.00	50	0	0
992.00	1,300	675	675
993.00	1,300	1,300	1,975
995.00	1,300	2,600	4,575

Device	Routing	Invert	Outlet Devices
#1	Primary	991.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	992.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=4.56 cfs @ 12.21 hrs HW=991.34' TW=974.17' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 4.56 cfs @ 1.90 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=991.00' TW=973.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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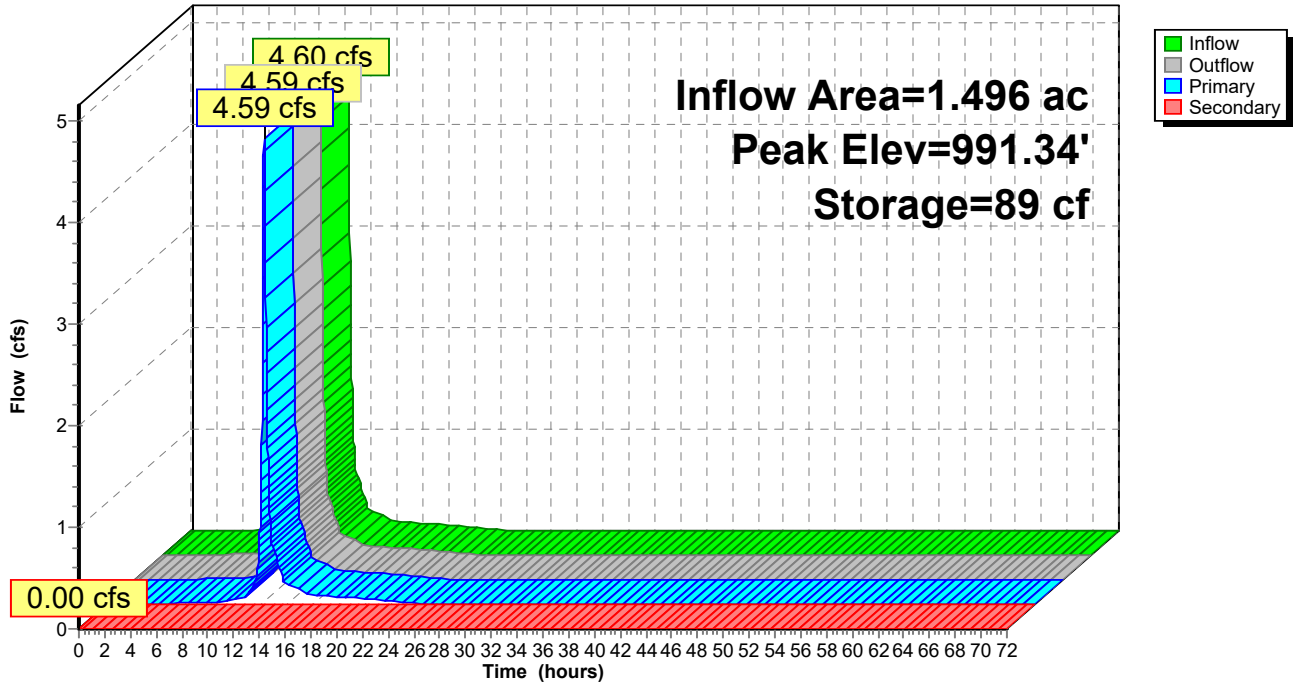
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_J3: CB_J3

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_J4: CB_J4

Inflow Area = 0.993 ac, 12.19% Impervious, Inflow Depth = 2.07" for 10yr-24hr event
 Inflow = 2.85 cfs @ 12.20 hrs, Volume= 0.171 af
 Outflow = 2.57 cfs @ 12.25 hrs, Volume= 0.171 af, Atten= 10%, Lag= 2.9 min
 Primary = 2.57 cfs @ 12.25 hrs, Volume= 0.171 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 994.81' @ 12.25 hrs Surf.Area= 1,160 sf Storage= 489 cf

Plug-Flow detention time= 3.8 min calculated for 0.171 af (100% of inflow)
 Center-of-Mass det. time= 3.4 min (808.9 - 805.5)

Volume	Invert	Avail.Storage	Storage Description
#1	994.00'	5,650 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.00	50	0	0
996.00	2,800	2,850	2,850
997.00	2,800	2,800	5,650

Device	Routing	Invert	Outlet Devices
#1	Secondary	995.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	994.00'	15.0" Round Culvert L= 166.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 994.00' / 991.00' S= 0.0181 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=2.56 cfs @ 12.25 hrs HW=994.81' TW=974.31' (Dynamic Tailwater)

↑**2=Culvert** (Inlet Controls 2.56 cfs @ 3.06 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=994.00' TW=991.00' (Dynamic Tailwater)

↑**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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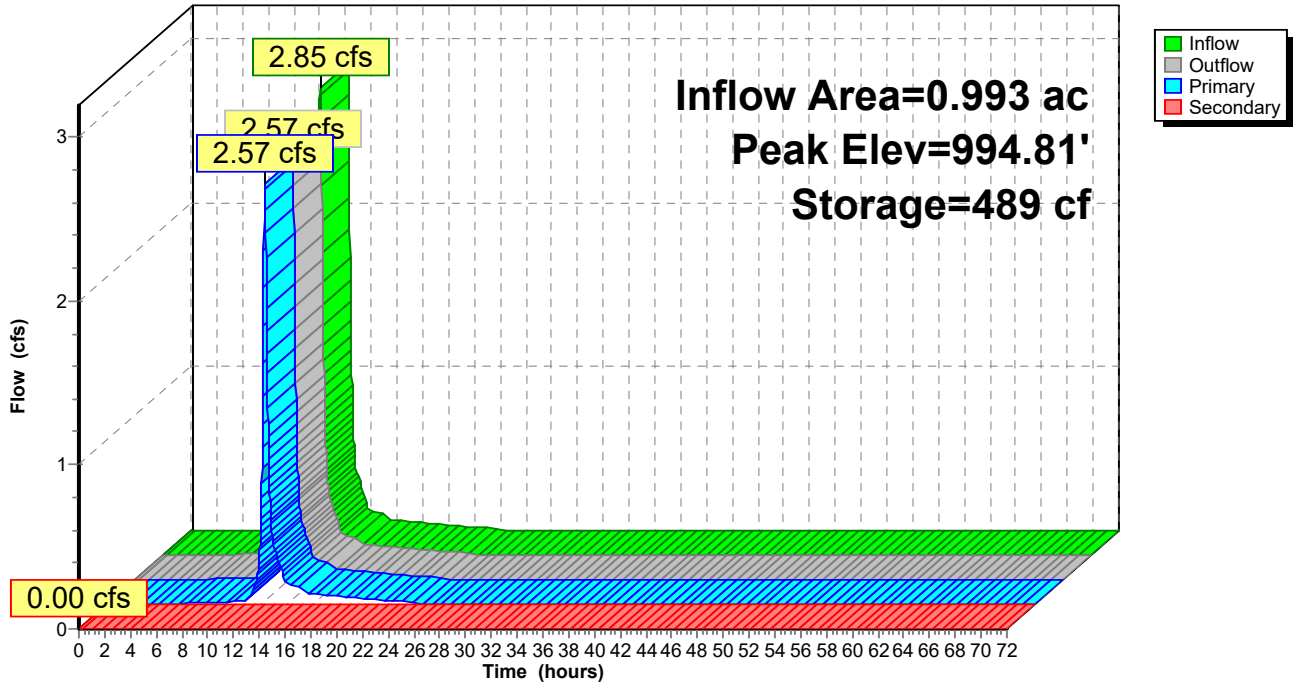
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_J4: CB_J4

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_L4: CB_L4

Inflow Area = 0.167 ac, 20.96% Impervious, Inflow Depth = 2.24" for 10yr-24hr event
 Inflow = 0.51 cfs @ 12.20 hrs, Volume= 0.031 af
 Outflow = 0.51 cfs @ 12.21 hrs, Volume= 0.031 af, Atten= 0%, Lag= 0.3 min
 Primary = 0.51 cfs @ 12.21 hrs, Volume= 0.031 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.08' @ 12.21 hrs Surf.Area= 160 sf Storage= 8 cf

Plug-Flow detention time= 0.4 min calculated for 0.031 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (796.6 - 796.2)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	1,325 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
978.50	750	200	200
980.00	750	1,125	1,325

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	978.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=0.51 cfs @ 12.21 hrs HW=978.08' TW=969.06' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 0.51 cfs @ 0.91 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=967.50' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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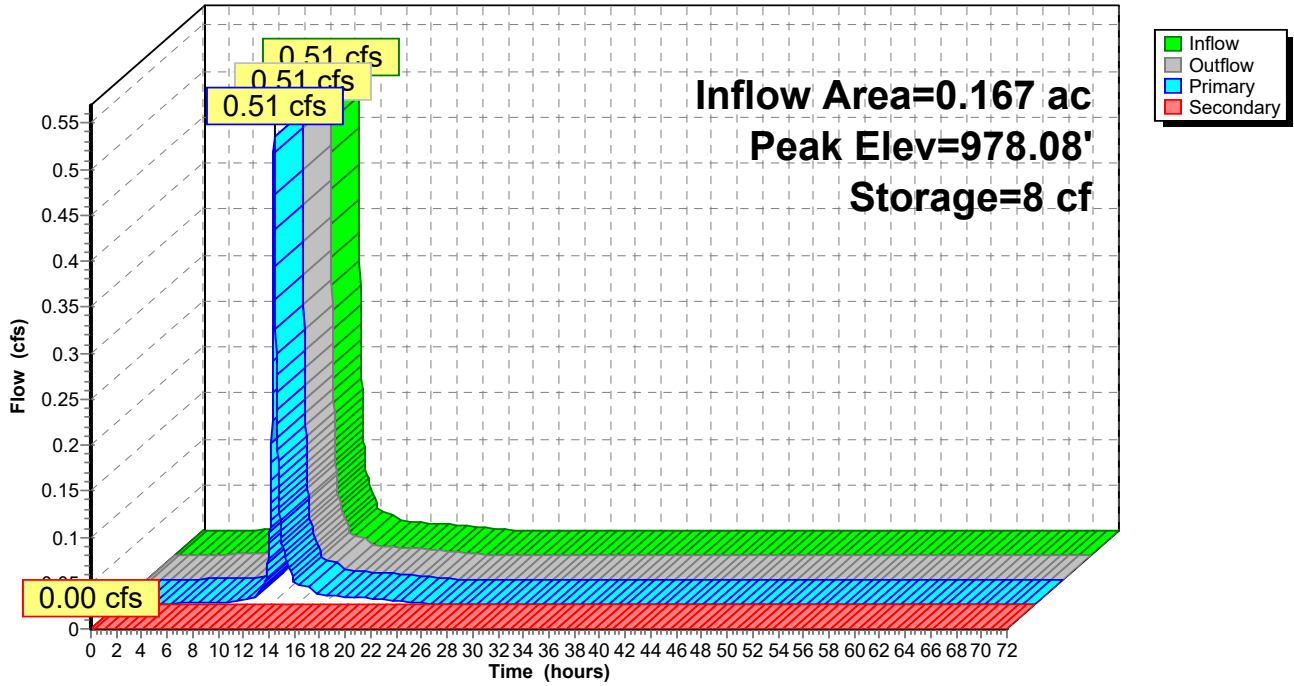
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_L4: CB_L4

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_L5: CB_L5

Inflow Area = 0.763 ac, 22.02% Impervious, Inflow Depth = 3.43" for 10yr-24hr event
 Inflow = 3.23 cfs @ 12.22 hrs, Volume= 0.218 af
 Outflow = 3.23 cfs @ 12.22 hrs, Volume= 0.218 af, Atten= 0%, Lag= 0.3 min
 Primary = 3.23 cfs @ 12.22 hrs, Volume= 0.218 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 977.77' @ 12.22 hrs Surf.Area= 362 sf Storage= 55 cf

Plug-Flow detention time= 0.3 min calculated for 0.218 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (801.3 - 801.0)

Volume	Invert	Avail.Storage	Storage Description
#1	977.50'	6,500 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
977.50	50	0	0
978.00	630	170	170
980.00	5,700	6,330	6,500

Device	Routing	Invert	Outlet Devices
#1	Primary	977.50'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.22 cfs @ 12.22 hrs HW=977.77' TW=969.14' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 3.22 cfs @ 1.70 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=977.50' TW=978.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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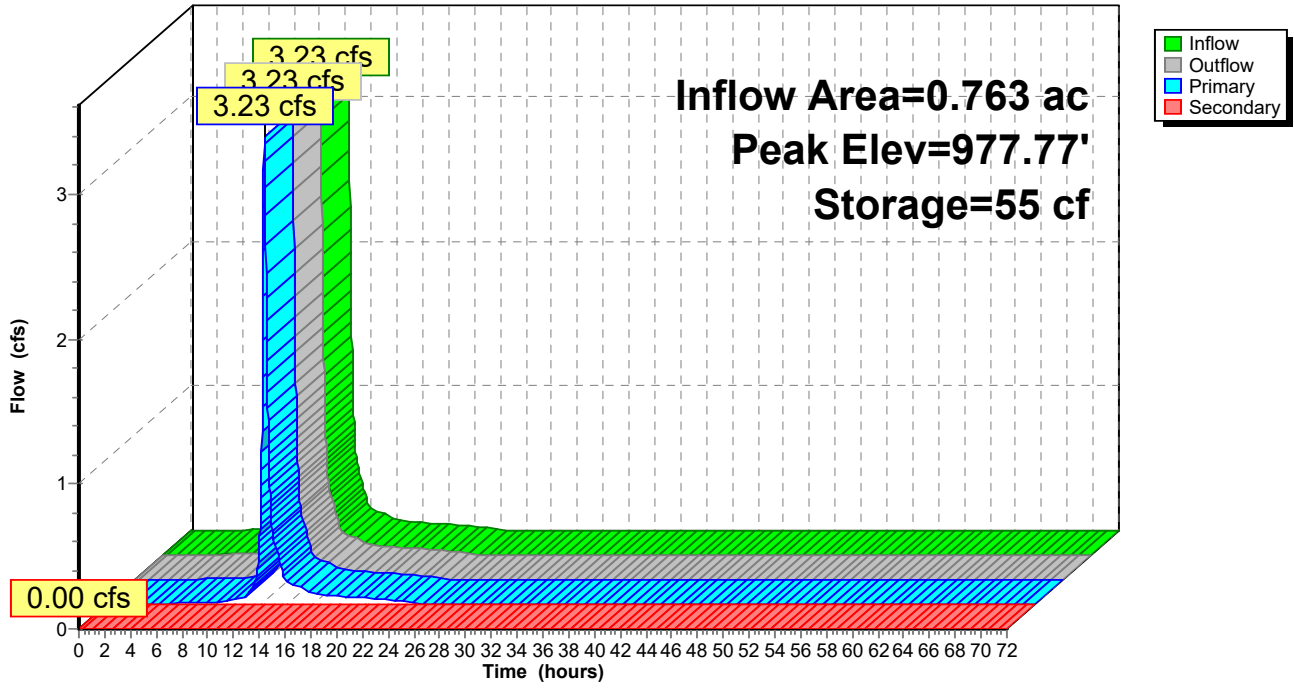
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_L5: CB_L5

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_L6: CB_L6

Inflow Area = 1.091 ac, 19.98% Impervious, Inflow Depth = 2.24" for 10yr-24hr event
 Inflow = 3.34 cfs @ 12.20 hrs, Volume= 0.204 af
 Outflow = 2.75 cfs @ 12.27 hrs, Volume= 0.204 af, Atten= 18%, Lag= 4.2 min
 Primary = 1.77 cfs @ 12.27 hrs, Volume= 0.132 af
 Secondary = 0.98 cfs @ 12.27 hrs, Volume= 0.072 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.18' @ 12.27 hrs Surf.Area= 1,301 sf Storage= 1,219 cf

Plug-Flow detention time= 16.2 min calculated for 0.204 af (100% of inflow)
 Center-of-Mass det. time= 15.9 min (813.0 - 797.1)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	13,500 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	100	0	0
980.00	13,400	13,500	13,500

Device	Routing	Invert	Outlet Devices
#1	Secondary	978.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.77 cfs @ 12.27 hrs HW=978.18' TW=969.34' (Dynamic Tailwater)
 ↑**2=Grate** (Weir Controls 1.77 cfs @ 1.39 fps)

Secondary OutFlow Max=0.97 cfs @ 12.27 hrs HW=978.18' TW=977.75' (Dynamic Tailwater)
 ↑**1=Broad-Crested Rectangular Weir** (Weir Controls 0.97 cfs @ 1.08 fps)

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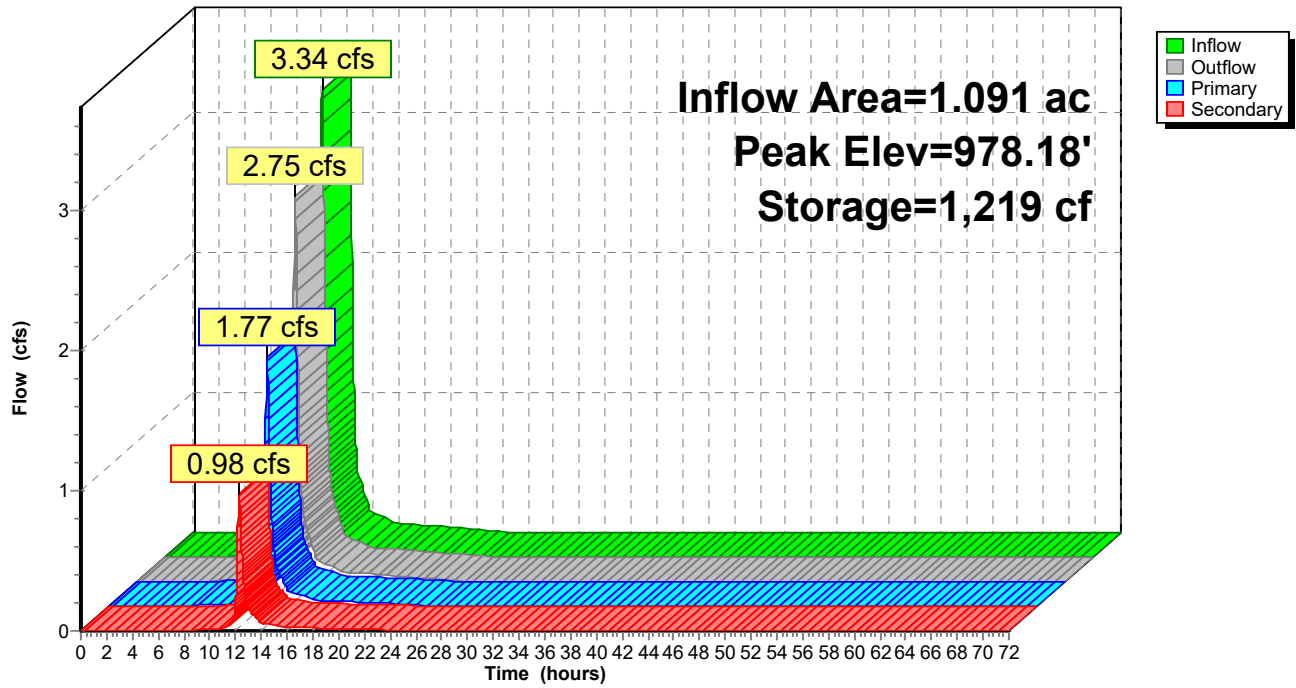
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_L6: CB_L6

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_L7: CB_L7

Inflow Area = 0.759 ac, 21.21% Impervious, Inflow Depth = 2.27" for 10yr-24hr event
 Inflow = 2.35 cfs @ 12.20 hrs, Volume= 0.144 af
 Outflow = 2.34 cfs @ 12.21 hrs, Volume= 0.144 af, Atten= 0%, Lag= 0.3 min
 Primary = 2.34 cfs @ 12.21 hrs, Volume= 0.144 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 979.22' @ 12.21 hrs Surf.Area= 339 sf Storage= 42 cf

Plug-Flow detention time= 0.3 min calculated for 0.144 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (796.2 - 795.9)

Volume	Invert	Avail.Storage	Storage Description
#1	979.00'	715 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
979.00	50	0	0
980.00	1,380	715	715

Device	Routing	Invert	Outlet Devices
#1	Primary	979.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.90'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.33 cfs @ 12.21 hrs HW=979.22' TW=969.07' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 2.33 cfs @ 1.52 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=979.00' TW=978.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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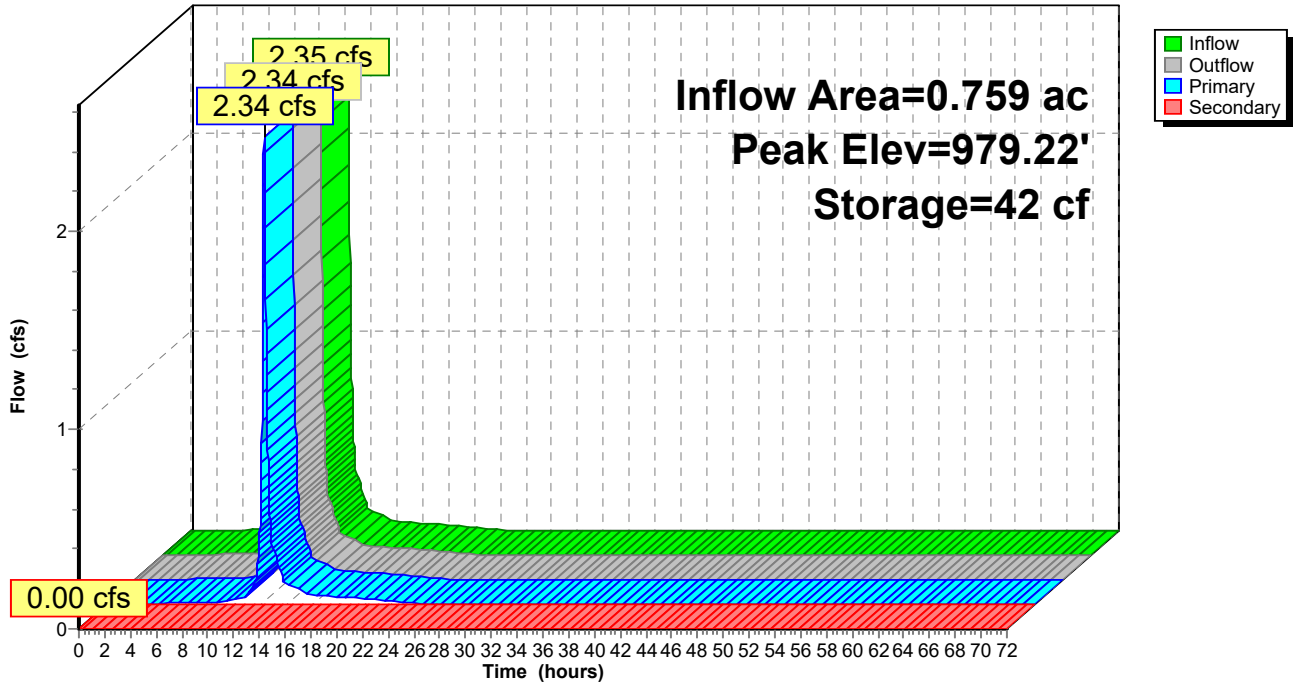
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_L7: CB_L7

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_L8: CB_L8

Inflow Area = 1.441 ac, 22.07% Impervious, Inflow Depth = 2.19" for 10yr-24hr event
 Inflow = 4.27 cfs @ 12.20 hrs, Volume= 0.263 af
 Outflow = 4.14 cfs @ 12.22 hrs, Volume= 0.263 af, Atten= 3%, Lag= 1.5 min
 Primary = 4.14 cfs @ 12.22 hrs, Volume= 0.263 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 980.32' @ 12.22 hrs Surf.Area= 1,854 sf Storage= 303 cf

Plug-Flow detention time= 0.8 min calculated for 0.263 af (100% of inflow)
 Center-of-Mass det. time= 0.8 min (795.0 - 794.2)

Volume	Invert	Avail.Storage	Storage Description
#1	980.00'	11,450 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
980.00	50	0	0
982.00	11,400	11,450	11,450

Device	Routing	Invert	Outlet Devices
#1	Primary	980.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	981.90'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=4.13 cfs @ 12.22 hrs HW=980.32' TW=969.16' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 4.13 cfs @ 1.84 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=980.00' TW=979.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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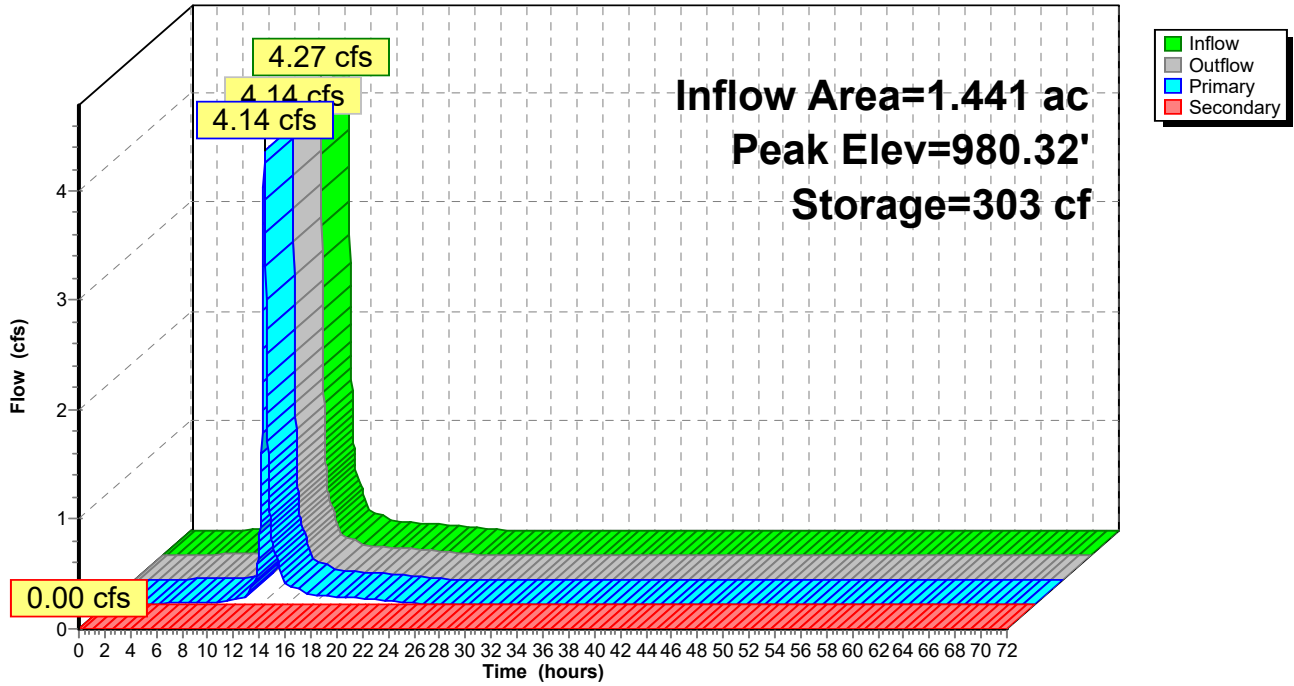
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_L8: CB_L8

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_L9: CB_L9

Inflow Area = 2.129 ac, 19.16% Impervious, Inflow Depth = 2.22" for 10yr-24hr event
 Inflow = 6.47 cfs @ 12.20 hrs, Volume= 0.394 af
 Outflow = 4.77 cfs @ 12.29 hrs, Volume= 0.394 af, Atten= 26%, Lag= 5.5 min
 Primary = 4.77 cfs @ 12.29 hrs, Volume= 0.394 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 983.28' @ 12.29 hrs Surf.Area= 2,943 sf Storage= 1,943 cf

Plug-Flow detention time= 6.2 min calculated for 0.394 af (100% of inflow)
 Center-of-Mass det. time= 5.8 min (803.7 - 797.9)

Volume	Invert	Avail.Storage	Storage Description
#1	982.00'	7,815 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
982.00	100	0	0
983.50	3,440	2,655	2,655
985.00	3,440	5,160	7,815

Device	Routing	Invert	Outlet Devices
#1	Primary	982.00'	15.0" Round Culvert L= 163.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 982.00' / 975.68' S= 0.0388 ' /' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	983.50'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=4.77 cfs @ 12.29 hrs HW=983.28' TW=969.41' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 4.77 cfs @ 3.88 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=982.00' TW=980.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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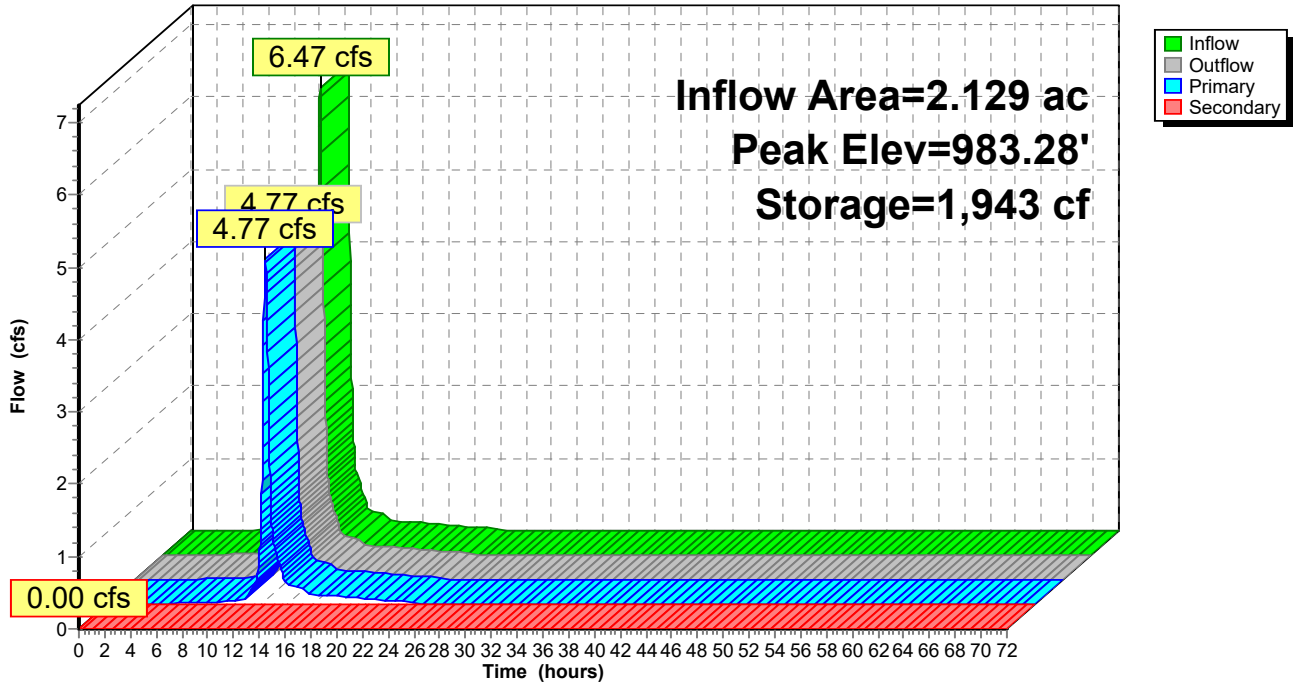
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_L9: CB_L9

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_O10: CB_O10

Inflow Area = 0.609 ac, 15.44% Impervious, Inflow Depth = 2.14" for 10yr-24hr event
 Inflow = 1.80 cfs @ 12.20 hrs, Volume= 0.109 af
 Outflow = 1.79 cfs @ 12.21 hrs, Volume= 0.109 af, Atten= 1%, Lag= 0.6 min
 Primary = 1.79 cfs @ 12.21 hrs, Volume= 0.109 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.18' @ 12.21 hrs Surf.Area= 521 sf Storage= 52 cf

Plug-Flow detention time= 0.4 min calculated for 0.109 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (802.2 - 801.8)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	25,530 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
980.00	5,240	5,290	5,290
982.00	15,000	20,240	25,530

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	980.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.78 cfs @ 12.21 hrs HW=978.18' TW=969.09' (Dynamic Tailwater)
 ↑1=**Orifice/Grate** (Weir Controls 1.78 cfs @ 1.39 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=978.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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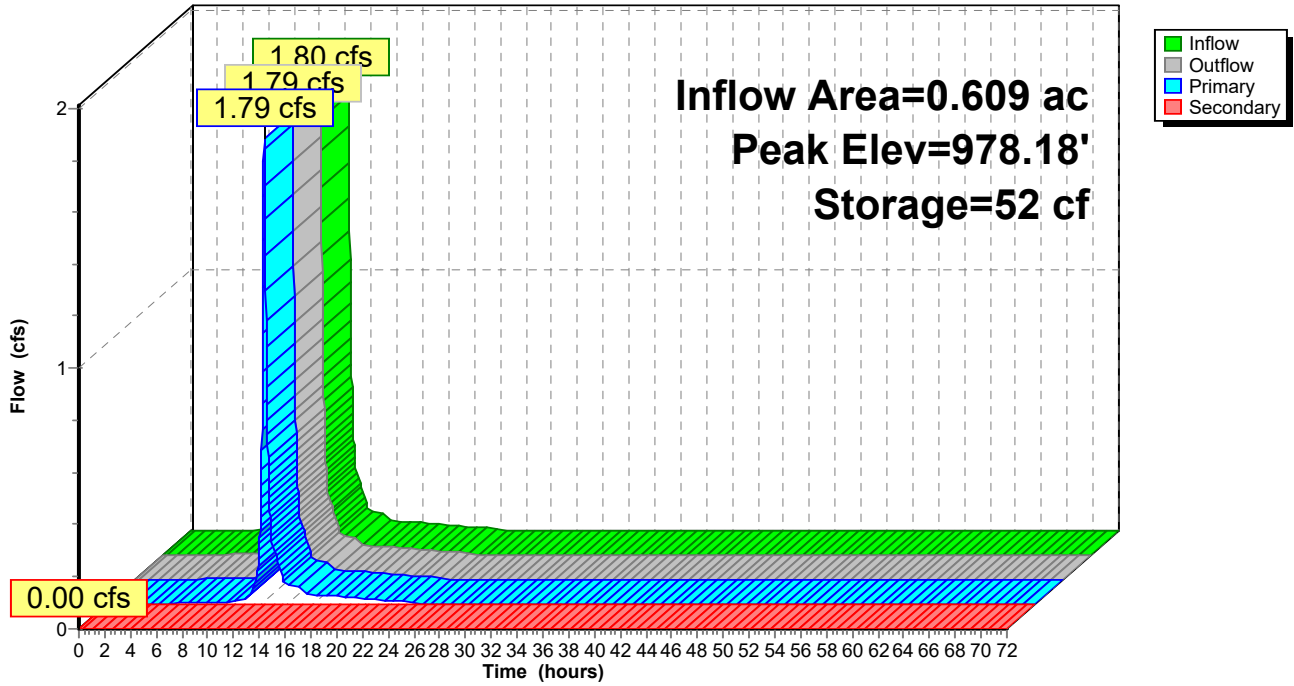
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_O10: CB_O10

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond CB_O8: CB_O8

Inflow Area = 0.490 ac, 12.24% Impervious, Inflow Depth = 2.07" for 10yr-24hr event
 Inflow = 1.41 cfs @ 12.20 hrs, Volume= 0.085 af
 Outflow = 1.41 cfs @ 12.21 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.2 min
 Primary = 1.41 cfs @ 12.21 hrs, Volume= 0.085 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 975.65' @ 12.21 hrs Surf.Area= 158 sf Storage= 16 cf

Plug-Flow detention time= 0.3 min calculated for 0.085 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (805.7 - 805.4)

Volume	Invert	Avail.Storage	Storage Description
#1	975.50'	913 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
975.50	50	0	0
976.00	400	113	113
978.00	400	800	913

Device	Routing	Invert	Outlet Devices
#1	Primary	975.50'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	976.00'	4.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.40 cfs @ 12.21 hrs HW=975.65' TW=969.06' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 1.40 cfs @ 1.28 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=975.50' TW=967.50' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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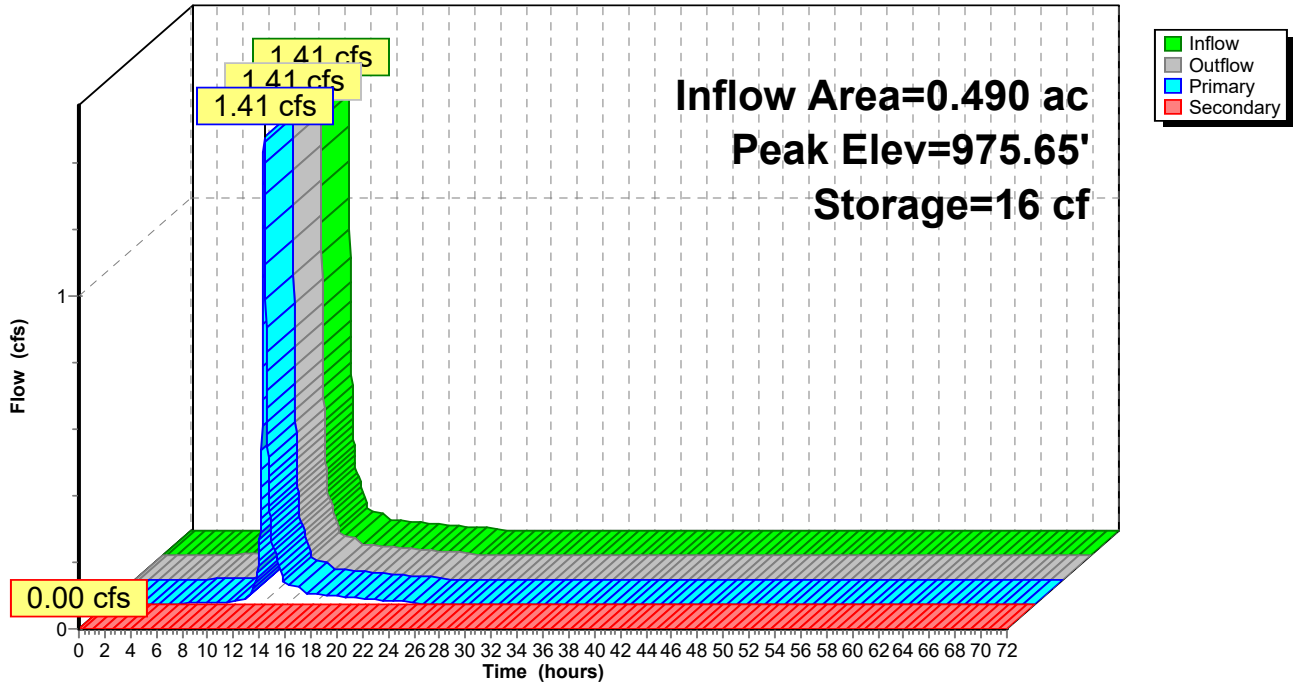
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_08: CB_08

Hydrograph



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Summary for Pond CB_O9: CB_O9

Inflow Area = 1.143 ac, 19.86% Impervious, Inflow Depth = 2.24" for 10yr-24hr event
 Inflow = 3.50 cfs @ 12.20 hrs, Volume= 0.214 af
 Outflow = 3.49 cfs @ 12.21 hrs, Volume= 0.214 af, Atten= 0%, Lag= 0.4 min
 Primary = 3.49 cfs @ 12.21 hrs, Volume= 0.214 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.28' @ 12.21 hrs Surf.Area= 461 sf Storage= 72 cf

Plug-Flow detention time= 0.3 min calculated for 0.213 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (797.5 - 797.2)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	2,275 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
979.00	1,500	775	775
980.00	1,500	1,500	2,275

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.47 cfs @ 12.21 hrs HW=978.28' TW=969.08' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 3.47 cfs @ 1.74 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=975.50' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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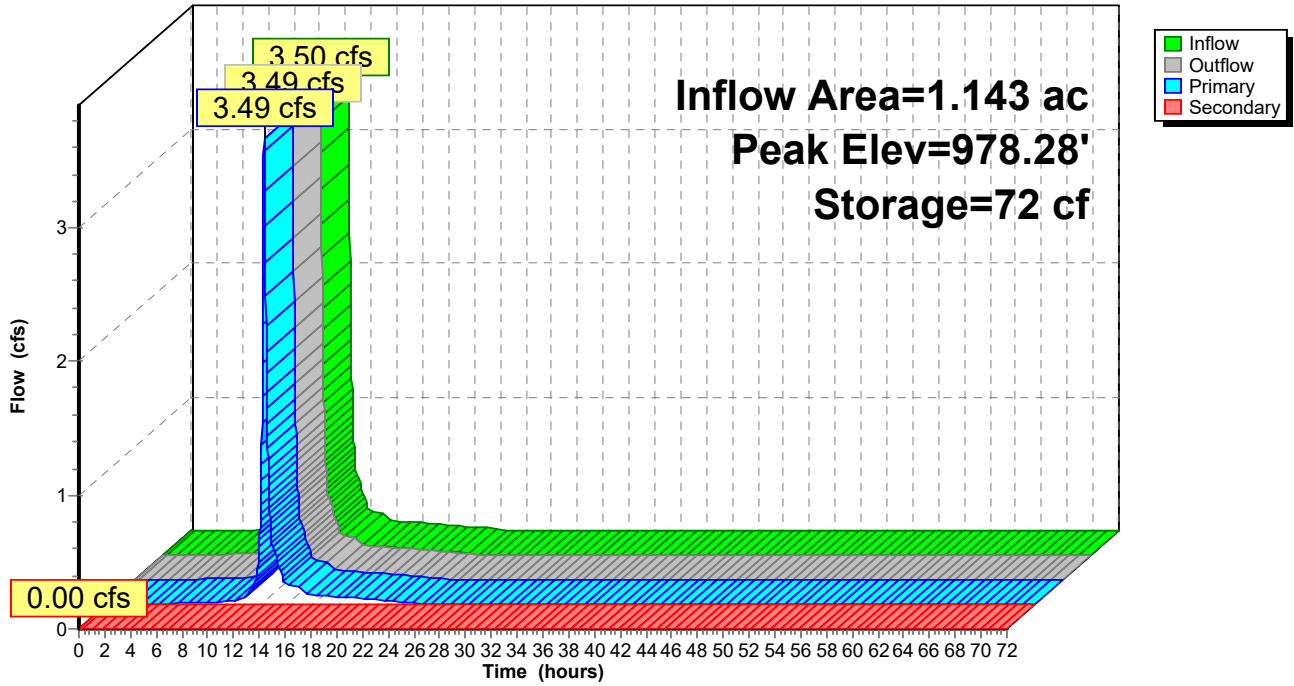
MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Pond CB_09: CB_09

Hydrograph



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Summary for Pond P1N: Pond 1N

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=1)

Inflow Area = 5.394 ac, 29.66% Impervious, Inflow Depth = 2.46" for 10yr-24hr event
 Inflow = 17.58 cfs @ 12.20 hrs, Volume= 1.105 af
 Outflow = 1.02 cfs @ 14.05 hrs, Volume= 0.602 af, Atten= 94%, Lag= 110.8 min
 Primary = 1.02 cfs @ 14.05 hrs, Volume= 0.602 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.50' Surf.Area= 41,136 sf Storage= 169,437 cf
 Peak Elev= 1,010.26' @ 13.64 hrs Surf.Area= 52,266 sf Storage= 203,999 cf (34,562 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 283.7 min (1,072.2 - 788.6)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	391,973 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,000.00	6,656	0	0
1,002.00	10,300	16,956	16,956
1,004.00	14,547	24,847	41,803
1,006.00	19,203	33,750	75,553
1,008.00	25,045	44,248	119,801
1,010.00	46,500	71,545	191,346
1,010.50	57,752	26,063	217,409
1,012.00	75,000	99,564	316,973
1,013.00	75,000	75,000	391,973

Device	Routing	Invert	Outlet Devices
#1	Primary	1,009.50'	15.0" Round Main outlet (Structure 248 to 249) L= 43.3' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 1,009.50' / 1,009.10' S= 0.0092 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	1,010.80'	48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,007.00'	15.0" Round low flow pipe L= 30.7' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,006.50' / 1,007.00' S= -0.0163 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#4	Secondary	1,012.00'	10.0' long x 2.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

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Primary OutFlow Max=1.03 cfs @ 14.05 hrs HW=1,010.25' TW=1,010.12' (Dynamic Tailwater)

↳ **1=Main outlet (Structure 248 to 249)** (Outlet Controls 1.03 cfs @ 1.92 fps)

↳ **2=Orifice/Grate** (Controls 0.00 cfs)

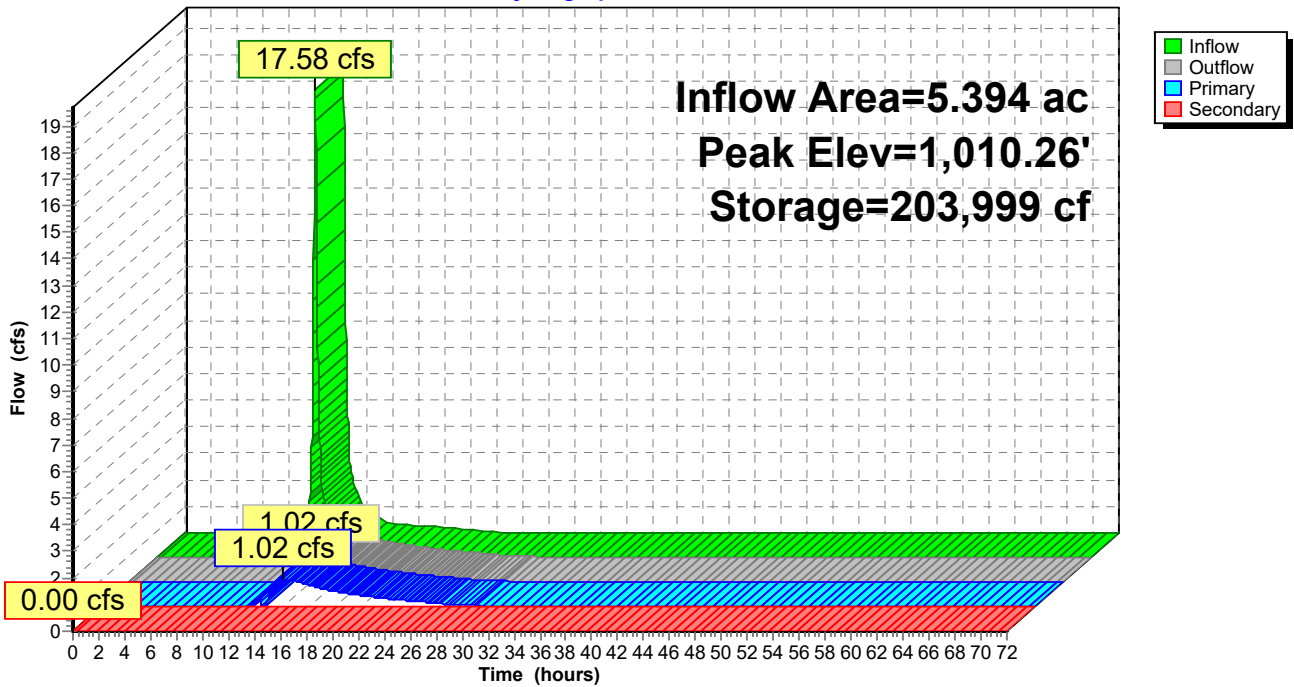
↳ **3=low flow pipe** (Passes 1.03 cfs of 2.15 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,009.50' TW=1,009.00' (Dynamic Tailwater)

↳ **4=EOF** (Controls 0.00 cfs)

Pond P1N: Pond 1N

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond P1S: Pond 1S

Inflow Area = 106.817 ac, 34.75% Impervious, Inflow Depth > 2.40" for 10yr-24hr event
 Inflow = 89.58 cfs @ 12.23 hrs, Volume= 21.372 af
 Outflow = 24.51 cfs @ 13.66 hrs, Volume= 21.068 af, Atten= 73%, Lag= 85.9 min
 Primary = 24.51 cfs @ 13.66 hrs, Volume= 21.068 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 967.00' Surf.Area= 72,066 sf Storage= 246,162 cf
 Peak Elev= 969.31' @ 13.66 hrs Surf.Area= 103,537 sf Storage= 453,621 cf (207,459 cf above start)

Plug-Flow detention time= 612.4 min calculated for 15.417 af (72% of inflow)
 Center-of-Mass det. time= 169.4 min (1,303.0 - 1,133.6)

Volume	Invert	Avail.Storage	Storage Description
#1	960.00'	1,047,368 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
960.00	9,454	0	0
962.00	22,413	31,867	31,867
964.00	37,168	59,581	91,448
966.00	54,342	91,510	182,958
968.00	89,790	144,132	327,090
970.00	110,794	200,584	527,674
972.00	136,300	247,094	774,768
974.00	136,300	272,600	1,047,368

Device	Routing	Invert	Outlet Devices
#1	Primary	967.00'	30.0" Round Main outlet (Structure 294 to 295) L= 35.4' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 967.00' / 966.50' S= 0.0141 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf
#2	Device 1	971.00'	48.0" Horiz. Structure 294 Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	967.00'	30.0" Round low flow pipe L= 21.6' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 966.00' / 967.00' S= -0.0463 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf
#4	Secondary	971.00'	10.0' long x 4.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

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Primary OutFlow Max=24.51 cfs @ 13.66 hrs HW=969.31' TW=0.00' (Dynamic Tailwater)

↳ **1=Main outlet (Structure 294 to 295)** (Passes 24.51 cfs of 24.99 cfs potential flow)

↳ **2=Structure 294 Grate** (Controls 0.00 cfs)

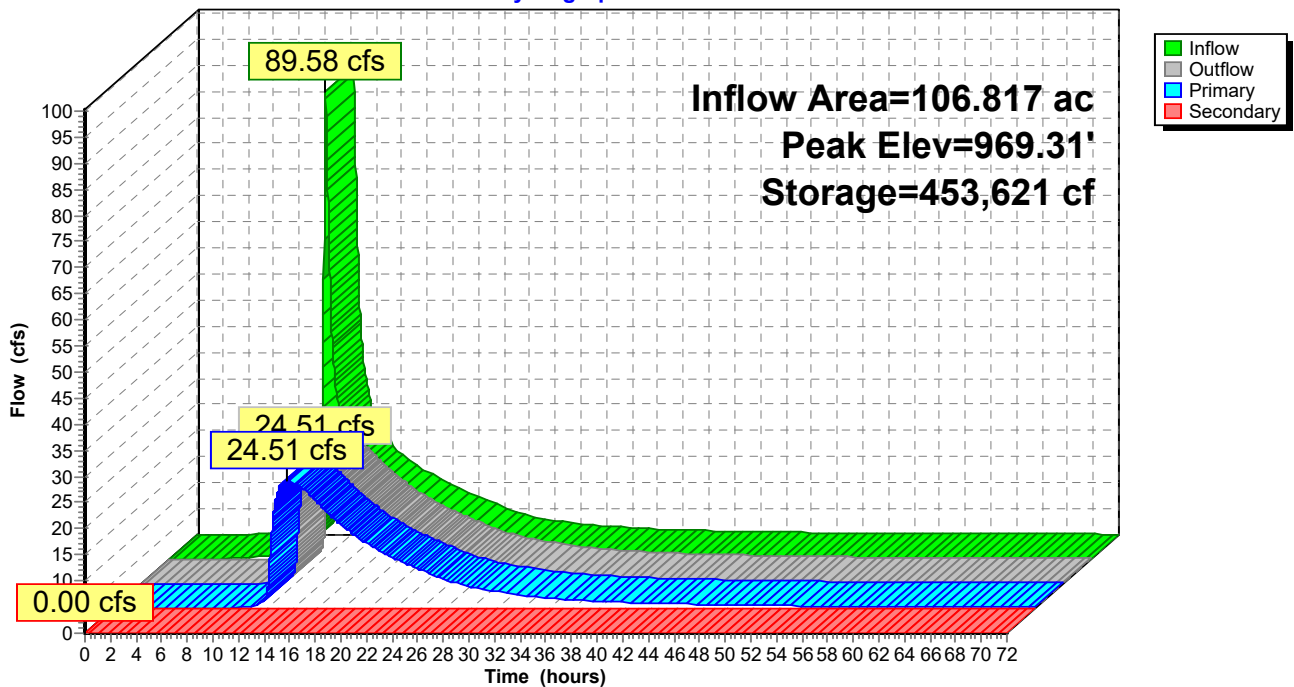
↳ **3=low flow pipe** (Inlet Controls 24.51 cfs @ 5.17 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=967.00' TW=0.00' (Dynamic Tailwater)

↳ **4=EOF** (Controls 0.00 cfs)

Pond P1S: Pond 1S

Hydrograph



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Summary for Pond P2S: Pond 2S

Inflow Area = 7.044 ac, 38.20% Impervious, Inflow Depth = 2.65" for 10yr-24hr event
 Inflow = 24.57 cfs @ 12.20 hrs, Volume= 1.557 af
 Outflow = 9.60 cfs @ 12.43 hrs, Volume= 1.551 af, Atten= 61%, Lag= 13.6 min
 Primary = 9.60 cfs @ 12.43 hrs, Volume= 1.551 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 969.00' Surf.Area= 18,607 sf Storage= 77,154 cf
 Peak Elev= 970.23' @ 12.43 hrs Surf.Area= 23,123 sf Storage= 103,106 cf (25,953 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 105.9 min (888.1 - 782.1)

Volume	Invert	Avail.Storage	Storage Description
#1	962.00'	200,412 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
962.00	6,074	0	0
964.00	8,571	14,645	14,645
966.00	11,401	19,972	34,617
968.00	14,555	25,956	60,573
970.00	22,658	37,213	97,786
972.00	26,656	49,314	147,100
974.00	26,656	53,312	200,412

Device	Routing	Invert	Outlet Devices
#1	Primary	969.00'	24.0" Round Main outlet (Structure 251 to 252) L= 32.8' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.00' / 967.90' S= 0.0335 ' /' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	972.00'	48.0" Horiz. Structure 251 Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	967.00'	24.0" Round low flow pipe L= 36.7' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 966.00' / 967.00' S= -0.0272 ' /' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#4	Secondary	972.00'	8.0' long x 32.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=9.59 cfs @ 12.43 hrs HW=970.23' TW=0.00' (Dynamic Tailwater)
 ↑ 1=Main outlet (Structure 251 to 252) (Inlet Controls 9.59 cfs @ 4.72 fps)
 ↑ 2=Structure 251 Grate (Controls 0.00 cfs)
 ↑ 3=low flow pipe (Passes 9.59 cfs of 16.79 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=969.00' TW=0.00' (Dynamic Tailwater)
 ↑ 4=EOF (Controls 0.00 cfs)

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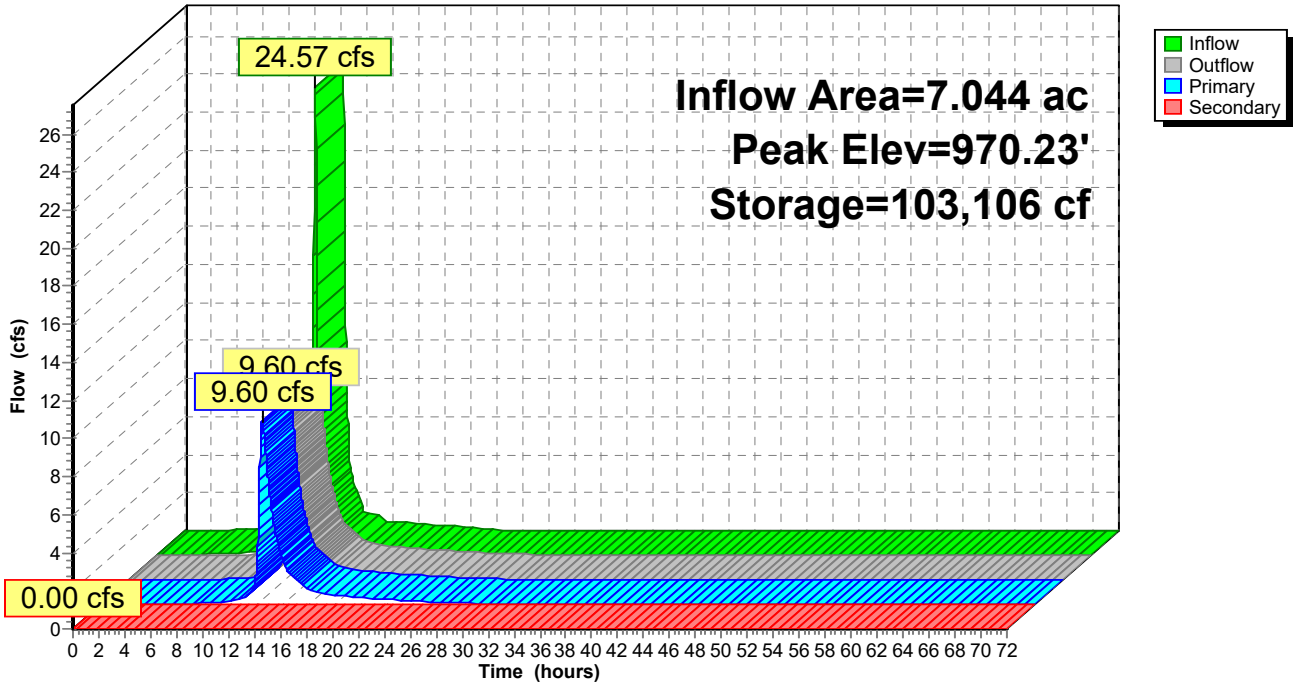
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Pond P2S: Pond 2S

Hydrograph



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MSE 24-hr 3 10yr-24hr Rainfall=4.27"

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Summary for Pond P3S: Pond 3S

Inflow Area = 12.637 ac, 40.00% Impervious, Inflow Depth = 2.69" for 10yr-24hr event
 Inflow = 44.43 cfs @ 12.20 hrs, Volume= 2.835 af
 Outflow = 10.01 cfs @ 12.58 hrs, Volume= 2.806 af, Atten= 77%, Lag= 23.0 min
 Primary = 10.01 cfs @ 12.58 hrs, Volume= 2.806 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 973.00' Surf.Area= 32,176 sf Storage= 137,120 cf
 Peak Elev= 974.65' @ 12.58 hrs Surf.Area= 40,518 sf Storage= 197,826 cf (60,706 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 183.3 min (964.0 - 780.8)

Volume	Invert	Avail.Storage	Storage Description
#1	966.00'	766,406 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
966.00	10,224	0	0
968.00	15,259	25,483	25,483
970.00	20,470	35,729	61,212
972.00	26,233	46,703	107,915
974.00	38,119	64,352	172,267
976.00	45,500	83,619	255,886
978.00	65,000	110,500	366,386
980.00	103,996	168,996	535,382
982.00	127,028	231,024	766,406

Device	Routing	Invert	Outlet Devices
#1	Primary	967.50'	24.0" Round H2 to H1 L= 174.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.50' / 967.00' S= 0.0029 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	967.80'	24.0" Round H3 to H2 L= 161.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.80' / 967.50' S= 0.0019 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#3	Device 2	968.00'	21.0" Round H4 to H3 L= 42.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 968.00' / 967.80' S= 0.0048 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#4	Device 3	968.40'	21.0" Round I101 to H4 L= 200.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 968.40' / 968.00' S= 0.0020 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#5	Device 4	968.70'	21.0" Round I100 to I101 L= 134.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 968.70' / 968.40' S= 0.0022 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf

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#6	Device 5	969.30'	21.0" Round Structure I11 to I100 L= 122.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.30' / 969.00' S= 0.0025 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#7	Device 6	972.00'	21.0" Round Structure I12 to I11 L= 26.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 972.00' / 971.80' S= 0.0077 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#8	Device 7	973.00'	21.0" Round Structure I13 to I12 L= 152.2' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 973.00' / 972.00' S= 0.0066 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#9	Device 8	976.10'	48.0" Horiz. I13 Grate C= 0.600 Limited to weir flow at low heads
#10	Device 8	970.00'	21.0" Round low flow pipe L= 35.6' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 968.00' / 970.00' S= -0.0562 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#11	Secondary	978.00'	5.0' long x 2.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=10.01 cfs @ 12.58 hrs HW=974.65' TW=968.91' (Dynamic Tailwater)

- ↑ 1=H2 to H1 (Passes 10.01 cfs of 32.65 cfs potential flow)
- ↑ 2=H3 to H2 (Passes 10.01 cfs of 31.95 cfs potential flow)
- ↑ 3=H4 to H3 (Passes 10.01 cfs of 32.26 cfs potential flow)
- ↑ 4=I101 to H4 (Passes 10.01 cfs of 20.90 cfs potential flow)
- ↑ 5=I100 to I101 (Passes 10.01 cfs of 22.91 cfs potential flow)
- ↑ 6=Structure I11 to I100 (Passes 10.01 cfs of 21.95 cfs potential flow)
- ↑ 7=Structure I12 to I11 (Passes 10.01 cfs of 16.07 cfs potential flow)
- ↑ 8=Structure I13 to I12 (Barrel Controls 10.01 cfs @ 5.51 fps)
- ↑ 9=I13 Grate (Controls 0.00 cfs)
- ↑ 10=low flow pipe (Passes 10.01 cfs of 14.88 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.00' TW=972.00' (Dynamic Tailwater)

- ↑ 11=EOF (Controls 0.00 cfs)

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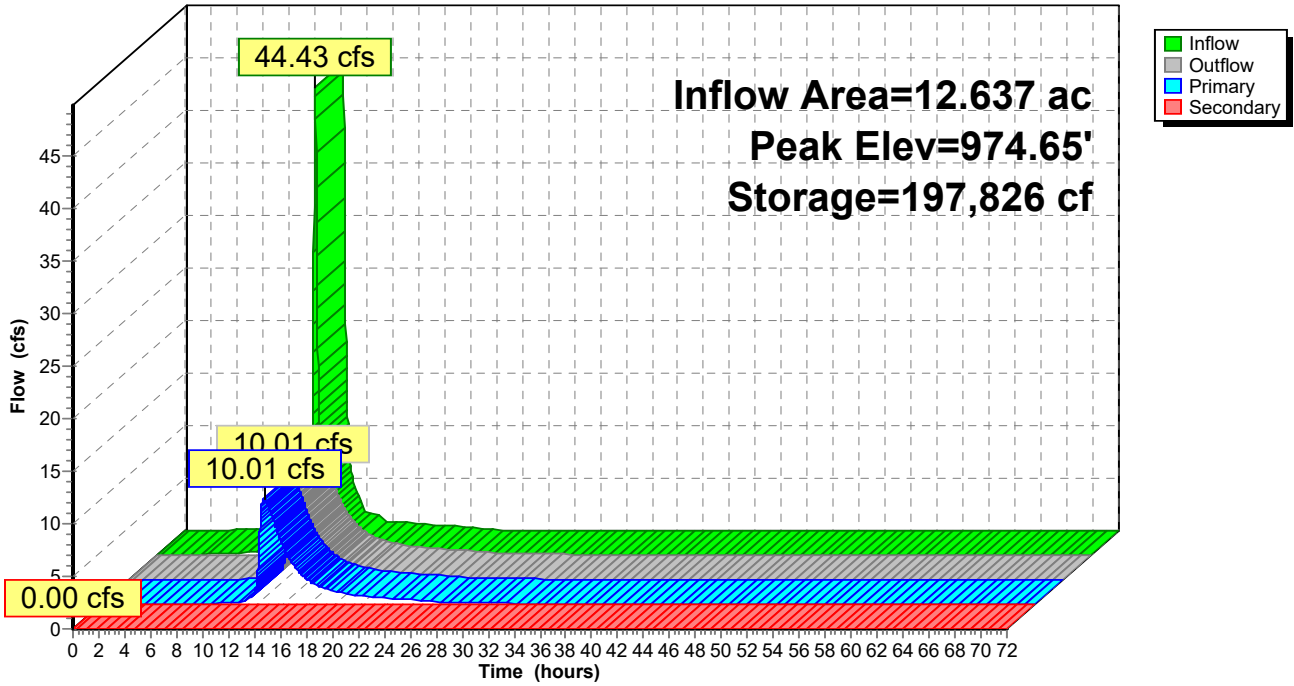
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Pond P3S: Pond 3S

Hydrograph



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Summary for Pond P4S: Pond 4S

Inflow Area = 75.911 ac, 31.86% Impervious, Inflow Depth > 2.32" for 10yr-24hr event
 Inflow = 65.96 cfs @ 12.22 hrs, Volume= 14.693 af
 Outflow = 34.40 cfs @ 12.40 hrs, Volume= 14.615 af, Atten= 48%, Lag= 11.2 min
 Primary = 34.40 cfs @ 12.40 hrs, Volume= 14.615 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 967.50' Surf.Area= 22,564 sf Storage= 74,427 cf
 Peak Elev= 969.63' @ 12.52 hrs Surf.Area= 35,892 sf Storage= 135,789 cf (61,362 cf above start)

Plug-Flow detention time= 320.5 min calculated for 12.903 af (88% of inflow)
 Center-of-Mass det. time= 64.6 min (1,262.3 - 1,197.6)

Volume	Invert	Avail.Storage	Storage Description
#1	960.00'	730,861 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
960.00	2,404	0	0
962.00	4,393	6,797	6,797
964.00	9,311	13,704	20,501
966.00	15,824	25,135	45,636
968.00	24,811	40,635	86,271
970.00	38,395	63,206	149,477
972.00	58,966	97,361	246,838
974.00	118,288	177,254	424,092
976.00	188,481	306,769	730,861

Device	Routing	Invert	Outlet Devices
#1	Primary	967.50'	58.5" W x 36.0" H, R=30.0"/84.0" Pipe Arch RCP_Arch 59x36 L= 258.6' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 967.50' / 967.00' S= 0.0019 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 11.40 sf
#2	Device 1	971.70'	60.0" Horiz. Structure 254 Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	964.00'	58.5" W x 36.0" H, R=30.0"/84.0" Pipe Arch RCP_Arch 59x36 L= 30.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 963.00' / 964.00' S= -0.0333 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 11.40 sf
#4	Secondary	969.00'	36.0" Round Secondary outlet (Structure 184 to 185) L= 147.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.00' / 967.00' S= 0.0136 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf
#5	Device 4	969.50'	36.0" Round Structure 187 to 184 L= 24.5' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.50' / 969.00' S= 0.0204 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

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#6	Device 5	970.50'	36.0" Round Structure 186 to 187 L= 64.7' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 970.50' / 969.50' S= 0.0155 1/1' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf
#7	Device 6	971.70'	10.0' long x 4.0' breadth Berm to Secondary EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=33.65 cfs @ 12.40 hrs HW=969.60' TW=968.62' (Dynamic Tailwater)

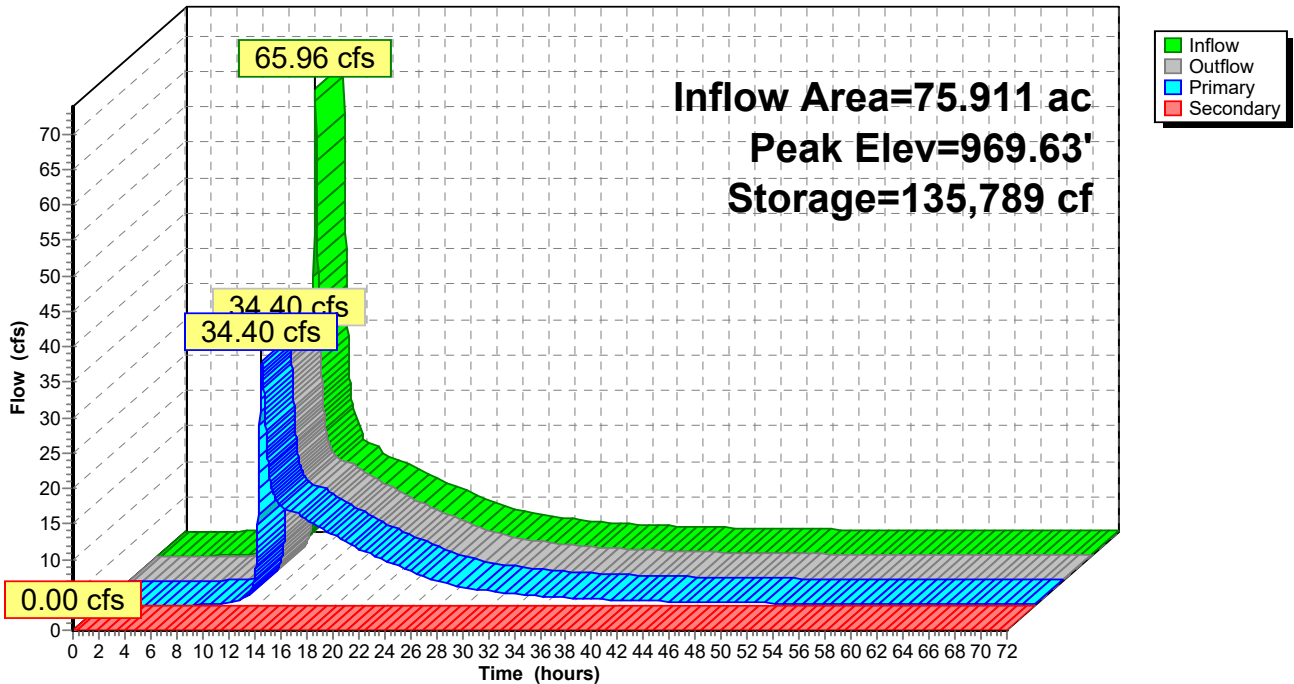
- ↑ 1=RCP_Arch 59x36 (Outlet Controls 33.65 cfs @ 4.97 fps)
- ↑ 2=Structure 254 Grate (Controls 0.00 cfs)
- ↑ 3=RCP_Arch 59x36 (Passes 33.65 cfs of 54.23 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=967.50' TW=967.00' (Dynamic Tailwater)

- ↑ 4=Secondary outlet (Structure 184 to 185) (Controls 0.00 cfs)
- ↑ 5=Structure 187 to 184 (Controls 0.00 cfs)
- ↑ 6=Structure 186 to 187 (Controls 0.00 cfs)
- ↑ 7=Berm to Secondary EOF (Controls 0.00 cfs)

Pond P4S: Pond 4S

Hydrograph



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Summary for Pond P5S: Pond 5S

Inflow Area = 53.598 ac, 34.53% Impervious, Inflow Depth = 2.49" for 10yr-24hr event
 Inflow = 171.60 cfs @ 12.21 hrs, Volume= 11.108 af
 Outflow = 10.08 cfs @ 13.62 hrs, Volume= 10.489 af, Atten= 94%, Lag= 84.9 min
 Primary = 10.08 cfs @ 13.62 hrs, Volume= 10.489 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 978.00' Surf.Area= 188,573 sf Storage= 1,134,893 cf
 Peak Elev= 979.65' @ 13.62 hrs Surf.Area= 206,928 sf Storage= 1,460,904 cf (326,011 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 575.2 min (1,359.3 - 784.1)

Volume	Invert	Avail.Storage	Storage Description
#1	970.00'	4,063,546 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
970.00	111,000	0	0
972.00	116,150	227,150	227,150
974.00	142,566	258,716	485,866
976.00	158,944	301,510	787,376
978.00	188,573	347,517	1,134,893
980.00	210,840	399,413	1,534,306
982.00	257,600	468,440	2,002,746
984.00	257,600	515,200	2,517,946
990.00	257,600	1,545,600	4,063,546

Device	Routing	Invert	Outlet Devices
#1	Primary	970.00'	18.0" Round Structure 273 to 246 L= 192.5' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 970.00' / 968.50' S= 0.0078 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#2	Device 1	972.00'	18.0" Round Structure 272 to 273 L= 70.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 972.00' / 970.00' S= 0.0286 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#3	Device 2	974.00'	18.0" Round Structure 271 to 272 L= 50.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 974.00' / 973.00' S= 0.0200 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#4	Device 3	978.00'	18.0" Round Structure 245 to 271 L= 108.6' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 978.00' / 974.00' S= 0.0368 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#5	Device 4	975.50'	21.0" Round low flow pipe L= 29.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 975.00' / 975.50' S= -0.0172 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf

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#6	Device 4	981.50'	48.0" Horiz. Structure 245 grate	C= 0.600															
			Limited to weir flow at low heads																
#7	Secondary	981.50'	10.0' long x 2.0' breadth EOF																
			Head (feet)	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.50	3.00	3.50			
			Coef. (English)	2.54	2.61	2.61	2.60	2.66	2.70	2.77	2.89	2.88	2.85	3.07	3.20	3.32			

Primary OutFlow Max=10.08 cfs @ 13.62 hrs HW=979.65' TW=969.51' (Dynamic Tailwater)

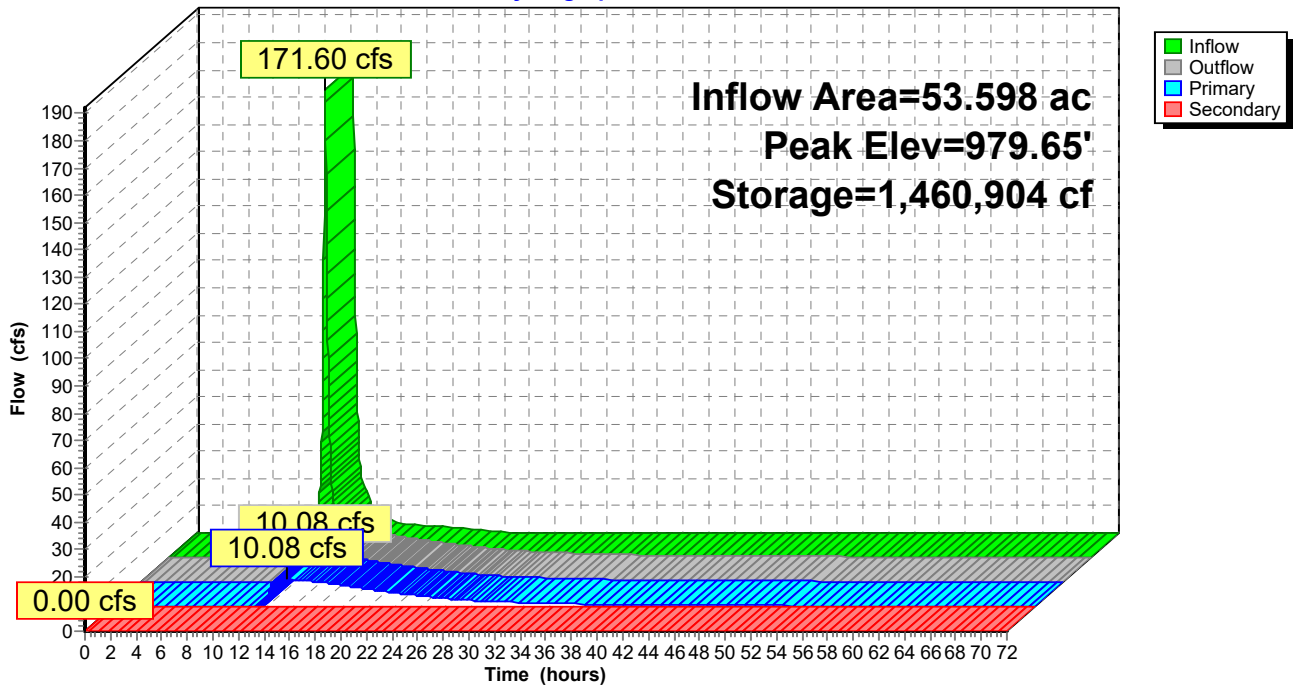
- ↑ 1=Structure 273 to 246 (Passes 10.08 cfs of 20.27 cfs potential flow)
- ↑ 2=Structure 272 to 273 (Passes 10.08 cfs of 25.70 cfs potential flow)
- ↑ 3=Structure 271 to 272 (Passes 10.08 cfs of 22.13 cfs potential flow)
- ↑ 4=Structure 245 to 271 (Inlet Controls 10.08 cfs @ 5.71 fps)
- ↑ 5=low flow pipe (Passes 10.08 cfs of 14.87 cfs potential flow)
- ↑ 6=Structure 245 grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=978.00' (Dynamic Tailwater)

- ↑ 7=EOF (Controls 0.00 cfs)

Pond P5S: Pond 5S

Hydrograph



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Summary for Pond Wetland 9: Wetland 9

[80] Warning: Exceeded Pond P1N by 0.09' @ 12.52 hrs (0.80 cfs 0.027 af)

Inflow Area = 10.217 ac, 25.83% Impervious, Inflow Depth > 1.78" for 10yr-24hr event
 Inflow = 9.57 cfs @ 12.23 hrs, Volume= 1.517 af
 Outflow = 5.63 cfs @ 12.62 hrs, Volume= 1.217 af, Atten= 41%, Lag= 22.9 min
 Primary = 5.63 cfs @ 12.62 hrs, Volume= 1.217 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.00' Surf.Area= 9,469 sf Storage= 6,526 cf
 Peak Elev= 1,010.24' @ 12.62 hrs Surf.Area= 16,723 sf Storage= 23,631 cf (17,106 cf above start)

Plug-Flow detention time= 236.5 min calculated for 1.066 af (70% of inflow)
 Center-of-Mass det. time= 75.2 min (987.4 - 912.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,008.00'	53,068 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,008.00	3,582	0	0
1,009.00	9,469	6,526	6,526
1,010.00	16,723	13,096	19,622
1,012.00	16,723	33,446	53,068

Device	Routing	Invert	Outlet Devices
#1	Primary	1,010.00'	20.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=5.63 cfs @ 12.62 hrs HW=1,010.24' TW=0.00' (Dynamic Tailwater)
 ↑1=Broad-Crested Rectangular Weir (Weir Controls 5.63 cfs @ 1.17 fps)

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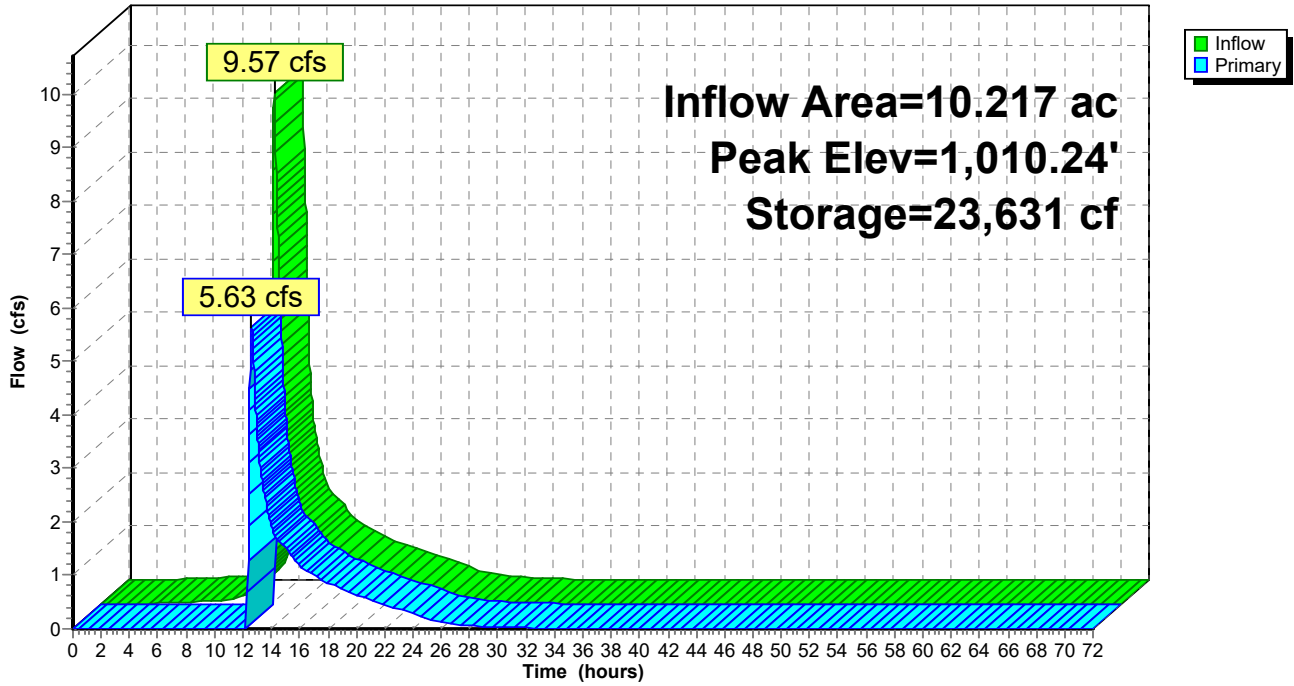
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Pond Wetland 9: Wetland 9

Hydrograph



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Time span=0.00-72.00 hrs, dt=0.02 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1N: 1N	Runoff Area=4.840 ac 30.45% Impervious Runoff Depth=5.16" Tc=12.0 min CN=WQ Runoff=33.67 cfs 2.082 af
Subcatchment 1N_100: 1N_100 Flow Length=300'	Runoff Area=0.554 ac 22.74% Impervious Runoff Depth=4.93" Slope=0.0730 '/' Tc=14.8 min CN=WQ Runoff=3.40 cfs 0.228 af
Subcatchment 1S: 1S	Runoff Area=13.917 ac 49.29% Impervious Runoff Depth=5.50" Tc=12.0 min CN=WQ Runoff=99.62 cfs 6.375 af
Subcatchment 2S: 2S	Runoff Area=4.152 ac 49.86% Impervious Runoff Depth=5.70" Tc=12.0 min CN=WQ Runoff=30.90 cfs 1.971 af
Subcatchment 3S: 3S	Runoff Area=9.641 ac 44.37% Impervious Runoff Depth=5.55" Tc=12.0 min CN=WQ Runoff=70.43 cfs 4.456 af
Subcatchment 3S_100: 3S_100	Runoff Area=0.507 ac 69.43% Impervious Runoff Depth=6.24" Tc=12.0 min CN=WQ Runoff=4.02 cfs 0.264 af
Subcatchment 4S: 4S	Runoff Area=9.003 ac 34.97% Impervious Runoff Depth=4.89" Tc=12.0 min CN=WQ Runoff=58.38 cfs 3.665 af
Subcatchment 5S: 5S	Runoff Area=28.964 ac 47.03% Impervious Runoff Depth=5.31" Tc=12.0 min CN=WQ Runoff=199.43 cfs 12.828 af
Subcatchment 5S_100: 5S_100	Runoff Area=0.289 ac 46.02% Impervious Runoff Depth=5.59" Tc=12.0 min CN=WQ Runoff=2.12 cfs 0.135 af
Subcatchment 10S: 10S_100	Runoff Area=0.378 ac 6.88% Impervious Runoff Depth=4.51" Tc=12.0 min CN=WQ Runoff=2.41 cfs 0.142 af
Subcatchment 1000: 1000 Flow Length=115'	Runoff Area=0.038 ac 36.84% Impervious Runoff Depth=5.34" Slope=0.0170 '/' Tc=12.3 min CN=WQ Runoff=0.27 cfs 0.017 af
Subcatchment A10: A10	Runoff Area=0.830 ac 33.25% Impervious Runoff Depth=5.24" Tc=12.0 min CN=WQ Runoff=5.83 cfs 0.362 af
Subcatchment A10_100: A10_100	Runoff Area=0.034 ac 100.00% Impervious Runoff Depth=7.08" Tc=12.0 min CN=WQ Runoff=0.30 cfs 0.020 af
Subcatchment A15: A15	Runoff Area=0.669 ac 25.11% Impervious Runoff Depth=5.02" Tc=12.0 min CN=WQ Runoff=4.56 cfs 0.280 af
Subcatchment A15_100: A15_100	Runoff Area=0.027 ac 100.00% Impervious Runoff Depth=7.08" Tc=12.0 min CN=98 Runoff=0.24 cfs 0.016 af
Subcatchment A8: A8	Runoff Area=0.095 ac 10.53% Impervious Runoff Depth=4.61" Tc=12.0 min CN=WQ Runoff=0.61 cfs 0.037 af

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Subcatchment A9: A9	Runoff Area=0.671 ac 21.61% Impervious Runoff Depth=4.92" Tc=12.0 min CN=WQ Runoff=4.52 cfs 0.275 af
Subcatchment B5: B5	Runoff Area=0.552 ac 11.05% Impervious Runoff Depth=4.60" Tc=12.0 min CN=WQ Runoff=3.55 cfs 0.211 af
Subcatchment B6: B6	Runoff Area=1.508 ac 12.07% Impervious Runoff Depth=4.66" Tc=12.0 min CN=WQ Runoff=9.80 cfs 0.585 af
Subcatchment B7: B7	Runoff Area=0.782 ac 16.75% Impervious Runoff Depth=4.78" Tc=12.0 min CN=WQ Runoff=5.17 cfs 0.312 af
Subcatchment B7_100: B7_100	Runoff Area=0.211 ac 29.86% Impervious Runoff Depth=5.15" Tc=12.0 min CN=WQ Runoff=1.46 cfs 0.090 af
Subcatchment B8: B8	Runoff Area=1.110 ac 6.67% Impervious Runoff Depth=4.49" Tc=12.0 min CN=WQ Runoff=7.04 cfs 0.415 af
Subcatchment B8_100: B8_100	Runoff Area=0.030 ac 90.00% Impervious Runoff Depth=6.80" Tc=12.0 min CN=WQ Runoff=0.25 cfs 0.017 af
Subcatchment C10: C10	Runoff Area=1.521 ac 10.72% Impervious Runoff Depth=4.62" Tc=12.0 min CN=WQ Runoff=9.83 cfs 0.585 af
Subcatchment C10_100: C10_100	Runoff Area=0.546 ac 59.71% Impervious Runoff Depth=5.97" Tc=12.0 min CN=WQ Runoff=4.20 cfs 0.272 af
Subcatchment C7: C7	Runoff Area=1.440 ac 13.61% Impervious Runoff Depth=4.70" Tc=12.0 min CN=WQ Runoff=9.41 cfs 0.564 af
Subcatchment C7_100: C7_100	Runoff Area=0.268 ac 62.31% Impervious Runoff Depth=6.04" Flow Length=300' Slope=0.0870 '/' Tc=13.8 min CN=WQ Runoff=1.95 cfs 0.135 af
Subcatchment C8: C8	Runoff Area=1.457 ac 13.04% Impervious Runoff Depth=4.68" Tc=12.0 min CN=WQ Runoff=9.50 cfs 0.568 af
Subcatchment C8_100: C8_100	Runoff Area=0.470 ac 62.77% Impervious Runoff Depth=6.05" Flow Length=300' Slope=0.0870 '/' Tc=13.8 min CN=WQ Runoff=3.43 cfs 0.237 af
Subcatchment C9: C9	Runoff Area=1.762 ac 10.95% Impervious Runoff Depth=4.62" Tc=12.0 min CN=WQ Runoff=11.40 cfs 0.679 af
Subcatchment C9_100: C9_100	Runoff Area=0.301 ac 65.12% Impervious Runoff Depth=6.12" Tc=12.0 min CN=WQ Runoff=2.36 cfs 0.153 af
Subcatchment D6: D6	Runoff Area=0.376 ac 3.46% Impervious Runoff Depth=4.42" Tc=12.0 min CN=WQ Runoff=2.36 cfs 0.138 af
Subcatchment D7: D7	Runoff Area=0.511 ac 11.94% Impervious Runoff Depth=4.65" Tc=12.0 min CN=WQ Runoff=3.32 cfs 0.198 af

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Subcatchment D7_100: D7_100	Runoff Area=0.075 ac 56.00% Impervious Runoff Depth=5.87" Tc=12.0 min CN=WQ Runoff=0.57 cfs 0.037 af
Subcatchment D8: D8	Runoff Area=1.215 ac 7.98% Impervious Runoff Depth=4.54" Tc=12.0 min CN=WQ Runoff=7.77 cfs 0.460 af
Subcatchment D9: D9	Runoff Area=1.254 ac 16.11% Impervious Runoff Depth=4.77" Tc=12.0 min CN=WQ Runoff=8.27 cfs 0.498 af
Subcatchment E13: E13	Runoff Area=0.605 ac 27.77% Impervious Runoff Depth=5.09" Tc=12.0 min CN=WQ Runoff=4.17 cfs 0.257 af
Subcatchment E15: E15	Runoff Area=1.926 ac 26.90% Impervious Runoff Depth=5.06" Tc=12.0 min CN=WQ Runoff=13.23 cfs 0.813 af
Subcatchment E16: E16	Runoff Area=1.374 ac 25.84% Impervious Runoff Depth=5.03" Tc=12.0 min CN=WQ Runoff=9.40 cfs 0.577 af
Subcatchment E17: E17	Runoff Area=0.991 ac 20.48% Impervious Runoff Depth=4.89" Tc=12.0 min CN=WQ Runoff=6.65 cfs 0.404 af
Subcatchment E18: E18	Runoff Area=1.734 ac 9.86% Impervious Runoff Depth=4.59" Tc=15.0 min CN=WQ Runoff=10.14 cfs 0.664 af
Subcatchment F5: F5	Runoff Area=1.224 ac 21.24% Impervious Runoff Depth=4.91" Tc=12.0 min CN=WQ Runoff=8.23 cfs 0.501 af
Subcatchment F6: F6	Runoff Area=0.921 ac 21.06% Impervious Runoff Depth=4.90" Tc=12.0 min CN=WQ Runoff=6.19 cfs 0.376 af
Subcatchment F7: F7	Runoff Area=0.667 ac 11.69% Impervious Runoff Depth=4.64" Tc=12.0 min CN=WQ Runoff=4.33 cfs 0.258 af
Subcatchment F8: F8	Runoff Area=1.906 ac 16.00% Impervious Runoff Depth=4.76" Tc=15.0 min CN=WQ Runoff=11.41 cfs 0.757 af
Subcatchment H5: H5	Runoff Area=2.168 ac 27.21% Impervious Runoff Depth=4.74" Tc=12.0 min CN=WQ Runoff=13.84 cfs 0.856 af
Subcatchment H6: H6	Runoff Area=1.008 ac 19.54% Impervious Runoff Depth=3.98" Tc=12.0 min CN=WQ Runoff=5.45 cfs 0.334 af
Subcatchment H7: H7	Runoff Area=1.176 ac 19.64% Impervious Runoff Depth=4.17" Tc=12.0 min CN=WQ Runoff=6.67 cfs 0.408 af
Subcatchment I14: I14	Runoff Area=0.270 ac 27.78% Impervious Runoff Depth=5.09" Tc=12.0 min CN=WQ Runoff=1.86 cfs 0.114 af
Subcatchment I7: I7	Runoff Area=0.610 ac 22.62% Impervious Runoff Depth=4.95" Tc=12.0 min CN=WQ Runoff=4.12 cfs 0.251 af

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Subcatchment I7_100: I7_100	Runoff Area=0.205 ac 7.32% Impervious Runoff Depth=4.52" Tc=12.0 min CN=WQ Runoff=1.31 cfs 0.077 af
Subcatchment I8: I8	Runoff Area=1.003 ac 25.12% Impervious Runoff Depth=5.02" Tc=12.0 min CN=WQ Runoff=6.84 cfs 0.419 af
Subcatchment I8_100: I8_100	Runoff Area=0.170 ac 25.88% Impervious Runoff Depth=5.04" Tc=12.0 min CN=WQ Runoff=1.16 cfs 0.071 af
Subcatchment I9: I9	Runoff Area=0.256 ac 27.73% Impervious Runoff Depth=5.09" Tc=12.0 min CN=WQ Runoff=1.76 cfs 0.109 af
Subcatchment J3: J3	Runoff Area=1.496 ac 20.32% Impervious Runoff Depth=4.88" Tc=12.0 min CN=WQ Runoff=10.03 cfs 0.609 af
Subcatchment J4: J4	Runoff Area=0.310 ac 0.00% Impervious Runoff Depth=4.32" Tc=12.0 min CN=74 Runoff=1.92 cfs 0.112 af
Subcatchment J5: J5	Runoff Area=0.683 ac 17.72% Impervious Runoff Depth=4.81" Tc=12.0 min CN=WQ Runoff=4.53 cfs 0.274 af
Subcatchment L10: L10	Runoff Area=1.158 ac 17.53% Impervious Runoff Depth=4.81" Tc=12.0 min CN=WQ Runoff=7.68 cfs 0.464 af
Subcatchment L4: L4	Runoff Area=0.167 ac 20.96% Impervious Runoff Depth=4.86" Tc=12.0 min CN=WQ Runoff=1.11 cfs 0.068 af
Subcatchment L5: L5	Runoff Area=0.763 ac 22.02% Impervious Runoff Depth=4.93" Tc=12.0 min CN=WQ Runoff=5.15 cfs 0.313 af
Subcatchment L6: L6	Runoff Area=1.091 ac 19.98% Impervious Runoff Depth=4.87" Tc=12.0 min CN=WQ Runoff=7.30 cfs 0.443 af
Subcatchment L7: L7	Runoff Area=0.759 ac 21.21% Impervious Runoff Depth=4.91" Tc=12.0 min CN=WQ Runoff=5.10 cfs 0.310 af
Subcatchment L8: L8	Runoff Area=1.441 ac 22.07% Impervious Runoff Depth=4.73" Tc=12.0 min CN=WQ Runoff=9.25 cfs 0.568 af
Subcatchment L9: L9	Runoff Area=0.971 ac 21.11% Impervious Runoff Depth=4.89" Tc=12.0 min CN=WQ Runoff=6.51 cfs 0.396 af
Subcatchment O10: O10	Runoff Area=0.609 ac 15.44% Impervious Runoff Depth=4.75" Tc=12.0 min CN=WQ Runoff=4.01 cfs 0.241 af
Subcatchment O8: O8	Runoff Area=0.490 ac 12.24% Impervious Runoff Depth=4.66" Tc=12.0 min CN=WQ Runoff=3.19 cfs 0.190 af
Subcatchment O9: O9	Runoff Area=1.143 ac 19.86% Impervious Runoff Depth=4.87" Tc=12.0 min CN=WQ Runoff=7.65 cfs 0.464 af

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Subcatchment W6: W6	Runoff Area=9.984 ac 9.85% Impervious Runoff Depth=4.57" Flow Length=780' Tc=27.0 min CN=WQ Runoff=42.65 cfs 3.803 af
Subcatchment W6_100: W6_100	Runoff Area=0.217 ac 0.00% Impervious Runoff Depth=4.26" Flow Length=550' Tc=42.4 min CN=WQ Runoff=0.67 cfs 0.077 af
Subcatchment W6_101: W6_101	Runoff Area=2.158 ac 13.44% Impervious Runoff Depth=4.67" Flow Length=605' Tc=19.1 min CN=WQ Runoff=11.25 cfs 0.840 af
Subcatchment W6_102: W6_102	Runoff Area=0.261 ac 0.00% Impervious Runoff Depth=4.32" Tc=15.5 min CN=74 Runoff=1.43 cfs 0.094 af
Subcatchment W9: W9	Runoff Area=1.787 ac 12.14% Impervious Runoff Depth=4.65" Tc=12.0 min CN=WQ Runoff=11.59 cfs 0.692 af
Subcatchment W9_100: W9_100	Runoff Area=2.497 ac 22.31% Impervious Runoff Depth=4.94" Flow Length=1,013' Tc=34.0 min CN=WQ Runoff=9.85 cfs 1.027 af
Subcatchment W9_101: W9_101	Runoff Area=0.539 ac 49.17% Impervious Runoff Depth=5.68" Flow Length=300' Slope=0.0570 '/' Tc=16.4 min CN=WQ Runoff=3.49 cfs 0.255 af
Reach 1R: Bassett Creek Watershed	Inflow=105.40 cfs 52.319 af Outflow=105.40 cfs 52.319 af
Reach 5R: Elm Creek Watershed	Inflow=18.76 cfs 3.480 af Outflow=18.76 cfs 3.480 af
Reach 8R: Offsite	Inflow=0.27 cfs 0.017 af Outflow=0.27 cfs 0.017 af
Reach Wetland: Wetland 6	Inflow=105.28 cfs 52.303 af Outflow=105.28 cfs 52.303 af
Pond 4P: CB_22 pipe	Peak Elev=971.16' Inflow=1.76 cfs 0.109 af Outflow=1.76 cfs 0.109 af
Pond CB_A10: CB_A8	Peak Elev=996.41' Storage=91 cf Inflow=6.13 cfs 0.382 af Outflow=6.12 cfs 0.382 af
Pond CB_A15: CB_A7	Peak Elev=998.35' Storage=234 cf Inflow=4.80 cfs 0.296 af Primary=4.73 cfs 0.296 af Secondary=0.00 cfs 0.000 af Outflow=4.73 cfs 0.296 af
Pond CB_A8: CB_A20	Peak Elev=1,001.23' Storage=809 cf Inflow=5.13 cfs 0.312 af Primary=4.61 cfs 0.312 af Secondary=0.00 cfs 0.000 af Outflow=4.61 cfs 0.312 af
Pond CB_B5: CB_A10	Peak Elev=995.60' Storage=148 cf Inflow=10.84 cfs 0.644 af Primary=10.83 cfs 0.644 af Secondary=0.00 cfs 0.000 af Outflow=10.83 cfs 0.644 af
Pond CB_B6: CB_A11	Peak Elev=994.65' Storage=475 cf Inflow=12.15 cfs 0.728 af Primary=12.03 cfs 0.728 af Secondary=0.00 cfs 0.000 af Outflow=12.03 cfs 0.728 af

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Pond CB_B7: CB_A12 Peak Elev=998.32' Storage=406 cf Inflow=6.64 cfs 0.402 af
Primary=4.23 cfs 0.259 af Secondary=2.36 cfs 0.143 af Outflow=6.60 cfs 0.402 af

Pond CB_C10: CB_C10 Peak Elev=994.70' Storage=958 cf Inflow=14.03 cfs 0.857 af
Primary=13.65 cfs 0.857 af Secondary=0.00 cfs 0.000 af Outflow=13.65 cfs 0.857 af

Pond CB_C7: CB_C7 Peak Elev=993.12' Storage=588 cf Inflow=11.35 cfs 0.699 af
Primary=11.17 cfs 0.699 af Secondary=0.00 cfs 0.000 af Outflow=11.17 cfs 0.699 af

Pond CB_C8: CB_C8 Peak Elev=991.68' Storage=209 cf Inflow=12.90 cfs 0.806 af
Outflow=12.88 cfs 0.806 af

Pond CB_C9: CB_C9 Peak Elev=992.70' Storage=574 cf Inflow=13.75 cfs 0.832 af
Primary=13.60 cfs 0.832 af Secondary=0.00 cfs 0.000 af Outflow=13.60 cfs 0.832 af

Pond CB_D6: CB_D6 Peak Elev=1,000.22' Storage=95 cf Inflow=2.36 cfs 0.138 af
Primary=2.34 cfs 0.138 af Secondary=0.00 cfs 0.000 af Outflow=2.34 cfs 0.138 af

Pond CB_D7: CB_D7 Peak Elev=1,002.30' Storage=157 cf Inflow=3.89 cfs 0.235 af
Primary=3.85 cfs 0.235 af Secondary=0.00 cfs 0.000 af Outflow=3.85 cfs 0.235 af

Pond CB_D8: CB_D8 Peak Elev=1,002.48' Storage=465 cf Inflow=7.77 cfs 0.460 af
Primary=7.61 cfs 0.460 af Secondary=0.00 cfs 0.000 af Outflow=7.61 cfs 0.460 af

Pond CB_D9: CB_D9 Peak Elev=996.65' Storage=1,991 cf Inflow=8.27 cfs 0.498 af
Outflow=5.92 cfs 0.498 af

Pond CB_E13: CB_E13 Peak Elev=1,009.82' Storage=45 cf Inflow=4.17 cfs 0.257 af
Primary=4.17 cfs 0.257 af Secondary=0.00 cfs 0.000 af Outflow=4.17 cfs 0.257 af

Pond CB_E15: CB_E15 Peak Elev=993.81' Storage=1,908 cf Inflow=28.23 cfs 1.149 af
Outflow=25.72 cfs 1.149 af

Pond CB_E16: CB_E16 Peak Elev=998.11' Storage=3,497 cf Inflow=25.89 cfs 1.644 af
Primary=9.31 cfs 1.308 af Secondary=15.65 cfs 0.336 af Outflow=24.96 cfs 1.644 af

Pond CB_F5: CB_F5 Peak Elev=983.50' Storage=318 cf Inflow=8.23 cfs 0.501 af
Outflow=8.16 cfs 0.501 af

Pond CB_F6: CB_F6 Peak Elev=985.41' Storage=140 cf Inflow=6.19 cfs 0.399 af
Primary=6.18 cfs 0.399 af Secondary=0.00 cfs 0.000 af Outflow=6.18 cfs 0.399 af

Pond CB_F7: CB_F7 Peak Elev=985.77' Storage=6,707 cf Inflow=15.60 cfs 1.015 af
Primary=8.65 cfs 0.993 af Secondary=1.77 cfs 0.022 af Outflow=10.41 cfs 1.015 af

Pond CB_H5: CB_H5 Peak Elev=972.70' Storage=610 cf Inflow=13.84 cfs 0.856 af
Outflow=13.67 cfs 0.856 af

Pond CB_H6: CB_H6 Peak Elev=973.37' Storage=373 cf Inflow=5.45 cfs 0.334 af
Primary=5.30 cfs 0.334 af Secondary=0.00 cfs 0.000 af Outflow=5.30 cfs 0.334 af

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Pond CB_H7: CB_H7 Peak Elev=974.42' Storage=1,045 cf Inflow=6.67 cfs 0.408 af
Primary=6.40 cfs 0.408 af Secondary=0.00 cfs 0.000 af Outflow=6.40 cfs 0.408 af

Pond CB_I14: CB_I14 Peak Elev=986.09' Storage=439 cf Inflow=4.27 cfs 0.257 af
Primary=4.03 cfs 0.257 af Secondary=0.00 cfs 0.000 af Outflow=4.03 cfs 0.257 af

Pond CB_I7: CB_I7 Peak Elev=986.38' Storage=283 cf Inflow=5.43 cfs 0.329 af
Primary=5.35 cfs 0.329 af Secondary=0.00 cfs 0.000 af Outflow=5.35 cfs 0.329 af

Pond CB_I8: CB_I8 Peak Elev=987.49' Storage=119 cf Inflow=8.01 cfs 0.491 af
Primary=8.00 cfs 0.491 af Secondary=0.00 cfs 0.000 af Outflow=8.00 cfs 0.491 af

Pond CB_I9: CB_I9 Peak Elev=978.18' Storage=17 cf Inflow=1.76 cfs 0.109 af
Primary=1.76 cfs 0.109 af Secondary=0.00 cfs 0.000 af Outflow=1.76 cfs 0.109 af

Pond CB_J3: CB_J3 Peak Elev=991.57' Storage=233 cf Inflow=10.03 cfs 0.609 af
Primary=10.00 cfs 0.609 af Secondary=0.00 cfs 0.000 af Outflow=10.00 cfs 0.609 af

Pond CB_J4: CB_J4 Peak Elev=995.40' Storage=1,413 cf Inflow=6.45 cfs 0.385 af
Primary=5.19 cfs 0.385 af Secondary=0.00 cfs 0.000 af Outflow=5.19 cfs 0.385 af

Pond CB_L4: CB_L4 Peak Elev=978.13' Storage=19 cf Inflow=1.11 cfs 0.068 af
Primary=1.11 cfs 0.068 af Secondary=0.00 cfs 0.000 af Outflow=1.11 cfs 0.068 af

Pond CB_L5: CB_L5 Peak Elev=977.96' Storage=147 cf Inflow=7.27 cfs 0.471 af
Primary=7.25 cfs 0.471 af Secondary=0.00 cfs 0.000 af Outflow=7.25 cfs 0.471 af

Pond CB_L6: CB_L6 Peak Elev=978.32' Storage=2,142 cf Inflow=7.30 cfs 0.443 af
Primary=4.13 cfs 0.286 af Secondary=2.31 cfs 0.157 af Outflow=6.44 cfs 0.443 af

Pond CB_L7: CB_L7 Peak Elev=979.36' Storage=107 cf Inflow=5.10 cfs 0.310 af
Primary=5.09 cfs 0.310 af Secondary=0.00 cfs 0.000 af Outflow=5.09 cfs 0.310 af

Pond CB_L8: CB_L8 Peak Elev=980.63' Storage=1,158 cf Inflow=12.13 cfs 0.635 af
Primary=11.56 cfs 0.635 af Secondary=0.00 cfs 0.000 af Outflow=11.56 cfs 0.635 af

Pond CB_L9: CB_L9 Peak Elev=984.13' Storage=4,838 cf Inflow=14.19 cfs 0.860 af
Primary=7.26 cfs 0.792 af Secondary=3.95 cfs 0.068 af Outflow=11.21 cfs 0.860 af

Pond CB_O10: CB_O10 Peak Elev=978.31' Storage=140 cf Inflow=4.01 cfs 0.241 af
Primary=3.98 cfs 0.241 af Secondary=0.00 cfs 0.000 af Outflow=3.98 cfs 0.241 af

Pond CB_O8: CB_O8 Peak Elev=975.77' Storage=38 cf Inflow=3.19 cfs 0.190 af
Primary=3.18 cfs 0.190 af Secondary=0.00 cfs 0.000 af Outflow=3.18 cfs 0.190 af

Pond CB_O9: CB_O9 Peak Elev=978.48' Storage=189 cf Inflow=7.65 cfs 0.464 af
Primary=7.62 cfs 0.464 af Secondary=0.00 cfs 0.000 af Outflow=7.62 cfs 0.464 af

Pond P1N: Pond 1N Peak Elev=1,010.79' Storage=234,435 cf Inflow=36.95 cfs 2.310 af
Primary=3.97 cfs 1.806 af Secondary=0.00 cfs 0.000 af Outflow=3.97 cfs 1.806 af

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Pond P1S: Pond 1S Peak Elev=971.15' Storage=664,105 cf Inflow=190.10 cfs 44.690 af
Primary=42.78 cfs 44.187 af Secondary=1.45 cfs 0.152 af Outflow=44.23 cfs 44.339 af

Pond P2S: Pond 2S Peak Elev=971.16' Storage=125,298 cf Inflow=49.83 cfs 3.156 af
Primary=20.32 cfs 3.150 af Secondary=0.00 cfs 0.000 af Outflow=20.32 cfs 3.150 af

Pond P3S: Pond 3S Peak Elev=976.11' Storage=261,006 cf Inflow=89.14 cfs 5.714 af
Primary=15.93 cfs 5.684 af Secondary=0.00 cfs 0.000 af Outflow=15.93 cfs 5.684 af

Pond P4S: Pond 4S Peak Elev=971.36' Storage=211,401 cf Inflow=140.37 cfs 31.121 af
Primary=61.76 cfs 31.032 af Secondary=0.00 cfs 0.000 af Outflow=61.76 cfs 31.032 af

Pond P5S: Pond 5S Peak Elev=981.29' Storage=1,825,179 cf Inflow=350.21 cfs 22.821 af
Primary=16.94 cfs 22.107 af Secondary=0.00 cfs 0.000 af Outflow=16.94 cfs 22.107 af

Pond Wetland 9: Wetland 9 Peak Elev=1,010.51' Storage=28,076 cf Inflow=20.41 cfs 3.781 af
Outflow=18.76 cfs 3.480 af

Total Runoff Area = 136.736 ac Runoff Volume = 57.793 af Average Runoff Depth = 5.07"
68.02% Pervious = 93.005 ac 31.98% Impervious = 43.731 ac

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment 1N: 1N

Runoff = 33.67 cfs @ 12.20 hrs, Volume= 2.082 af, Depth= 5.16"

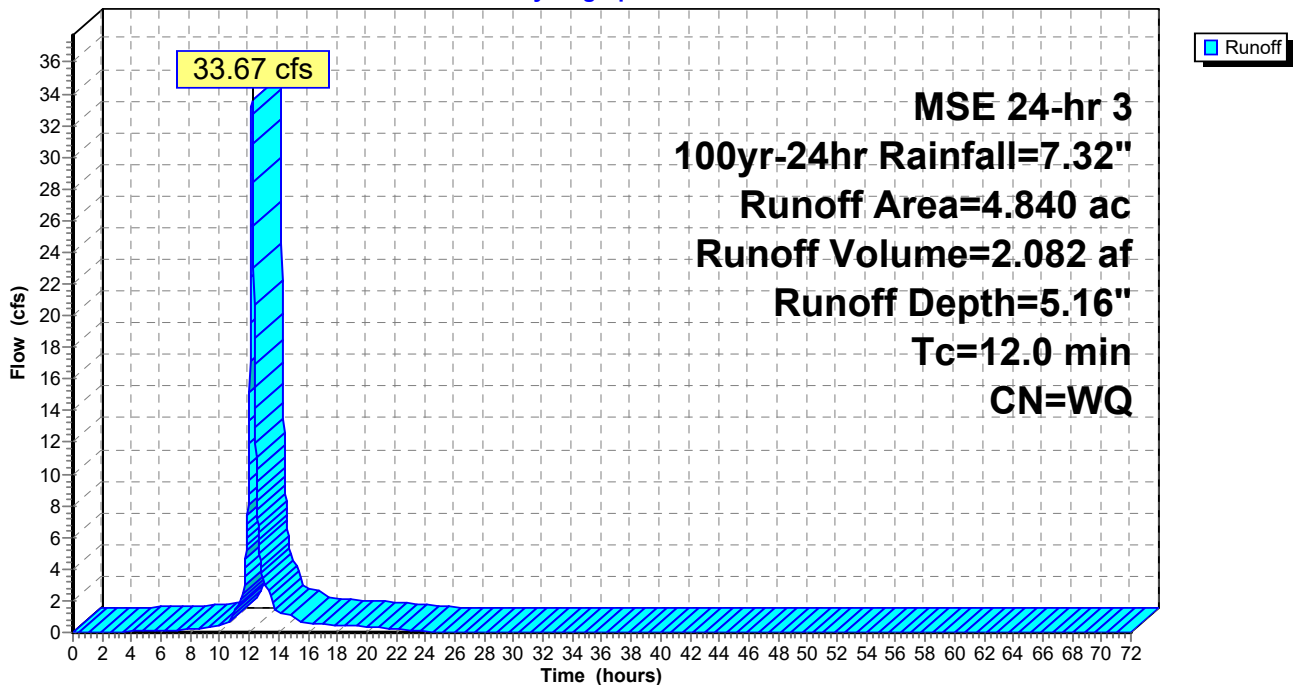
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.646	98	Impervious
3.366	74	>75% Grass cover, Good, HSG C
* 0.828	98	Pond
4.840		Weighted Average
3.366		69.55% Pervious Area
1.474		30.45% Impervious Area

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

Subcatchment 1N: 1N

Hydrograph



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Summary for Subcatchment 1N_100: 1N_100

Runoff = 3.40 cfs @ 12.23 hrs, Volume= 0.228 af, Depth= 4.93"

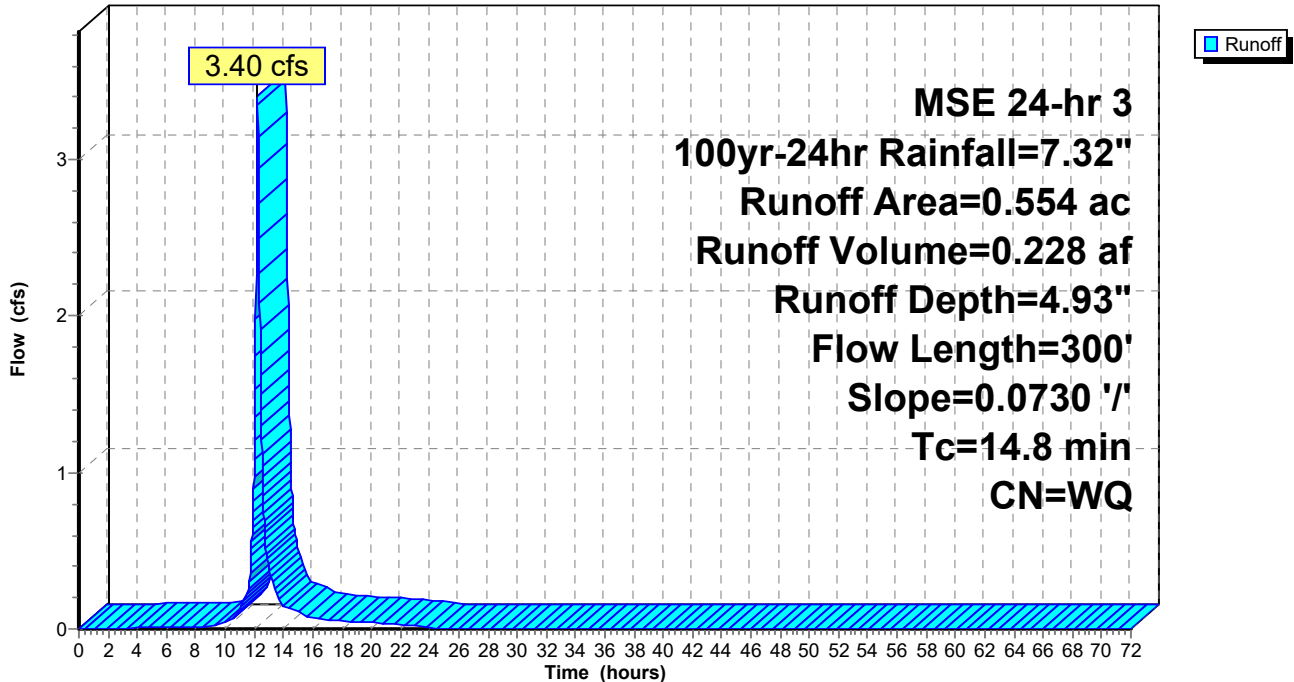
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.318	74	>75% Grass cover, Good, HSG C
* 0.126	98	Impervious
0.110	73	Woods, Fair, HSG C
0.554		Weighted Average
0.428		77.26% Pervious Area
0.126		22.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.8	300	0.0730	0.34		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment 1N_100: 1N_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment 1S: 1S

Runoff = 99.62 cfs @ 12.20 hrs, Volume= 6.375 af, Depth= 5.50"

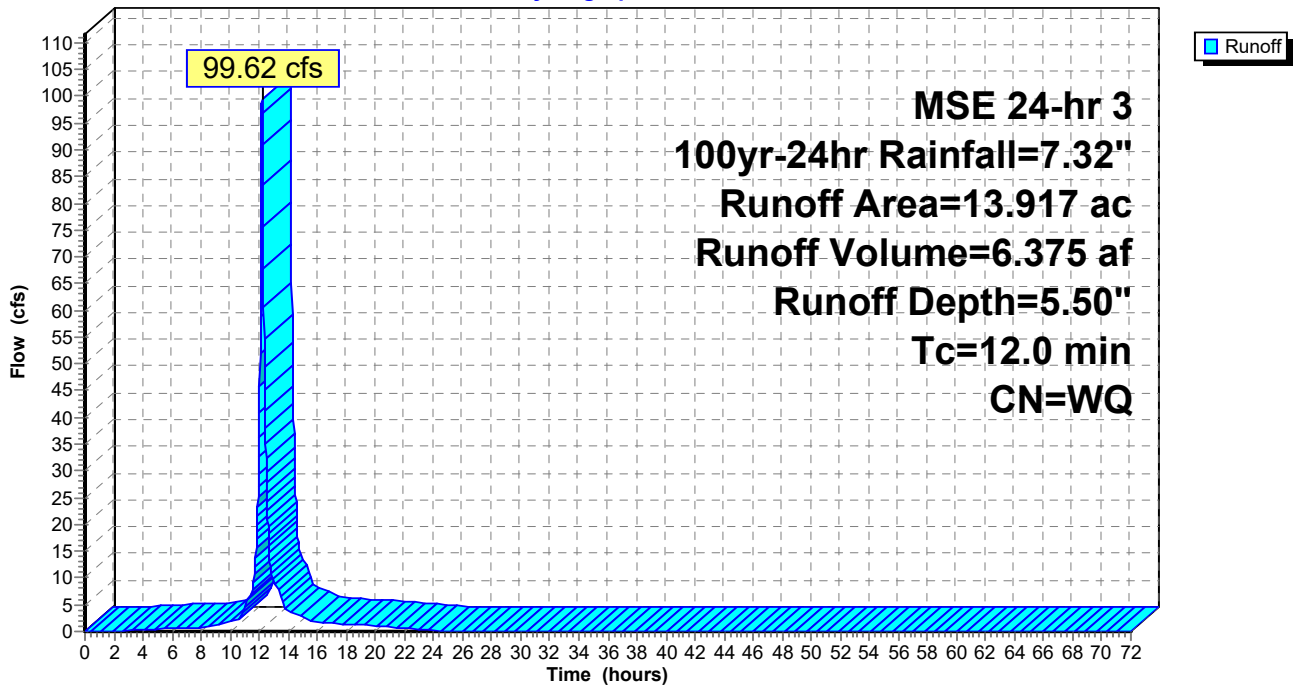
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 5.037	98	Impervious
1.856	61	>75% Grass cover, Good, HSG B
3.783	74	>75% Grass cover, Good, HSG C
1.419	74	>75% Grass cover, Good, HSG C
* 1.822	98	Pond
13.917		Weighted Average
7.058		50.71% Pervious Area
6.859		49.29% Impervious Area

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

Subcatchment 1S: 1S

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment 2S: 2S

Runoff = 30.90 cfs @ 12.20 hrs, Volume= 1.971 af, Depth= 5.70"

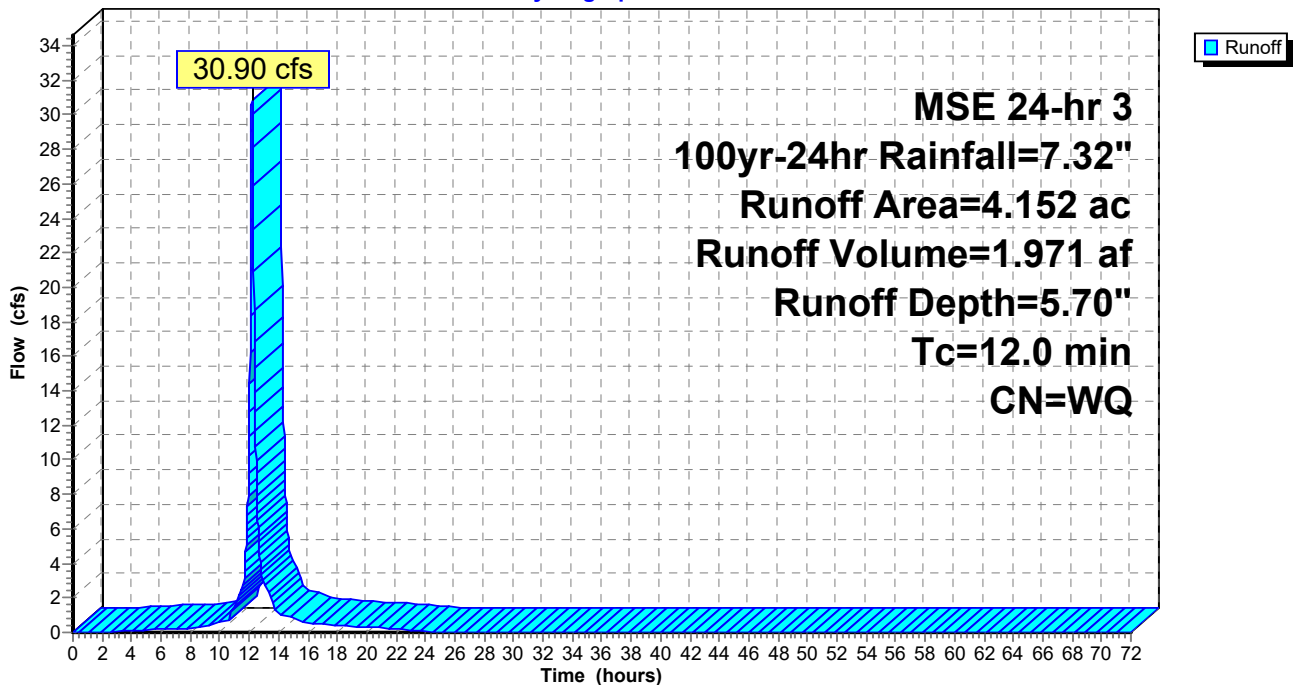
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 1.594	98	Impervious
2.082	74	>75% Grass cover, Good, HSG C
* 0.476	98	Pond
4.152		Weighted Average
2.082		50.14% Pervious Area
2.070		49.86% Impervious Area

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

Subcatchment 2S: 2S

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment 3S: 3S

Runoff = 70.43 cfs @ 12.20 hrs, Volume= 4.456 af, Depth= 5.55"

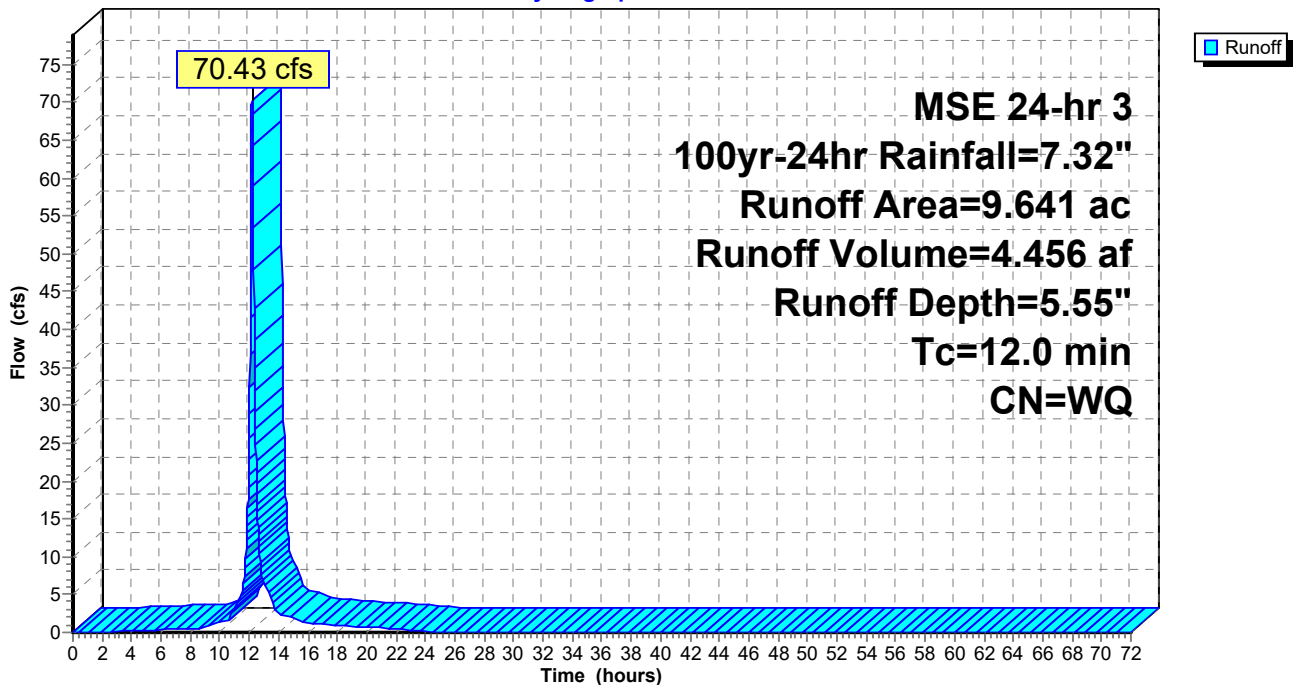
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 3.484	98	Impervious
5.363	74	>75% Grass cover, Good, HSG C
* 0.794	98	Pond
9.641		Weighted Average
5.363		55.63% Pervious Area
4.278		44.37% Impervious Area

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

Subcatchment 3S: 3S

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment 3S_100: 3S_100

Runoff = 4.02 cfs @ 12.19 hrs, Volume= 0.264 af, Depth= 6.24"

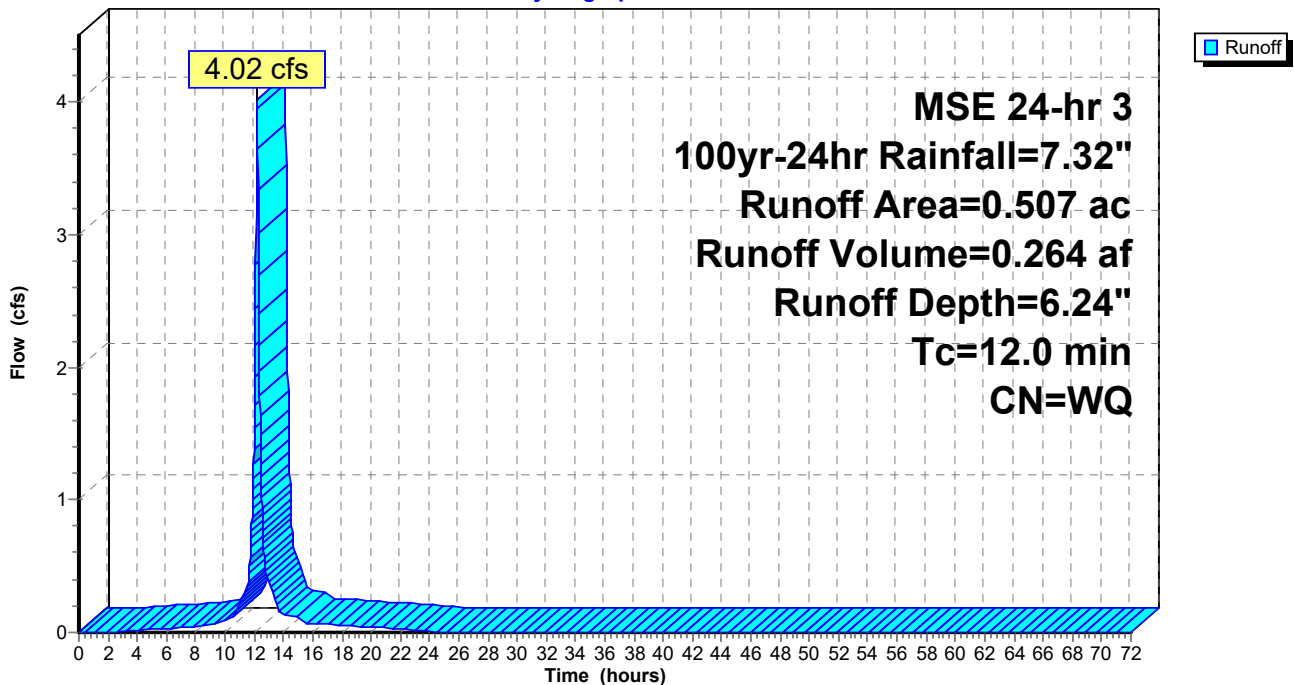
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.352	98	Impervious
0.031	74	>75% Grass cover, Good, HSG C
0.124	74	>75% Grass cover, Good, HSG C
0.507		Weighted Average
0.155		30.57% Pervious Area
0.352		69.43% Impervious Area

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

Subcatchment 3S_100: 3S_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment 4S: 4S

Runoff = 58.38 cfs @ 12.20 hrs, Volume= 3.665 af, Depth= 4.89"

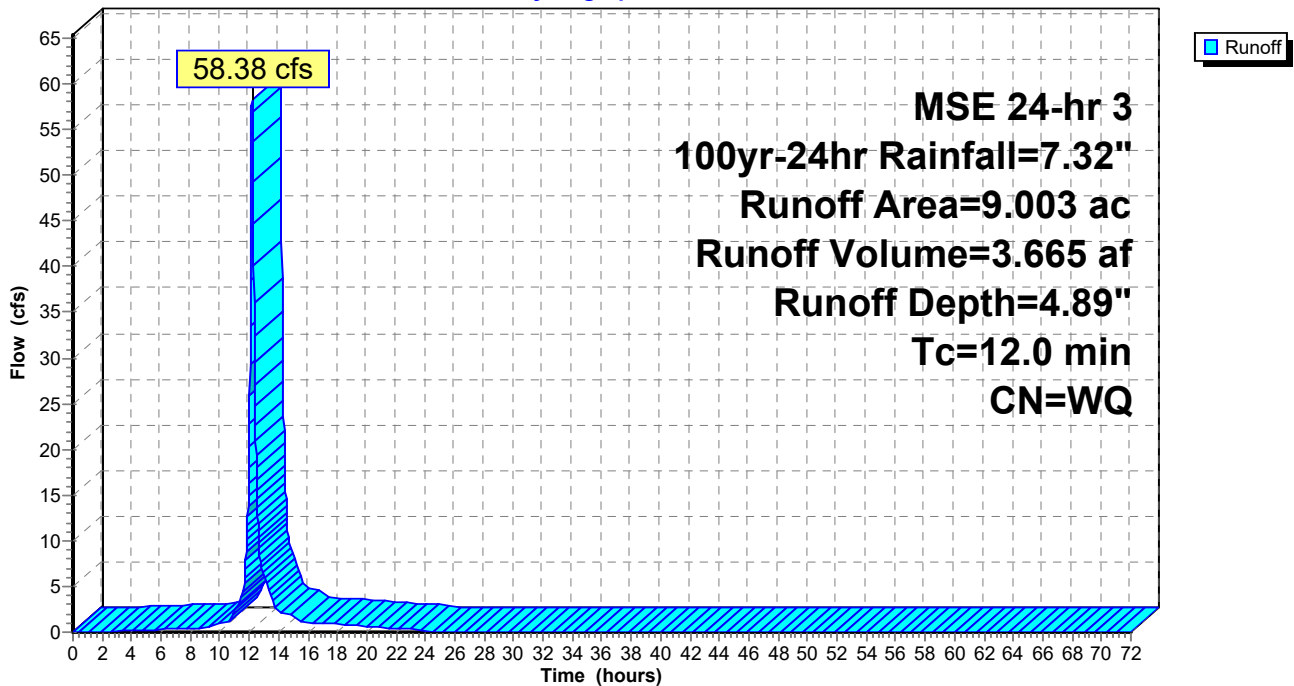
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 2.416	98	Impervious
2.605	61	>75% Grass cover, Good, HSG B
2.644	74	>75% Grass cover, Good, HSG C
0.606	74	>75% Grass cover, Good, HSG C
* 0.680	98	Pond
* 0.052	98	Impervious
9.003		Weighted Average
5.855		65.03% Pervious Area
3.148		34.97% Impervious Area

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

Subcatchment 4S: 4S

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment 5S: 5S

Runoff = 199.43 cfs @ 12.20 hrs, Volume= 12.828 af, Depth= 5.31"

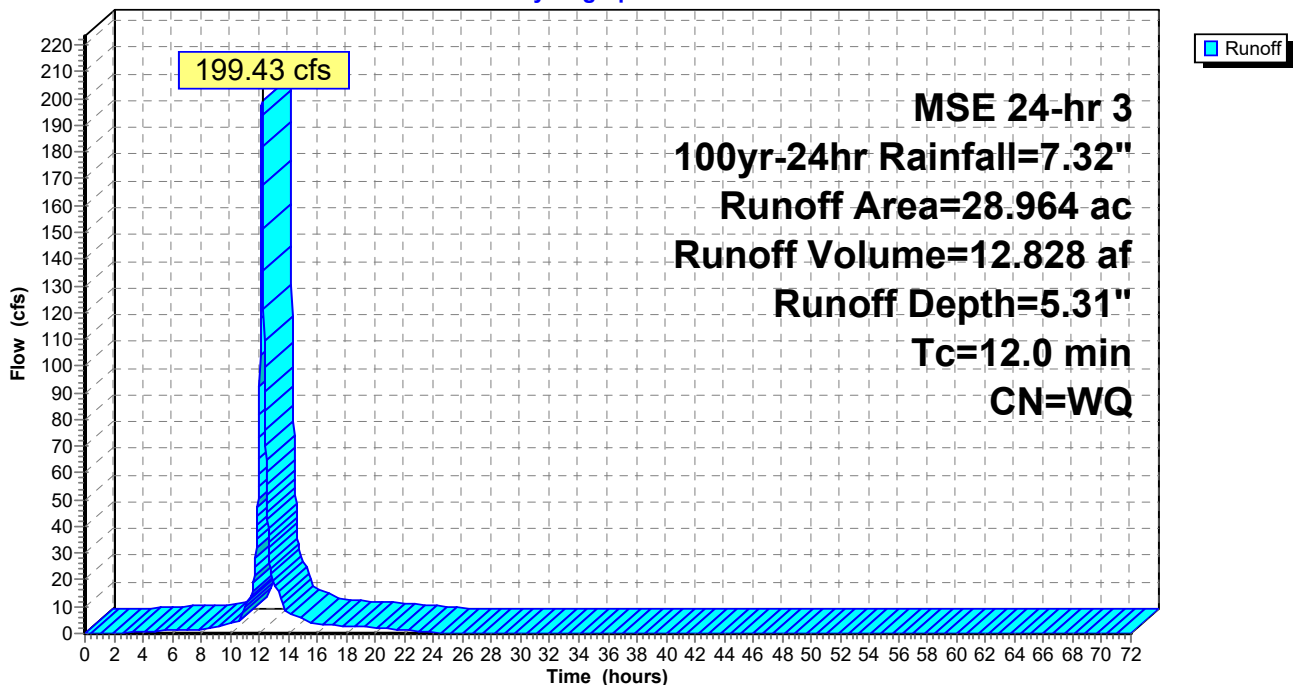
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 9.366	98	Impervious
2.568	39	>75% Grass cover, Good, HSG A
7.861	74	>75% Grass cover, Good, HSG C
4.450	74	>75% Grass cover, Good, HSG C
* 4.073	98	Pond
0.295	74	>75% Grass cover, Good, HSG C
* 0.080	98	Impervious
0.169	74	>75% Grass cover, Good, HSG C
* 0.102	98	Impervious
28.964		Weighted Average
15.343		52.97% Pervious Area
13.621		47.03% Impervious Area

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

Subcatchment 5S: 5S

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment 5S_100: 5S_100

Runoff = 2.12 cfs @ 12.20 hrs, Volume= 0.135 af, Depth= 5.59"

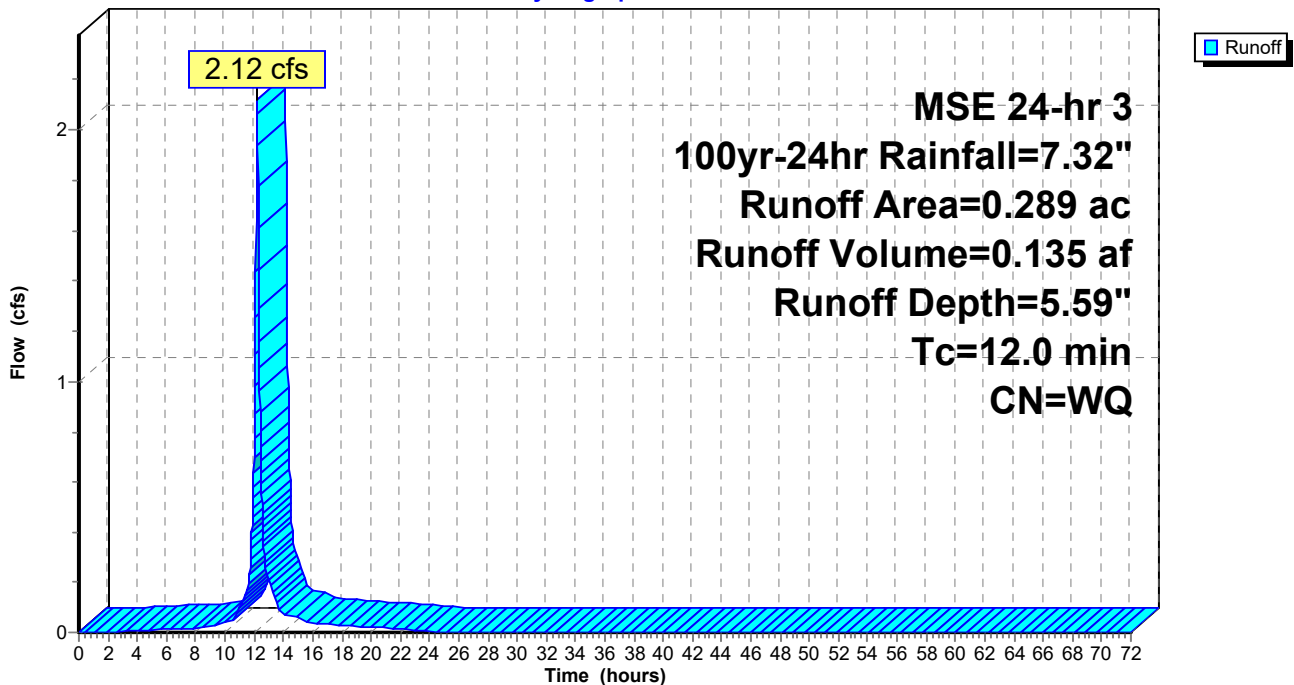
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.078	98	Impervious
0.156	74	>75% Grass cover, Good, HSG C
* 0.055	98	Impervious
0.289		Weighted Average
0.156		53.98% Pervious Area
0.133		46.02% Impervious Area

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

Subcatchment 5S_100: 5S_100

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment 10S: I14_100

Runoff = 2.41 cfs @ 12.20 hrs, Volume= 0.142 af, Depth= 4.51"

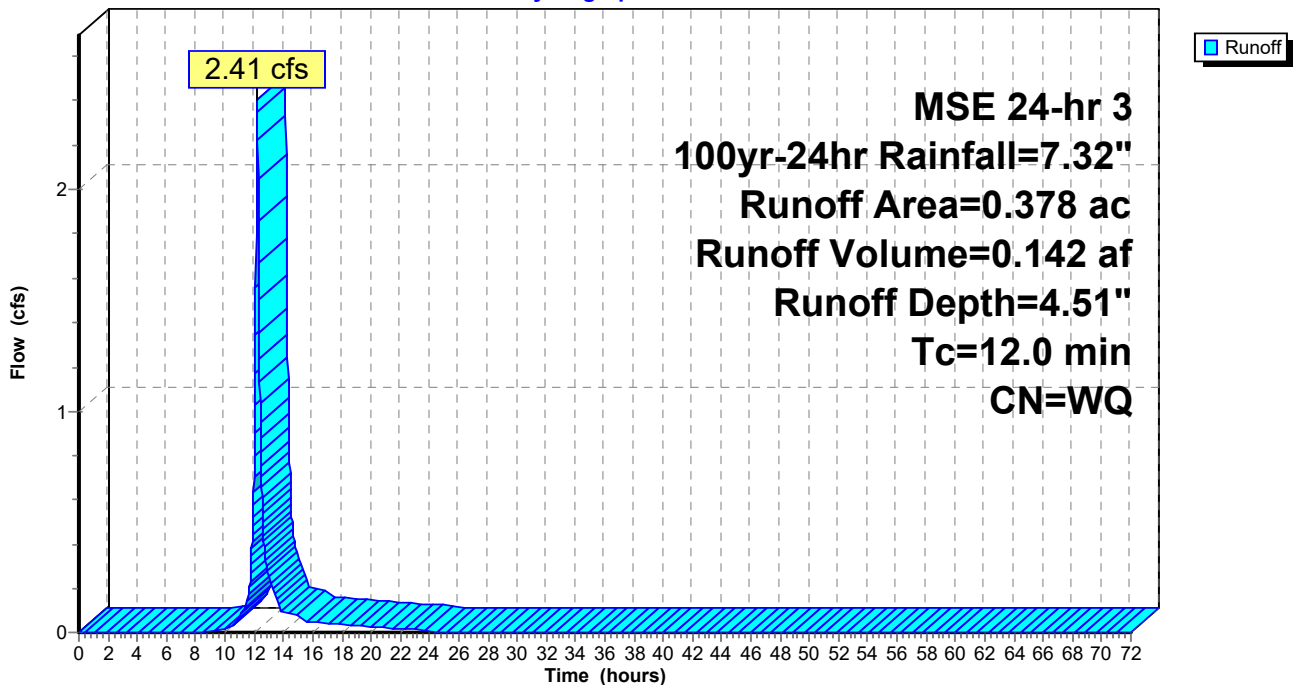
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.261	74	>75% Grass cover, Good, HSG C
* 0.026	98	impervious
0.091	74	>75% Grass cover, Good, HSG C
0.378		Weighted Average
0.352		93.12% Pervious Area
0.026		6.88% Impervious Area

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

Subcatchment 10S: I14_100

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment 1000: 1000

Runoff = 0.27 cfs @ 12.20 hrs, Volume= 0.017 af, Depth= 5.34"

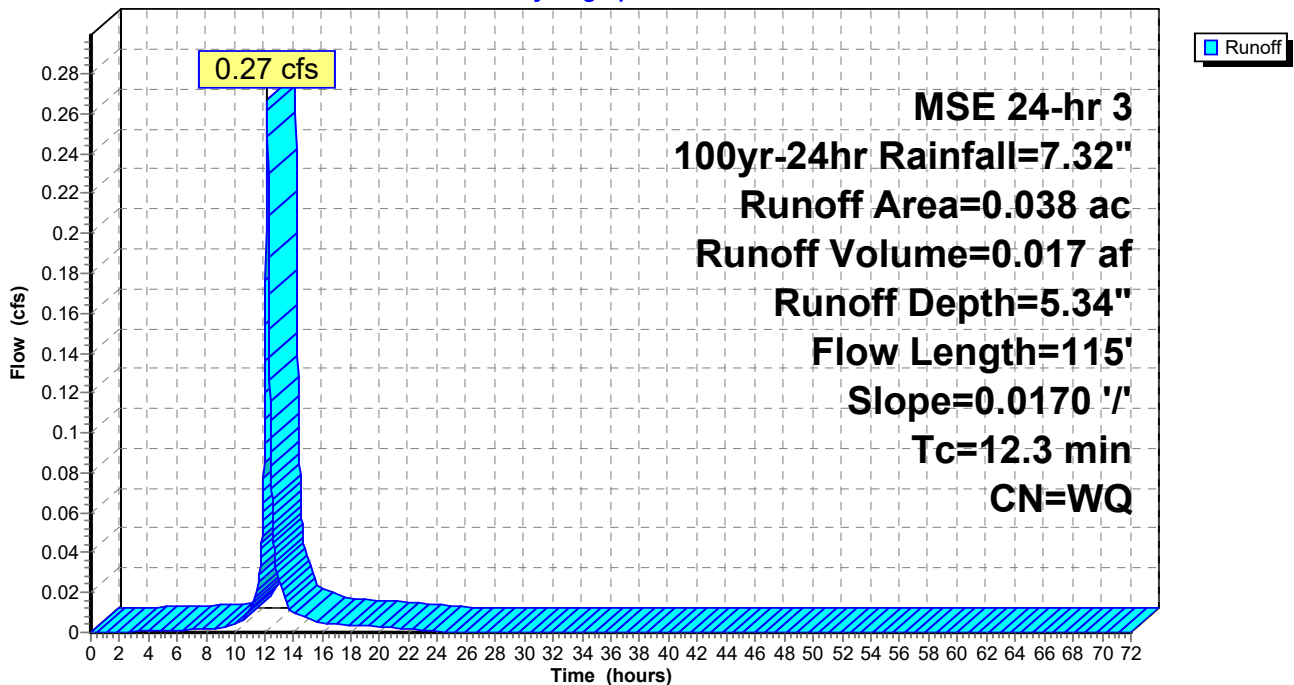
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.014	98	Impervious
0.024	74	>75% Grass cover, Good, HSG C
0.038		Weighted Average
0.024		63.16% Pervious Area
0.014		36.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	115	0.0170	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment 1000: 1000

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment A10: A10

Runoff = 5.83 cfs @ 12.20 hrs, Volume= 0.362 af, Depth= 5.24"

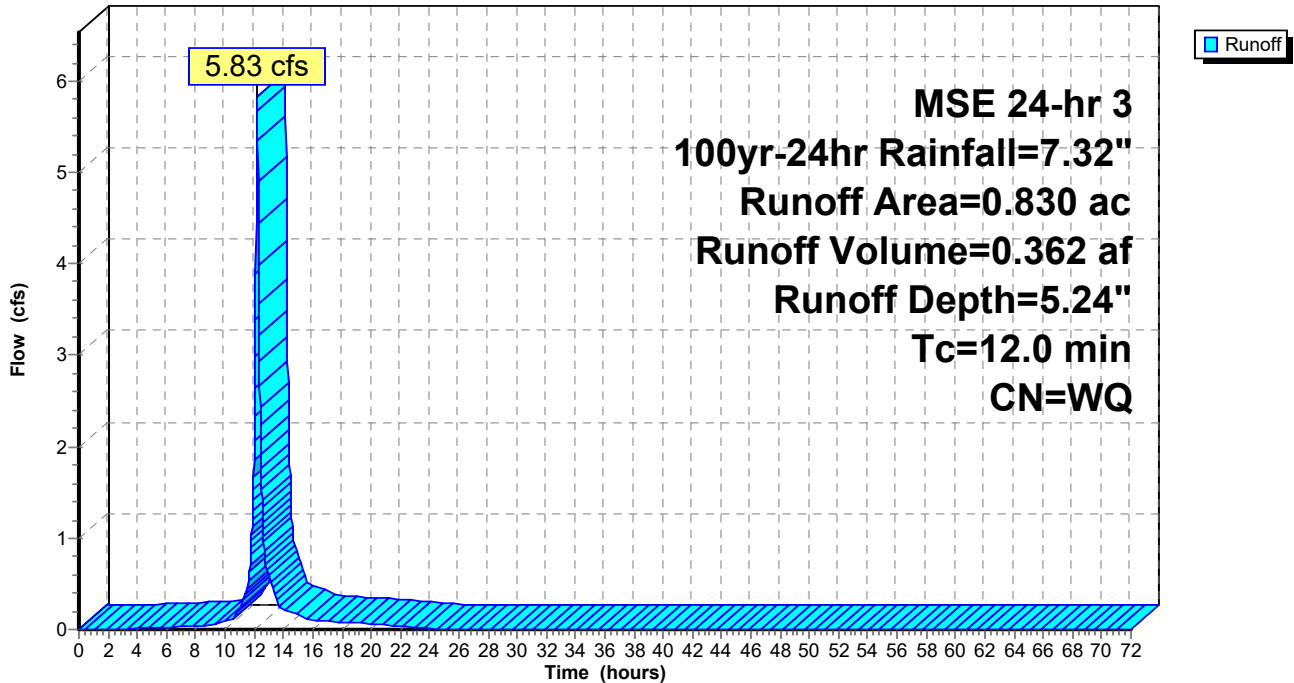
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.109	98	Impervious
0.531	74	>75% Grass cover, Good, HSG C
* 0.057	98	Impervious
* 0.110	98	Impervious
0.023	74	>75% Grass cover, Good, HSG C
0.830		Weighted Average
0.554		66.75% Pervious Area
0.276		33.25% Impervious Area

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

Subcatchment A10: A10

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment A10_100: A10_100

Runoff = 0.30 cfs @ 12.19 hrs, Volume= 0.020 af, Depth= 7.08"

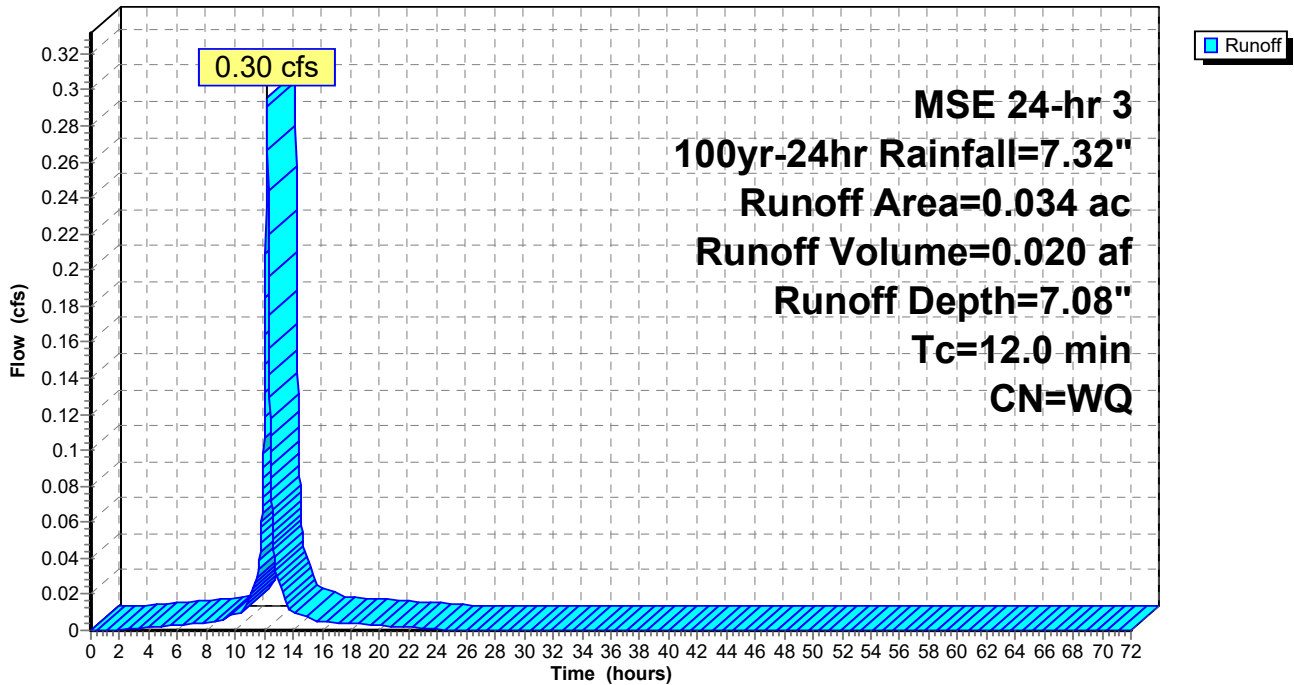
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.024	98	Impervious
* 0.010	98	Impervious
0.034		Weighted Average
0.034		100.00% Impervious Area

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

Subcatchment A10_100: A10_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment A15: A15

Runoff = 4.56 cfs @ 12.20 hrs, Volume= 0.280 af, Depth= 5.02"

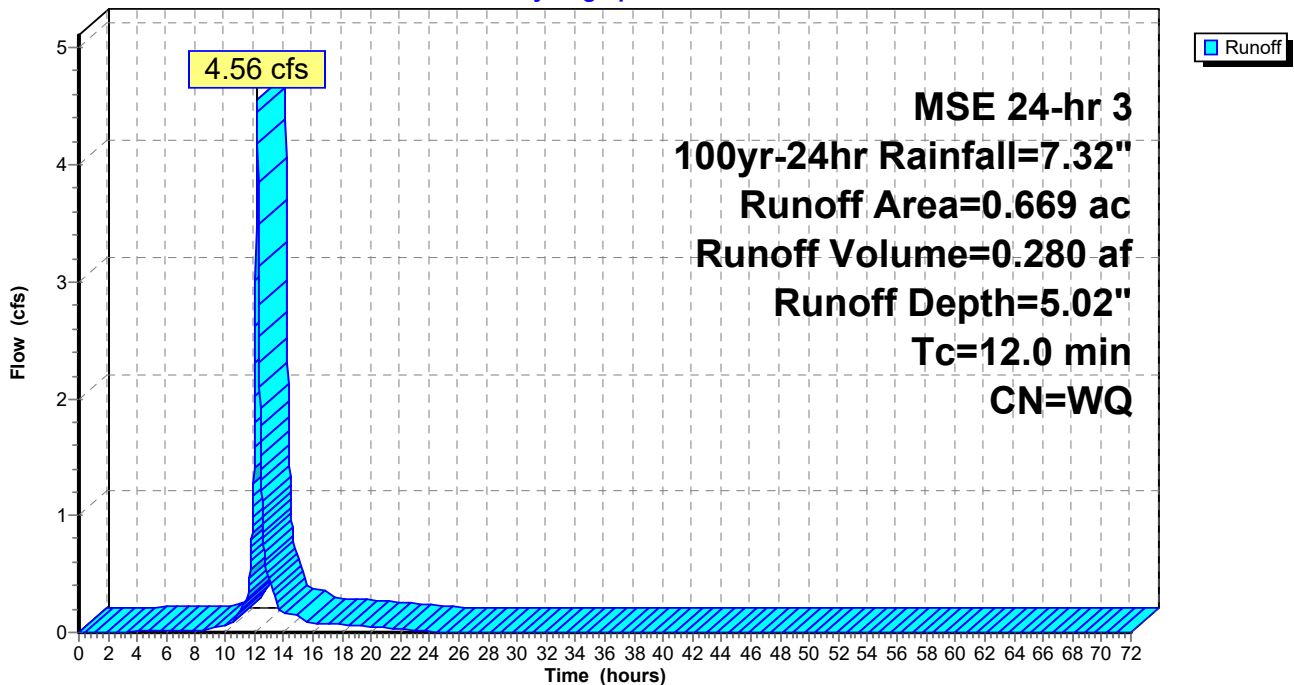
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.119	98	Impervious
0.501	74	>75% Grass cover, Good, HSG C
* 0.049	98	Impervious
0.669		Weighted Average
0.501		74.89% Pervious Area
0.168		25.11% Impervious Area

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

Subcatchment A15: A15

Hydrograph



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Summary for Subcatchment A15_100: A15_100

Runoff = 0.24 cfs @ 12.19 hrs, Volume= 0.016 af, Depth= 7.08"

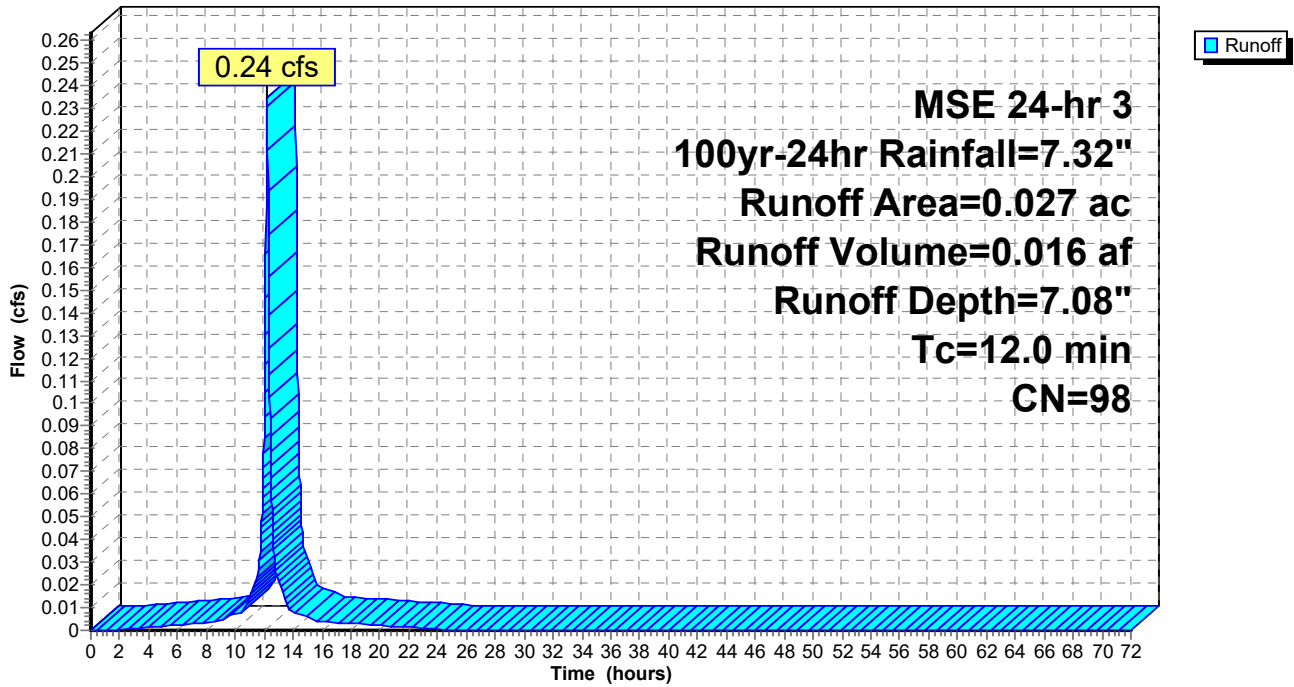
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.027	98	Impervious
0.027		100.00% Impervious Area

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

Subcatchment A15_100: A15_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment A8: A8

Runoff = 0.61 cfs @ 12.20 hrs, Volume= 0.037 af, Depth= 4.61"

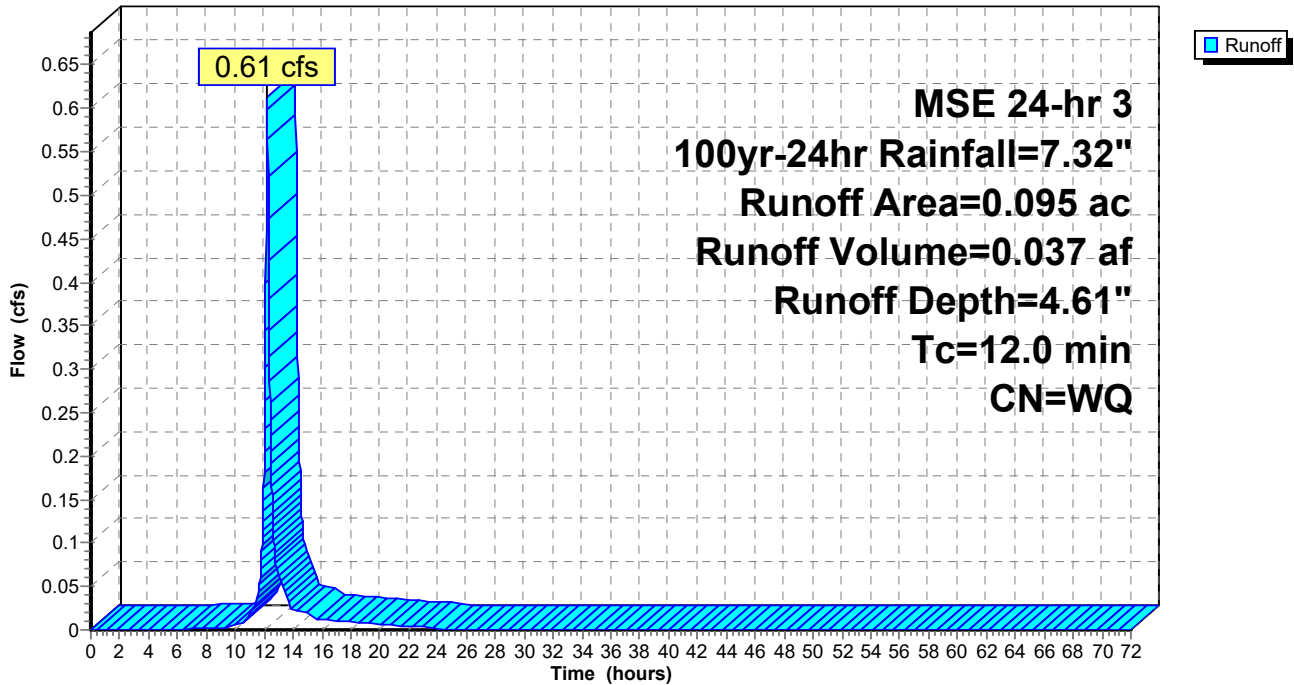
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.010	98	Impervious
0.085	74	>75% Grass cover, Good, HSG C
0.095		Weighted Average
0.085		89.47% Pervious Area
0.010		10.53% Impervious Area

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

Subcatchment A8: A8

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment A9: A9

Runoff = 4.52 cfs @ 12.20 hrs, Volume= 0.275 af, Depth= 4.92"

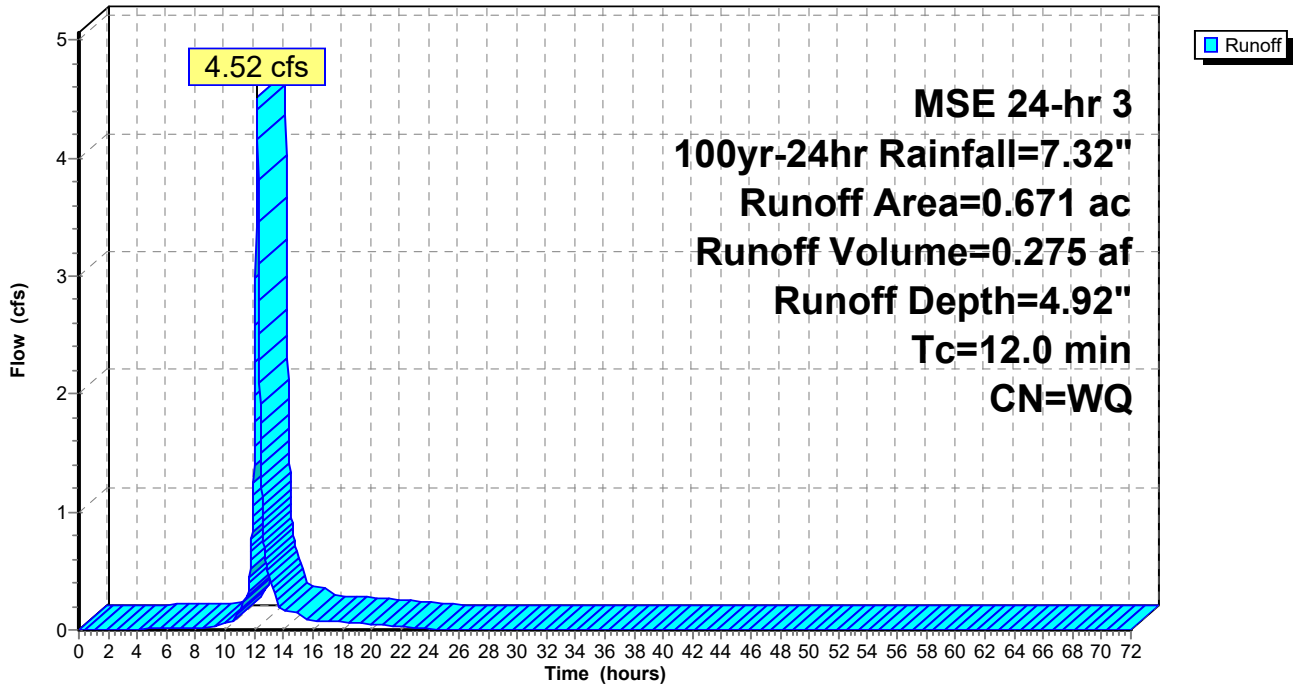
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.145	98	Impervious
0.526	74	>75% Grass cover, Good, HSG C
0.671		Weighted Average
0.526		78.39% Pervious Area
0.145		21.61% Impervious Area

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

Subcatchment A9: A9

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment B5: B5

Runoff = 3.55 cfs @ 12.20 hrs, Volume= 0.211 af, Depth= 4.60"

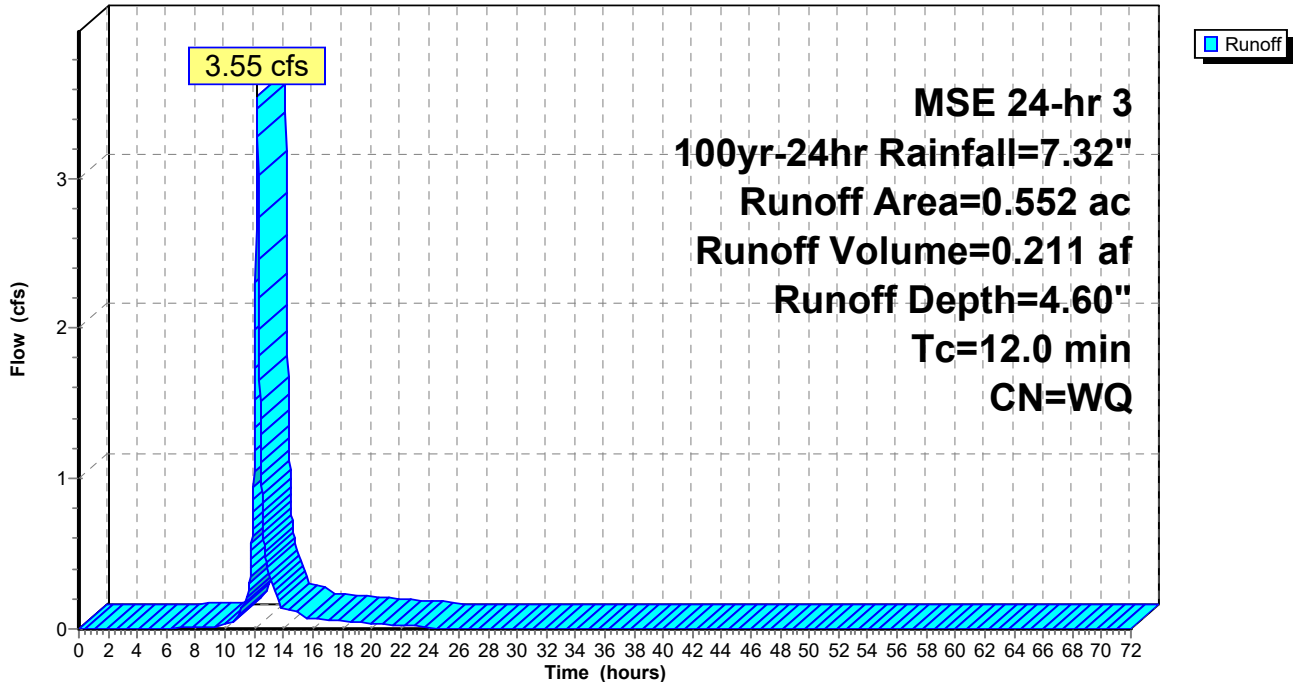
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.040	98	Impervious
0.337	74	>75% Grass cover, Good, HSG C
0.154	73	Woods, Fair, HSG C
* 0.021	98	Impervious
0.552		Weighted Average
0.491		88.95% Pervious Area
0.061		11.05% Impervious Area

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

Subcatchment B5: B5

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment B6: B6

Runoff = 9.80 cfs @ 12.20 hrs, Volume= 0.585 af, Depth= 4.66"

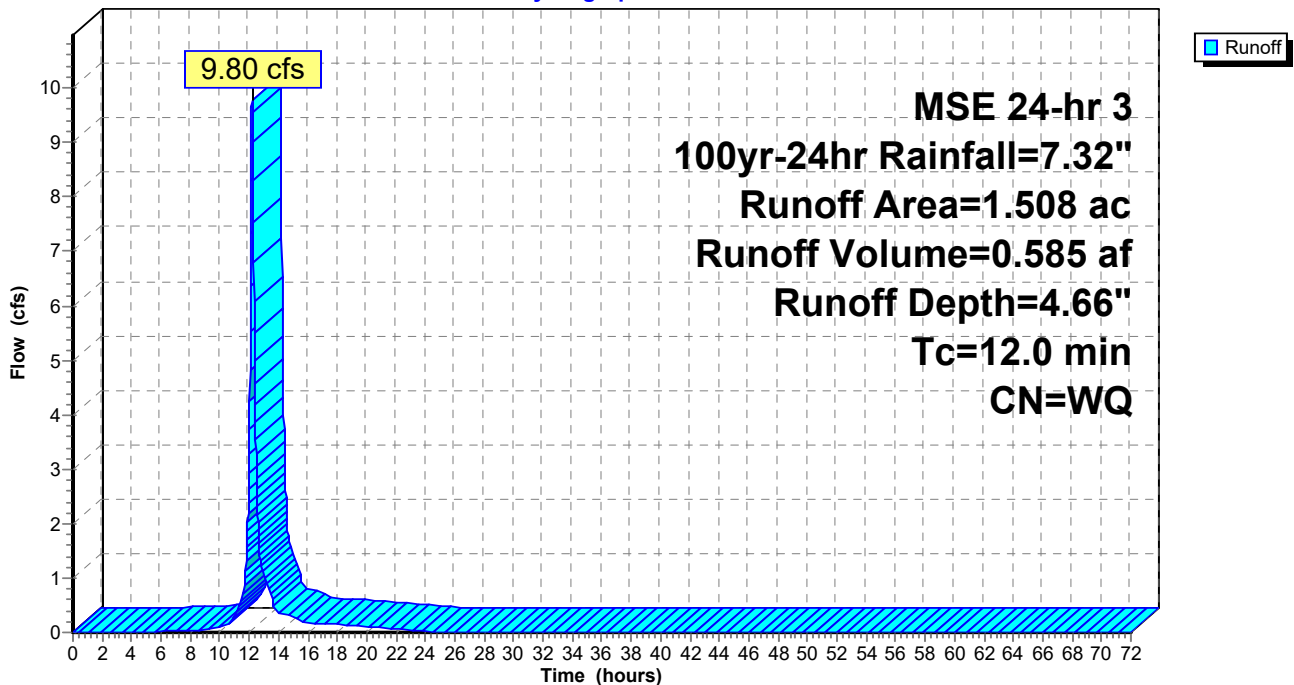
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.140	98	Impervious
1.326	74	>75% Grass cover, Good, HSG C
* 0.042	98	Impervious
1.508		Weighted Average
1.326		87.93% Pervious Area
0.182		12.07% Impervious Area

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

Subcatchment B6: B6

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment B7: B7

Runoff = 5.17 cfs @ 12.20 hrs, Volume= 0.312 af, Depth= 4.78"

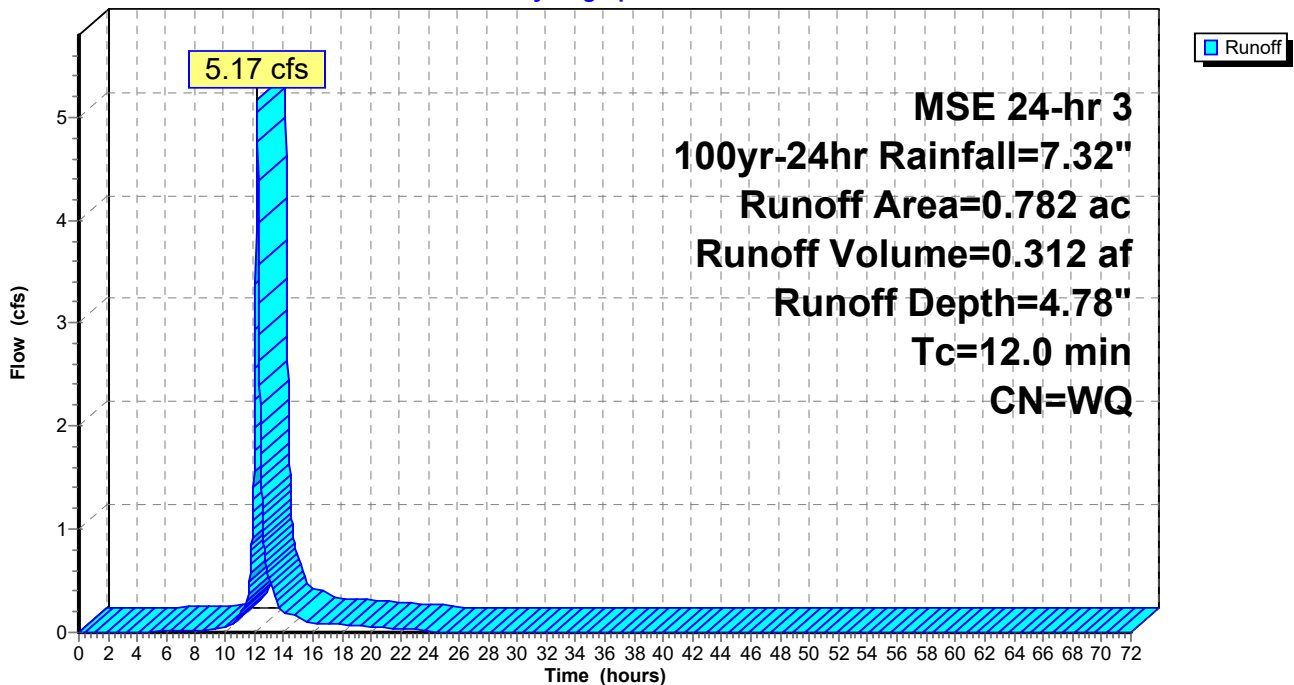
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.651	74	>75% Grass cover, Good, HSG C
* 0.080	98	Pond
* 0.051	98	Impervious
0.782		Weighted Average
0.651		83.25% Pervious Area
0.131		16.75% Impervious Area

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

Subcatchment B7: B7

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment B7_100: B7_100

Runoff = 1.46 cfs @ 12.20 hrs, Volume= 0.090 af, Depth= 5.15"

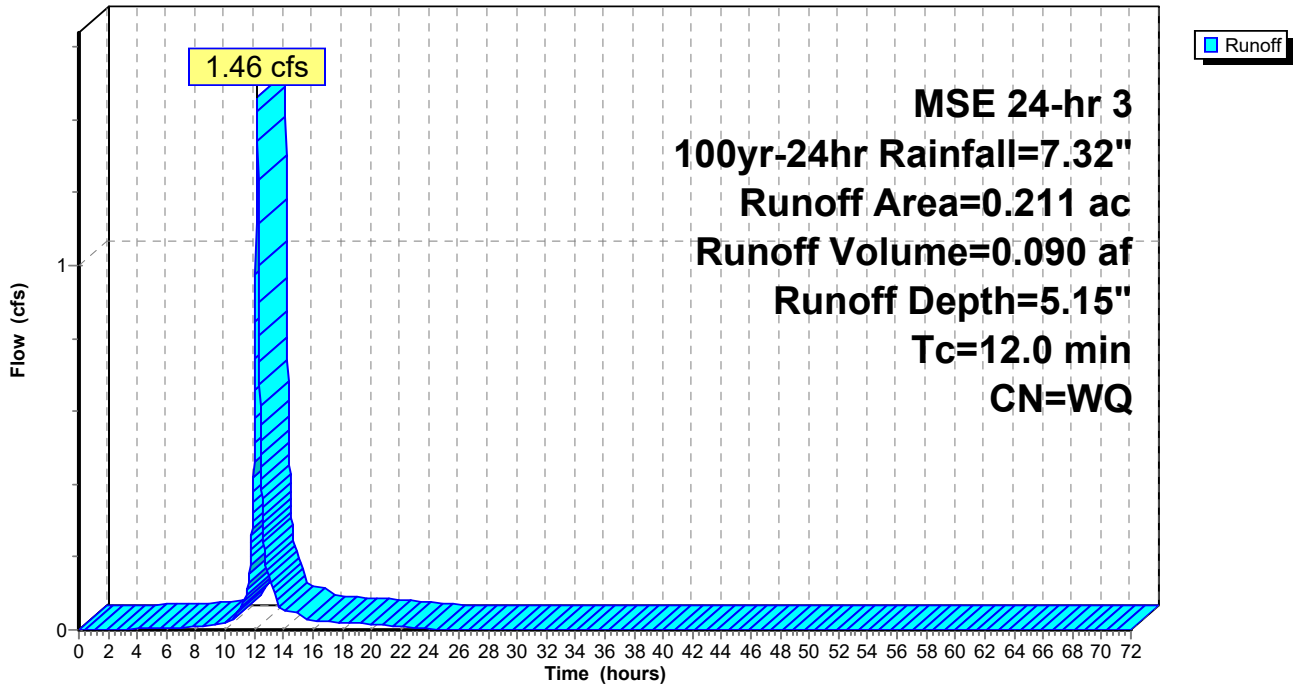
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.148	74	>75% Grass cover, Good, HSG C
* 0.063	98	Impervious
0.211		Weighted Average
0.148		70.14% Pervious Area
0.063		29.86% Impervious Area

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

Subcatchment B7_100: B7_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment B8: B8

Runoff = 7.04 cfs @ 12.20 hrs, Volume= 0.415 af, Depth= 4.49"

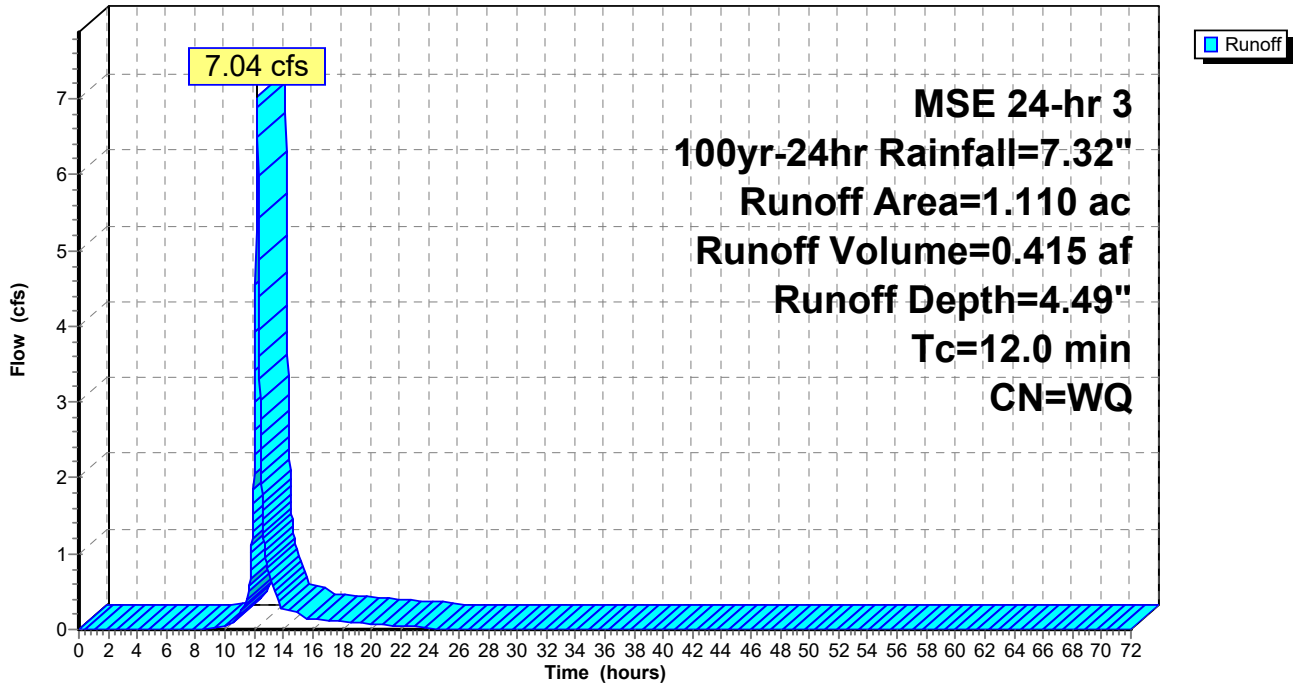
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.127	74	>75% Grass cover, Good, HSG C
0.647	74	>75% Grass cover, Good, HSG C
* 0.074	98	Impervious
0.165	73	Woods, Fair, HSG C
0.097	74	>75% Grass cover, Good, HSG C
1.110		Weighted Average
1.036		93.33% Pervious Area
0.074		6.67% Impervious Area

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

Subcatchment B8: B8

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment B8_100: B8_100

Runoff = 0.25 cfs @ 12.19 hrs, Volume= 0.017 af, Depth= 6.80"

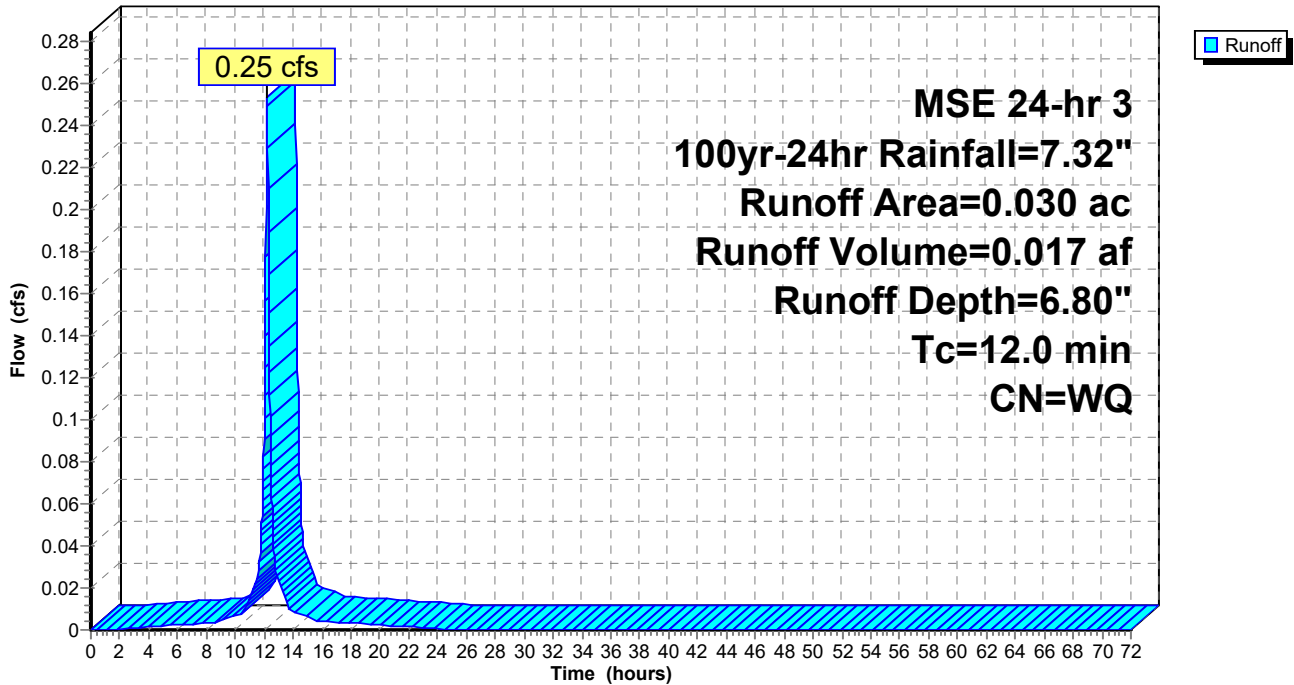
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.003	74	>75% Grass cover, Good, HSG C
* 0.027	98	Impervious
0.030		Weighted Average
0.003		10.00% Pervious Area
0.027		90.00% Impervious Area

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

Subcatchment B8_100: B8_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment C10: C10

Runoff = 9.83 cfs @ 12.20 hrs, Volume= 0.585 af, Depth= 4.62"

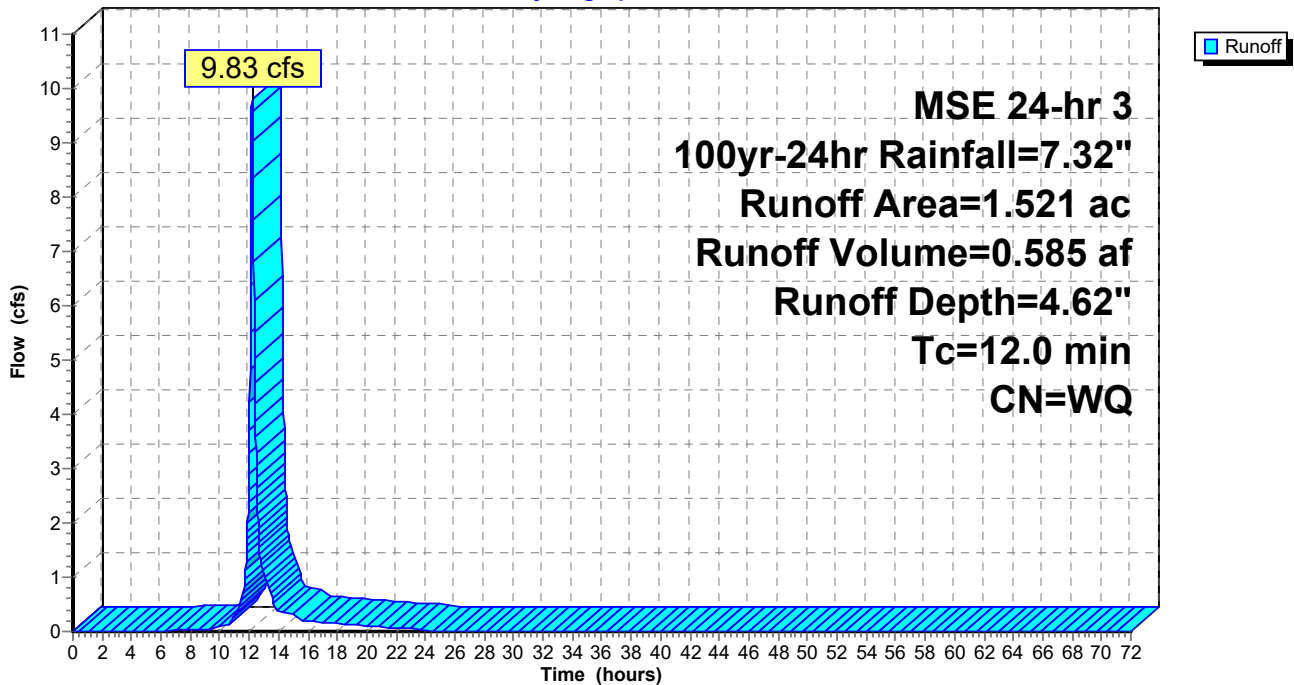
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.036	98	Impervious
1.278	74	>75% Grass cover, Good, HSG C
0.080	74	>75% Grass cover, Good, HSG C
* 0.078	98	Impervious
* 0.049	98	Impervious
1.521		Weighted Average
1.358		89.28% Pervious Area
0.163		10.72% Impervious Area

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

Subcatchment C10: C10

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment C10_100: C10_100

Runoff = 4.20 cfs @ 12.19 hrs, Volume= 0.272 af, Depth= 5.97"

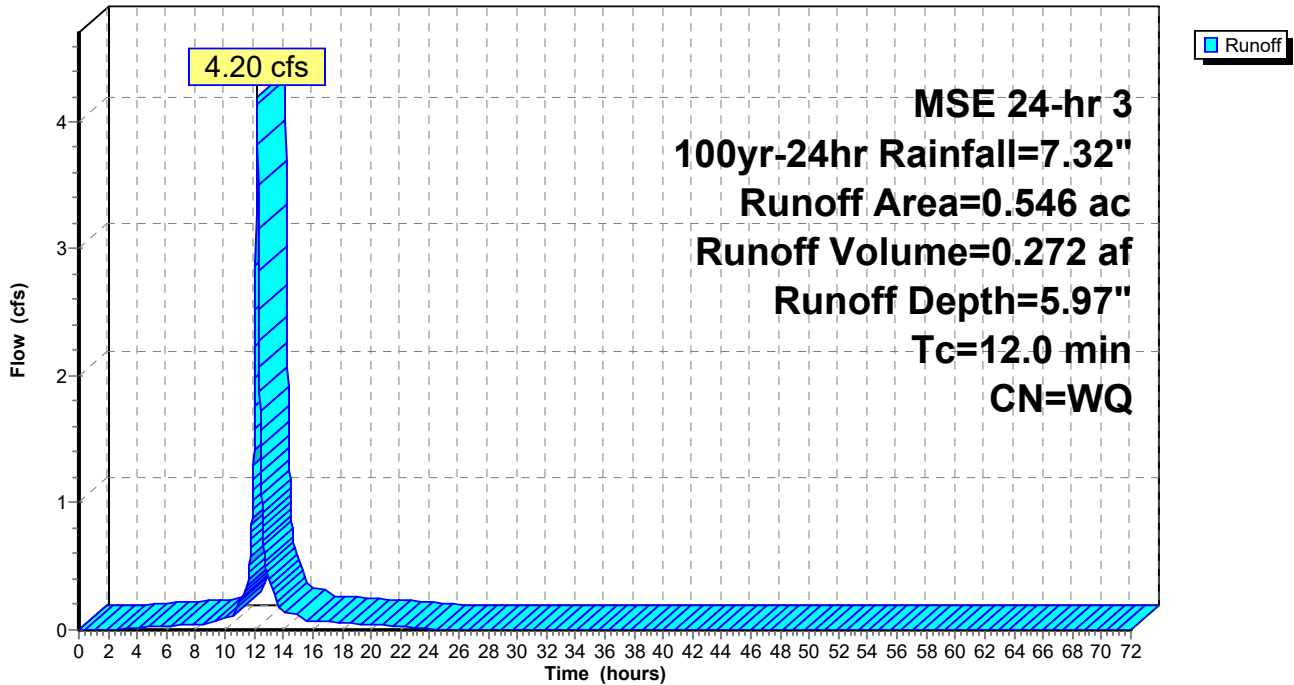
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.220	74	>75% Grass cover, Good, HSG C
* 0.326	98	Impervious
0.546		Weighted Average
0.220		40.29% Pervious Area
0.326		59.71% Impervious Area

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

Subcatchment C10_100: C10_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment C7: C7

Runoff = 9.41 cfs @ 12.20 hrs, Volume= 0.564 af, Depth= 4.70"

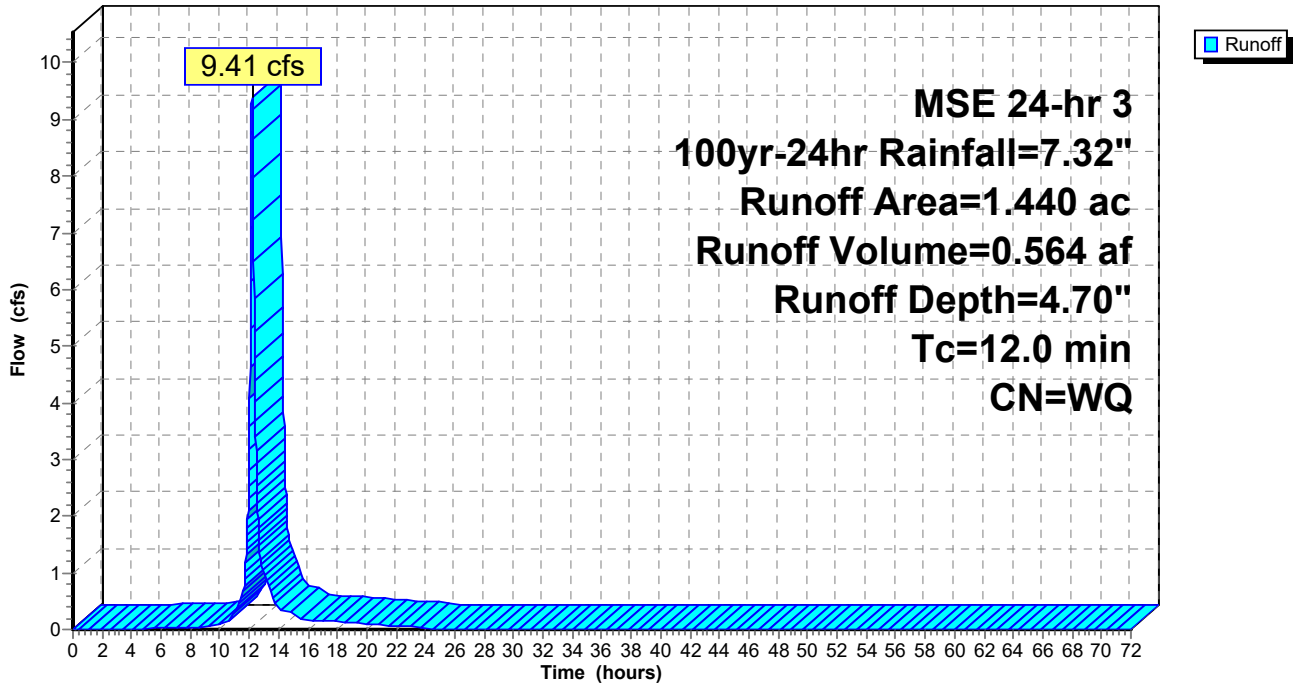
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.018	98	Impervious
1.011	74	>75% Grass cover, Good, HSG C
0.233	74	>75% Grass cover, Good, HSG C
* 0.128	98	Impervious
* 0.050	98	Impervious
1.440		Weighted Average
1.244		86.39% Pervious Area
0.196		13.61% Impervious Area

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

Subcatchment C7: C7

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment C7_100: C7_100

Runoff = 1.95 cfs @ 12.21 hrs, Volume= 0.135 af, Depth= 6.04"

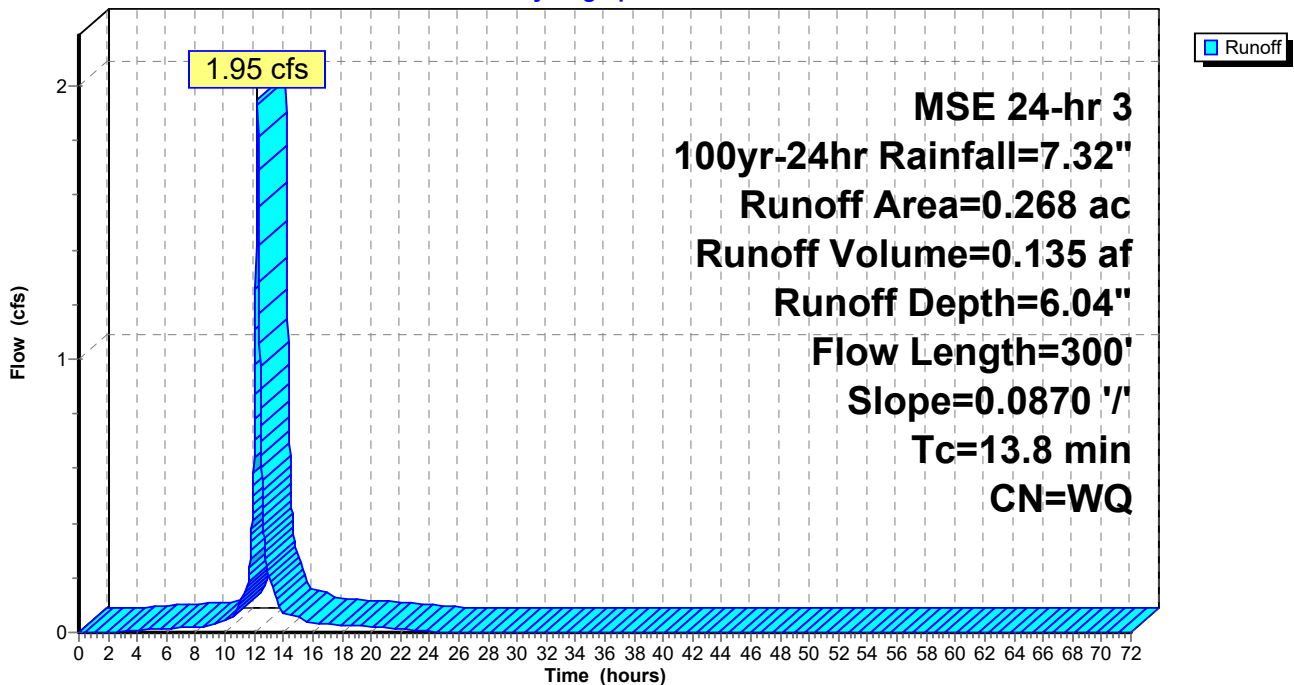
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.101	74	>75% Grass cover, Good, HSG C
* 0.167	98	Impervious
0.268		Weighted Average
0.101		37.69% Pervious Area
0.167		62.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	300	0.0870	0.36		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment C7_100: C7_100

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment C8: C8

Runoff = 9.50 cfs @ 12.20 hrs, Volume= 0.568 af, Depth= 4.68"

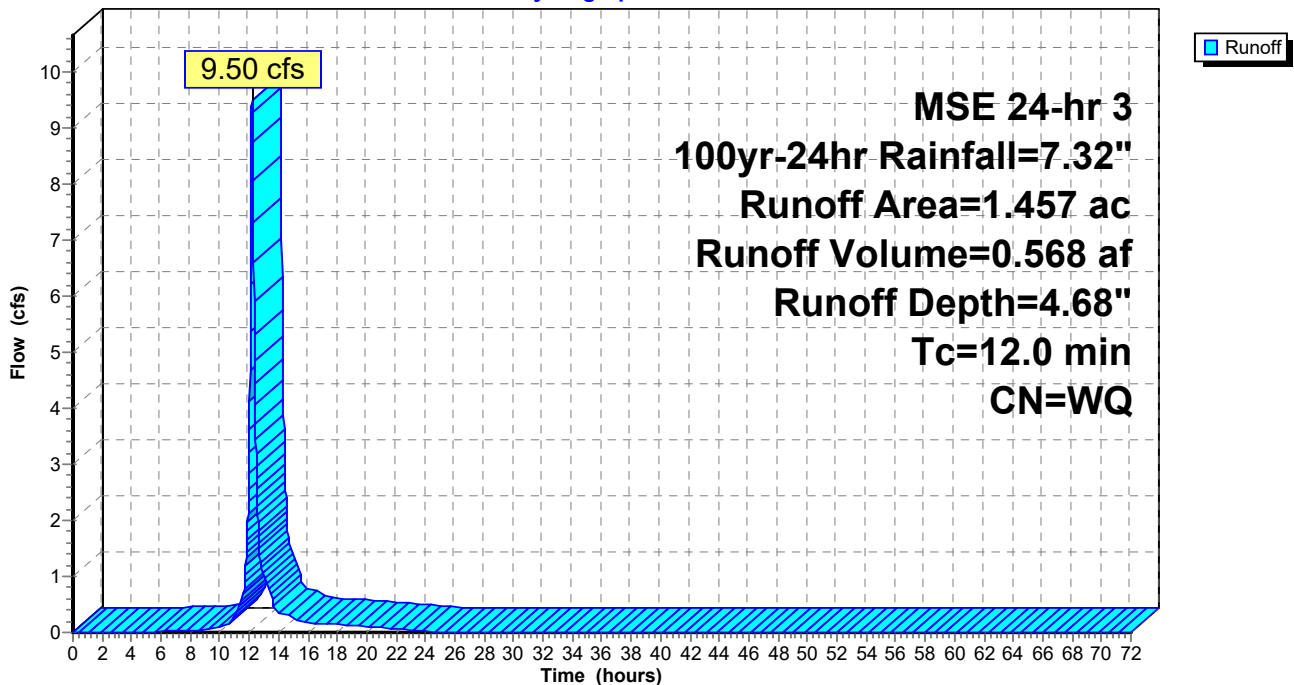
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.138	98	Impervious
1.267	74	>75% Grass cover, Good, HSG C
* 0.052	98	Impervious
1.457		Weighted Average
1.267		86.96% Pervious Area
0.190		13.04% Impervious Area

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

Subcatchment C8: C8

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment C8_100: C8_100

Runoff = 3.43 cfs @ 12.21 hrs, Volume= 0.237 af, Depth= 6.05"

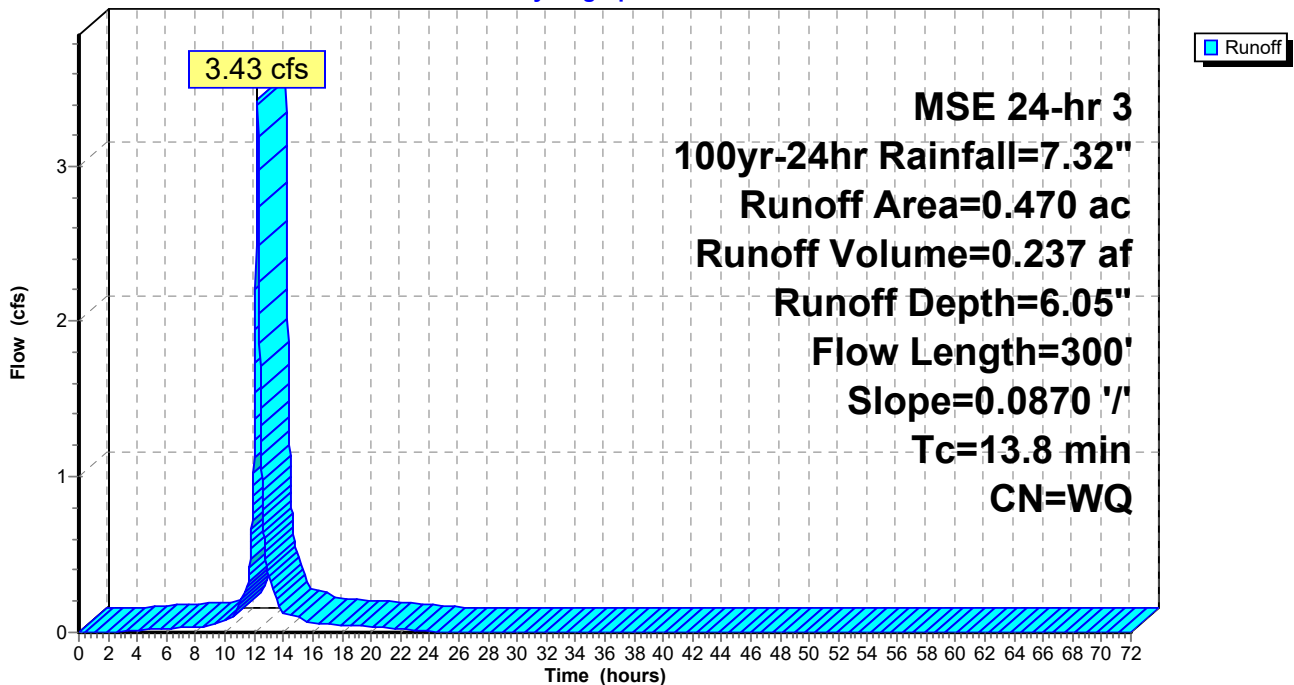
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.175	74	>75% Grass cover, Good, HSG C
* 0.295	98	Impervious
0.470		Weighted Average
0.175		37.23% Pervious Area
0.295		62.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	300	0.0870	0.36		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment C8_100: C8_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment C9: C9

Runoff = 11.40 cfs @ 12.20 hrs, Volume= 0.679 af, Depth= 4.62"

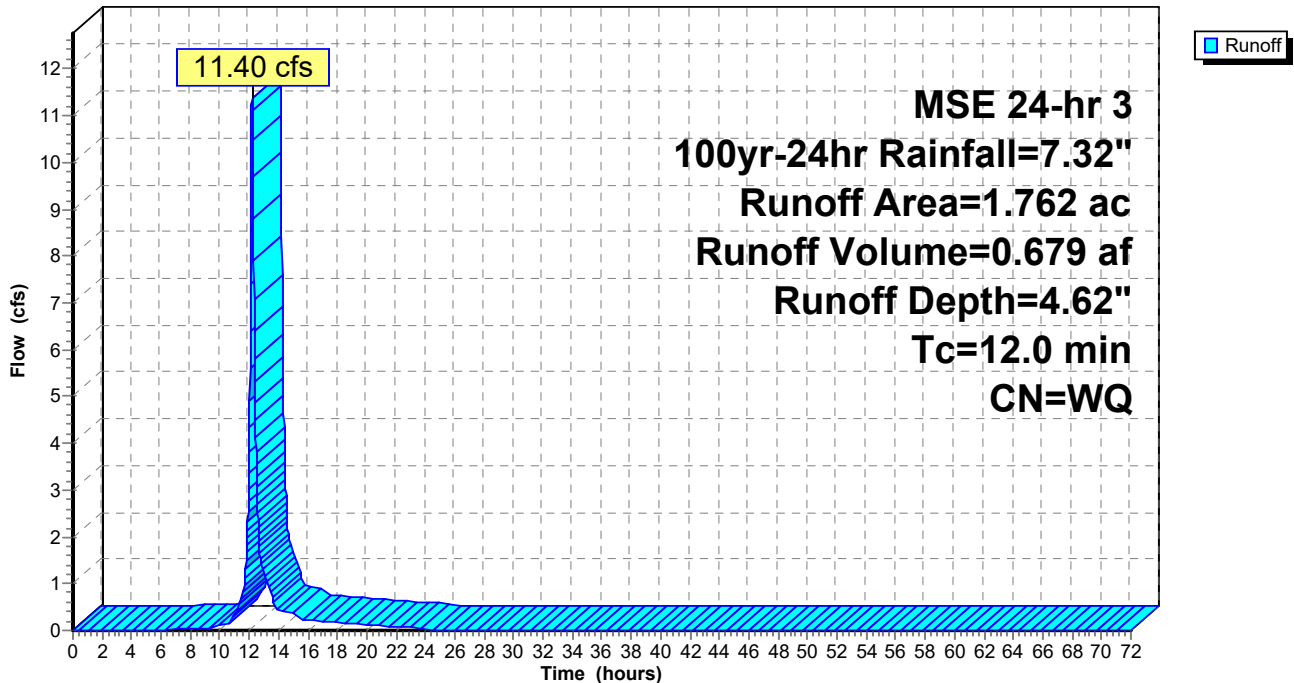
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.132	98	Impervious
1.569	74	>75% Grass cover, Good, HSG C
* 0.061	98	Impervious
1.762		Weighted Average
1.569		89.05% Pervious Area
0.193		10.95% Impervious Area

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

Subcatchment C9: C9

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment C9_100: C9_100

Runoff = 2.36 cfs @ 12.19 hrs, Volume= 0.153 af, Depth= 6.12"

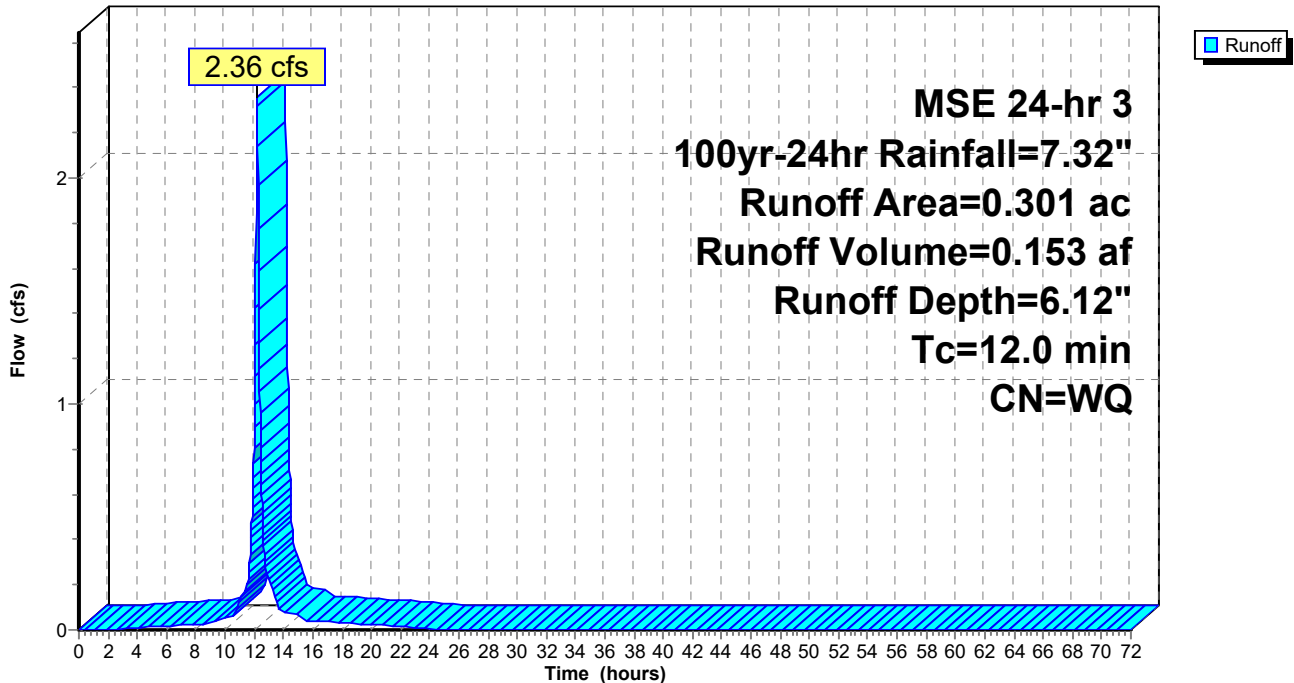
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.105	74	>75% Grass cover, Good, HSG C
* 0.196	98	Impervious
0.301		Weighted Average
0.105		34.88% Pervious Area
0.196		65.12% Impervious Area

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

Subcatchment C9_100: C9_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment D6: D6

Runoff = 2.36 cfs @ 12.20 hrs, Volume= 0.138 af, Depth= 4.42"

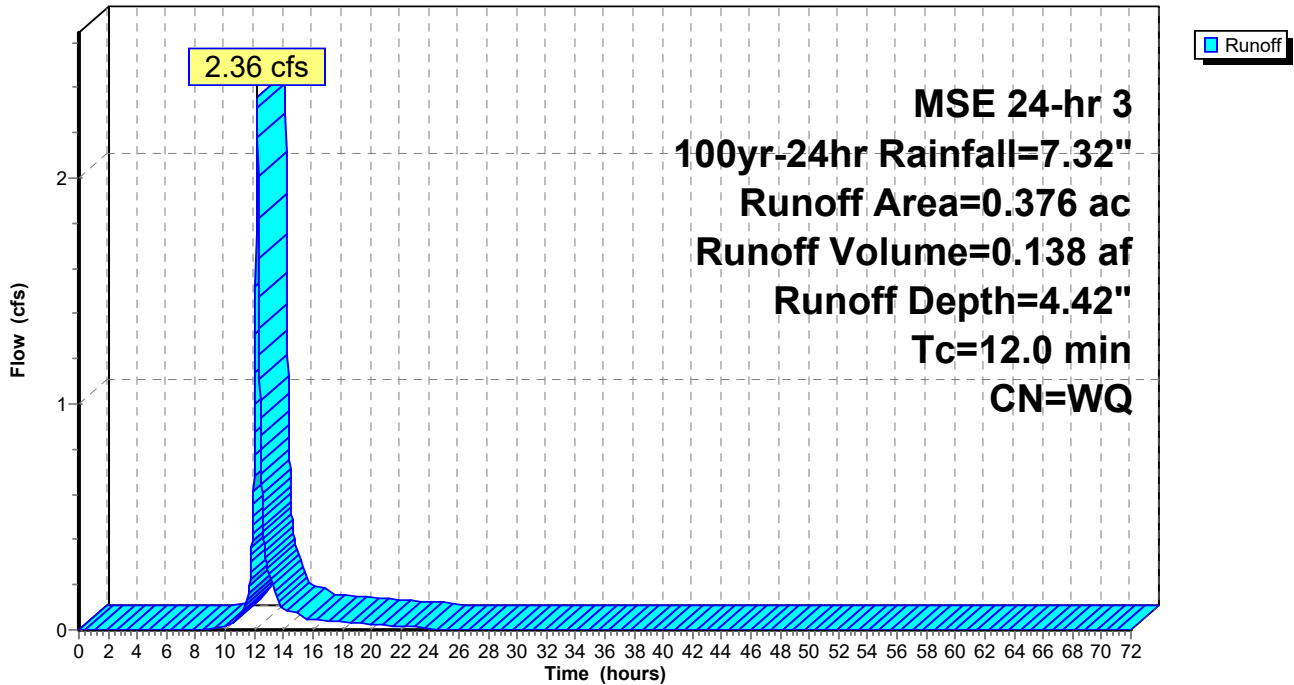
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.013	98	Impervious
0.363	74	>75% Grass cover, Good, HSG C
0.376		Weighted Average
0.363		96.54% Pervious Area
0.013		3.46% Impervious Area

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

Subcatchment D6: D6

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment D7: D7

Runoff = 3.32 cfs @ 12.20 hrs, Volume= 0.198 af, Depth= 4.65"

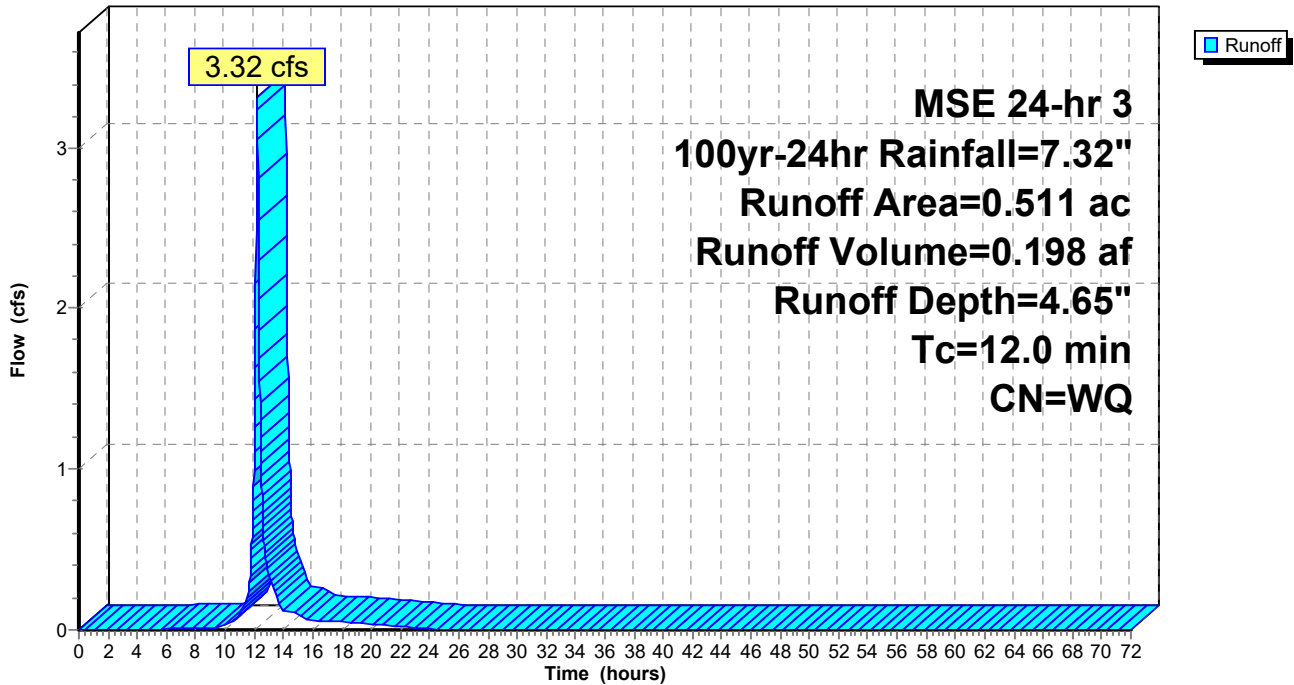
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.061	98	Impervious
0.450	74	>75% Grass cover, Good, HSG C
0.511		Weighted Average
0.450		88.06% Pervious Area
0.061		11.94% Impervious Area

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

Subcatchment D7: D7

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment D7_100: D7_100

Runoff = 0.57 cfs @ 12.19 hrs, Volume= 0.037 af, Depth= 5.87"

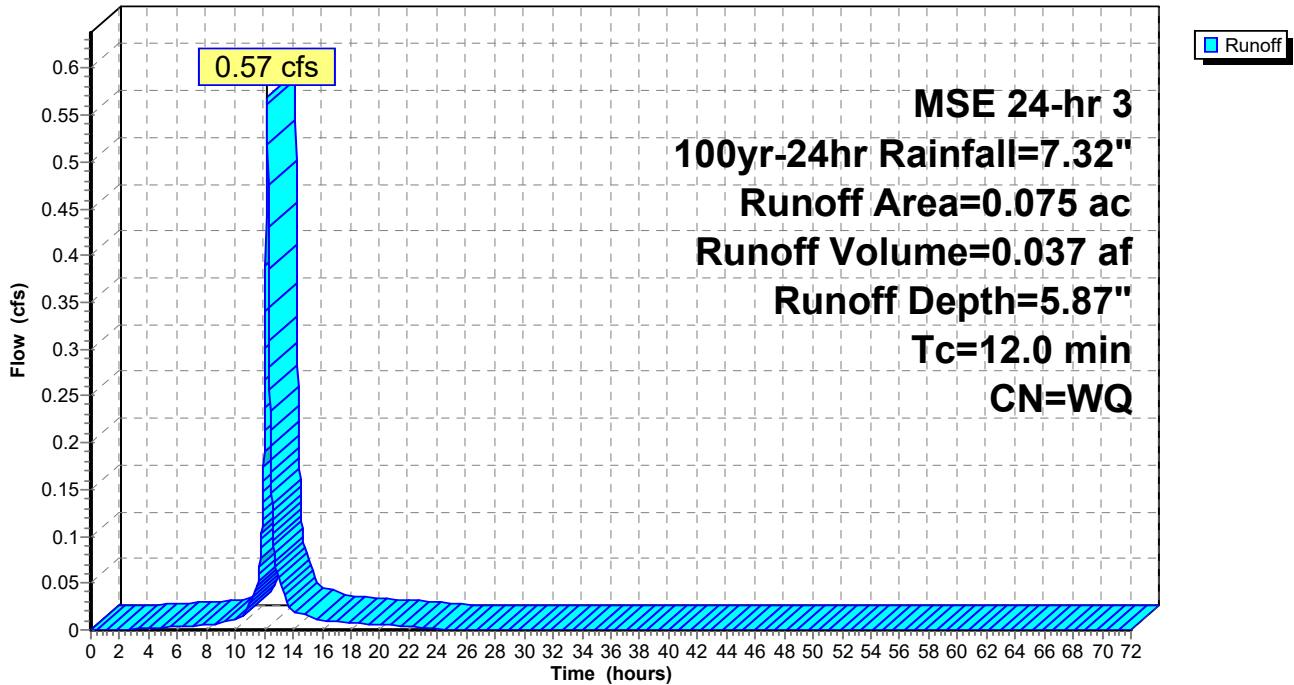
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.033	74	>75% Grass cover, Good, HSG C
* 0.042	98	Impervious
0.075		Weighted Average
0.033		44.00% Pervious Area
0.042		56.00% Impervious Area

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

Subcatchment D7_100: D7_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment D8: D8

Runoff = 7.77 cfs @ 12.20 hrs, Volume= 0.460 af, Depth= 4.54"

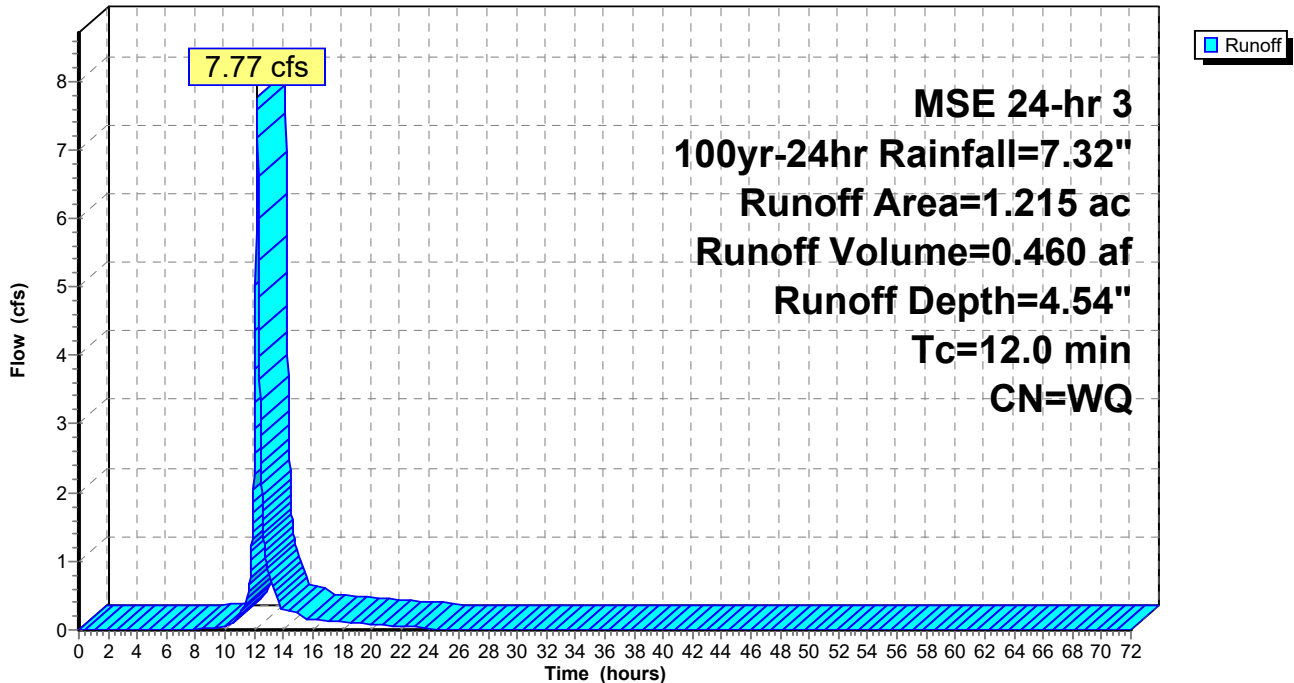
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.097	98	Impervious
1.118	74	>75% Grass cover, Good, HSG C
1.215		Weighted Average
1.118		92.02% Pervious Area
0.097		7.98% Impervious Area

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

Subcatchment D8: D8

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment D9: D9

Runoff = 8.27 cfs @ 12.20 hrs, Volume= 0.498 af, Depth= 4.77"

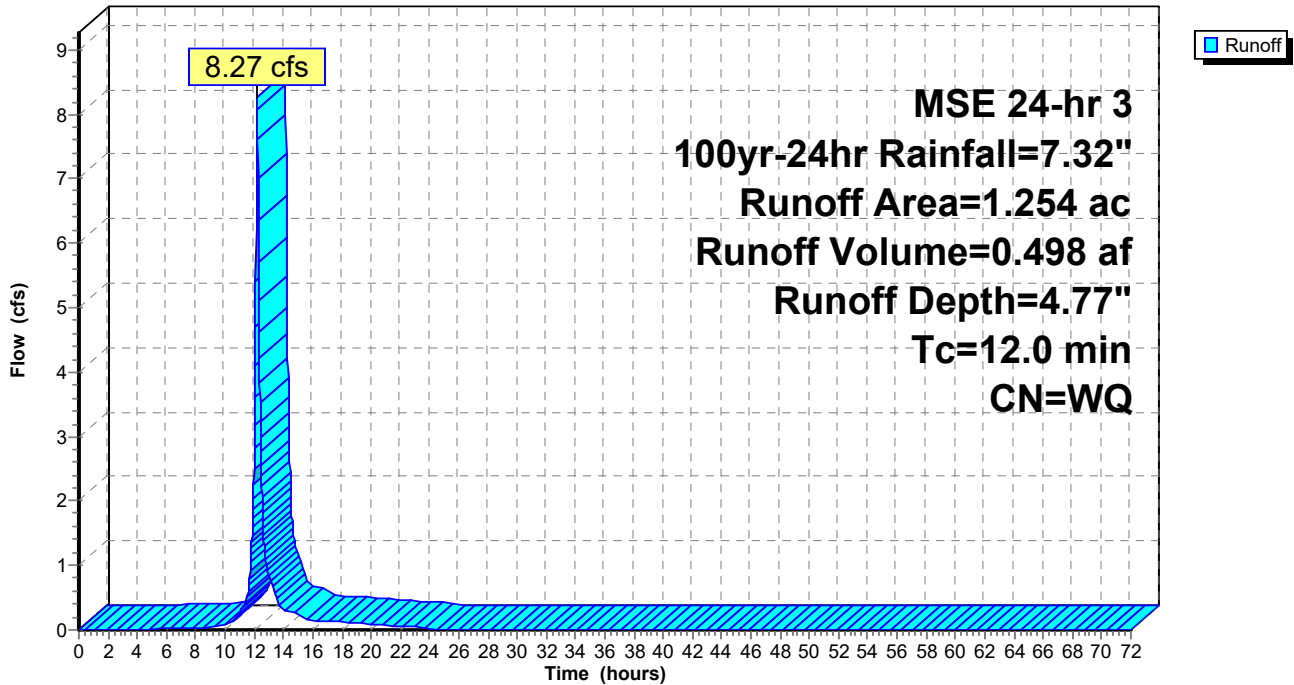
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.202	98	Impervious
1.052	74	>75% Grass cover, Good, HSG C
1.254		Weighted Average
1.052		83.89% Pervious Area
0.202		16.11% Impervious Area

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

Subcatchment D9: D9

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment E13: E13

Runoff = 4.17 cfs @ 12.20 hrs, Volume= 0.257 af, Depth= 5.09"

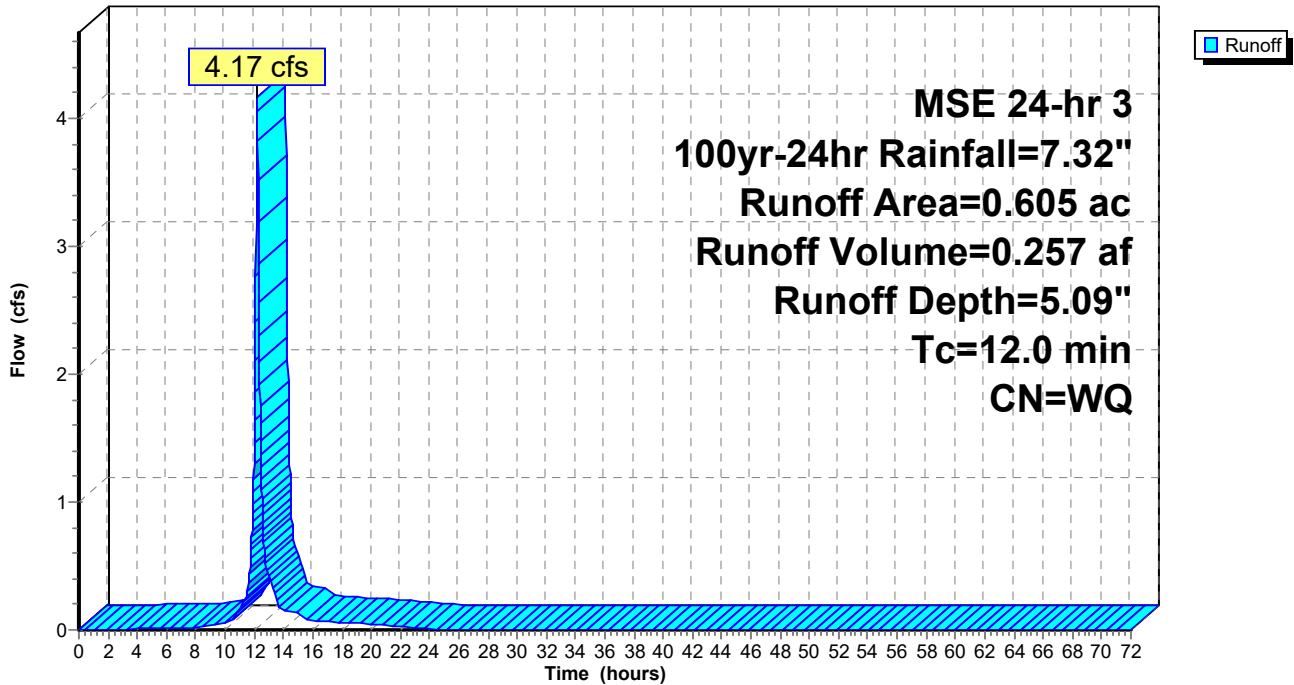
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.168	98	Impervious
0.437	74	>75% Grass cover, Good, HSG C
0.605		Weighted Average
0.437		72.23% Pervious Area
0.168		27.77% Impervious Area

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

Subcatchment E13: E13

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment E15: E15

Runoff = 13.23 cfs @ 12.20 hrs, Volume= 0.813 af, Depth= 5.06"

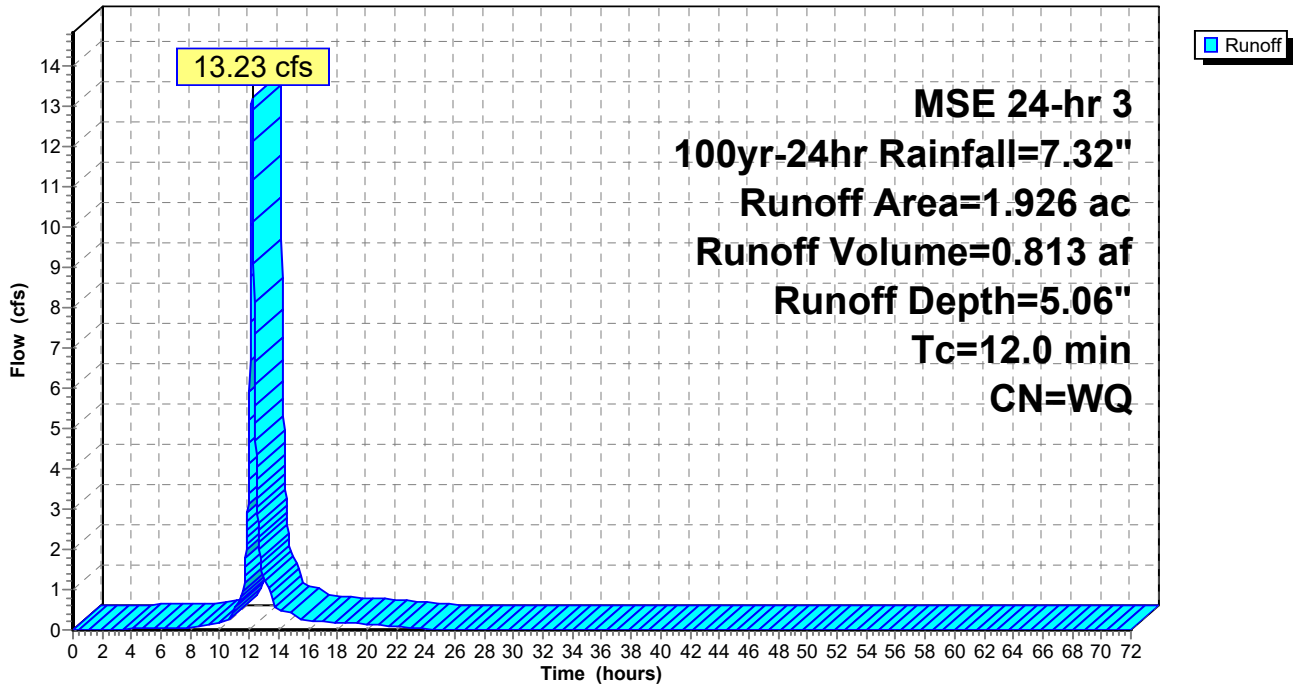
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.518	98	Impervious
1.408	74	>75% Grass cover, Good, HSG C
1.926		Weighted Average
1.408		73.10% Pervious Area
0.518		26.90% Impervious Area

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

Subcatchment E15: E15

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment E16: E16

Runoff = 9.40 cfs @ 12.20 hrs, Volume= 0.577 af, Depth= 5.03"

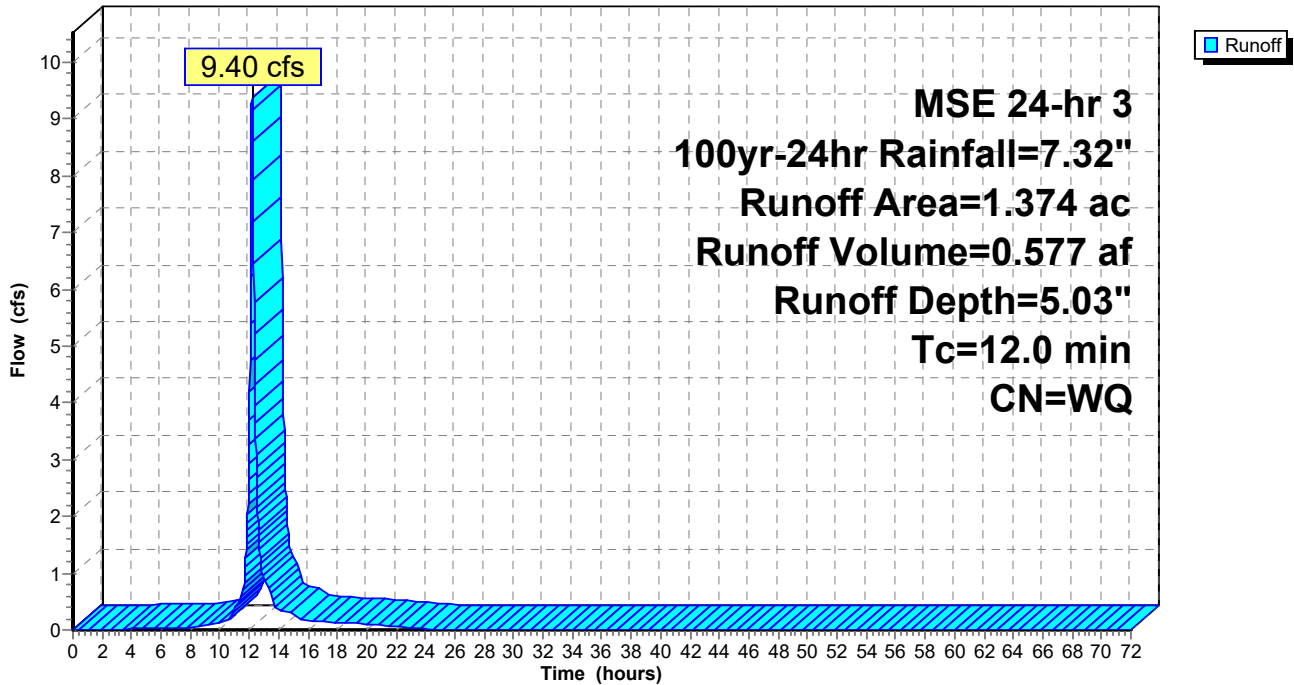
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.355	98	Impervious
1.019	74	>75% Grass cover, Good, HSG C
1.374		Weighted Average
1.019		74.16% Pervious Area
0.355		25.84% Impervious Area

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

Subcatchment E16: E16

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment E17: E17

Runoff = 6.65 cfs @ 12.20 hrs, Volume= 0.404 af, Depth= 4.89"

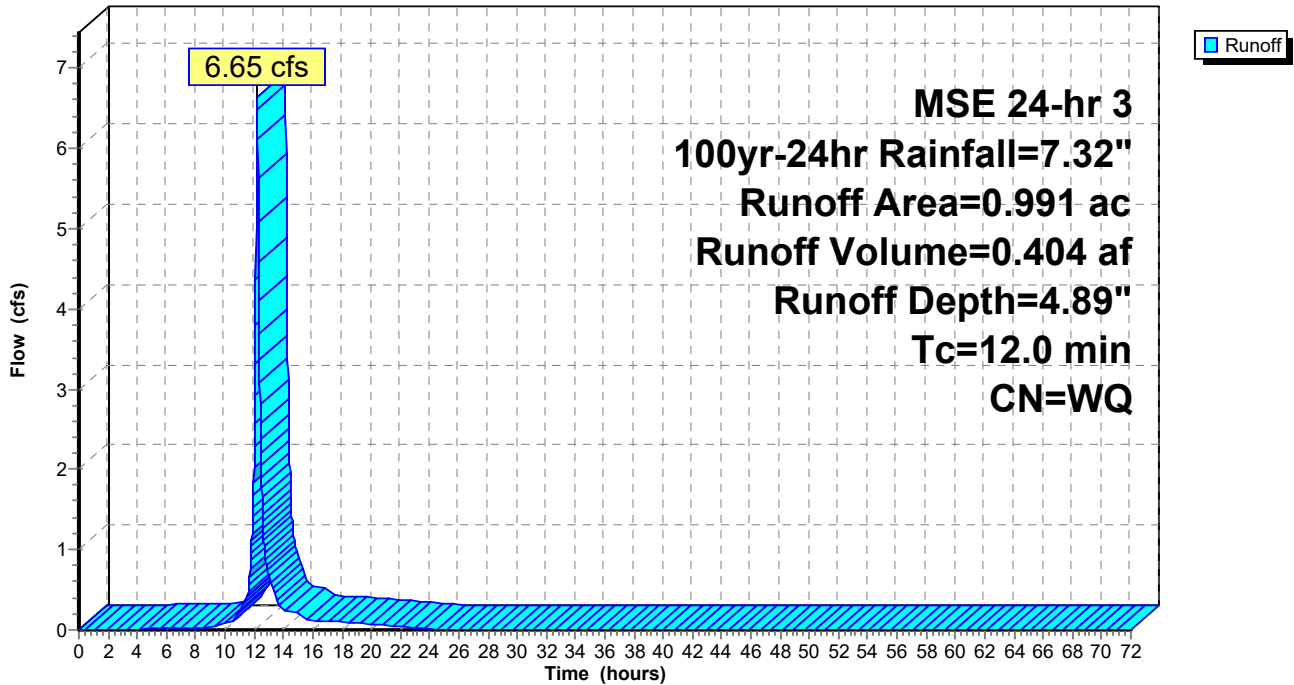
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.203	98	Impervious
0.788	74	>75% Grass cover, Good, HSG C
0.991		Weighted Average
0.788		79.52% Pervious Area
0.203		20.48% Impervious Area

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

Subcatchment E17: E17

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment E18: E18

Runoff = 10.14 cfs @ 12.23 hrs, Volume= 0.664 af, Depth= 4.59"

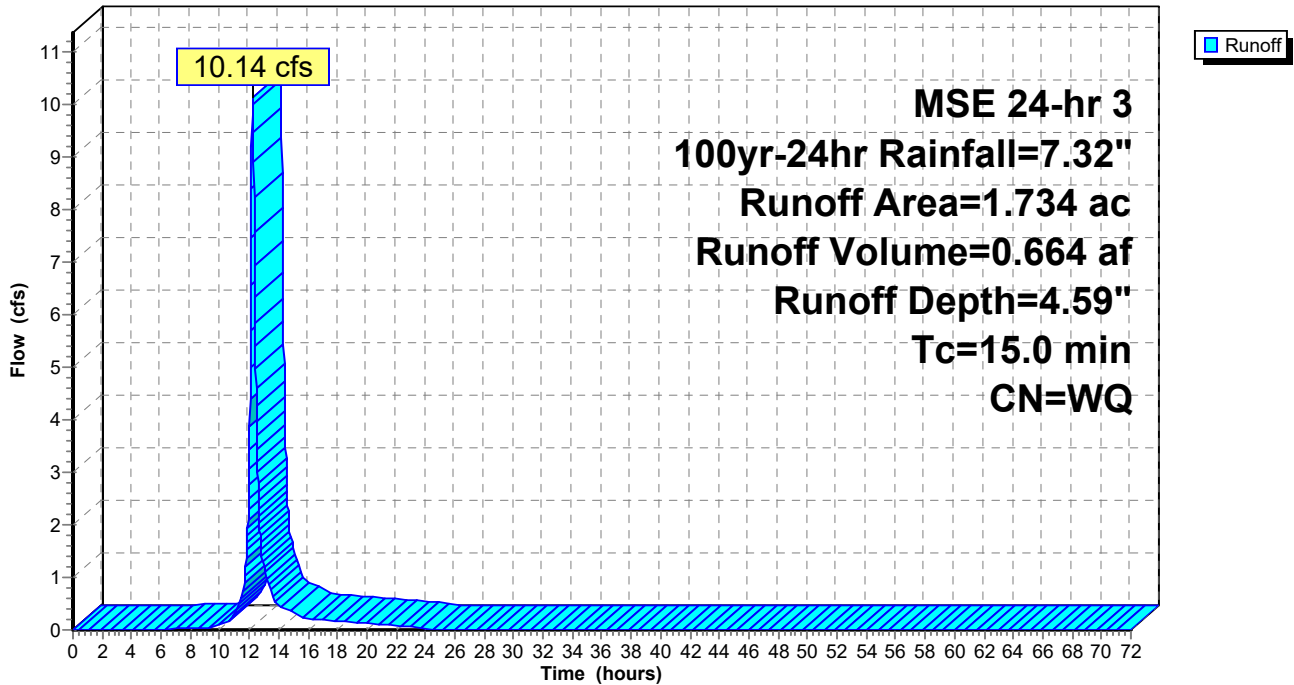
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.171	98	Impervious
1.563	74	>75% Grass cover, Good, HSG C
1.734		Weighted Average
1.563		90.14% Pervious Area
0.171		9.86% Impervious Area

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

Subcatchment E18: E18

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment F5: F5

Runoff = 8.23 cfs @ 12.20 hrs, Volume= 0.501 af, Depth= 4.91"

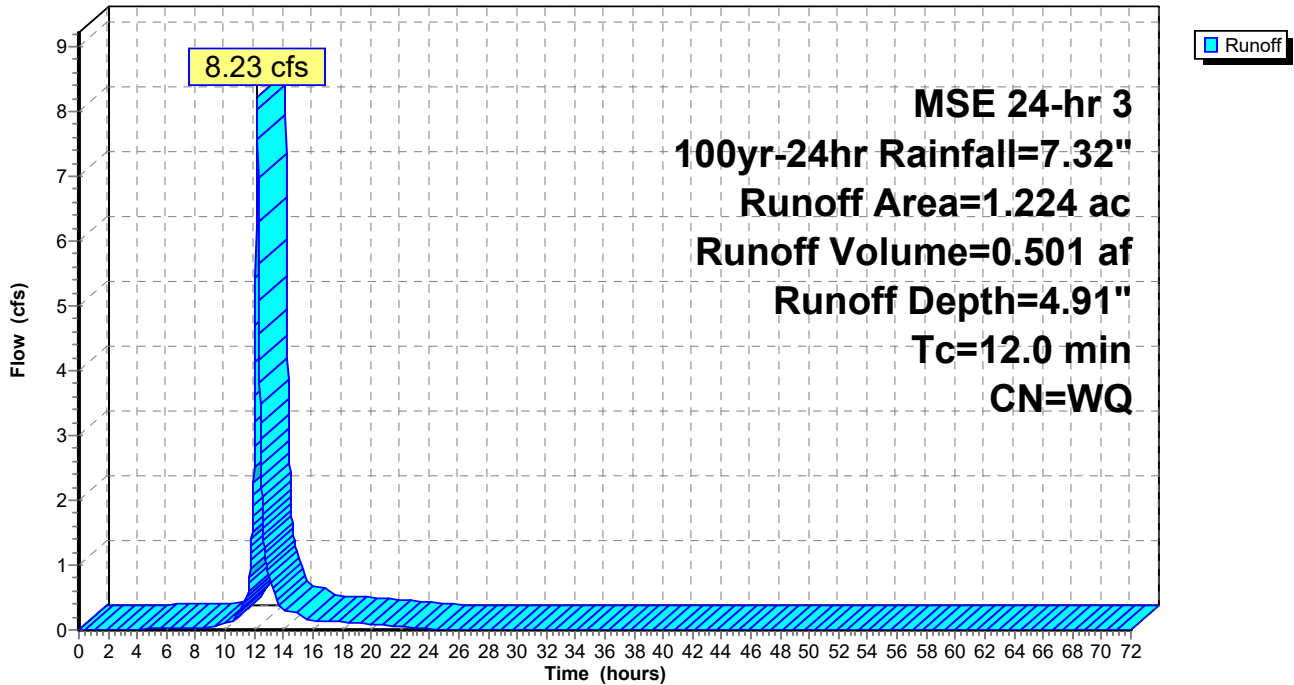
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.260	98	Impervious
0.964	74	>75% Grass cover, Good, HSG C
1.224		Weighted Average
0.964		78.76% Pervious Area
0.260		21.24% Impervious Area

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

Subcatchment F5: F5

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment F6: F6

Runoff = 6.19 cfs @ 12.20 hrs, Volume= 0.376 af, Depth= 4.90"

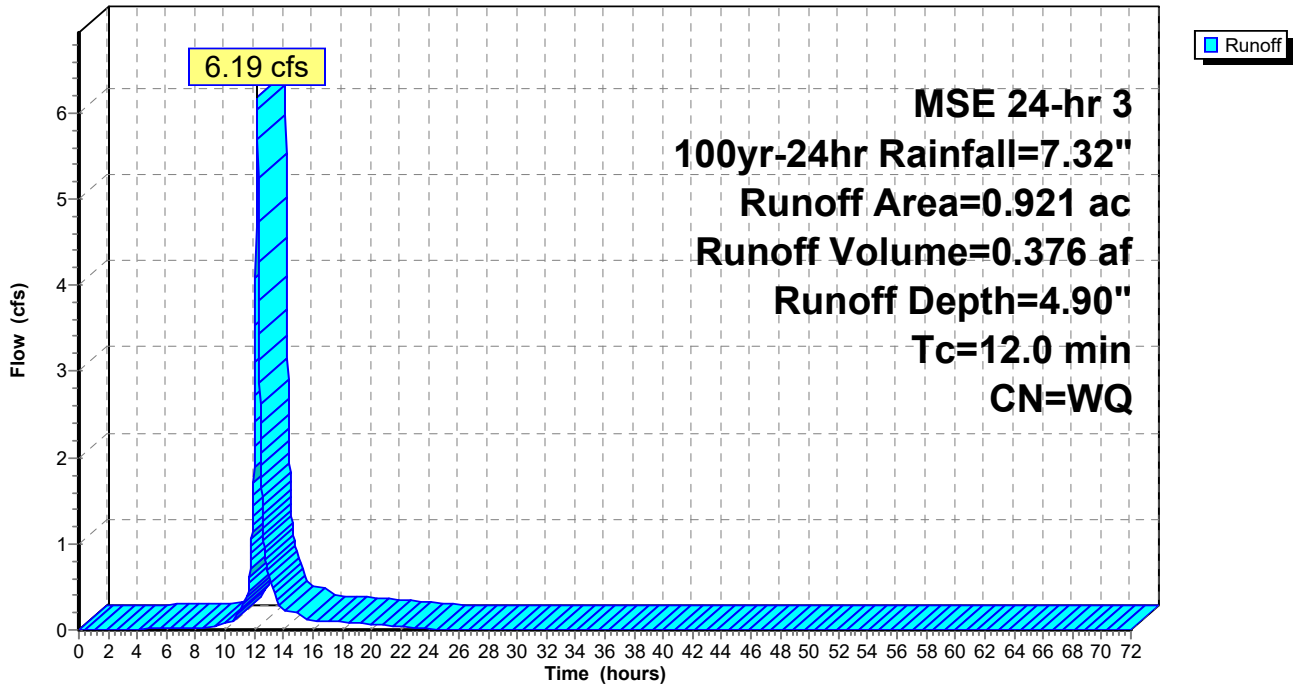
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.194	98	Impervious
0.727	74	>75% Grass cover, Good, HSG C
0.921		Weighted Average
0.727		78.94% Pervious Area
0.194		21.06% Impervious Area

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

Subcatchment F6: F6

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment F7: F7

Runoff = 4.33 cfs @ 12.20 hrs, Volume= 0.258 af, Depth= 4.64"

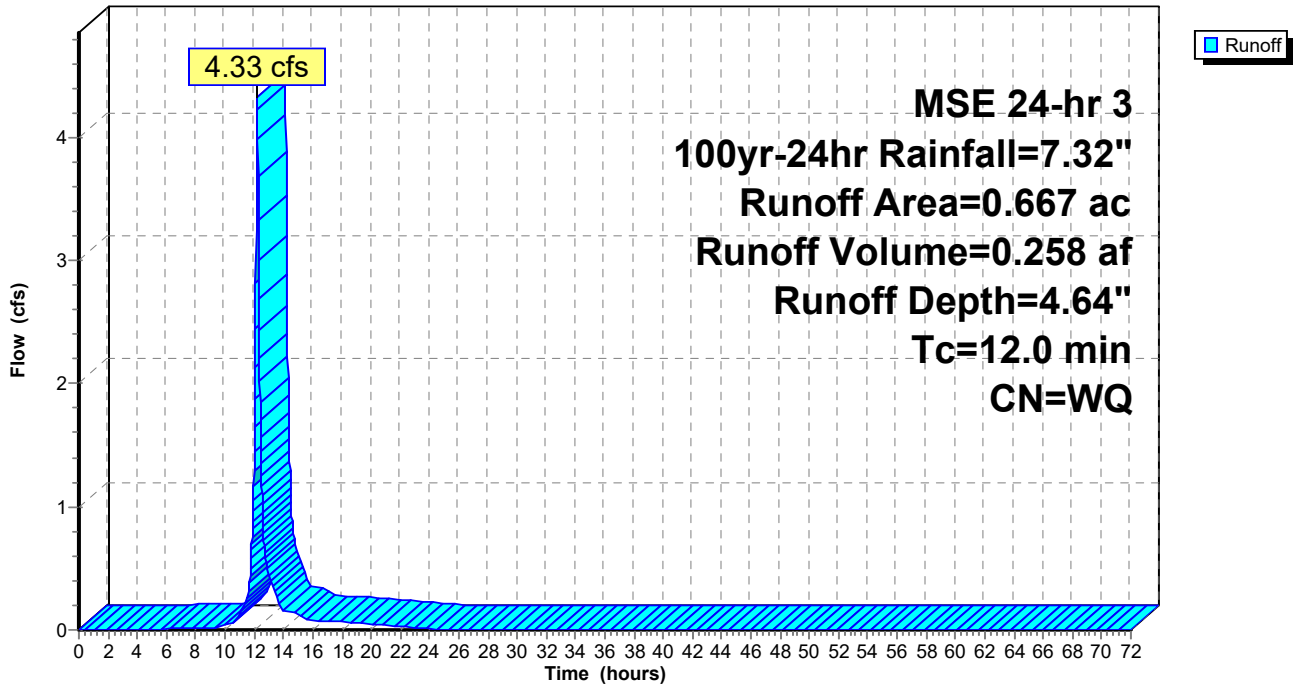
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.078	98	Impervious
0.589	74	>75% Grass cover, Good, HSG C
0.667		Weighted Average
0.589		88.31% Pervious Area
0.078		11.69% Impervious Area

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

Subcatchment F7: F7

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment F8: F8

Runoff = 11.41 cfs @ 12.23 hrs, Volume= 0.757 af, Depth= 4.76"

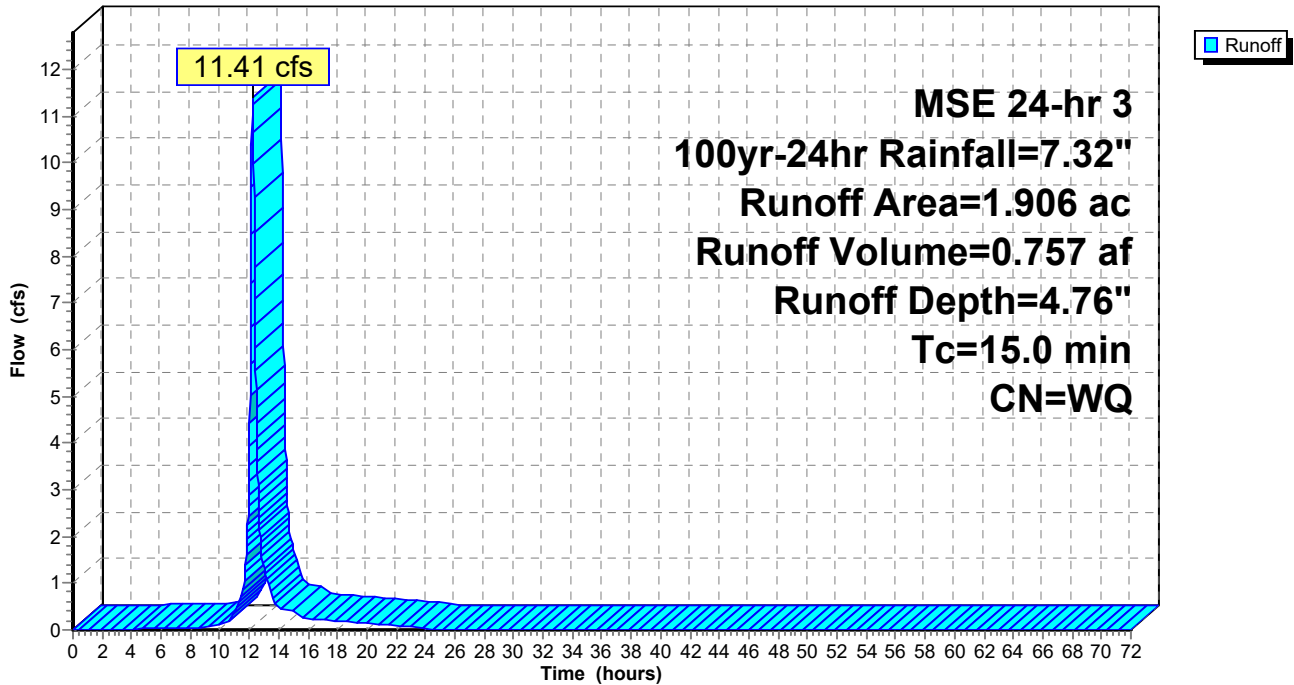
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.305	98	Impervious
1.601	74	>75% Grass cover, Good, HSG C
1.906		Weighted Average
1.601		84.00% Pervious Area
0.305		16.00% Impervious Area

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

Subcatchment F8: F8

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment H5: H5

Runoff = 13.84 cfs @ 12.20 hrs, Volume= 0.856 af, Depth= 4.74"

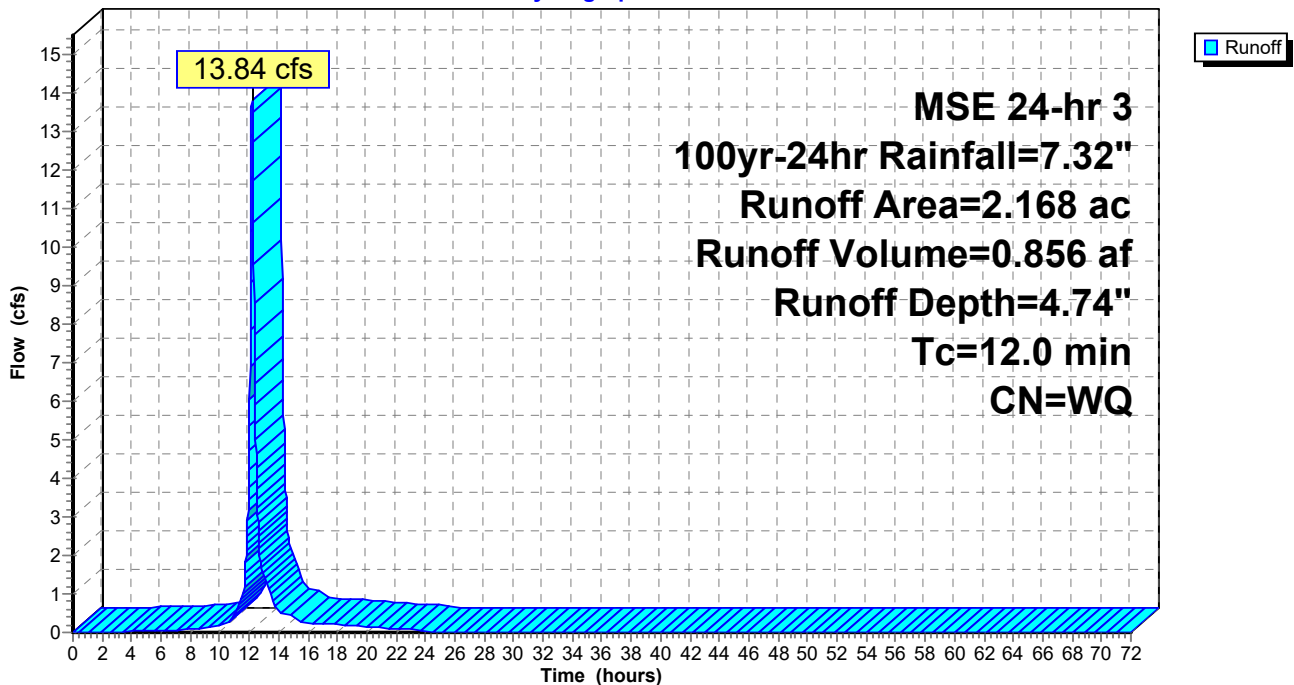
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.590	98	Impervious
0.526	61	>75% Grass cover, Good, HSG B
1.052	74	>75% Grass cover, Good, HSG C
<hr/>		
2.168		Weighted Average
1.578		72.79% Pervious Area
0.590		27.21% Impervious Area

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

Subcatchment H5: H5

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment H6: H6

Runoff = 5.45 cfs @ 12.20 hrs, Volume= 0.334 af, Depth= 3.98"

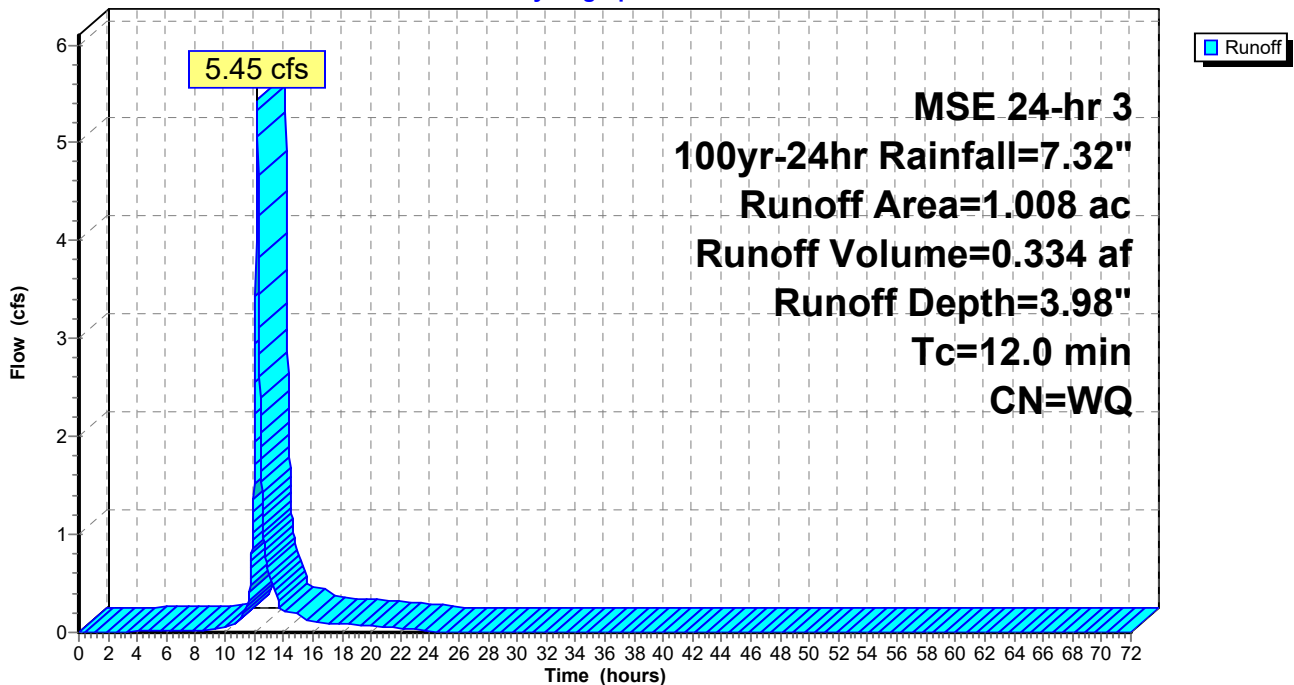
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.197	98	Impervious
0.640	61	>75% Grass cover, Good, HSG B
0.171	74	>75% Grass cover, Good, HSG C
1.008		Weighted Average
0.811		80.46% Pervious Area
0.197		19.54% Impervious Area

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

Subcatchment H6: H6

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment H7: H7

Runoff = 6.67 cfs @ 12.20 hrs, Volume= 0.408 af, Depth= 4.17"

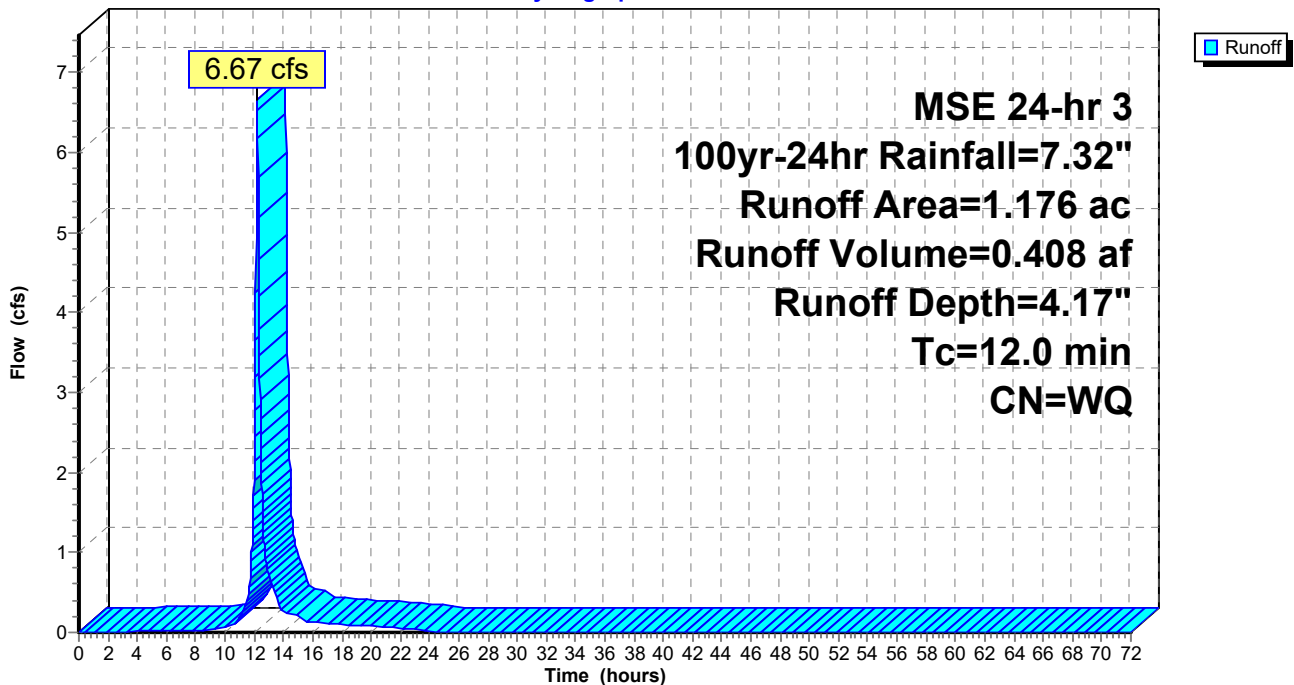
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.231	98	Impervious
0.591	61	>75% Grass cover, Good, HSG B
0.354	74	>75% Grass cover, Good, HSG C
1.176		Weighted Average
0.945		80.36% Pervious Area
0.231		19.64% Impervious Area

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

Subcatchment H7: H7

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment I14: I14

Runoff = 1.86 cfs @ 12.20 hrs, Volume= 0.114 af, Depth= 5.09"

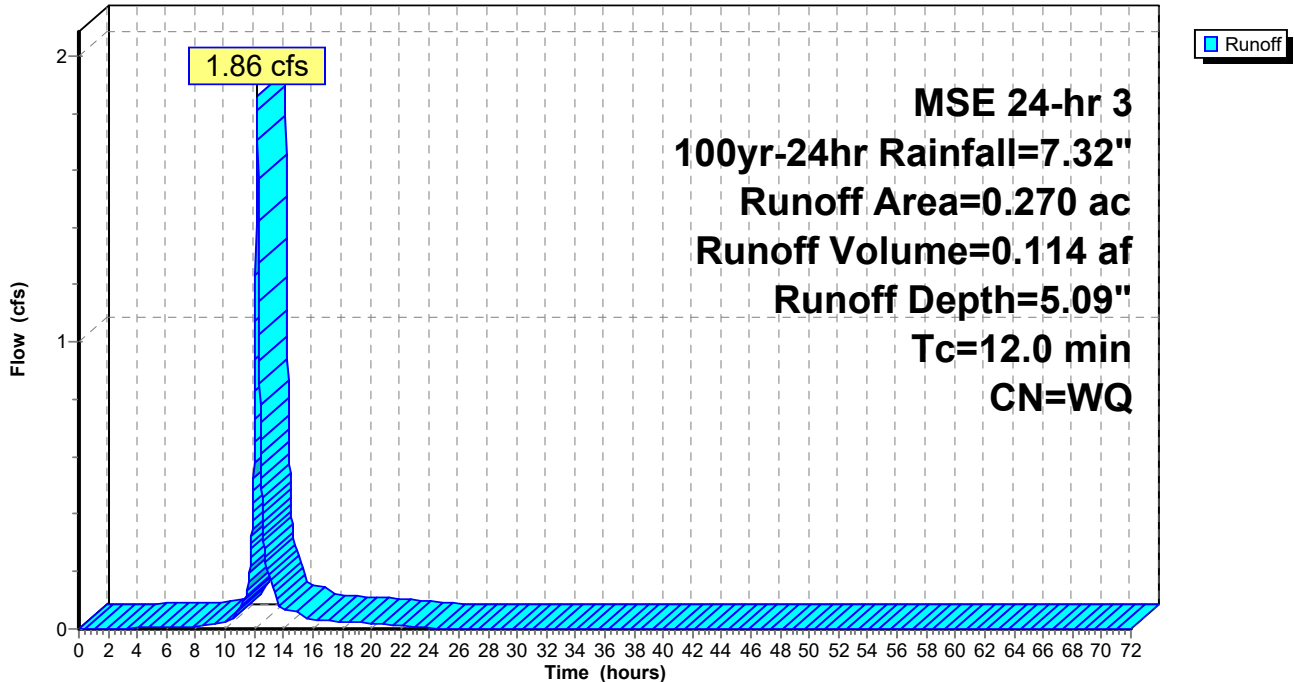
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.050	98	impervious
0.124	74	>75% Grass cover, Good, HSG C
* 0.025	98	impervious
0.071	74	>75% Grass cover, Good, HSG C
0.270		Weighted Average
0.195		72.22% Pervious Area
0.075		27.78% Impervious Area

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

Subcatchment I14: I14

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment I7: I7

Runoff = 4.12 cfs @ 12.20 hrs, Volume= 0.251 af, Depth= 4.95"

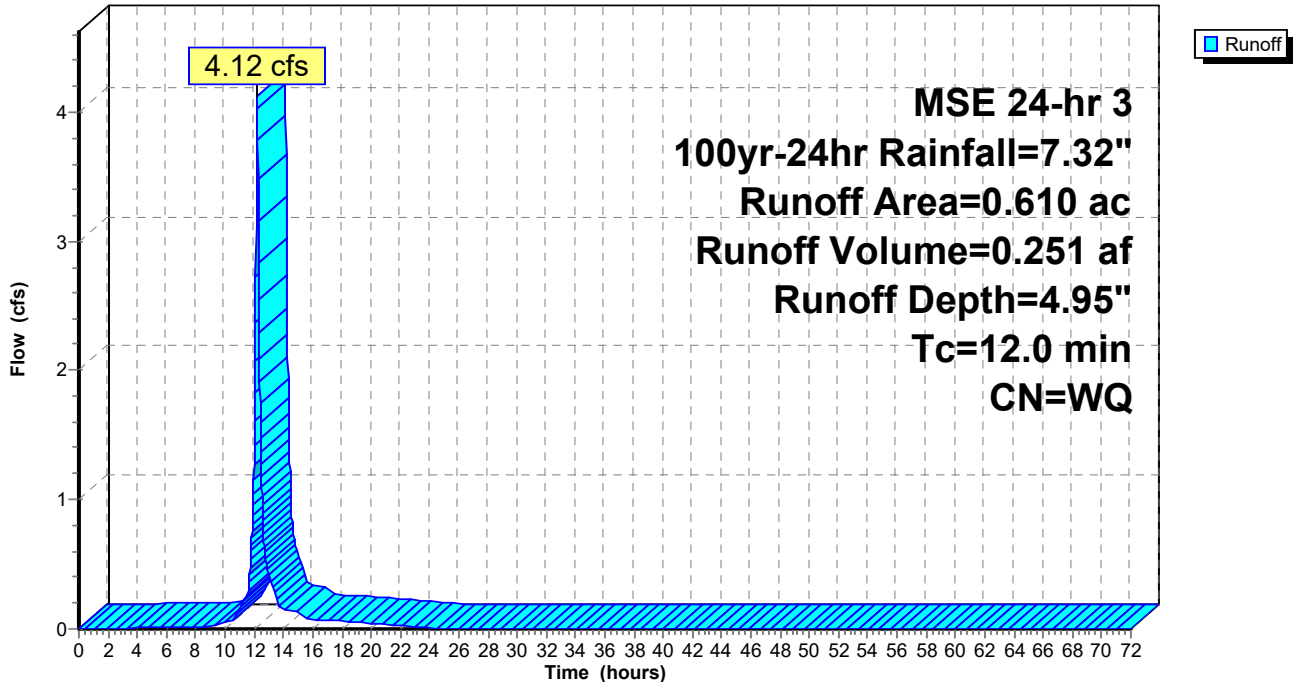
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.066	98	Impervious
0.252	74	>75% Grass cover, Good, HSG C
* 0.072	98	Impervious
0.220	74	>75% Grass cover, Good, HSG C
0.610		Weighted Average
0.472		77.38% Pervious Area
0.138		22.62% Impervious Area

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

Subcatchment I7: I7

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment I7_100: I7_100

Runoff = 1.31 cfs @ 12.20 hrs, Volume= 0.077 af, Depth= 4.52"

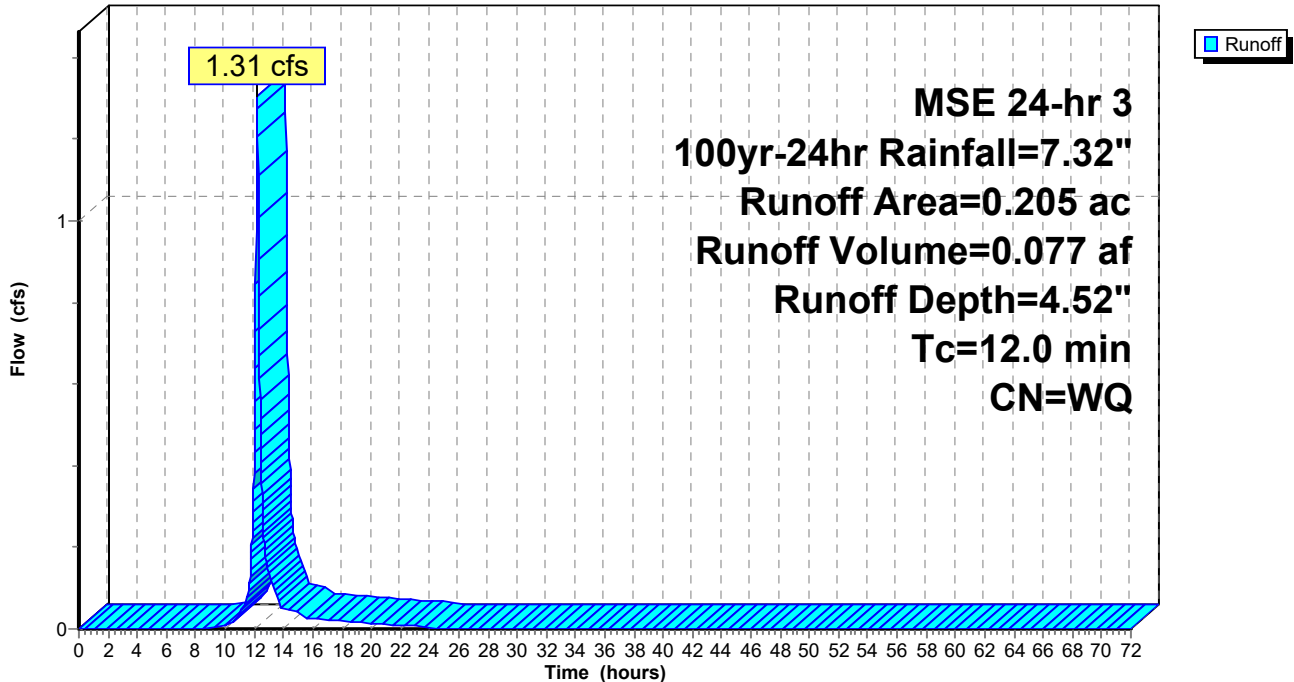
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.024	74	>75% Grass cover, Good, HSG C
* 0.008	98	Impervious
* 0.007	98	Impervious
0.166	74	>75% Grass cover, Good, HSG C
0.205		Weighted Average
0.190		92.68% Pervious Area
0.015		7.32% Impervious Area

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

Subcatchment I7_100: I7_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment I8: I8

Runoff = 6.84 cfs @ 12.20 hrs, Volume= 0.419 af, Depth= 5.02"

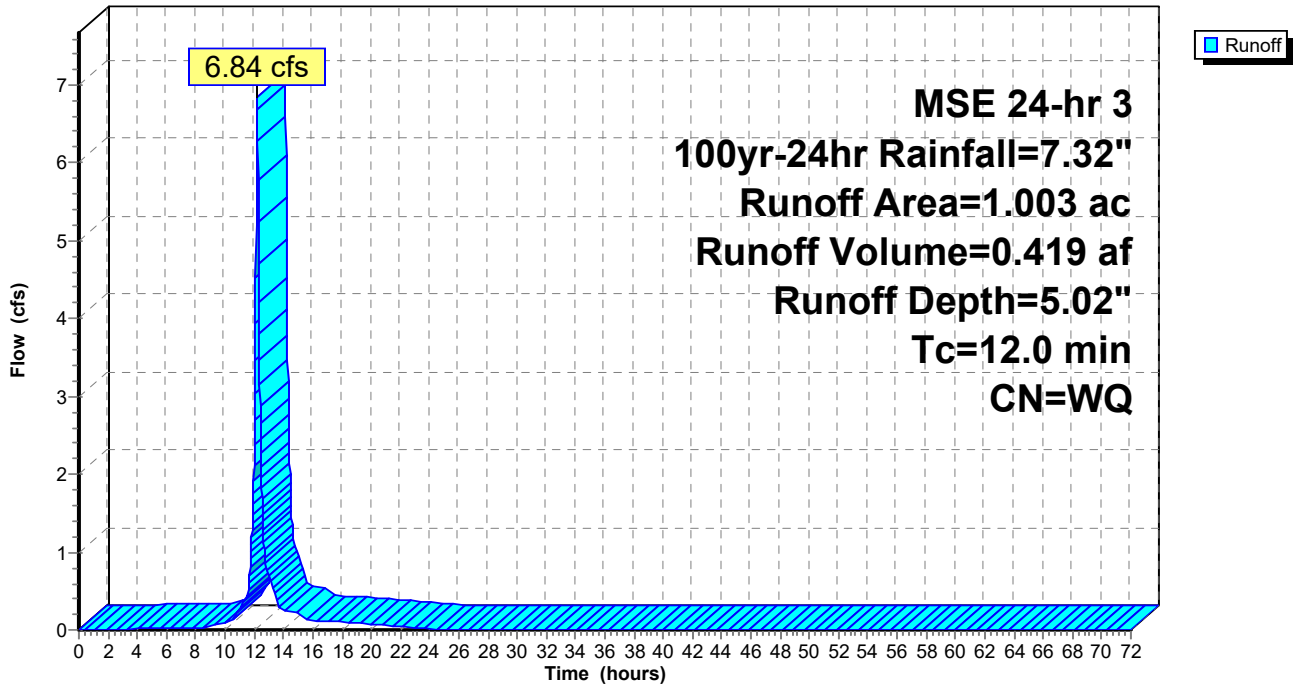
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.252	98	Impervious
0.751	74	>75% Grass cover, Good, HSG C
1.003		Weighted Average
0.751		74.88% Pervious Area
0.252		25.12% Impervious Area

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

Subcatchment I8: I8

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Summary for Subcatchment I8_100: I8_100

Runoff = 1.16 cfs @ 12.20 hrs, Volume= 0.071 af, Depth= 5.04"

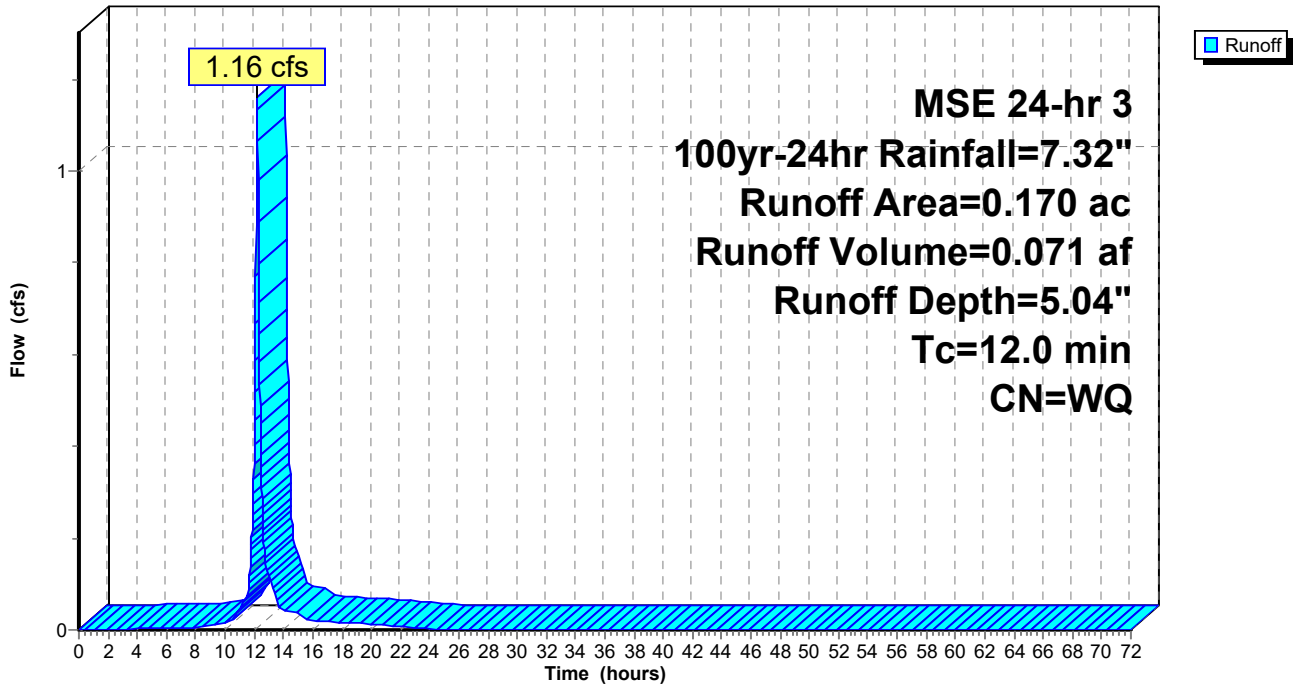
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.126	74	>75% Grass cover, Good, HSG C
* 0.044	98	Impervious
0.170		Weighted Average
0.126		74.12% Pervious Area
0.044		25.88% Impervious Area

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

Subcatchment I8_100: I8_100

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment I9: I9

Runoff = 1.76 cfs @ 12.20 hrs, Volume= 0.109 af, Depth= 5.09"

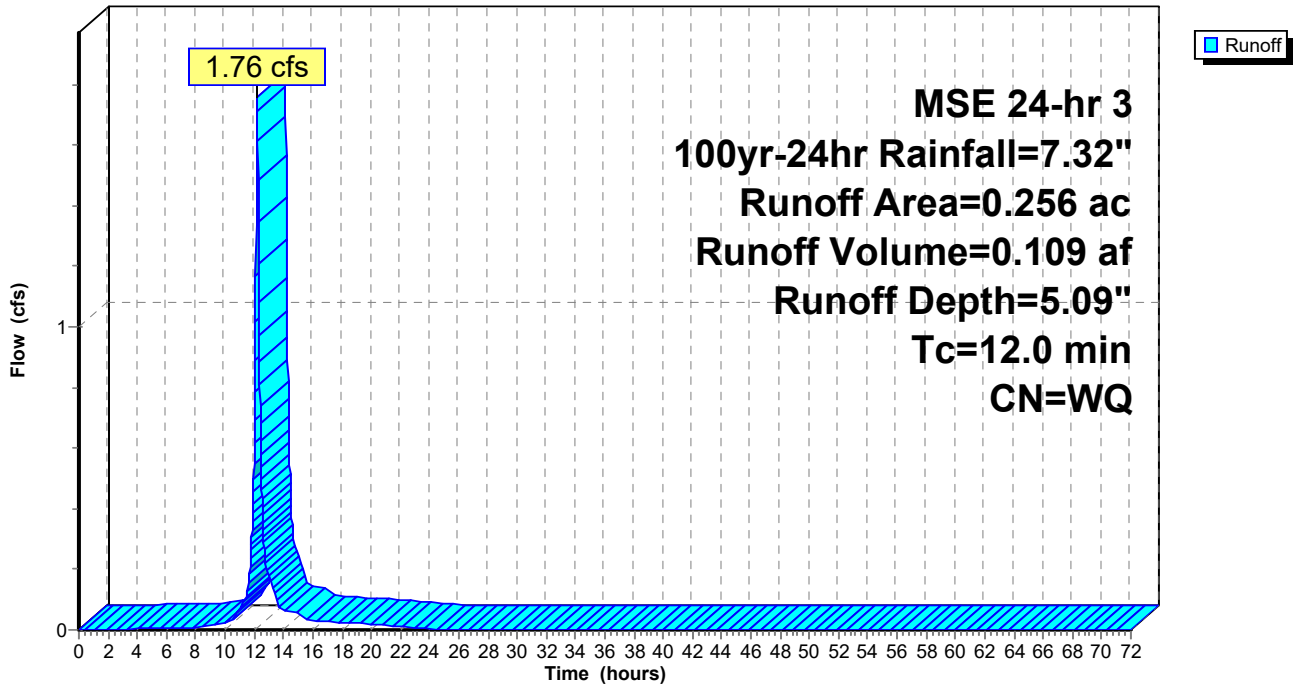
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.071	98	Impervious
0.185	74	>75% Grass cover, Good, HSG C
0.256		Weighted Average
0.185		72.27% Pervious Area
0.071		27.73% Impervious Area

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

Subcatchment I9: I9

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment J3: J3

Runoff = 10.03 cfs @ 12.20 hrs, Volume= 0.609 af, Depth= 4.88"

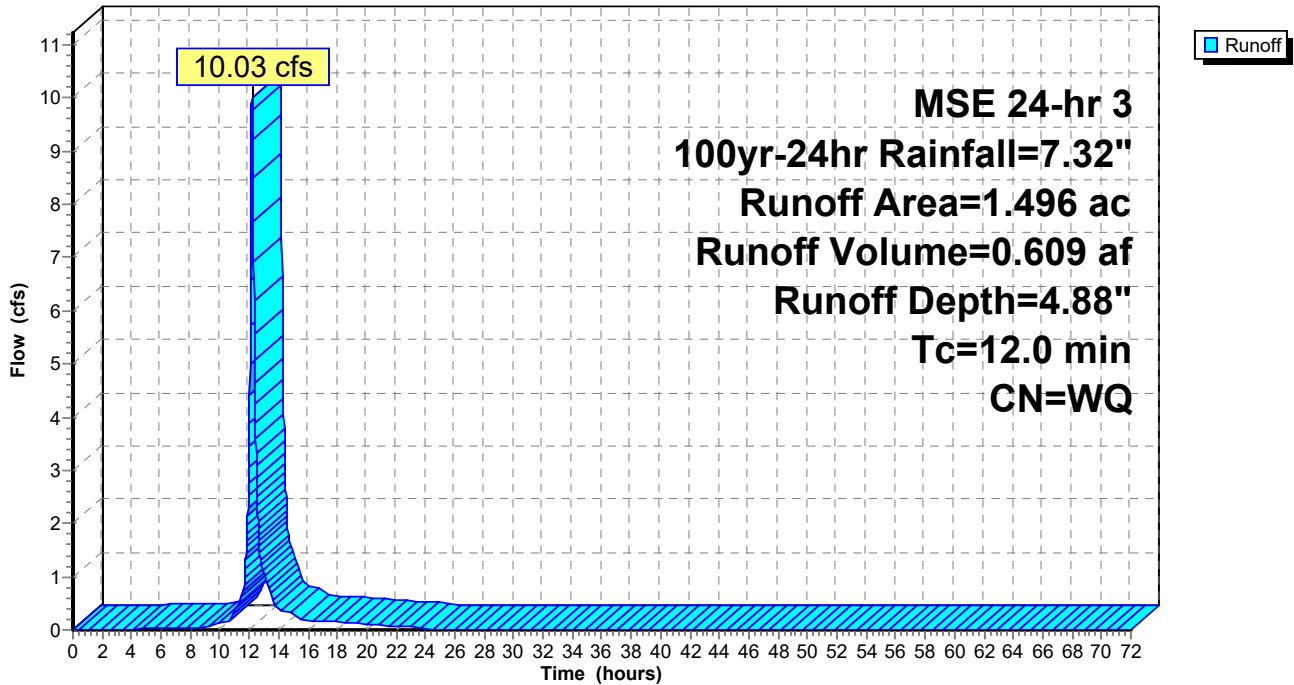
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.304	98	Impervious
1.192	74	>75% Grass cover, Good, HSG C
1.496		Weighted Average
1.192		79.68% Pervious Area
0.304		20.32% Impervious Area

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

Subcatchment J3: J3

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment J4: J4

Runoff = 1.92 cfs @ 12.20 hrs, Volume= 0.112 af, Depth= 4.32"

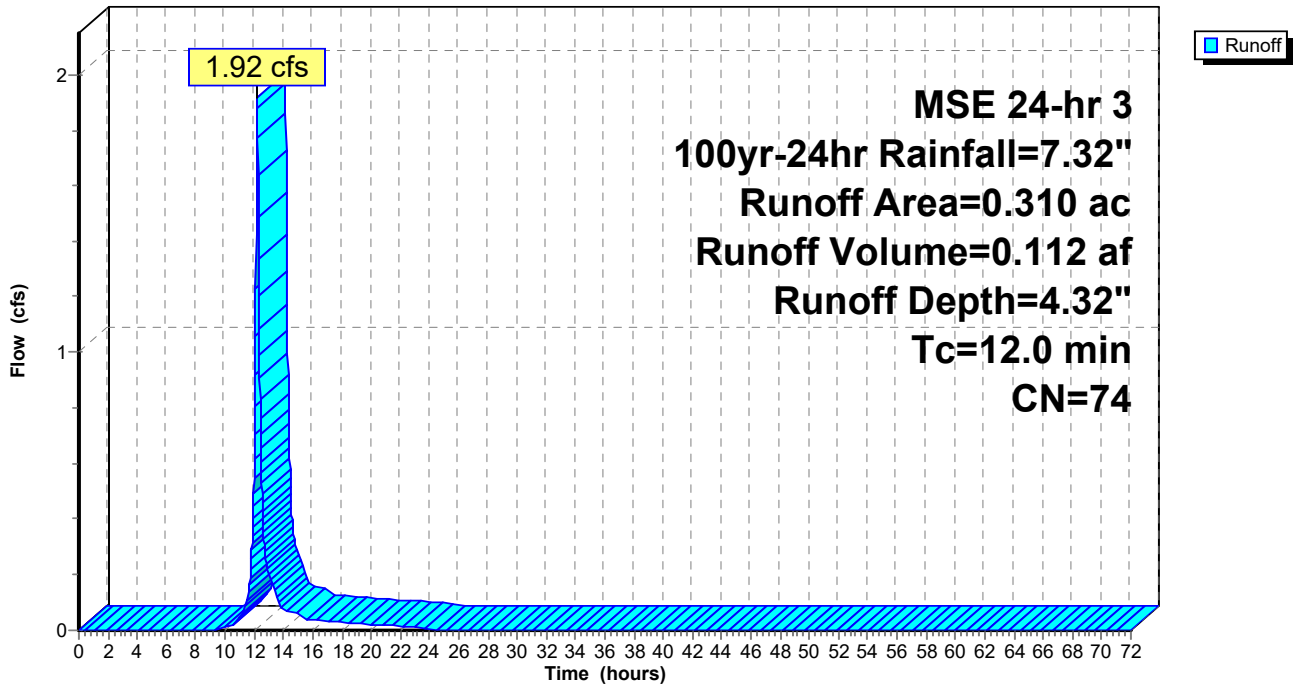
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.310	74	>75% Grass cover, Good, HSG C
0.310		100.00% Pervious Area

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

Subcatchment J4: J4

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment J5: J5

Runoff = 4.53 cfs @ 12.20 hrs, Volume= 0.274 af, Depth= 4.81"

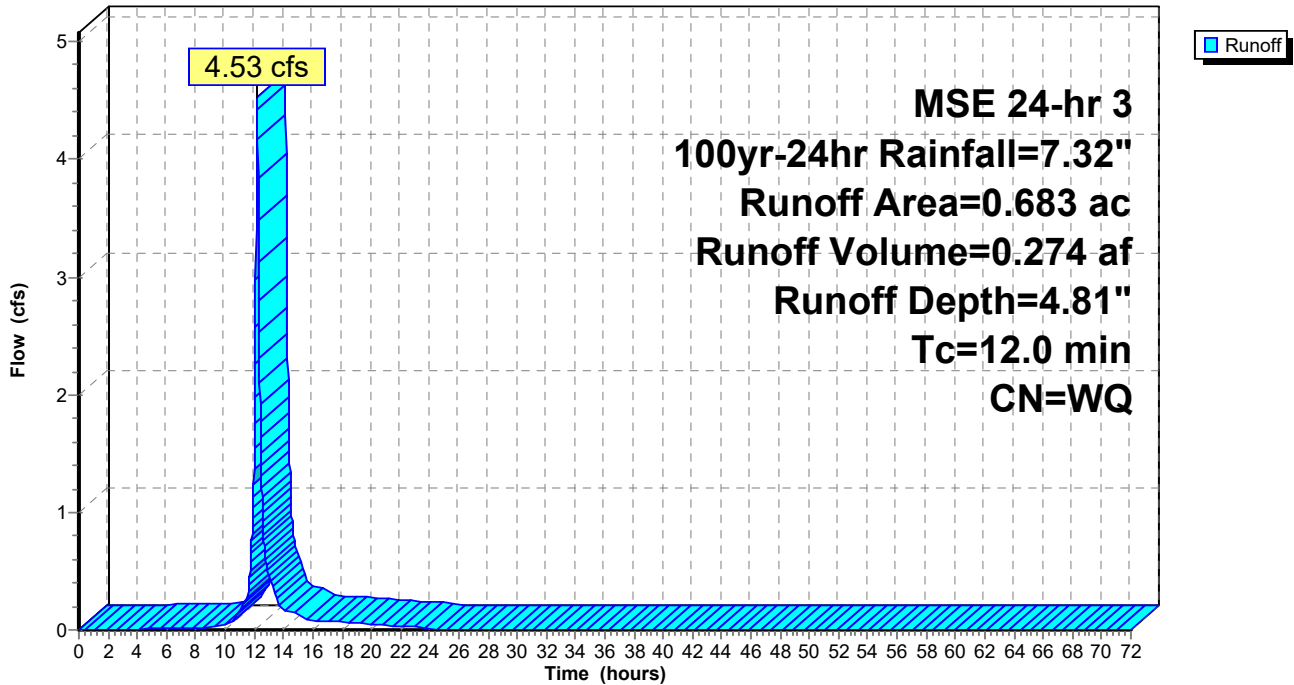
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.121	98	Impervious
0.562	74	>75% Grass cover, Good, HSG C
0.683		Weighted Average
0.562		82.28% Pervious Area
0.121		17.72% Impervious Area

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

Subcatchment J5: J5

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Summary for Subcatchment L10: L10

Runoff = 7.68 cfs @ 12.20 hrs, Volume= 0.464 af, Depth= 4.81"

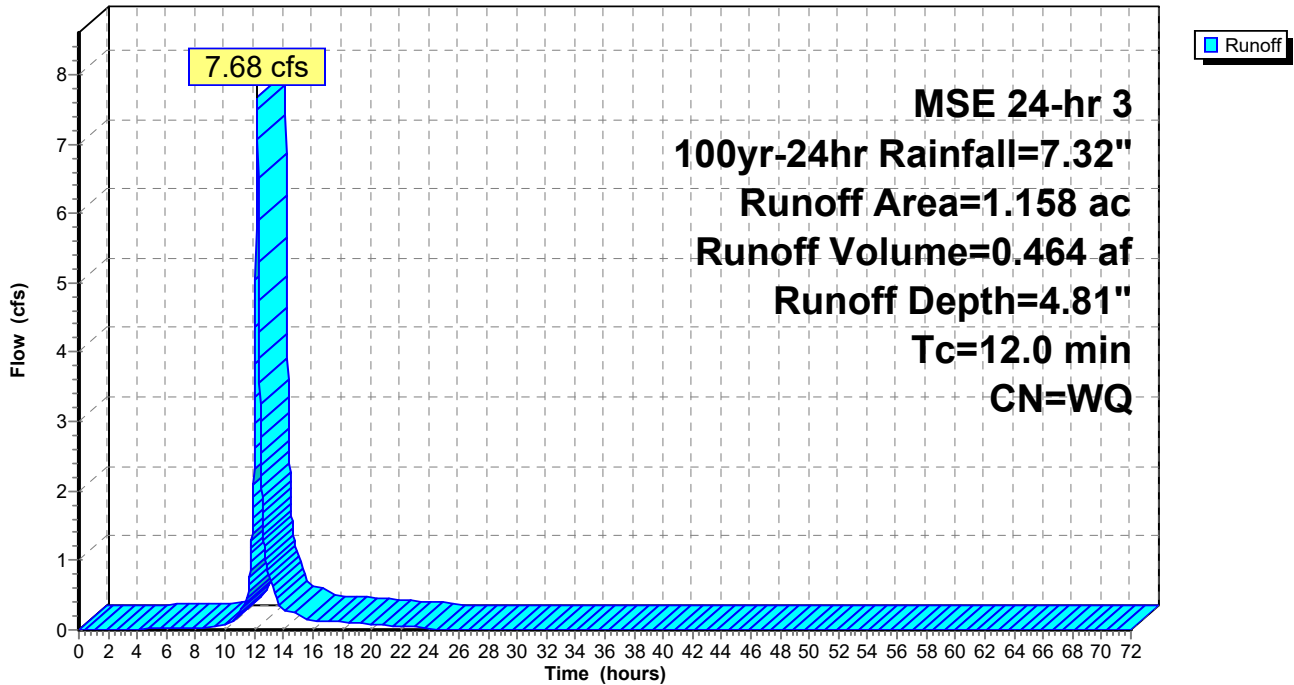
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.203	98	Impervious
0.955	74	>75% Grass cover, Good, HSG C
1.158		Weighted Average
0.955		82.47% Pervious Area
0.203		17.53% Impervious Area

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

Subcatchment L10: L10

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment L4: L4

Runoff = 1.11 cfs @ 12.20 hrs, Volume= 0.068 af, Depth= 4.86"

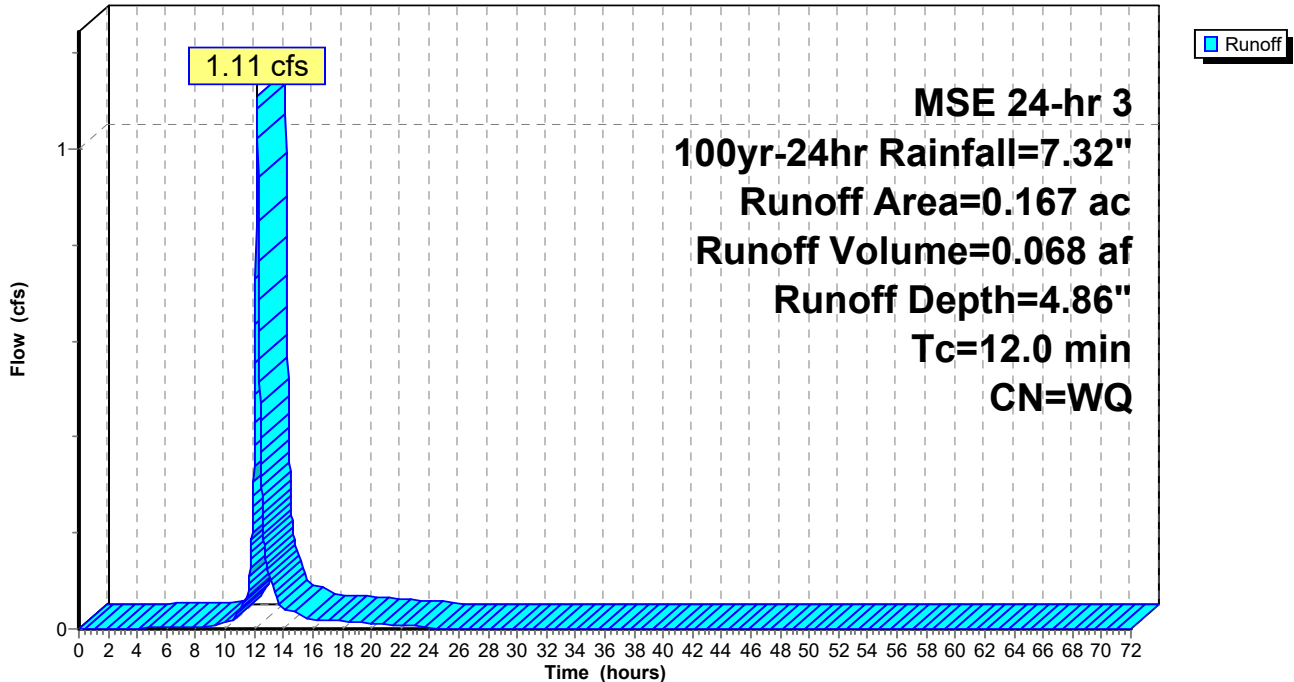
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.002	98	Impervious
0.005	61	>75% Grass cover, Good, HSG B
0.127	74	>75% Grass cover, Good, HSG C
* 0.033	98	Impervious
0.167		Weighted Average
0.132		79.04% Pervious Area
0.035		20.96% Impervious Area

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

Subcatchment L4: L4

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment L5: L5

Runoff = 5.15 cfs @ 12.20 hrs, Volume= 0.313 af, Depth= 4.93"

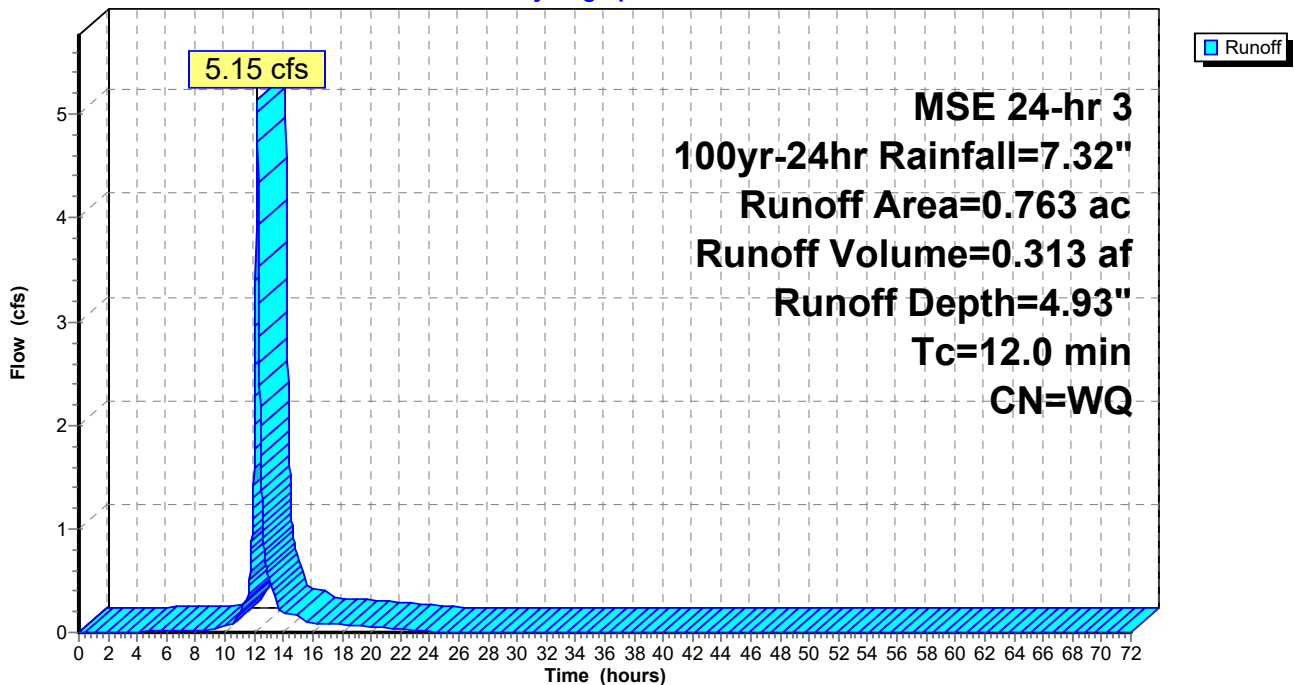
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.101	98	Impervious
0.595	74	>75% Grass cover, Good, HSG C
* 0.067	98	Impervious
0.763		Weighted Average
0.595		77.98% Pervious Area
0.168		22.02% Impervious Area

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

Subcatchment L5: L5

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment L6: L6

Runoff = 7.30 cfs @ 12.20 hrs, Volume= 0.443 af, Depth= 4.87"

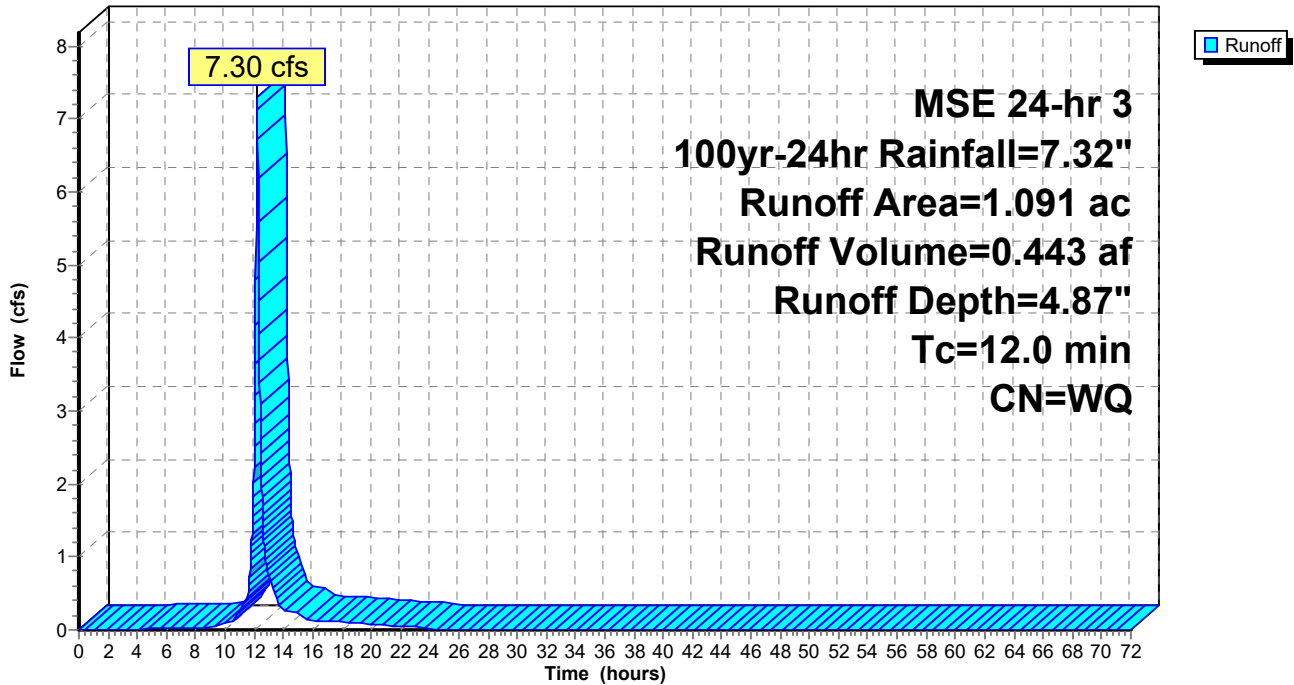
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.218	98	Impervious
0.873	74	>75% Grass cover, Good, HSG C
1.091		Weighted Average
0.873		80.02% Pervious Area
0.218		19.98% Impervious Area

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

Subcatchment L6: L6

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment L7: L7

Runoff = 5.10 cfs @ 12.20 hrs, Volume= 0.310 af, Depth= 4.91"

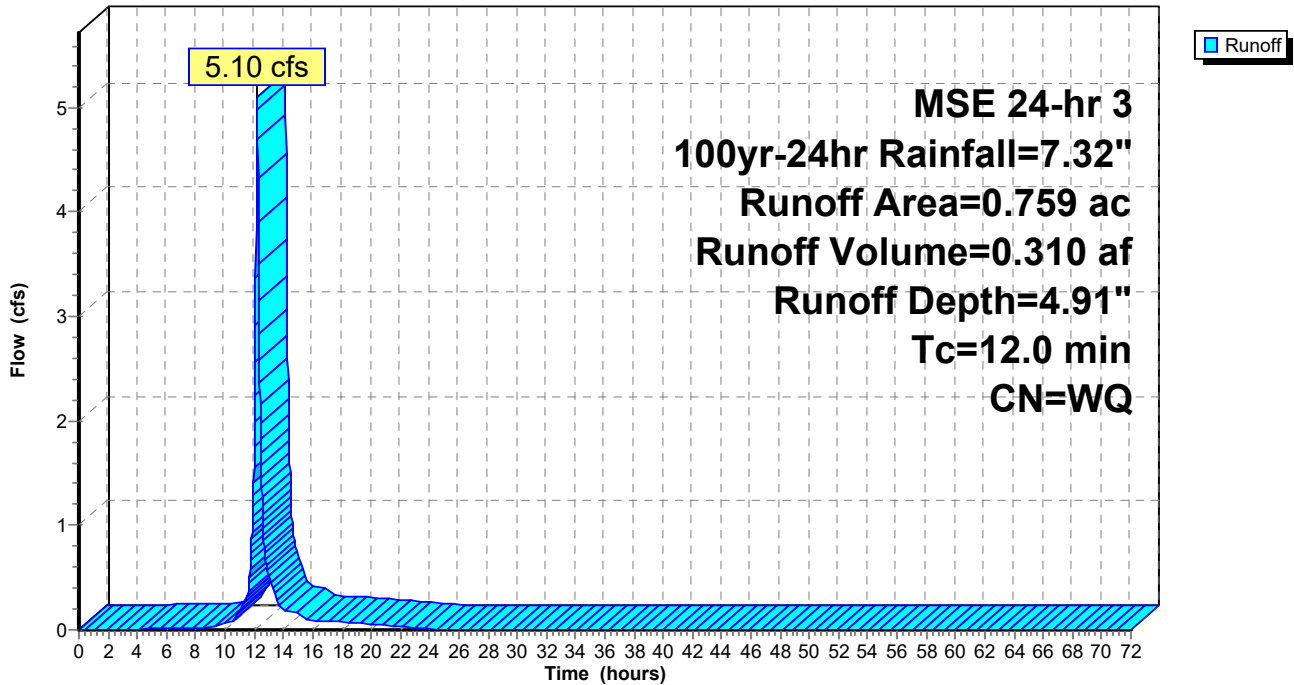
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.161	98	Impervious
0.598	74	>75% Grass cover, Good, HSG C
0.759		Weighted Average
0.598		78.79% Pervious Area
0.161		21.21% Impervious Area

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

Subcatchment L7: L7

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment L8: L8

Runoff = 9.25 cfs @ 12.20 hrs, Volume= 0.568 af, Depth= 4.73"

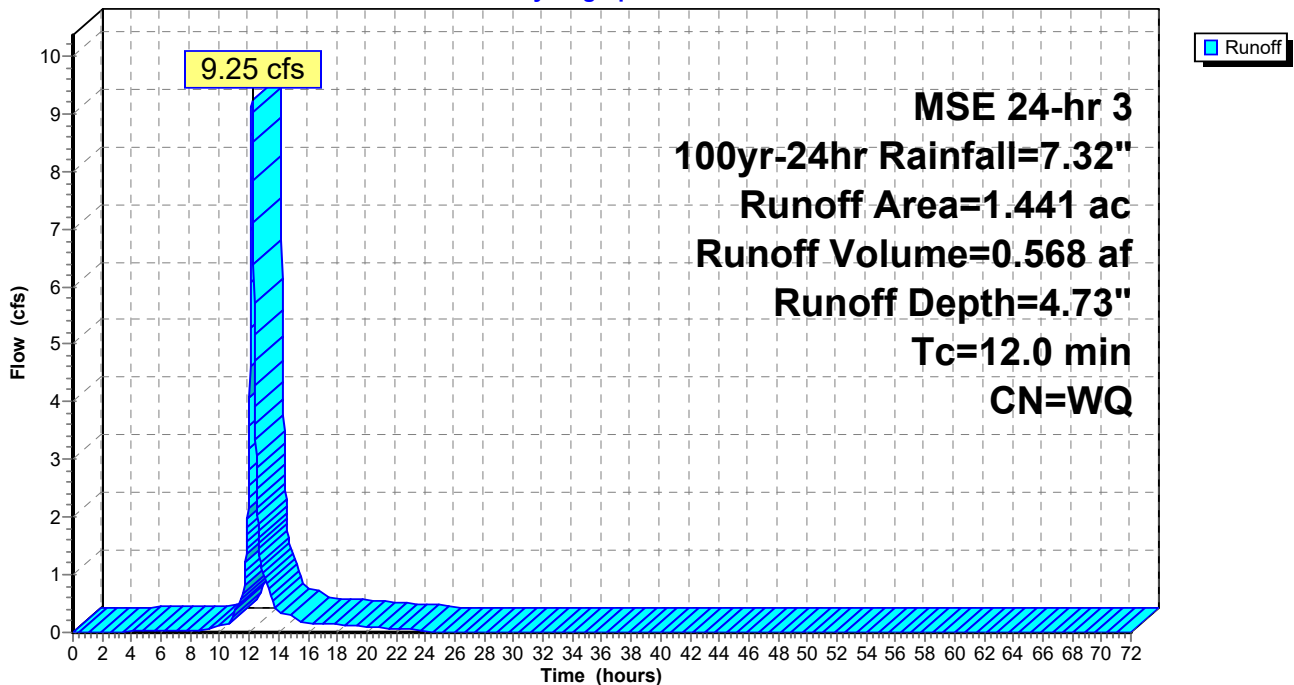
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.318	98	Impervious
0.086	39	>75% Grass cover, Good, HSG A
1.037	74	>75% Grass cover, Good, HSG C
1.441		Weighted Average
1.123		77.93% Pervious Area
0.318		22.07% Impervious Area

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

Subcatchment L8: L8

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment L9: L9

Runoff = 6.51 cfs @ 12.20 hrs, Volume= 0.396 af, Depth= 4.89"

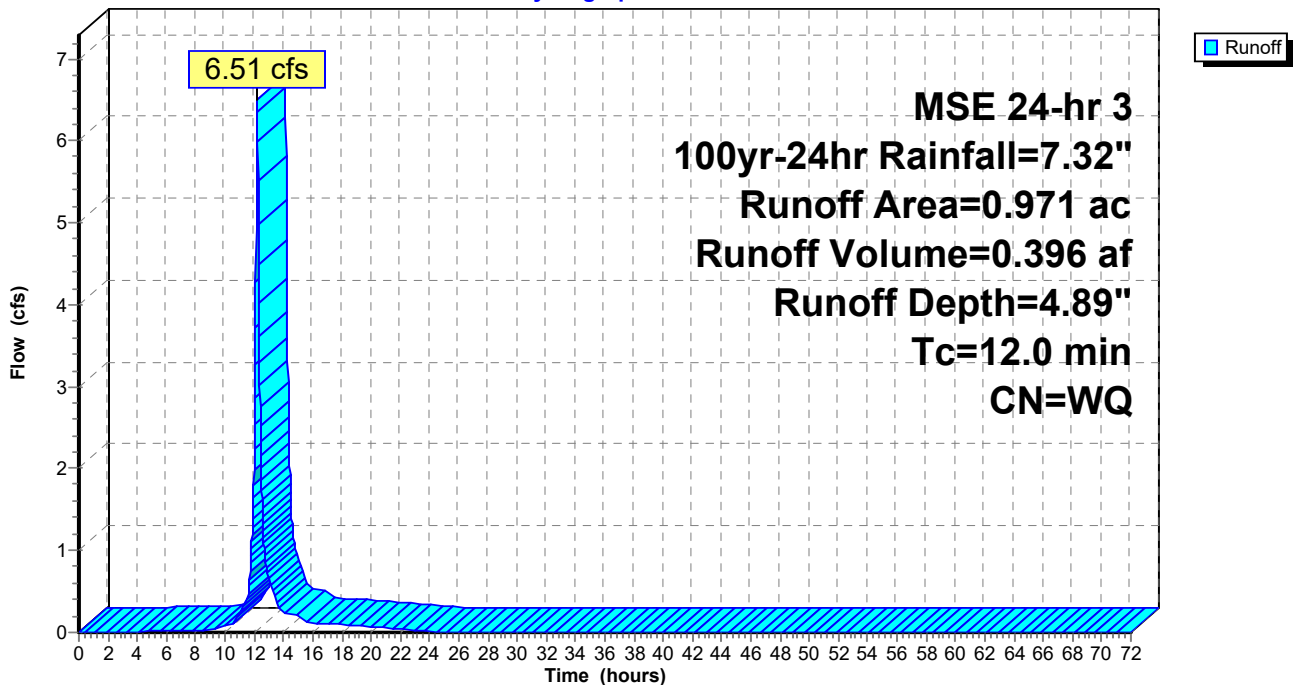
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.205	98	Impervious
0.003	39	>75% Grass cover, Good, HSG A
0.763	74	>75% Grass cover, Good, HSG C
<hr/>		
0.971		Weighted Average
0.766		78.89% Pervious Area
0.205		21.11% Impervious Area

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

Subcatchment L9: L9

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment O10: O10

Runoff = 4.01 cfs @ 12.20 hrs, Volume= 0.241 af, Depth= 4.75"

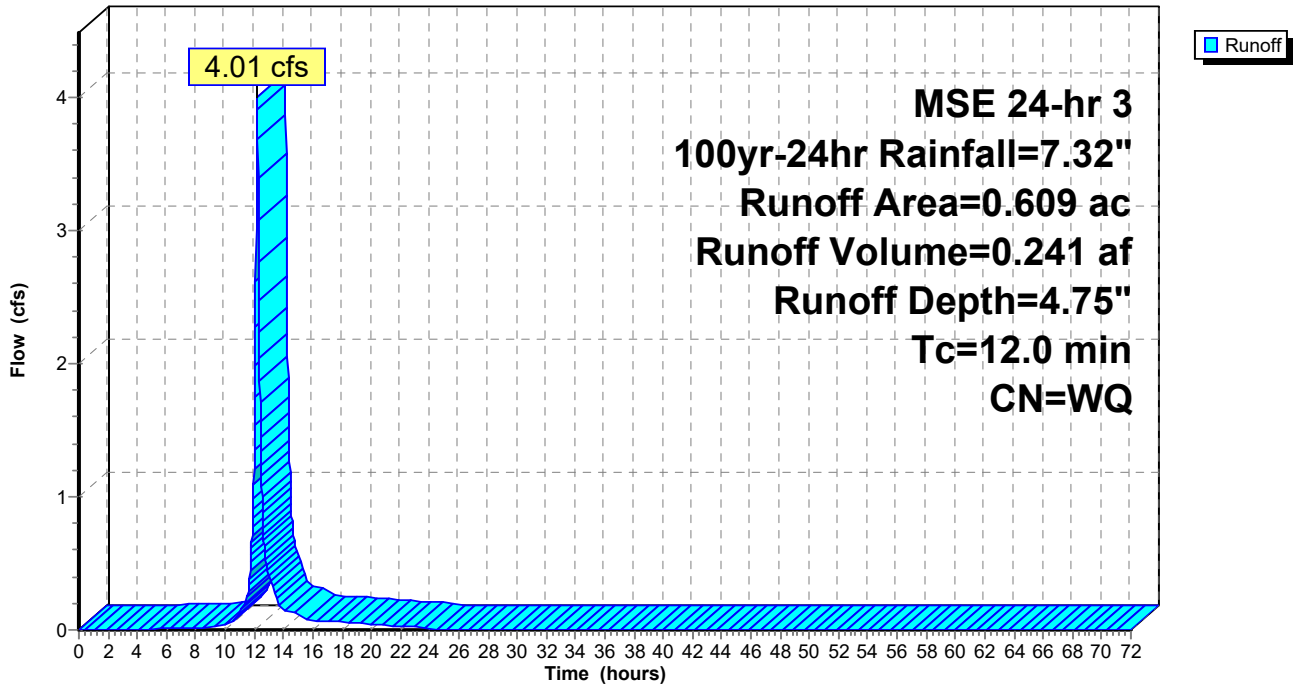
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.094	98	Impervious
0.515	74	>75% Grass cover, Good, HSG C
0.609		Weighted Average
0.515		84.56% Pervious Area
0.094		15.44% Impervious Area

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

Subcatchment O10: O10

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment O8: O8

Runoff = 3.19 cfs @ 12.20 hrs, Volume= 0.190 af, Depth= 4.66"

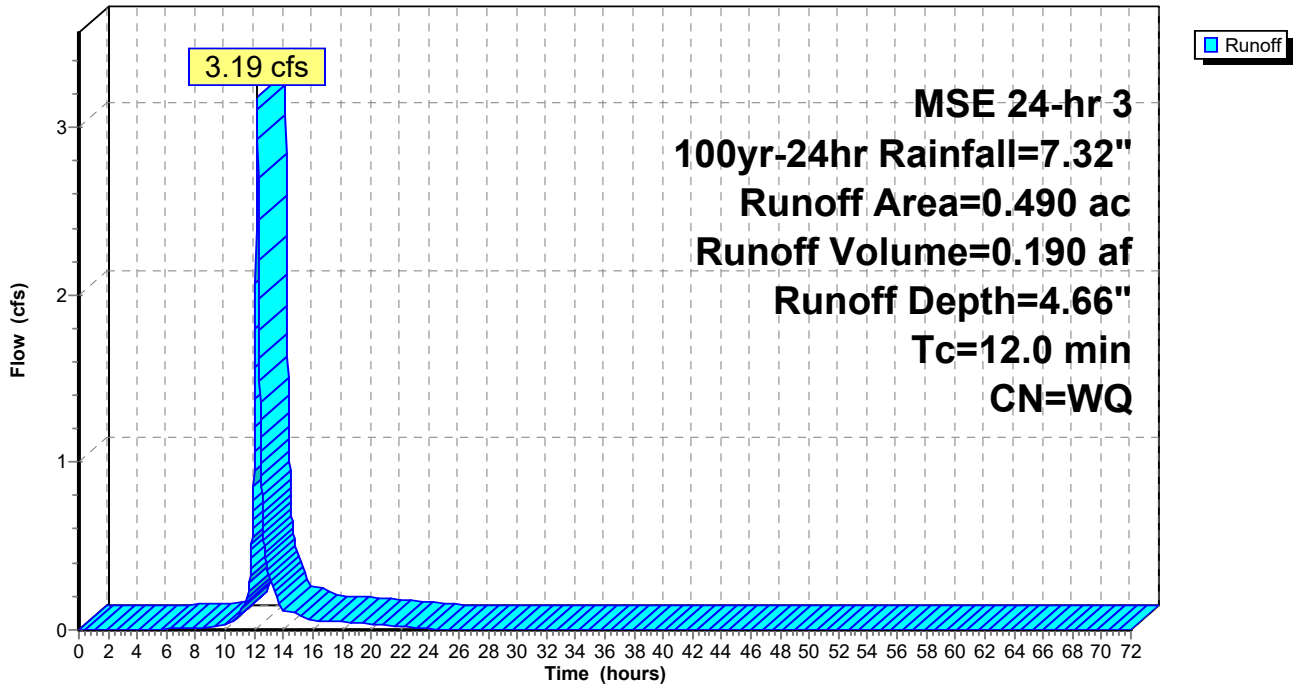
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.060	98	Impervious
0.430	74	>75% Grass cover, Good, HSG C
0.490		Weighted Average
0.430		87.76% Pervious Area
0.060		12.24% Impervious Area

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

Subcatchment O8: O8

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment O9: O9

Runoff = 7.65 cfs @ 12.20 hrs, Volume= 0.464 af, Depth= 4.87"

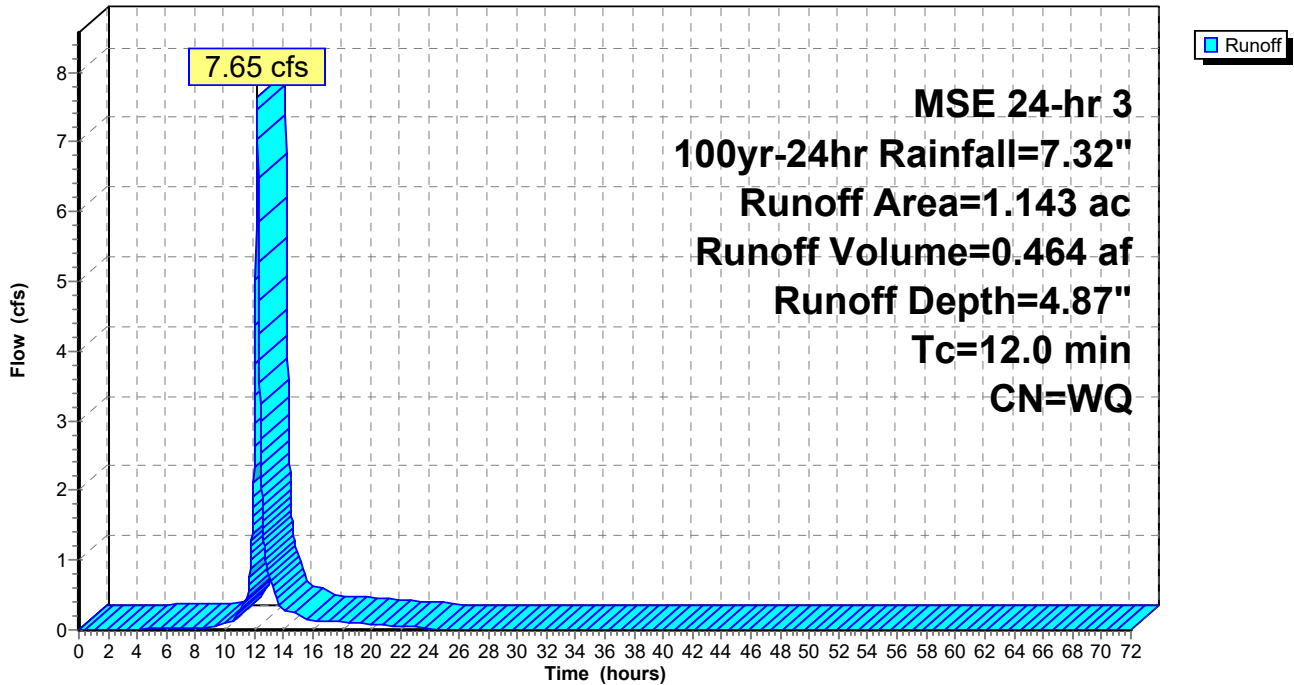
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.227	98	Impervious
0.916	74	>75% Grass cover, Good, HSG C
1.143		Weighted Average
0.916		80.14% Pervious Area
0.227		19.86% Impervious Area

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

Subcatchment O9: O9

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment W6: W6

Runoff = 42.65 cfs @ 12.38 hrs, Volume= 3.803 af, Depth= 4.57"

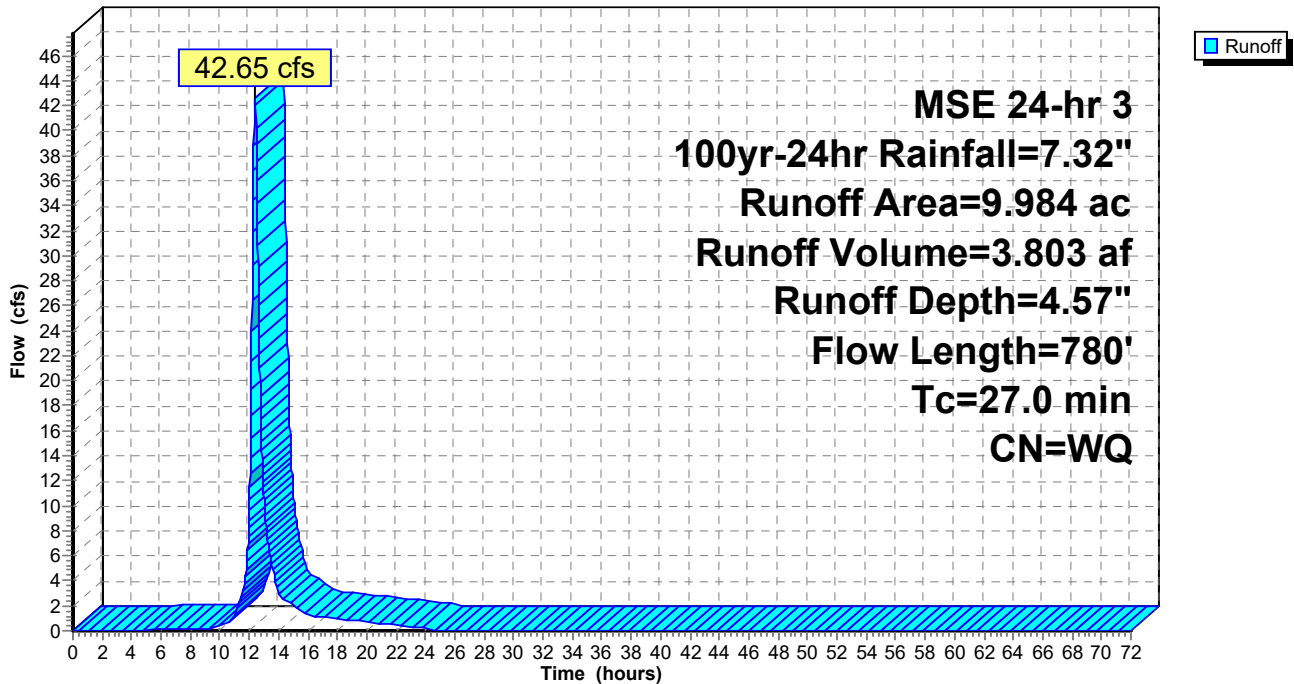
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
* 0.983	98	Impervious
6.862	74	>75% Grass cover, Good, HSG C
2.139	73	Woods, Fair, HSG C
9.984		Weighted Average
9.001		90.15% Pervious Area
0.983		9.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.4	300	0.0330	0.25		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
6.6	480	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
27.0	780	Total			

Subcatchment W6: W6

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment W6_100: W6_100

Runoff = 0.67 cfs @ 12.58 hrs, Volume= 0.077 af, Depth= 4.26"

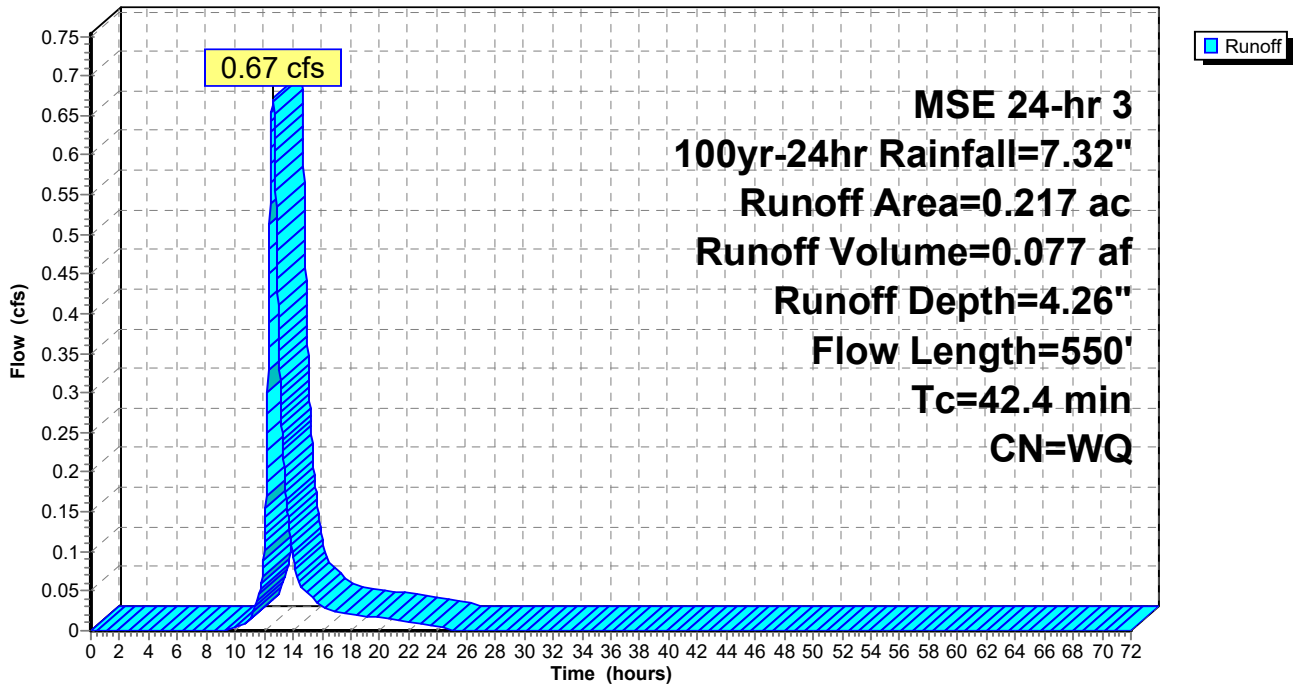
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.094	74	>75% Grass cover, Good, HSG C
0.123	73	Woods, Fair, HSG C
0.217		Weighted Average
0.217		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
38.8	300	0.0470	0.13		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 2.87"
3.6	250	0.0280	1.17		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
42.4	550	Total			

Subcatchment W6_100: W6_100

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment W6_101: W6_101

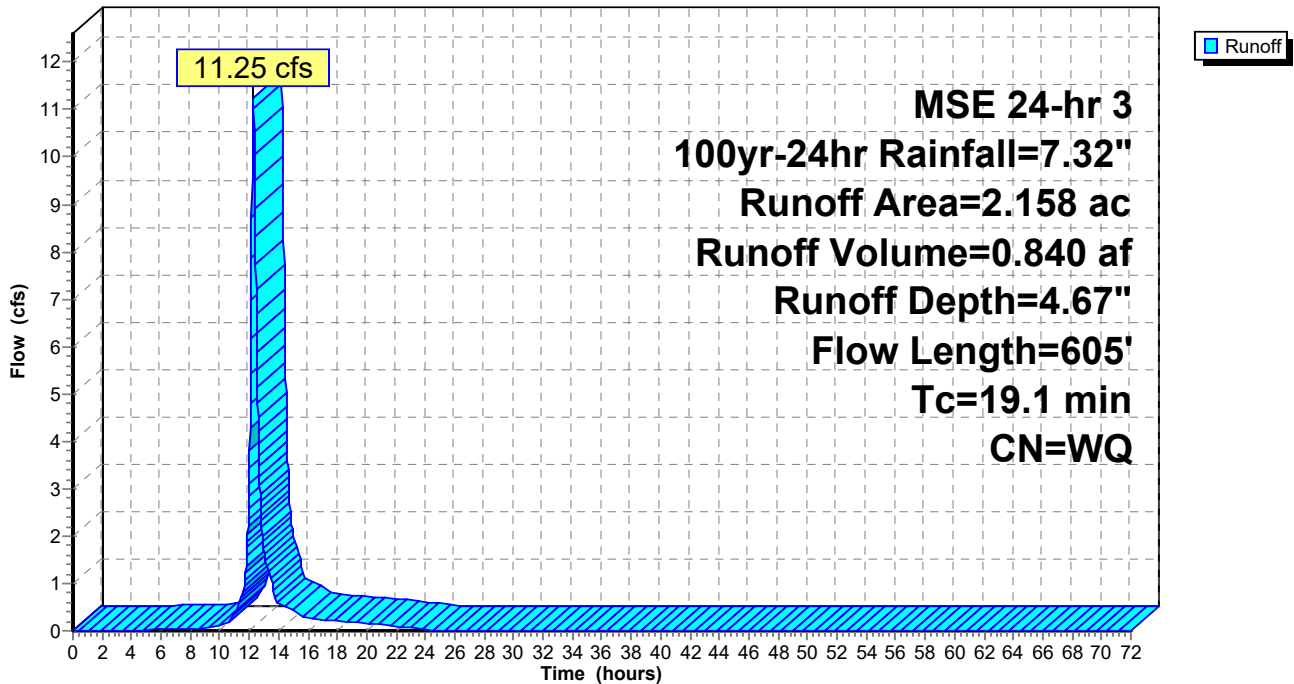
Runoff = 11.25 cfs @ 12.28 hrs, Volume= 0.840 af, Depth= 4.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description			
1.405	74	>75% Grass cover, Good, HSG C			
* 0.290	98	Impervious			
0.463	73	Woods, Fair, HSG C			
<hr/>					
2.158		Weighted Average			
1.868		86.56% Pervious Area			
0.290		13.44% Impervious Area			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	295	0.0680	0.33		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
4.0	310	0.0340	1.29		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
<hr/>					
19.1	605	Total			

Subcatchment W6_101: W6_101

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment W6_102: W6_102

Runoff = 1.43 cfs @ 12.24 hrs, Volume= 0.094 af, Depth= 4.32"

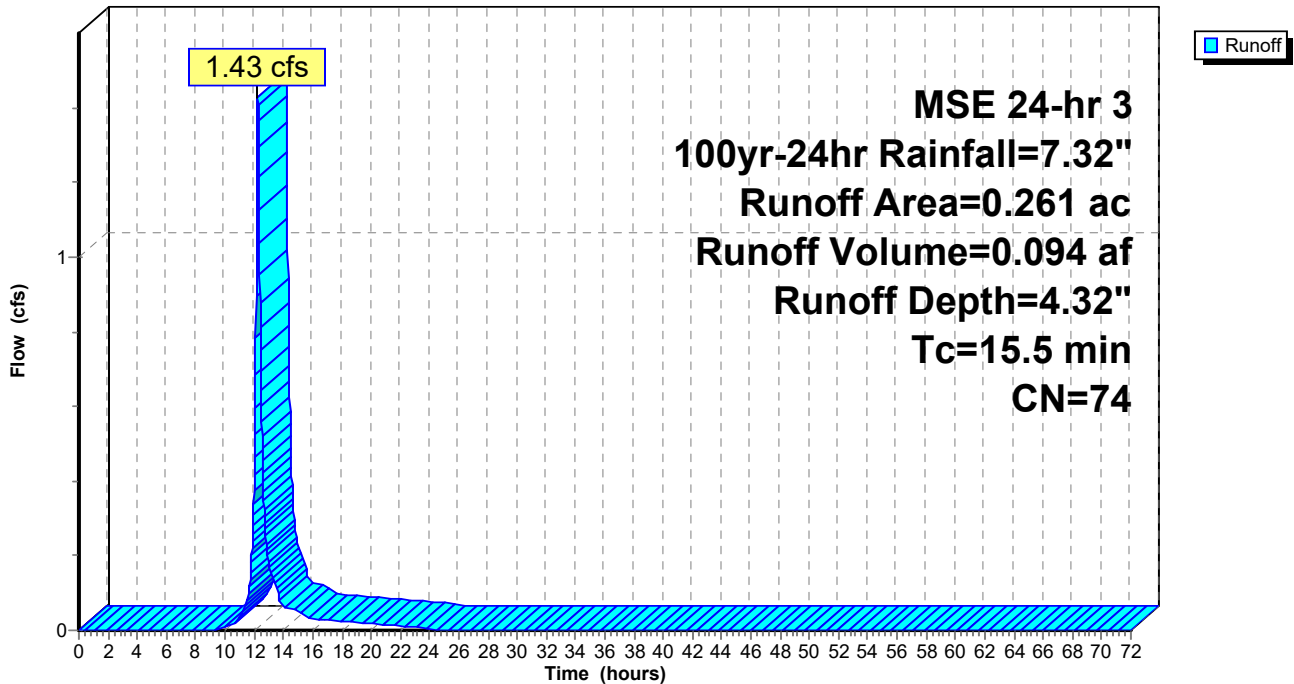
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.261	74	>75% Grass cover, Good, HSG C
0.261		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.5					Direct Entry, From Existing Conditions (EX_5)

Subcatchment W6_102: W6_102

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment W9: W9

Runoff = 11.59 cfs @ 12.20 hrs, Volume= 0.692 af, Depth= 4.65"

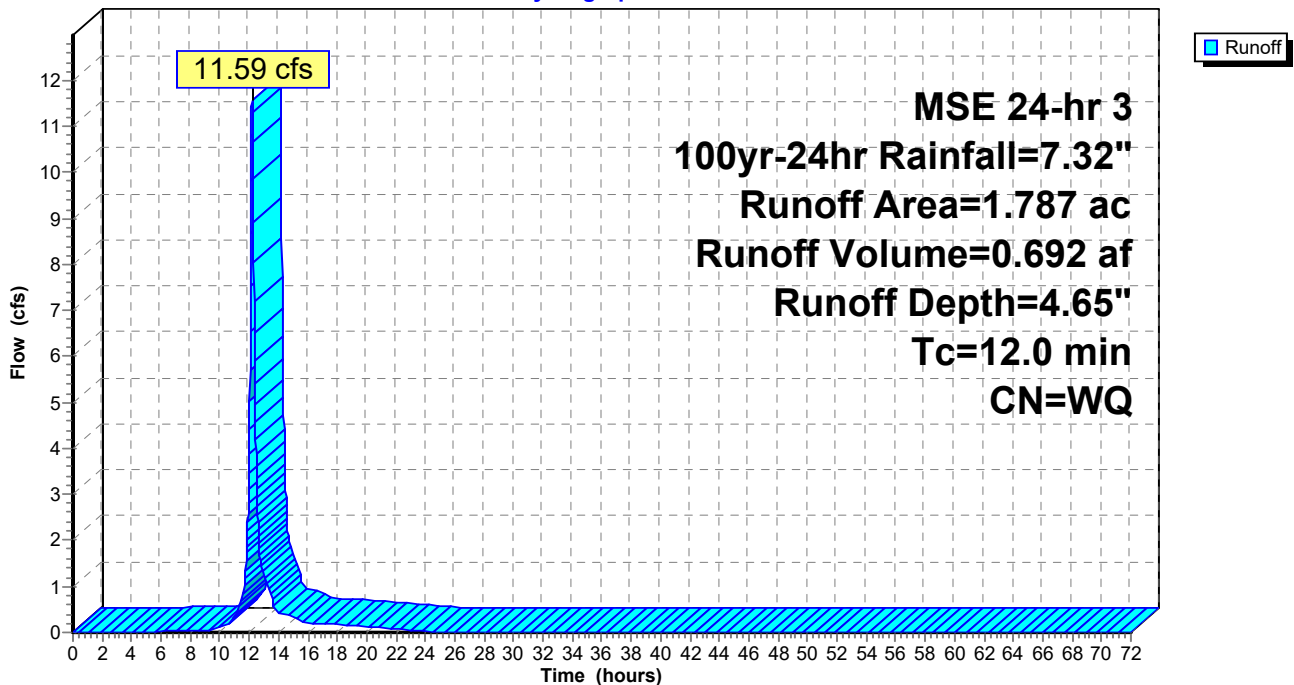
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
1.416	74	>75% Grass cover, Good, HSG C
* 0.217	98	Pond
0.154	73	Woods, Fair, HSG C
1.787		Weighted Average
1.570		87.86% Pervious Area
0.217		12.14% Impervious Area

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

Subcatchment W9: W9

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment W9_100: W9_100

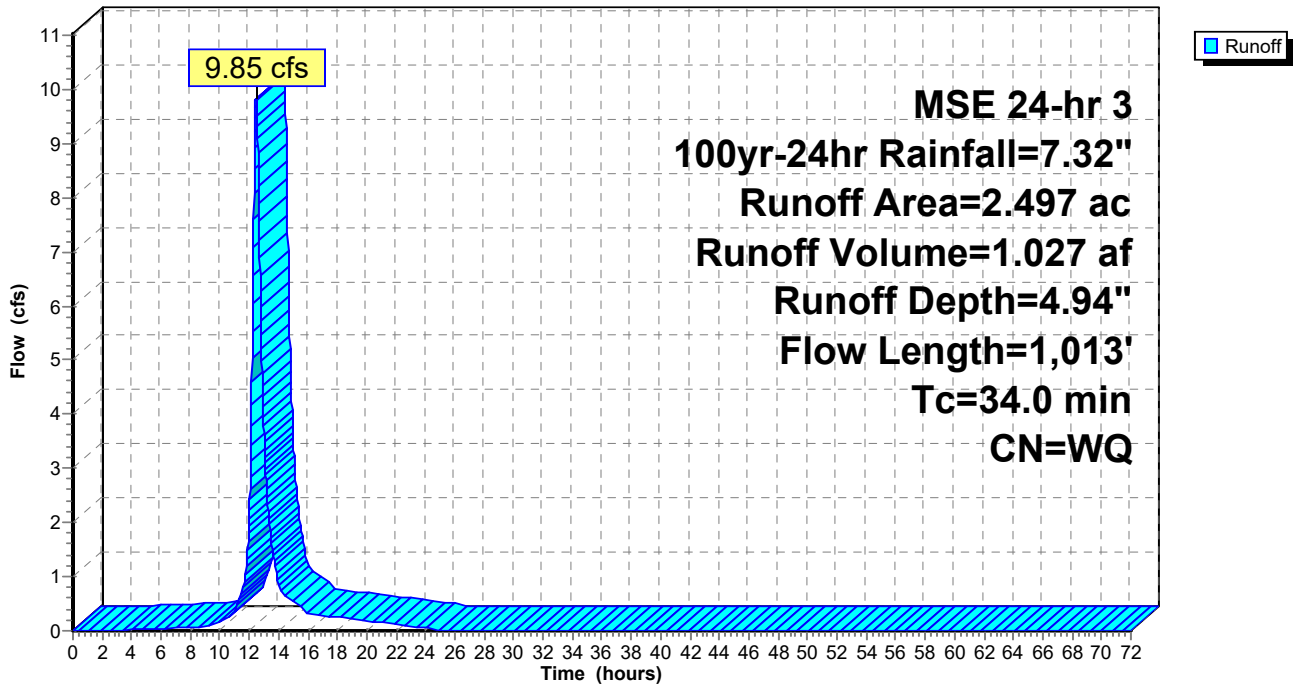
Runoff = 9.85 cfs @ 12.47 hrs, Volume= 1.027 af, Depth= 4.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description			
1.912	74	>75% Grass cover, Good, HSG C			
* 0.557	98	Impervious			
0.028	73	Woods, Fair, HSG C			
<hr/>					
2.497		Weighted Average			
1.940		77.69% Pervious Area			
0.557		22.31% Impervious Area			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	223	0.0450	0.26		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"
19.8	790	0.0090	0.66		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
<hr/>					
34.0	1,013	Total			

Subcatchment W9_100: W9_100

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Subcatchment W9_101: W9_101

Runoff = 3.49 cfs @ 12.24 hrs, Volume= 0.255 af, Depth= 5.68"

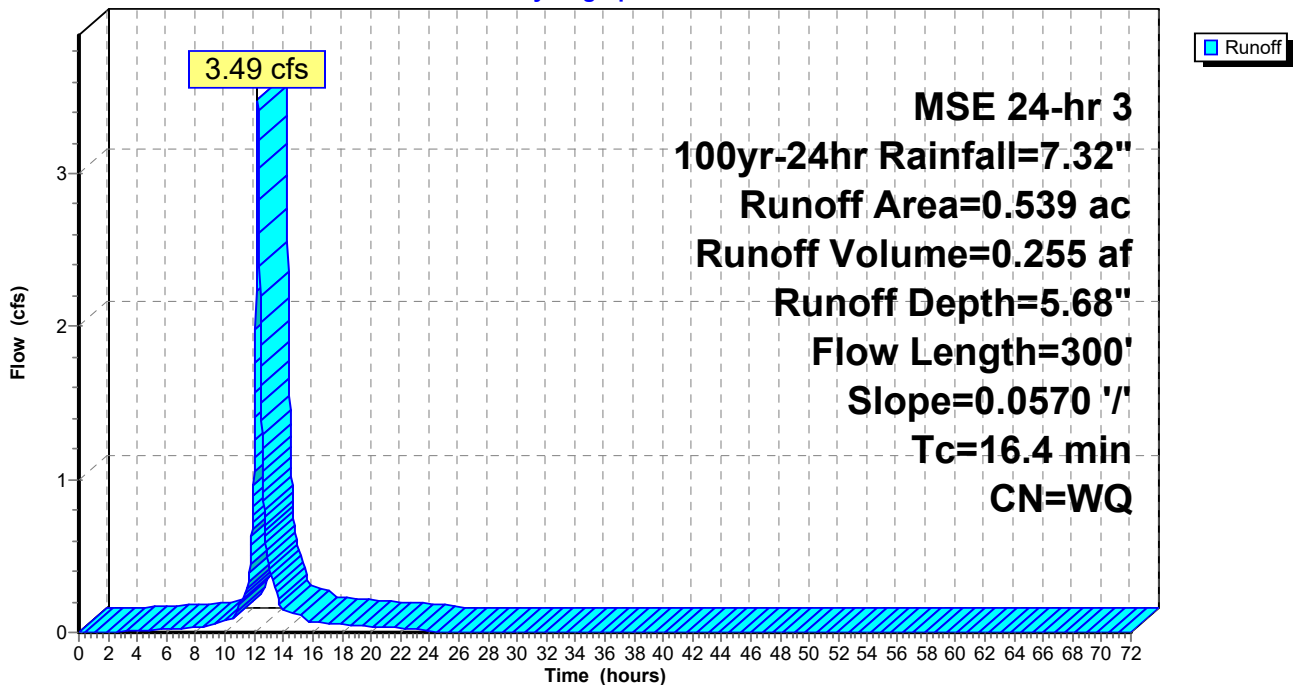
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

Area (ac)	CN	Description
0.274	74	>75% Grass cover, Good, HSG C
* 0.265	98	Impervious
0.539		Weighted Average
0.274		50.83% Pervious Area
0.265		49.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.4	300	0.0570	0.31		Sheet Flow, Grass: Short n= 0.150 P2= 2.87"

Subcatchment W9_101: W9_101

Hydrograph



Summary for Reach 1R: Bassett Creek Watershed

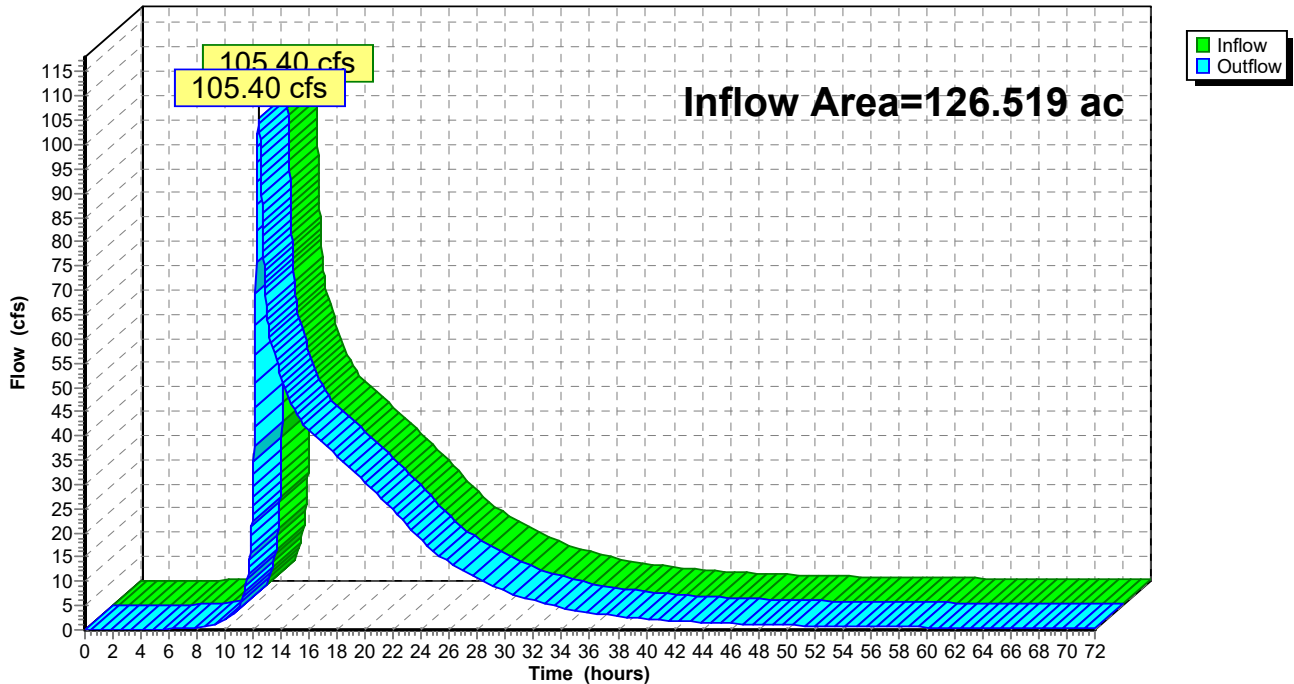
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 126.519 ac, 32.48% Impervious, Inflow Depth > 4.96" for 100yr-24hr event
Inflow = 105.40 cfs @ 12.39 hrs, Volume= 52.319 af
Outflow = 105.40 cfs @ 12.39 hrs, Volume= 52.319 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 1R: Bassett Creek Watershed

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Reach 5R: Elm Creek Watershed

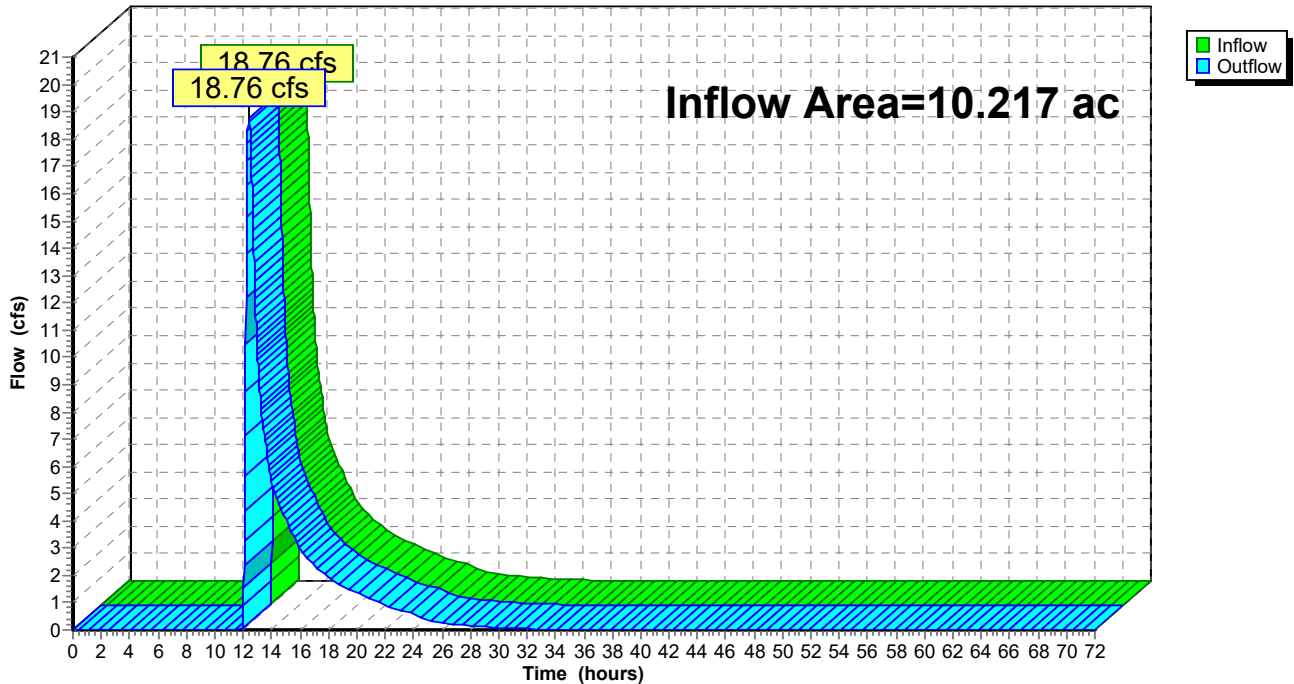
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 10.217 ac, 25.83% Impervious, Inflow Depth = 4.09" for 100yr-24hr event
Inflow = 18.76 cfs @ 12.39 hrs, Volume= 3.480 af
Outflow = 18.76 cfs @ 12.39 hrs, Volume= 3.480 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 5R: Elm Creek Watershed

Hydrograph



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Summary for Reach 8R: Offsite

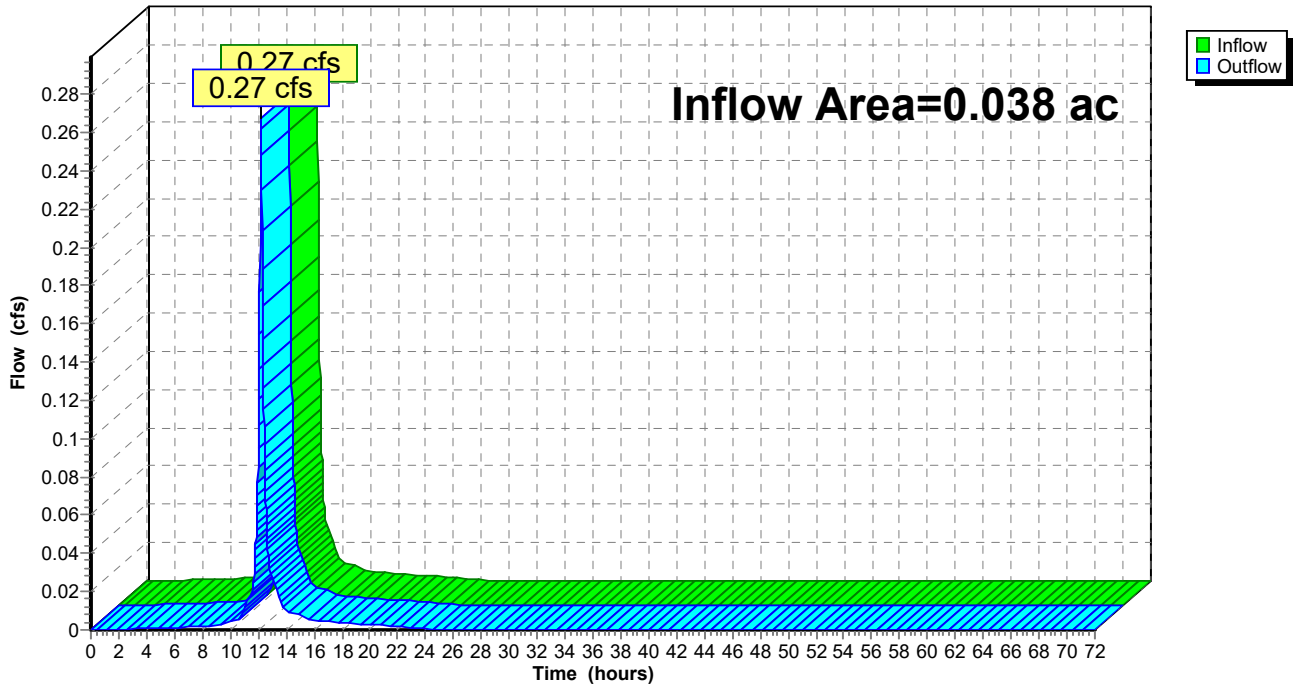
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.038 ac, 36.84% Impervious, Inflow Depth = 5.34" for 100yr-24hr event
Inflow = 0.27 cfs @ 12.20 hrs, Volume= 0.017 af
Outflow = 0.27 cfs @ 12.20 hrs, Volume= 0.017 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach 8R: Offsite

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Reach Wetland: Wetland 6

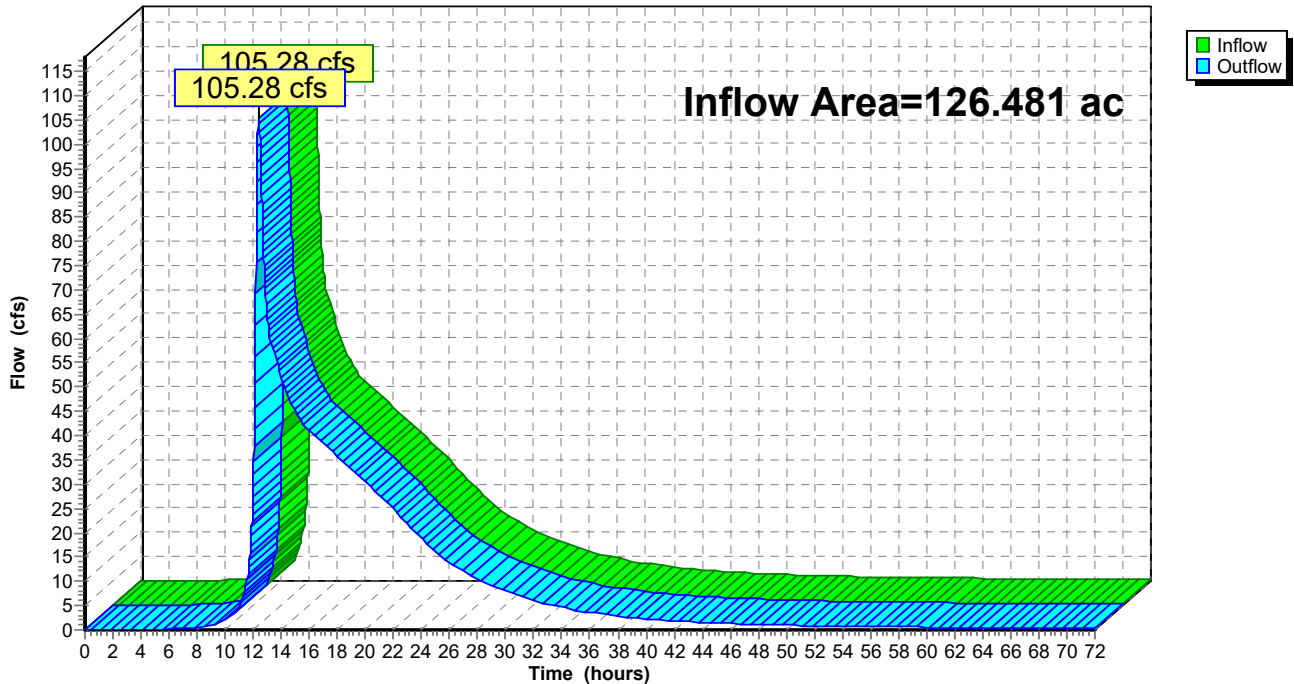
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 126.481 ac, 32.48% Impervious, Inflow Depth > 4.96" for 100yr-24hr event
Inflow = 105.28 cfs @ 12.39 hrs, Volume= 52.303 af
Outflow = 105.28 cfs @ 12.39 hrs, Volume= 52.303 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs

Reach Wetland: Wetland 6

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond 4P: CB_22 pipe

[57] Hint: Peaked at 971.16' (Flood elevation advised)

Inflow Area = 0.256 ac, 27.73% Impervious, Inflow Depth = 5.09" for 100yr-24hr event
 Inflow = 1.76 cfs @ 12.20 hrs, Volume= 0.109 af
 Outflow = 1.76 cfs @ 12.20 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.76 cfs @ 12.20 hrs, Volume= 0.109 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 971.16' @ 12.43 hrs

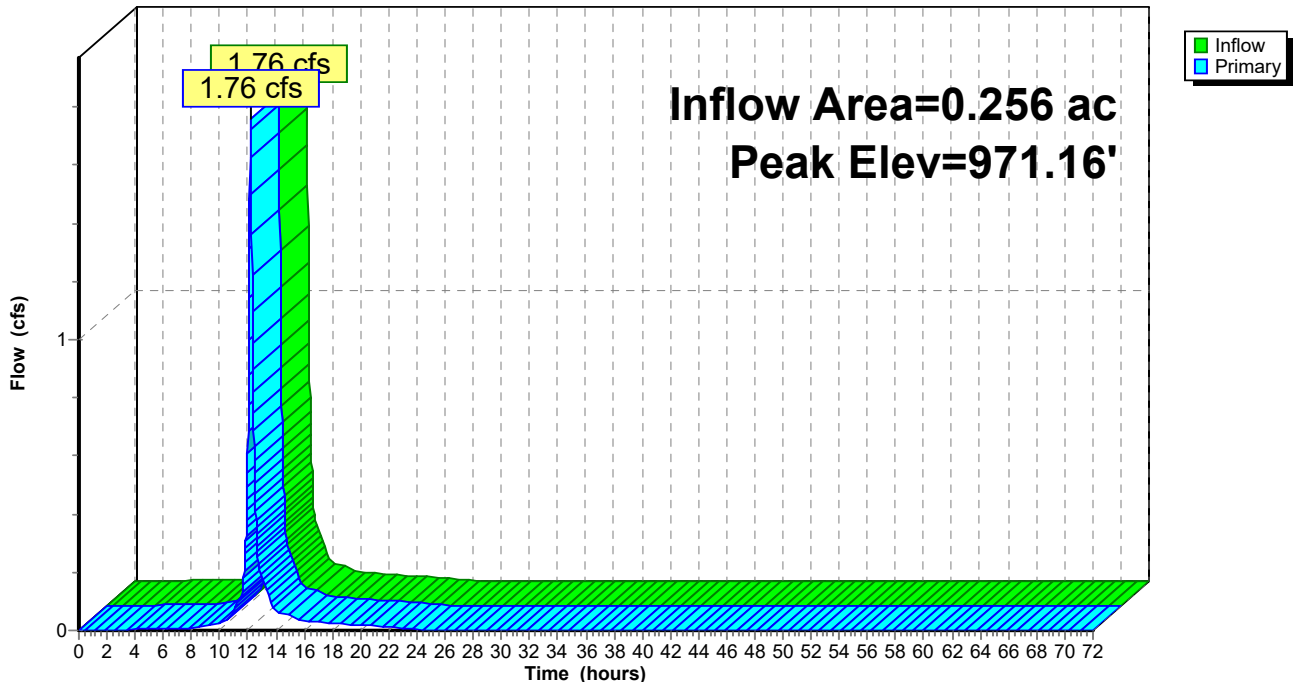
Device	Routing	Invert	Outlet Devices
#1	Primary	969.20'	24.0" Round Structure I2 to I1 L= 40.7' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.20' / 969.00' S= 0.0049 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	969.50'	21.0" Round Structure I9 to I2 L= 87.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.50' / 969.20' S= 0.0034 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf

Primary OutFlow Max=0.00 cfs @ 12.20 hrs HW=970.64' TW=970.65' (Dynamic Tailwater)

- ←1=Structure I2 to I1 (Controls 0.00 cfs)
- ←2=Structure I9 to I2 (Controls 0.00 cfs)

Pond 4P: CB_22 pipe

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_A10: CB_A8

Inflow Area = 0.864 ac, 35.88% Impervious, Inflow Depth = 5.31" for 100yr-24hr event
 Inflow = 6.13 cfs @ 12.20 hrs, Volume= 0.382 af
 Outflow = 6.12 cfs @ 12.20 hrs, Volume= 0.382 af, Atten= 0%, Lag= 0.3 min
 Primary = 6.12 cfs @ 12.20 hrs, Volume= 0.382 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 996.41' @ 12.20 hrs Surf.Area= 390 sf Storage= 91 cf

Plug-Flow detention time= 0.2 min calculated for 0.382 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (776.5 - 776.2)

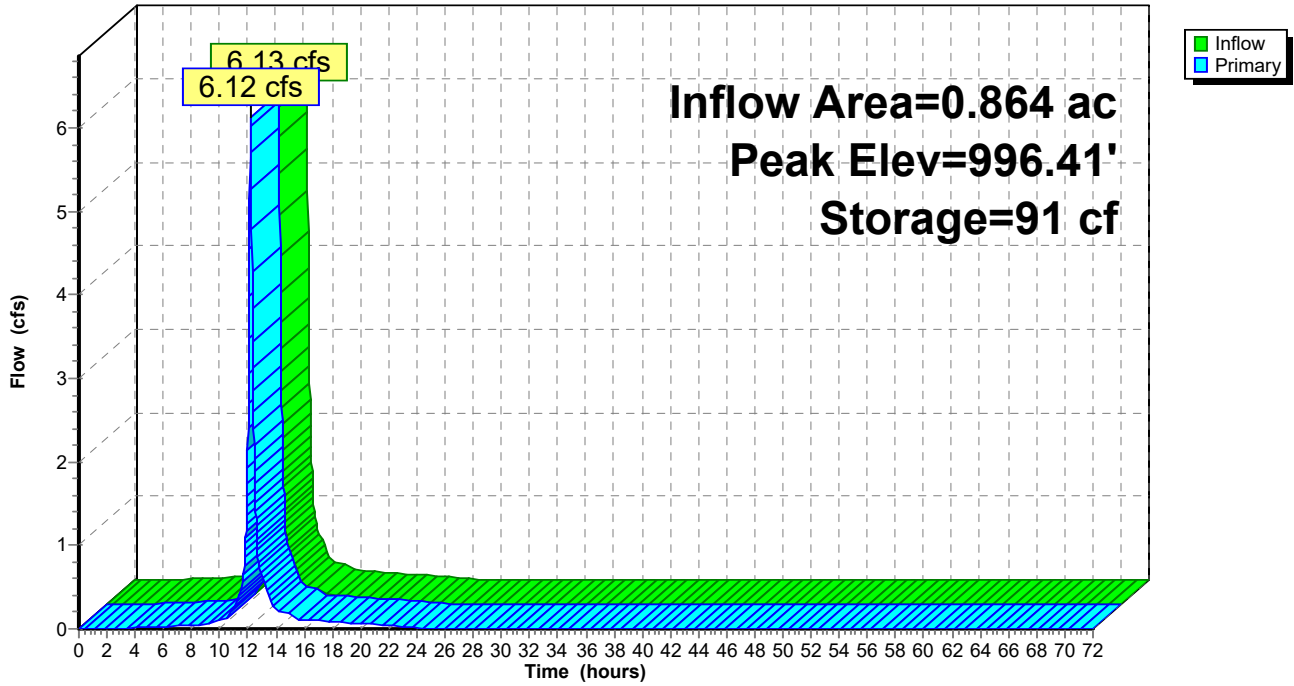
Volume	Invert	Avail.Storage	Storage Description
#1	996.00'	29,250 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
996.00	50	0	0
998.00	1,700	1,750	1,750
1,000.00	8,600	10,300	12,050
1,002.00	8,600	17,200	29,250

Device	Routing	Invert	Outlet Devices
#1	Primary	996.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.12 cfs @ 12.20 hrs HW=996.41' TW=979.86' (Dynamic Tailwater)
 ↑**1=Grate** (Weir Controls 6.12 cfs @ 2.10 fps)

Pond CB_A10: CB_A8

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_A15: CB_A7

Inflow Area = 0.696 ac, 28.02% Impervious, Inflow Depth = 5.10" for 100yr-24hr event
 Inflow = 4.80 cfs @ 12.20 hrs, Volume= 0.296 af
 Outflow = 4.73 cfs @ 12.21 hrs, Volume= 0.296 af, Atten= 1%, Lag= 1.0 min
 Primary = 4.73 cfs @ 12.21 hrs, Volume= 0.296 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 998.35' @ 12.21 hrs Surf.Area= 1,299 sf Storage= 234 cf

Plug-Flow detention time= 0.6 min calculated for 0.295 af (100% of inflow)
 Center-of-Mass det. time= 0.6 min (782.0 - 781.4)

Volume	Invert	Avail.Storage	Storage Description
#1	998.00'	29,010 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
998.00	50	0	0
1,000.00	7,240	7,290	7,290
1,003.00	7,240	21,720	29,010

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,000.00'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=4.71 cfs @ 12.21 hrs HW=998.35' TW=979.93' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 4.71 cfs @ 1.92 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=998.00' TW=996.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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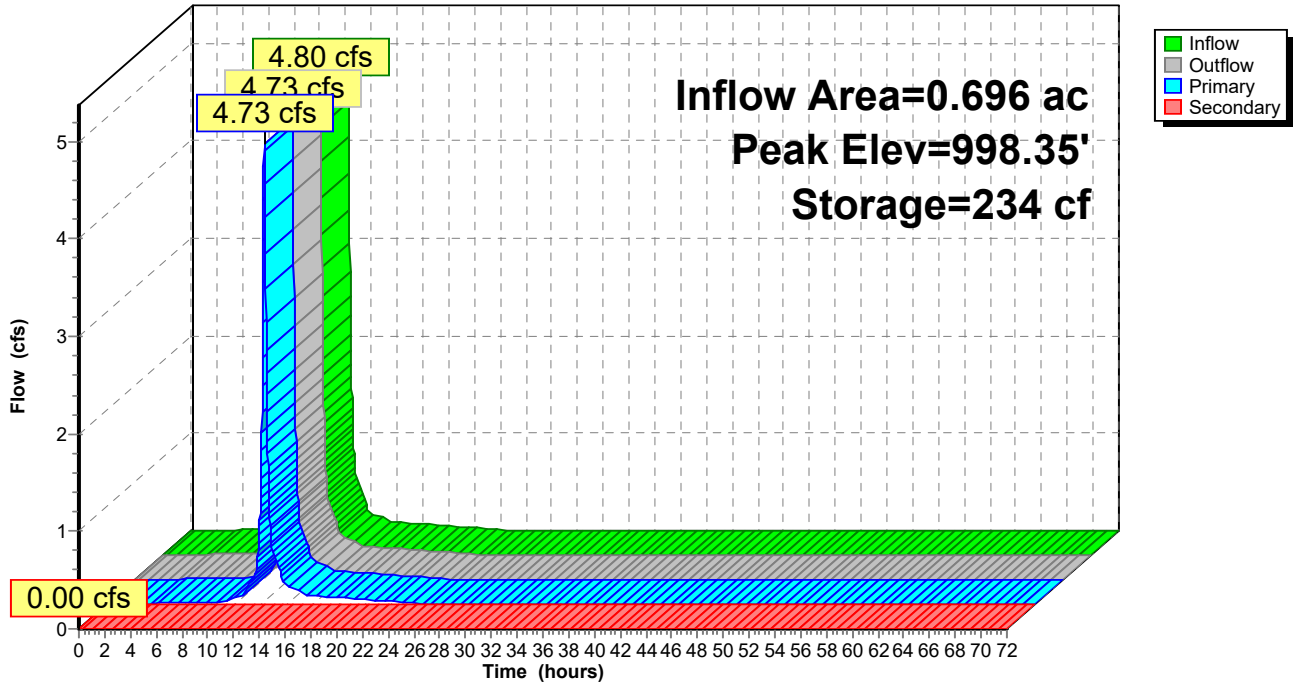
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_A15: CB_A7

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_A8: CB_A20

Inflow Area = 0.766 ac, 20.23% Impervious, Inflow Depth = 4.88" for 100yr-24hr event
 Inflow = 5.13 cfs @ 12.20 hrs, Volume= 0.312 af
 Outflow = 4.61 cfs @ 12.25 hrs, Volume= 0.312 af, Atten= 10%, Lag= 2.9 min
 Primary = 4.61 cfs @ 12.25 hrs, Volume= 0.312 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,001.23' @ 12.25 hrs Surf.Area= 1,120 sf Storage= 809 cf

Plug-Flow detention time= 4.1 min calculated for 0.311 af (100% of inflow)
 Center-of-Mass det. time= 4.2 min (791.1 - 786.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	30,360 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,000.00	200	0	0
1,002.00	1,700	1,900	1,900
1,004.00	8,920	10,620	12,520
1,006.00	8,920	17,840	30,360

Device	Routing	Invert	Outlet Devices
#1	Primary	996.47'	18.0" Round Culvert L= 139.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 996.47' / 996.07' S= 0.0029 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#2	Device 1	1,000.00'	15.0" Round Culvert L= 37.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 1,000.00' / 996.47' S= 0.0954 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#3	Secondary	1,004.00'	5.0' long x 1.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32

Primary OutFlow Max=4.60 cfs @ 12.25 hrs HW=1,001.22' TW=980.11' (Dynamic Tailwater)

↑ **1=Culvert** (Passes 4.60 cfs of 14.01 cfs potential flow)

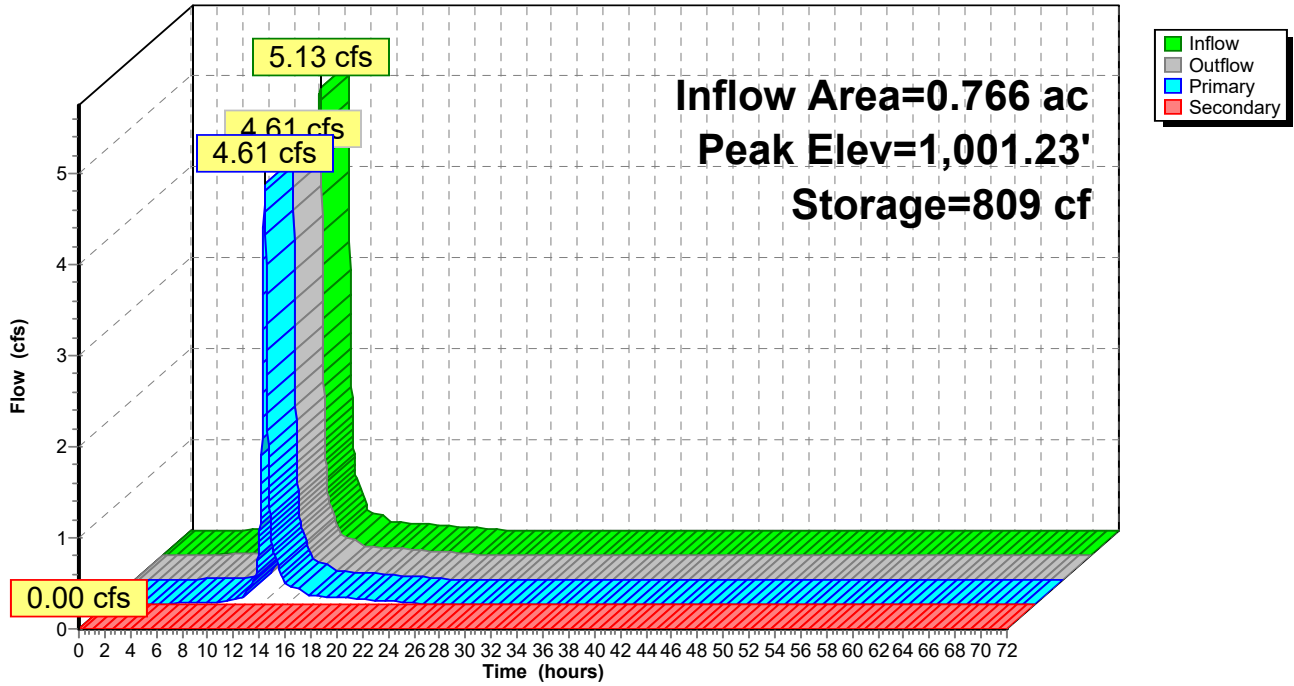
↑ **2=Culvert** (Inlet Controls 4.60 cfs @ 3.77 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,000.00' TW=994.00' (Dynamic Tailwater)

↑ **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond CB_A8: CB_A20

Hydrograph



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Summary for Pond CB_B5: CB_A10

Inflow Area = 1.692 ac, 9.57% Impervious, Inflow Depth = 4.57" for 100yr-24hr event
 Inflow = 10.84 cfs @ 12.20 hrs, Volume= 0.644 af
 Outflow = 10.83 cfs @ 12.20 hrs, Volume= 0.644 af, Atten= 0%, Lag= 0.3 min
 Primary = 10.83 cfs @ 12.20 hrs, Volume= 0.644 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 995.60' @ 12.20 hrs Surf.Area= 442 sf Storage= 148 cf

Plug-Flow detention time= 0.2 min calculated for 0.644 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (795.8 - 795.5)

Volume	Invert	Avail.Storage	Storage Description
#1	995.00'	4,275 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
995.00	50	0	0
996.00	700	375	375
998.00	3,200	3,900	4,275

Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	997.00'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=10.80 cfs @ 12.20 hrs HW=995.60' TW=979.87' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 10.80 cfs @ 2.54 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=995.00' TW=994.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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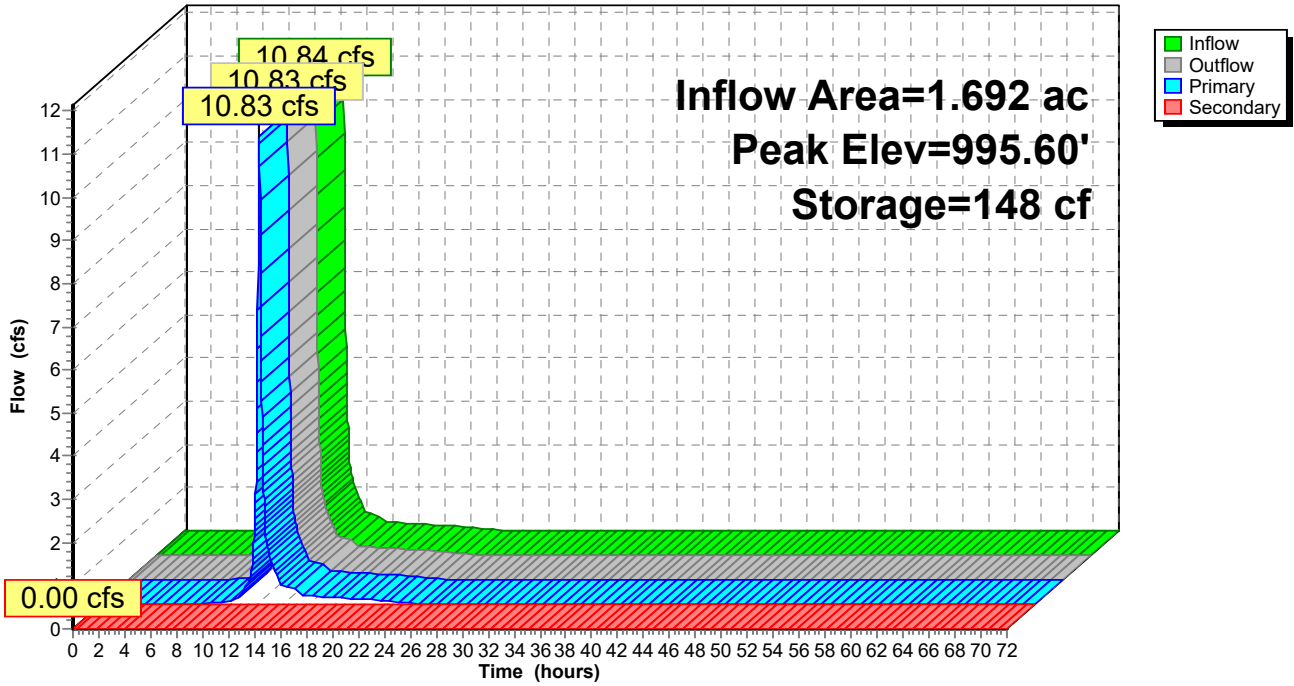
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_B5: CB_A10

Hydrograph



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Summary for Pond CB_B6: CB_A11

Inflow Area = 1.508 ac, 12.07% Impervious, Inflow Depth = 5.79" for 100yr-24hr event
 Inflow = 12.15 cfs @ 12.20 hrs, Volume= 0.728 af
 Outflow = 12.03 cfs @ 12.21 hrs, Volume= 0.728 af, Atten= 1%, Lag= 0.8 min
 Primary = 12.03 cfs @ 12.21 hrs, Volume= 0.728 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 994.65' @ 12.21 hrs Surf.Area= 1,419 sf Storage= 475 cf

Plug-Flow detention time= 0.5 min calculated for 0.728 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (793.0 - 792.6)

Volume	Invert	Avail.Storage	Storage Description
#1	994.00'	29,510 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.00	50	0	0
996.00	4,280	4,330	4,330
998.00	20,900	25,180	29,510

Device	Routing	Invert	Outlet Devices
#1	Primary	994.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	997.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=11.99 cfs @ 12.21 hrs HW=994.65' TW=979.93' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 11.99 cfs @ 2.63 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=994.00' TW=994.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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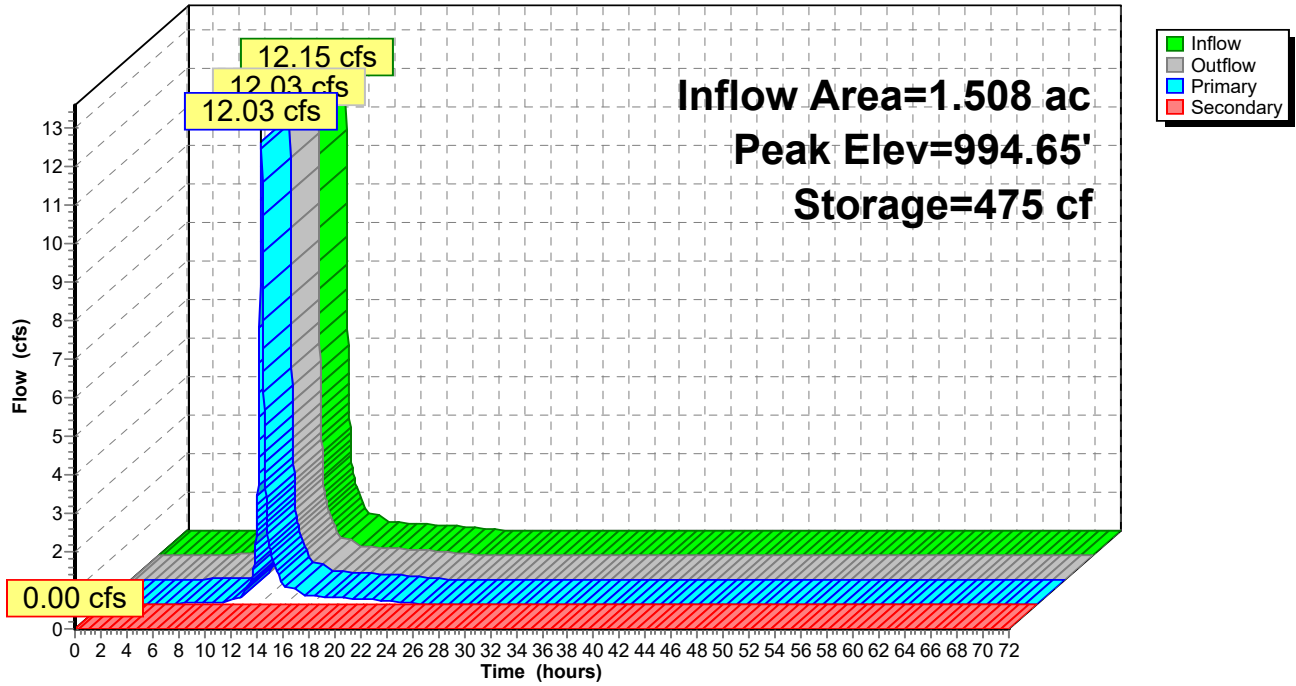
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_B6: CB_A11

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_B7: CB_A12

Inflow Area = 0.993 ac, 19.54% Impervious, Inflow Depth = 4.86" for 100yr-24hr event
 Inflow = 6.64 cfs @ 12.20 hrs, Volume= 0.402 af
 Outflow = 6.60 cfs @ 12.21 hrs, Volume= 0.402 af, Atten= 1%, Lag= 0.7 min
 Primary = 4.23 cfs @ 12.21 hrs, Volume= 0.259 af
 Secondary = 2.36 cfs @ 12.21 hrs, Volume= 0.143 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 998.32' @ 12.21 hrs Surf.Area= 1,240 sf Storage= 406 cf

Plug-Flow detention time= 2.7 min calculated for 0.402 af (100% of inflow)
 Center-of-Mass det. time= 2.5 min (789.9 - 787.4)

Volume	Invert	Avail.Storage	Storage Description
#1	997.99'	1,246 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
997.99	50	0	0
998.00	1,240	6	6
999.00	1,240	1,240	1,246

Device	Routing	Invert	Outlet Devices
#1	Primary	998.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	998.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=4.21 cfs @ 12.21 hrs HW=998.32' TW=979.90' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 4.21 cfs @ 1.85 fps)

Secondary OutFlow Max=2.35 cfs @ 12.21 hrs HW=998.32' TW=994.64' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 2.35 cfs @ 1.46 fps)

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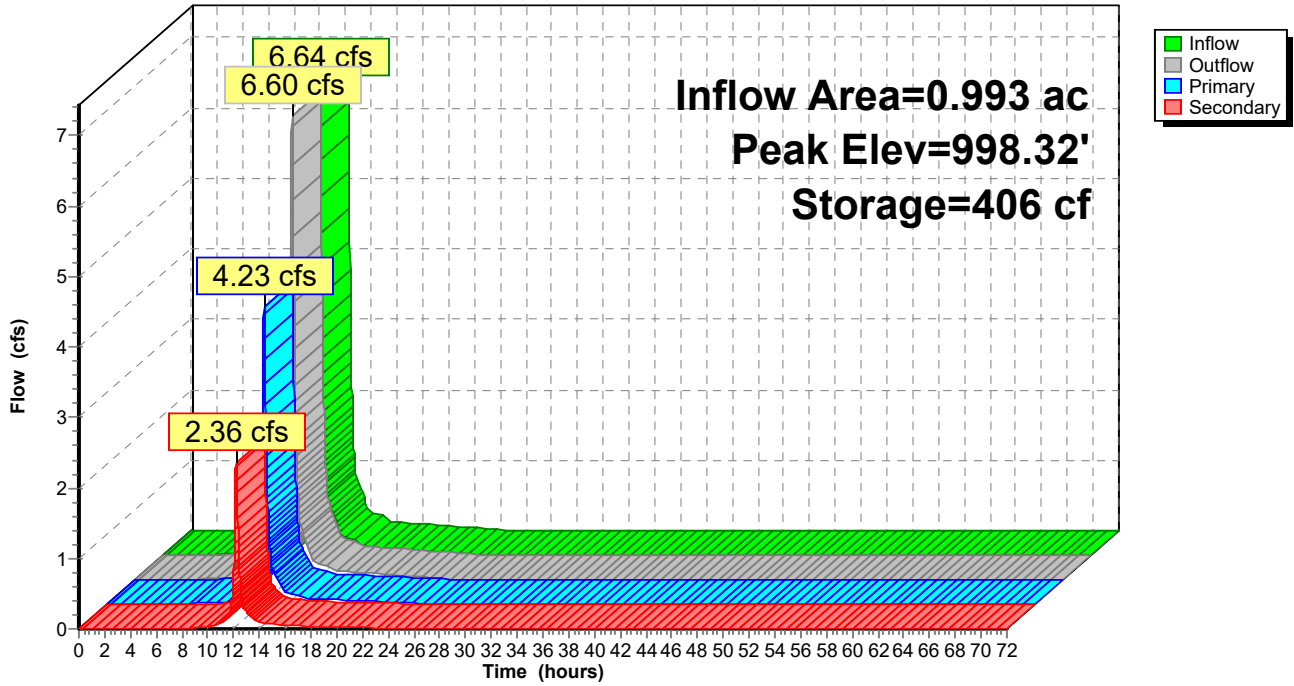
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_B7: CB_A12

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_C10: CB_C10

Inflow Area = 2.067 ac, 23.66% Impervious, Inflow Depth = 4.97" for 100yr-24hr event
 Inflow = 14.03 cfs @ 12.20 hrs, Volume= 0.857 af
 Outflow = 13.65 cfs @ 12.22 hrs, Volume= 0.857 af, Atten= 3%, Lag= 1.4 min
 Primary = 13.65 cfs @ 12.22 hrs, Volume= 0.857 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 994.70' @ 12.22 hrs Surf.Area= 2,672 sf Storage= 958 cf

Plug-Flow detention time= 0.8 min calculated for 0.857 af (100% of inflow)
 Center-of-Mass det. time= 0.8 min (785.2 - 784.4)

Volume	Invert	Avail.Storage	Storage Description
#1	994.00'	22,550 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.00	50	0	0
996.00	7,500	7,550	7,550
997.00	7,500	7,500	15,050
998.00	7,500	7,500	22,550

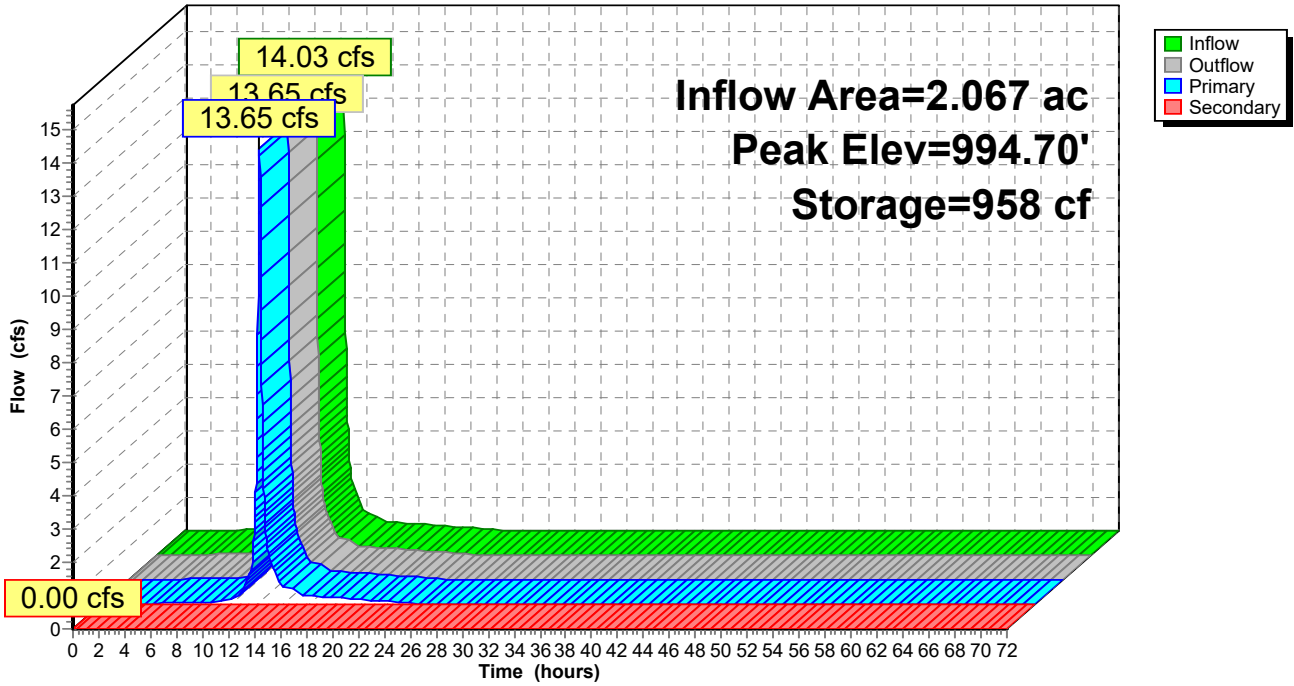
Device	Routing	Invert	Outlet Devices
#1	Primary	994.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	996.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=13.64 cfs @ 12.22 hrs HW=994.70' TW=979.97' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 13.64 cfs @ 2.74 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=994.00' TW=992.50' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond CB_C10: CB_C10

Hydrograph



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Summary for Pond CB_C7: CB_C7

Inflow Area = 1.708 ac, 21.25% Impervious, Inflow Depth = 4.91" for 100yr-24hr event
 Inflow = 11.35 cfs @ 12.20 hrs, Volume= 0.699 af
 Outflow = 11.17 cfs @ 12.22 hrs, Volume= 0.699 af, Atten= 2%, Lag= 1.1 min
 Primary = 11.17 cfs @ 12.22 hrs, Volume= 0.699 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 993.12' @ 12.22 hrs Surf.Area= 1,860 sf Storage= 588 cf

Plug-Flow detention time= 0.6 min calculated for 0.698 af (100% of inflow)
 Center-of-Mass det. time= 0.6 min (787.1 - 786.5)

Volume	Invert	Avail.Storage	Storage Description
#1	992.50'	12,303 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.50	50	0	0
994.00	4,460	3,383	3,383
996.00	4,460	8,920	12,303

Device	Routing	Invert	Outlet Devices
#1	Primary	992.50'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	994.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=11.16 cfs @ 12.22 hrs HW=993.12' TW=979.96' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 11.16 cfs @ 2.56 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=992.50' TW=991.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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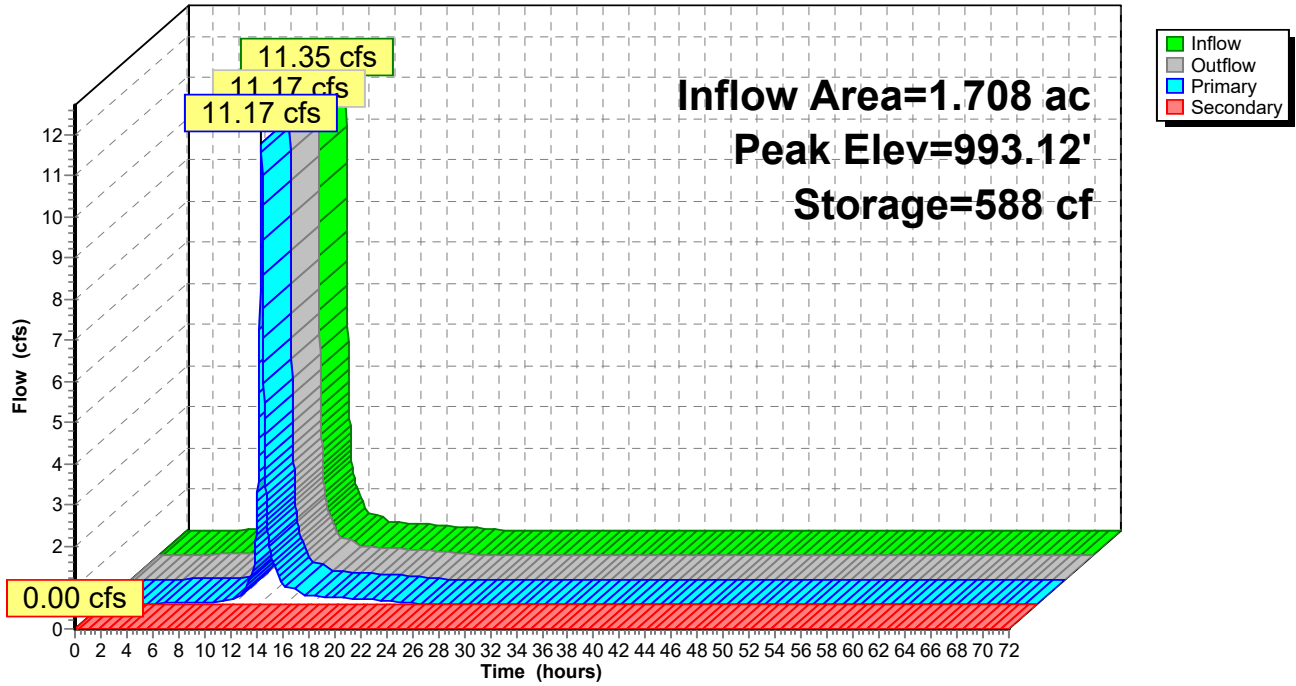
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_C7: CB_C7

Hydrograph



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Summary for Pond CB_C8: CB_C8

Inflow Area = 1.927 ac, 25.17% Impervious, Inflow Depth = 5.02" for 100yr-24hr event
 Inflow = 12.90 cfs @ 12.20 hrs, Volume= 0.806 af
 Outflow = 12.88 cfs @ 12.21 hrs, Volume= 0.806 af, Atten= 0%, Lag= 0.3 min
 Primary = 12.88 cfs @ 12.21 hrs, Volume= 0.806 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 991.68' @ 12.21 hrs Surf.Area= 566 sf Storage= 209 cf

Plug-Flow detention time= 0.2 min calculated for 0.805 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (784.1 - 783.8)

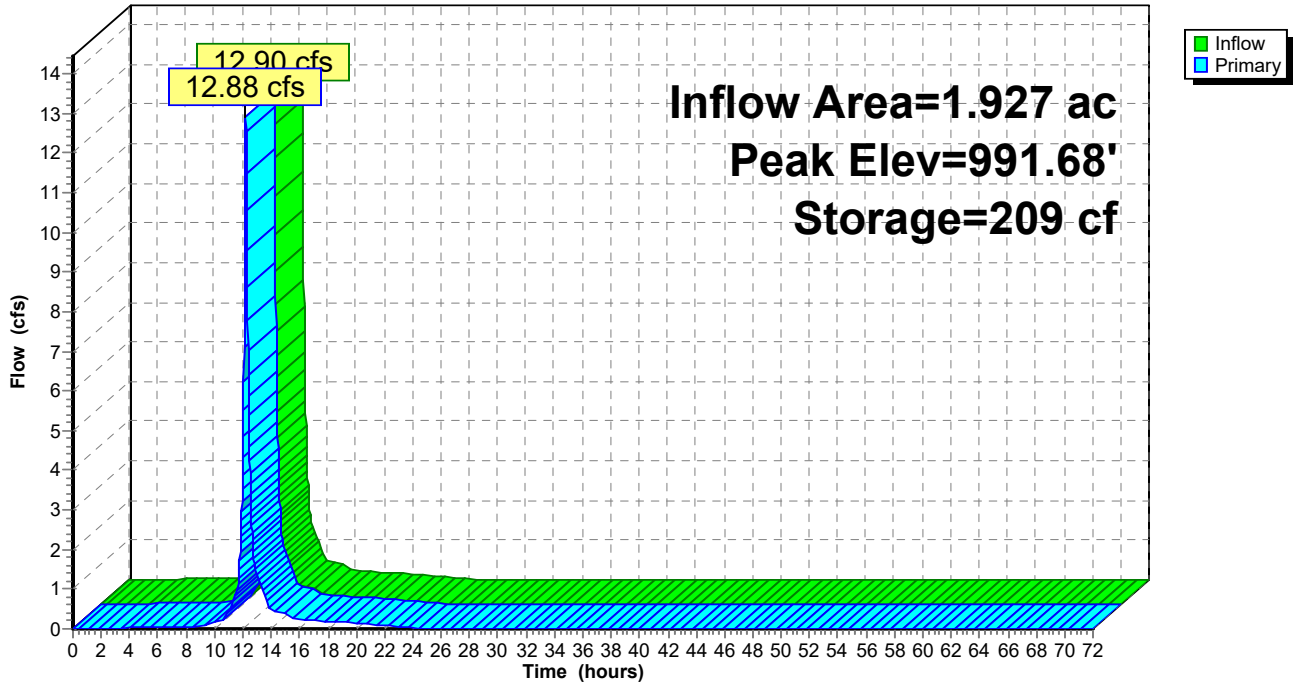
Volume	Invert	Avail.Storage	Storage Description
#1	991.00'	6,743 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
991.00	50	0	0
992.00	812	431	431
994.00	5,500	6,312	6,743

Device	Routing	Invert	Outlet Devices
#1	Primary	991.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=12.83 cfs @ 12.21 hrs HW=991.68' TW=979.89' (Dynamic Tailwater)
 ↑**1=Orifice/Grate** (Weir Controls 12.83 cfs @ 2.69 fps)

Pond CB_C8: CB_C8

Hydrograph



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Summary for Pond CB_C9: CB_C9

Inflow Area = 2.063 ac, 18.86% Impervious, Inflow Depth = 4.84" for 100yr-24hr event
 Inflow = 13.75 cfs @ 12.20 hrs, Volume= 0.832 af
 Outflow = 13.60 cfs @ 12.21 hrs, Volume= 0.832 af, Atten= 1%, Lag= 0.9 min
 Primary = 13.60 cfs @ 12.21 hrs, Volume= 0.832 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 992.70' @ 12.21 hrs Surf.Area= 1,584 sf Storage= 574 cf

Plug-Flow detention time= 0.5 min calculated for 0.832 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (788.4 - 787.9)

Volume	Invert	Avail.Storage	Storage Description
#1	992.00'	4,470 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.00	50	0	0
994.00	4,420	4,470	4,470

Device	Routing	Invert	Outlet Devices
#1	Primary	992.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	993.90'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=13.54 cfs @ 12.21 hrs HW=992.70' TW=979.92' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 13.54 cfs @ 2.74 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=992.00' TW=991.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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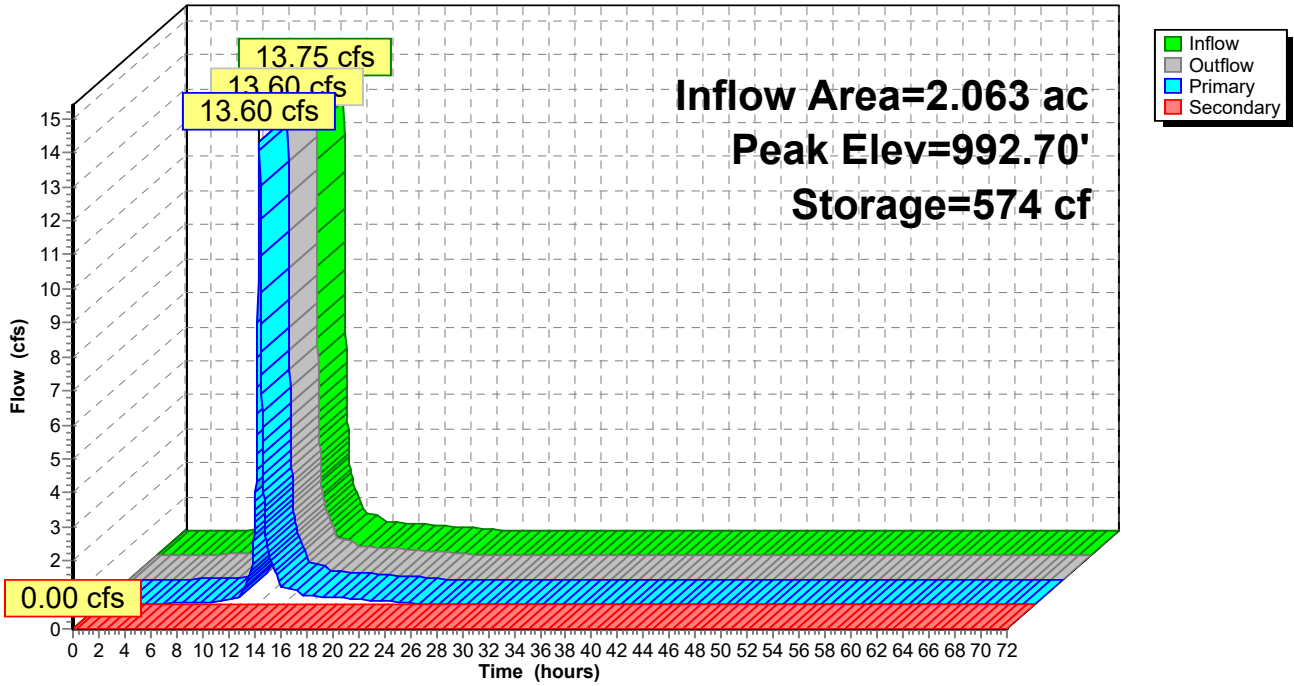
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Pond CB_C9: CB_C9

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_D6: CB_D6

Inflow Area = 0.376 ac, 3.46% Impervious, Inflow Depth = 4.42" for 100yr-24hr event
 Inflow = 2.36 cfs @ 12.20 hrs, Volume= 0.138 af
 Outflow = 2.34 cfs @ 12.21 hrs, Volume= 0.138 af, Atten= 1%, Lag= 0.8 min
 Primary = 2.34 cfs @ 12.21 hrs, Volume= 0.138 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,000.22' @ 12.21 hrs Surf.Area= 824 sf Storage= 95 cf

Plug-Flow detention time= 0.5 min calculated for 0.138 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (801.2 - 800.6)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	5,448 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,000.00	50	0	0
1,001.00	3,615	1,833	1,833
1,002.00	3,615	3,615	5,448

Device	Routing	Invert	Outlet Devices
#1	Primary	1,000.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,001.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.33 cfs @ 12.21 hrs HW=1,000.22' TW=979.92' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 2.33 cfs @ 1.52 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,000.00' TW=995.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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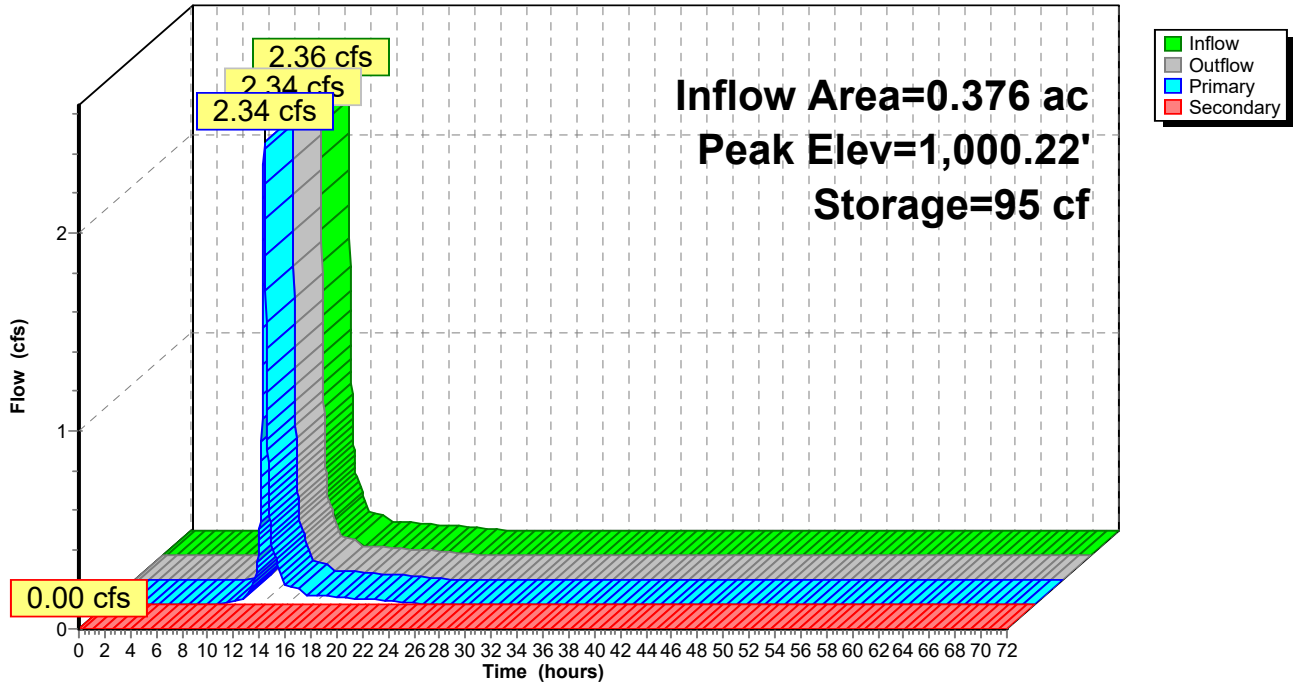
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_D6: CB_D6

Hydrograph



Hollydale - Proposed Conditions - 04.16.2021

MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_D7: CB_D7

Inflow Area = 0.586 ac, 17.58% Impervious, Inflow Depth = 4.81" for 100yr-24hr event
 Inflow = 3.89 cfs @ 12.20 hrs, Volume= 0.235 af
 Outflow = 3.85 cfs @ 12.21 hrs, Volume= 0.235 af, Atten= 1%, Lag= 0.8 min
 Primary = 3.85 cfs @ 12.21 hrs, Volume= 0.235 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,002.30' @ 12.21 hrs Surf.Area= 988 sf Storage= 157 cf

Plug-Flow detention time= 0.5 min calculated for 0.235 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (789.4 - 788.9)

Volume	Invert	Avail.Storage	Storage Description
#1	1,002.00'	4,750 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,002.00	50	0	0
1,003.00	3,150	1,600	1,600
1,004.00	3,150	3,150	4,750

Device	Routing	Invert	Outlet Devices
#1	Primary	1,002.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,003.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.83 cfs @ 12.21 hrs HW=1,002.30' TW=979.92' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 3.83 cfs @ 1.80 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,002.00' TW=1,000.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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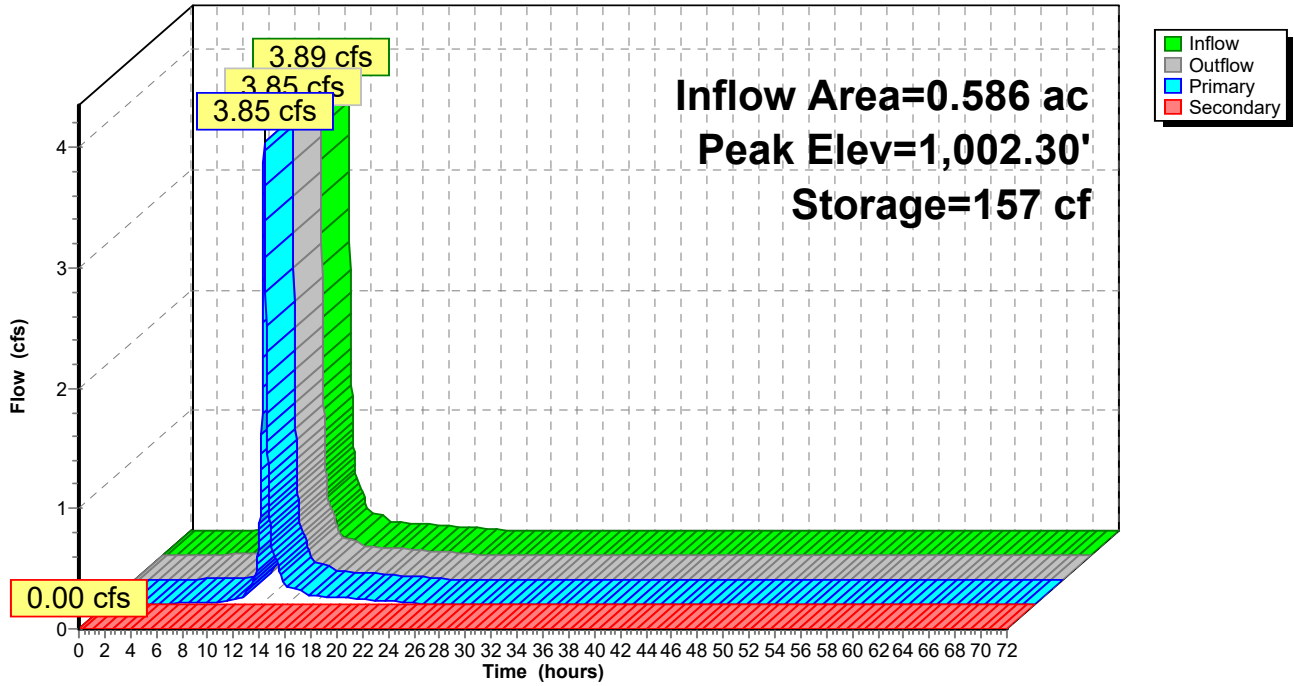
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_D7: CB_D7

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_D8: CB_D8

Inflow Area = 1.215 ac, 7.98% Impervious, Inflow Depth = 4.54" for 100yr-24hr event
 Inflow = 7.77 cfs @ 12.20 hrs, Volume= 0.460 af
 Outflow = 7.61 cfs @ 12.22 hrs, Volume= 0.460 af, Atten= 2%, Lag= 1.3 min
 Primary = 7.61 cfs @ 12.22 hrs, Volume= 0.460 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,002.48' @ 12.22 hrs Surf.Area= 1,899 sf Storage= 465 cf

Plug-Flow detention time= 0.7 min calculated for 0.460 af (100% of inflow)
 Center-of-Mass det. time= 0.7 min (797.4 - 796.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,002.00'	13,245 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,002.00	50	0	0
1,003.50	5,870	4,440	4,440
1,005.00	5,870	8,805	13,245

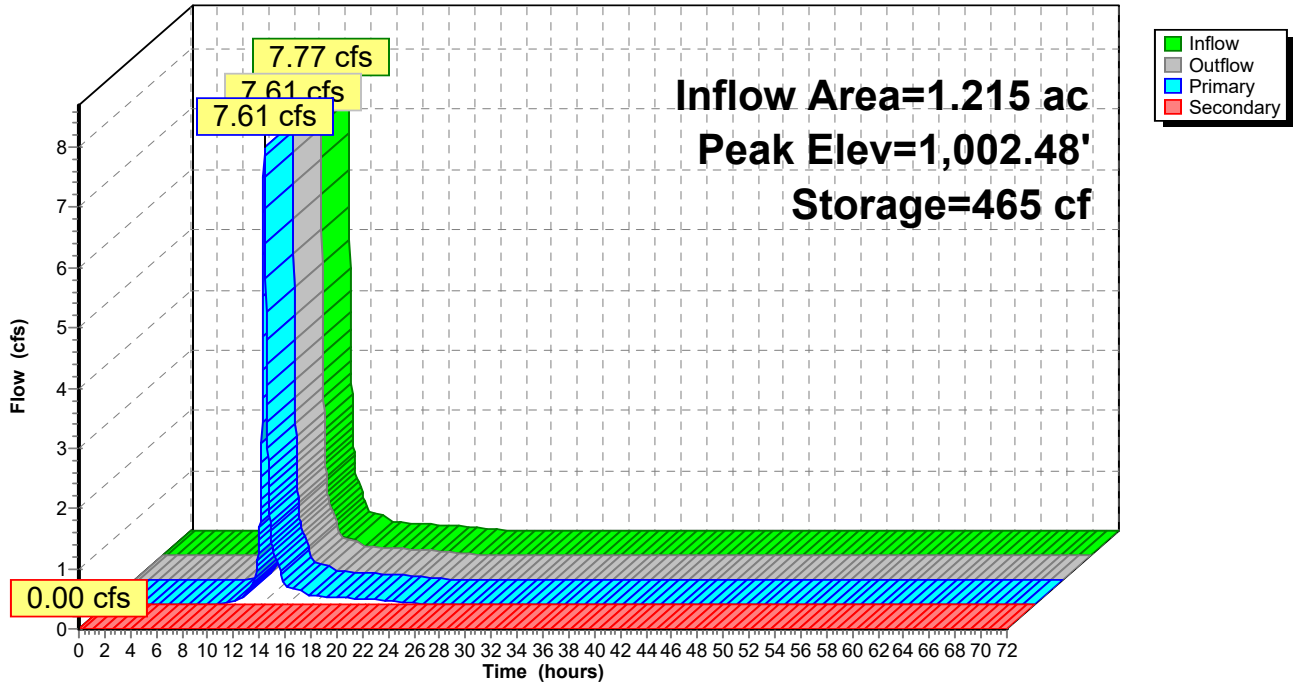
Device	Routing	Invert	Outlet Devices
#1	Primary	1,002.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,003.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=7.60 cfs @ 12.22 hrs HW=1,002.48' TW=979.96' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 7.60 cfs @ 2.26 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,002.00' TW=1,002.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond CB_D8: CB_D8

Hydrograph



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Summary for Pond CB_D9: CB_D9

Inflow Area = 1.254 ac, 16.11% Impervious, Inflow Depth = 4.77" for 100yr-24hr event
 Inflow = 8.27 cfs @ 12.20 hrs, Volume= 0.498 af
 Outflow = 5.92 cfs @ 12.32 hrs, Volume= 0.498 af, Atten= 28%, Lag= 7.3 min
 Primary = 5.92 cfs @ 12.32 hrs, Volume= 0.498 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 996.65' @ 12.29 hrs Surf.Area= 3,692 sf Storage= 1,991 cf

Plug-Flow detention time= 3.5 min calculated for 0.498 af (100% of inflow)
 Center-of-Mass det. time= 3.5 min (793.6 - 790.0)

Volume	Invert	Avail.Storage	Storage Description
#1	995.00'	124,900 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
995.00	100	0	0
996.00	900	500	500
998.00	9,500	10,400	10,900
1,010.00	9,500	114,000	124,900

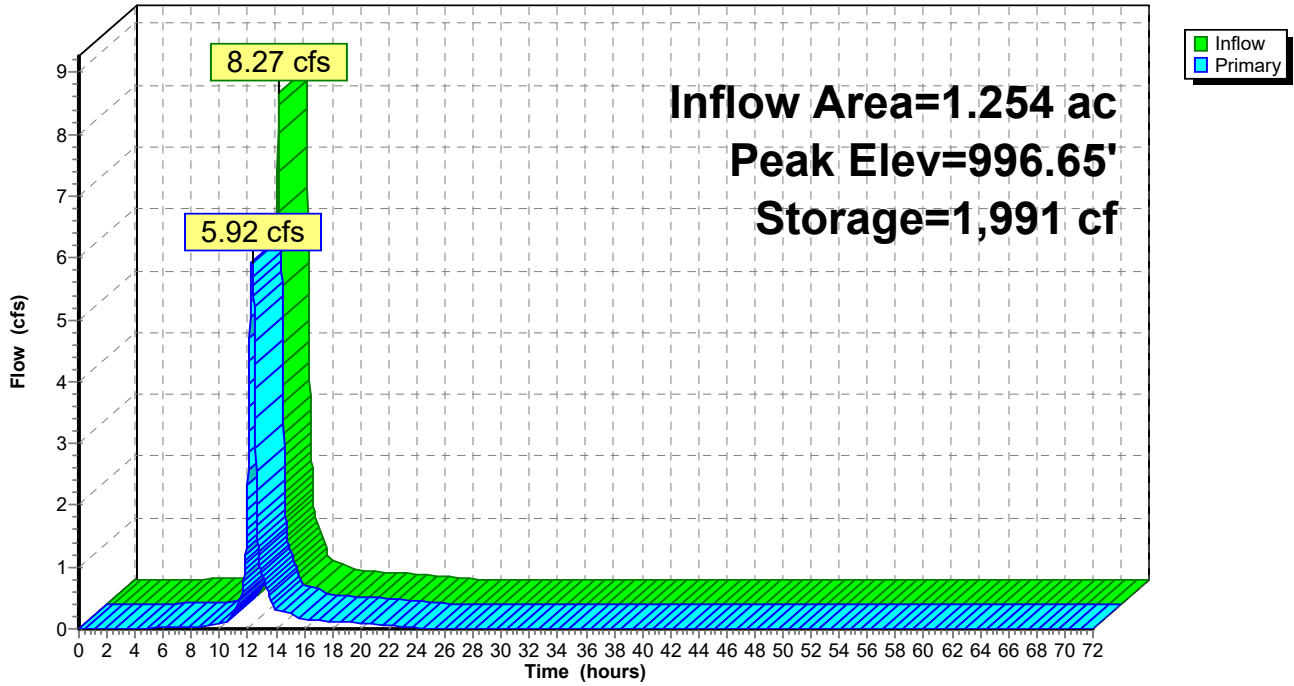
Device	Routing	Invert	Outlet Devices
#1	Primary	999.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	995.00'	15.0" Round Culvert L= 36.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 995.00' / 994.59' S= 0.0114 1' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=5.92 cfs @ 12.32 hrs HW=996.64' TW=980.44' (Dynamic Tailwater)

- 1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)
- 2=Culvert (Barrel Controls 5.92 cfs @ 4.84 fps)

Pond CB_D9: CB_D9

Hydrograph



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Summary for Pond CB_E13: CB_E13

Inflow Area = 0.605 ac, 27.77% Impervious, Inflow Depth = 5.09" for 100yr-24hr event
 Inflow = 4.17 cfs @ 12.20 hrs, Volume= 0.257 af
 Outflow = 4.17 cfs @ 12.20 hrs, Volume= 0.257 af, Atten= 0%, Lag= 0.2 min
 Primary = 4.17 cfs @ 12.20 hrs, Volume= 0.257 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 1,009.82' @ 12.20 hrs Surf.Area= 231 sf Storage= 45 cf

Plug-Flow detention time= 0.2 min calculated for 0.256 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (781.8 - 781.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,009.50'	2,113 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,009.50	50	0	0
1,011.00	900	713	713
1,012.00	1,900	1,400	2,113

Device	Routing	Invert	Outlet Devices
#1	Primary	1,009.50'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	1,010.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=4.17 cfs @ 12.20 hrs HW=1,009.82' TW=979.85' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 4.17 cfs @ 1.85 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,009.50' TW=1,002.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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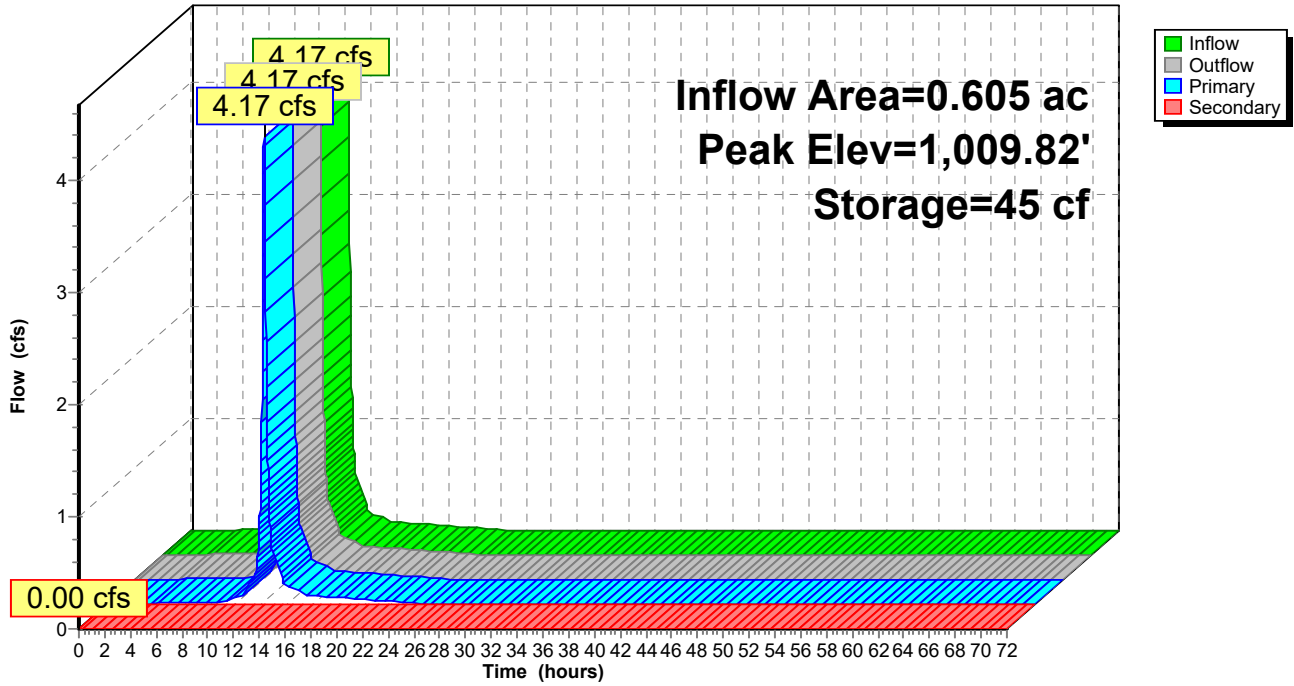
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_E13: CB_E13

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_E15: CB_E15

Inflow Area = 1.926 ac, 26.90% Impervious, Inflow Depth = 7.16" for 100yr-24hr event
 Inflow = 28.23 cfs @ 12.22 hrs, Volume= 1.149 af
 Outflow = 25.72 cfs @ 12.27 hrs, Volume= 1.149 af, Atten= 9%, Lag= 2.7 min
 Primary = 25.72 cfs @ 12.27 hrs, Volume= 1.149 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 993.81' @ 12.27 hrs Surf.Area= 2,065 sf Storage= 1,908 cf

Plug-Flow detention time= 0.6 min calculated for 1.149 af (100% of inflow)
 Center-of-Mass det. time= 0.6 min (769.3 - 768.7)

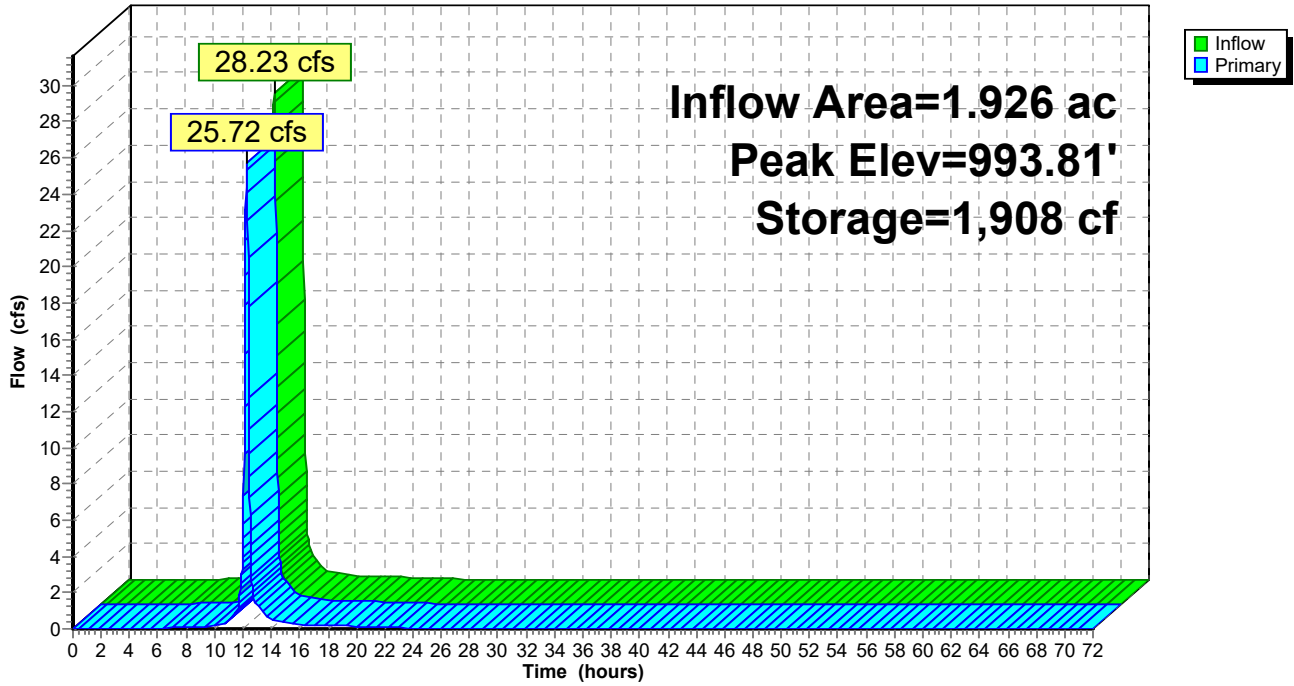
Volume	Invert	Avail.Storage	Storage Description
#1	992.00'	6,896 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
992.00	50	0	0
994.00	2,282	2,332	2,332
996.00	2,282	4,564	6,896

Device	Routing	Invert	Outlet Devices
#1	Primary	992.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=25.67 cfs @ 12.27 hrs HW=993.80' TW=980.22' (Dynamic Tailwater)
 ↑**1=Grate** (Orifice Controls 25.67 cfs @ 6.46 fps)

Pond CB_E15: CB_E15

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_E16: CB_E16

Inflow Area = 4.099 ac, 17.78% Impervious, Inflow Depth = 4.81" for 100yr-24hr event
 Inflow = 25.89 cfs @ 12.21 hrs, Volume= 1.644 af
 Outflow = 24.96 cfs @ 12.24 hrs, Volume= 1.644 af, Atten= 4%, Lag= 1.8 min
 Primary = 9.31 cfs @ 12.24 hrs, Volume= 1.308 af
 Secondary = 15.65 cfs @ 12.24 hrs, Volume= 0.336 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 998.11' @ 12.24 hrs Surf.Area= 2,614 sf Storage= 3,497 cf

Plug-Flow detention time= 2.0 min calculated for 1.644 af (100% of inflow)
 Center-of-Mass det. time= 2.0 min (791.9 - 789.9)

Volume	Invert	Avail.Storage	Storage Description
#1	995.00'	8,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
995.00	100	0	0
996.00	366	233	233
998.00	2,614	2,980	3,213
1,000.00	2,614	5,228	8,441

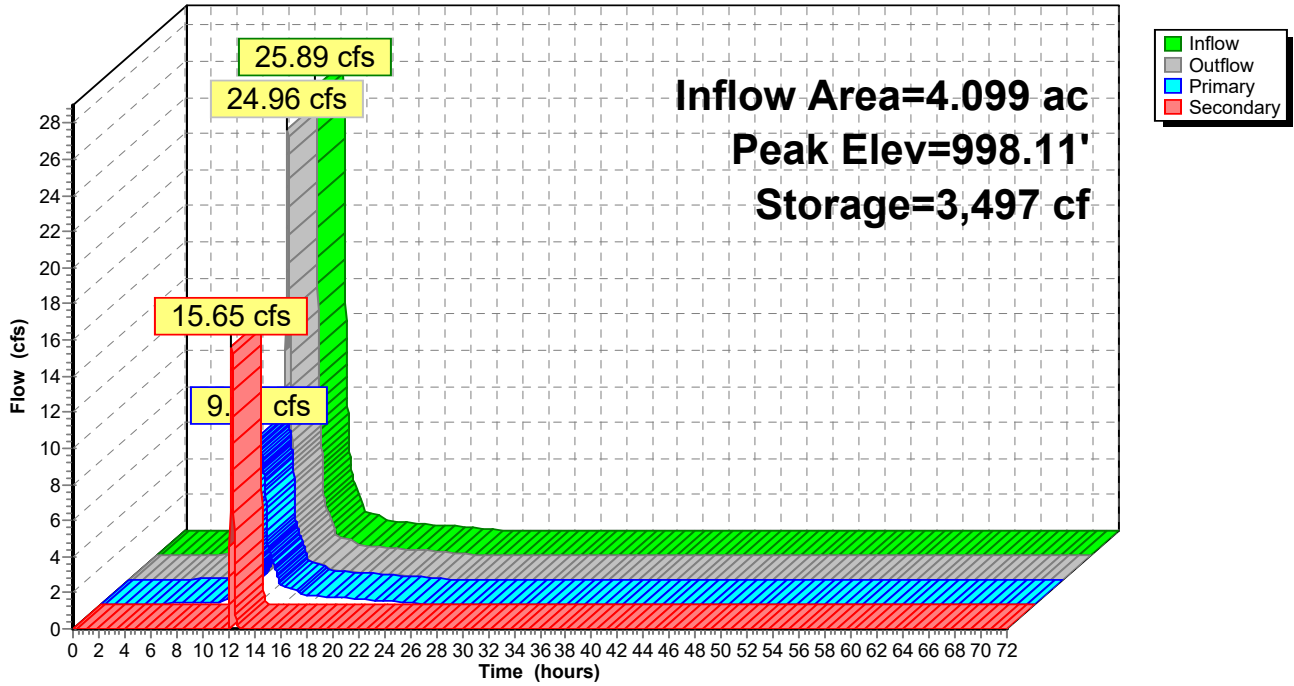
Device	Routing	Invert	Outlet Devices
#1	Primary	995.00'	15.0" Round Culvert L= 227.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 995.00' / 987.40' S= 0.0335 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	997.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=9.31 cfs @ 12.24 hrs HW=998.11' TW=980.07' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 9.31 cfs @ 7.59 fps)

Secondary OutFlow Max=15.63 cfs @ 12.24 hrs HW=998.11' TW=993.74' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 15.63 cfs @ 2.82 fps)

Pond CB_E16: CB_E16

Hydrograph



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Summary for Pond CB_F5: CB_F5

Inflow Area = 1.224 ac, 21.24% Impervious, Inflow Depth = 4.91" for 100yr-24hr event
 Inflow = 8.23 cfs @ 12.20 hrs, Volume= 0.501 af
 Outflow = 8.16 cfs @ 12.21 hrs, Volume= 0.501 af, Atten= 1%, Lag= 0.8 min
 Primary = 8.16 cfs @ 12.21 hrs, Volume= 0.501 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 983.50' @ 12.21 hrs Surf.Area= 1,223 sf Storage= 318 cf

Plug-Flow detention time= 0.5 min calculated for 0.501 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (786.6 - 786.2)

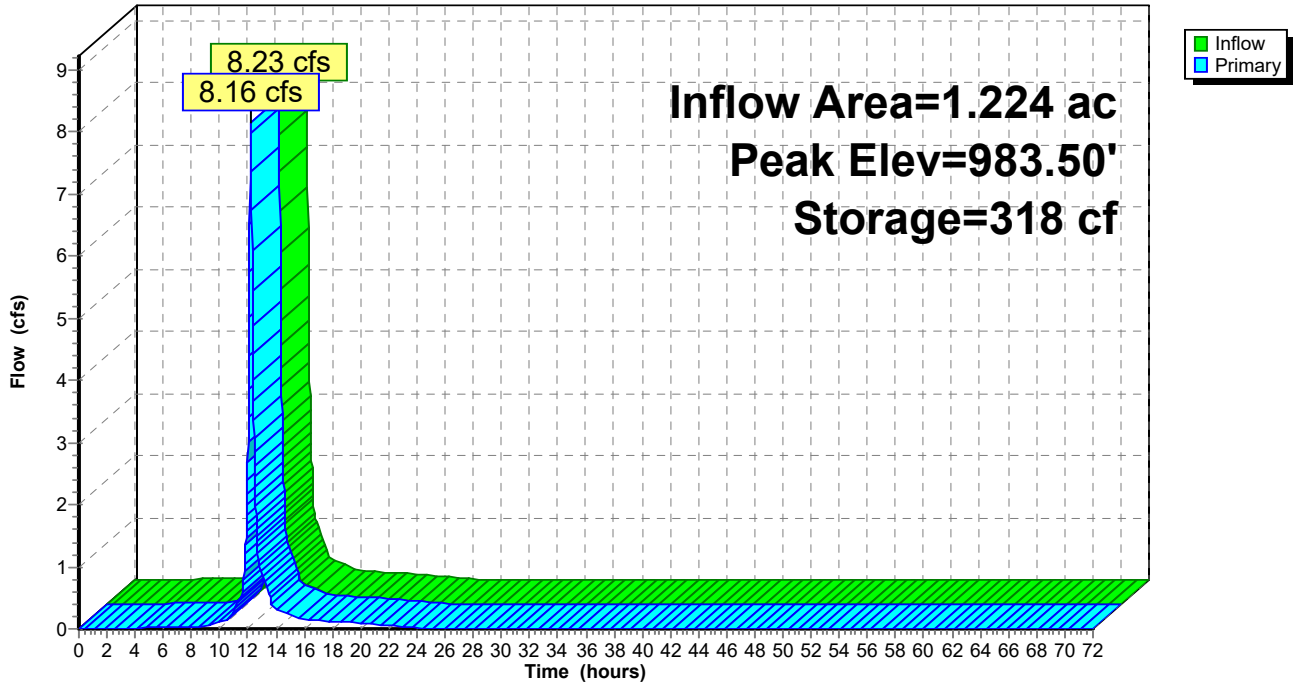
Volume	Invert	Avail.Storage	Storage Description
#1	983.00'	13,525 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
983.00	50	0	0
984.00	2,400	1,225	1,225
986.00	9,900	12,300	13,525

Device	Routing	Invert	Outlet Devices
#1	Primary	983.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.12 cfs @ 12.21 hrs HW=983.50' TW=970.35' (Dynamic Tailwater)
 ↑**1=Grate** (Weir Controls 8.12 cfs @ 2.31 fps)

Pond CB_F5: CB_F5

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_F6: CB_F6

Inflow Area = 0.921 ac, 21.06% Impervious, Inflow Depth = 5.19" for 100yr-24hr event
 Inflow = 6.19 cfs @ 12.20 hrs, Volume= 0.399 af
 Outflow = 6.18 cfs @ 12.20 hrs, Volume= 0.399 af, Atten= 0%, Lag= 0.4 min
 Primary = 6.18 cfs @ 12.20 hrs, Volume= 0.399 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 985.41' @ 12.20 hrs Surf.Area= 574 sf Storage= 140 cf

Plug-Flow detention time= 0.4 min calculated for 0.399 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (784.2 - 783.8)

Volume	Invert	Avail.Storage	Storage Description
#1	985.00'	5,441 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
985.00	100	0	0
988.00	3,527	5,441	5,441

Device	Routing	Invert	Outlet Devices
#1	Primary	985.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	987.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=6.15 cfs @ 12.20 hrs HW=985.41' TW=970.31' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 6.15 cfs @ 2.10 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=985.00' TW=983.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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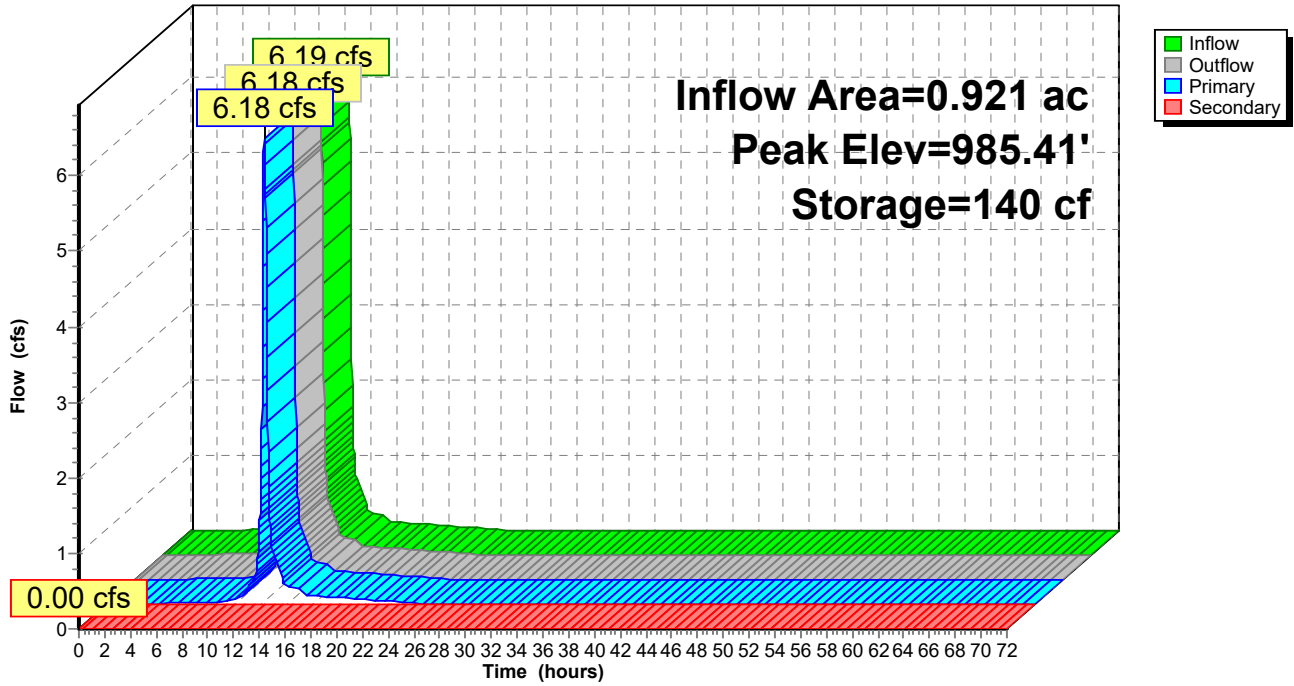
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_F6: CB_F6

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_F7: CB_F7

Inflow Area = 2.573 ac, 14.89% Impervious, Inflow Depth = 4.73" for 100yr-24hr event
 Inflow = 15.60 cfs @ 12.22 hrs, Volume= 1.015 af
 Outflow = 10.41 cfs @ 12.35 hrs, Volume= 1.015 af, Atten= 33%, Lag= 7.9 min
 Primary = 8.65 cfs @ 12.35 hrs, Volume= 0.993 af
 Secondary = 1.77 cfs @ 12.35 hrs, Volume= 0.022 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 985.77' @ 12.35 hrs Surf.Area= 4,748 sf Storage= 6,707 cf

Plug-Flow detention time= 7.3 min calculated for 1.015 af (100% of inflow)
 Center-of-Mass det. time= 6.9 min (800.0 - 793.1)

Volume	Invert	Avail.Storage	Storage Description
#1	983.00'	21,500 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
983.00	100	0	0
988.00	8,500	21,500	21,500

Device	Routing	Invert	Outlet Devices
#1	Primary	983.00'	15.0" Round Culvert L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 983.00' / 980.71' S= 0.0458 ' S= 0.0458 ' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	985.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=8.64 cfs @ 12.35 hrs HW=985.77' TW=971.05' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 8.64 cfs @ 7.04 fps)

Secondary OutFlow Max=1.75 cfs @ 12.35 hrs HW=985.77' TW=985.37' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 1.75 cfs @ 1.32 fps)

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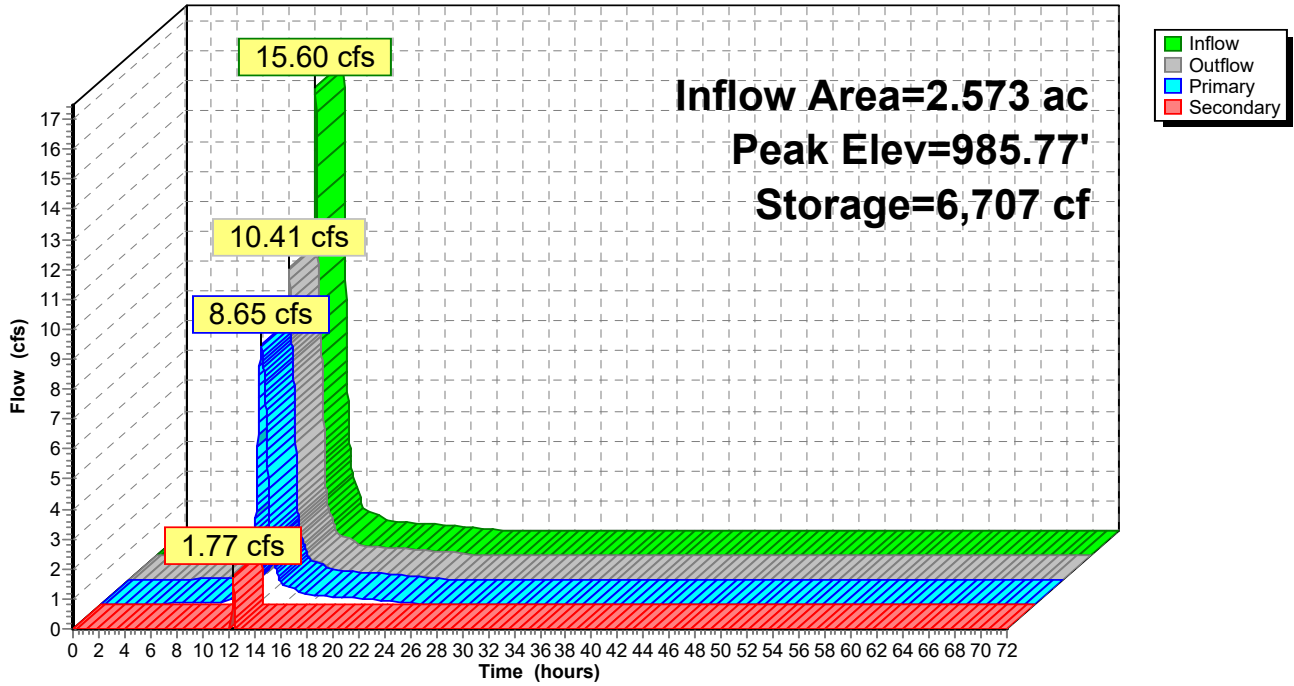
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_F7: CB_F7

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_H5: CB_H5

Inflow Area = 2.168 ac, 27.21% Impervious, Inflow Depth = 4.74" for 100yr-24hr event
 Inflow = 13.84 cfs @ 12.20 hrs, Volume= 0.856 af
 Outflow = 13.67 cfs @ 12.21 hrs, Volume= 0.856 af, Atten= 1%, Lag= 0.9 min
 Primary = 13.67 cfs @ 12.21 hrs, Volume= 0.856 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 972.70' @ 12.21 hrs Surf.Area= 1,680 sf Storage= 610 cf

Plug-Flow detention time= 0.5 min calculated for 0.855 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (783.9 - 783.4)

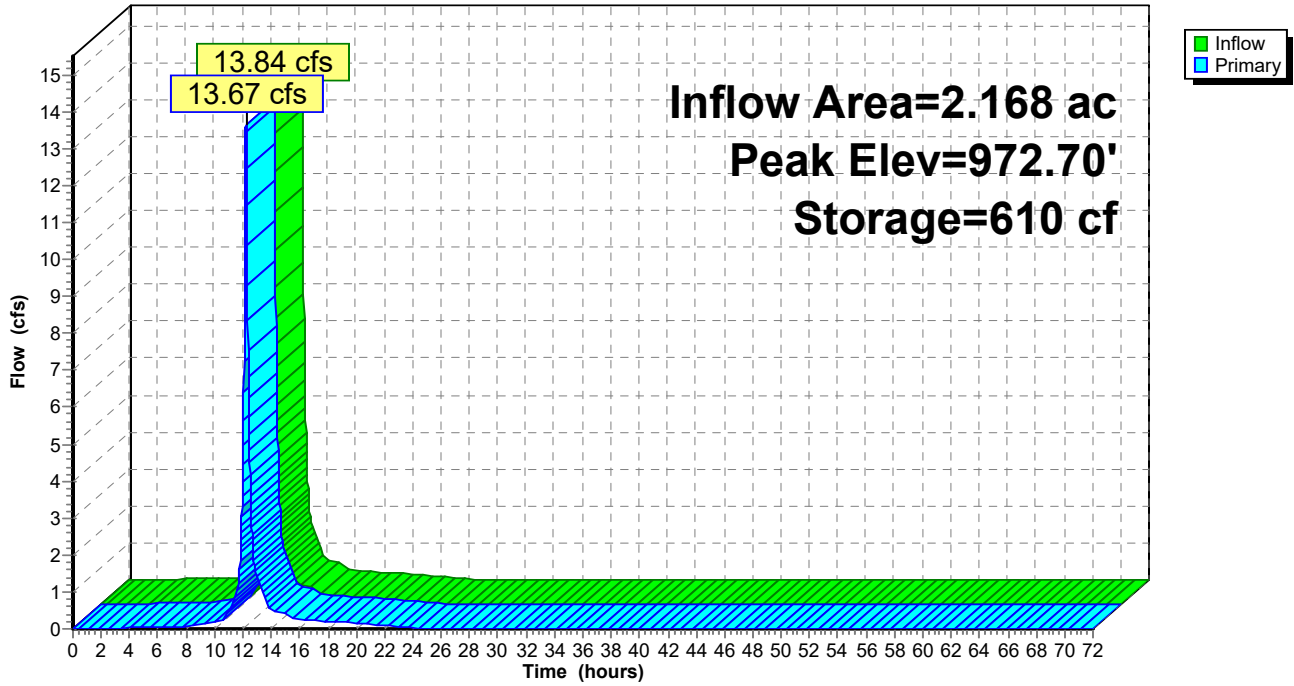
Volume	Invert	Avail.Storage	Storage Description
#1	972.00'	30,964 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
972.00	50	0	0
974.00	4,677	4,727	4,727
976.00	21,560	26,237	30,964

Device	Routing	Invert	Outlet Devices
#1	Primary	972.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=13.62 cfs @ 12.21 hrs HW=972.70' TW=969.25' (Dynamic Tailwater)
 ↑**1=Grate** (Weir Controls 13.62 cfs @ 2.74 fps)

Pond CB_H5: CB_H5

Hydrograph



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Summary for Pond CB_H6: CB_H6

Inflow Area = 1.008 ac, 19.54% Impervious, Inflow Depth = 3.98" for 100yr-24hr event
 Inflow = 5.45 cfs @ 12.20 hrs, Volume= 0.334 af
 Outflow = 5.30 cfs @ 12.22 hrs, Volume= 0.334 af, Atten= 3%, Lag= 1.4 min
 Primary = 5.30 cfs @ 12.22 hrs, Volume= 0.334 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 973.37' @ 12.22 hrs Surf.Area= 1,941 sf Storage= 373 cf

Plug-Flow detention time= 0.8 min calculated for 0.334 af (100% of inflow)
 Center-of-Mass det. time= 0.8 min (794.1 - 793.3)

Volume	Invert	Avail.Storage	Storage Description
#1	973.00'	35,125 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
973.00	50	0	0
974.00	5,100	2,575	2,575
975.00	20,000	12,550	15,125
976.00	20,000	20,000	35,125

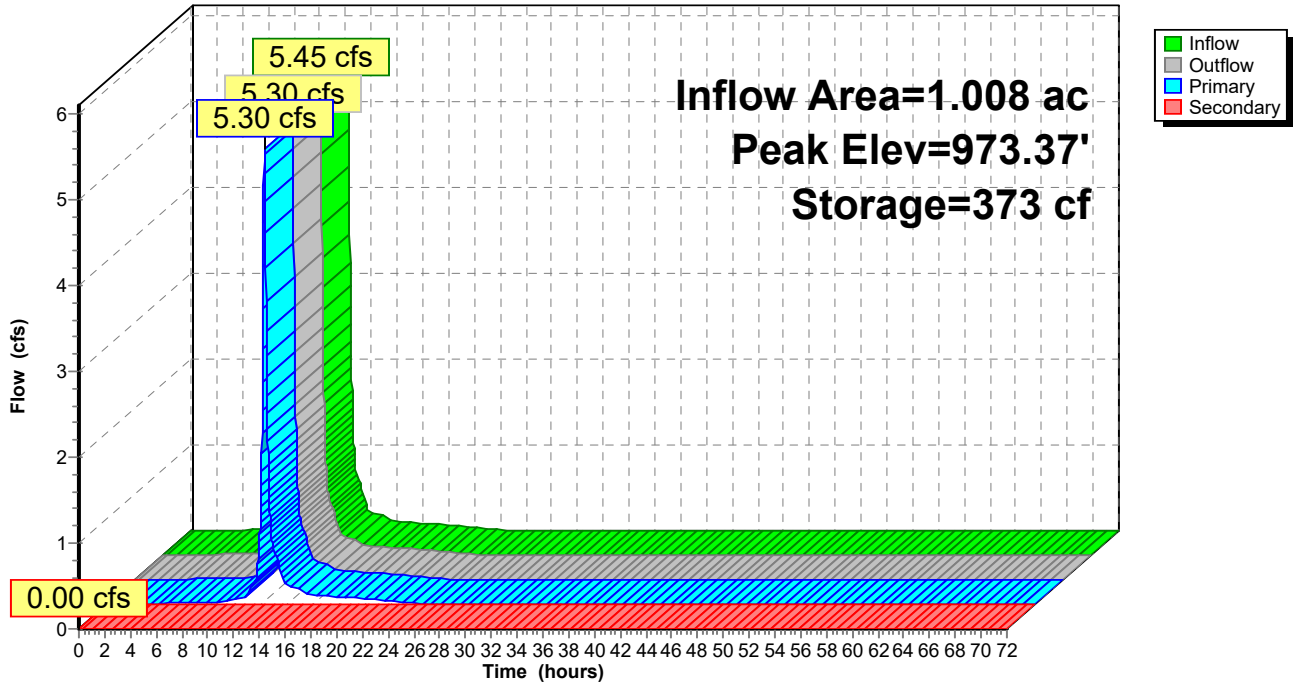
Device	Routing	Invert	Outlet Devices
#1	Primary	973.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	975.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=5.28 cfs @ 12.22 hrs HW=973.37' TW=969.31' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 5.28 cfs @ 2.00 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.00' TW=967.50' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond CB_H6: CB_H6

Hydrograph



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Summary for Pond CB_H7: CB_H7

Inflow Area = 1.176 ac, 19.64% Impervious, Inflow Depth = 4.17" for 100yr-24hr event
 Inflow = 6.67 cfs @ 12.20 hrs, Volume= 0.408 af
 Outflow = 6.40 cfs @ 12.23 hrs, Volume= 0.408 af, Atten= 4%, Lag= 1.8 min
 Primary = 6.40 cfs @ 12.23 hrs, Volume= 0.408 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 974.42' @ 12.23 hrs Surf.Area= 2,430 sf Storage= 1,045 cf

Plug-Flow detention time= 6.9 min calculated for 0.408 af (100% of inflow)
 Center-of-Mass det. time= 6.5 min (798.2 - 791.8)

Volume	Invert	Avail.Storage	Storage Description
#1	973.99'	4,872 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
973.99	50	0	0
974.00	2,430	12	12
976.00	2,430	4,860	4,872

Device	Routing	Invert	Outlet Devices
#1	Primary	974.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	975.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=6.37 cfs @ 12.23 hrs HW=974.42' TW=969.34' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 6.37 cfs @ 2.13 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.99' TW=973.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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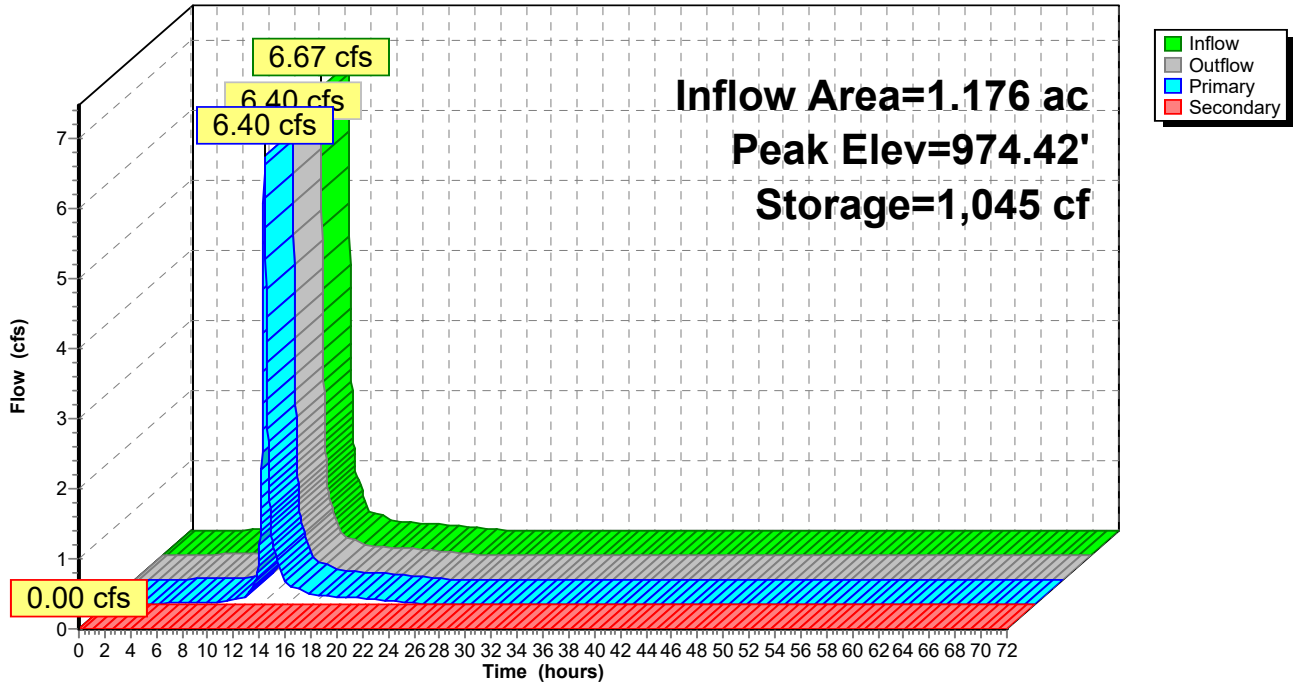
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_H7: CB_H7

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_I14: CB_I14

Inflow Area = 0.648 ac, 15.59% Impervious, Inflow Depth = 4.75" for 100yr-24hr event
 Inflow = 4.27 cfs @ 12.20 hrs, Volume= 0.257 af
 Outflow = 4.03 cfs @ 12.23 hrs, Volume= 0.257 af, Atten= 6%, Lag= 2.1 min
 Primary = 4.03 cfs @ 12.23 hrs, Volume= 0.257 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 986.09' @ 12.23 hrs Surf.Area= 901 sf Storage= 439 cf

Plug-Flow detention time= 2.5 min calculated for 0.257 af (100% of inflow)
 Center-of-Mass det. time= 2.5 min (792.9 - 790.4)

Volume	Invert	Avail.Storage	Storage Description
#1	985.00'	7,510 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
985.00	100	0	0
986.00	640	370	370
988.00	6,500	7,140	7,510

Device	Routing	Invert	Outlet Devices
#1	Primary	985.00'	15.0" Round FES_I14 L= 140.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 985.00' / 981.70' S= 0.0236 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	987.50'	10.0' long x 3.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Primary OutFlow Max=4.02 cfs @ 12.23 hrs HW=986.09' TW=970.81' (Dynamic Tailwater)

↑1=FES_I14 (Inlet Controls 4.02 cfs @ 3.55 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=985.00' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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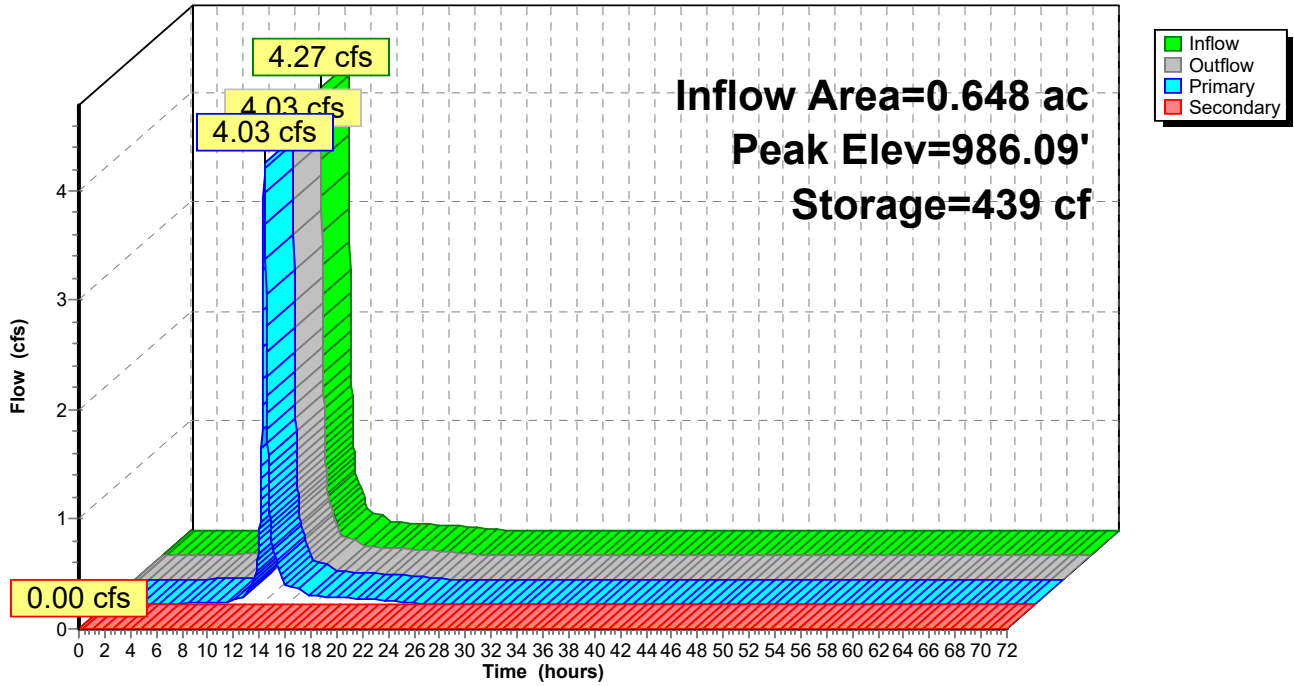
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_I14: CB_I14

Hydrograph



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Summary for Pond CB_I7: CB_I7

Inflow Area = 0.815 ac, 18.77% Impervious, Inflow Depth = 4.84" for 100yr-24hr event
 Inflow = 5.43 cfs @ 12.20 hrs, Volume= 0.329 af
 Outflow = 5.35 cfs @ 12.22 hrs, Volume= 0.329 af, Atten= 2%, Lag= 1.1 min
 Primary = 5.35 cfs @ 12.22 hrs, Volume= 0.329 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 986.38' @ 12.22 hrs Surf.Area= 1,400 sf Storage= 283 cf

Plug-Flow detention time= 0.7 min calculated for 0.329 af (100% of inflow)
 Center-of-Mass det. time= 0.7 min (788.7 - 788.0)

Volume	Invert	Avail.Storage	Storage Description
#1	986.00'	21,100 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
986.00	100	0	0
988.00	7,000	7,100	7,100
990.00	7,000	14,000	21,100

Device	Routing	Invert	Outlet Devices
#1	Primary	986.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	989.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=5.33 cfs @ 12.22 hrs HW=986.38' TW=970.73' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 5.33 cfs @ 2.01 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=986.00' TW=985.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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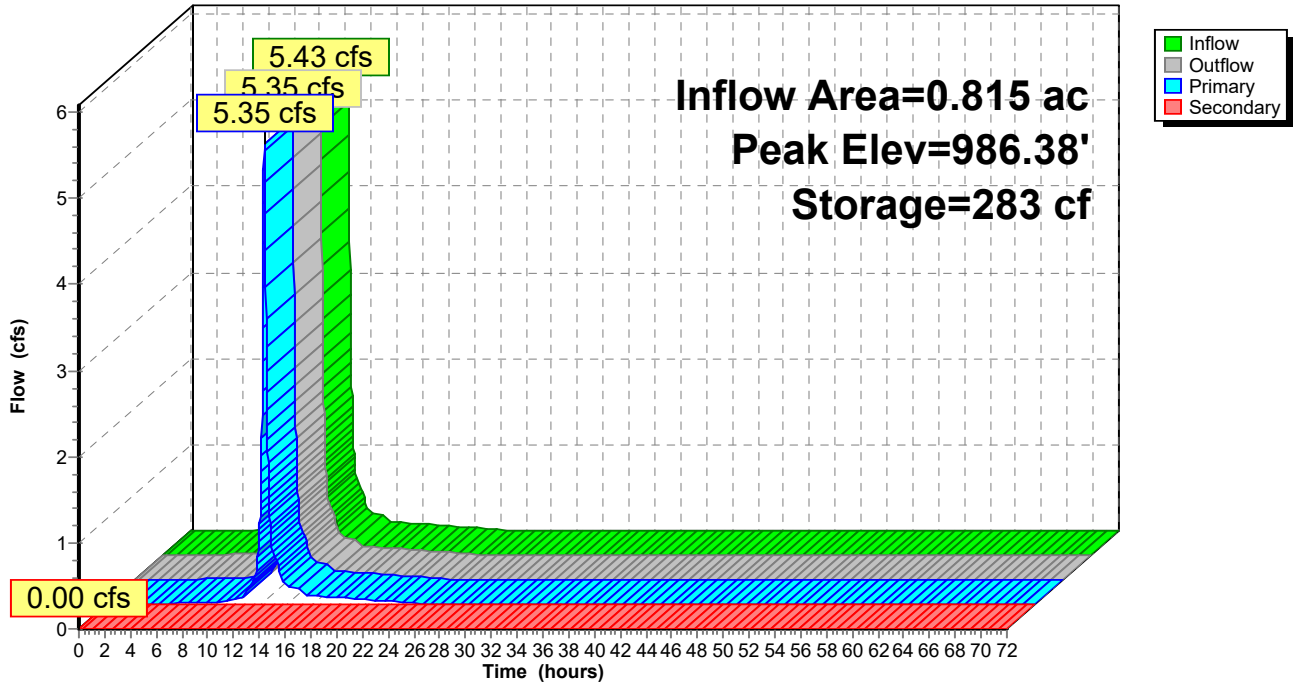
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Pond CB_I7: CB_I7

Hydrograph



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Summary for Pond CB_I8: CB_I8

Inflow Area = 1.173 ac, 25.23% Impervious, Inflow Depth = 5.02" for 100yr-24hr event
 Inflow = 8.01 cfs @ 12.20 hrs, Volume= 0.491 af
 Outflow = 8.00 cfs @ 12.20 hrs, Volume= 0.491 af, Atten= 0%, Lag= 0.3 min
 Primary = 8.00 cfs @ 12.20 hrs, Volume= 0.491 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 987.49' @ 12.20 hrs Surf.Area= 434 sf Storage= 119 cf

Plug-Flow detention time= 0.2 min calculated for 0.490 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (783.5 - 783.3)

Volume	Invert	Avail.Storage	Storage Description
#1	987.00'	3,105 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
987.00	50	0	0
988.00	830	440	440
989.00	1,500	1,165	1,605
990.00	1,500	1,500	3,105

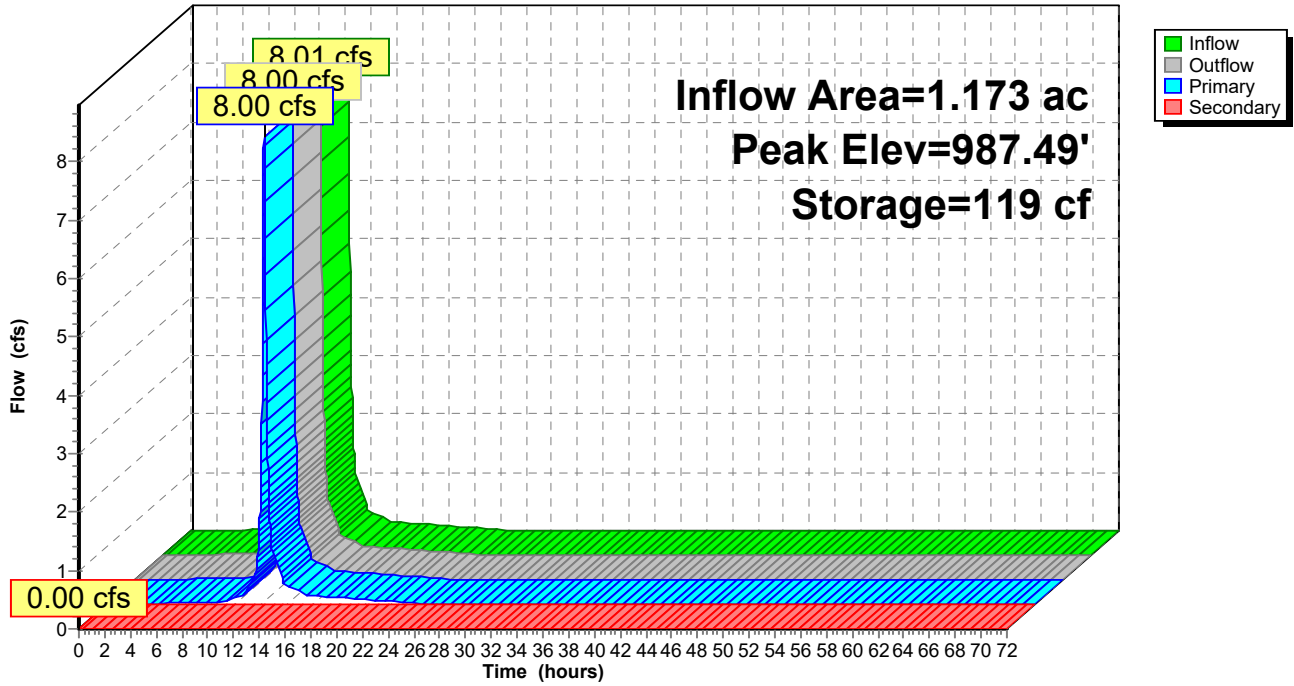
Device	Routing	Invert	Outlet Devices
#1	Primary	987.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	989.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=7.98 cfs @ 12.20 hrs HW=987.49' TW=970.66' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 7.98 cfs @ 2.29 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=987.00' TW=986.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond CB_I8: CB_I8

Hydrograph



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Summary for Pond CB_I9: CB_I9

Inflow Area = 0.256 ac, 27.73% Impervious, Inflow Depth = 5.09" for 100yr-24hr event
 Inflow = 1.76 cfs @ 12.20 hrs, Volume= 0.109 af
 Outflow = 1.76 cfs @ 12.20 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.2 min
 Primary = 1.76 cfs @ 12.20 hrs, Volume= 0.109 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.18' @ 12.20 hrs Surf.Area= 140 sf Storage= 17 cf

Plug-Flow detention time= 0.2 min calculated for 0.108 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (781.8 - 781.6)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	1,818 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
978.50	300	88	88
980.00	300	450	538
984.00	340	1,280	1,818

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	978.50'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.76 cfs @ 12.20 hrs HW=978.18' TW=970.64' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 1.76 cfs @ 1.39 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=969.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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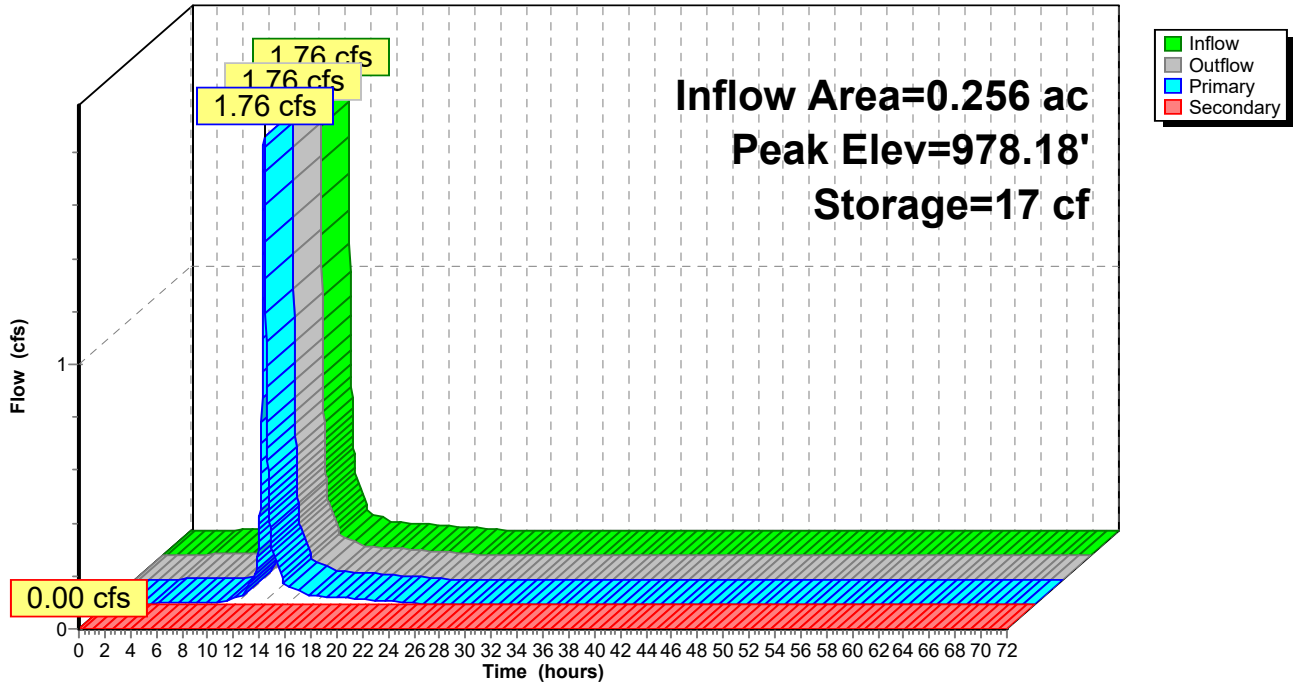
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_I9: CB_I9

Hydrograph



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Summary for Pond CB_J3: CB_J3

Inflow Area = 1.496 ac, 20.32% Impervious, Inflow Depth = 4.88" for 100yr-24hr event
 Inflow = 10.03 cfs @ 12.20 hrs, Volume= 0.609 af
 Outflow = 10.00 cfs @ 12.21 hrs, Volume= 0.609 af, Atten= 0%, Lag= 0.5 min
 Primary = 10.00 cfs @ 12.21 hrs, Volume= 0.609 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 991.57' @ 12.21 hrs Surf.Area= 765 sf Storage= 233 cf

Plug-Flow detention time= 0.3 min calculated for 0.609 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (787.1 - 786.8)

Volume	Invert	Avail.Storage	Storage Description
#1	991.00'	4,575 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
991.00	50	0	0
992.00	1,300	675	675
993.00	1,300	1,300	1,975
995.00	1,300	2,600	4,575

Device	Routing	Invert	Outlet Devices
#1	Primary	991.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	992.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=9.96 cfs @ 12.21 hrs HW=991.57' TW=975.14' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 9.96 cfs @ 2.47 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=991.00' TW=973.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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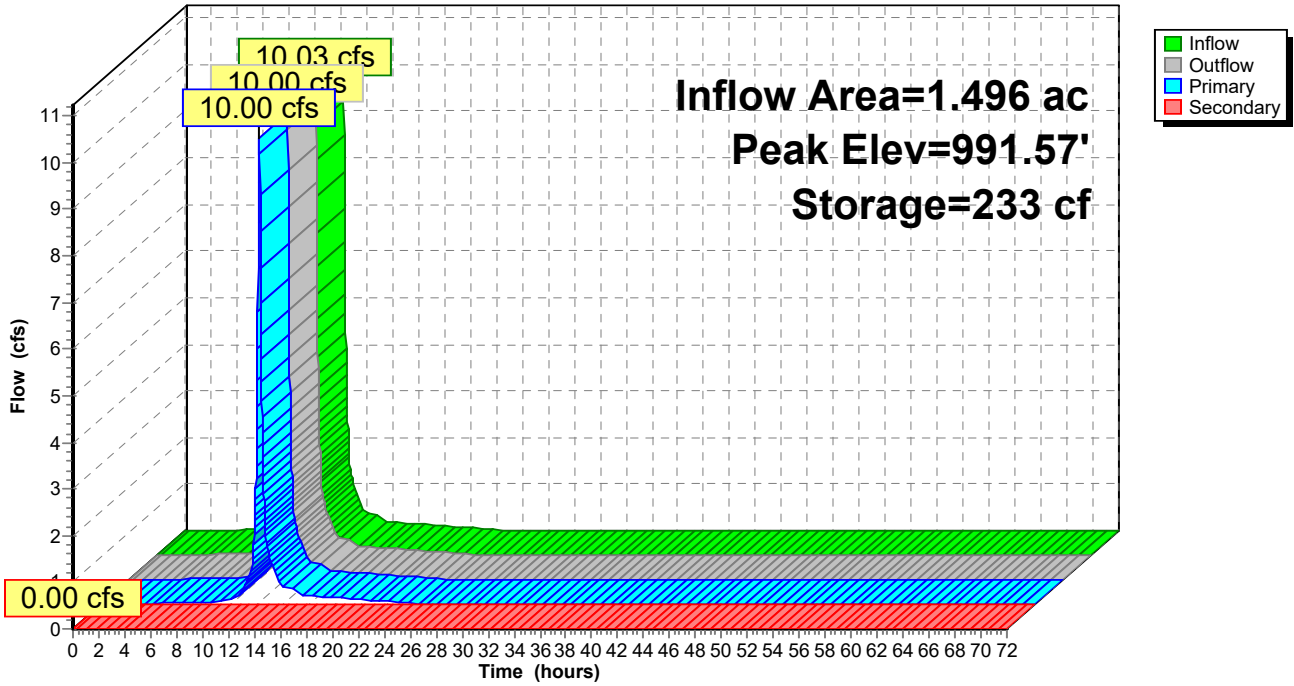
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_J3: CB_J3

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_J4: CB_J4

Inflow Area = 0.993 ac, 12.19% Impervious, Inflow Depth = 4.66" for 100yr-24hr event
 Inflow = 6.45 cfs @ 12.20 hrs, Volume= 0.385 af
 Outflow = 5.19 cfs @ 12.27 hrs, Volume= 0.385 af, Atten= 20%, Lag= 4.4 min
 Primary = 5.19 cfs @ 12.27 hrs, Volume= 0.385 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 995.40' @ 12.27 hrs Surf.Area= 1,972 sf Storage= 1,413 cf

Plug-Flow detention time= 3.5 min calculated for 0.385 af (100% of inflow)
 Center-of-Mass det. time= 3.5 min (796.7 - 793.2)

Volume	Invert	Avail.Storage	Storage Description
#1	994.00'	5,650 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
994.00	50	0	0
996.00	2,800	2,850	2,850
997.00	2,800	2,800	5,650

Device	Routing	Invert	Outlet Devices
#1	Secondary	995.50'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	994.00'	15.0" Round Culvert L= 166.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 994.00' / 991.00' S= 0.0181 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf

Primary OutFlow Max=5.19 cfs @ 12.27 hrs HW=995.40' TW=975.52' (Dynamic Tailwater)
 ↑2=Culvert (Inlet Controls 5.19 cfs @ 4.23 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=994.00' TW=991.00' (Dynamic Tailwater)
 ↑1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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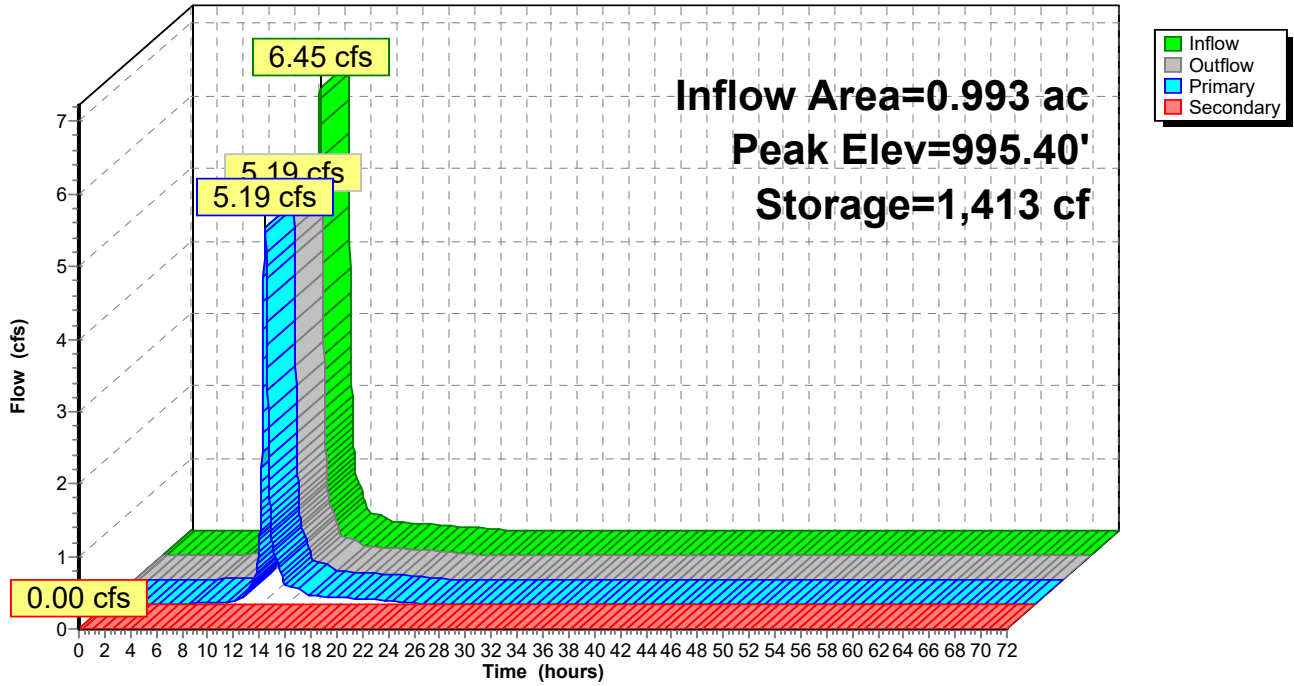
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_J4: CB_J4

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_L4: CB_L4

Inflow Area = 0.167 ac, 20.96% Impervious, Inflow Depth = 4.86" for 100yr-24hr event
 Inflow = 1.11 cfs @ 12.20 hrs, Volume= 0.068 af
 Outflow = 1.11 cfs @ 12.20 hrs, Volume= 0.068 af, Atten= 0%, Lag= 0.3 min
 Primary = 1.11 cfs @ 12.20 hrs, Volume= 0.068 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.13' @ 12.20 hrs Surf.Area= 235 sf Storage= 19 cf

Plug-Flow detention time= 0.3 min calculated for 0.068 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (786.9 - 786.6)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	1,325 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
978.50	750	200	200
980.00	750	1,125	1,325

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	978.50'	10.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.11 cfs @ 12.20 hrs HW=978.13' TW=970.29' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 1.11 cfs @ 1.19 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=967.50' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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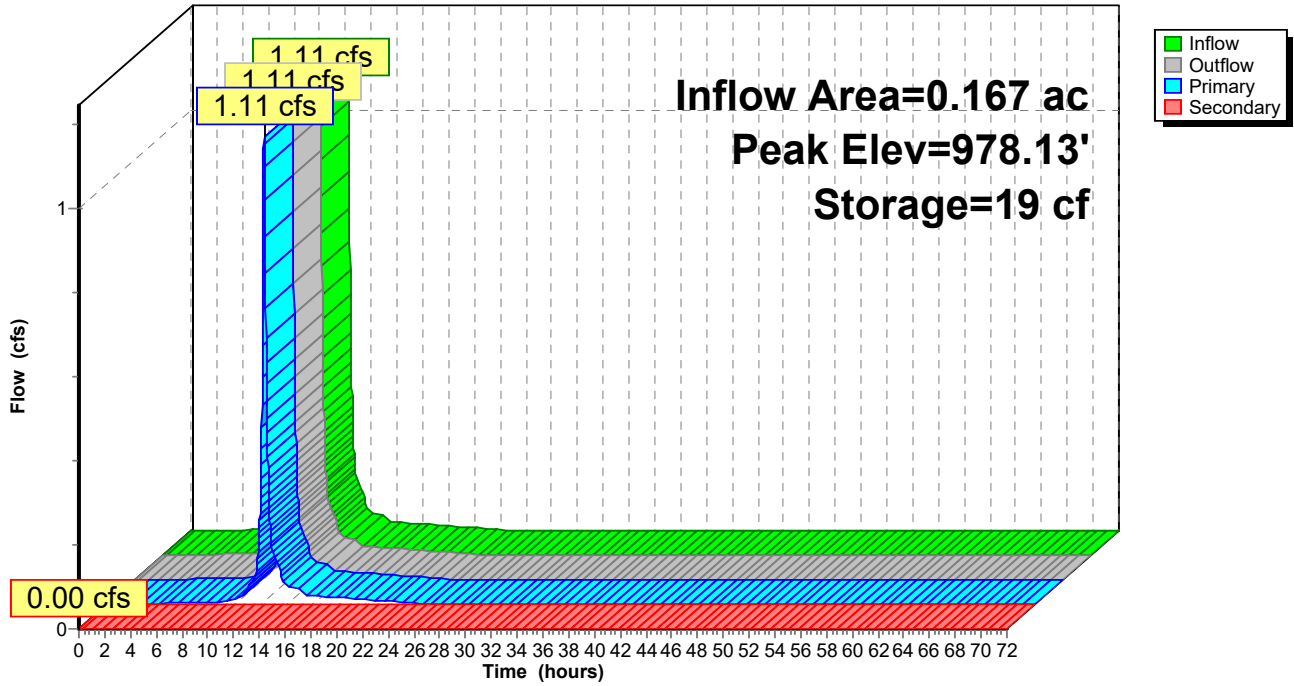
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_L4: CB_L4

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_L5: CB_L5

Inflow Area = 0.763 ac, 22.02% Impervious, Inflow Depth = 7.41" for 100yr-24hr event
 Inflow = 7.27 cfs @ 12.21 hrs, Volume= 0.471 af
 Outflow = 7.25 cfs @ 12.22 hrs, Volume= 0.471 af, Atten= 0%, Lag= 0.4 min
 Primary = 7.25 cfs @ 12.22 hrs, Volume= 0.471 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 977.96' @ 12.22 hrs Surf.Area= 586 sf Storage= 147 cf

Plug-Flow detention time= 0.3 min calculated for 0.471 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (790.4 - 790.1)

Volume	Invert	Avail.Storage	Storage Description
#1	977.50'	6,500 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
977.50	50	0	0
978.00	630	170	170
980.00	5,700	6,330	6,500

Device	Routing	Invert	Outlet Devices
#1	Primary	977.50'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=7.24 cfs @ 12.22 hrs HW=977.96' TW=970.41' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 7.24 cfs @ 2.22 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=977.50' TW=978.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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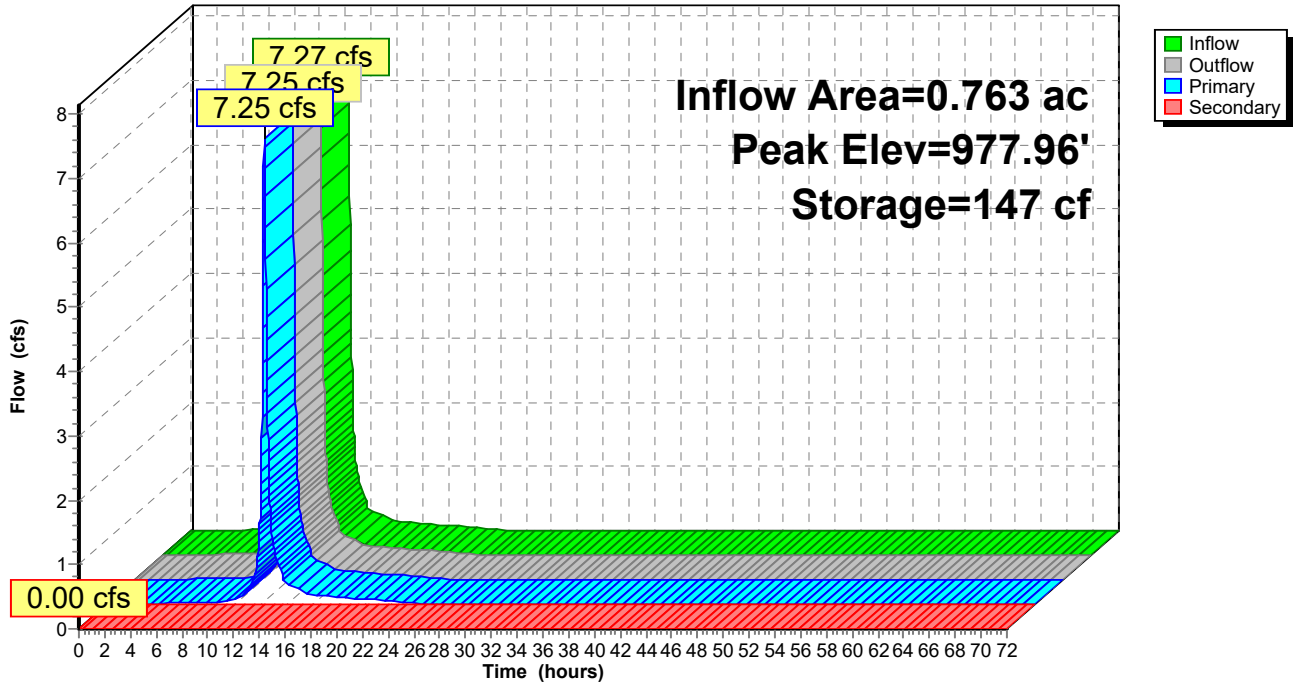
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_L5: CB_L5

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_L6: CB_L6

Inflow Area = 1.091 ac, 19.98% Impervious, Inflow Depth = 4.87" for 100yr-24hr event
 Inflow = 7.30 cfs @ 12.20 hrs, Volume= 0.443 af
 Outflow = 6.44 cfs @ 12.25 hrs, Volume= 0.443 af, Atten= 12%, Lag= 3.2 min
 Primary = 4.13 cfs @ 12.25 hrs, Volume= 0.286 af
 Secondary = 2.31 cfs @ 12.25 hrs, Volume= 0.157 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.32' @ 12.25 hrs Surf.Area= 2,210 sf Storage= 2,142 cf

Plug-Flow detention time= 12.1 min calculated for 0.443 af (100% of inflow)
 Center-of-Mass det. time= 12.2 min (799.3 - 787.1)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	13,500 cf	Custom Stage Data (Prismatic) Listed below
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	100	0	0
980.00	13,400	13,500	13,500

Device	Routing	Invert	Outlet Devices
#1	Secondary	978.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32
#2	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.12 cfs @ 12.25 hrs HW=978.32' TW=970.63' (Dynamic Tailwater)
 ↑**2=Grate** (Weir Controls 4.12 cfs @ 1.84 fps)

Secondary OutFlow Max=2.30 cfs @ 12.25 hrs HW=978.32' TW=977.95' (Dynamic Tailwater)
 ↑**1=Broad-Crested Rectangular Weir** (Weir Controls 2.30 cfs @ 1.45 fps)

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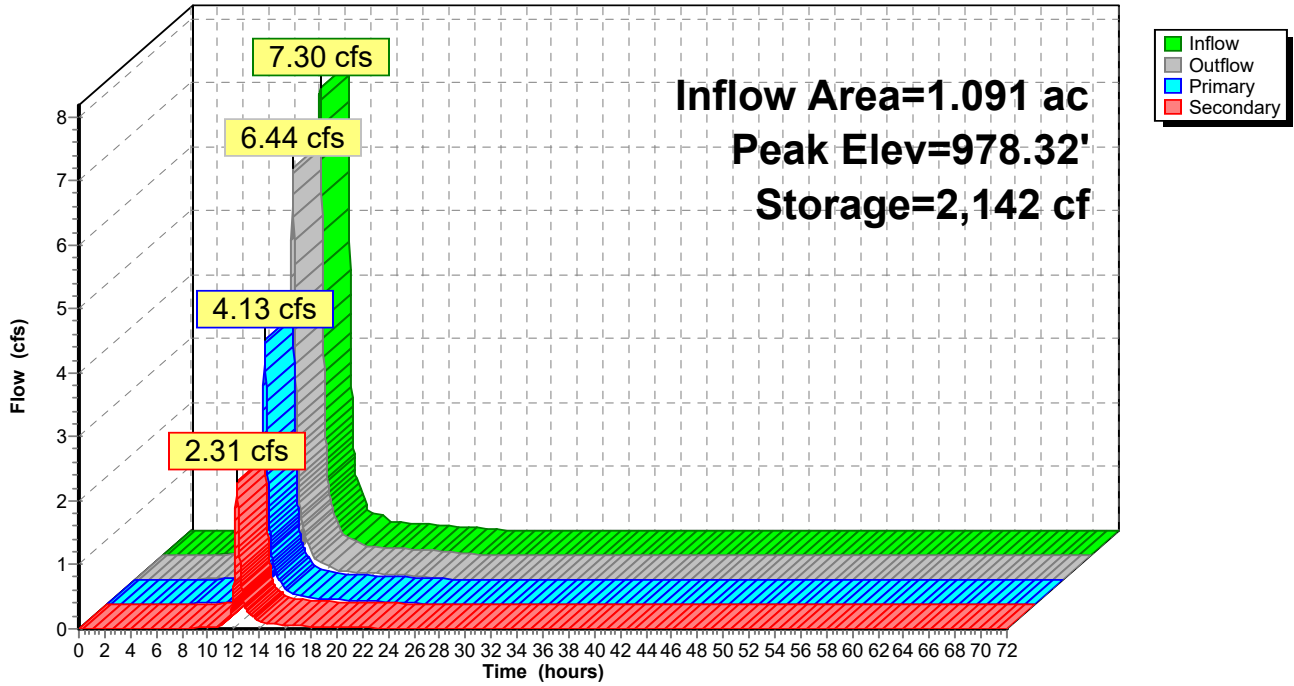
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_L6: CB_L6

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_L7: CB_L7

Inflow Area = 0.759 ac, 21.21% Impervious, Inflow Depth = 4.91" for 100yr-24hr event
 Inflow = 5.10 cfs @ 12.20 hrs, Volume= 0.310 af
 Outflow = 5.09 cfs @ 12.20 hrs, Volume= 0.310 af, Atten= 0%, Lag= 0.4 min
 Primary = 5.09 cfs @ 12.20 hrs, Volume= 0.310 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 979.36' @ 12.20 hrs Surf.Area= 535 sf Storage= 107 cf

Plug-Flow detention time= 0.3 min calculated for 0.310 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (786.5 - 786.2)

Volume	Invert	Avail.Storage	Storage Description
#1	979.00'	715 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
979.00	50	0	0
980.00	1,380	715	715

Device	Routing	Invert	Outlet Devices
#1	Primary	979.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.90'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=5.07 cfs @ 12.20 hrs HW=979.36' TW=970.31' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 5.07 cfs @ 1.97 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=979.00' TW=978.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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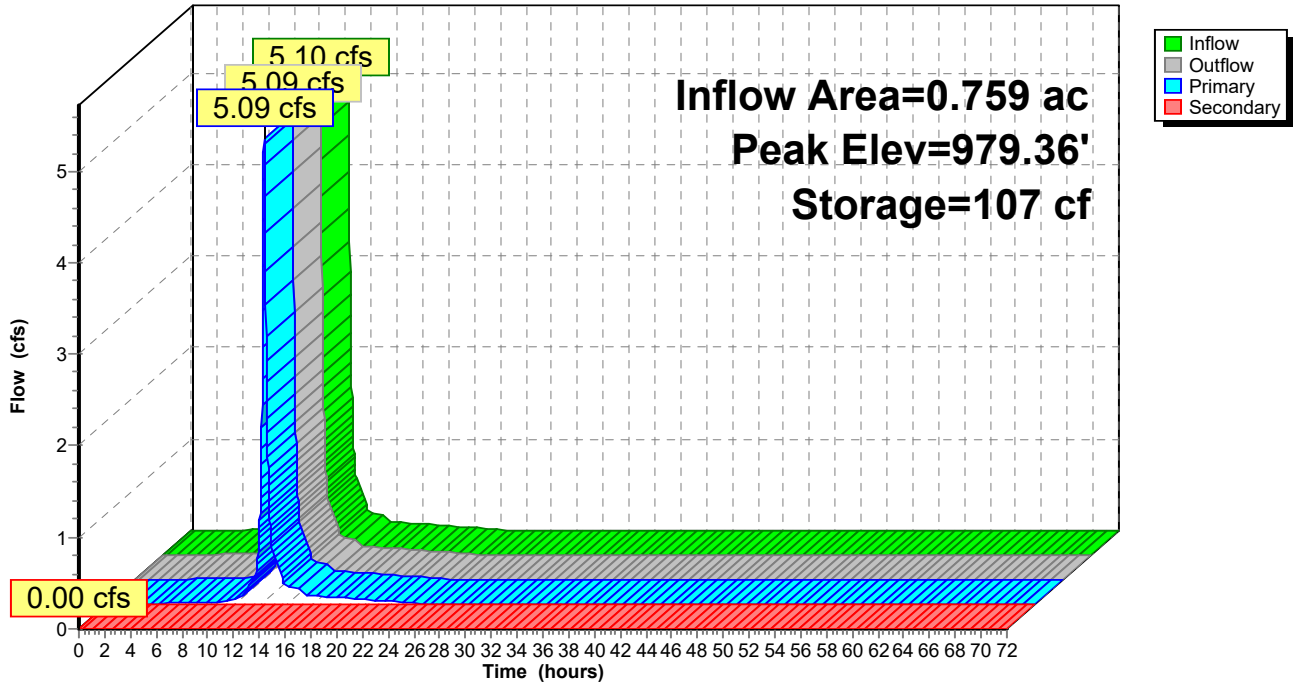
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_L7: CB_L7

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_L8: CB_L8

Inflow Area = 1.441 ac, 22.07% Impervious, Inflow Depth = 5.29" for 100yr-24hr event
 Inflow = 12.13 cfs @ 12.23 hrs, Volume= 0.635 af
 Outflow = 11.56 cfs @ 12.27 hrs, Volume= 0.635 af, Atten= 5%, Lag= 2.0 min
 Primary = 11.56 cfs @ 12.27 hrs, Volume= 0.635 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 980.63' @ 12.27 hrs Surf.Area= 3,626 sf Storage= 1,158 cf

Plug-Flow detention time= 1.1 min calculated for 0.635 af (100% of inflow)
 Center-of-Mass det. time= 1.1 min (781.7 - 780.6)

Volume	Invert	Avail.Storage	Storage Description
#1	980.00'	11,450 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
980.00	50	0	0
982.00	11,400	11,450	11,450

Device	Routing	Invert	Outlet Devices
#1	Primary	980.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	981.90'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=11.52 cfs @ 12.27 hrs HW=980.63' TW=970.71' (Dynamic Tailwater)
 ↑1=**Grate** (Weir Controls 11.52 cfs @ 2.59 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=980.00' TW=979.00' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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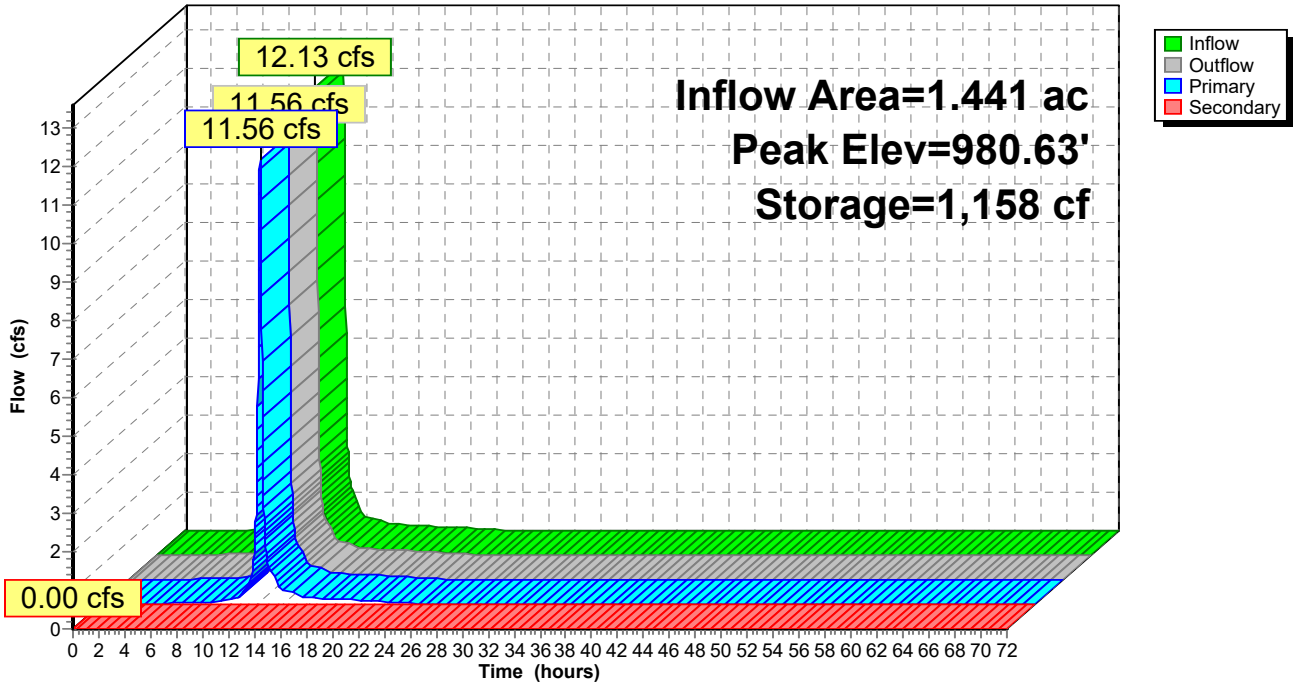
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_L8: CB_L8

Hydrograph



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Summary for Pond CB_L9: CB_L9

Inflow Area = 2.129 ac, 19.16% Impervious, Inflow Depth = 4.85" for 100yr-24hr event
 Inflow = 14.19 cfs @ 12.20 hrs, Volume= 0.860 af
 Outflow = 11.21 cfs @ 12.28 hrs, Volume= 0.860 af, Atten= 21%, Lag= 4.7 min
 Primary = 7.26 cfs @ 12.28 hrs, Volume= 0.792 af
 Secondary = 3.95 cfs @ 12.28 hrs, Volume= 0.068 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 984.13' @ 12.28 hrs Surf.Area= 3,440 sf Storage= 4,838 cf

Plug-Flow detention time= 6.4 min calculated for 0.860 af (100% of inflow)
 Center-of-Mass det. time= 6.4 min (794.1 - 787.7)

Volume	Invert	Avail.Storage	Storage Description
#1	982.00'	7,815 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
982.00	100	0	0
983.50	3,440	2,655	2,655
985.00	3,440	5,160	7,815

Device	Routing	Invert	Outlet Devices
#1	Primary	982.00'	15.0" Round Culvert L= 163.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 982.00' / 975.68' S= 0.0388 ' S= 0.0388 ' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Secondary	983.50'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=7.25 cfs @ 12.28 hrs HW=984.13' TW=970.76' (Dynamic Tailwater)

↑**1=Culvert** (Inlet Controls 7.25 cfs @ 5.91 fps)

Secondary OutFlow Max=3.94 cfs @ 12.28 hrs HW=984.13' TW=980.63' (Dynamic Tailwater)

↑**2=Broad-Crested Rectangular Weir** (Weir Controls 3.94 cfs @ 2.07 fps)

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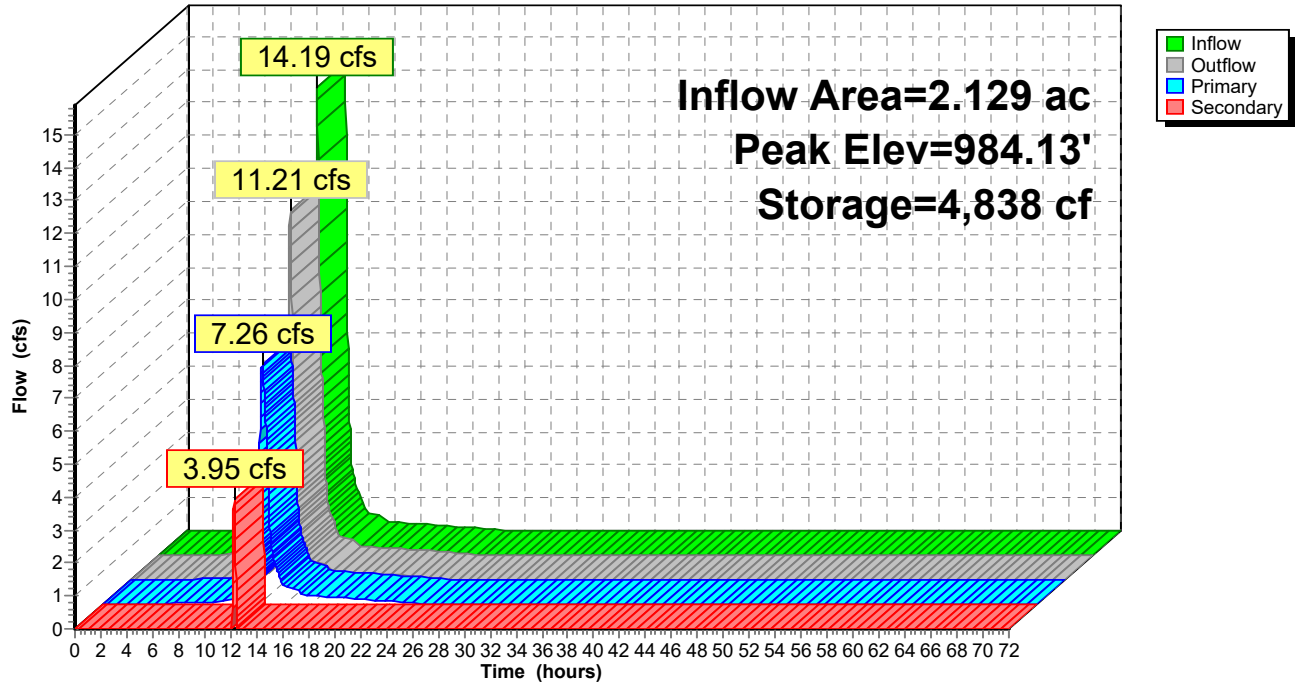
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_L9: CB_L9

Hydrograph



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Summary for Pond CB_O10: CB_O10

Inflow Area = 0.609 ac, 15.44% Impervious, Inflow Depth = 4.75" for 100yr-24hr event
 Inflow = 4.01 cfs @ 12.20 hrs, Volume= 0.241 af
 Outflow = 3.98 cfs @ 12.21 hrs, Volume= 0.241 af, Atten= 1%, Lag= 0.7 min
 Primary = 3.98 cfs @ 12.21 hrs, Volume= 0.241 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.31' @ 12.21 hrs Surf.Area= 853 sf Storage= 140 cf

Plug-Flow detention time= 0.5 min calculated for 0.241 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (791.0 - 790.6)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	25,530 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
980.00	5,240	5,290	5,290
982.00	15,000	20,240	25,530

Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	980.00'	5.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.96 cfs @ 12.21 hrs HW=978.31' TW=970.35' (Dynamic Tailwater)
 ↑1=Orifice/Grate (Weir Controls 3.96 cfs @ 1.82 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=978.00' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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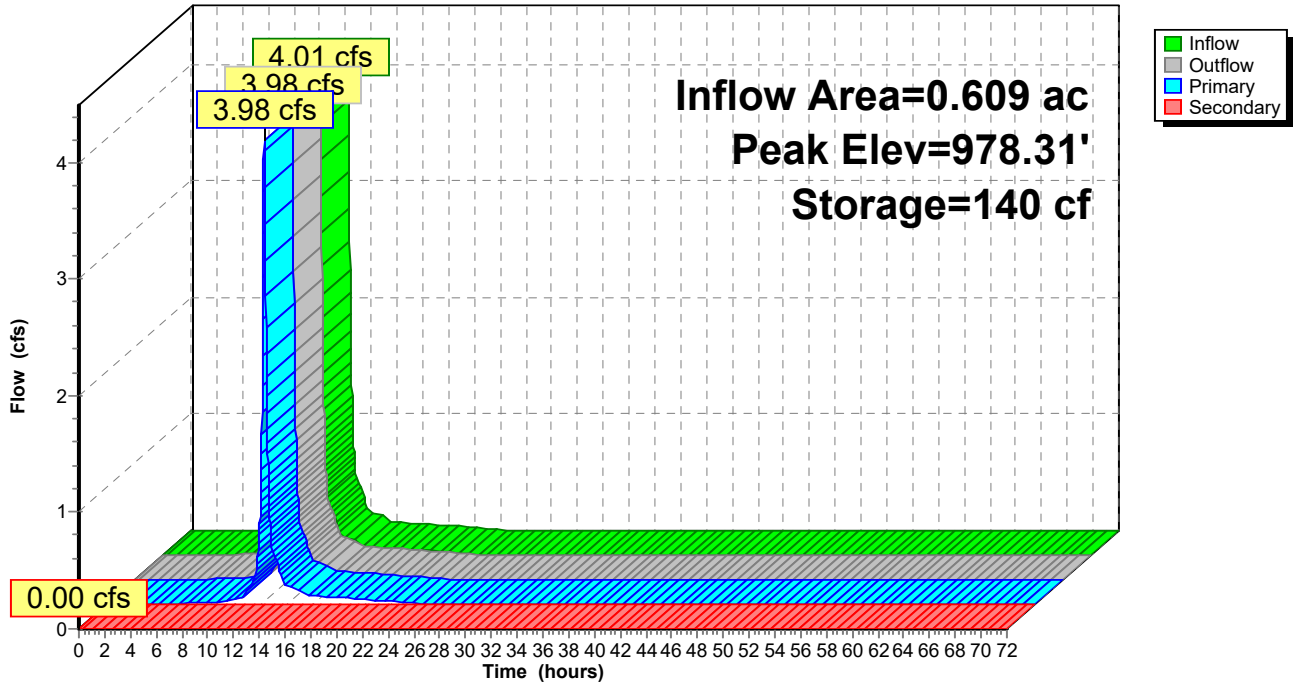
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_O10: CB_O10

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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond CB_O8: CB_O8

Inflow Area = 0.490 ac, 12.24% Impervious, Inflow Depth = 4.66" for 100yr-24hr event
 Inflow = 3.19 cfs @ 12.20 hrs, Volume= 0.190 af
 Outflow = 3.18 cfs @ 12.20 hrs, Volume= 0.190 af, Atten= 0%, Lag= 0.2 min
 Primary = 3.18 cfs @ 12.20 hrs, Volume= 0.190 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 975.77' @ 12.20 hrs Surf.Area= 237 sf Storage= 38 cf

Plug-Flow detention time= 0.2 min calculated for 0.190 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (793.3 - 793.1)

Volume	Invert	Avail.Storage	Storage Description
#1	975.50'	913 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
975.50	50	0	0
976.00	400	113	113
978.00	400	800	913

Device	Routing	Invert	Outlet Devices
#1	Primary	975.50'	27.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	976.00'	4.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=3.18 cfs @ 12.20 hrs HW=975.77' TW=970.29' (Dynamic Tailwater)
 ↑1=**Orifice/Grate** (Weir Controls 3.18 cfs @ 1.69 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=975.50' TW=967.50' (Dynamic Tailwater)
 ↑2=**Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

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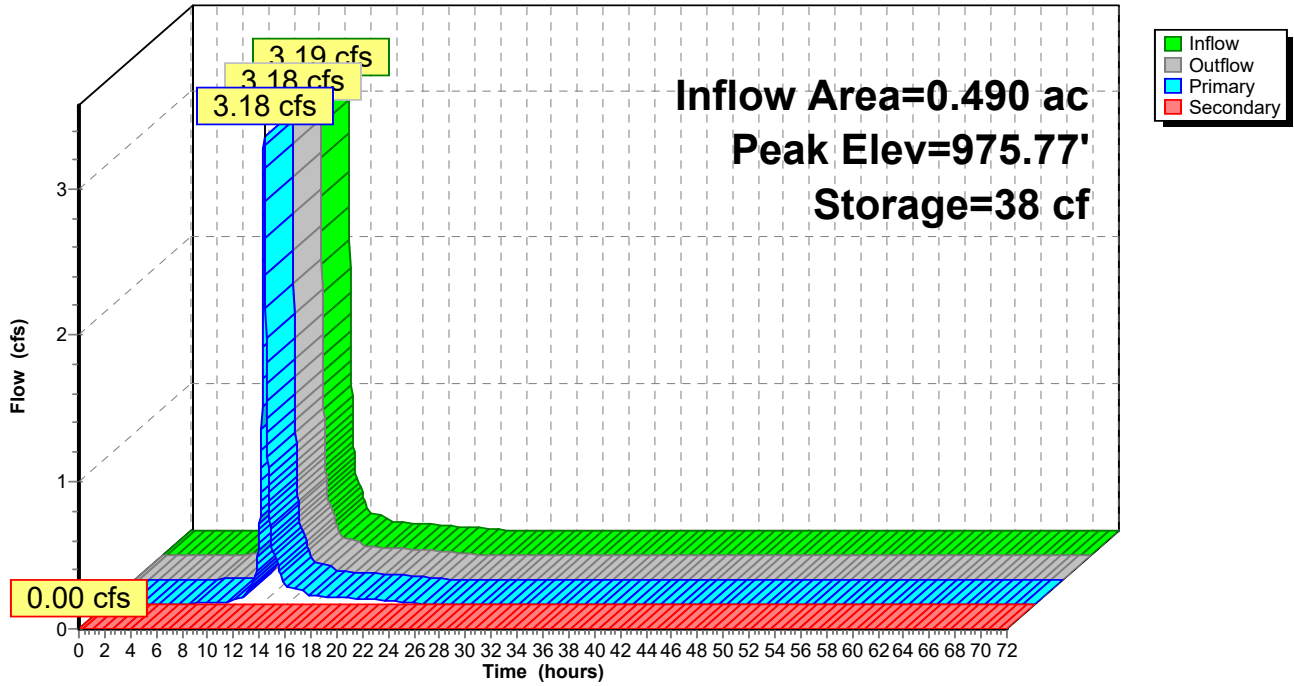
MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Pond CB_08: CB_08

Hydrograph



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Summary for Pond CB_O9: CB_O9

Inflow Area = 1.143 ac, 19.86% Impervious, Inflow Depth = 4.87" for 100yr-24hr event
 Inflow = 7.65 cfs @ 12.20 hrs, Volume= 0.464 af
 Outflow = 7.62 cfs @ 12.21 hrs, Volume= 0.464 af, Atten= 0%, Lag= 0.5 min
 Primary = 7.62 cfs @ 12.21 hrs, Volume= 0.464 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Peak Elev= 978.48' @ 12.21 hrs Surf.Area= 742 sf Storage= 189 cf

Plug-Flow detention time= 0.3 min calculated for 0.464 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (787.5 - 787.2)

Volume	Invert	Avail.Storage	Storage Description
#1	978.00'	2,275 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
978.00	50	0	0
979.00	1,500	775	775
980.00	1,500	1,500	2,275

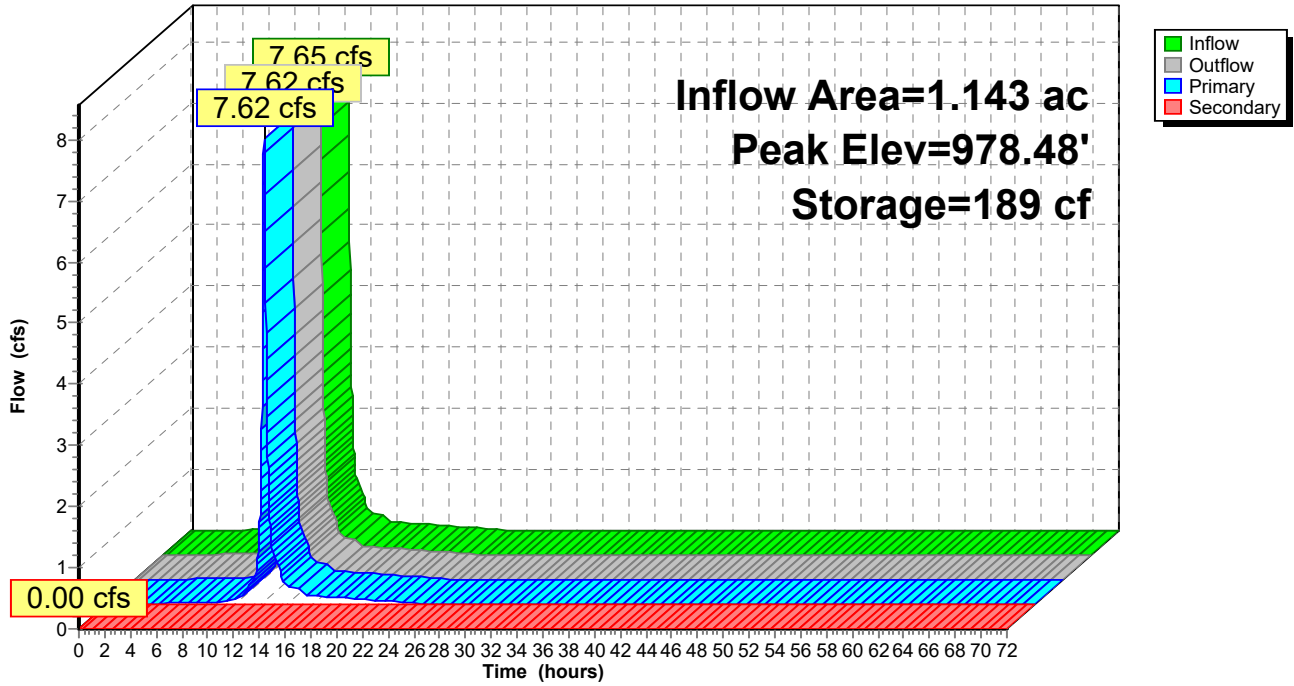
Device	Routing	Invert	Outlet Devices
#1	Primary	978.00'	27.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#2	Secondary	979.00'	3.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=7.59 cfs @ 12.21 hrs HW=978.48' TW=970.32' (Dynamic Tailwater)
 ↑1=Grate (Weir Controls 7.59 cfs @ 2.26 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=975.50' (Dynamic Tailwater)
 ↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond CB_09: CB_09

Hydrograph



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Summary for Pond P1N: Pond 1N

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=1)

Inflow Area = 5.394 ac, 29.66% Impervious, Inflow Depth = 5.14" for 100yr-24hr event
 Inflow = 36.95 cfs @ 12.20 hrs, Volume= 2.310 af
 Outflow = 3.97 cfs @ 13.33 hrs, Volume= 1.806 af, Atten= 89%, Lag= 67.8 min
 Primary = 3.97 cfs @ 13.33 hrs, Volume= 1.806 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.50' Surf.Area= 41,136 sf Storage= 169,437 cf
 Peak Elev= 1,010.79' @ 12.98 hrs Surf.Area= 61,048 sf Storage= 234,435 cf (64,998 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 223.9 min (1,004.4 - 780.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,000.00'	391,973 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,000.00	6,656	0	0
1,002.00	10,300	16,956	16,956
1,004.00	14,547	24,847	41,803
1,006.00	19,203	33,750	75,553
1,008.00	25,045	44,248	119,801
1,010.00	46,500	71,545	191,346
1,010.50	57,752	26,063	217,409
1,012.00	75,000	99,564	316,973
1,013.00	75,000	75,000	391,973

Device	Routing	Invert	Outlet Devices
#1	Primary	1,009.50'	15.0" Round Main outlet (Structure 248 to 249) L= 43.3' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 1,009.50' / 1,009.10' S= 0.0092 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#2	Device 1	1,010.80'	48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,007.00'	15.0" Round low flow pipe L= 30.7' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 1,006.50' / 1,007.00' S= -0.0163 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.23 sf
#4	Secondary	1,012.00'	10.0' long x 2.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

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Primary OutFlow Max=3.98 cfs @ 13.33 hrs HW=1,010.77' TW=1,010.29' (Dynamic Tailwater)

↳ **1=Main outlet (Structure 248 to 249)** (Outlet Controls 3.98 cfs @ 3.95 fps)

↳ **2=Orifice/Grate** (Controls 0.00 cfs)

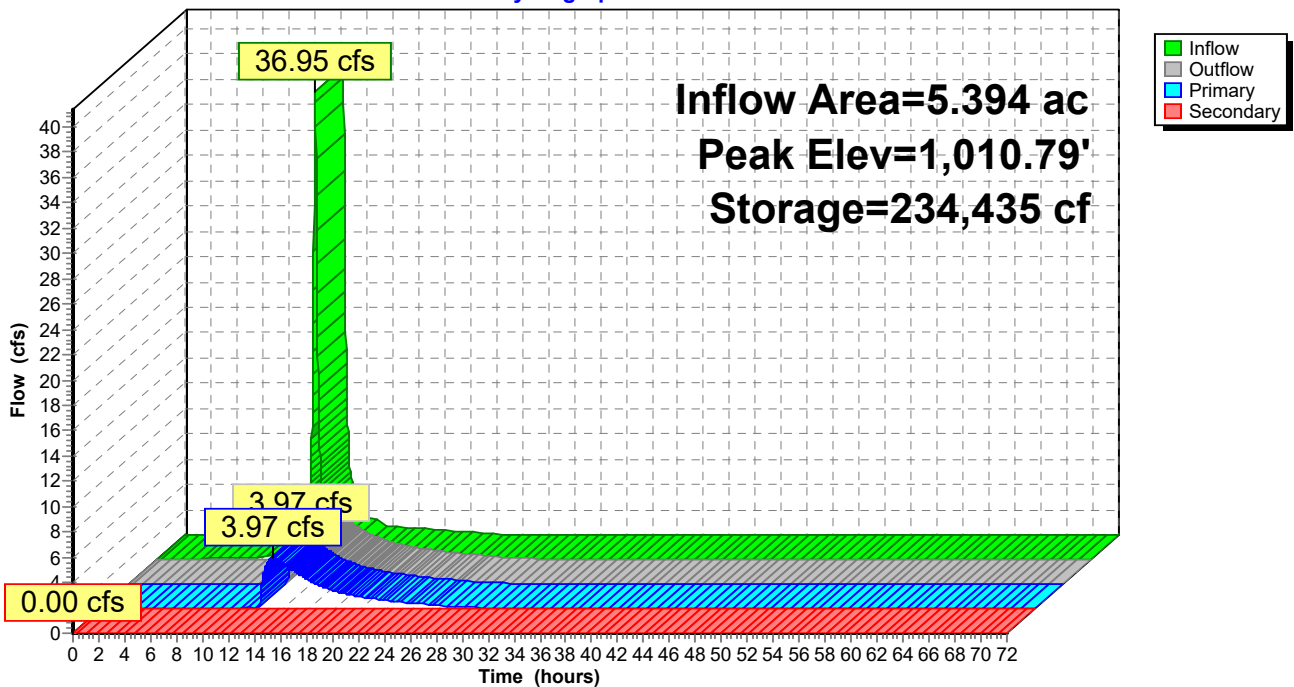
↳ **3=low flow pipe** (Passes 3.98 cfs of 4.09 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,009.50' TW=1,009.00' (Dynamic Tailwater)

↳ **4=EOF** (Controls 0.00 cfs)

Pond P1N: Pond 1N

Hydrograph



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MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond P1S: Pond 1S

Inflow Area = 106.817 ac, 34.75% Impervious, Inflow Depth > 5.02" for 100yr-24hr event
 Inflow = 190.10 cfs @ 12.22 hrs, Volume= 44.690 af
 Outflow = 44.23 cfs @ 13.71 hrs, Volume= 44.339 af, Atten= 77%, Lag= 89.4 min
 Primary = 42.78 cfs @ 13.71 hrs, Volume= 44.187 af
 Secondary = 1.45 cfs @ 13.71 hrs, Volume= 0.152 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 967.00' Surf.Area= 72,066 sf Storage= 246,162 cf
 Peak Elev= 971.15' @ 13.71 hrs Surf.Area= 125,519 sf Storage= 664,105 cf (417,943 cf above start)

Plug-Flow detention time= 400.8 min calculated for 38.688 af (87% of inflow)
 Center-of-Mass det. time= 160.0 min (1,294.5 - 1,134.5)

Volume	Invert	Avail.Storage	Storage Description
#1	960.00'	1,047,368 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
960.00	9,454	0	0
962.00	22,413	31,867	31,867
964.00	37,168	59,581	91,448
966.00	54,342	91,510	182,958
968.00	89,790	144,132	327,090
970.00	110,794	200,584	527,674
972.00	136,300	247,094	774,768
974.00	136,300	272,600	1,047,368

Device	Routing	Invert	Outlet Devices
#1	Primary	967.00'	30.0" Round Main outlet (Structure 294 to 295) L= 35.4' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 967.00' / 966.50' S= 0.0141 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf
#2	Device 1	971.00'	48.0" Horiz. Structure 294 Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	967.00'	30.0" Round low flow pipe L= 21.6' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 966.00' / 967.00' S= -0.0463 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 4.91 sf
#4	Secondary	971.00'	10.0' long x 4.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

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Primary OutFlow Max=42.78 cfs @ 13.71 hrs HW=971.15' TW=0.00' (Dynamic Tailwater)

↳ **1=Main outlet (Structure 294 to 295)** (Passes 42.78 cfs of 46.78 cfs potential flow)

↳ **2=Structure 294 Grate** (Weir Controls 2.50 cfs @ 1.29 fps)

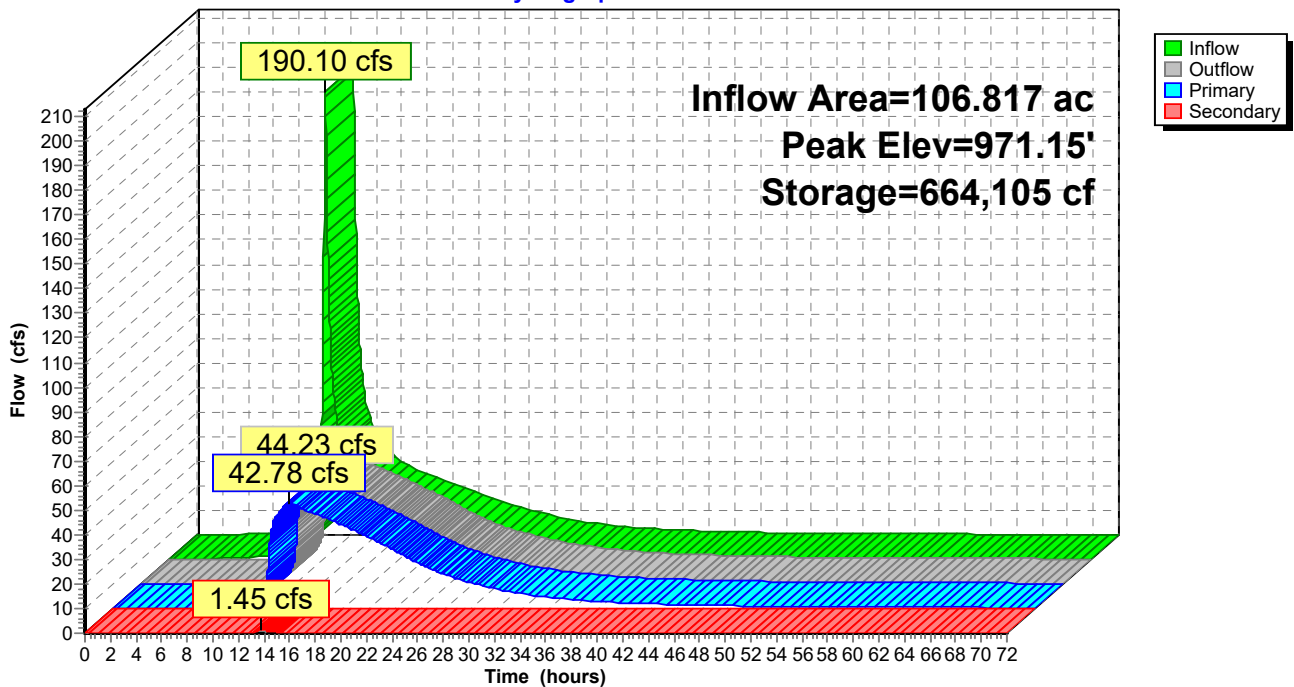
↳ **3=low flow pipe** (Inlet Controls 40.28 cfs @ 8.21 fps)

Secondary OutFlow Max=1.45 cfs @ 13.71 hrs HW=971.15' TW=0.00' (Dynamic Tailwater)

↳ **4=EOF** (Weir Controls 1.45 cfs @ 0.94 fps)

Pond P1S: Pond 1S

Hydrograph



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Summary for Pond P2S: Pond 2S

[80] Warning: Exceeded Pond 4P by 0.04' @ 12.26 hrs (1.66 cfs 0.022 af)

Inflow Area = 7.044 ac, 38.20% Impervious, Inflow Depth = 5.38" for 100yr-24hr event
 Inflow = 49.83 cfs @ 12.20 hrs, Volume= 3.156 af
 Outflow = 20.32 cfs @ 12.41 hrs, Volume= 3.150 af, Atten= 59%, Lag= 12.8 min
 Primary = 20.32 cfs @ 12.41 hrs, Volume= 3.150 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 969.00' Surf.Area= 18,607 sf Storage= 77,154 cf
 Peak Elev= 971.16' @ 12.41 hrs Surf.Area= 24,968 sf Storage= 125,298 cf (48,144 cf above start)

Plug-Flow detention time= 325.1 min calculated for 1.379 af (44% of inflow)
 Center-of-Mass det. time= 77.4 min (852.6 - 775.1)

Volume	Invert	Avail.Storage	Storage Description
#1	962.00'	200,412 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
962.00	6,074	0	0
964.00	8,571	14,645	14,645
966.00	11,401	19,972	34,617
968.00	14,555	25,956	60,573
970.00	22,658	37,213	97,786
972.00	26,656	49,314	147,100
974.00	26,656	53,312	200,412

Device	Routing	Invert	Outlet Devices
#1	Primary	969.00'	24.0" Round Main outlet (Structure 251 to 252) L= 32.8' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.00' / 967.90' S= 0.0335 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	972.00'	48.0" Horiz. Structure 251 Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	967.00'	24.0" Round low flow pipe L= 36.7' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 966.00' / 967.00' S= -0.0272 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#4	Secondary	972.00'	8.0' long x 32.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=20.32 cfs @ 12.41 hrs HW=971.15' TW=0.00' (Dynamic Tailwater)

↳ **1=Main outlet (Structure 251 to 252)** (Inlet Controls 20.32 cfs @ 6.47 fps)

↳ **2=Structure 251 Grate** (Controls 0.00 cfs)

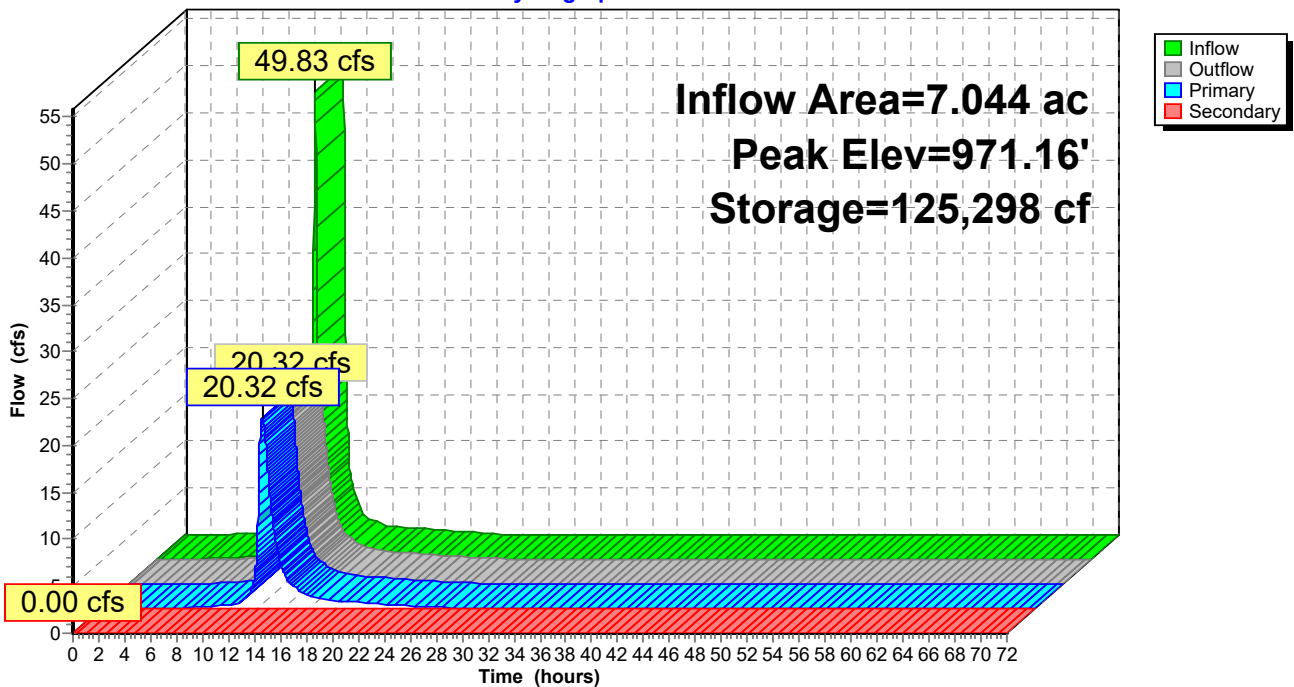
↳ **3=low flow pipe** (Passes 20.32 cfs of 22.20 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=969.00' TW=0.00' (Dynamic Tailwater)

↳ **4=EOF** (Controls 0.00 cfs)

Pond P2S: Pond 2S

Hydrograph



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Summary for Pond P3S: Pond 3S

Inflow Area = 12.637 ac, 40.00% Impervious, Inflow Depth = 5.43" for 100yr-24hr event
 Inflow = 89.14 cfs @ 12.20 hrs, Volume= 5.714 af
 Outflow = 15.93 cfs @ 12.64 hrs, Volume= 5.684 af, Atten= 82%, Lag= 26.6 min
 Primary = 15.93 cfs @ 12.64 hrs, Volume= 5.684 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 973.00' Surf.Area= 32,176 sf Storage= 137,120 cf
 Peak Elev= 976.11' @ 12.64 hrs Surf.Area= 46,584 sf Storage= 261,006 cf (123,887 cf above start)

Plug-Flow detention time= 434.5 min calculated for 2.536 af (44% of inflow)
 Center-of-Mass det. time= 152.2 min (926.2 - 774.0)

Volume	Invert	Avail.Storage	Storage Description
#1	966.00'	766,406 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
966.00	10,224	0	0
968.00	15,259	25,483	25,483
970.00	20,470	35,729	61,212
972.00	26,233	46,703	107,915
974.00	38,119	64,352	172,267
976.00	45,500	83,619	255,886
978.00	65,000	110,500	366,386
980.00	103,996	168,996	535,382
982.00	127,028	231,024	766,406

Device	Routing	Invert	Outlet Devices
#1	Primary	967.50'	24.0" Round H2 to H1 L= 174.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.50' / 967.00' S= 0.0029 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#2	Device 1	967.80'	24.0" Round H3 to H2 L= 161.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 967.80' / 967.50' S= 0.0019 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 3.14 sf
#3	Device 2	968.00'	21.0" Round H4 to H3 L= 42.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 968.00' / 967.80' S= 0.0048 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#4	Device 3	968.40'	21.0" Round I101 to H4 L= 200.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 968.40' / 968.00' S= 0.0020 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#5	Device 4	968.70'	21.0" Round I100 to I101 L= 134.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 968.70' / 968.40' S= 0.0022 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf

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#6	Device 5	969.30'	21.0" Round Structure I11 to I100 L= 122.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.30' / 969.00' S= 0.0025 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#7	Device 6	972.00'	21.0" Round Structure I12 to I11 L= 26.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 972.00' / 971.80' S= 0.0077 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#8	Device 7	973.00'	21.0" Round Structure I13 to I12 L= 152.2' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 973.00' / 972.00' S= 0.0066 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#9	Device 8	976.10'	48.0" Horiz. I13 Grate C= 0.600 Limited to weir flow at low heads
#10	Device 8	970.00'	21.0" Round low flow pipe L= 35.6' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 968.00' / 970.00' S= -0.0562 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf
#11	Secondary	978.00'	5.0' long x 2.0' breadth EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=15.93 cfs @ 12.64 hrs HW=976.11' TW=970.61' (Dynamic Tailwater)

- ↑1=H2 to H1 (Passes 15.93 cfs of 32.23 cfs potential flow)
- ↑2=H3 to H2 (Passes 15.93 cfs of 33.03 cfs potential flow)
- ↑3=H4 to H3 (Passes 15.93 cfs of 33.52 cfs potential flow)
- ↑4=I101 to H4 (Passes 15.93 cfs of 22.15 cfs potential flow)
- ↑5=I100 to I101 (Passes 15.93 cfs of 25.33 cfs potential flow)
- ↑6=Structure I11 to I100 (Passes 15.93 cfs of 25.73 cfs potential flow)
- ↑7=Structure I12 to I11 (Passes 15.93 cfs of 24.52 cfs potential flow)
- ↑8=Structure I13 to I12 (Barrel Controls 15.93 cfs @ 6.62 fps)
- ↑9=I13 Grate (Passes < 0.05 cfs potential flow)
- ↑10=low flow pipe (Passes < 20.43 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=973.00' TW=972.00' (Dynamic Tailwater)

- ↑11=EOF (Controls 0.00 cfs)

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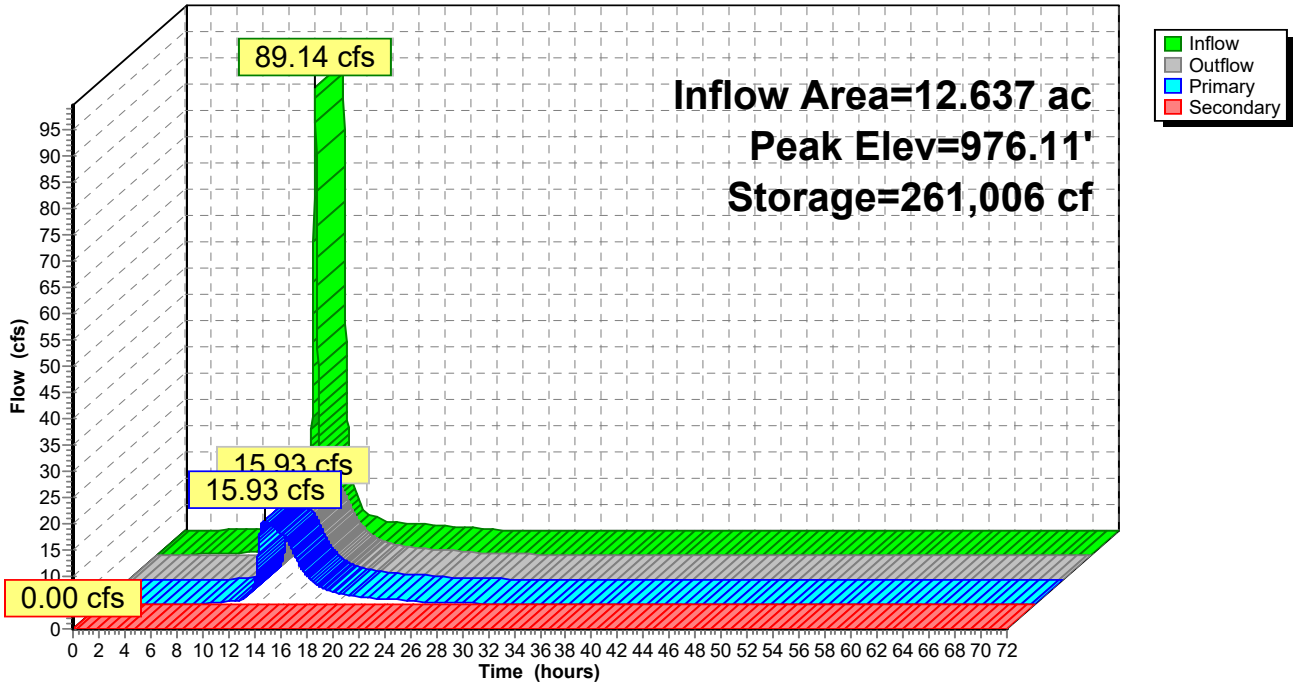
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Pond P3S: Pond 3S

Hydrograph



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Summary for Pond P4S: Pond 4S

Inflow Area = 75.911 ac, 31.86% Impervious, Inflow Depth > 4.92" for 100yr-24hr event
 Inflow = 140.37 cfs @ 12.21 hrs, Volume= 31.121 af
 Outflow = 61.76 cfs @ 12.30 hrs, Volume= 31.032 af, Atten= 56%, Lag= 5.3 min
 Primary = 61.76 cfs @ 12.30 hrs, Volume= 31.032 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 967.50' Surf.Area= 22,564 sf Storage= 74,427 cf
 Peak Elev= 971.36' @ 13.62 hrs Surf.Area= 52,422 sf Storage= 211,401 cf (136,974 cf above start)

Plug-Flow detention time= 203.1 min calculated for 29.316 af (94% of inflow)
 Center-of-Mass det. time= 68.0 min (1,265.6 - 1,197.6)

Volume	Invert	Avail.Storage	Storage Description
#1	960.00'	730,861 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
960.00	2,404	0	0
962.00	4,393	6,797	6,797
964.00	9,311	13,704	20,501
966.00	15,824	25,135	45,636
968.00	24,811	40,635	86,271
970.00	38,395	63,206	149,477
972.00	58,966	97,361	246,838
974.00	118,288	177,254	424,092
976.00	188,481	306,769	730,861

Device	Routing	Invert	Outlet Devices
#1	Primary	967.50'	58.5" W x 36.0" H, R=30.0"/84.0" Pipe Arch RCP_Arch 59x36 L= 258.6' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 967.50' / 967.00' S= 0.0019 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 11.40 sf
#2	Device 1	971.70'	60.0" Horiz. Structure 254 Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	964.00'	58.5" W x 36.0" H, R=30.0"/84.0" Pipe Arch RCP_Arch 59x36 L= 30.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 963.00' / 964.00' S= -0.0333 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 11.40 sf
#4	Secondary	969.00'	36.0" Round Secondary outlet (Structure 184 to 185) L= 147.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.00' / 967.00' S= 0.0136 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf
#5	Device 4	969.50'	36.0" Round Structure 187 to 184 L= 24.5' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 969.50' / 969.00' S= 0.0204 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf

Hollydale - Proposed Conditions - 04.16.2021

MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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#6	Device 5	970.50'	36.0" Round Structure 186 to 187 L= 64.7' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 970.50' / 969.50' S= 0.0155 '/' Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 7.07 sf
#7	Device 6	971.70'	10.0' long x 4.0' breadth Berm to Secondary EOF Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=59.38 cfs @ 12.30 hrs HW=970.89' TW=969.72' (Dynamic Tailwater)

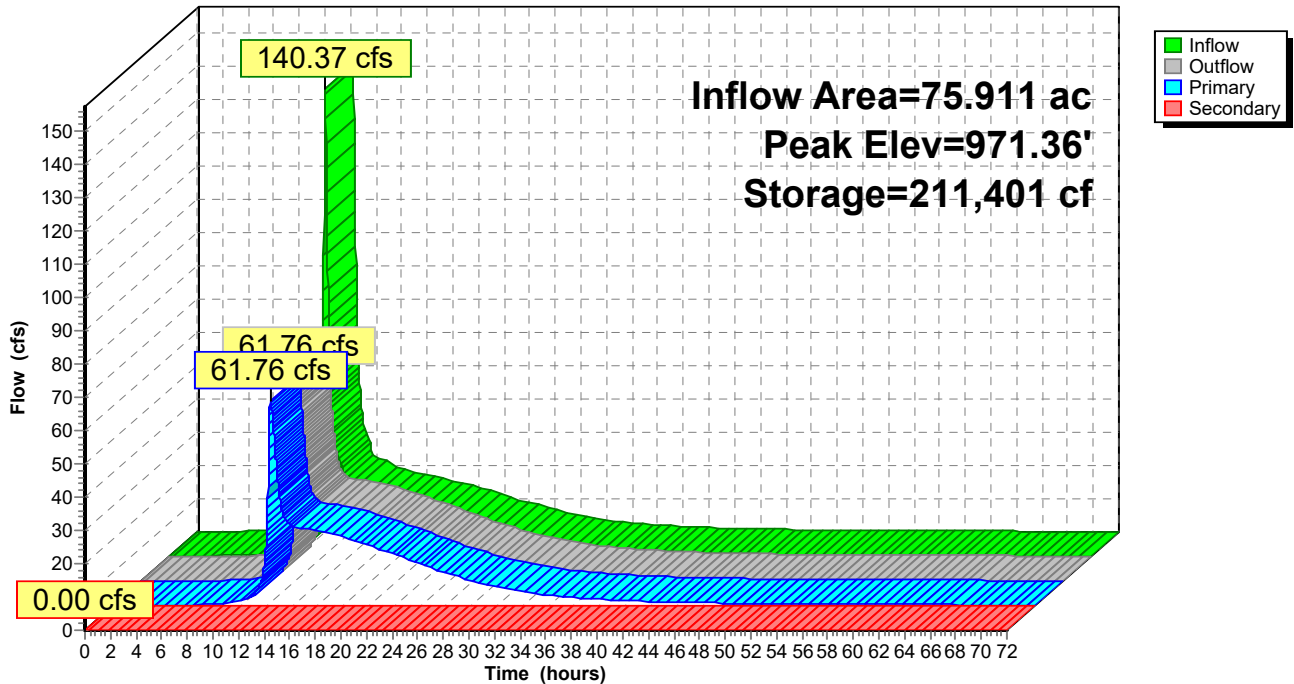
- ↑ 1=RCP_Arch 59x36 (Passes 59.38 cfs of 59.66 cfs potential flow)
- ↑ 2=Structure 254 Grate (Controls 0.00 cfs)
- ↑ 3=RCP_Arch 59x36 (Inlet Controls 59.38 cfs @ 5.21 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=967.50' TW=967.00' (Dynamic Tailwater)

- ↑ 4=Secondary outlet (Structure 184 to 185) (Controls 0.00 cfs)
- ↑ 5=Structure 187 to 184 (Controls 0.00 cfs)
- ↑ 6=Structure 186 to 187 (Controls 0.00 cfs)
- ↑ 7=Berm to Secondary EOF (Controls 0.00 cfs)

Pond P4S: Pond 4S

Hydrograph



Hollydale - Proposed Conditions - 04.16.2021

MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond P5S: Pond 5S

Inflow Area = 53.598 ac, 34.53% Impervious, Inflow Depth = 5.11" for 100yr-24hr event
 Inflow = 350.21 cfs @ 12.20 hrs, Volume= 22.821 af
 Outflow = 16.94 cfs @ 13.68 hrs, Volume= 22.107 af, Atten= 95%, Lag= 88.7 min
 Primary = 16.94 cfs @ 13.68 hrs, Volume= 22.107 af
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 978.00' Surf.Area= 188,573 sf Storage= 1,134,893 cf
 Peak Elev= 981.29' @ 13.68 hrs Surf.Area= 240,946 sf Storage= 1,825,179 cf (690,286 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= 587.9 min (1,365.3 - 777.5)

Volume	Invert	Avail.Storage	Storage Description
#1	970.00'	4,063,546 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
970.00	111,000	0	0
972.00	116,150	227,150	227,150
974.00	142,566	258,716	485,866
976.00	158,944	301,510	787,376
978.00	188,573	347,517	1,134,893
980.00	210,840	399,413	1,534,306
982.00	257,600	468,440	2,002,746
984.00	257,600	515,200	2,517,946
990.00	257,600	1,545,600	4,063,546

Device	Routing	Invert	Outlet Devices
#1	Primary	970.00'	18.0" Round Structure 273 to 246 L= 192.5' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 970.00' / 968.50' S= 0.0078 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#2	Device 1	972.00'	18.0" Round Structure 272 to 273 L= 70.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 972.00' / 970.00' S= 0.0286 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#3	Device 2	974.00'	18.0" Round Structure 271 to 272 L= 50.0' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 974.00' / 973.00' S= 0.0200 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#4	Device 3	978.00'	18.0" Round Structure 245 to 271 L= 108.6' RCP, groove end w/headwall, Ke= 0.200 Inlet / Outlet Invert= 978.00' / 974.00' S= 0.0368 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 1.77 sf
#5	Device 4	975.50'	21.0" Round low flow pipe L= 29.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 975.00' / 975.50' S= -0.0172 '/ Cc= 0.900 n= 0.013 Concrete pipe, bends & connections, Flow Area= 2.41 sf

Hollydale - Proposed Conditions - 04.16.2021

MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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#6	Device 4	981.50'	48.0" Horiz. Structure 245 grate	C= 0.600															
			Limited to weir flow at low heads																
#7	Secondary	981.50'	10.0' long x 2.0' breadth EOF																
			Head (feet)	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.50	3.00	3.50			
			Coef. (English)	2.54	2.61	2.61	2.60	2.66	2.70	2.77	2.89	2.88	2.85	3.07	3.20	3.32			

Primary OutFlow Max=16.94 cfs @ 13.68 hrs HW=981.29' TW=971.36' (Dynamic Tailwater)

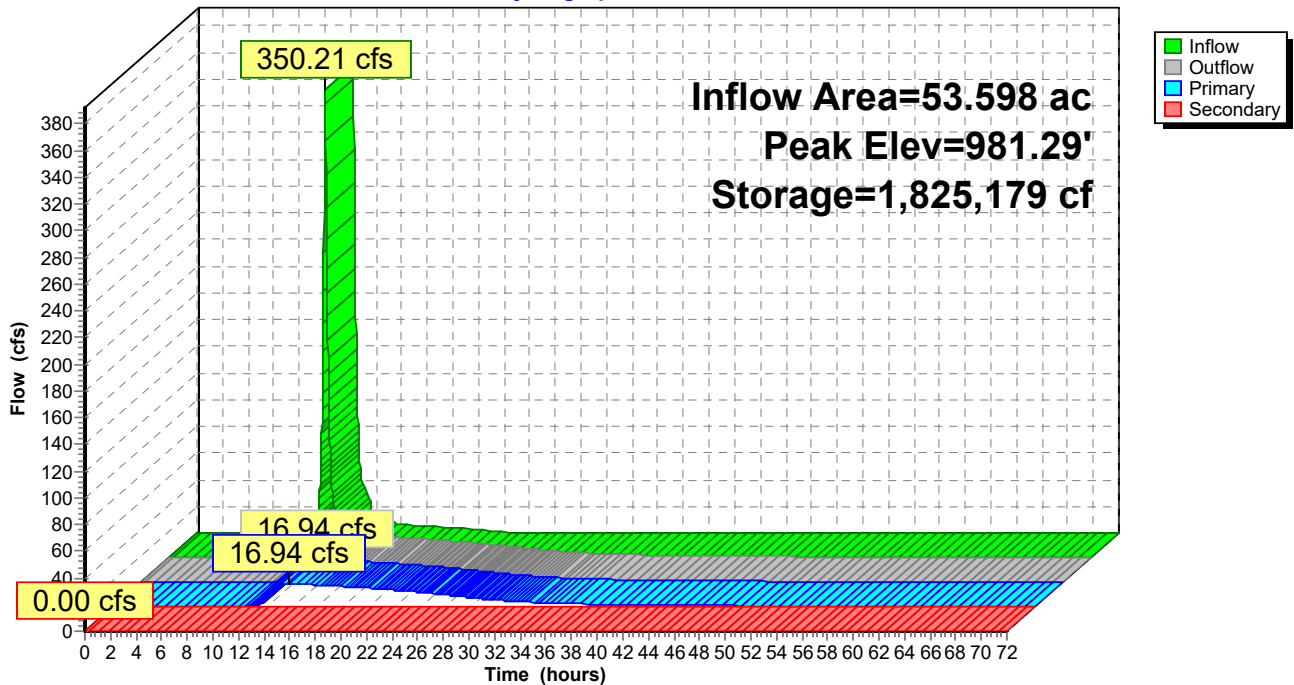
- 1=Structure 273 to 246 (Passes 16.94 cfs of 20.56 cfs potential flow)
- 2=Structure 272 to 273 (Passes 16.94 cfs of 28.17 cfs potential flow)
- 3=Structure 271 to 272 (Passes 16.94 cfs of 25.41 cfs potential flow)
- 4=Structure 245 to 271 (Inlet Controls 16.94 cfs @ 9.59 fps)
- 5=low flow pipe (Passes 16.94 cfs of 21.00 cfs potential flow)
- 6=Structure 245 grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=978.00' TW=978.00' (Dynamic Tailwater)

- 7=EOF (Controls 0.00 cfs)

Pond P5S: Pond 5S

Hydrograph



Hollydale - Proposed Conditions - 04.16.2021

MSE 24-hr 3 100yr-24hr Rainfall=7.32"

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Summary for Pond Wetland 9: Wetland 9

[80] Warning: Exceeded Pond P1N by 0.10' @ 12.10 hrs (0.81 cfs 0.022 af)

Inflow Area = 10.217 ac, 25.83% Impervious, Inflow Depth = 4.44" for 100yr-24hr event
 Inflow = 20.41 cfs @ 12.25 hrs, Volume= 3.781 af
 Outflow = 18.76 cfs @ 12.39 hrs, Volume= 3.480 af, Atten= 8%, Lag= 7.9 min
 Primary = 18.76 cfs @ 12.39 hrs, Volume= 3.480 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.02 hrs
 Starting Elev= 1,009.00' Surf.Area= 9,469 sf Storage= 6,526 cf
 Peak Elev= 1,010.51' @ 12.39 hrs Surf.Area= 16,723 sf Storage= 28,076 cf (21,550 cf above start)

Plug-Flow detention time= 110.5 min calculated for 3.330 af (88% of inflow)
 Center-of-Mass det. time= 36.5 min (932.7 - 896.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,008.00'	53,068 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

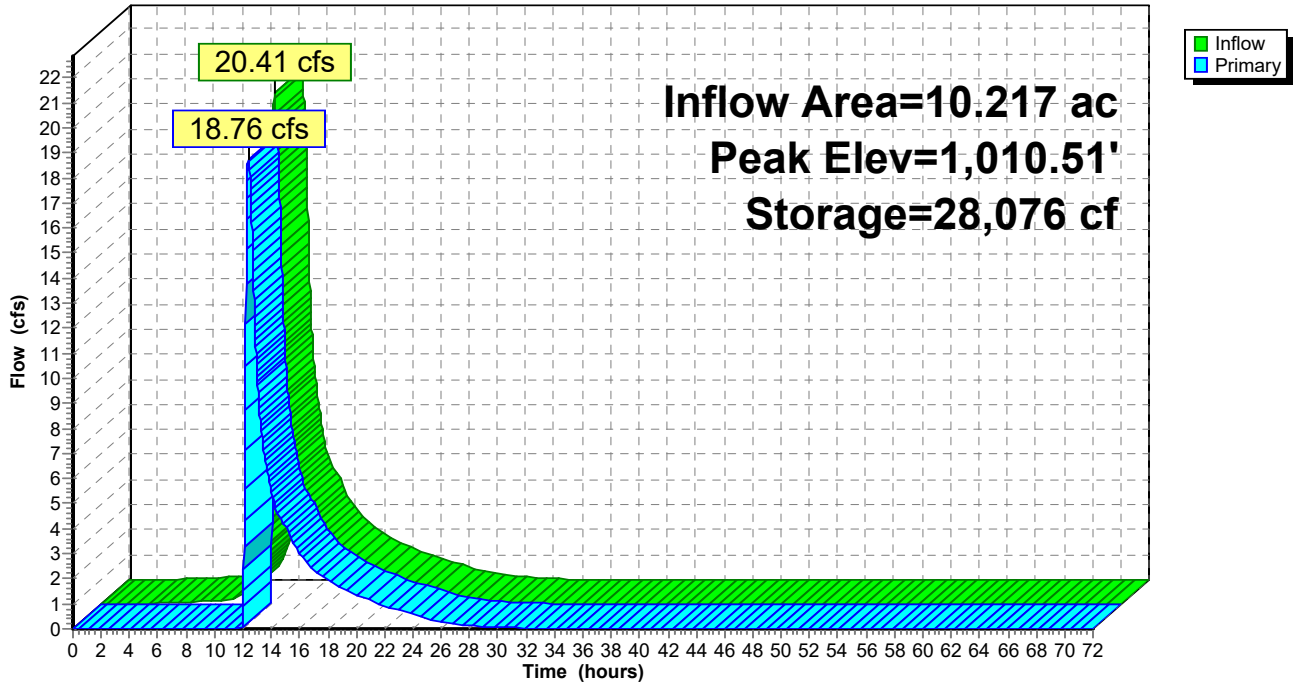
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,008.00	3,582	0	0
1,009.00	9,469	6,526	6,526
1,010.00	16,723	13,096	19,622
1,012.00	16,723	33,446	53,068

Device	Routing	Invert	Outlet Devices
#1	Primary	1,010.00'	20.0' long x 6.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=18.76 cfs @ 12.39 hrs HW=1,010.51' TW=0.00' (Dynamic Tailwater)
 ↑1=**Broad-Crested Rectangular Weir** (Weir Controls 18.76 cfs @ 1.86 fps)

Pond Wetland 9: Wetland 9

Hydrograph



APPENDIX D – RWMWD STORMWATER REUSE SPREADSHEET

Reuse Scenario Name		Hollydale
Watershed Input Parameters		
Watershed Area Tributary to Stormwater Reuse System	(acre)	53.6
Watershed Imperviousness* Tributary to Stormwater Reuse System *assumed to be directly-connected	(%)	33
Watershed Hydrologic Soil Group (HSG)		C
Stormwater Reuse System Input Parameters		
Estimated Reuse Storage Volume	(ac-ft)	6.700
	(cu-ft)	291852
	(gal)	2,183,205
Irrigation Application Area (ac)	(acre)	15.00
Irrigation Application Rate	(in/week)	1.0
	(ac-ft/day)	0.1786
Irrigation Season Start (month #)		5
Irrigation Season End (month #)		9
Does the system go offline and drain down at the end of the season?	(1=Yes / 0=No)	1
Stormwater Reuse Summary of Results - Stormwater Management		
Average Annual Precipitation	(in/yr)	27.7
Average Annual Watershed Runoff Volume	(ac-ft/yr)	43.44
Average Annual Runoff Coefficient		0.35
Average Annual Runoff Volume Reduction due to Stormwater Reuse for Irrigation	(ac-ft/yr)	16.7
	(%)	38.5
Average Annual Runoff Volume Bypassing the Reuse System (including Winterization Drawdown, if applicable)	(ac-ft/yr)	26.7
	(%)	61.5
Stormwater Reuse Summary of Results - Irrigation Demand		
Average Annual Irrigation Demand	(ac-ft/yr)	19.8
Average Annual Irrigation Demand met by Stormwater Reuse	(ac-ft/yr)	16.7
	(%)	84.5
Average Annual Irrigation Augmentation (from Potable Water Supply)	(ac-ft/yr)	3.1
	(%)	15.5
RWMWD Credit Factor For Stormwater Reuse		
Required Water Quality Volume for Watershed Based on RWMWD Rules (1.1 inch)	(ac-ft)	1.642
Average Annual Volume Reduction for an Infiltration System Sized to Meet the RWMWD Rules (Estimated by MIDS Calculator)	(%)	81.3
Average Annual Runoff Volume Reduction due to Stormwater Reuse for Irrigation	(%)	38.5
RWMWD Credit Factor For Stormwater Reuse		0.47
Reuse Storage Volume Provided	(ac-ft)	6.700
	(gal)	2183205
	(cu-ft)	291852
Reuse Storage Volume that can be applied towards achieving the RWMWD Rules	(ac-ft)	3.173
	(gal)	1,033,884
	(cu-ft)	138210

APPENDIX E – OUTLET STRUCTURE DETAILS

OUTLET STRUCTURE - Pond 1N

0.75'

TOP FRONT

1010.8'

NO WEIR

NWL- 1009.5'

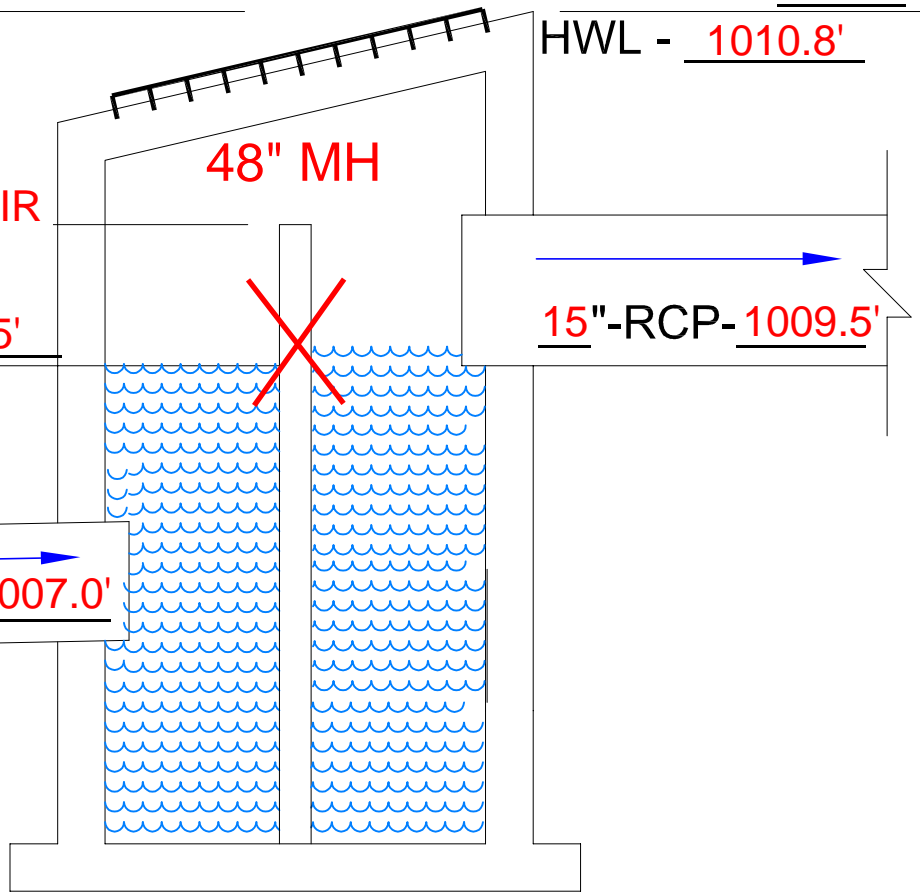
15" RCP 1007.0'

TOP BACK 1011.55'

HWL - 1010.8'

48" MH

15"-RCP- 1009.5'

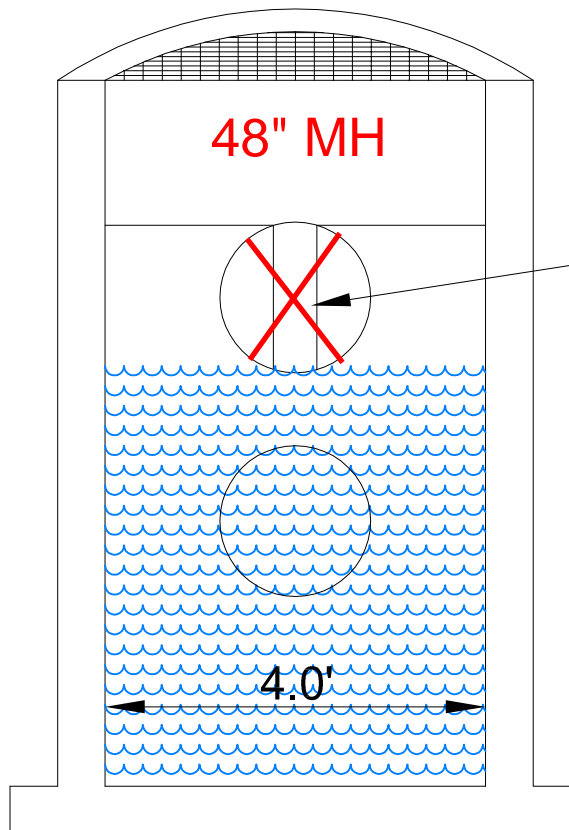


48" MH

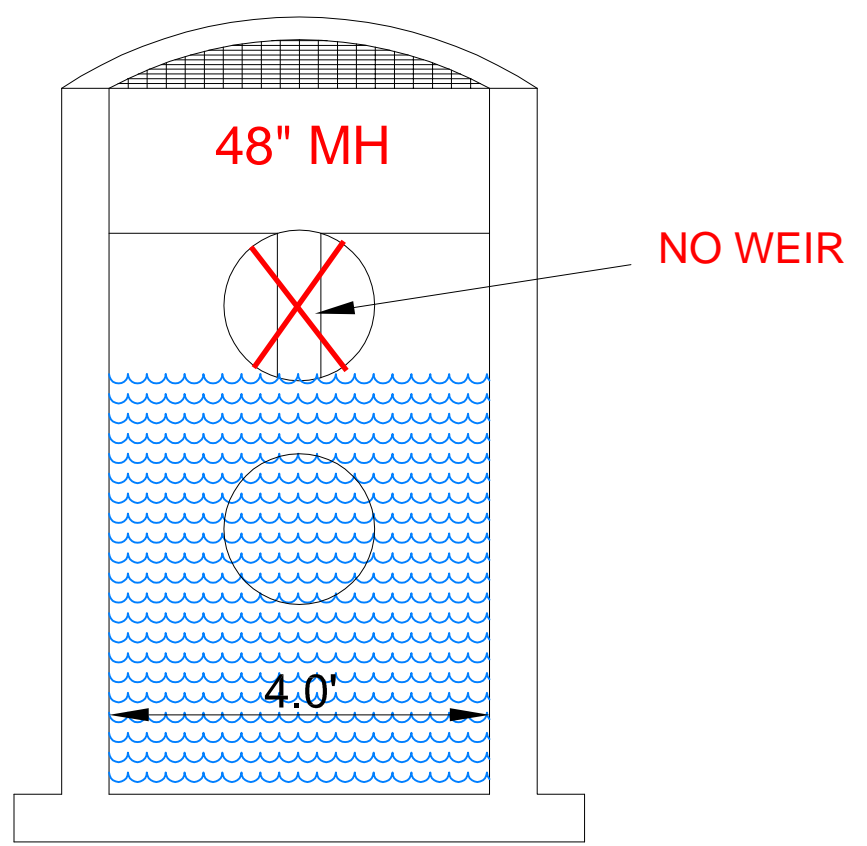
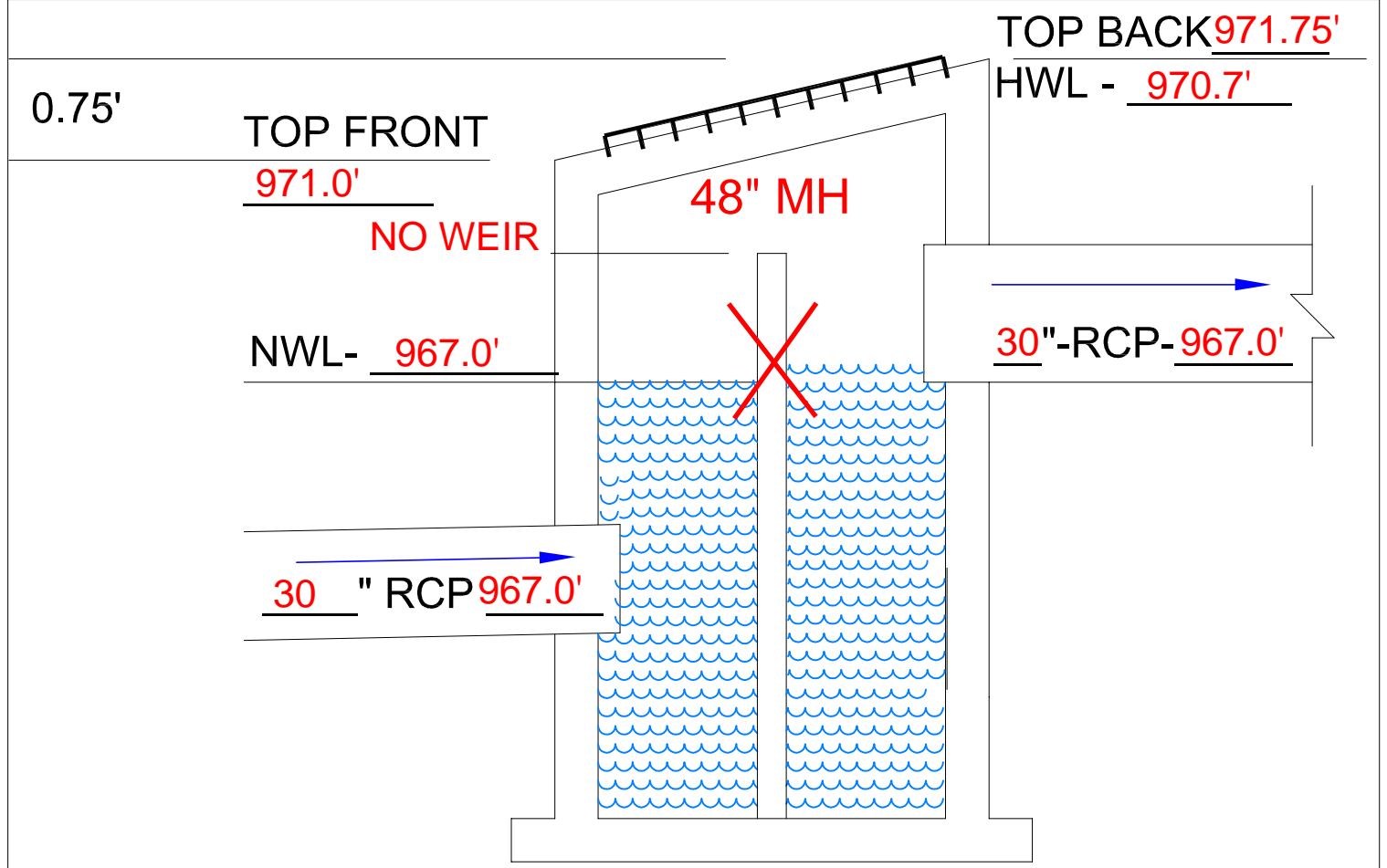
NO WEIR

NWL- 1009.5'

4.0'



OUTLET STRUCTURE - Pond 1S



OUTLET STRUCTURE - Pond 2S

0.75'

TOP FRONT

972.0'

NO WEIR

NWL- 969.0'

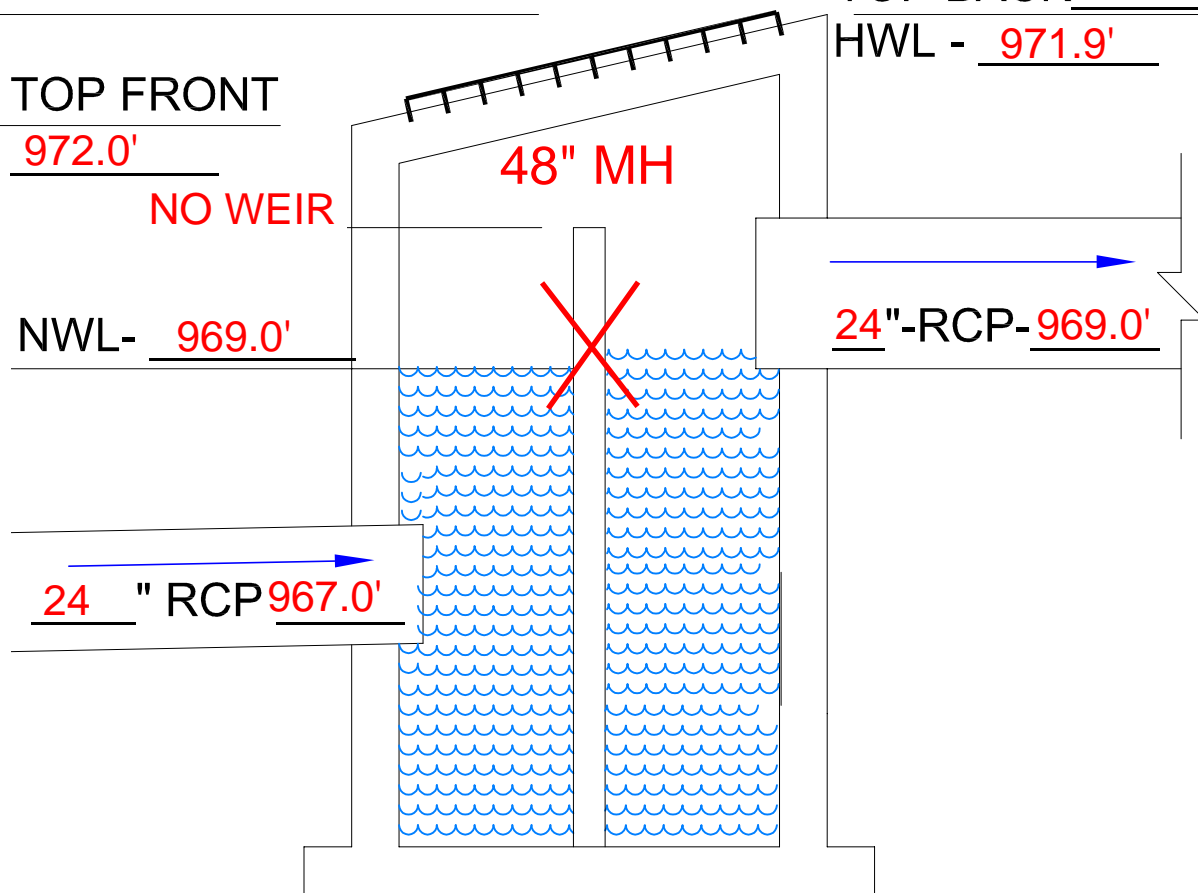
24" RCP 967.0'

TOP BACK 972.75'

HWL - 971.9'

48" MH

24"-RCP-969.0'

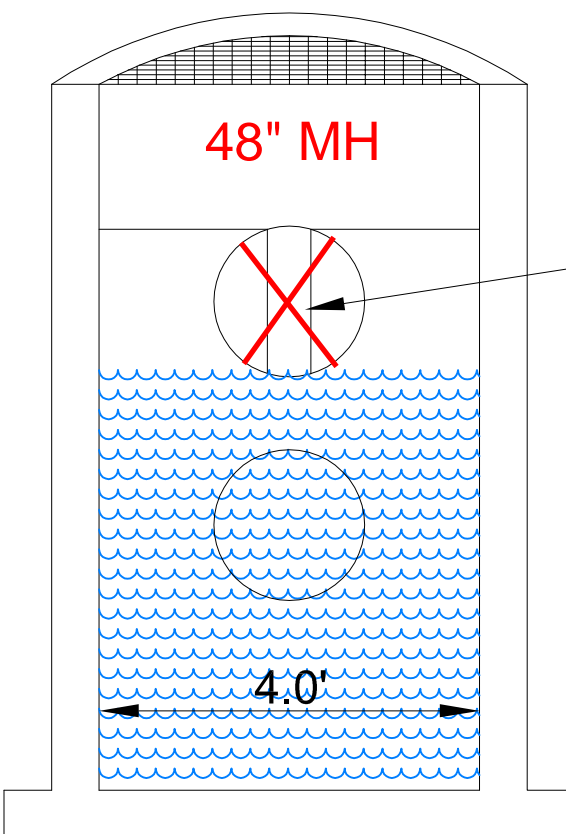


48" MH

NO WEIR

NWL- 969.0'

4.0'



OUTLET STRUCTURE - Pond 3S

0.75'

TOP FRONT

976.1'

NO WEIR

NWL- 973.0'

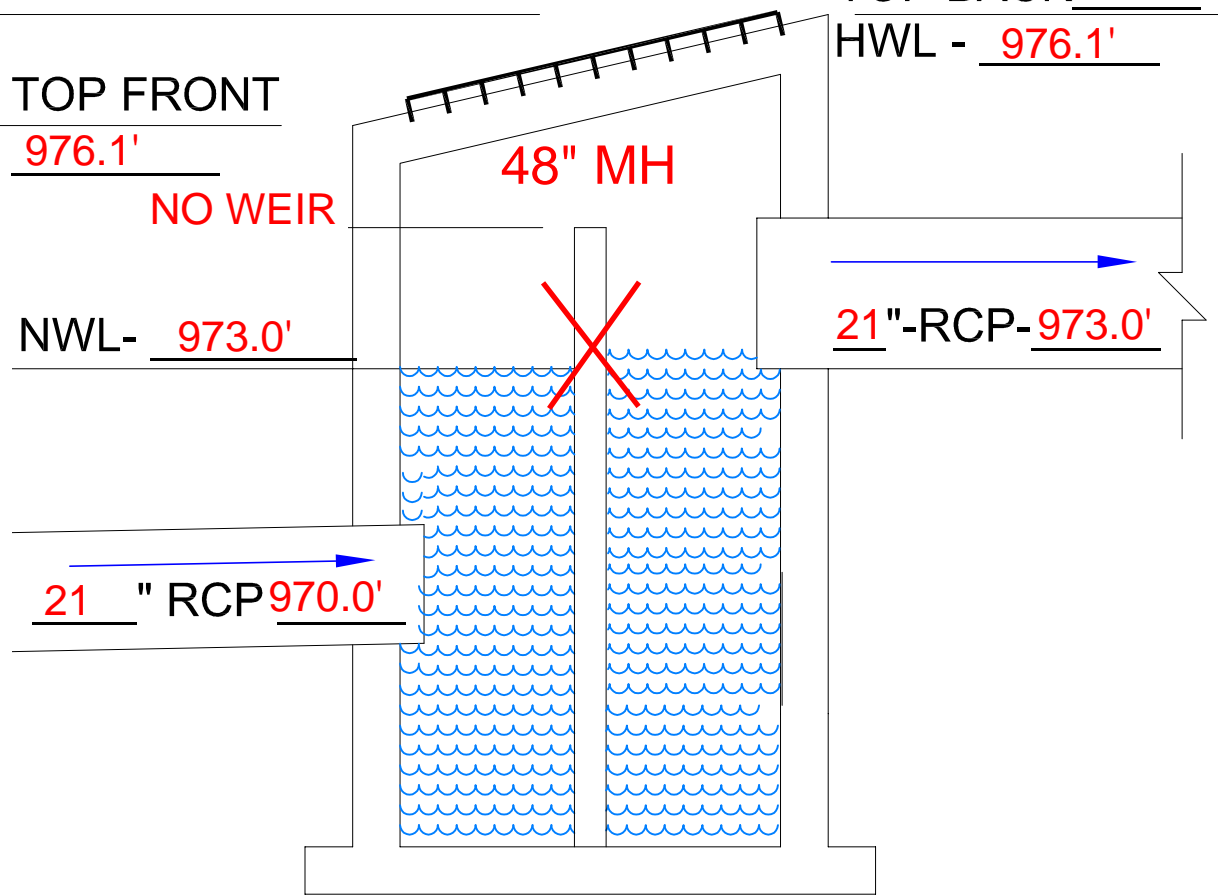
21" RCP 970.0'

TOP BACK 976.85'

HWL - 976.1'

48" MH

21"-RCP-973.0'

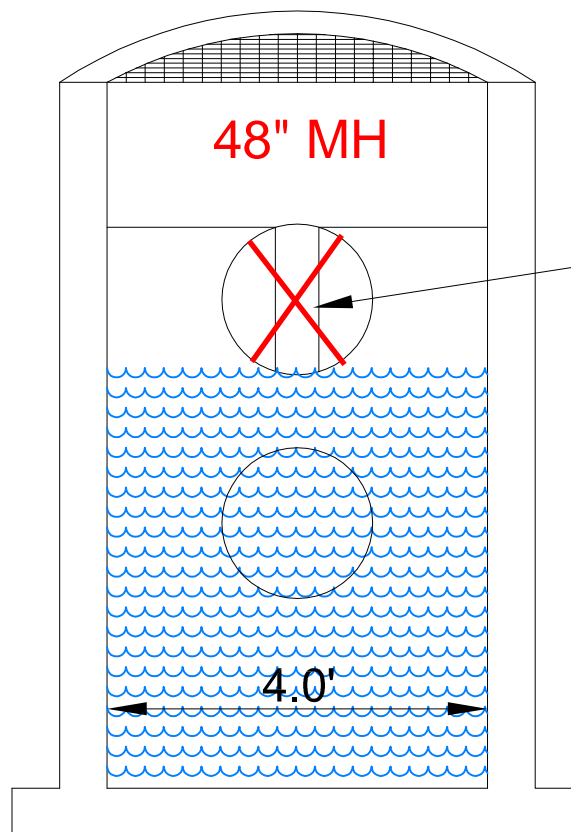


48" MH

NO WEIR

NWL- 973.0'

4.0'



OUTLET STRUCTURE - Pond 4S

0.75'

TOP FRONT

971.7'

NO WEIR

NWL- 967.5'

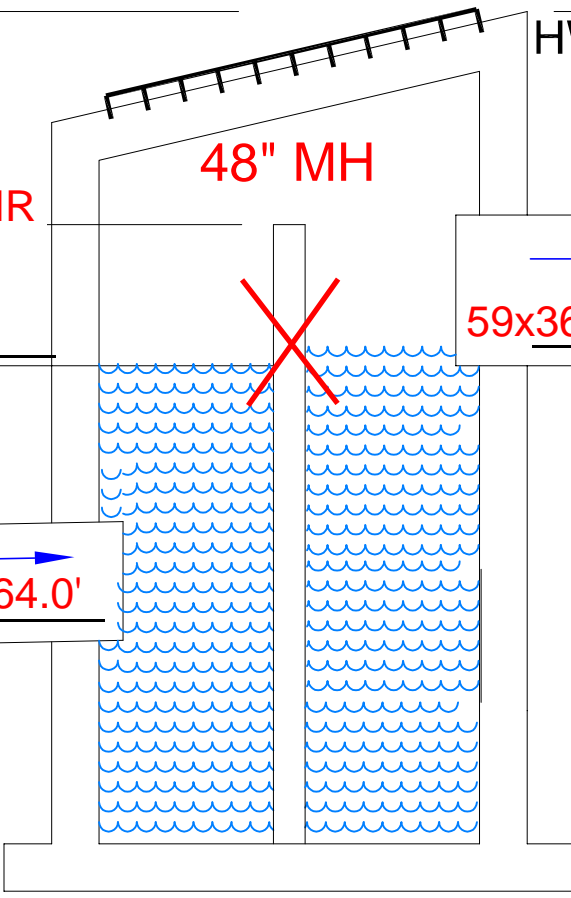
59x36" RCP 964.0'

TOP BACK 972.45'

HWL - 971.3'

48" MH

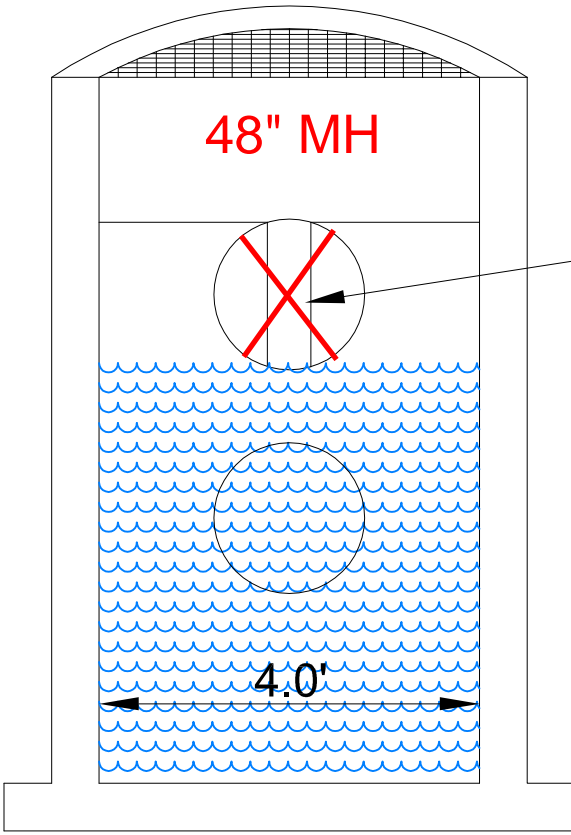
59x36"-RCP-967.5'



48" MH

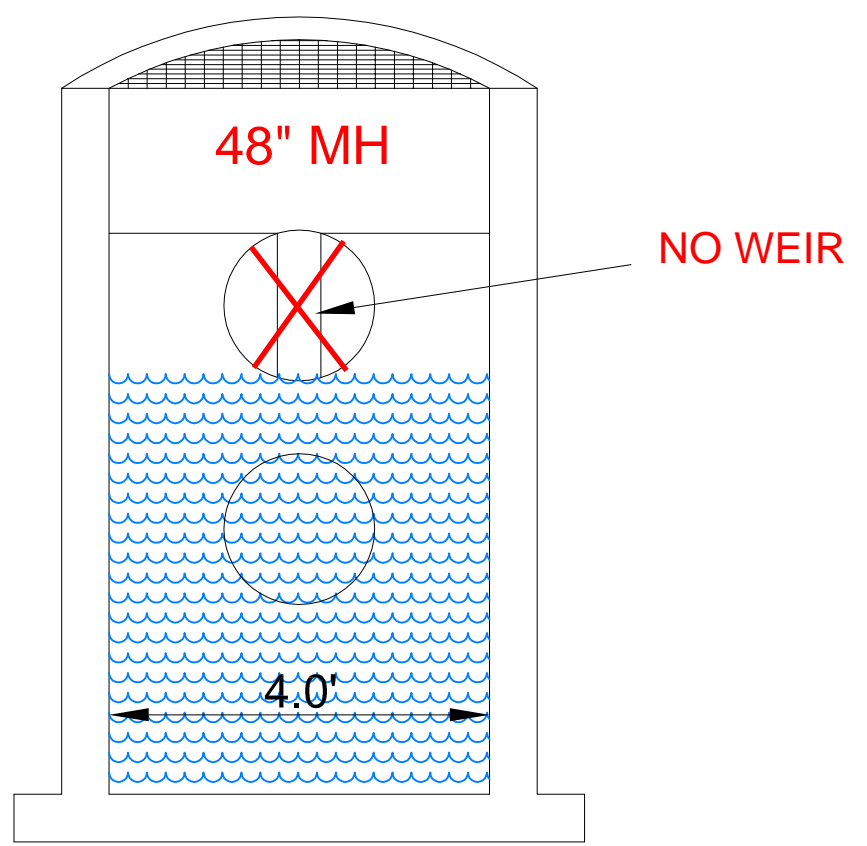
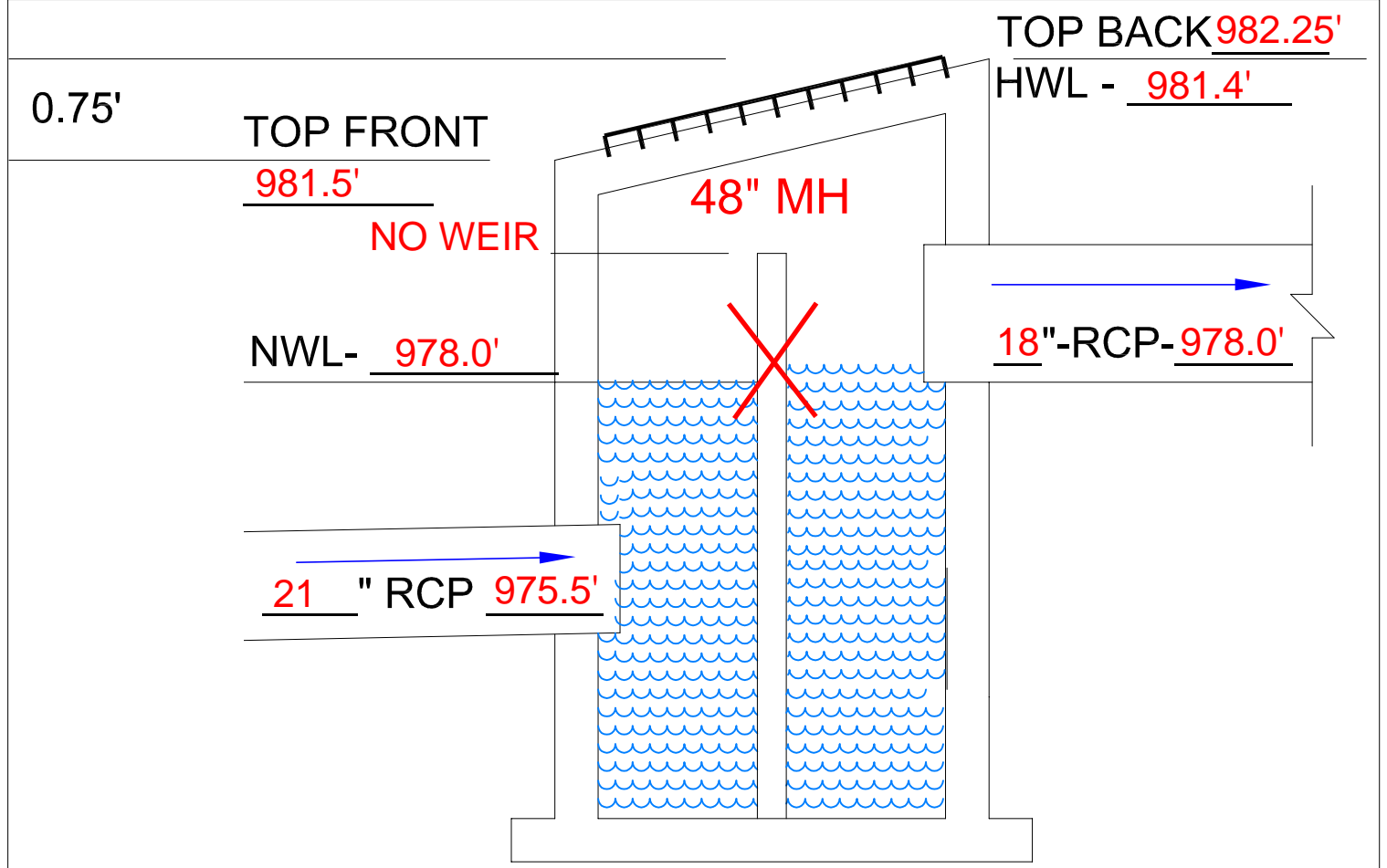
NO WEIR

NWL- 967.5'



4.0'

OUTLET STRUCTURE - Pond 5S



**APPENDIX F – HOLLYDALE GOLF COURSE FLOODPLAIN VOLUME
ANALYSIS**

Hollydale Golf Course

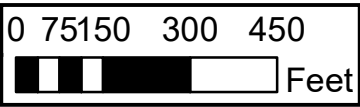
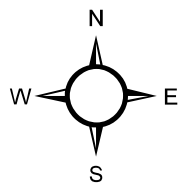
Atlas 14 100 Year Inundation Map



Bassett Creek WMC - Atlas 14
100 Year Inundation Levels

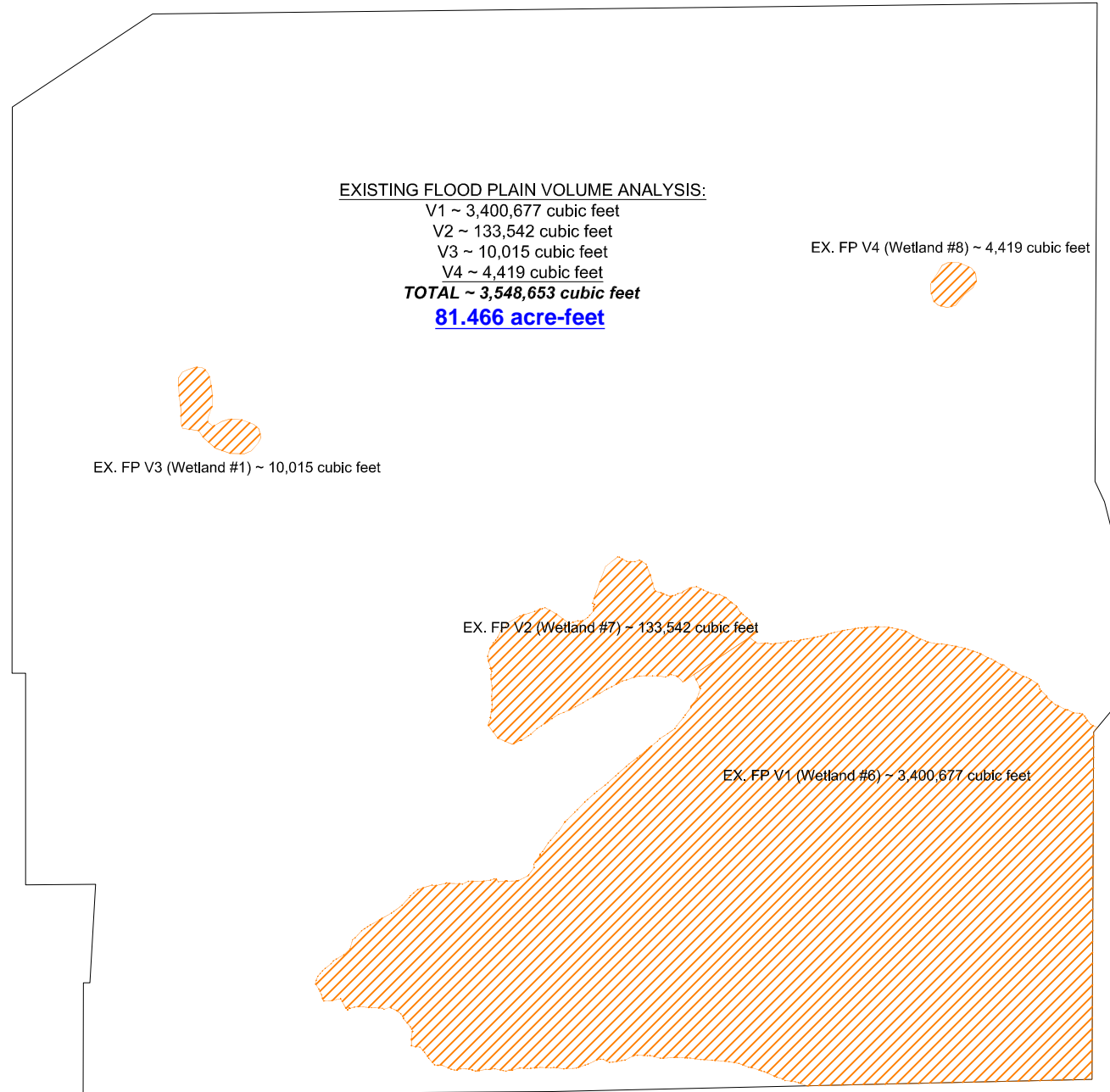
Legend

- Atlas14_100yr_Inundations
- BAP
- EAP
- Storm_Main
- Storm_Culvert
- Water Quality Pond
- Wetland
- Wetland Mitigation
- Lakes
- Parcels



HOLLYDALE GOLF COURSE - SBI FLOOD PLAIN VOLUME ANALYSIS - 06/24/2020

EXISTING CONDITIONS



PROPOSED CONDITIONS

