MidAtlantic
Engineering Partners

March 5, 2020
August 31,2020

Project # APR-184

STORMWATER MANAGEMENT REPORT
FOR
AMERICAN PROPERTIES

BLOCK 28, LOT 15 & 21

WEST WINDSOR TOWNSHIP, MERCER COUNTY, NEW JERSEY

PREPARED FOR:

AMERICAN PROPERTIES, LLC

PREPARED BY:

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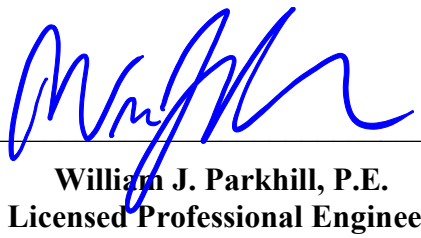

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I. INTRODUCTION

A. Project Description & Location

The proposed project outlined in this report involves the construction of forty-four (44) two-story residential buildings consisting of a mix of 194 townhouse units and 60 apartment units, one 4-bedroom group home (by others) one (1) clubhouse building and amenity area, proposed internal roadways, associated parking, stormwater management measures and associated grading. The stormwater management basin proposed in this application is sized to accommodate flows from the developed area during the 2, 10 and 100-year storms. The site is located on Edinburg Road (County Route 535) in West Windsor Township, Mercer County and is known as Block 28, Lot 15 & 21. Though the site contains a total of 66.74 acres, the total project area/disturbance from the development is 35.1 acres.

B. Existing Site Conditions

The proposed project site is primarily undeveloped farmland. However, to the south near Edinburg Road (County Route 535) there is a single-family home with a detached garage (which were recently demolished), a barn and farmland associated infrastructure and gravel areas. The site contains substantial wetlands areas, which have been verified by the New Jersey Department of Environmental Protection (NJDEP) in a Letter of Interpretation (LOI). All required State / wetlands permits will be obtained prior to development. In general, the topography of the subject property slopes from south to north towards the wetland areas, drainage ditches and an existing pond. Onsite elevations range approximately from a high area of ±106 feet towards the front of the property near Edinburg Road to a low area of ±92 feet near the pond and western property line. Soils onsite within the project area consist of Sassafras Sandy Loam (SacC), which are categorized as Hydrologic Soil Group 'B', Mattapex and Bertie Loams (MBYB), which is categorized as Hydrologic Soil Group 'C', Othello Silt Loams (OthA) and Portsmouth Variant Silt Loam (PortA), which is categorized as Hydrologic Soil Group 'C/D'.

II. METHODOLOGY AND SOFTWARE

In accordance with the NJDEP rules regarding stormwater management, N.J.A.C. 7:8-1.6, the criteria to handle stormwater for major developments is to design acceptable systems that effectively manage the stormwater with respect to applicable regulations regarding water quality, runoff quantity and groundwater recharge. Each of these requirements was considered in a pre vs. post-development runoff analysis, conducted in conjunction with an evaluation of site conditions, local ordinance and proposed construction specifications. This was done to facilitate designing an appropriate stormwater management system for the proposed site, based on sound engineering principles to maximize water quality and to reduce peak flows offsite per the NJDEP stormwater regulations.

Accordingly, stormwater management analysis in this report consists of: (1) calculating runoff from the 2, 10 and 100-year storm events for the pre and post-development conditions of each drainage area; (2) comparing the results of the pre-developed and post-developed conditions to ensure that an appropriate stormwater management plan has been implemented; and (3) providing a conclusion of the results of the analysis. The analysis demonstrates that the stormwater runoff will not adversely affect the area as a result of the proposed development of the property. Runoff is analyzed as a total flow at the point of analysis.

The existing pre- and proposed post-development flows were calculated using the USDA Natural Resources Conservation Service methodology, as described in Technical Release 55 - Urban Hydrology for Small Watersheds (TR-55), dated June 1986. These modeling techniques are incorporated in the HydroCAD 10.00 software package, which was used to analyze the pre and post development flows. All undisturbed areas of the site have been assumed to be in good hydrologic condition, with good cover for the pre-development analysis. Any significant land features and structures that could reduce pre-construction stormwater runoff rates and volumes, including depressions and culverts have been accounted for in the pre-development analysis.

The structural stormwater management measures have been designed to take into account the existing site conditions including environmentally critical areas, slopes, depth to seasonally high water table, soil types and permeability. They have also been designed to be strong, durable and corrosion resistant so as to minimize maintenance, facilitate maintenance and repairs and ensure proper functioning within the context of their operational requirements.

III. PRE-DEVELOPMENT CONDITIONS

To determine the peak runoff rates from the site for 2, 10 and 100-year storms before development, the project area was analyzed as two (2) existing drainage areas (EA-1, EA-2). Drainage area EA-1 consists of 2.82 acres, of which 0.65 acres is impervious surfaces. This area flows toward Edinburg Road. Drainage area EA-2 consists of 32.44 acres, of which 0.24 acres is impervious surfaces. This area flows northwest toward the wetlands and existing pond. Time of concentration was calculated assuming 150 LF of sheet flow and then remaining as shallow concentrated flows. Runoff for the pre-developed site was calculated using the HydroCAD 10.00 software package and is summarized in the table below:

2-Year Storm (cfs)	10-Year Storm (cfs)	100-Year Storm (cfs)
1.49	3.14	6.88

Table 1: EA-1 Pre-Development Runoff Summary

2-Year Storm (cfs)	10-Year Storm (cfs)	100-Year Storm (cfs)
11.67	26.12	57.78

Table 1: EA-2 Pre-Development Runoff Summary

IV. POST-DEVELOPMENT STORMWATER MANAGEMENT SUMMARY

A. Water Quantity

In the post development condition, the contributing drainage area to Old Trenton Road is reduced from 2.82 acres to 0.53 acres. Accordingly, both the runoff rate and the volume directed to the road are reduced as summarized in Table 3 below.

Storm Event (yr)	Pre-Dev Runoff (cfs)	Post-Dev Runoff (cfs)	Pre-Dev Volume (ac-ft.)	Post-Dev Volume (ac-ft.)
2	1.49	0.53	0.29	0.07
10	3.14	1.00	0.57	0.12
100	6.88	2.05	1.21	0.24

Table 3: Offsite DA-1 Allowable Runoff Summary (Old Trenton Road)

The majority of site runoff will be collected via a conventional piped stormwater collection system and conveyed to a wet pond located in the northern portion of the development. Runoff from 29.8 acres of the 35.1 acre developed area is sent to the wet pond, and 4.8 acres is directed overland away from the development to the existing wetlands and pond. The allowable peak runoff rates for the post-developed site were found by applying the required reductions to the pre-developed peak flows for the onsite disturbed areas as summarized in Table 4 below.

Storm Event (yr)	Pre-Dev Runoff (cfs)	% Reduction	Allowable Runoff (cfs)	Post-Dev Runoff (cfs)
2	11.67	50%	5.83	5.82
10	26.12	75%	19.59	19.34
100	57.78	80%	46.22	45.88

Table 4: DA-1, DA-2 & Offsite DA-2 Allowable Runoff Summary (Existing Pond)

In the three analyzed storms, the proposed post-development runoff rates are less than the required reductions, thus meeting the requirements of the NJDEP Stormwater Management rules for stormwater quantity reductions.

B. Wet Pond Basin Discussion (Methodology)

The proposed wet pond basin is located in the northern portion of the development and accepts stormwater runoff from 29.8 acres of the proposed development, of which 18.4 acres is impervious. Per the New Jersey Stormwater Best Management Practices Manual, wet ponds must have a minimum inflow drainage area of 20 acres in order to function properly. This pond will have a permanent water surface elevation controlled by an outlet structure that discharges to the existing wetlands. The soil logs attached in Appendix H demonstrate seasonal high and groundwater elevations that justify the proposed permanent water surface elevation of 92.00. The surface area of the pond will be approximately 1.10 acres, with a mean depth of 3.35 feet to maintain a healthy environment as indicated in the NJBMP. The volume of runoff during the 100-year storm would result in an increase of 6.09 feet in the depth of the pond. Stormwater flows to the basin will be attenuated by the outlet structure, with temporary storage provided above the normal water surface elevation. Stormwater will be conveyed to this basin via a conventional gravity storm sewer system. Runoff discharging to the basin was analyzed with the HydroCAD 10.00 computer program utilizing the proposed basin volume characteristics. A summary of peak inflows, outflows, storage volumes, and basin elevations, are outlined below:

Storm (Yr.)	Basin Inflow (cfs)	Basin Outflow (cfs)	Maximum Pond Storage Above Permanent Pool (cubic ft)	Maximum Pond Storage (cubic ft)	Basin Elevation
WQ	33.54	0.35	66,479	227,759	93.32
2	45.24	4.98	149,711	310,991	94.74
10	76.22	14.52	223,847	385,127	95.91
100	139.97	35.56	375,464	536,744	98.09

Table 5: Wet Pond Basin Summary

Flows from the basin are attenuated by an outlet structure with the first outlet being a 3.5" orifice set at the permanent pool elevation of 92.00. The second is a 26" wide by 14" high orifice at elevation 94.00. The third is a 24" wide by 12" high orifice at elevation 96.15. These devices control flows from the 2,10, and 100-year storm events. For storms larger than a 100-year storm, the grate is set at elevation 98.05. A secondary 100' wide emergency spillway is also set at elevation 98.20 and is provided as a means of discharge in case of a complete basin failure. The

outflow from the outlet structure will discharge via a 30" pipe to the existing pond along the western portion of the development. The pipe will discharge to a riprap scour hole and dissipate the flow into the area.

C. Water Quality

The NJDEP Stormwater Management rules require that stormwater management measures be designed to reduce the post-construction load of total suspended solids (TSS) in stormwater runoff generated from the water quality design storm by 80 percent of the anticipated load from the developed site. In order to achieve 80% TSS removal, the wet pond's permanent pool storage volume must be at least three times greater than the water quality design storm volume and/or it must provide an extended detention time of at least 12 hours. The water quality design storm inflow volume is 1.425 acre feet (62,073 ft^3). The permanent pool elevation of 92.00 has a storage volume of 3.70 acre feet (161,280 ft^3), approximately 2.6 times greater than the water quality design storm volume. Since the wet pond also provides extended detention for greater than 24 hours, the proposed design achieves an estimated 86% TSS removal rate, thus satisfying the NJDEP requirements for water quality.

D. Emergency Spillways

An emergency spillway and emergency overflow grate has been incorporated into the design of the basin in the event the outlets become clogged or storms larger than the 100-year storm event occur. Flow discharging over the spillways will flow overland north toward the existing onsite ditch, ultimately to the offsite stream. The outlet grates are used as an emergency overflow. The proposed spillway is 170 ft. long and 10 ft. wide. The spillway elevation is 98.20 with the berm elevation set at least one foot above the spillway elevation at 99.20. The velocities were calculated using a trapezoidal channel section, with 3:1 side slopes, the bottom width equal to the spillway length, and the bottom slope equal to the basin down slope. The spillway was assumed to be vegetated, in good condition, and was analyzed under a D vegetal retardance class, with loam soils.

The spillways were analyzed using Erosion Control Materials Design Software, version 5.0, by North American Green, which has been developed to analyze channel erosion. A North

American Green P550 permanent liner is proposed at the spillway and down the basin slope of each basin. According to the North American Green software, the spillway is shown to be stable with the permanent liner. The emergency spillway stability calculations, provided in Appendix F of this report, were calculated for the 100-year storm, with the basin filled to the spillway. Hydrograph routings for the 100-year storm down the spillway with the basin full are provided in Appendix C.

E. Groundwater Recharge

The NJDEP Stormwater rules require recharge of the increase in the post-development 2-year runoff volume or recharge 100% of the sites average annual groundwater recharge volume in the post-developed condition. Per the New Jersey Stormwater Best Management Practices Manual, the groundwater recharge requirement is not applicable to sites with soils not suitable for recharge. Soils onsite primarily consist of Hydrologic Soil Group (HSG) C & C/D soils, which may exhibit low permeability rates. Per the New Jersey Stormwater Best Management Practices Manual, the minimum design soil permeability rate for a recharge BMP shall be 0.2-0.5 in/hr. Table 1 of Appendix E of the NJBMP Manual provides a range permeability rates at differing depths in association with a given HSG. The geotechnical report prepared for the project and submitted as part of this application determined onsite infiltration rates ranging from 0.04 in/hr to substantially less. These rates are indicative of HSG D soils, where groundwater recharge is not occurring. Therefore, the project site is not suitable for groundwater recharge.

F. Soil Erosion and Sediment Control

To minimize the effects of erosion, the proposed design and construction concepts and practices incorporate the standards for Soil Erosion and Sediment Control in New Jersey as provided by the New Jersey State Soil Conservation Committee. These erosion deterrents include but are not limited to the use of silt fence or other sediment barriers at downgrade slopes and inlet protection. In addition, dust control measures, stone tracking mats, and temporary and permanent vegetative cover will be utilized. Riprap aprons and scour holes will be constructed at all stormwater outfalls. General notes and guidelines are provided on the Soil Erosion and Sediment

Control Plans for the contractor in order to ensure against soil erosion on the site while construction is in progress.

The soil erosion and sediment control plans will be reviewed by the Mercer Soil Conservation District, which also monitors site activities during construction. The Soil Conservation District will inspect the site and may also recommend additional erosion and sediment control measures as appropriate.

G. Storm Drainage System Discussion (Methodology):

The stormwater conduits on site were designed according to the following criteria:

1. The Rational Method was used to determine the design flows.
2. NJ Rainfall Intensity Curves, with a minimum 25-year storm frequency were utilized to size all stormwater conduits.
3. All conduits are designed to convey the design storm by open channel flow.
4. A minimum time of concentration (Tc) of 10 minutes was used.
5. All proposed stormwater conduits are reinforced concrete pipe, Class III with an "n" value of 0.013, or high density polyethylene pipe with an "n" value of 0.011.
1. A minimum of 12" of cover is provided for all Class III Stormwater conduits.

IV. CONCLUSION

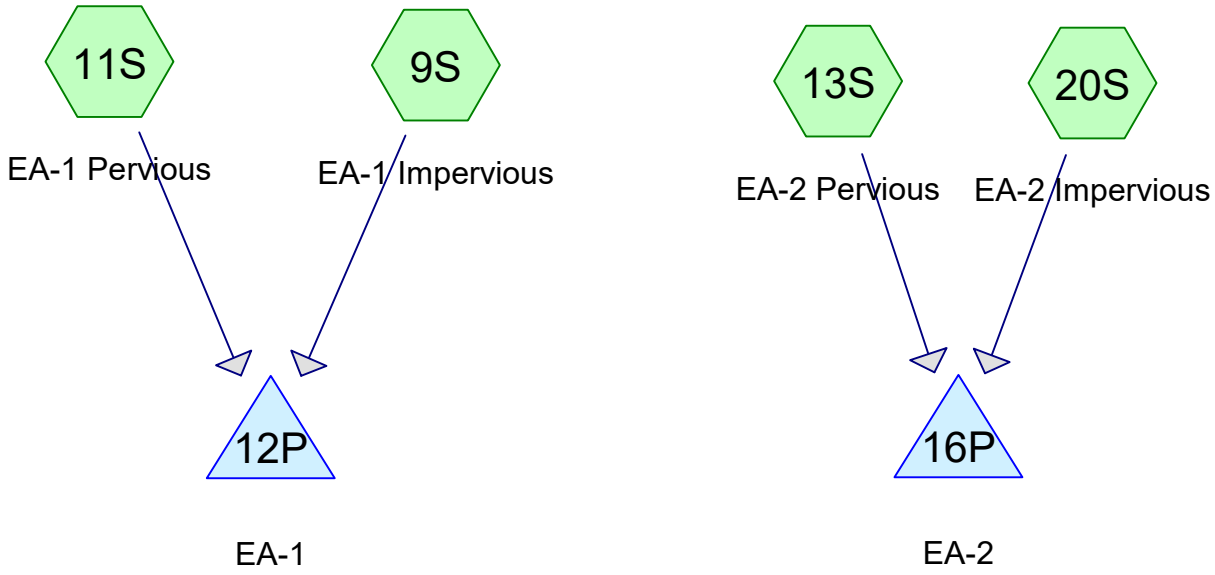
The routing summaries provided for the stormwater management system demonstrate that the design of this project will store the increases in the post-development runoff volumes and attenuate the outflows to below the pre-developed peak runoff rates in accordance with the required reductions. This design also exceeds water-quality standards through utilization of a proposed wet pond with a that achieves an estimated 86% TSS removal.

The stormwater management basin has been designed to meet the requirements of the "NJDEP Stormwater and Non-point Source Pollution – Best Management Practices Manual." It is designed for minimum disturbance to the natural landscape.

This stormwater management system meets the technical requirements as well as the overall intent of the NJDEP regulations in an aesthetically pleasing and technically compliant manner.

APPENDIX A

PRE-DEVELOPMENT DRAINAGE ANALYSIS



Subcat Reach Pond Link

Routing Diagram for 2020-03-05 Pre Dev
Prepared by {enter your company name here}, Printed 3/5/2020

Summary for Subcatchment 9S: EA-1 Impervious

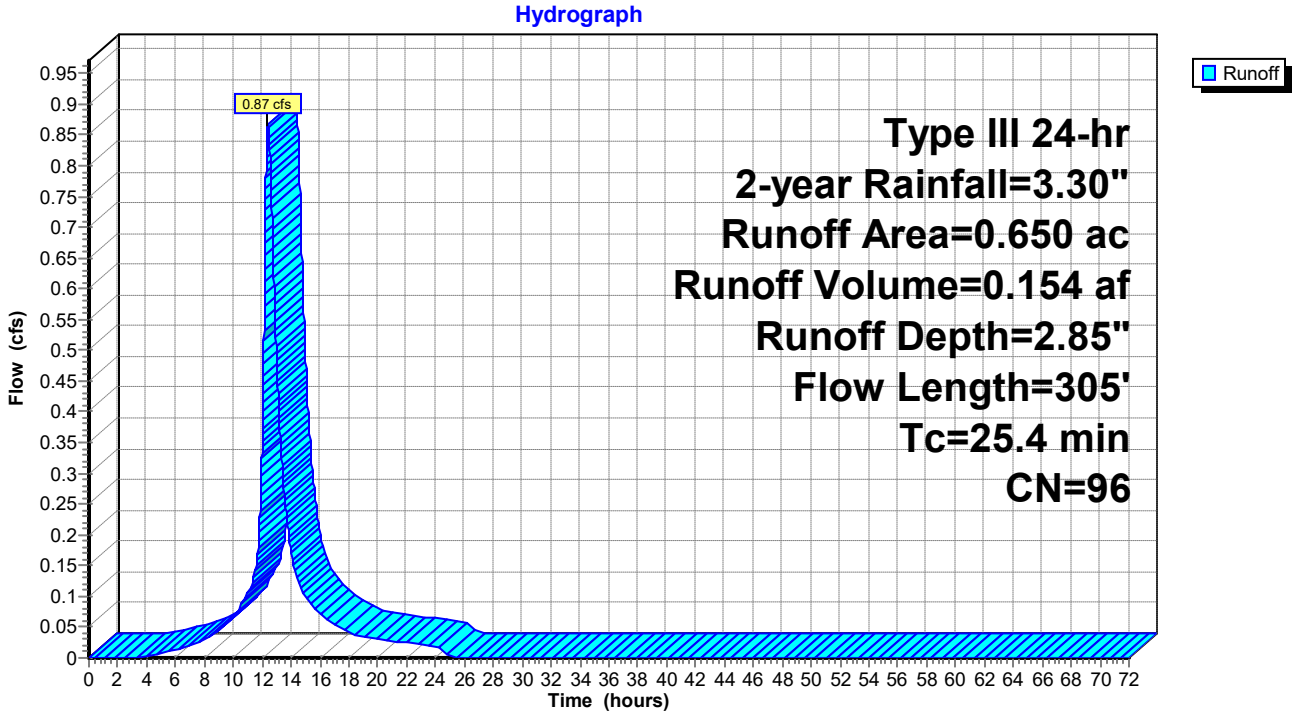
Runoff = 0.87 cfs @ 12.37 hrs, Volume= 0.154 af, Depth= 2.85"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.30"

	Area (ac)	CN	Description
	0.010	98	Unconnected pavement, HSG B
	0.520	96	Gravel surface, HSG B
*	0.120	98	Roofs, HSG B
	0.650	96	Weighted Average
	0.520		80.00% Pervious Area
	0.130		20.00% Impervious Area
	0.010		7.69% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.1	150	0.0073	0.11		**Sheet Flow, Small Grains & Legumes** Cultivated: Residue>20% n= 0.170 P2= 3.30"
3.3	155	0.0078	0.79		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
25.4	305	Total			

Subcatchment 9S: EA-1 Impervious



Hydrograph for Subcatchment 9S: EA-1 Impervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.03	0.00	0.00
2.00	0.07	0.00	0.00
3.00	0.10	0.00	0.00
4.00	0.14	0.01	0.00
5.00	0.19	0.02	0.01
6.00	0.24	0.04	0.01
7.00	0.30	0.07	0.02
8.00	0.38	0.12	0.03
9.00	0.48	0.19	0.05
10.00	0.62	0.31	0.07
11.00	0.83	0.47	0.11
12.00	1.65	1.24	**0.35**
13.00	2.47	2.04	**0.48**
14.00	2.68	2.23	0.17
15.00	2.82	2.37	0.10
16.00	2.92	2.48	0.07
17.00	3.00	2.55	0.05
18.00	3.06	2.61	0.04
19.00	3.11	2.66	0.03
20.00	3.16	2.71	0.03
21.00	3.20	2.75	0.03
22.00	3.24	2.79	0.02
23.00	3.27	2.82	0.02
24.00	**3.30**	**2.85**	0.02
25.00	3.30	2.85	0.00
26.00	3.30	2.85	0.00
27.00	3.30	2.85	0.00
28.00	3.30	2.85	0.00
29.00	3.30	2.85	0.00
30.00	3.30	2.85	0.00
31.00	3.30	2.85	0.00
32.00	3.30	2.85	0.00
33.00	3.30	2.85	0.00
34.00	3.30	2.85	0.00
35.00	3.30	2.85	0.00
36.00	3.30	2.85	0.00
37.00	3.30	2.85	0.00
38.00	3.30	2.85	0.00
39.00	3.30	2.85	0.00
40.00	3.30	2.85	0.00
41.00	3.30	2.85	0.00
42.00	3.30	2.85	0.00
43.00	3.30	2.85	0.00
44.00	3.30	2.85	0.00
45.00	3.30	2.85	0.00
46.00	3.30	2.85	0.00
47.00	3.30	2.85	0.00
48.00	3.30	2.85	0.00
49.00	3.30	2.85	0.00
50.00	3.30	2.85	0.00
51.00	3.30	2.85	0.00
52.00	3.30	2.85	0.00
53.00	3.30	2.85	0.00
54.00	3.30	2.85	0.00
55.00	3.30	2.85	0.00
56.00	3.30	2.85	0.00
57.00	3.30	2.85	0.00
58.00	3.30	2.85	0.00
59.00	3.30	2.85	0.00
60.00	3.30	2.85	0.00
61.00	3.30	2.85	0.00
62.00	3.30	2.85	0.00
63.00	3.30	2.85	0.00
64.00	3.30	2.85	0.00
65.00	3.30	2.85	0.00
66.00	3.30	2.85	0.00
67.00	3.30	2.85	0.00
68.00	3.30	2.85	0.00
69.00	3.30	2.85	0.00
70.00	3.30	2.85	0.00
71.00	3.30	2.85	0.00
72.00	3.30	2.85	0.00

Summary for Subcatchment 11S: EA-1 Pervious

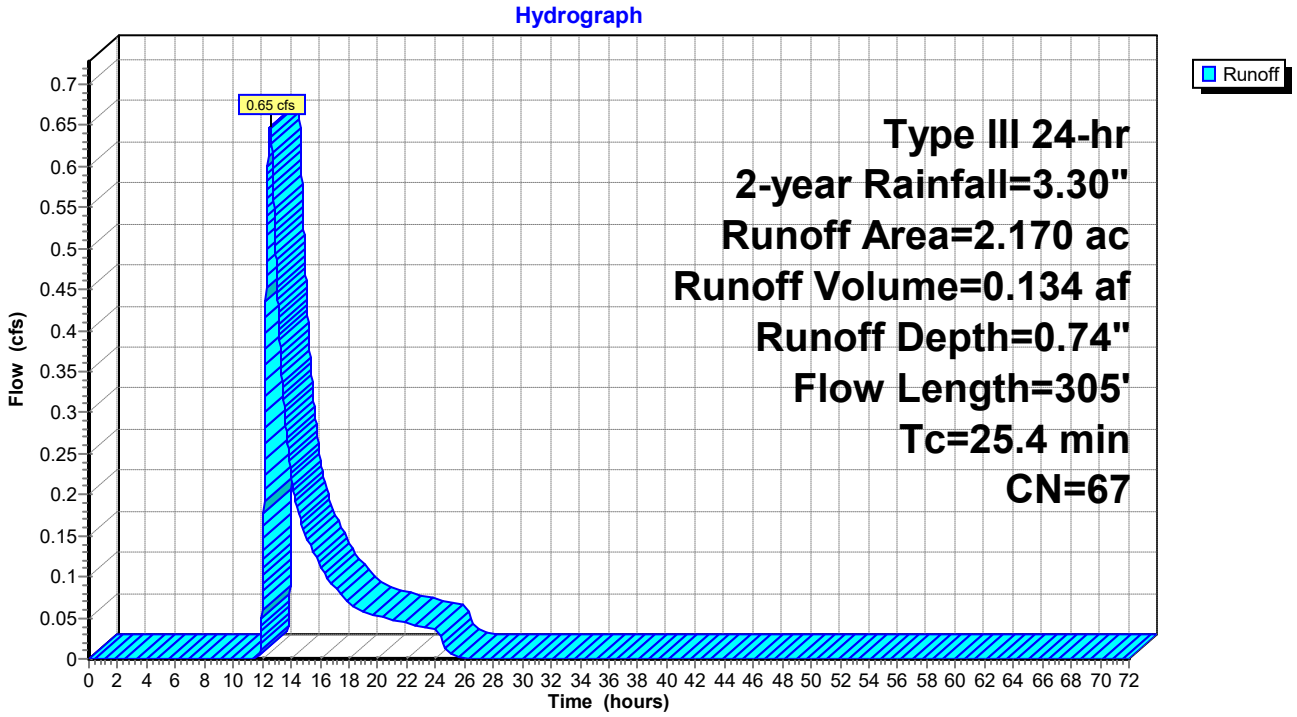
Runoff = 0.65 cfs @ 12.53 hrs, Volume= 0.134 af, Depth= 0.74"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.30"

Area (ac)	CN	Description
0.110	79	<50% Grass cover, Poor, HSG B
0.760	61	>75% Grass cover, Good, HSG B
1.300	69	Small grain, C&T + CR, Good, HSG B
2.170	67	Weighted Average
2.170		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.1	150	0.0073	0.11		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
3.3	155	0.0078	0.79		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
25.4	305	Total			

Subcatchment 11S: EA-1 Pervious



Hydrograph for Subcatchment 11S: EA-1 Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.03	0.00	0.00
2.00	0.07	0.00	0.00
3.00	0.10	0.00	0.00
4.00	0.14	0.00	0.00
5.00	0.19	0.00	0.00
6.00	0.24	0.00	0.00
7.00	0.30	0.00	0.00
8.00	0.38	0.00	0.00
9.00	0.48	0.00	0.00
10.00	0.62	0.00	0.00
11.00	0.83	0.00	0.00
12.00	1.65	0.08	**0.06**
13.00	2.47	0.35	**0.47**
14.00	2.68	0.43	0.22
15.00	2.82	0.50	0.15
16.00	2.92	0.55	0.11
17.00	3.00	0.59	0.09
18.00	3.06	0.62	0.07
19.00	3.11	0.64	0.06
20.00	3.16	0.67	0.05
21.00	3.20	0.69	0.05
22.00	3.24	0.71	0.04
23.00	3.27	0.72	0.04
24.00	**3.30**	**0.74**	0.04
25.00	3.30	0.74	0.01
26.00	3.30	0.74	0.00
27.00	3.30	0.74	0.00
28.00	3.30	0.74	0.00
29.00	3.30	0.74	0.00
30.00	3.30	0.74	0.00
31.00	3.30	0.74	0.00
32.00	3.30	0.74	0.00
33.00	3.30	0.74	0.00
34.00	3.30	0.74	0.00
35.00	3.30	0.74	0.00
36.00	3.30	0.74	0.00
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39.00	3.30	0.74	0.00
40.00	3.30	0.74	0.00
41.00	3.30	0.74	0.00
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46.00	3.30	0.74	0.00
47.00	3.30	0.74	0.00
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51.00	3.30	0.74	0.00
52.00	3.30	0.74	0.00
53.00	3.30	0.74	0.00
54.00	3.30	0.74	0.00
55.00	3.30	0.74	0.00
56.00	3.30	0.74	0.00
57.00	3.30	0.74	0.00
58.00	3.30	0.74	0.00
59.00	3.30	0.74	0.00
60.00	3.30	0.74	0.00
61.00	3.30	0.74	0.00
62.00	3.30	0.74	0.00
63.00	3.30	0.74	0.00
64.00	3.30	0.74	0.00
65.00	3.30	0.74	0.00
66.00	3.30	0.74	0.00
67.00	3.30	0.74	0.00
68.00	3.30	0.74	0.00
69.00	3.30	0.74	0.00
70.00	3.30	0.74	0.00
71.00	3.30	0.74	0.00
72.00	3.30	0.74	0.00

Summary for Subcatchment 13S: EA-2 Pervious

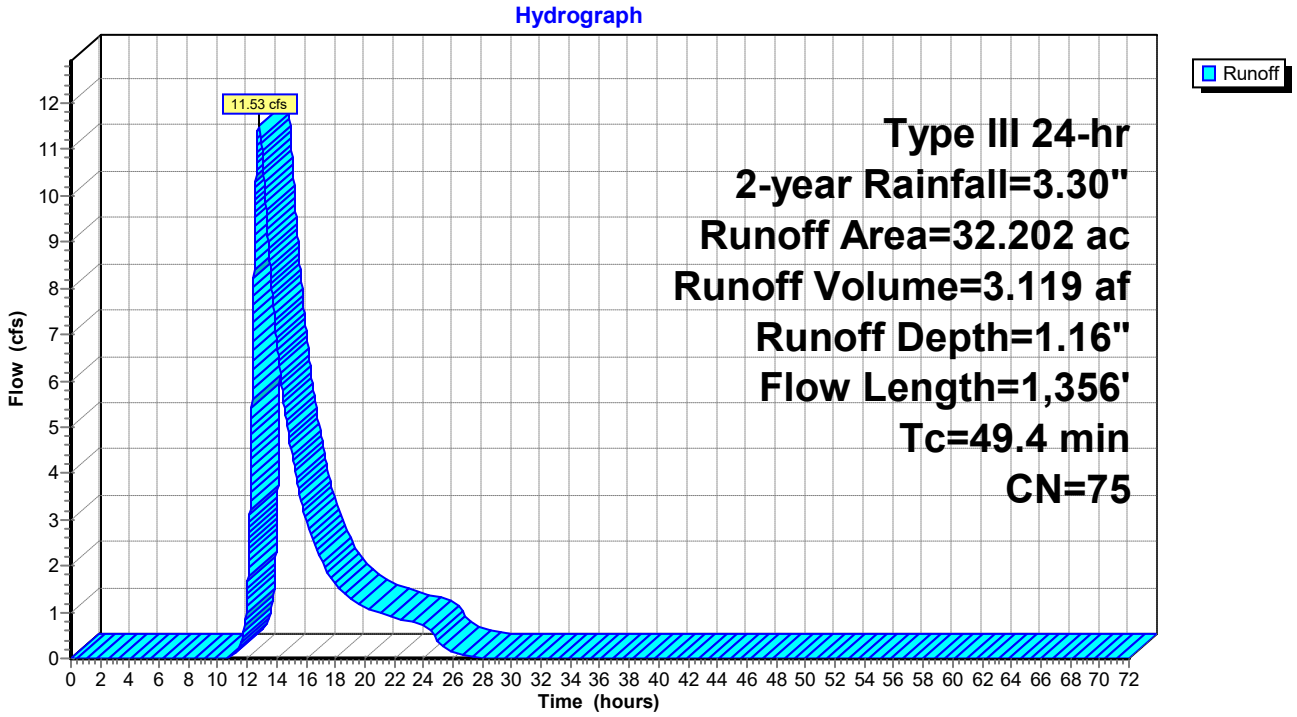
Runoff = 11.53 cfs @ 12.84 hrs, Volume= 3.119 af, Depth= 1.16"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.30"

Area (ac)	CN	Description
9.851	80	Small grain, C&T + CR, Good, HSG D
11.559	77	Small grain, C&T + CR, Good, HSG C
10.792	69	Small grain, C&T + CR, Good, HSG B
32.202	75	Weighted Average
32.202		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	15	0.0060	0.07		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
0.2	10	0.0100	0.67		**Sheet Flow, Dirt Road** Smooth surfaces n= 0.011 P2= 3.30"
18.4	125	0.0080	0.11		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
5.2	154	0.0030	0.49		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
1.5	108	0.0167	1.16		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
3.9	328	0.0237	1.39		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
2.6	125	0.0081	0.81		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
9.7	302	0.0033	0.52		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
4.1	189	0.0072	0.76		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
49.4	1,356	Total			

Subcatchment 13S: EA-2 Pervious



Hydrograph for Subcatchment 13S: EA-2 Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.03	0.00	0.00
2.00	0.07	0.00	0.00
3.00	0.10	0.00	0.00
4.00	0.14	0.00	0.00
5.00	0.19	0.00	0.00
6.00	0.24	0.00	0.00
7.00	0.30	0.00	0.00
8.00	0.38	0.00	0.00
9.00	0.48	0.00	0.00
10.00	0.62	0.00	0.00
11.00	0.83	0.01	0.06
12.00	1.65	0.22	**1.38**
13.00	2.47	0.64	**11.03**
14.00	2.68	0.76	6.85
15.00	2.82	0.84	4.47
16.00	2.92	0.91	3.00
17.00	3.00	0.96	2.15
18.00	3.06	1.00	1.62
19.00	3.11	1.04	1.28
20.00	3.16	1.07	1.10
21.00	3.20	1.09	0.98
22.00	3.24	1.12	0.89
23.00	3.27	1.14	0.81
24.00	**3.30**	**1.16**	0.73
25.00	3.30	1.16	0.36
26.00	3.30	1.16	0.12
27.00	3.30	1.16	0.03
28.00	3.30	1.16	0.01
29.00	3.30	1.16	0.00
30.00	3.30	1.16	0.00
31.00	3.30	1.16	0.00
32.00	3.30	1.16	0.00
33.00	3.30	1.16	0.00
34.00	3.30	1.16	0.00
35.00	3.30	1.16	0.00
36.00	3.30	1.16	0.00
37.00	3.30	1.16	0.00
38.00	3.30	1.16	0.00
39.00	3.30	1.16	0.00
40.00	3.30	1.16	0.00
41.00	3.30	1.16	0.00
42.00	3.30	1.16	0.00
43.00	3.30	1.16	0.00
44.00	3.30	1.16	0.00
45.00	3.30	1.16	0.00
46.00	3.30	1.16	0.00
47.00	3.30	1.16	0.00
48.00	3.30	1.16	0.00
49.00	3.30	1.16	0.00
50.00	3.30	1.16	0.00
51.00	3.30	1.16	0.00
52.00	3.30	1.16	0.00
53.00	3.30	1.16	0.00
54.00	3.30	1.16	0.00
55.00	3.30	1.16	0.00
56.00	3.30	1.16	0.00
57.00	3.30	1.16	0.00
58.00	3.30	1.16	0.00
59.00	3.30	1.16	0.00
60.00	3.30	1.16	0.00
61.00	3.30	1.16	0.00
62.00	3.30	1.16	0.00
63.00	3.30	1.16	0.00
64.00	3.30	1.16	0.00
65.00	3.30	1.16	0.00
66.00	3.30	1.16	0.00
67.00	3.30	1.16	0.00
68.00	3.30	1.16	0.00
69.00	3.30	1.16	0.00
70.00	3.30	1.16	0.00
71.00	3.30	1.16	0.00
72.00	3.30	1.16	0.00

Summary for Subcatchment 20S: EA-2 Impervious

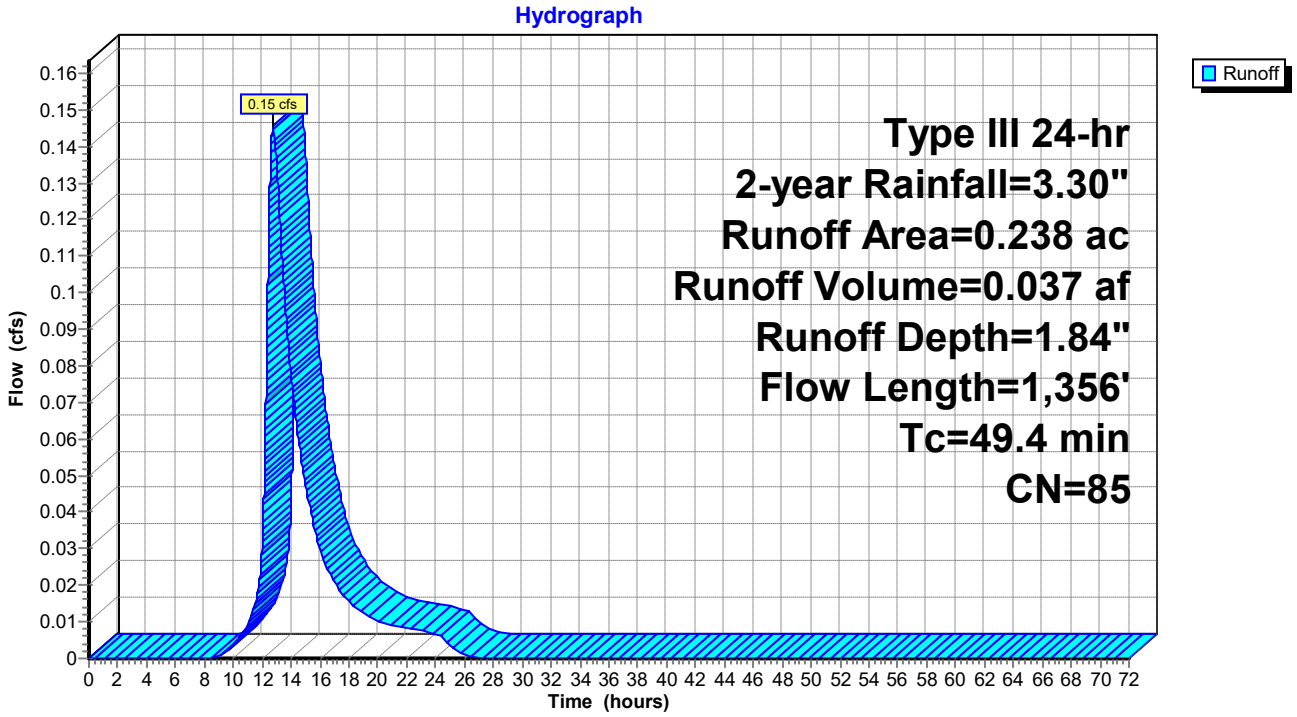
Runoff = 0.15 cfs @ 12.74 hrs, Volume= 0.037 af, Depth= 1.84"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.30"

Area (ac)	CN	Description
0.120	82	Dirt roads, HSG B
0.074	87	Dirt roads, HSG C
0.044	89	Dirt roads, HSG D
0.238	85	Weighted Average
0.238		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	15	0.0060	0.07		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
0.2	10	0.0100	0.67		**Sheet Flow, Dirt Road** Smooth surfaces n= 0.011 P2= 3.30"
18.4	125	0.0080	0.11		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
5.2	154	0.0030	0.49		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
1.5	108	0.0167	1.16		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
3.9	328	0.0237	1.39		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
2.6	125	0.0081	0.81		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
9.7	302	0.0033	0.52		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
4.1	189	0.0072	0.76		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
49.4	1,356	Total			

Subcatchment 20S: EA-2 Impervious



Hydrograph for Subcatchment 20S: EA-2 Impervious

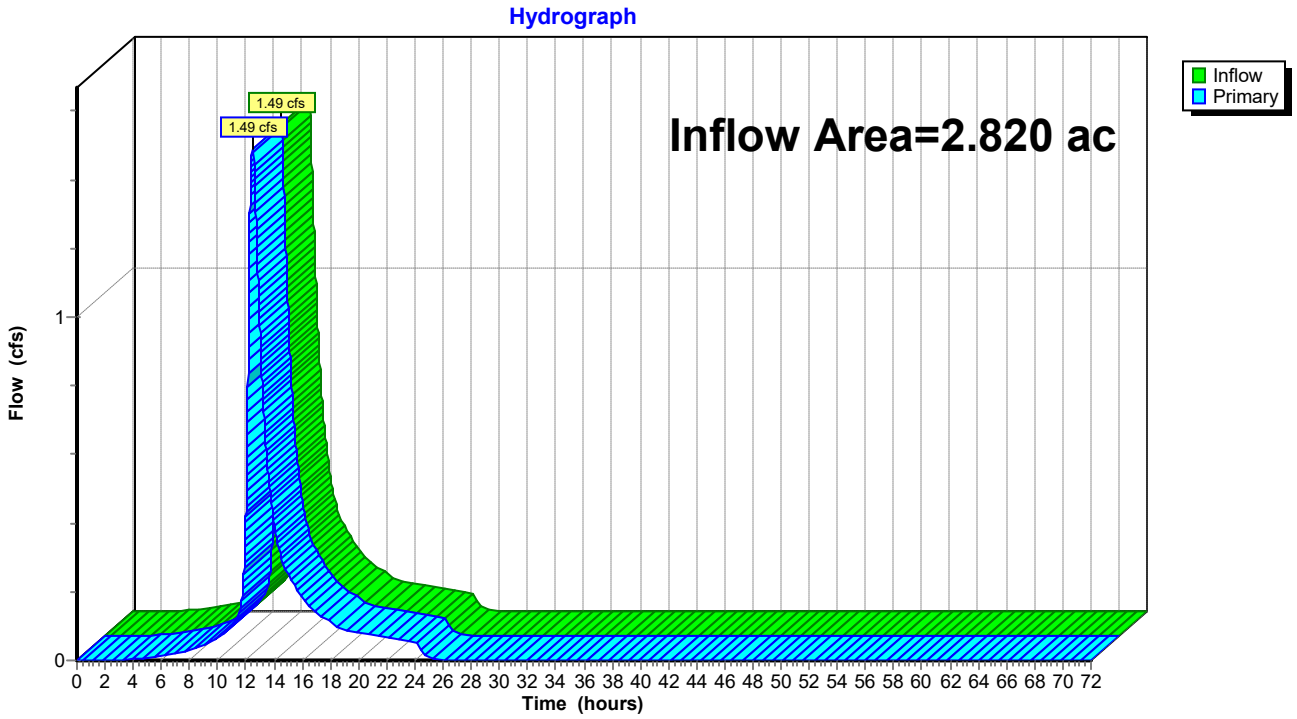
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.03	0.00	0.00
2.00	0.07	0.00	0.00
3.00	0.10	0.00	0.00
4.00	0.14	0.00	0.00
5.00	0.19	0.00	0.00
6.00	0.24	0.00	0.00
7.00	0.30	0.00	0.00
8.00	0.38	0.00	0.00
9.00	0.48	0.01	0.00
10.00	0.62	0.04	0.00
11.00	0.83	0.10	0.01
12.00	1.65	0.55	**0.03**
13.00	2.47	1.16	**0.13**
14.00	2.68	1.32	0.08
15.00	2.82	1.44	0.05
16.00	2.92	1.52	0.03
17.00	3.00	1.59	0.02
18.00	3.06	1.64	0.02
19.00	3.11	1.68	0.01
20.00	3.16	1.72	0.01
21.00	3.20	1.76	0.01
22.00	3.24	1.79	0.01
23.00	3.27	1.82	0.01
24.00	**3.30**	**1.84**	0.01
25.00	3.30	1.84	0.00
26.00	3.30	1.84	0.00
27.00	3.30	1.84	0.00
28.00	3.30	1.84	0.00
29.00	3.30	1.84	0.00
30.00	3.30	1.84	0.00
31.00	3.30	1.84	0.00
32.00	3.30	1.84	0.00
33.00	3.30	1.84	0.00
34.00	3.30	1.84	0.00
35.00	3.30	1.84	0.00
36.00	3.30	1.84	0.00
37.00	3.30	1.84	0.00
38.00	3.30	1.84	0.00
39.00	3.30	1.84	0.00
40.00	3.30	1.84	0.00
41.00	3.30	1.84	0.00
42.00	3.30	1.84	0.00
43.00	3.30	1.84	0.00
44.00	3.30	1.84	0.00
45.00	3.30	1.84	0.00
46.00	3.30	1.84	0.00
47.00	3.30	1.84	0.00
48.00	3.30	1.84	0.00
49.00	3.30	1.84	0.00
50.00	3.30	1.84	0.00
51.00	3.30	1.84	0.00
52.00	3.30	1.84	0.00
53.00	3.30	1.84	0.00
54.00	3.30	1.84	0.00
55.00	3.30	1.84	0.00
56.00	3.30	1.84	0.00
57.00	3.30	1.84	0.00
58.00	3.30	1.84	0.00
59.00	3.30	1.84	0.00
60.00	3.30	1.84	0.00
61.00	3.30	1.84	0.00
62.00	3.30	1.84	0.00
63.00	3.30	1.84	0.00
64.00	3.30	1.84	0.00
65.00	3.30	1.84	0.00
66.00	3.30	1.84	0.00
67.00	3.30	1.84	0.00
68.00	3.30	1.84	0.00
69.00	3.30	1.84	0.00
70.00	3.30	1.84	0.00
71.00	3.30	1.84	0.00
72.00	3.30	1.84	0.00

Summary for Pond 12P: EA-1

Inflow Area = 2.820 ac, 4.61% Impervious, Inflow Depth = 1.23" for 2-year event
Inflow = 1.49 cfs @ 12.47 hrs, Volume= 0.288 af
Primary = 1.49 cfs @ 12.47 hrs, Volume= 0.288 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond 12P: EA-1



Hydrograph for Pond 12P: EA-1

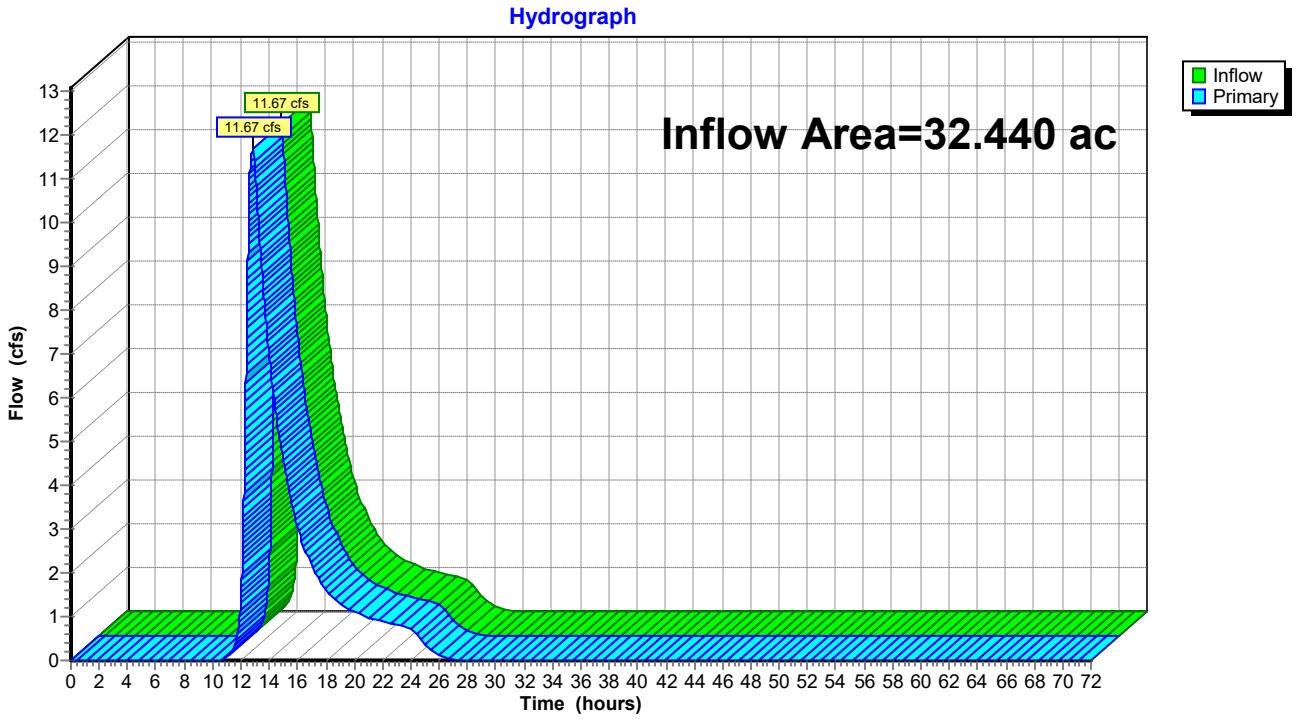
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
1.00	0.00		0.00
2.00	0.00		0.00
3.00	0.00		0.00
4.00	0.00		0.00
5.00	0.01		0.01
6.00	0.01		0.01
7.00	0.02		0.02
8.00	0.03		0.03
9.00	0.05		0.05
10.00	0.07		0.07
11.00	0.11		0.11
12.00	**0.42**		**0.42**
13.00	**0.95**		**0.95**
14.00	0.39		0.39
15.00	0.25		0.25
16.00	0.19		0.19
17.00	0.14		0.14
18.00	0.11		0.11
19.00	0.09		0.09
20.00	0.08		0.08
21.00	0.07		0.07
22.00	0.07		0.07
23.00	0.06		0.06
24.00	0.06		0.06
25.00	0.01		0.01
26.00	0.00		0.00
27.00	0.00		0.00
28.00	0.00		0.00
29.00	0.00		0.00
30.00	0.00		0.00
31.00	0.00		0.00
32.00	0.00		0.00
33.00	0.00		0.00
34.00	0.00		0.00
35.00	0.00		0.00
36.00	0.00		0.00
37.00	0.00		0.00
38.00	0.00		0.00
39.00	0.00		0.00
40.00	0.00		0.00
41.00	0.00		0.00
42.00	0.00		0.00
43.00	0.00		0.00
44.00	0.00		0.00
45.00	0.00		0.00
46.00	0.00		0.00
47.00	0.00		0.00
48.00	0.00		0.00
49.00	0.00		0.00
50.00	0.00		0.00
51.00	0.00		0.00
52.00	0.00		0.00
53.00	0.00		0.00
54.00	0.00		0.00
55.00	0.00		0.00
56.00	0.00		0.00
57.00	0.00		0.00
58.00	0.00		0.00
59.00	0.00		0.00
60.00	0.00		0.00
61.00	0.00		0.00
62.00	0.00		0.00
63.00	0.00		0.00
64.00	0.00		0.00
65.00	0.00		0.00
66.00	0.00		0.00
67.00	0.00		0.00
68.00	0.00		0.00
69.00	0.00		0.00
70.00	0.00		0.00
71.00	0.00		0.00
72.00	0.00		0.00

Summary for Pond 16P: EA-2

Inflow Area = 32.440 ac, 0.00% Impervious, Inflow Depth = 1.17" for 2-year event
Inflow = 11.67 cfs @ 12.84 hrs, Volume= 3.155 af
Primary = 11.67 cfs @ 12.84 hrs, Volume= 3.155 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond 16P: EA-2



Hydrograph for Pond 16P: EA-2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
1.00	0.00		0.00
2.00	0.00		0.00
3.00	0.00		0.00
4.00	0.00		0.00
5.00	0.00		0.00
6.00	0.00		0.00
7.00	0.00		0.00
8.00	0.00		0.00
9.00	0.00		0.00
10.00	0.00		0.00
11.00	0.07		0.07
12.00	**1.41**		**1.41**
13.00	**11.16**		**11.16**
14.00	6.92		6.92
15.00	4.52		4.52
16.00	3.03		3.03
17.00	2.17		2.17
18.00	1.63		1.63
19.00	1.29		1.29
20.00	1.11		1.11
21.00	0.98		0.98
22.00	0.89		0.89
23.00	0.81		0.81
24.00	0.73		0.73
25.00	0.36		0.36
26.00	0.12		0.12
27.00	0.03		0.03
28.00	0.01		0.01
29.00	0.00		0.00
30.00	0.00		0.00
31.00	0.00		0.00
32.00	0.00		0.00
33.00	0.00		0.00
34.00	0.00		0.00
35.00	0.00		0.00
36.00	0.00		0.00
37.00	0.00		0.00
38.00	0.00		0.00
39.00	0.00		0.00
40.00	0.00		0.00
41.00	0.00		0.00
42.00	0.00		0.00
43.00	0.00		0.00
44.00	0.00		0.00
45.00	0.00		0.00
46.00	0.00		0.00
47.00	0.00		0.00
48.00	0.00		0.00
49.00	0.00		0.00
50.00	0.00		0.00
51.00	0.00		0.00
52.00	0.00		0.00
53.00	0.00		0.00
54.00	0.00		0.00
55.00	0.00		0.00
56.00	0.00		0.00
57.00	0.00		0.00
58.00	0.00		0.00
59.00	0.00		0.00
60.00	0.00		0.00
61.00	0.00		0.00
62.00	0.00		0.00
63.00	0.00		0.00
64.00	0.00		0.00
65.00	0.00		0.00
66.00	0.00		0.00
67.00	0.00		0.00
68.00	0.00		0.00
69.00	0.00		0.00
70.00	0.00		0.00
71.00	0.00		0.00
72.00	0.00		0.00

Summary for Subcatchment 9S: EA-1 Impervious

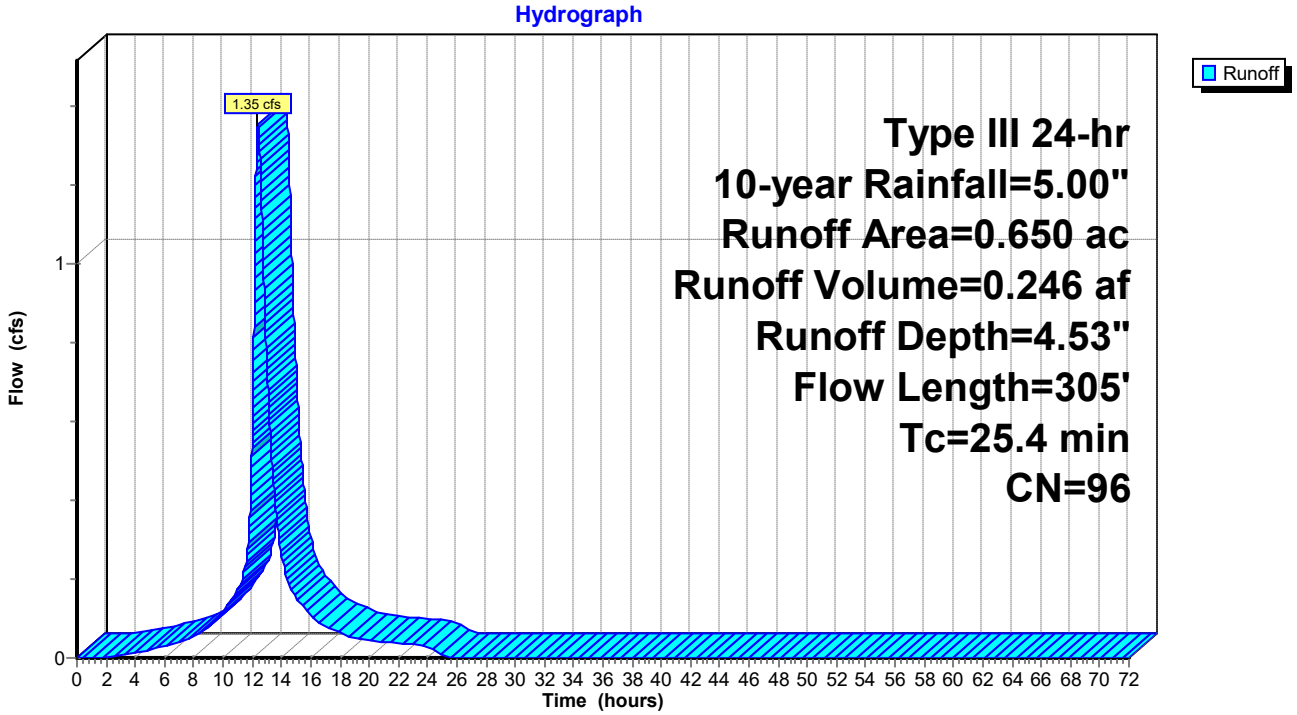
Runoff = 1.35 cfs @ 12.37 hrs, Volume= 0.246 af, Depth= 4.53"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=5.00"

	Area (ac)	CN	Description
	0.010	98	Unconnected pavement, HSG B
	0.520	96	Gravel surface, HSG B
*	0.120	98	Roofs, HSG B
	0.650	96	Weighted Average
	0.520		80.00% Pervious Area
	0.130		20.00% Impervious Area
	0.010		7.69% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.1	150	0.0073	0.11		**Sheet Flow, Small Grains & Legumes** Cultivated: Residue>20% n= 0.170 P2= 3.30"
3.3	155	0.0078	0.79		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
25.4	305	Total			

Subcatchment 9S: EA-1 Impervious



Hydrograph for Subcatchment 9S: EA-1 Impervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.05	0.00	0.00
2.00	0.10	0.00	0.00
3.00	0.15	0.01	0.01
4.00	0.22	0.03	0.01
5.00	0.28	0.07	0.02
6.00	0.36	0.11	0.03
7.00	0.45	0.17	0.04
8.00	0.57	0.26	0.06
9.00	0.73	0.39	0.08
10.00	0.95	0.58	0.12
11.00	1.25	0.86	0.17
12.00	2.50	2.06	**0.56**
13.00	3.75	3.29	**0.74**
14.00	4.06	3.59	0.26
15.00	4.27	3.81	0.15
16.00	4.43	3.97	0.11
17.00	4.55	4.08	0.08
18.00	4.64	4.17	0.06
19.00	4.72	4.25	0.05
20.00	4.79	4.32	0.05
21.00	4.85	4.38	0.04
22.00	4.90	4.44	0.04
23.00	4.95	4.49	0.03
24.00	**5.00**	**4.53**	0.03
25.00	5.00	4.53	0.01
26.00	5.00	4.53	0.00
27.00	5.00	4.53	0.00
28.00	5.00	4.53	0.00
29.00	5.00	4.53	0.00
30.00	5.00	4.53	0.00
31.00	5.00	4.53	0.00
32.00	5.00	4.53	0.00
33.00	5.00	4.53	0.00
34.00	5.00	4.53	0.00
35.00	5.00	4.53	0.00
36.00	5.00	4.53	0.00
37.00	5.00	4.53	0.00
38.00	5.00	4.53	0.00
39.00	5.00	4.53	0.00
40.00	5.00	4.53	0.00
41.00	5.00	4.53	0.00
42.00	5.00	4.53	0.00
43.00	5.00	4.53	0.00
44.00	5.00	4.53	0.00
45.00	5.00	4.53	0.00
46.00	5.00	4.53	0.00
47.00	5.00	4.53	0.00
48.00	5.00	4.53	0.00
49.00	5.00	4.53	0.00
50.00	5.00	4.53	0.00
51.00	5.00	4.53	0.00
52.00	5.00	4.53	0.00
53.00	5.00	4.53	0.00
54.00	5.00	4.53	0.00
55.00	5.00	4.53	0.00
56.00	5.00	4.53	0.00
57.00	5.00	4.53	0.00
58.00	5.00	4.53	0.00
59.00	5.00	4.53	0.00
60.00	5.00	4.53	0.00
61.00	5.00	4.53	0.00
62.00	5.00	4.53	0.00
63.00	5.00	4.53	0.00
64.00	5.00	4.53	0.00
65.00	5.00	4.53	0.00
66.00	5.00	4.53	0.00
67.00	5.00	4.53	0.00
68.00	5.00	4.53	0.00
69.00	5.00	4.53	0.00
70.00	5.00	4.53	0.00
71.00	5.00	4.53	0.00
72.00	5.00	4.53	0.00

Summary for Subcatchment 11S: EA-1 Pervious

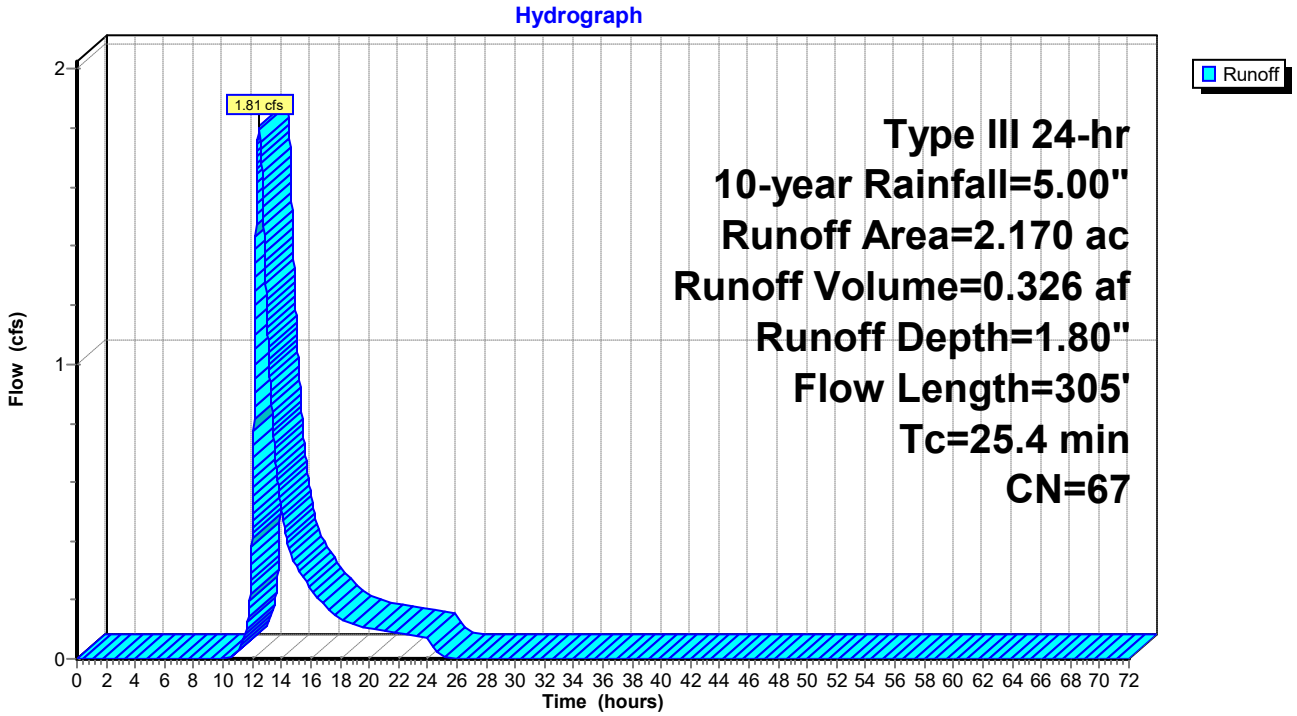
Runoff = 1.81 cfs @ 12.47 hrs, Volume= 0.326 af, Depth= 1.80"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=5.00"

Area (ac)	CN	Description
0.110	79	<50% Grass cover, Poor, HSG B
0.760	61	>75% Grass cover, Good, HSG B
1.300	69	Small grain, C&T + CR, Good, HSG B
2.170	67	Weighted Average
2.170		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.1	150	0.0073	0.11		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
3.3	155	0.0078	0.79		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
25.4	305	Total			

Subcatchment 11S: EA-1 Pervious



Hydrograph for Subcatchment 11S: EA-1 Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.05	0.00	0.00
2.00	0.10	0.00	0.00
3.00	0.15	0.00	0.00
4.00	0.22	0.00	0.00
5.00	0.28	0.00	0.00
6.00	0.36	0.00	0.00
7.00	0.45	0.00	0.00
8.00	0.57	0.00	0.00
9.00	0.73	0.00	0.00
10.00	0.95	0.00	0.00
11.00	1.25	0.01	0.02
12.00	2.50	0.36	**0.43**
13.00	3.75	0.99	**1.18**
14.00	4.06	1.18	0.50
15.00	4.27	1.32	0.32
16.00	4.43	1.42	0.24
17.00	4.55	1.50	0.18
18.00	4.64	1.56	0.14
19.00	4.72	1.61	0.12
20.00	4.79	1.65	0.10
21.00	4.85	1.70	0.09
22.00	4.90	1.74	0.09
23.00	4.95	1.77	0.08
24.00	**5.00**	**1.80**	0.07
25.00	5.00	1.80	0.01
26.00	5.00	1.80	0.00
27.00	5.00	1.80	0.00
28.00	5.00	1.80	0.00
29.00	5.00	1.80	0.00
30.00	5.00	1.80	0.00
31.00	5.00	1.80	0.00
32.00	5.00	1.80	0.00
33.00	5.00	1.80	0.00
34.00	5.00	1.80	0.00
35.00	5.00	1.80	0.00
36.00	5.00	1.80	0.00
37.00	5.00	1.80	0.00
38.00	5.00	1.80	0.00
39.00	5.00	1.80	0.00
40.00	5.00	1.80	0.00
41.00	5.00	1.80	0.00
42.00	5.00	1.80	0.00
43.00	5.00	1.80	0.00
44.00	5.00	1.80	0.00
45.00	5.00	1.80	0.00
46.00	5.00	1.80	0.00
47.00	5.00	1.80	0.00
48.00	5.00	1.80	0.00
49.00	5.00	1.80	0.00
50.00	5.00	1.80	0.00
51.00	5.00	1.80	0.00
52.00	5.00	1.80	0.00
53.00	5.00	1.80	0.00
54.00	5.00	1.80	0.00
55.00	5.00	1.80	0.00
56.00	5.00	1.80	0.00
57.00	5.00	1.80	0.00
58.00	5.00	1.80	0.00
59.00	5.00	1.80	0.00
60.00	5.00	1.80	0.00
61.00	5.00	1.80	0.00
62.00	5.00	1.80	0.00
63.00	5.00	1.80	0.00
64.00	5.00	1.80	0.00
65.00	5.00	1.80	0.00
66.00	5.00	1.80	0.00
67.00	5.00	1.80	0.00
68.00	5.00	1.80	0.00
69.00	5.00	1.80	0.00
70.00	5.00	1.80	0.00
71.00	5.00	1.80	0.00
72.00	5.00	1.80	0.00

Summary for Subcatchment 13S: EA-2 Pervious

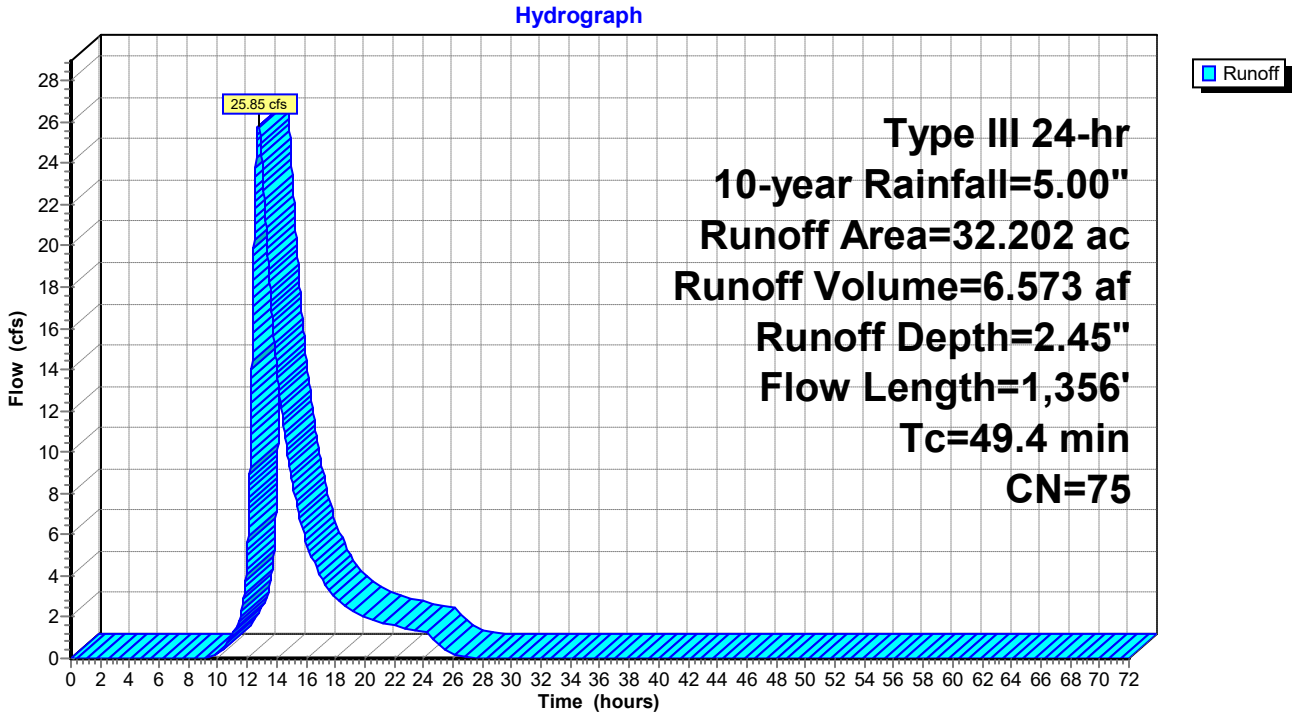
Runoff = 25.85 cfs @ 12.74 hrs, Volume= 6.573 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=5.00"

Area (ac)	CN	Description
9.851	80	Small grain, C&T + CR, Good, HSG D
11.559	77	Small grain, C&T + CR, Good, HSG C
10.792	69	Small grain, C&T + CR, Good, HSG B
32.202	75	Weighted Average
32.202		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	15	0.0060	0.07		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
0.2	10	0.0100	0.67		**Sheet Flow, Dirt Road** Smooth surfaces n= 0.011 P2= 3.30"
18.4	125	0.0080	0.11		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
5.2	154	0.0030	0.49		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
1.5	108	0.0167	1.16		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
3.9	328	0.0237	1.39		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
2.6	125	0.0081	0.81		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
9.7	302	0.0033	0.52		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
4.1	189	0.0072	0.76		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
49.4	1,356	Total			

Subcatchment 13S: EA-2 Pervious



Hydrograph for Subcatchment 13S: EA-2 Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.05	0.00	0.00
2.00	0.10	0.00	0.00
3.00	0.15	0.00	0.00
4.00	0.22	0.00	0.00
5.00	0.28	0.00	0.00
6.00	0.36	0.00	0.00
7.00	0.45	0.00	0.00
8.00	0.57	0.00	0.00
9.00	0.73	0.00	0.00
10.00	0.95	0.02	0.28
11.00	1.25	0.09	1.16
12.00	2.50	0.65	**4.90**
13.00	3.75	1.48	**24.14**
14.00	4.06	1.71	14.14
15.00	4.27	1.87	8.81
16.00	4.43	2.00	5.69
17.00	4.55	2.09	3.99
18.00	4.64	2.16	2.95
19.00	4.72	2.22	2.33
20.00	4.79	2.28	1.99
21.00	4.85	2.33	1.76
22.00	4.90	2.37	1.59
23.00	4.95	2.41	1.45
24.00	**5.00**	**2.45**	1.30
25.00	5.00	2.45	0.64
26.00	5.00	2.45	0.21
27.00	5.00	2.45	0.06
28.00	5.00	2.45	0.01
29.00	5.00	2.45	0.00
30.00	5.00	2.45	0.00
31.00	5.00	2.45	0.00
32.00	5.00	2.45	0.00
33.00	5.00	2.45	0.00
34.00	5.00	2.45	0.00
35.00	5.00	2.45	0.00
36.00	5.00	2.45	0.00
37.00	5.00	2.45	0.00
38.00	5.00	2.45	0.00
39.00	5.00	2.45	0.00
40.00	5.00	2.45	0.00
41.00	5.00	2.45	0.00
42.00	5.00	2.45	0.00
43.00	5.00	2.45	0.00
44.00	5.00	2.45	0.00
45.00	5.00	2.45	0.00
46.00	5.00	2.45	0.00
47.00	5.00	2.45	0.00
48.00	5.00	2.45	0.00
49.00	5.00	2.45	0.00
50.00	5.00	2.45	0.00
51.00	5.00	2.45	0.00
52.00	5.00	2.45	0.00
53.00	5.00	2.45	0.00
54.00	5.00	2.45	0.00
55.00	5.00	2.45	0.00
56.00	5.00	2.45	0.00
57.00	5.00	2.45	0.00
58.00	5.00	2.45	0.00
59.00	5.00	2.45	0.00
60.00	5.00	2.45	0.00
61.00	5.00	2.45	0.00
62.00	5.00	2.45	0.00
63.00	5.00	2.45	0.00
64.00	5.00	2.45	0.00
65.00	5.00	2.45	0.00
66.00	5.00	2.45	0.00
67.00	5.00	2.45	0.00
68.00	5.00	2.45	0.00
69.00	5.00	2.45	0.00
70.00	5.00	2.45	0.00
71.00	5.00	2.45	0.00
72.00	5.00	2.45	0.00

Summary for Subcatchment 20S: EA-2 Impervious

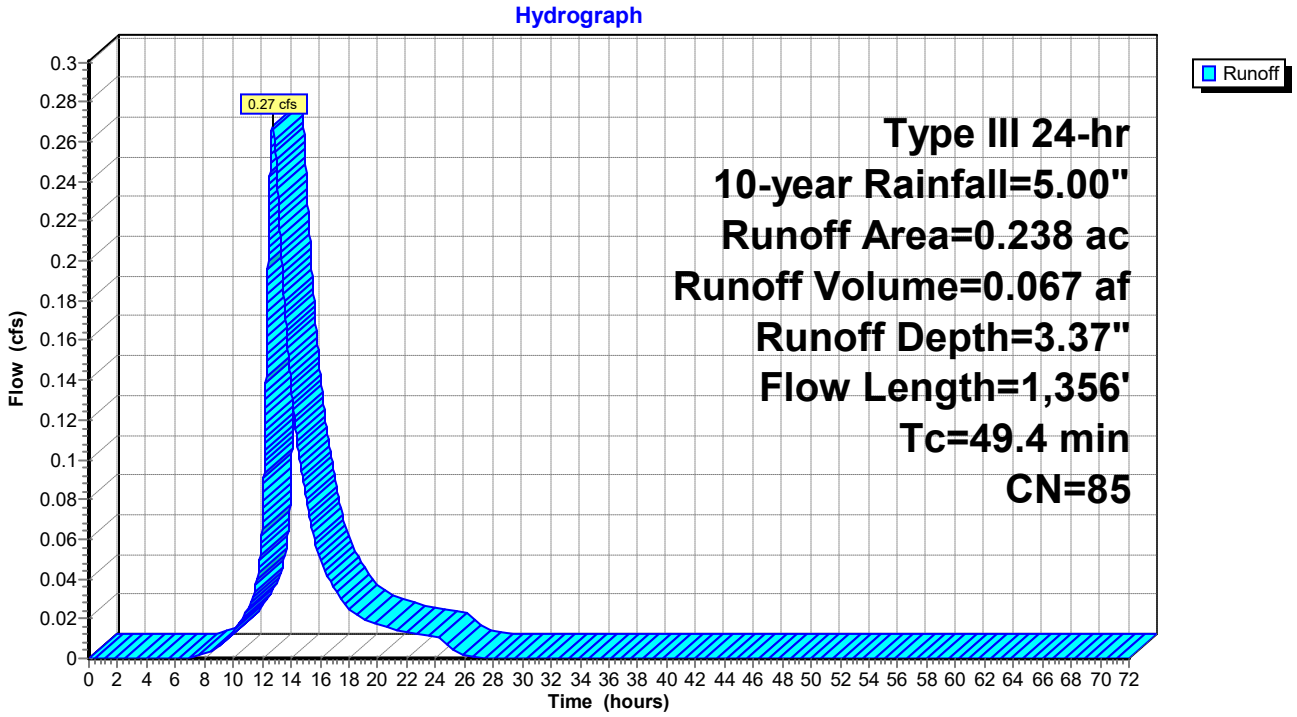
Runoff = 0.27 cfs @ 12.73 hrs, Volume= 0.067 af, Depth= 3.37"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=5.00"

Area (ac)	CN	Description
0.120	82	Dirt roads, HSG B
0.074	87	Dirt roads, HSG C
0.044	89	Dirt roads, HSG D
0.238	85	Weighted Average
0.238		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	15	0.0060	0.07		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
0.2	10	0.0100	0.67		**Sheet Flow, Dirt Road** Smooth surfaces n= 0.011 P2= 3.30"
18.4	125	0.0080	0.11		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
5.2	154	0.0030	0.49		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
1.5	108	0.0167	1.16		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
3.9	328	0.0237	1.39		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
2.6	125	0.0081	0.81		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
9.7	302	0.0033	0.52		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
4.1	189	0.0072	0.76		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
49.4	1,356	Total			

Subcatchment 20S: EA-2 Impervious



Hydrograph for Subcatchment 20S: EA-2 Impervious

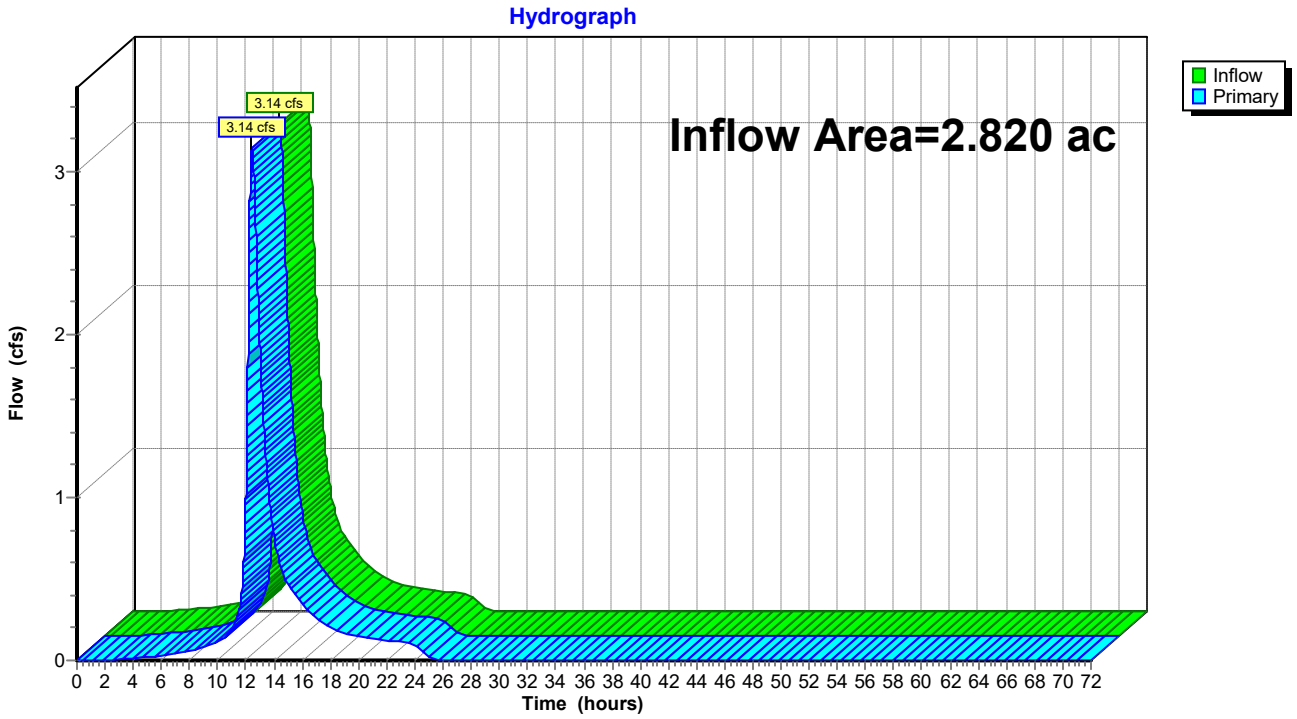
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.05	0.00	0.00
2.00	0.10	0.00	0.00
3.00	0.15	0.00	0.00
4.00	0.22	0.00	0.00
5.00	0.28	0.00	0.00
6.00	0.36	0.00	0.00
7.00	0.45	0.01	0.00
8.00	0.57	0.02	0.00
9.00	0.73	0.07	0.01
10.00	0.95	0.15	0.01
11.00	1.25	0.30	0.03
12.00	2.50	1.18	**0.07**
13.00	3.75	2.24	**0.24**
14.00	4.06	2.51	0.14
15.00	4.27	2.70	0.08
16.00	4.43	2.85	0.05
17.00	4.55	2.95	0.03
18.00	4.64	3.04	0.03
19.00	4.72	3.11	0.02
20.00	4.79	3.17	0.02
21.00	4.85	3.23	0.01
22.00	4.90	3.28	0.01
23.00	4.95	3.33	0.01
24.00	**5.00**	**3.37**	0.01
25.00	5.00	3.37	0.01
26.00	5.00	3.37	0.00
27.00	5.00	3.37	0.00
28.00	5.00	3.37	0.00
29.00	5.00	3.37	0.00
30.00	5.00	3.37	0.00
31.00	5.00	3.37	0.00
32.00	5.00	3.37	0.00
33.00	5.00	3.37	0.00
34.00	5.00	3.37	0.00
35.00	5.00	3.37	0.00
36.00	5.00	3.37	0.00
37.00	5.00	3.37	0.00
38.00	5.00	3.37	0.00
39.00	5.00	3.37	0.00
40.00	5.00	3.37	0.00
41.00	5.00	3.37	0.00
42.00	5.00	3.37	0.00
43.00	5.00	3.37	0.00
44.00	5.00	3.37	0.00
45.00	5.00	3.37	0.00
46.00	5.00	3.37	0.00
47.00	5.00	3.37	0.00
48.00	5.00	3.37	0.00
49.00	5.00	3.37	0.00
50.00	5.00	3.37	0.00
51.00	5.00	3.37	0.00
52.00	5.00	3.37	0.00
53.00	5.00	3.37	0.00
54.00	5.00	3.37	0.00
55.00	5.00	3.37	0.00
56.00	5.00	3.37	0.00
57.00	5.00	3.37	0.00
58.00	5.00	3.37	0.00
59.00	5.00	3.37	0.00
60.00	5.00	3.37	0.00
61.00	5.00	3.37	0.00
62.00	5.00	3.37	0.00
63.00	5.00	3.37	0.00
64.00	5.00	3.37	0.00
65.00	5.00	3.37	0.00
66.00	5.00	3.37	0.00
67.00	5.00	3.37	0.00
68.00	5.00	3.37	0.00
69.00	5.00	3.37	0.00
70.00	5.00	3.37	0.00
71.00	5.00	3.37	0.00
72.00	5.00	3.37	0.00

Summary for Pond 12P: EA-1

Inflow Area = 2.820 ac, 4.61% Impervious, Inflow Depth = 2.43" for 10-year event
Inflow = 3.14 cfs @ 12.42 hrs, Volume= 0.572 af
Primary = 3.14 cfs @ 12.42 hrs, Volume= 0.572 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond 12P: EA-1



Hydrograph for Pond 12P: EA-1

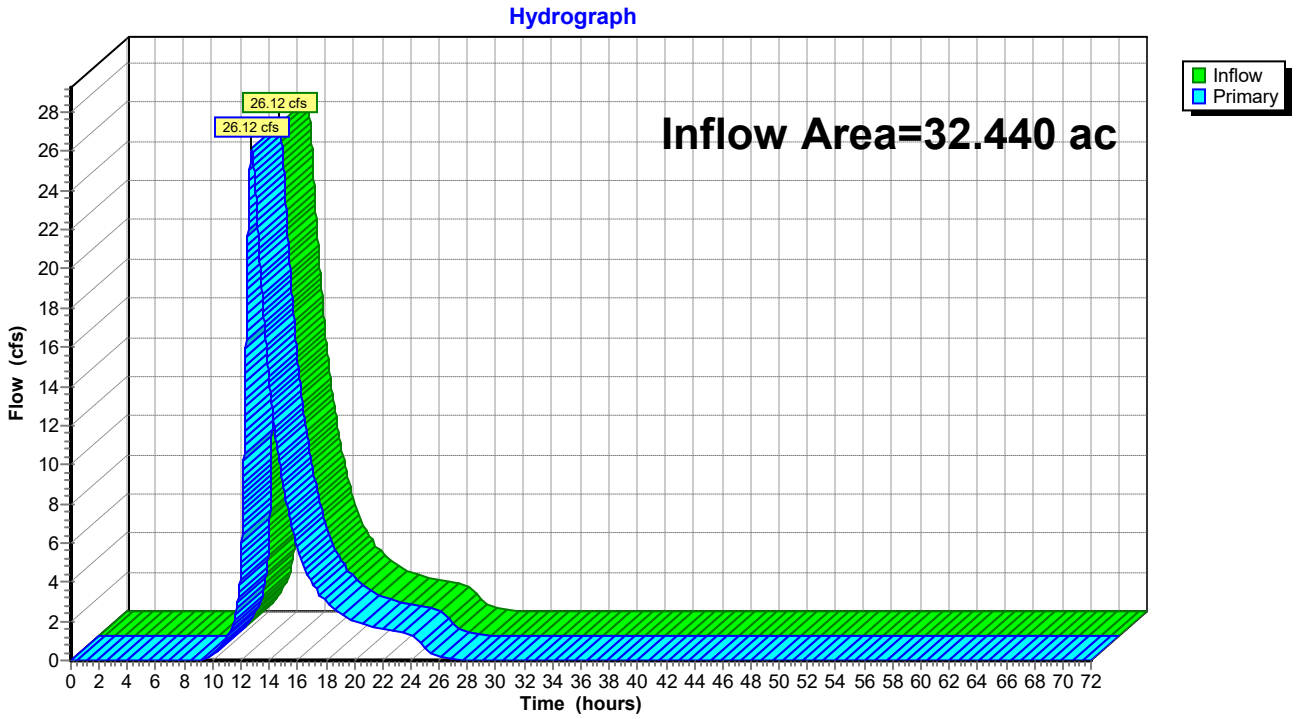
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
1.00	0.00		0.00
2.00	0.00		0.00
3.00	0.01		0.01
4.00	0.01		0.01
5.00	0.02		0.02
6.00	0.03		0.03
7.00	0.04		0.04
8.00	0.06		0.06
9.00	0.08		0.08
10.00	0.12		0.12
11.00	0.20		0.20
12.00	**0.99**		**0.99**
13.00	**1.92**		**1.92**
14.00	0.76		0.76
15.00	0.47		0.47
16.00	0.35		0.35
17.00	0.26		0.26
18.00	0.20		0.20
19.00	0.17		0.17
20.00	0.15		0.15
21.00	0.14		0.14
22.00	0.12		0.12
23.00	0.11		0.11
24.00	0.10		0.10
25.00	0.02		0.02
26.00	0.00		0.00
27.00	0.00		0.00
28.00	0.00		0.00
29.00	0.00		0.00
30.00	0.00		0.00
31.00	0.00		0.00
32.00	0.00		0.00
33.00	0.00		0.00
34.00	0.00		0.00
35.00	0.00		0.00
36.00	0.00		0.00
37.00	0.00		0.00
38.00	0.00		0.00
39.00	0.00		0.00
40.00	0.00		0.00
41.00	0.00		0.00
42.00	0.00		0.00
43.00	0.00		0.00
44.00	0.00		0.00
45.00	0.00		0.00
46.00	0.00		0.00
47.00	0.00		0.00
48.00	0.00		0.00
49.00	0.00		0.00
50.00	0.00		0.00
51.00	0.00		0.00
52.00	0.00		0.00
53.00	0.00		0.00
54.00	0.00		0.00
55.00	0.00		0.00
56.00	0.00		0.00
57.00	0.00		0.00
58.00	0.00		0.00
59.00	0.00		0.00
60.00	0.00		0.00
61.00	0.00		0.00
62.00	0.00		0.00
63.00	0.00		0.00
64.00	0.00		0.00
65.00	0.00		0.00
66.00	0.00		0.00
67.00	0.00		0.00
68.00	0.00		0.00
69.00	0.00		0.00
70.00	0.00		0.00
71.00	0.00		0.00
72.00	0.00		0.00

Summary for Pond 16P: EA-2

Inflow Area = 32.440 ac, 0.00% Impervious, Inflow Depth = 2.46" for 10-year event
Inflow = 26.12 cfs @ 12.74 hrs, Volume= 6.639 af
Primary = 26.12 cfs @ 12.74 hrs, Volume= 6.639 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond 16P: EA-2



Hydrograph for Pond 16P: EA-2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
1.00	0.00		0.00
2.00	0.00		0.00
3.00	0.00		0.00
4.00	0.00		0.00
5.00	0.00		0.00
6.00	0.00		0.00
7.00	0.00		0.00
8.00	0.00		0.00
9.00	0.01		0.01
10.00	0.29		0.29
11.00	1.18		1.18
12.00	**4.97**		**4.97**
13.00	**24.39**		**24.39**
14.00	14.28		14.28
15.00	8.89		8.89
16.00	5.74		5.74
17.00	4.03		4.03
18.00	2.98		2.98
19.00	2.35		2.35
20.00	2.00		2.00
21.00	1.77		1.77
22.00	1.61		1.61
23.00	1.46		1.46
24.00	1.31		1.31
25.00	0.64		0.64
26.00	0.21		0.21
27.00	0.06		0.06
28.00	0.01		0.01
29.00	0.00		0.00
30.00	0.00		0.00
31.00	0.00		0.00
32.00	0.00		0.00
33.00	0.00		0.00
34.00	0.00		0.00
35.00	0.00		0.00
36.00	0.00		0.00
37.00	0.00		0.00
38.00	0.00		0.00
39.00	0.00		0.00
40.00	0.00		0.00
41.00	0.00		0.00
42.00	0.00		0.00
43.00	0.00		0.00
44.00	0.00		0.00
45.00	0.00		0.00
46.00	0.00		0.00
47.00	0.00		0.00
48.00	0.00		0.00
49.00	0.00		0.00
50.00	0.00		0.00
51.00	0.00		0.00
52.00	0.00		0.00
53.00	0.00		0.00
54.00	0.00		0.00
55.00	0.00		0.00
56.00	0.00		0.00
57.00	0.00		0.00
58.00	0.00		0.00
59.00	0.00		0.00
60.00	0.00		0.00
61.00	0.00		0.00
62.00	0.00		0.00
63.00	0.00		0.00
64.00	0.00		0.00
65.00	0.00		0.00
66.00	0.00		0.00
67.00	0.00		0.00
68.00	0.00		0.00
69.00	0.00		0.00
70.00	0.00		0.00
71.00	0.00		0.00
72.00	0.00		0.00

Summary for Subcatchment 9S: EA-1 Impervious

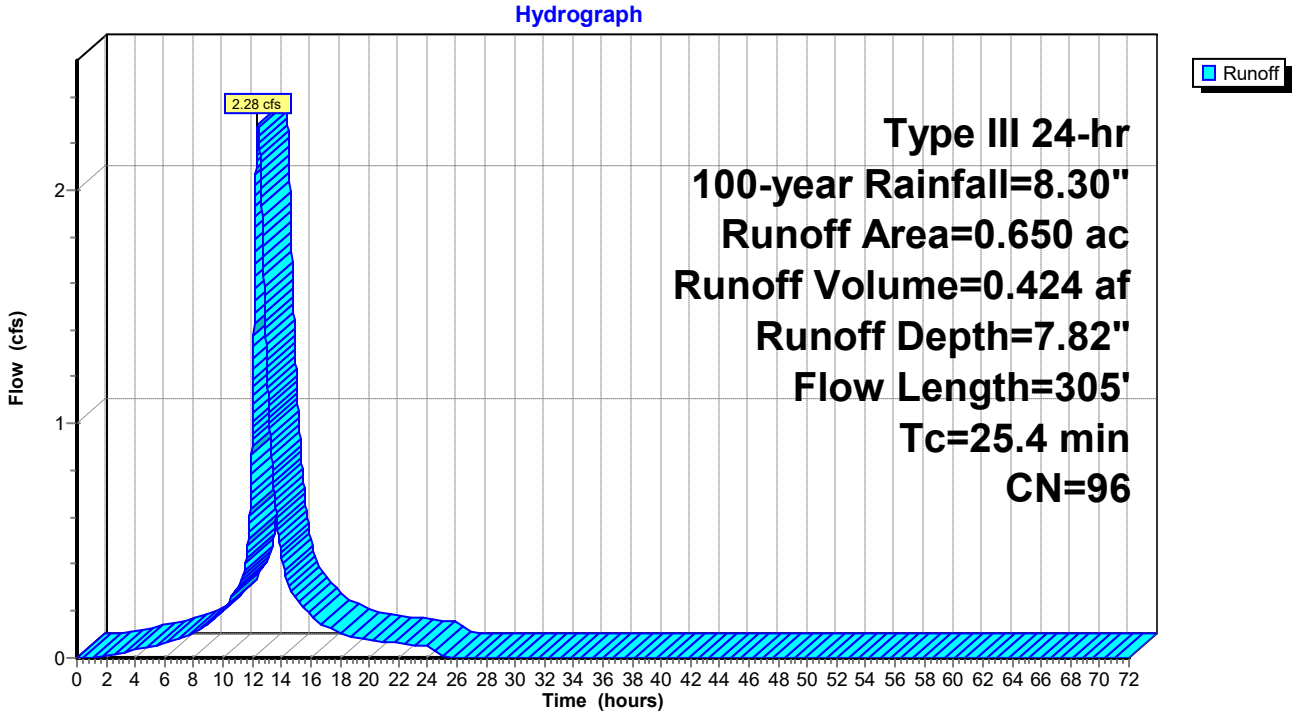
Runoff = 2.28 cfs @ 12.36 hrs, Volume= 0.424 af, Depth= 7.82"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-year Rainfall=8.30"

	Area (ac)	CN	Description
	0.010	98	Unconnected pavement, HSG B
	0.520	96	Gravel surface, HSG B
*	0.120	98	Roofs, HSG B
	0.650	96	Weighted Average
	0.520		80.00% Pervious Area
	0.130		20.00% Impervious Area
	0.010		7.69% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.1	150	0.0073	0.11		**Sheet Flow, Small Grains & Legumes** Cultivated: Residue>20% n= 0.170 P2= 3.30"
3.3	155	0.0078	0.79		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
25.4	305	Total			

Subcatchment 9S: EA-1 Impervious



Hydrograph for Subcatchment 9S: EA-1 Impervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.08	0.00	0.00
2.00	0.17	0.01	0.01
3.00	0.26	0.05	0.02
4.00	0.36	0.11	0.04
5.00	0.47	0.19	0.05
6.00	0.60	0.28	0.06
7.00	0.75	0.41	0.08
8.00	0.95	0.58	0.11
9.00	1.21	0.82	0.15
10.00	1.57	1.16	0.21
11.00	2.08	1.65	0.30
12.00	4.15	3.69	**0.96**
13.00	6.22	5.75	**1.25**
14.00	6.73	6.26	0.44
15.00	7.09	6.61	0.25
16.00	7.35	6.88	0.18
17.00	7.55	7.07	0.13
18.00	7.70	7.22	0.10
19.00	7.83	7.35	0.09
20.00	7.94	7.46	0.08
21.00	8.05	7.57	0.07
22.00	8.14	7.66	0.06
23.00	8.22	7.75	0.06
24.00	**8.30**	**7.82**	0.05
25.00	8.30	7.82	0.01
26.00	8.30	7.82	0.00
27.00	8.30	7.82	0.00
28.00	8.30	7.82	0.00
29.00	8.30	7.82	0.00
30.00	8.30	7.82	0.00
31.00	8.30	7.82	0.00
32.00	8.30	7.82	0.00
33.00	8.30	7.82	0.00
34.00	8.30	7.82	0.00
35.00	8.30	7.82	0.00
36.00	8.30	7.82	0.00
37.00	8.30	7.82	0.00
38.00	8.30	7.82	0.00
39.00	8.30	7.82	0.00
40.00	8.30	7.82	0.00
41.00	8.30	7.82	0.00
42.00	8.30	7.82	0.00
43.00	8.30	7.82	0.00
44.00	8.30	7.82	0.00
45.00	8.30	7.82	0.00
46.00	8.30	7.82	0.00
47.00	8.30	7.82	0.00
48.00	8.30	7.82	0.00
49.00	8.30	7.82	0.00
50.00	8.30	7.82	0.00
51.00	8.30	7.82	0.00
52.00	8.30	7.82	0.00
53.00	8.30	7.82	0.00
54.00	8.30	7.82	0.00
55.00	8.30	7.82	0.00
56.00	8.30	7.82	0.00
57.00	8.30	7.82	0.00
58.00	8.30	7.82	0.00
59.00	8.30	7.82	0.00
60.00	8.30	7.82	0.00
61.00	8.30	7.82	0.00
62.00	8.30	7.82	0.00
63.00	8.30	7.82	0.00
64.00	8.30	7.82	0.00
65.00	8.30	7.82	0.00
66.00	8.30	7.82	0.00
67.00	8.30	7.82	0.00
68.00	8.30	7.82	0.00
69.00	8.30	7.82	0.00
70.00	8.30	7.82	0.00
71.00	8.30	7.82	0.00
72.00	8.30	7.82	0.00

Summary for Subcatchment 11S: EA-1 Pervious

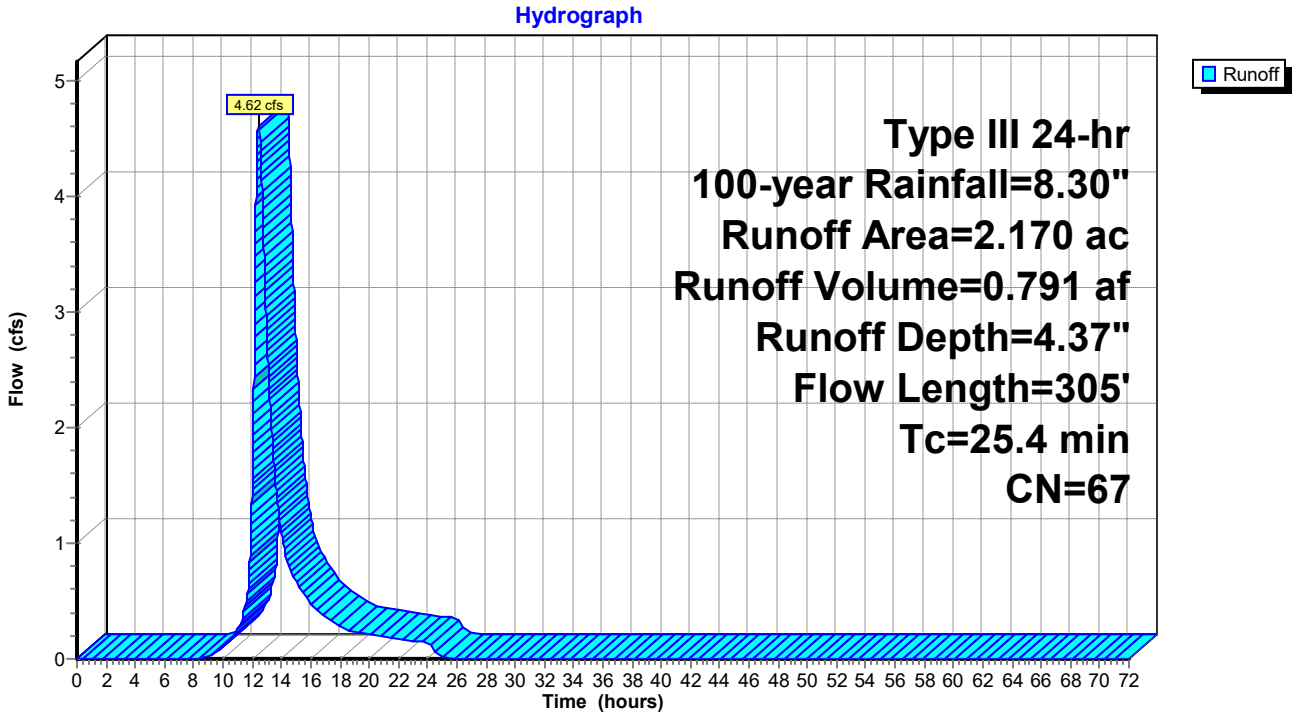
Runoff = 4.62 cfs @ 12.42 hrs, Volume= 0.791 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-year Rainfall=8.30"

Area (ac)	CN	Description
0.110	79	<50% Grass cover, Poor, HSG B
0.760	61	>75% Grass cover, Good, HSG B
1.300	69	Small grain, C&T + CR, Good, HSG B
2.170	67	Weighted Average
2.170		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.1	150	0.0073	0.11		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
3.3	155	0.0078	0.79		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
25.4	305	Total			

Subcatchment 11S: EA-1 Pervious



Hydrograph for Subcatchment 11S: EA-1 Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.08	0.00	0.00
2.00	0.17	0.00	0.00
3.00	0.26	0.00	0.00
4.00	0.36	0.00	0.00
5.00	0.47	0.00	0.00
6.00	0.60	0.00	0.00
7.00	0.75	0.00	0.00
8.00	0.95	0.00	0.00
9.00	1.21	0.01	0.02
10.00	1.57	0.06	0.10
11.00	2.08	0.20	0.27
12.00	4.15	1.24	**1.46**
13.00	6.22	2.70	**2.80**
14.00	6.73	3.09	1.09
15.00	7.09	3.38	0.67
16.00	7.35	3.59	0.49
17.00	7.55	3.75	0.36
18.00	7.70	3.88	0.29
19.00	7.83	3.98	0.23
20.00	7.94	4.07	0.21
21.00	8.05	4.16	0.19
22.00	8.14	4.24	0.17
23.00	8.22	4.31	0.16
24.00	**8.30**	**4.37**	0.14
25.00	8.30	4.37	0.02
26.00	8.30	4.37	0.00
27.00	8.30	4.37	0.00
28.00	8.30	4.37	0.00
29.00	8.30	4.37	0.00
30.00	8.30	4.37	0.00
31.00	8.30	4.37	0.00
32.00	8.30	4.37	0.00
33.00	8.30	4.37	0.00
34.00	8.30	4.37	0.00
35.00	8.30	4.37	0.00
36.00	8.30	4.37	0.00
37.00	8.30	4.37	0.00
38.00	8.30	4.37	0.00
39.00	8.30	4.37	0.00
40.00	8.30	4.37	0.00
41.00	8.30	4.37	0.00
42.00	8.30	4.37	0.00
43.00	8.30	4.37	0.00
44.00	8.30	4.37	0.00
45.00	8.30	4.37	0.00
46.00	8.30	4.37	0.00
47.00	8.30	4.37	0.00
48.00	8.30	4.37	0.00
49.00	8.30	4.37	0.00
50.00	8.30	4.37	0.00
51.00	8.30	4.37	0.00
52.00	8.30	4.37	0.00
53.00	8.30	4.37	0.00
54.00	8.30	4.37	0.00
55.00	8.30	4.37	0.00
56.00	8.30	4.37	0.00
57.00	8.30	4.37	0.00
58.00	8.30	4.37	0.00
59.00	8.30	4.37	0.00
60.00	8.30	4.37	0.00
61.00	8.30	4.37	0.00
62.00	8.30	4.37	0.00
63.00	8.30	4.37	0.00
64.00	8.30	4.37	0.00
65.00	8.30	4.37	0.00
66.00	8.30	4.37	0.00
67.00	8.30	4.37	0.00
68.00	8.30	4.37	0.00
69.00	8.30	4.37	0.00
70.00	8.30	4.37	0.00
71.00	8.30	4.37	0.00
72.00	8.30	4.37	0.00

Summary for Subcatchment 13S: EA-2 Pervious

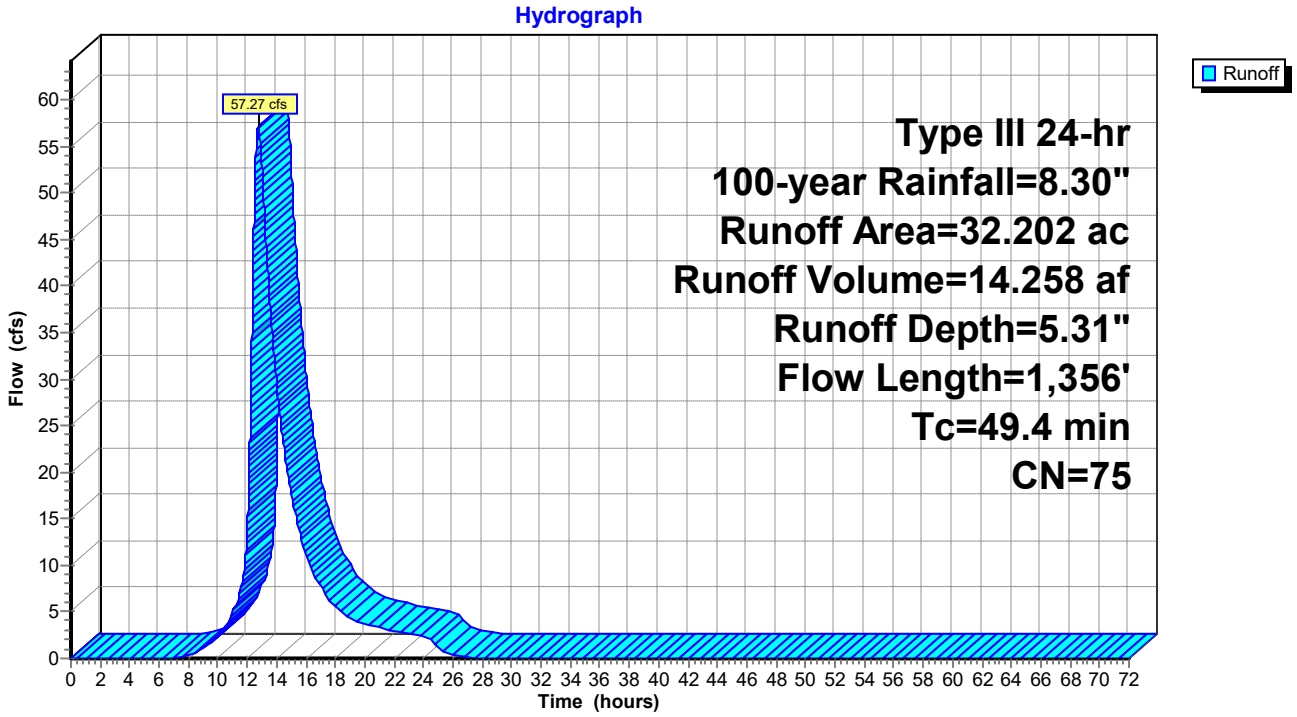
Runoff = 57.27 cfs @ 12.73 hrs, Volume= 14.258 af, Depth= 5.31"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-year Rainfall=8.30"

Area (ac)	CN	Description
9.851	80	Small grain, C&T + CR, Good, HSG D
11.559	77	Small grain, C&T + CR, Good, HSG C
10.792	69	Small grain, C&T + CR, Good, HSG B
32.202	75	Weighted Average
32.202		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	15	0.0060	0.07		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
0.2	10	0.0100	0.67		**Sheet Flow, Dirt Road** Smooth surfaces n= 0.011 P2= 3.30"
18.4	125	0.0080	0.11		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
5.2	154	0.0030	0.49		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
1.5	108	0.0167	1.16		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
3.9	328	0.0237	1.39		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
2.6	125	0.0081	0.81		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
9.7	302	0.0033	0.52		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
4.1	189	0.0072	0.76		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
49.4	1,356	Total			

Subcatchment 13S: EA-2 Pervious



Hydrograph for Subcatchment 13S: EA-2 Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.08	0.00	0.00
2.00	0.17	0.00	0.00
3.00	0.26	0.00	0.00
4.00	0.36	0.00	0.00
5.00	0.47	0.00	0.00
6.00	0.60	0.00	0.00
7.00	0.75	0.00	0.01
8.00	0.95	0.02	0.29
9.00	1.21	0.08	1.01
10.00	1.57	0.19	2.42
11.00	2.08	0.42	4.87
12.00	4.15	1.78	**13.91**
13.00	6.22	3.47	**52.47**
14.00	6.73	3.91	29.48
15.00	7.09	4.23	17.71
16.00	7.35	4.46	11.07
17.00	7.55	4.64	7.64
18.00	7.70	4.77	5.59
19.00	7.83	4.89	4.38
20.00	7.94	4.99	3.73
21.00	8.05	5.08	3.30
22.00	8.14	5.17	2.98
23.00	8.22	5.24	2.70
24.00	**8.30**	**5.31**	2.42
25.00	8.30	5.31	1.19
26.00	8.30	5.31	0.40
27.00	8.30	5.31	0.11
28.00	8.30	5.31	0.02
29.00	8.30	5.31	0.00
30.00	8.30	5.31	0.00
31.00	8.30	5.31	0.00
32.00	8.30	5.31	0.00
33.00	8.30	5.31	0.00
34.00	8.30	5.31	0.00
35.00	8.30	5.31	0.00
36.00	8.30	5.31	0.00
37.00	8.30	5.31	0.00
38.00	8.30	5.31	0.00
39.00	8.30	5.31	0.00
40.00	8.30	5.31	0.00
41.00	8.30	5.31	0.00
42.00	8.30	5.31	0.00
43.00	8.30	5.31	0.00
44.00	8.30	5.31	0.00
45.00	8.30	5.31	0.00
46.00	8.30	5.31	0.00
47.00	8.30	5.31	0.00
48.00	8.30	5.31	0.00
49.00	8.30	5.31	0.00
50.00	8.30	5.31	0.00
51.00	8.30	5.31	0.00
52.00	8.30	5.31	0.00
53.00	8.30	5.31	0.00
54.00	8.30	5.31	0.00
55.00	8.30	5.31	0.00
56.00	8.30	5.31	0.00
57.00	8.30	5.31	0.00
58.00	8.30	5.31	0.00
59.00	8.30	5.31	0.00
60.00	8.30	5.31	0.00
61.00	8.30	5.31	0.00
62.00	8.30	5.31	0.00
63.00	8.30	5.31	0.00
64.00	8.30	5.31	0.00
65.00	8.30	5.31	0.00
66.00	8.30	5.31	0.00
67.00	8.30	5.31	0.00
68.00	8.30	5.31	0.00
69.00	8.30	5.31	0.00
70.00	8.30	5.31	0.00
71.00	8.30	5.31	0.00
72.00	8.30	5.31	0.00

Summary for Subcatchment 20S: EA-2 Impervious

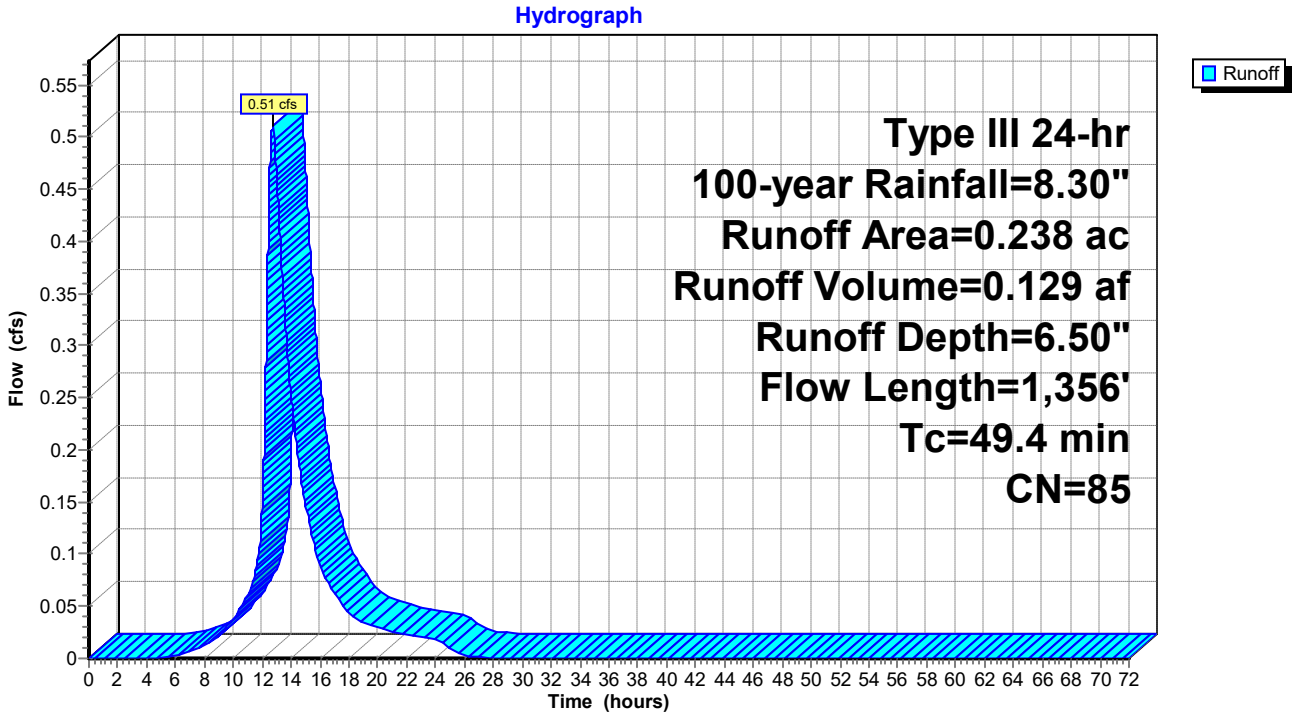
Runoff = 0.51 cfs @ 12.73 hrs, Volume= 0.129 af, Depth= 6.50"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-year Rainfall=8.30"

Area (ac)	CN	Description
0.120	82	Dirt roads, HSG B
0.074	87	Dirt roads, HSG C
0.044	89	Dirt roads, HSG D
0.238	85	Weighted Average
0.238		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	15	0.0060	0.07		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
0.2	10	0.0100	0.67		**Sheet Flow, Dirt Road** Smooth surfaces n= 0.011 P2= 3.30"
18.4	125	0.0080	0.11		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
5.2	154	0.0030	0.49		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
1.5	108	0.0167	1.16		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
3.9	328	0.0237	1.39		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
2.6	125	0.0081	0.81		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
9.7	302	0.0033	0.52		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
4.1	189	0.0072	0.76		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
49.4	1,356	Total			

Subcatchment 20S: EA-2 Impervious



Hydrograph for Subcatchment 20S: EA-2 Impervious

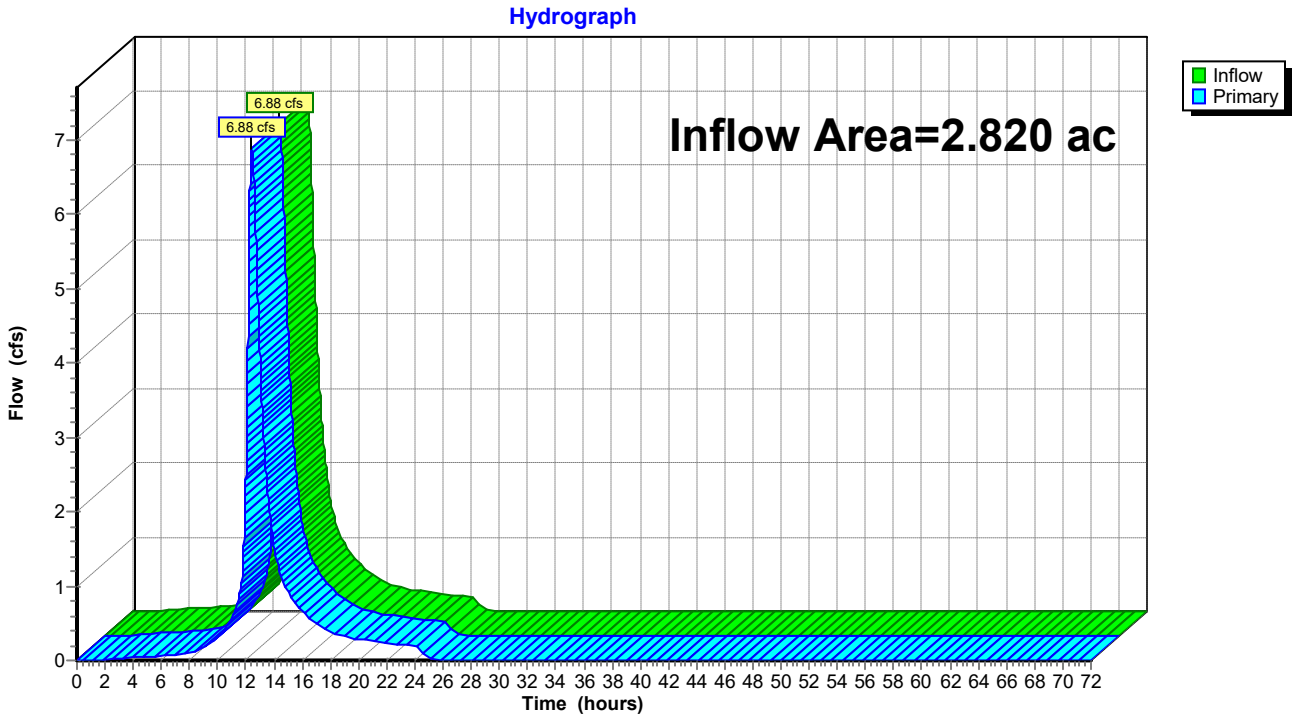
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.08	0.00	0.00
2.00	0.17	0.00	0.00
3.00	0.26	0.00	0.00
4.00	0.36	0.00	0.00
5.00	0.47	0.01	0.00
6.00	0.60	0.03	0.00
7.00	0.75	0.07	0.01
8.00	0.95	0.15	0.01
9.00	1.21	0.28	0.02
10.00	1.57	0.50	0.04
11.00	2.08	0.85	0.06
12.00	4.15	2.59	**0.15**
13.00	6.22	4.52	**0.46**
14.00	6.73	5.00	0.25
15.00	7.09	5.34	0.15
16.00	7.35	5.59	0.09
17.00	7.55	5.78	0.06
18.00	7.70	5.93	0.04
19.00	7.83	6.05	0.03
20.00	7.94	6.16	0.03
21.00	8.05	6.26	0.03
22.00	8.14	6.35	0.02
23.00	8.22	6.43	0.02
24.00	**8.30**	**6.50**	0.02
25.00	8.30	6.50	0.01
26.00	8.30	6.50	0.00
27.00	8.30	6.50	0.00
28.00	8.30	6.50	0.00
29.00	8.30	6.50	0.00
30.00	8.30	6.50	0.00
31.00	8.30	6.50	0.00
32.00	8.30	6.50	0.00
33.00	8.30	6.50	0.00
34.00	8.30	6.50	0.00
35.00	8.30	6.50	0.00
36.00	8.30	6.50	0.00
37.00	8.30	6.50	0.00
38.00	8.30	6.50	0.00
39.00	8.30	6.50	0.00
40.00	8.30	6.50	0.00
41.00	8.30	6.50	0.00
42.00	8.30	6.50	0.00
43.00	8.30	6.50	0.00
44.00	8.30	6.50	0.00
45.00	8.30	6.50	0.00
46.00	8.30	6.50	0.00
47.00	8.30	6.50	0.00
48.00	8.30	6.50	0.00
49.00	8.30	6.50	0.00
50.00	8.30	6.50	0.00
51.00	8.30	6.50	0.00
52.00	8.30	6.50	0.00
53.00	8.30	6.50	0.00
54.00	8.30	6.50	0.00
55.00	8.30	6.50	0.00
56.00	8.30	6.50	0.00
57.00	8.30	6.50	0.00
58.00	8.30	6.50	0.00
59.00	8.30	6.50	0.00
60.00	8.30	6.50	0.00
61.00	8.30	6.50	0.00
62.00	8.30	6.50	0.00
63.00	8.30	6.50	0.00
64.00	8.30	6.50	0.00
65.00	8.30	6.50	0.00
66.00	8.30	6.50	0.00
67.00	8.30	6.50	0.00
68.00	8.30	6.50	0.00
69.00	8.30	6.50	0.00
70.00	8.30	6.50	0.00
71.00	8.30	6.50	0.00
72.00	8.30	6.50	0.00

Summary for Pond 12P: EA-1

Inflow Area = 2.820 ac, 4.61% Impervious, Inflow Depth = 5.17" for 100-year event
Inflow = 6.88 cfs @ 12.42 hrs, Volume= 1.214 af
Primary = 6.88 cfs @ 12.42 hrs, Volume= 1.214 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond 12P: EA-1



Hydrograph for Pond 12P: EA-1

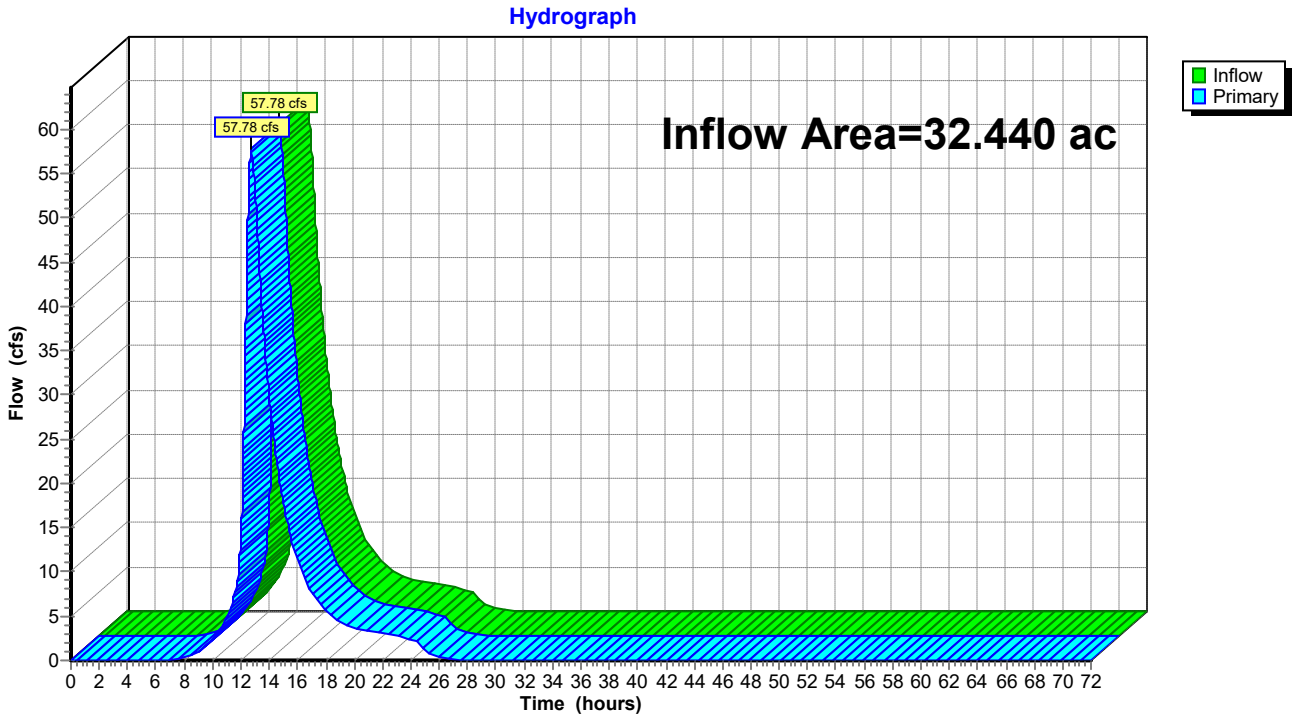
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
1.00	0.00		0.00
2.00	0.01		0.01
3.00	0.02		0.02
4.00	0.04		0.04
5.00	0.05		0.05
6.00	0.06		0.06
7.00	0.08		0.08
8.00	0.11		0.11
9.00	0.17		0.17
10.00	0.31		0.31
11.00	0.57		0.57
12.00	**2.42**		**2.42**
13.00	**4.05**		**4.05**
14.00	1.52		1.52
15.00	0.92		0.92
16.00	0.67		0.67
17.00	0.50		0.50
18.00	0.39		0.39
19.00	0.32		0.32
20.00	0.29		0.29
21.00	0.26		0.26
22.00	0.24		0.24
23.00	0.21		0.21
24.00	0.19		0.19
25.00	0.03		0.03
26.00	0.00		0.00
27.00	0.00		0.00
28.00	0.00		0.00
29.00	0.00		0.00
30.00	0.00		0.00
31.00	0.00		0.00
32.00	0.00		0.00
33.00	0.00		0.00
34.00	0.00		0.00
35.00	0.00		0.00
36.00	0.00		0.00
37.00	0.00		0.00
38.00	0.00		0.00
39.00	0.00		0.00
40.00	0.00		0.00
41.00	0.00		0.00
42.00	0.00		0.00
43.00	0.00		0.00
44.00	0.00		0.00
45.00	0.00		0.00
46.00	0.00		0.00
47.00	0.00		0.00
48.00	0.00		0.00
49.00	0.00		0.00
50.00	0.00		0.00
51.00	0.00		0.00
52.00	0.00		0.00
53.00	0.00		0.00
54.00	0.00		0.00
55.00	0.00		0.00
56.00	0.00		0.00
57.00	0.00		0.00
58.00	0.00		0.00
59.00	0.00		0.00
60.00	0.00		0.00
61.00	0.00		0.00
62.00	0.00		0.00
63.00	0.00		0.00
64.00	0.00		0.00
65.00	0.00		0.00
66.00	0.00		0.00
67.00	0.00		0.00
68.00	0.00		0.00
69.00	0.00		0.00
70.00	0.00		0.00
71.00	0.00		0.00
72.00	0.00		0.00

Summary for Pond 16P: EA-2

Inflow Area = 32.440 ac, 0.00% Impervious, Inflow Depth = 5.32" for 100-year event
Inflow = 57.78 cfs @ 12.73 hrs, Volume= 14.387 af
Primary = 57.78 cfs @ 12.73 hrs, Volume= 14.387 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond 16P: EA-2



Hydrograph for Pond 16P: EA-2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
1.00	0.00		0.00
2.00	0.00		0.00
3.00	0.00		0.00
4.00	0.00		0.00
5.00	0.00		0.00
6.00	0.00		0.00
7.00	0.02		0.02
8.00	0.30		0.30
9.00	1.03		1.03
10.00	2.46		2.46
11.00	4.94		4.94
12.00	**14.06**		**14.06**
13.00	**52.93**		**52.93**
14.00	29.73		29.73
15.00	17.85		17.85
16.00	11.16		11.16
17.00	7.70		7.70
18.00	5.63		5.63
19.00	4.42		4.42
20.00	3.76		3.76
21.00	3.32		3.32
22.00	3.00		3.00
23.00	2.72		2.72
24.00	2.44		2.44
25.00	1.20		1.20
26.00	0.40		0.40
27.00	0.11		0.11
28.00	0.03		0.03
29.00	0.00		0.00
30.00	0.00		0.00
31.00	0.00		0.00
32.00	0.00		0.00
33.00	0.00		0.00
34.00	0.00		0.00
35.00	0.00		0.00
36.00	0.00		0.00
37.00	0.00		0.00
38.00	0.00		0.00
39.00	0.00		0.00
40.00	0.00		0.00
41.00	0.00		0.00
42.00	0.00		0.00
43.00	0.00		0.00
44.00	0.00		0.00
45.00	0.00		0.00
46.00	0.00		0.00
47.00	0.00		0.00
48.00	0.00		0.00
49.00	0.00		0.00
50.00	0.00		0.00
51.00	0.00		0.00
52.00	0.00		0.00
53.00	0.00		0.00
54.00	0.00		0.00
55.00	0.00		0.00
56.00	0.00		0.00
57.00	0.00		0.00
58.00	0.00		0.00
59.00	0.00		0.00
60.00	0.00		0.00
61.00	0.00		0.00
62.00	0.00		0.00
63.00	0.00		0.00
64.00	0.00		0.00
65.00	0.00		0.00
66.00	0.00		0.00
67.00	0.00		0.00
68.00	0.00		0.00
69.00	0.00		0.00
70.00	0.00		0.00
71.00	0.00		0.00
72.00	0.00		0.00

Summary for Subcatchment 9S: EA-1 Impervious

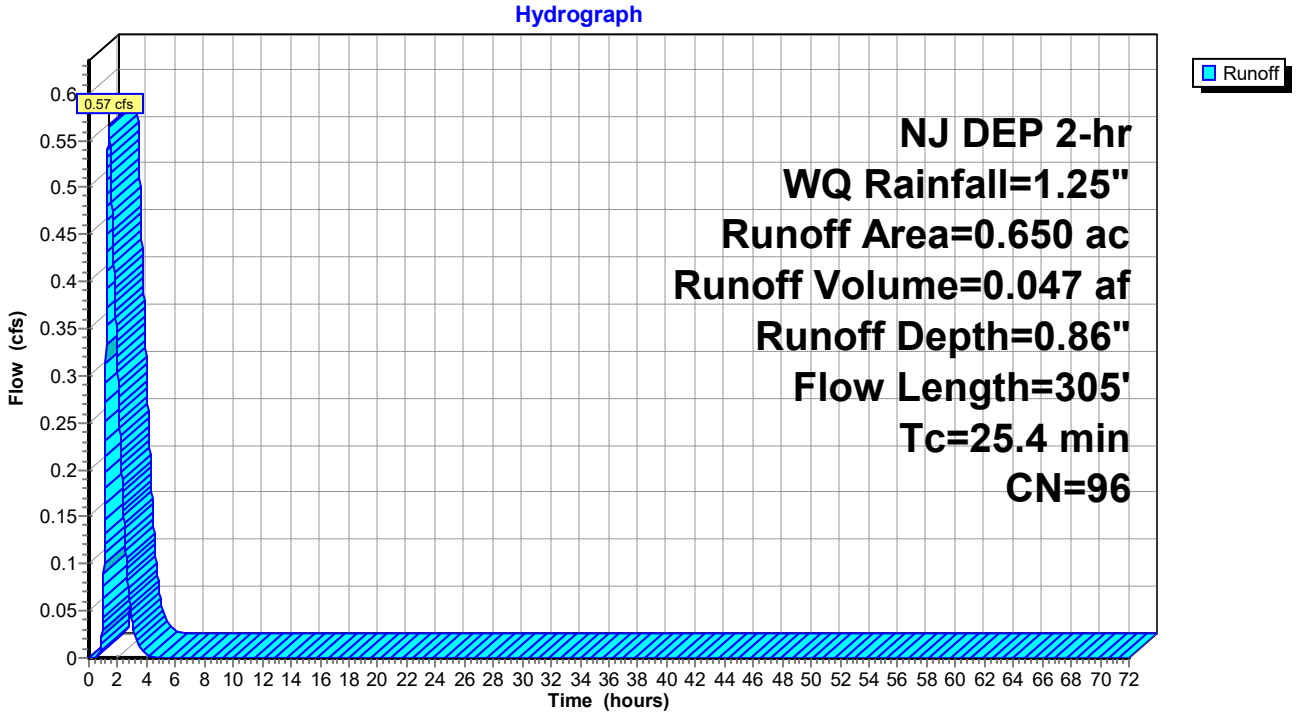
Runoff = 0.57 cfs @ 1.36 hrs, Volume= 0.047 af, Depth= 0.86"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
	0.010	98	Unconnected pavement, HSG B
	0.520	96	Gravel surface, HSG B
*	0.120	98	Roofs, HSG B
	0.650	96	Weighted Average
	0.520		80.00% Pervious Area
	0.130		20.00% Impervious Area
	0.010		7.69% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.1	150	0.0073	0.11		**Sheet Flow, Small Grains & Legumes** Cultivated: Residue>20% n= 0.170 P2= 3.30"
3.3	155	0.0078	0.79		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
25.4	305	Total			

Subcatchment 9S: EA-1 Impervious



Hydrograph for Subcatchment 9S: EA-1 Impervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.63	0.31	**0.07**
2.00	**1.25**	**0.86**	**0.31**
3.00	1.25	0.86	0.04
4.00	1.25	0.86	0.00
5.00	1.25	0.86	0.00
6.00	1.25	0.86	0.00
7.00	1.25	0.86	0.00
8.00	1.25	0.86	0.00
9.00	1.25	0.86	0.00
10.00	1.25	0.86	0.00
11.00	1.25	0.86	0.00
12.00	1.25	0.86	0.00
13.00	1.25	0.86	0.00
14.00	1.25	0.86	0.00
15.00	1.25	0.86	0.00
16.00	1.25	0.86	0.00
17.00	1.25	0.86	0.00
18.00	1.25	0.86	0.00
19.00	1.25	0.86	0.00
20.00	1.25	0.86	0.00
21.00	1.25	0.86	0.00
22.00	1.25	0.86	0.00
23.00	1.25	0.86	0.00
24.00	1.25	0.86	0.00
25.00	1.25	0.86	0.00
26.00	1.25	0.86	0.00
27.00	1.25	0.86	0.00
28.00	1.25	0.86	0.00
29.00	1.25	0.86	0.00
30.00	1.25	0.86	0.00
31.00	1.25	0.86	0.00
32.00	1.25	0.86	0.00
33.00	1.25	0.86	0.00
34.00	1.25	0.86	0.00
35.00	1.25	0.86	0.00
36.00	1.25	0.86	0.00
37.00	1.25	0.86	0.00
38.00	1.25	0.86	0.00
39.00	1.25	0.86	0.00
40.00	1.25	0.86	0.00
41.00	1.25	0.86	0.00
42.00	1.25	0.86	0.00
43.00	1.25	0.86	0.00
44.00	1.25	0.86	0.00
45.00	1.25	0.86	0.00
46.00	1.25	0.86	0.00
47.00	1.25	0.86	0.00
48.00	1.25	0.86	0.00
49.00	1.25	0.86	0.00
50.00	1.25	0.86	0.00
51.00	1.25	0.86	0.00
52.00	1.25	0.86	0.00
53.00	1.25	0.86	0.00
54.00	1.25	0.86	0.00
55.00	1.25	0.86	0.00
56.00	1.25	0.86	0.00
57.00	1.25	0.86	0.00
58.00	1.25	0.86	0.00
59.00	1.25	0.86	0.00
60.00	1.25	0.86	0.00
61.00	1.25	0.86	0.00
62.00	1.25	0.86	0.00
63.00	1.25	0.86	0.00
64.00	1.25	0.86	0.00
65.00	1.25	0.86	0.00
66.00	1.25	0.86	0.00
67.00	1.25	0.86	0.00
68.00	1.25	0.86	0.00
69.00	1.25	0.86	0.00
70.00	1.25	0.86	0.00
71.00	1.25	0.86	0.00
72.00	1.25	0.86	0.00

Summary for Subcatchment 11S: EA-1 Pervious

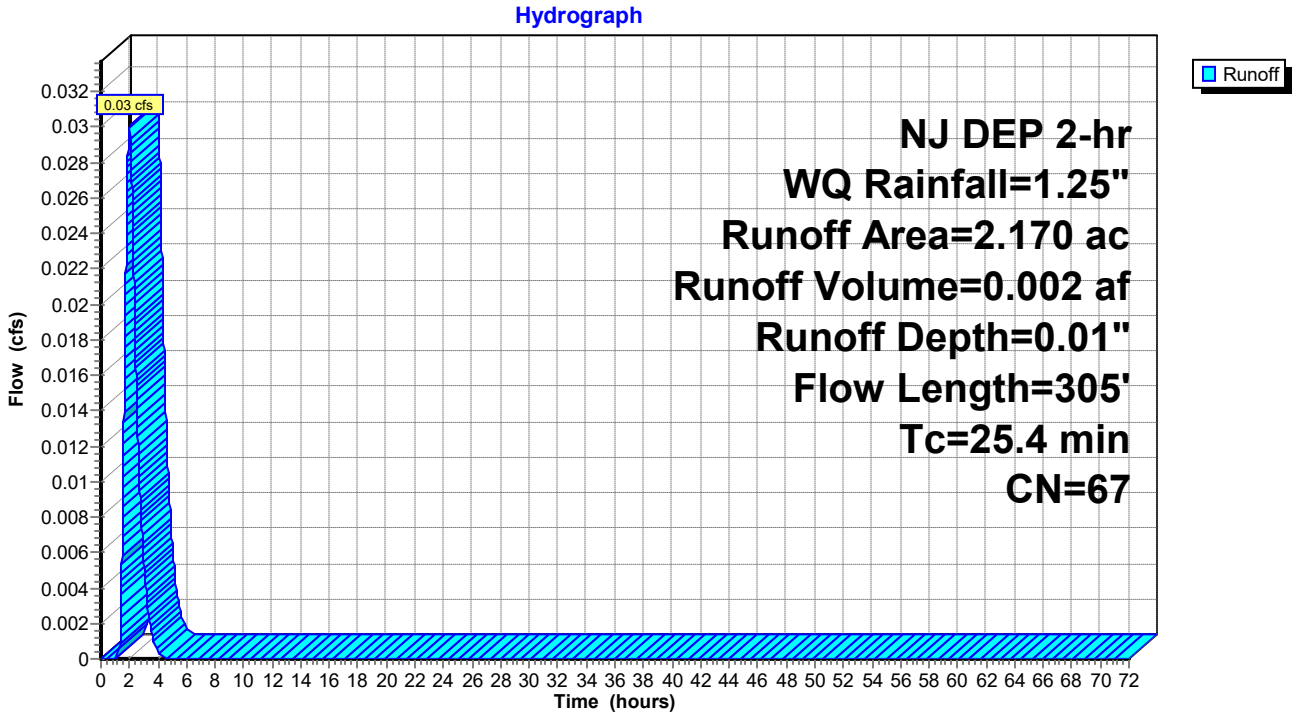
Runoff = 0.03 cfs @ 1.98 hrs, Volume= 0.002 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

Area (ac)	CN	Description
0.110	79	<50% Grass cover, Poor, HSG B
0.760	61	>75% Grass cover, Good, HSG B
1.300	69	Small grain, C&T + CR, Good, HSG B
2.170	67	Weighted Average
2.170		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.1	150	0.0073	0.11		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
3.3	155	0.0078	0.79		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
25.4	305	Total			

Subcatchment 11S: EA-1 Pervious



Hydrograph for Subcatchment 11S: EA-1 Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.63	0.00	**0.00**
2.00	**1.25**	**0.01**	**0.03**
3.00	1.25	0.01	0.01
4.00	1.25	0.01	0.00
5.00	1.25	0.01	0.00
6.00	1.25	0.01	0.00
7.00	1.25	0.01	0.00
8.00	1.25	0.01	0.00
9.00	1.25	0.01	0.00
10.00	1.25	0.01	0.00
11.00	1.25	0.01	0.00
12.00	1.25	0.01	0.00
13.00	1.25	0.01	0.00
14.00	1.25	0.01	0.00
15.00	1.25	0.01	0.00
16.00	1.25	0.01	0.00
17.00	1.25	0.01	0.00
18.00	1.25	0.01	0.00
19.00	1.25	0.01	0.00
20.00	1.25	0.01	0.00
21.00	1.25	0.01	0.00
22.00	1.25	0.01	0.00
23.00	1.25	0.01	0.00
24.00	1.25	0.01	0.00
25.00	1.25	0.01	0.00
26.00	1.25	0.01	0.00
27.00	1.25	0.01	0.00
28.00	1.25	0.01	0.00
29.00	1.25	0.01	0.00
30.00	1.25	0.01	0.00
31.00	1.25	0.01	0.00
32.00	1.25	0.01	0.00
33.00	1.25	0.01	0.00
34.00	1.25	0.01	0.00
35.00	1.25	0.01	0.00
36.00	1.25	0.01	0.00
37.00	1.25	0.01	0.00
38.00	1.25	0.01	0.00
39.00	1.25	0.01	0.00
40.00	1.25	0.01	0.00
41.00	1.25	0.01	0.00
42.00	1.25	0.01	0.00
43.00	1.25	0.01	0.00
44.00	1.25	0.01	0.00
45.00	1.25	0.01	0.00
46.00	1.25	0.01	0.00
47.00	1.25	0.01	0.00
48.00	1.25	0.01	0.00
49.00	1.25	0.01	0.00
50.00	1.25	0.01	0.00
51.00	1.25	0.01	0.00
52.00	1.25	0.01	0.00
53.00	1.25	0.01	0.00
54.00	1.25	0.01	0.00
55.00	1.25	0.01	0.00
56.00	1.25	0.01	0.00
57.00	1.25	0.01	0.00
58.00	1.25	0.01	0.00
59.00	1.25	0.01	0.00
60.00	1.25	0.01	0.00
61.00	1.25	0.01	0.00
62.00	1.25	0.01	0.00
63.00	1.25	0.01	0.00
64.00	1.25	0.01	0.00
65.00	1.25	0.01	0.00
66.00	1.25	0.01	0.00
67.00	1.25	0.01	0.00
68.00	1.25	0.01	0.00
69.00	1.25	0.01	0.00
70.00	1.25	0.01	0.00
71.00	1.25	0.01	0.00
72.00	1.25	0.01	0.00

Summary for Subcatchment 13S: EA-2 Pervious

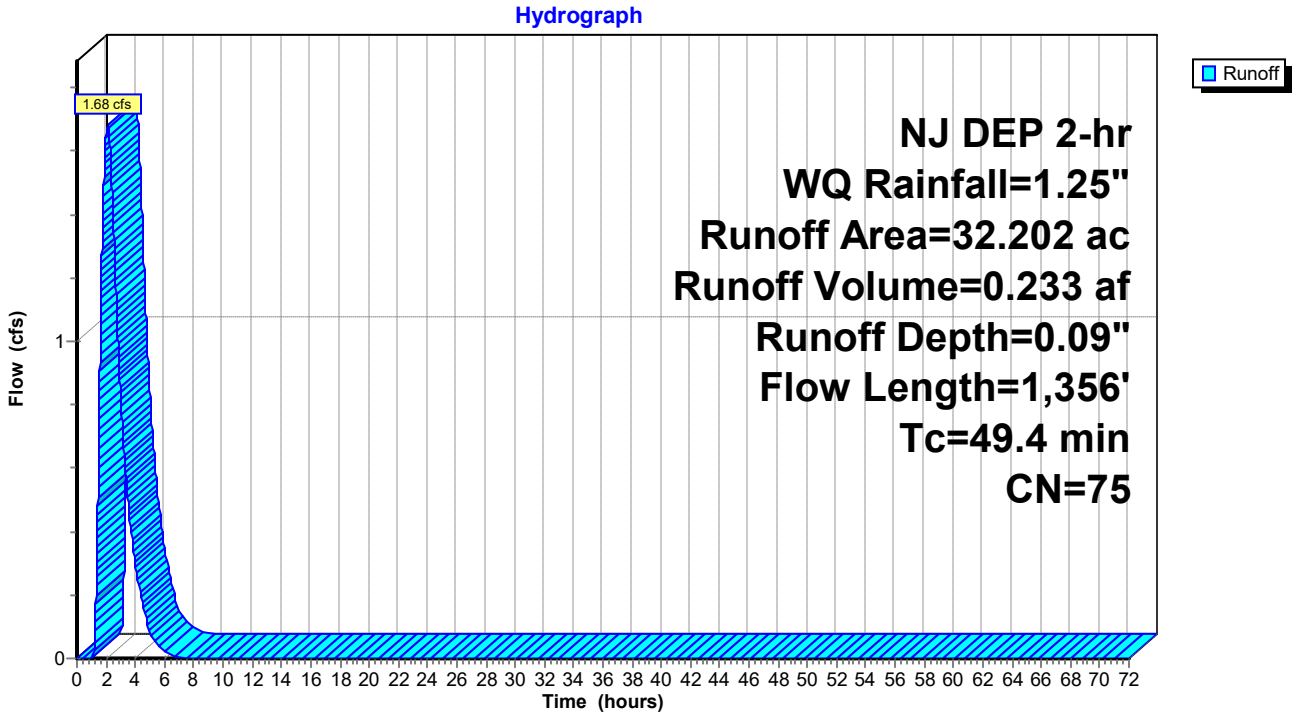
Runoff = 1.68 cfs @ 2.09 hrs, Volume= 0.233 af, Depth= 0.09"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

Area (ac)	CN	Description
9.851	80	Small grain, C&T + CR, Good, HSG D
11.559	77	Small grain, C&T + CR, Good, HSG C
10.792	69	Small grain, C&T + CR, Good, HSG B
32.202	75	Weighted Average
32.202		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	15	0.0060	0.07		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
0.2	10	0.0100	0.67		**Sheet Flow, Dirt Road** Smooth surfaces n= 0.011 P2= 3.30"
18.4	125	0.0080	0.11		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
5.2	154	0.0030	0.49		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
1.5	108	0.0167	1.16		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
3.9	328	0.0237	1.39		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
2.6	125	0.0081	0.81		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
9.7	302	0.0033	0.52		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
4.1	189	0.0072	0.76		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
49.4	1,356	Total			

Subcatchment 13S: EA-2 Pervious



Hydrograph for Subcatchment 13S: EA-2 Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.63	0.00	0.00
2.00	**1.25**	**0.09**	**1.65**
3.00	1.25	0.09	**0.82**
4.00	1.25	0.09	0.30
5.00	1.25	0.09	0.09
6.00	1.25	0.09	0.02
7.00	1.25	0.09	0.00
8.00	1.25	0.09	0.00
9.00	1.25	0.09	0.00
10.00	1.25	0.09	0.00
11.00	1.25	0.09	0.00
12.00	1.25	0.09	0.00
13.00	1.25	0.09	0.00
14.00	1.25	0.09	0.00
15.00	1.25	0.09	0.00
16.00	1.25	0.09	0.00
17.00	1.25	0.09	0.00
18.00	1.25	0.09	0.00
19.00	1.25	0.09	0.00
20.00	1.25	0.09	0.00
21.00	1.25	0.09	0.00
22.00	1.25	0.09	0.00
23.00	1.25	0.09	0.00
24.00	1.25	0.09	0.00
25.00	1.25	0.09	0.00
26.00	1.25	0.09	0.00
27.00	1.25	0.09	0.00
28.00	1.25	0.09	0.00
29.00	1.25	0.09	0.00
30.00	1.25	0.09	0.00
31.00	1.25	0.09	0.00
32.00	1.25	0.09	0.00
33.00	1.25	0.09	0.00
34.00	1.25	0.09	0.00
35.00	1.25	0.09	0.00
36.00	1.25	0.09	0.00
37.00	1.25	0.09	0.00
38.00	1.25	0.09	0.00
39.00	1.25	0.09	0.00
40.00	1.25	0.09	0.00
41.00	1.25	0.09	0.00
42.00	1.25	0.09	0.00
43.00	1.25	0.09	0.00
44.00	1.25	0.09	0.00
45.00	1.25	0.09	0.00
46.00	1.25	0.09	0.00
47.00	1.25	0.09	0.00
48.00	1.25	0.09	0.00
49.00	1.25	0.09	0.00
50.00	1.25	0.09	0.00
51.00	1.25	0.09	0.00
52.00	1.25	0.09	0.00
53.00	1.25	0.09	0.00
54.00	1.25	0.09	0.00
55.00	1.25	0.09	0.00
56.00	1.25	0.09	0.00
57.00	1.25	0.09	0.00
58.00	1.25	0.09	0.00
59.00	1.25	0.09	0.00
60.00	1.25	0.09	0.00
61.00	1.25	0.09	0.00
62.00	1.25	0.09	0.00
63.00	1.25	0.09	0.00
64.00	1.25	0.09	0.00
65.00	1.25	0.09	0.00
66.00	1.25	0.09	0.00
67.00	1.25	0.09	0.00
68.00	1.25	0.09	0.00
69.00	1.25	0.09	0.00
70.00	1.25	0.09	0.00
71.00	1.25	0.09	0.00
72.00	1.25	0.09	0.00

Summary for Subcatchment 20S: EA-2 Impervious

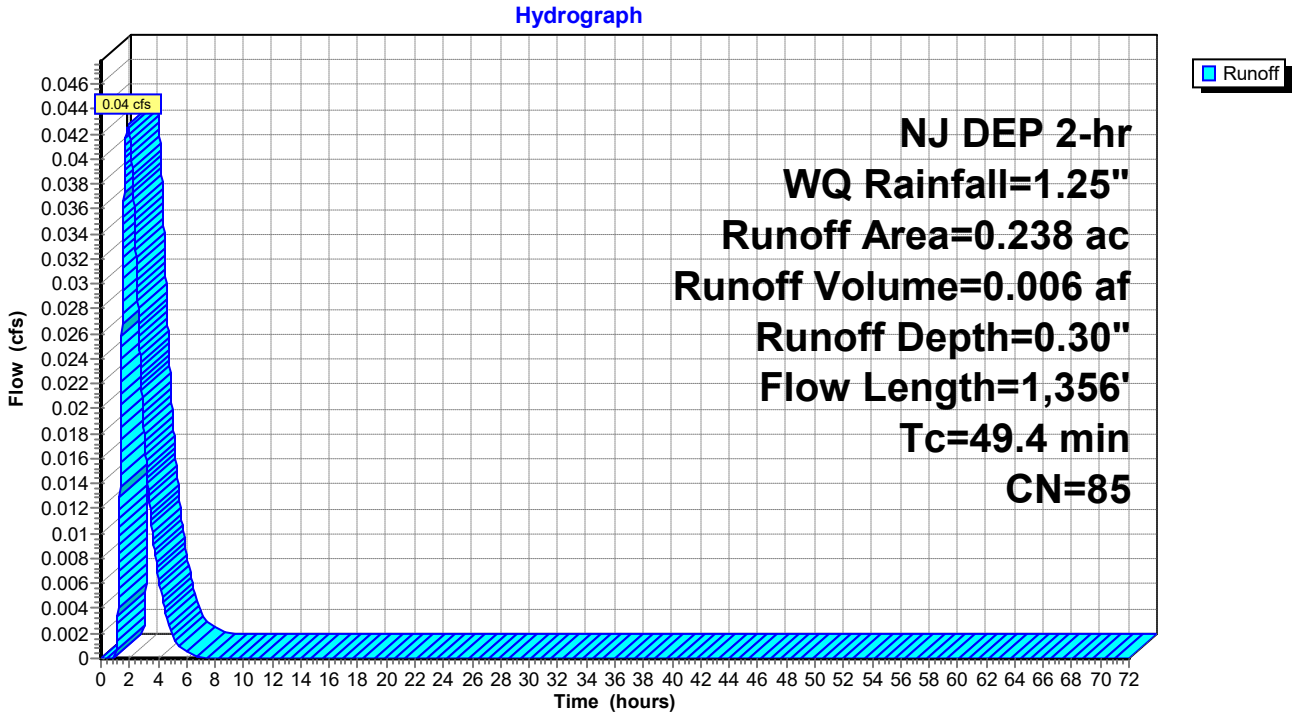
Runoff = 0.04 cfs @ 1.87 hrs, Volume= 0.006 af, Depth= 0.30"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

Area (ac)	CN	Description
0.120	82	Dirt roads, HSG B
0.074	87	Dirt roads, HSG C
0.044	89	Dirt roads, HSG D
0.238	85	Weighted Average
0.238		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	15	0.0060	0.07		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
0.2	10	0.0100	0.67		**Sheet Flow, Dirt Road** Smooth surfaces n= 0.011 P2= 3.30"
18.4	125	0.0080	0.11		**Sheet Flow, Small Grain & Legume** Cultivated: Residue>20% n= 0.170 P2= 3.30"
5.2	154	0.0030	0.49		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
1.5	108	0.0167	1.16		**Shallow Concentrated Flow, Small Grain & Legume** Cultivated Straight Rows Kv= 9.0 fps
3.9	328	0.0237	1.39		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
2.6	125	0.0081	0.81		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
9.7	302	0.0033	0.52		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
4.1	189	0.0072	0.76		**Shallow Concentrated Flow, Small Grains & Legumes** Cultivated Straight Rows Kv= 9.0 fps
49.4	1,356	Total			

Subcatchment 20S: EA-2 Impervious



Hydrograph for Subcatchment 20S: EA-2 Impervious

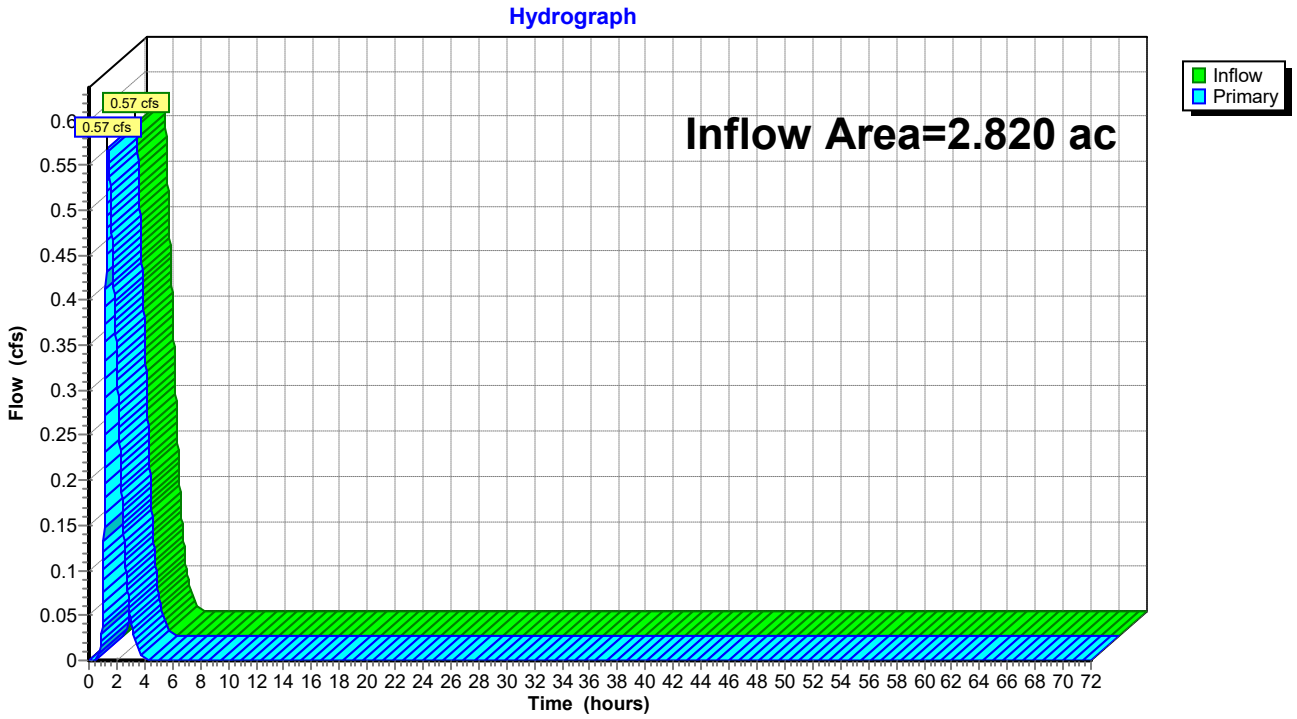
Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.63	0.04	**0.00**
2.00	**1.25**	**0.30**	**0.04**
3.00	1.25	0.30	0.02
4.00	1.25	0.30	0.01
5.00	1.25	0.30	0.00
6.00	1.25	0.30	0.00
7.00	1.25	0.30	0.00
8.00	1.25	0.30	0.00
9.00	1.25	0.30	0.00
10.00	1.25	0.30	0.00
11.00	1.25	0.30	0.00
12.00	1.25	0.30	0.00
13.00	1.25	0.30	0.00
14.00	1.25	0.30	0.00
15.00	1.25	0.30	0.00
16.00	1.25	0.30	0.00
17.00	1.25	0.30	0.00
18.00	1.25	0.30	0.00
19.00	1.25	0.30	0.00
20.00	1.25	0.30	0.00
21.00	1.25	0.30	0.00
22.00	1.25	0.30	0.00
23.00	1.25	0.30	0.00
24.00	1.25	0.30	0.00
25.00	1.25	0.30	0.00
26.00	1.25	0.30	0.00
27.00	1.25	0.30	0.00
28.00	1.25	0.30	0.00
29.00	1.25	0.30	0.00
30.00	1.25	0.30	0.00
31.00	1.25	0.30	0.00
32.00	1.25	0.30	0.00
33.00	1.25	0.30	0.00
34.00	1.25	0.30	0.00
35.00	1.25	0.30	0.00
36.00	1.25	0.30	0.00
37.00	1.25	0.30	0.00
38.00	1.25	0.30	0.00
39.00	1.25	0.30	0.00
40.00	1.25	0.30	0.00
41.00	1.25	0.30	0.00
42.00	1.25	0.30	0.00
43.00	1.25	0.30	0.00
44.00	1.25	0.30	0.00
45.00	1.25	0.30	0.00
46.00	1.25	0.30	0.00
47.00	1.25	0.30	0.00
48.00	1.25	0.30	0.00
49.00	1.25	0.30	0.00
50.00	1.25	0.30	0.00
51.00	1.25	0.30	0.00
52.00	1.25	0.30	0.00
53.00	1.25	0.30	0.00
54.00	1.25	0.30	0.00
55.00	1.25	0.30	0.00
56.00	1.25	0.30	0.00
57.00	1.25	0.30	0.00
58.00	1.25	0.30	0.00
59.00	1.25	0.30	0.00
60.00	1.25	0.30	0.00
61.00	1.25	0.30	0.00
62.00	1.25	0.30	0.00
63.00	1.25	0.30	0.00
64.00	1.25	0.30	0.00
65.00	1.25	0.30	0.00
66.00	1.25	0.30	0.00
67.00	1.25	0.30	0.00
68.00	1.25	0.30	0.00
69.00	1.25	0.30	0.00
70.00	1.25	0.30	0.00
71.00	1.25	0.30	0.00
72.00	1.25	0.30	0.00

Summary for Pond 12P: EA-1

Inflow Area = 2.820 ac, 4.61% Impervious, Inflow Depth = 0.21" for WQ event
Inflow = 0.57 cfs @ 1.36 hrs, Volume= 0.049 af
Primary = 0.57 cfs @ 1.36 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond 12P: EA-1



Hydrograph for Pond 12P: EA-1

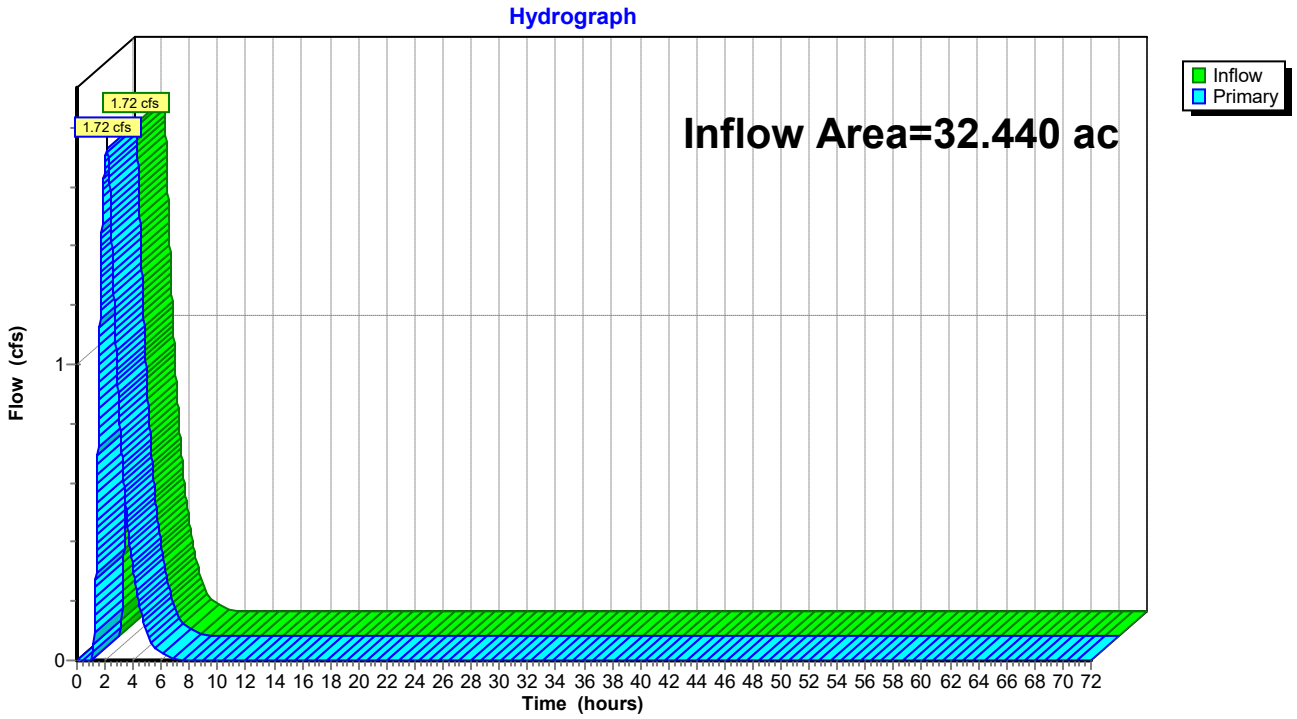
Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
1.00	**0.07**		**0.07**
2.00	**0.34**		**0.34**
3.00	0.04		0.04
4.00	0.00		0.00
5.00	0.00		0.00
6.00	0.00		0.00
7.00	0.00		0.00
8.00	0.00		0.00
9.00	0.00		0.00
10.00	0.00		0.00
11.00	0.00		0.00
12.00	0.00		0.00
13.00	0.00		0.00
14.00	0.00		0.00
15.00	0.00		0.00
16.00	0.00		0.00
17.00	0.00		0.00
18.00	0.00		0.00
19.00	0.00		0.00
20.00	0.00		0.00
21.00	0.00		0.00
22.00	0.00		0.00
23.00	0.00		0.00
24.00	0.00		0.00
25.00	0.00		0.00
26.00	0.00		0.00
27.00	0.00		0.00
28.00	0.00		0.00
29.00	0.00		0.00
30.00	0.00		0.00
31.00	0.00		0.00
32.00	0.00		0.00
33.00	0.00		0.00
34.00	0.00		0.00
35.00	0.00		0.00
36.00	0.00		0.00
37.00	0.00		0.00
38.00	0.00		0.00
39.00	0.00		0.00
40.00	0.00		0.00
41.00	0.00		0.00
42.00	0.00		0.00
43.00	0.00		0.00
44.00	0.00		0.00
45.00	0.00		0.00
46.00	0.00		0.00
47.00	0.00		0.00
48.00	0.00		0.00
49.00	0.00		0.00
50.00	0.00		0.00
51.00	0.00		0.00
52.00	0.00		0.00
53.00	0.00		0.00
54.00	0.00		0.00
55.00	0.00		0.00
56.00	0.00		0.00
57.00	0.00		0.00
58.00	0.00		0.00
59.00	0.00		0.00
60.00	0.00		0.00
61.00	0.00		0.00
62.00	0.00		0.00
63.00	0.00		0.00
64.00	0.00		0.00
65.00	0.00		0.00
66.00	0.00		0.00
67.00	0.00		0.00
68.00	0.00		0.00
69.00	0.00		0.00
70.00	0.00		0.00
71.00	0.00		0.00
72.00	0.00		0.00

Summary for Pond 16P: EA-2

Inflow Area = 32.440 ac, 0.00% Impervious, Inflow Depth = 0.09" for WQ event
Inflow = 1.72 cfs @ 2.09 hrs, Volume= 0.239 af
Primary = 1.72 cfs @ 2.09 hrs, Volume= 0.239 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond 16P: EA-2

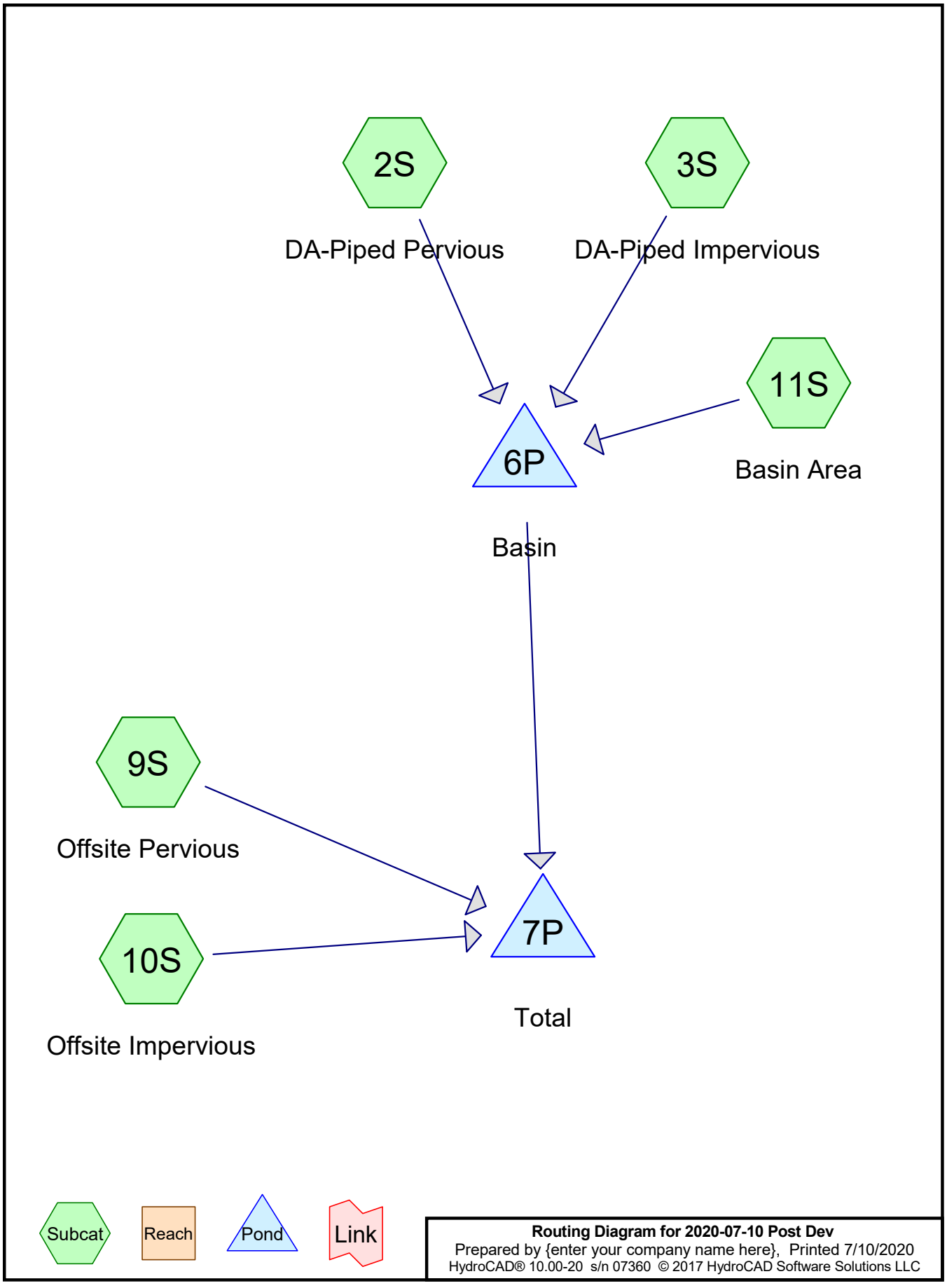


Hydrograph for Pond 16P: EA-2

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
1.00	0.00		0.00
2.00	**1.69**		**1.69**
3.00	**0.84**		**0.84**
4.00	0.30		0.30
5.00	0.09		0.09
6.00	0.02		0.02
7.00	0.00		0.00
8.00	0.00		0.00
9.00	0.00		0.00
10.00	0.00		0.00
11.00	0.00		0.00
12.00	0.00		0.00
13.00	0.00		0.00
14.00	0.00		0.00
15.00	0.00		0.00
16.00	0.00		0.00
17.00	0.00		0.00
18.00	0.00		0.00
19.00	0.00		0.00
20.00	0.00		0.00
21.00	0.00		0.00
22.00	0.00		0.00
23.00	0.00		0.00
24.00	0.00		0.00
25.00	0.00		0.00
26.00	0.00		0.00
27.00	0.00		0.00
28.00	0.00		0.00
29.00	0.00		0.00
30.00	0.00		0.00
31.00	0.00		0.00
32.00	0.00		0.00
33.00	0.00		0.00
34.00	0.00		0.00
35.00	0.00		0.00
36.00	0.00		0.00
37.00	0.00		0.00
38.00	0.00		0.00
39.00	0.00		0.00
40.00	0.00		0.00
41.00	0.00		0.00
42.00	0.00		0.00
43.00	0.00		0.00
44.00	0.00		0.00
45.00	0.00		0.00
46.00	0.00		0.00
47.00	0.00		0.00
48.00	0.00		0.00
49.00	0.00		0.00
50.00	0.00		0.00
51.00	0.00		0.00
52.00	0.00		0.00
53.00	0.00		0.00
54.00	0.00		0.00
55.00	0.00		0.00
56.00	0.00		0.00
57.00	0.00		0.00
58.00	0.00		0.00
59.00	0.00		0.00
60.00	0.00		0.00
61.00	0.00		0.00
62.00	0.00		0.00
63.00	0.00		0.00
64.00	0.00		0.00
65.00	0.00		0.00
66.00	0.00		0.00
67.00	0.00		0.00
68.00	0.00		0.00
69.00	0.00		0.00
70.00	0.00		0.00
71.00	0.00		0.00
72.00	0.00		0.00

APPENDIX B

POST-DEVELOPMENT DRAINAGE ANALYSIS



Routing Diagram for 2020-07-10 Post Dev
Prepared by {enter your company name here}, Printed 7/10/2020
HydroCAD® 10.00-20 s/n 07360 © 2017 HydroCAD Software Solutions LLC

Summary for Subcatchment 2S: DA-Piped Pervious

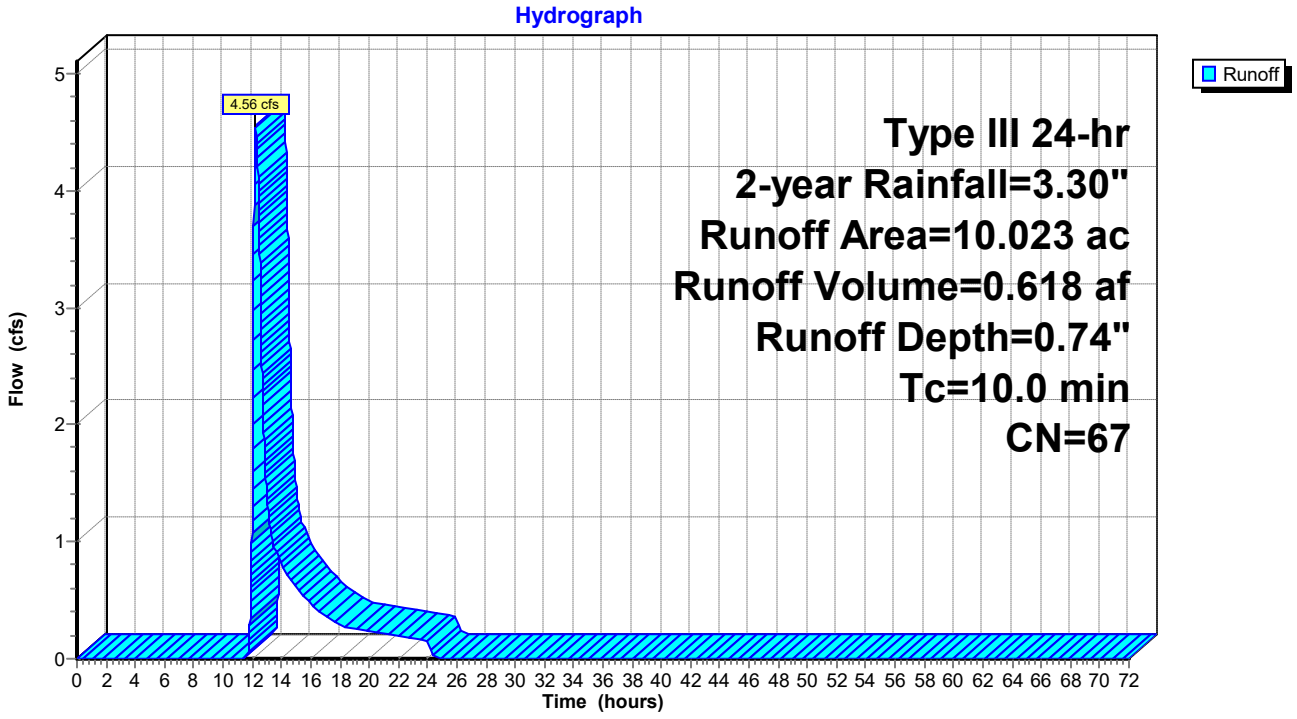
Runoff = 4.56 cfs @ 12.22 hrs, Volume= 0.618 af, Depth= 0.74"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.30"

Area (ac)	CN	Description
5.868	61	>75% Grass cover, Good, HSG B
2.563	74	>75% Grass cover, Good, HSG C
1.592	80	>75% Grass cover, Good, HSG D
10.023	67	Weighted Average
10.023		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Pipes to Basin**

Subcatchment 2S: DA-Piped Pervious



Hydrograph for Subcatchment 2S: DA-Piped Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.03	0.00	0.00
2.00	0.07	0.00	0.00
3.00	0.10	0.00	0.00
4.00	0.14	0.00	0.00
5.00	0.19	0.00	0.00
6.00	0.24	0.00	0.00
7.00	0.30	0.00	0.00
8.00	0.38	0.00	0.00
9.00	0.48	0.00	0.00
10.00	0.62	0.00	0.00
11.00	0.83	0.00	0.00
12.00	1.65	0.08	**1.30**
13.00	2.47	0.35	**1.40**
14.00	2.68	0.43	0.81
15.00	2.82	0.50	0.63
16.00	2.92	0.55	0.46
17.00	3.00	0.59	0.37
18.00	3.06	0.62	0.29
19.00	3.11	0.64	0.25
20.00	3.16	0.67	0.23
21.00	3.20	0.69	0.21
22.00	3.24	0.71	0.19
23.00	3.27	0.72	0.18
24.00	**3.30**	**0.74**	0.16
25.00	3.30	0.74	0.00
26.00	3.30	0.74	0.00
27.00	3.30	0.74	0.00
28.00	3.30	0.74	0.00
29.00	3.30	0.74	0.00
30.00	3.30	0.74	0.00
31.00	3.30	0.74	0.00
32.00	3.30	0.74	0.00
33.00	3.30	0.74	0.00
34.00	3.30	0.74	0.00
35.00	3.30	0.74	0.00
36.00	3.30	0.74	0.00
37.00	3.30	0.74	0.00
38.00	3.30	0.74	0.00
39.00	3.30	0.74	0.00
40.00	3.30	0.74	0.00
41.00	3.30	0.74	0.00
42.00	3.30	0.74	0.00
43.00	3.30	0.74	0.00
44.00	3.30	0.74	0.00
45.00	3.30	0.74	0.00
46.00	3.30	0.74	0.00
47.00	3.30	0.74	0.00
48.00	3.30	0.74	0.00
49.00	3.30	0.74	0.00
50.00	3.30	0.74	0.00
51.00	3.30	0.74	0.00
52.00	3.30	0.74	0.00
53.00	3.30	0.74	0.00
54.00	3.30	0.74	0.00
55.00	3.30	0.74	0.00
56.00	3.30	0.74	0.00
57.00	3.30	0.74	0.00
58.00	3.30	0.74	0.00
59.00	3.30	0.74	0.00
60.00	3.30	0.74	0.00
61.00	3.30	0.74	0.00
62.00	3.30	0.74	0.00
63.00	3.30	0.74	0.00
64.00	3.30	0.74	0.00
65.00	3.30	0.74	0.00
66.00	3.30	0.74	0.00
67.00	3.30	0.74	0.00
68.00	3.30	0.74	0.00
69.00	3.30	0.74	0.00
70.00	3.30	0.74	0.00
71.00	3.30	0.74	0.00
72.00	3.30	0.74	0.00

Summary for Subcatchment 3S: DA-Piped Impervious

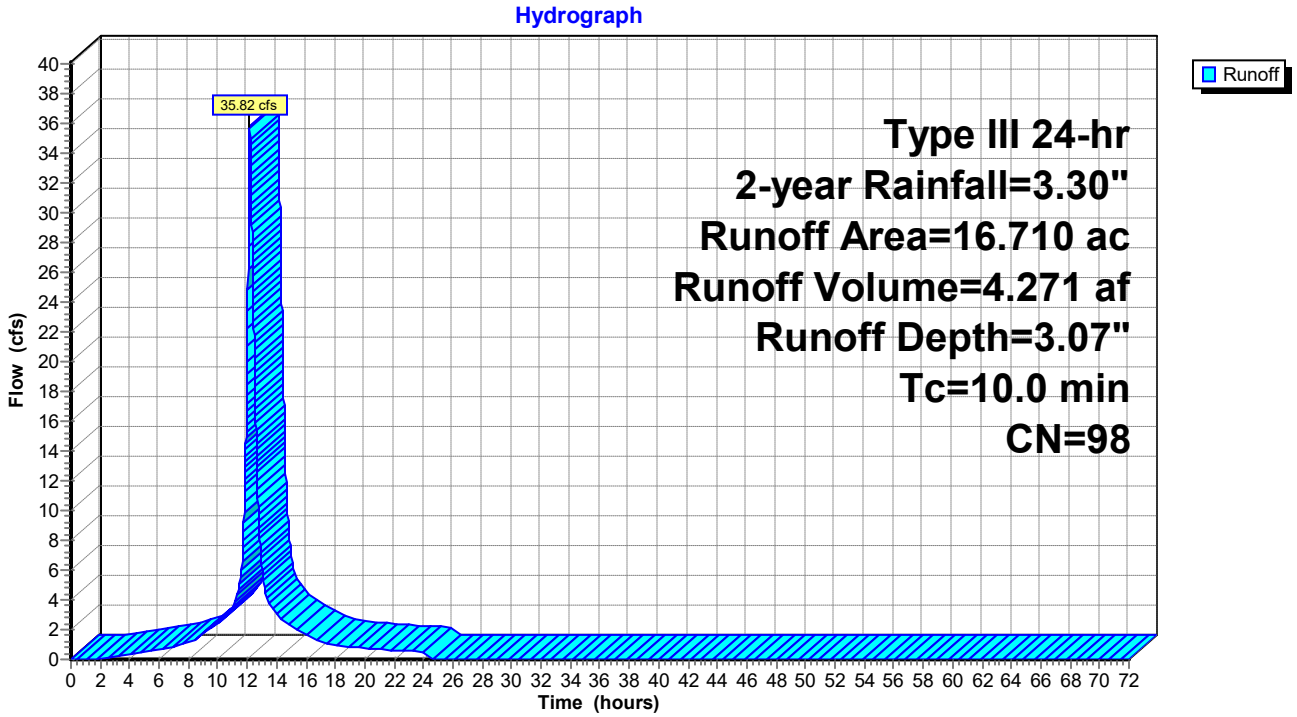
Runoff = 35.82 cfs @ 12.16 hrs, Volume= 4.271 af, Depth= 3.07"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.30"

Area (ac)	CN	Description
16.710	98	Paved parking, HSG B
16.710		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Pipes to Basin**

Subcatchment 3S: DA-Piped Impervious



Hydrograph for Subcatchment 3S: DA-Piped Impervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.03	0.00	0.00
2.00	0.07	0.00	0.08
3.00	0.10	0.01	0.22
4.00	0.14	0.03	0.36
5.00	0.19	0.06	0.50
6.00	0.24	0.10	0.63
7.00	0.30	0.14	0.87
8.00	0.38	0.21	1.16
9.00	0.48	0.30	1.71
10.00	0.62	0.43	2.37
11.00	0.83	0.62	3.54
12.00	1.65	1.43	**20.05**
13.00	2.47	2.25	**6.04**
14.00	2.68	2.45	3.05
15.00	2.82	2.59	2.24
16.00	2.92	2.69	1.60
17.00	3.00	2.77	1.23
18.00	3.06	2.83	0.96
19.00	3.11	2.88	0.82
20.00	3.16	2.93	0.74
21.00	3.20	2.97	0.67
22.00	3.24	3.00	0.61
23.00	3.27	3.04	0.55
24.00	**3.30**	**3.07**	0.49
25.00	3.30	3.07	0.00
26.00	3.30	3.07	0.00
27.00	3.30	3.07	0.00
28.00	3.30	3.07	0.00
29.00	3.30	3.07	0.00
30.00	3.30	3.07	0.00
31.00	3.30	3.07	0.00
32.00	3.30	3.07	0.00
33.00	3.30	3.07	0.00
34.00	3.30	3.07	0.00
35.00	3.30	3.07	0.00
36.00	3.30	3.07	0.00
37.00	3.30	3.07	0.00
38.00	3.30	3.07	0.00
39.00	3.30	3.07	0.00
40.00	3.30	3.07	0.00
41.00	3.30	3.07	0.00
42.00	3.30	3.07	0.00
43.00	3.30	3.07	0.00
44.00	3.30	3.07	0.00
45.00	3.30	3.07	0.00
46.00	3.30	3.07	0.00
47.00	3.30	3.07	0.00
48.00	3.30	3.07	0.00
49.00	3.30	3.07	0.00
50.00	3.30	3.07	0.00
51.00	3.30	3.07	0.00
52.00	3.30	3.07	0.00
53.00	3.30	3.07	0.00
54.00	3.30	3.07	0.00
55.00	3.30	3.07	0.00
56.00	3.30	3.07	0.00
57.00	3.30	3.07	0.00
58.00	3.30	3.07	0.00
59.00	3.30	3.07	0.00
60.00	3.30	3.07	0.00
61.00	3.30	3.07	0.00
62.00	3.30	3.07	0.00
63.00	3.30	3.07	0.00
64.00	3.30	3.07	0.00
65.00	3.30	3.07	0.00
66.00	3.30	3.07	0.00
67.00	3.30	3.07	0.00
68.00	3.30	3.07	0.00
69.00	3.30	3.07	0.00
70.00	3.30	3.07	0.00
71.00	3.30	3.07	0.00
72.00	3.30	3.07	0.00

Summary for Subcatchment 9S: Offsite Pervious

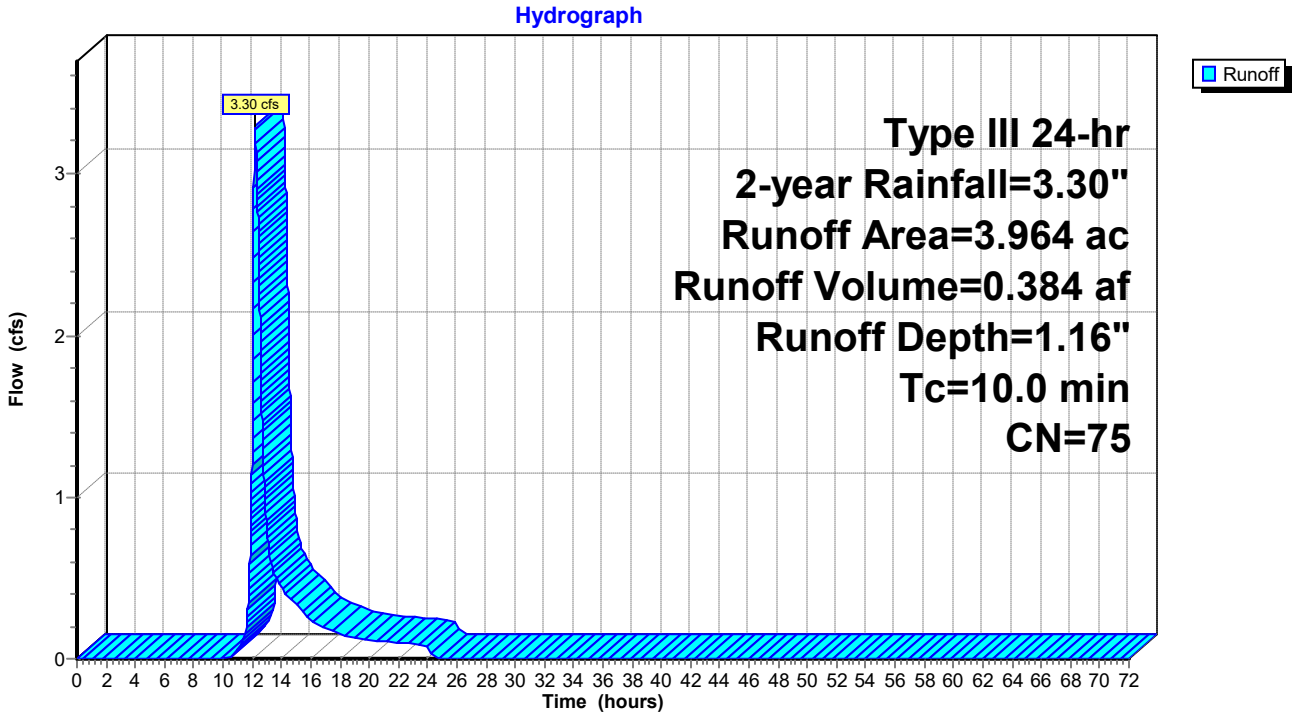
Runoff = 3.30 cfs @ 12.18 hrs, Volume= 0.384 af, Depth= 1.16"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.30"

Area (ac)	CN	Description
0.502	61	>75% Grass cover, Good, HSG B
1.759	74	>75% Grass cover, Good, HSG C
1.703	80	>75% Grass cover, Good, HSG D
3.964	75	Weighted Average
3.964		100.00% Pervious Area

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

Subcatchment 9S: Offsite Pervious



Hydrograph for Subcatchment 9S: Offsite Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.03	0.00	0.00
2.00	0.07	0.00	0.00
3.00	0.10	0.00	0.00
4.00	0.14	0.00	0.00
5.00	0.19	0.00	0.00
6.00	0.24	0.00	0.00
7.00	0.30	0.00	0.00
8.00	0.38	0.00	0.00
9.00	0.48	0.00	0.00
10.00	0.62	0.00	0.00
11.00	0.83	0.01	0.05
12.00	1.65	0.22	**1.37**
13.00	2.47	0.64	**0.80**
14.00	2.68	0.76	0.44
15.00	2.82	0.84	0.33
16.00	2.92	0.91	0.24
17.00	3.00	0.96	0.19
18.00	3.06	1.00	0.15
19.00	3.11	1.04	0.13
20.00	3.16	1.07	0.12
21.00	3.20	1.09	0.11
22.00	3.24	1.12	0.10
23.00	3.27	1.14	0.09
24.00	**3.30**	**1.16**	0.08
25.00	3.30	1.16	0.00
26.00	3.30	1.16	0.00
27.00	3.30	1.16	0.00
28.00	3.30	1.16	0.00
29.00	3.30	1.16	0.00
30.00	3.30	1.16	0.00
31.00	3.30	1.16	0.00
32.00	3.30	1.16	0.00
33.00	3.30	1.16	0.00
34.00	3.30	1.16	0.00
35.00	3.30	1.16	0.00
36.00	3.30	1.16	0.00
37.00	3.30	1.16	0.00
38.00	3.30	1.16	0.00
39.00	3.30	1.16	0.00
40.00	3.30	1.16	0.00
41.00	3.30	1.16	0.00
42.00	3.30	1.16	0.00
43.00	3.30	1.16	0.00
44.00	3.30	1.16	0.00
45.00	3.30	1.16	0.00
46.00	3.30	1.16	0.00
47.00	3.30	1.16	0.00
48.00	3.30	1.16	0.00
49.00	3.30	1.16	0.00
50.00	3.30	1.16	0.00
51.00	3.30	1.16	0.00
52.00	3.30	1.16	0.00
53.00	3.30	1.16	0.00
54.00	3.30	1.16	0.00
55.00	3.30	1.16	0.00
56.00	3.30	1.16	0.00
57.00	3.30	1.16	0.00
58.00	3.30	1.16	0.00
59.00	3.30	1.16	0.00
60.00	3.30	1.16	0.00
61.00	3.30	1.16	0.00
62.00	3.30	1.16	0.00
63.00	3.30	1.16	0.00
64.00	3.30	1.16	0.00
65.00	3.30	1.16	0.00
66.00	3.30	1.16	0.00
67.00	3.30	1.16	0.00
68.00	3.30	1.16	0.00
69.00	3.30	1.16	0.00
70.00	3.30	1.16	0.00
71.00	3.30	1.16	0.00
72.00	3.30	1.16	0.00

Summary for Subcatchment 10S: Offsite Impervious

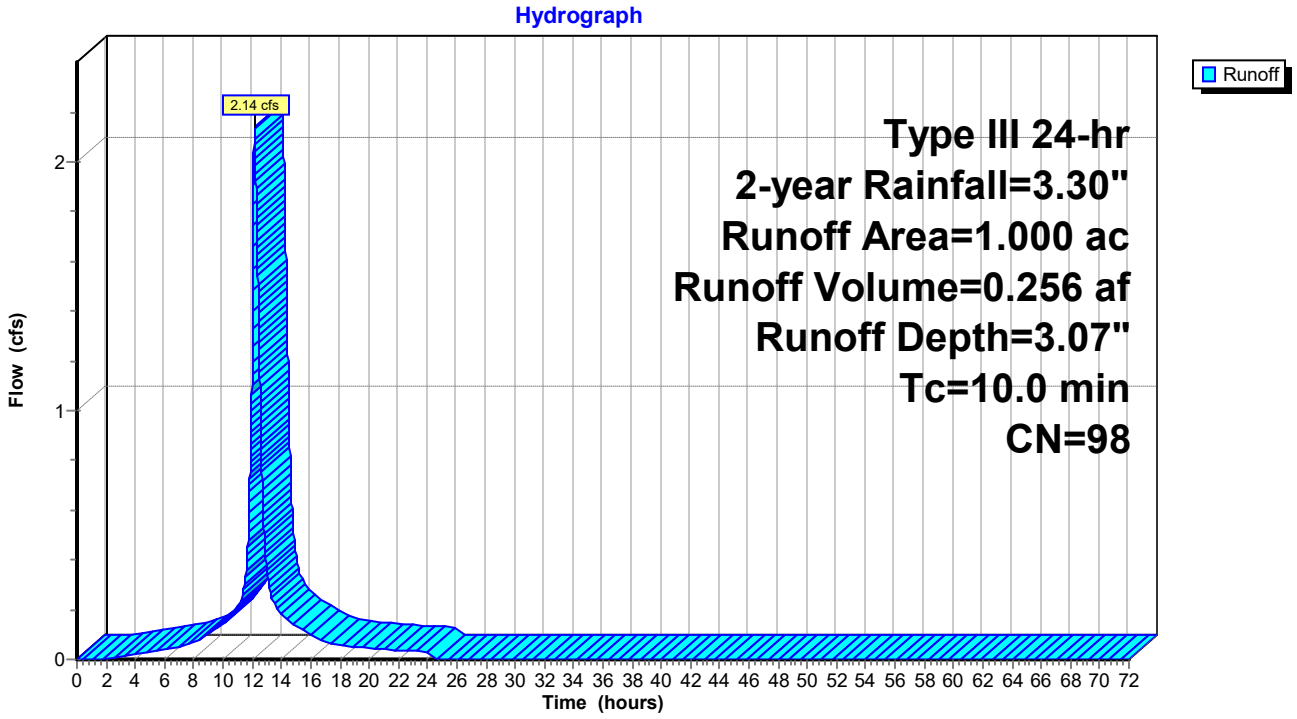
Runoff = 2.14 cfs @ 12.16 hrs, Volume= 0.256 af, Depth= 3.07"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.30"

Area (ac)	CN	Description
1.000	98	Paved parking, HSG D
1.000		100.00% Impervious Area

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

Subcatchment 10S: Offsite Impervious



Hydrograph for Subcatchment 10S: Offsite Impervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.03	0.00	0.00
2.00	0.07	0.00	0.00
3.00	0.10	0.01	0.01
4.00	0.14	0.03	0.02
5.00	0.19	0.06	0.03
6.00	0.24	0.10	0.04
7.00	0.30	0.14	0.05
8.00	0.38	0.21	0.07
9.00	0.48	0.30	0.10
10.00	0.62	0.43	0.14
11.00	0.83	0.62	0.21
12.00	1.65	1.43	**1.20**
13.00	2.47	2.25	**0.36**
14.00	2.68	2.45	0.18
15.00	2.82	2.59	0.13
16.00	2.92	2.69	0.10
17.00	3.00	2.77	0.07
18.00	3.06	2.83	0.06
19.00	3.11	2.88	0.05
20.00	3.16	2.93	0.04
21.00	3.20	2.97	0.04
22.00	3.24	3.00	0.04
23.00	3.27	3.04	0.03
24.00	**3.30**	**3.07**	0.03
25.00	3.30	3.07	0.00
26.00	3.30	3.07	0.00
27.00	3.30	3.07	0.00
28.00	3.30	3.07	0.00
29.00	3.30	3.07	0.00
30.00	3.30	3.07	0.00
31.00	3.30	3.07	0.00
32.00	3.30	3.07	0.00
33.00	3.30	3.07	0.00
34.00	3.30	3.07	0.00
35.00	3.30	3.07	0.00
36.00	3.30	3.07	0.00
37.00	3.30	3.07	0.00
38.00	3.30	3.07	0.00
39.00	3.30	3.07	0.00
40.00	3.30	3.07	0.00
41.00	3.30	3.07	0.00
42.00	3.30	3.07	0.00
43.00	3.30	3.07	0.00
44.00	3.30	3.07	0.00
45.00	3.30	3.07	0.00
46.00	3.30	3.07	0.00
47.00	3.30	3.07	0.00
48.00	3.30	3.07	0.00
49.00	3.30	3.07	0.00
50.00	3.30	3.07	0.00
51.00	3.30	3.07	0.00
52.00	3.30	3.07	0.00
53.00	3.30	3.07	0.00
54.00	3.30	3.07	0.00
55.00	3.30	3.07	0.00
56.00	3.30	3.07	0.00
57.00	3.30	3.07	0.00
58.00	3.30	3.07	0.00
59.00	3.30	3.07	0.00
60.00	3.30	3.07	0.00
61.00	3.30	3.07	0.00
62.00	3.30	3.07	0.00
63.00	3.30	3.07	0.00
64.00	3.30	3.07	0.00
65.00	3.30	3.07	0.00
66.00	3.30	3.07	0.00
67.00	3.30	3.07	0.00
68.00	3.30	3.07	0.00
69.00	3.30	3.07	0.00
70.00	3.30	3.07	0.00
71.00	3.30	3.07	0.00
72.00	3.30	3.07	0.00

Summary for Subcatchment 11S: Basin Area

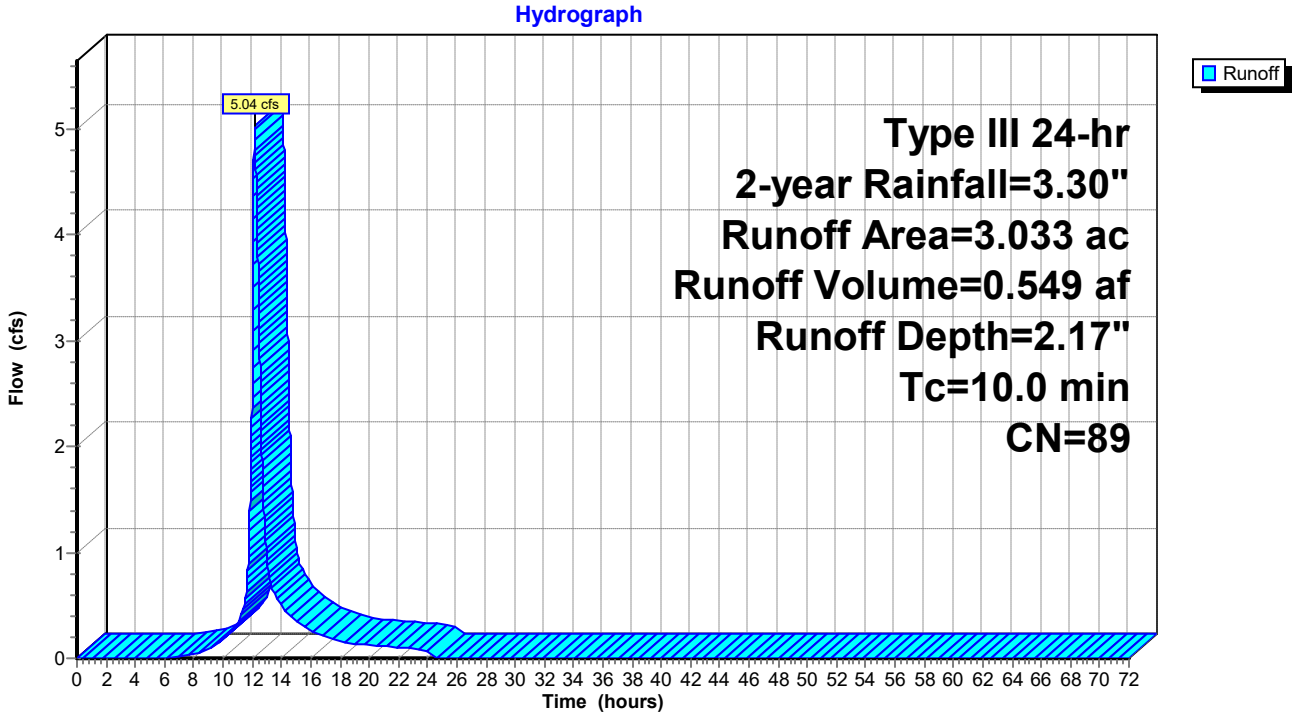
Runoff = 5.04 cfs @ 12.16 hrs, Volume= 0.549 af, Depth= 2.17"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.30"

Area (ac)	CN	Description
0.473	74	>75% Grass cover, Good, HSG C
0.886	80	>75% Grass cover, Good, HSG D
1.674	98	Paved parking, HSG D
3.033	89	Weighted Average
1.359		44.81% Pervious Area
1.674		55.19% Impervious Area

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

Subcatchment 11S: Basin Area



Hydrograph for Subcatchment 11S: Basin Area

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.03	0.00	0.00
2.00	0.07	0.00	0.00
3.00	0.10	0.00	0.00
4.00	0.14	0.00	0.00
5.00	0.19	0.00	0.00
6.00	0.24	0.00	0.00
7.00	0.30	0.00	0.01
8.00	0.38	0.01	0.04
9.00	0.48	0.04	0.09
10.00	0.62	0.09	0.18
11.00	0.83	0.18	0.34
12.00	1.65	0.75	**2.59**
13.00	2.47	1.43	**0.95**
14.00	2.68	1.61	0.49
15.00	2.82	1.74	0.36
16.00	2.92	1.83	0.26
17.00	3.00	1.90	0.20
18.00	3.06	1.96	0.16
19.00	3.11	2.00	0.14
20.00	3.16	2.04	0.12
21.00	3.20	2.08	0.11
22.00	3.24	2.11	0.10
23.00	3.27	2.15	0.09
24.00	**3.30**	**2.17**	0.08
25.00	3.30	2.17	0.00
26.00	3.30	2.17	0.00
27.00	3.30	2.17	0.00
28.00	3.30	2.17	0.00
29.00	3.30	2.17	0.00
30.00	3.30	2.17	0.00
31.00	3.30	2.17	0.00
32.00	3.30	2.17	0.00
33.00	3.30	2.17	0.00
34.00	3.30	2.17	0.00
35.00	3.30	2.17	0.00
36.00	3.30	2.17	0.00
37.00	3.30	2.17	0.00
38.00	3.30	2.17	0.00
39.00	3.30	2.17	0.00
40.00	3.30	2.17	0.00
41.00	3.30	2.17	0.00
42.00	3.30	2.17	0.00
43.00	3.30	2.17	0.00
44.00	3.30	2.17	0.00
45.00	3.30	2.17	0.00
46.00	3.30	2.17	0.00
47.00	3.30	2.17	0.00
48.00	3.30	2.17	0.00
49.00	3.30	2.17	0.00
50.00	3.30	2.17	0.00
51.00	3.30	2.17	0.00
52.00	3.30	2.17	0.00
53.00	3.30	2.17	0.00
54.00	3.30	2.17	0.00
55.00	3.30	2.17	0.00
56.00	3.30	2.17	0.00
57.00	3.30	2.17	0.00
58.00	3.30	2.17	0.00
59.00	3.30	2.17	0.00
60.00	3.30	2.17	0.00
61.00	3.30	2.17	0.00
62.00	3.30	2.17	0.00
63.00	3.30	2.17	0.00
64.00	3.30	2.17	0.00
65.00	3.30	2.17	0.00
66.00	3.30	2.17	0.00
67.00	3.30	2.17	0.00
68.00	3.30	2.17	0.00
69.00	3.30	2.17	0.00
70.00	3.30	2.17	0.00
71.00	3.30	2.17	0.00
72.00	3.30	2.17	0.00

Summary for Pond 6P: Basin

Inflow Area = 29.766 ac, 61.76% Impervious, Inflow Depth = 2.19" for 2-year event
Inflow = 45.24 cfs @ 12.16 hrs, Volume= 5.438 af
Outflow = 4.98 cfs @ 13.66 hrs, Volume= 4.327 af, Atten= 89%, Lag= 90.1 min
Primary = 4.98 cfs @ 13.66 hrs, Volume= 4.327 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 92.00' Surf.Area= 48,084 sf Storage= 161,280 cf
Peak Elev= 94.74' @ 13.66 hrs Surf.Area= 61,573 sf Storage= 310,991 cf (149,711 cf above start)

Plug-Flow detention time= 3,142.2 min calculated for 0.625 af (11% of inflow)
Center-of-Mass det. time= 834.8 min (1,620.4 - 785.6)

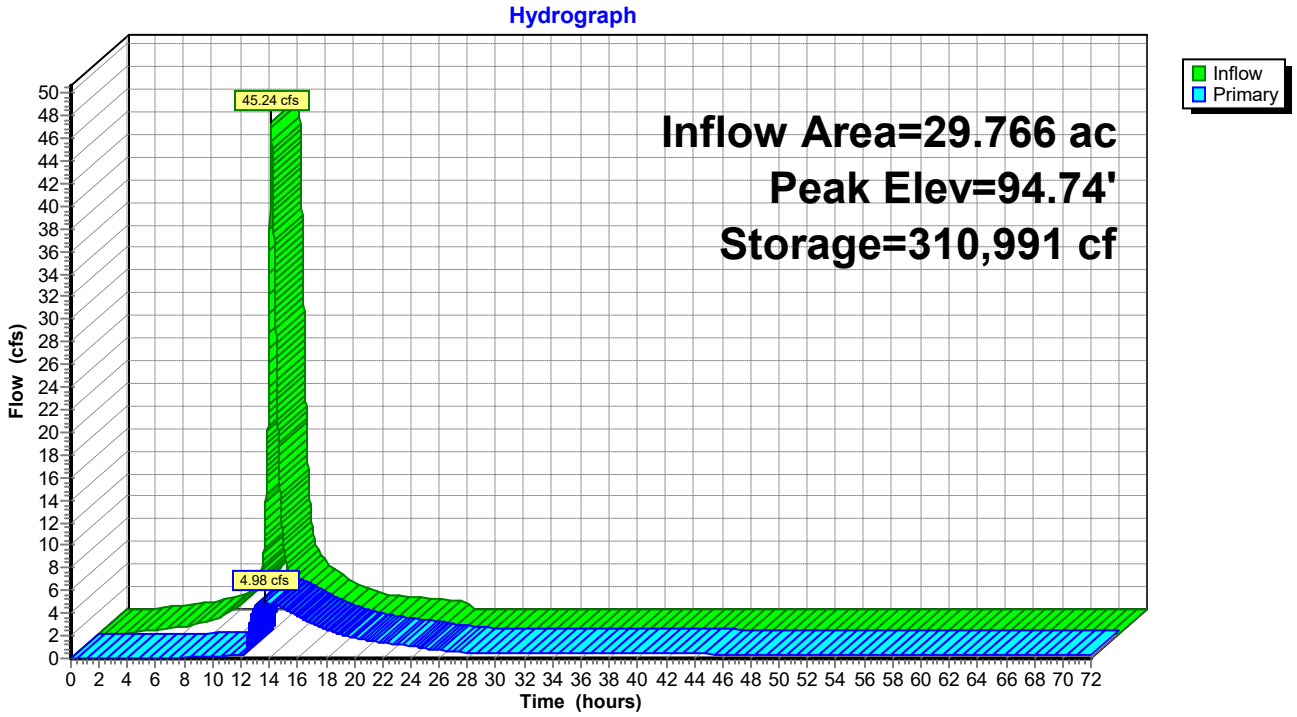
Volume	Invert	Avail.Storage	Storage Description
#1	88.00'	604,830 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.00	31,756	0	0
89.00	34,723	33,240	33,240
90.00	41,747	38,235	71,475
91.00	44,890	43,319	114,793
92.00	48,084	46,487	161,280
93.00	51,328	49,706	210,986
94.00	59,031	55,180	266,166
95.00	62,451	60,741	326,907
96.00	65,922	64,187	391,093
97.00	69,443	67,683	458,776
98.00	73,016	71,230	530,005
99.00	76,634	74,825	604,830

Device	Routing	Invert	Outlet Devices
#1	Primary	91.80'	**30.0" Round Culvert** L= 427.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 91.80' / 90.30' S= 0.0035 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	92.00'	**3.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	94.00'	**26.0" W x 14.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	96.15'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 1	98.05'	**16.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=4.98 cfs @ 13.66 hrs HW=94.74' (Free Discharge)
- **1=Culvert** (Passes 4.98 cfs of 25.68 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.52 cfs @ 7.76 fps)
  - **3=Orifice/Grate** (Orifice Controls 4.46 cfs @ 2.77 fps)
  - **4=Orifice/Grate** (Controls 0.00 cfs)
  - **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 6P: Basin



Hydrograph for Pond 6P: Basin

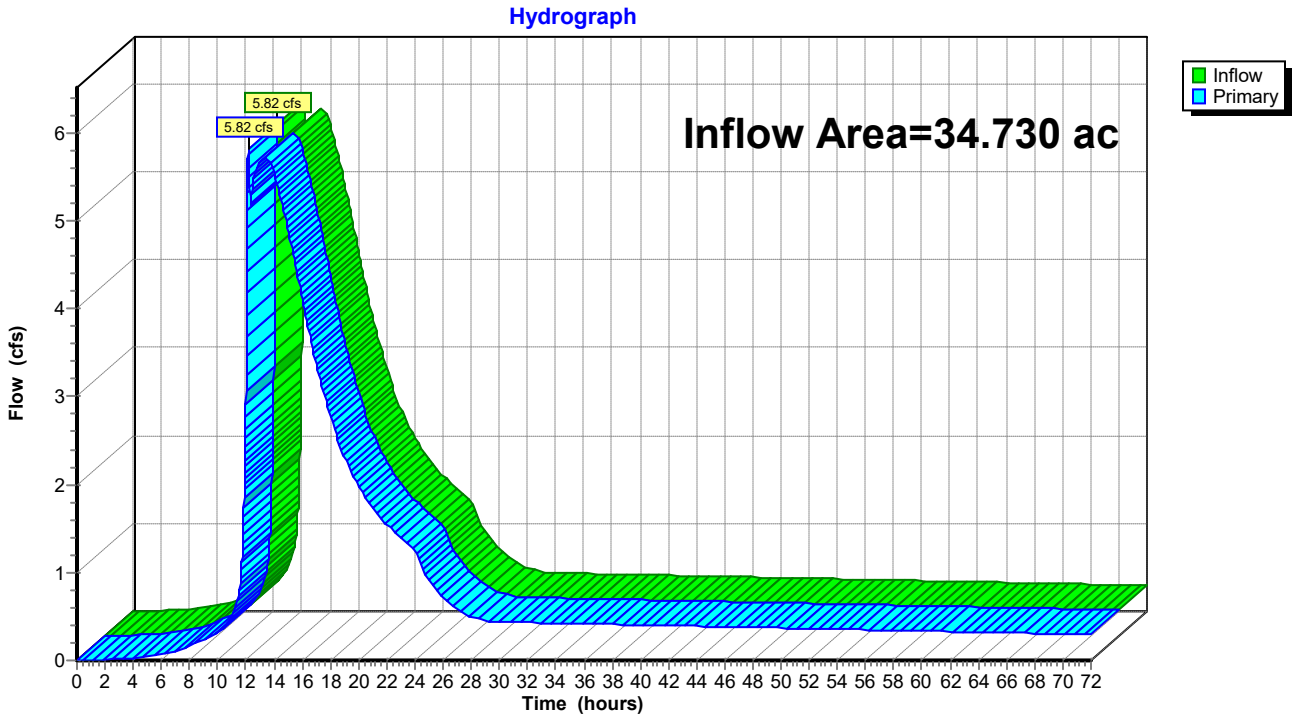
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	161,280	92.00	0.00
2.00	0.08	161,364	92.00	0.00
4.00	0.36	162,949	92.03	0.01
6.00	0.63	166,441	92.11	0.03
8.00	1.20	172,427	92.23	0.09
10.00	2.55	184,543	92.48	0.18
12.00	**23.94**	**223,329**	**93.24**	**0.34**
14.00	**4.35**	**310,625**	**94.74**	**4.93**
16.00	2.33	302,352	94.60	3.76
18.00	1.41	292,890	94.45	2.58
20.00	1.10	286,107	94.33	1.83
22.00	0.91	281,763	94.26	1.41
24.00	0.73	278,515	94.21	1.14
26.00	0.00	272,594	94.11	0.72
28.00	0.00	268,318	94.04	0.50
30.00	0.00	265,030	93.98	0.44
32.00	0.00	261,916	93.93	0.43
34.00	0.00	258,847	93.87	0.42
36.00	0.00	255,825	93.82	0.42
38.00	0.00	252,849	93.77	0.41
40.00	0.00	249,920	93.72	0.40
42.00	0.00	247,038	93.67	0.40
44.00	0.00	244,204	93.62	0.39
46.00	0.00	241,418	93.57	0.38
48.00	0.00	238,680	93.52	0.38
50.00	0.00	235,990	93.47	0.37
52.00	0.00	233,349	93.42	0.36
54.00	0.00	230,757	93.37	0.36
56.00	0.00	228,215	93.33	0.35
58.00	0.00	225,722	93.28	0.34
60.00	0.00	223,280	93.24	0.34
62.00	0.00	220,888	93.19	0.33
64.00	0.00	218,547	93.15	0.32
66.00	0.00	216,258	93.10	0.31
68.00	0.00	214,019	93.06	0.31
70.00	0.00	211,832	93.02	0.30
72.00	0.00	209,697	92.97	0.29

Summary for Pond 7P: Total

Inflow Area = 34.730 ac, 55.81% Impervious, Inflow Depth > 1.72" for 2-year event
Inflow = 5.82 cfs @ 12.17 hrs, Volume= 4.967 af
Primary = 5.82 cfs @ 12.17 hrs, Volume= 4.967 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond 7P: Total



Hydrograph for Pond 7P: Total

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
1.00	0.00		0.00
2.00	0.01		0.01
3.00	0.02		0.02
4.00	0.03		0.03
5.00	0.04		0.04
6.00	0.07		0.07
7.00	0.10		0.10
8.00	0.16		0.16
9.00	0.24		0.24
10.00	0.33		0.33
11.00	0.50		0.50
12.00	**2.90**		**2.90**
13.00	**5.72**		**5.72**
14.00	5.55		5.55
15.00	4.89		4.89
16.00	4.10		4.10
17.00	3.37		3.37
18.00	2.78		2.78
19.00	2.32		2.32
20.00	2.00		2.00
21.00	1.74		1.74
22.00	1.54		1.54
23.00	1.39		1.39
24.00	1.25		1.25
25.00	0.89		0.89
26.00	0.72		0.72
27.00	0.59		0.59
28.00	0.50		0.50
29.00	0.45		0.45
30.00	0.44		0.44
31.00	0.43		0.43
32.00	0.43		0.43
33.00	0.43		0.43
34.00	0.42		0.42
35.00	0.42		0.42
36.00	0.42		0.42
37.00	0.41		0.41
38.00	0.41		0.41
39.00	0.41		0.41
40.00	0.40		0.40
41.00	0.40		0.40
42.00	0.40		0.40
43.00	0.39		0.39
44.00	0.39		0.39
45.00	0.39		0.39
46.00	0.38		0.38
47.00	0.38		0.38
48.00	0.38		0.38
49.00	0.37		0.37
50.00	0.37		0.37
51.00	0.37		0.37
52.00	0.36		0.36
53.00	0.36		0.36
54.00	0.36		0.36
55.00	0.35		0.35
56.00	0.35		0.35
57.00	0.35		0.35
58.00	0.34		0.34
59.00	0.34		0.34
60.00	0.34		0.34
61.00	0.33		0.33
62.00	0.33		0.33
63.00	0.33		0.33
64.00	0.32		0.32
65.00	0.32		0.32
66.00	0.31		0.31
67.00	0.31		0.31
68.00	0.31		0.31
69.00	0.30		0.30
70.00	0.30		0.30
71.00	0.30		0.30
72.00	0.29		0.29

Summary for Subcatchment 2S: DA-Piped Pervious

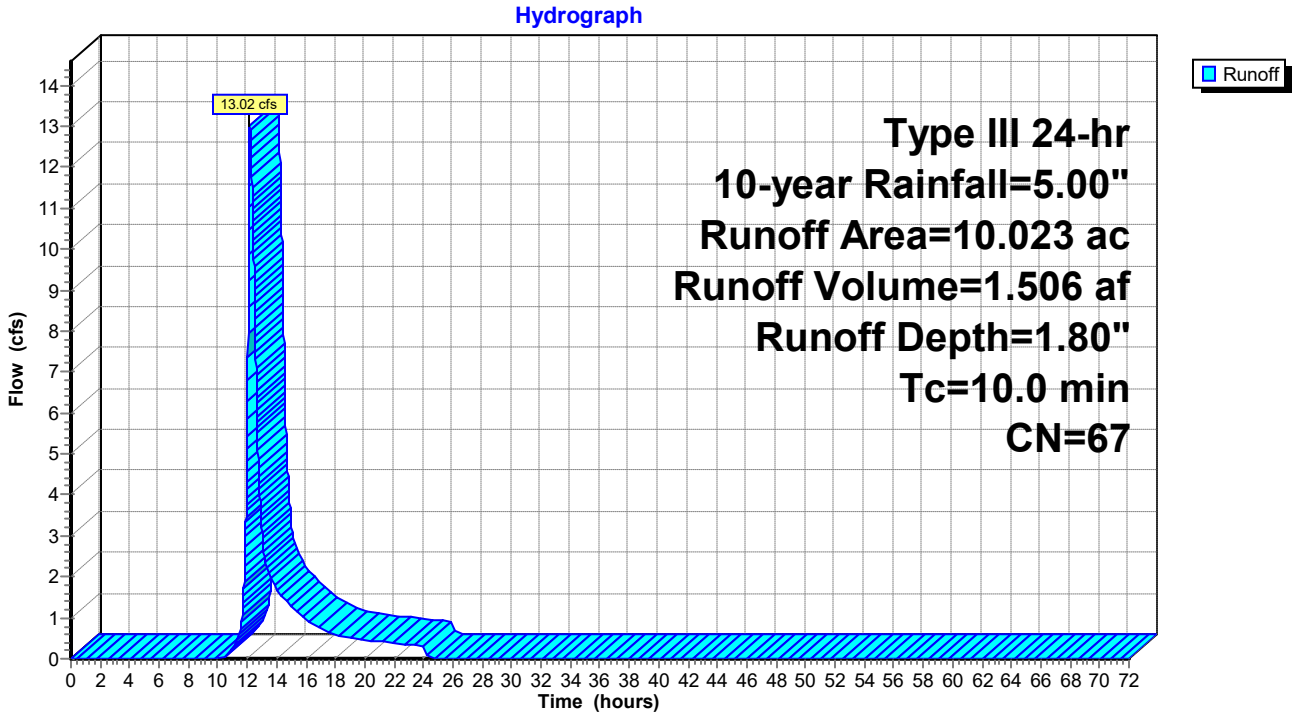
Runoff = 13.02 cfs @ 12.18 hrs, Volume= 1.506 af, Depth= 1.80"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=5.00"

Area (ac)	CN	Description
5.868	61	>75% Grass cover, Good, HSG B
2.563	74	>75% Grass cover, Good, HSG C
1.592	80	>75% Grass cover, Good, HSG D
10.023	67	Weighted Average
10.023		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Pipes to Basin**

Subcatchment 2S: DA-Piped Pervious



Hydrograph for Subcatchment 2S: DA-Piped Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.05	0.00	0.00
2.00	0.10	0.00	0.00
3.00	0.15	0.00	0.00
4.00	0.22	0.00	0.00
5.00	0.28	0.00	0.00
6.00	0.36	0.00	0.00
7.00	0.45	0.00	0.00
8.00	0.57	0.00	0.00
9.00	0.73	0.00	0.00
10.00	0.95	0.00	0.00
11.00	1.25	0.01	0.23
12.00	2.50	0.36	**5.45**
13.00	3.75	0.99	**3.12**
14.00	4.06	1.18	1.71
15.00	4.27	1.32	1.30
16.00	4.43	1.42	0.95
17.00	4.55	1.50	0.74
18.00	4.64	1.56	0.58
19.00	4.72	1.61	0.51
20.00	4.79	1.65	0.46
21.00	4.85	1.70	0.42
22.00	4.90	1.74	0.38
23.00	4.95	1.77	0.35
24.00	**5.00**	**1.80**	0.31
25.00	5.00	1.80	0.00
26.00	5.00	1.80	0.00
27.00	5.00	1.80	0.00
28.00	5.00	1.80	0.00
29.00	5.00	1.80	0.00
30.00	5.00	1.80	0.00
31.00	5.00	1.80	0.00
32.00	5.00	1.80	0.00
33.00	5.00	1.80	0.00
34.00	5.00	1.80	0.00
35.00	5.00	1.80	0.00
36.00	5.00	1.80	0.00
37.00	5.00	1.80	0.00
38.00	5.00	1.80	0.00
39.00	5.00	1.80	0.00
40.00	5.00	1.80	0.00
41.00	5.00	1.80	0.00
42.00	5.00	1.80	0.00
43.00	5.00	1.80	0.00
44.00	5.00	1.80	0.00
45.00	5.00	1.80	0.00
46.00	5.00	1.80	0.00
47.00	5.00	1.80	0.00
48.00	5.00	1.80	0.00
49.00	5.00	1.80	0.00
50.00	5.00	1.80	0.00
51.00	5.00	1.80	0.00
52.00	5.00	1.80	0.00
53.00	5.00	1.80	0.00
54.00	5.00	1.80	0.00
55.00	5.00	1.80	0.00
56.00	5.00	1.80	0.00
57.00	5.00	1.80	0.00
58.00	5.00	1.80	0.00
59.00	5.00	1.80	0.00
60.00	5.00	1.80	0.00
61.00	5.00	1.80	0.00
62.00	5.00	1.80	0.00
63.00	5.00	1.80	0.00
64.00	5.00	1.80	0.00
65.00	5.00	1.80	0.00
66.00	5.00	1.80	0.00
67.00	5.00	1.80	0.00
68.00	5.00	1.80	0.00
69.00	5.00	1.80	0.00
70.00	5.00	1.80	0.00
71.00	5.00	1.80	0.00
72.00	5.00	1.80	0.00

Summary for Subcatchment 3S: DA-Piped Impervious

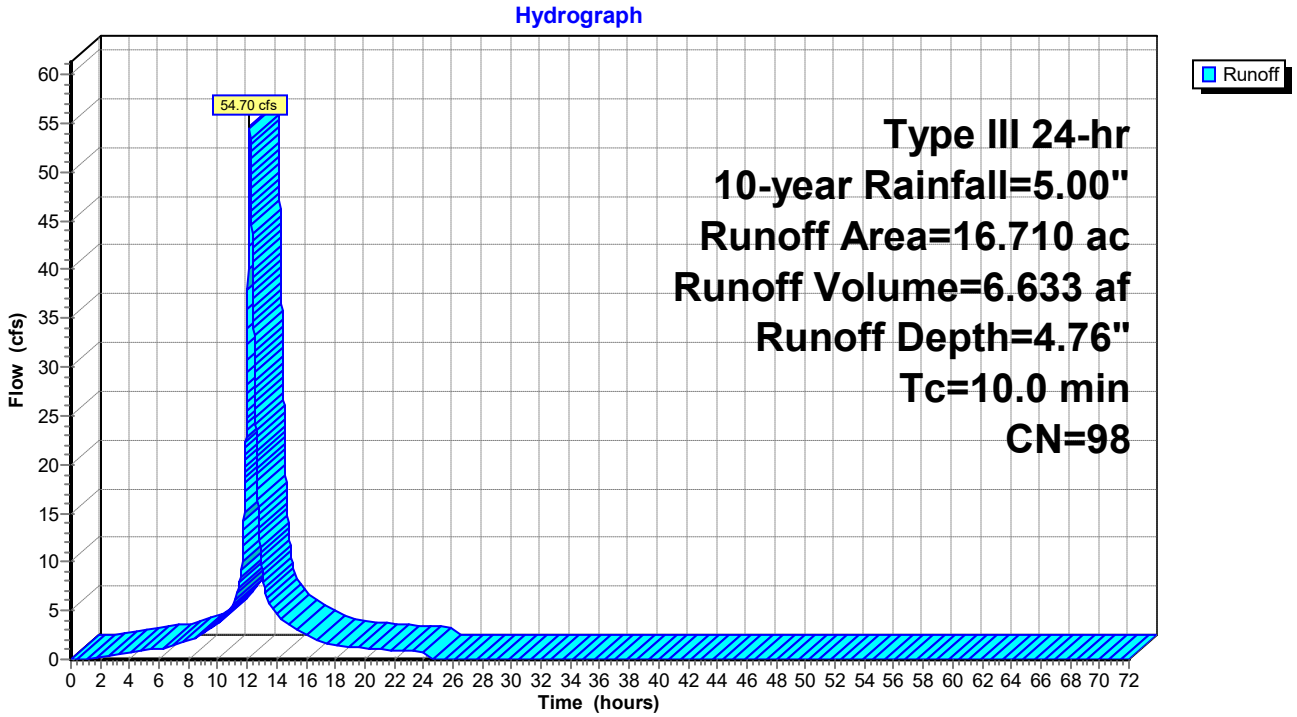
Runoff = 54.70 cfs @ 12.15 hrs, Volume= 6.633 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=5.00"

Area (ac)	CN	Description
16.710	98	Paved parking, HSG B
16.710		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Pipes to Basin**

Subcatchment 3S: DA-Piped Impervious



Hydrograph for Subcatchment 3S: DA-Piped Impervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.05	0.00	0.01
2.00	0.10	0.01	0.28
3.00	0.15	0.04	0.51
4.00	0.22	0.08	0.72
5.00	0.28	0.13	0.92
6.00	0.36	0.19	1.10
7.00	0.45	0.28	1.46
8.00	0.57	0.38	1.91
9.00	0.73	0.53	2.74
10.00	0.95	0.74	3.73
11.00	1.25	1.03	5.50
12.00	2.50	2.27	**30.72**
13.00	3.75	3.52	**9.19**
14.00	4.06	3.82	4.64
15.00	4.27	4.04	3.40
16.00	4.43	4.19	2.43
17.00	4.55	4.31	1.87
18.00	4.64	4.40	1.45
19.00	4.72	4.48	1.25
20.00	4.79	4.55	1.13
21.00	4.85	4.61	1.02
22.00	4.90	4.67	0.93
23.00	4.95	4.72	0.83
24.00	**5.00**	**4.76**	0.74
25.00	5.00	4.76	0.00
26.00	5.00	4.76	0.00
27.00	5.00	4.76	0.00
28.00	5.00	4.76	0.00
29.00	5.00	4.76	0.00
30.00	5.00	4.76	0.00
31.00	5.00	4.76	0.00
32.00	5.00	4.76	0.00
33.00	5.00	4.76	0.00
34.00	5.00	4.76	0.00
35.00	5.00	4.76	0.00
36.00	5.00	4.76	0.00
37.00	5.00	4.76	0.00
38.00	5.00	4.76	0.00
39.00	5.00	4.76	0.00
40.00	5.00	4.76	0.00
41.00	5.00	4.76	0.00
42.00	5.00	4.76	0.00
43.00	5.00	4.76	0.00
44.00	5.00	4.76	0.00
45.00	5.00	4.76	0.00
46.00	5.00	4.76	0.00
47.00	5.00	4.76	0.00
48.00	5.00	4.76	0.00
49.00	5.00	4.76	0.00
50.00	5.00	4.76	0.00
51.00	5.00	4.76	0.00
52.00	5.00	4.76	0.00
53.00	5.00	4.76	0.00
54.00	5.00	4.76	0.00
55.00	5.00	4.76	0.00
56.00	5.00	4.76	0.00
57.00	5.00	4.76	0.00
58.00	5.00	4.76	0.00
59.00	5.00	4.76	0.00
60.00	5.00	4.76	0.00
61.00	5.00	4.76	0.00
62.00	5.00	4.76	0.00
63.00	5.00	4.76	0.00
64.00	5.00	4.76	0.00
65.00	5.00	4.76	0.00
66.00	5.00	4.76	0.00
67.00	5.00	4.76	0.00
68.00	5.00	4.76	0.00
69.00	5.00	4.76	0.00
70.00	5.00	4.76	0.00
71.00	5.00	4.76	0.00
72.00	5.00	4.76	0.00

Summary for Subcatchment 9S: Offsite Pervious

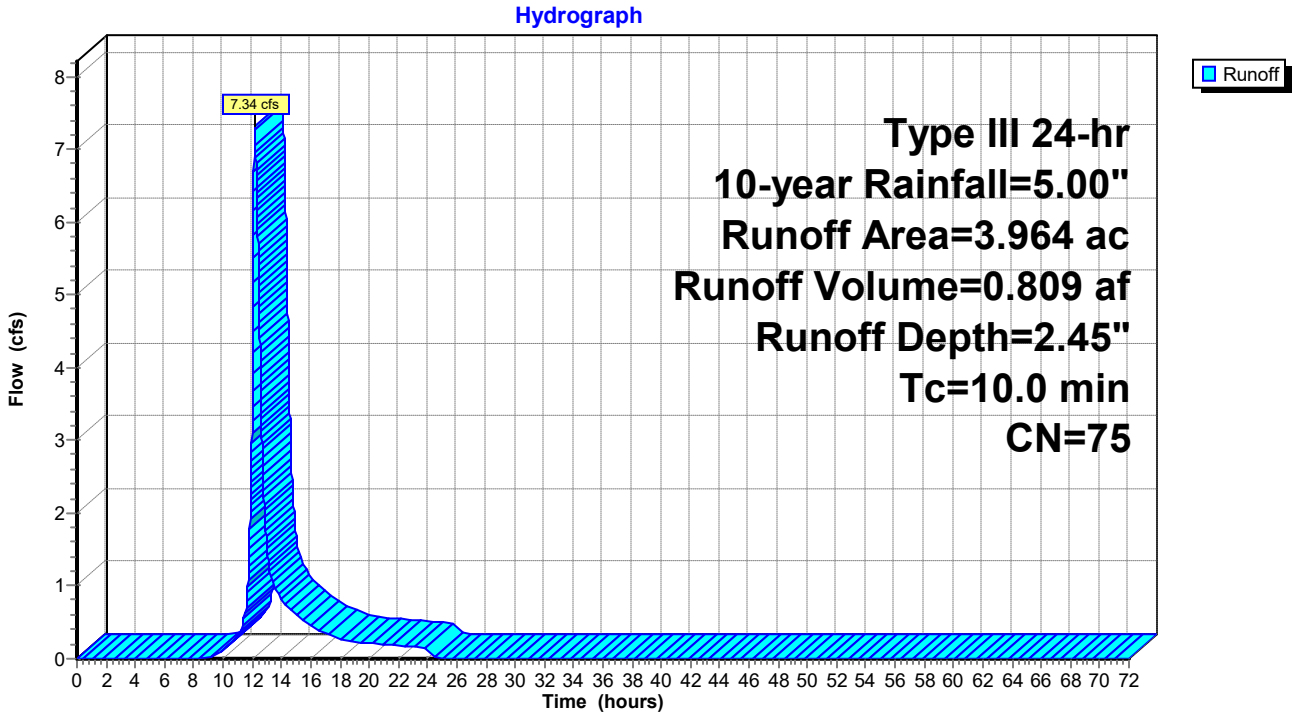
Runoff = 7.34 cfs @ 12.17 hrs, Volume= 0.809 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=5.00"

Area (ac)	CN	Description
0.502	61	>75% Grass cover, Good, HSG B
1.759	74	>75% Grass cover, Good, HSG C
1.703	80	>75% Grass cover, Good, HSG D
3.964	75	Weighted Average
3.964		100.00% Pervious Area

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

Subcatchment 9S: Offsite Pervious



Hydrograph for Subcatchment 9S: Offsite Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.05	0.00	0.00
2.00	0.10	0.00	0.00
3.00	0.15	0.00	0.00
4.00	0.22	0.00	0.00
5.00	0.28	0.00	0.00
6.00	0.36	0.00	0.00
7.00	0.45	0.00	0.00
8.00	0.57	0.00	0.00
9.00	0.73	0.00	0.01
10.00	0.95	0.02	0.11
11.00	1.25	0.09	0.32
12.00	2.50	0.65	**3.46**
13.00	3.75	1.48	**1.55**
14.00	4.06	1.71	0.83
15.00	4.27	1.87	0.62
16.00	4.43	2.00	0.45
17.00	4.55	2.09	0.35
18.00	4.64	2.16	0.27
19.00	4.72	2.22	0.24
20.00	4.79	2.28	0.21
21.00	4.85	2.33	0.20
22.00	4.90	2.37	0.18
23.00	4.95	2.41	0.16
24.00	**5.00**	**2.45**	0.14
25.00	5.00	2.45	0.00
26.00	5.00	2.45	0.00
27.00	5.00	2.45	0.00
28.00	5.00	2.45	0.00
29.00	5.00	2.45	0.00
30.00	5.00	2.45	0.00
31.00	5.00	2.45	0.00
32.00	5.00	2.45	0.00
33.00	5.00	2.45	0.00
34.00	5.00	2.45	0.00
35.00	5.00	2.45	0.00
36.00	5.00	2.45	0.00
37.00	5.00	2.45	0.00
38.00	5.00	2.45	0.00
39.00	5.00	2.45	0.00
40.00	5.00	2.45	0.00
41.00	5.00	2.45	0.00
42.00	5.00	2.45	0.00
43.00	5.00	2.45	0.00
44.00	5.00	2.45	0.00
45.00	5.00	2.45	0.00
46.00	5.00	2.45	0.00
47.00	5.00	2.45	0.00
48.00	5.00	2.45	0.00
49.00	5.00	2.45	0.00
50.00	5.00	2.45	0.00
51.00	5.00	2.45	0.00
52.00	5.00	2.45	0.00
53.00	5.00	2.45	0.00
54.00	5.00	2.45	0.00
55.00	5.00	2.45	0.00
56.00	5.00	2.45	0.00
57.00	5.00	2.45	0.00
58.00	5.00	2.45	0.00
59.00	5.00	2.45	0.00
60.00	5.00	2.45	0.00
61.00	5.00	2.45	0.00
62.00	5.00	2.45	0.00
63.00	5.00	2.45	0.00
64.00	5.00	2.45	0.00
65.00	5.00	2.45	0.00
66.00	5.00	2.45	0.00
67.00	5.00	2.45	0.00
68.00	5.00	2.45	0.00
69.00	5.00	2.45	0.00
70.00	5.00	2.45	0.00
71.00	5.00	2.45	0.00
72.00	5.00	2.45	0.00

Summary for Subcatchment 10S: Offsite Impervious

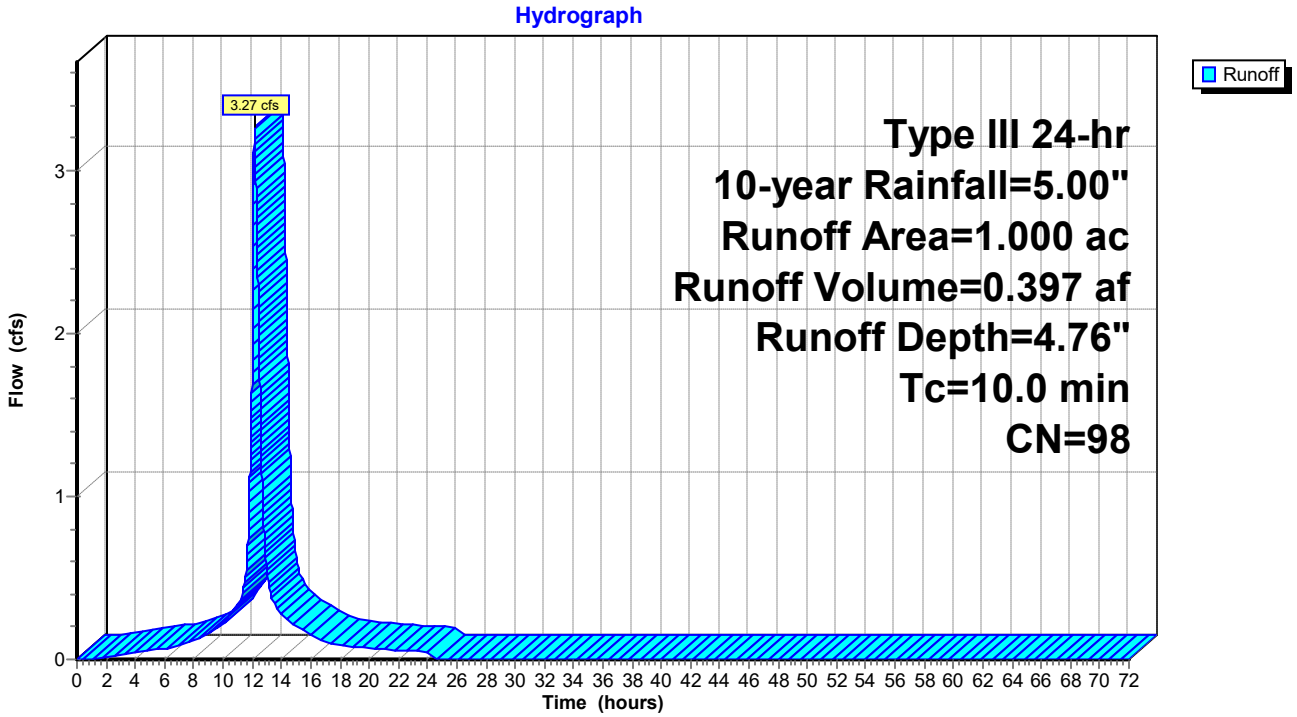
Runoff = 3.27 cfs @ 12.15 hrs, Volume= 0.397 af, Depth= 4.76"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=5.00"

Area (ac)	CN	Description
1.000	98	Paved parking, HSG D
1.000		100.00% Impervious Area

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

Subcatchment 10S: Offsite Impervious



Hydrograph for Subcatchment 10S: Offsite Impervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.05	0.00	0.00
2.00	0.10	0.01	0.02
3.00	0.15	0.04	0.03
4.00	0.22	0.08	0.04
5.00	0.28	0.13	0.06
6.00	0.36	0.19	0.07
7.00	0.45	0.28	0.09
8.00	0.57	0.38	0.11
9.00	0.73	0.53	0.16
10.00	0.95	0.74	0.22
11.00	1.25	1.03	0.33
12.00	2.50	2.27	**1.84**
13.00	3.75	3.52	**0.55**
14.00	4.06	3.82	0.28
15.00	4.27	4.04	0.20
16.00	4.43	4.19	0.15
17.00	4.55	4.31	0.11
18.00	4.64	4.40	0.09
19.00	4.72	4.48	0.07
20.00	4.79	4.55	0.07
21.00	4.85	4.61	0.06
22.00	4.90	4.67	0.06
23.00	4.95	4.72	0.05
24.00	**5.00**	**4.76**	0.04
25.00	5.00	4.76	0.00
26.00	5.00	4.76	0.00
27.00	5.00	4.76	0.00
28.00	5.00	4.76	0.00
29.00	5.00	4.76	0.00
30.00	5.00	4.76	0.00
31.00	5.00	4.76	0.00
32.00	5.00	4.76	0.00
33.00	5.00	4.76	0.00
34.00	5.00	4.76	0.00
35.00	5.00	4.76	0.00
36.00	5.00	4.76	0.00
37.00	5.00	4.76	0.00
38.00	5.00	4.76	0.00
39.00	5.00	4.76	0.00
40.00	5.00	4.76	0.00
41.00	5.00	4.76	0.00
42.00	5.00	4.76	0.00
43.00	5.00	4.76	0.00
44.00	5.00	4.76	0.00
45.00	5.00	4.76	0.00
46.00	5.00	4.76	0.00
47.00	5.00	4.76	0.00
48.00	5.00	4.76	0.00
49.00	5.00	4.76	0.00
50.00	5.00	4.76	0.00
51.00	5.00	4.76	0.00
52.00	5.00	4.76	0.00
53.00	5.00	4.76	0.00
54.00	5.00	4.76	0.00
55.00	5.00	4.76	0.00
56.00	5.00	4.76	0.00
57.00	5.00	4.76	0.00
58.00	5.00	4.76	0.00
59.00	5.00	4.76	0.00
60.00	5.00	4.76	0.00
61.00	5.00	4.76	0.00
62.00	5.00	4.76	0.00
63.00	5.00	4.76	0.00
64.00	5.00	4.76	0.00
65.00	5.00	4.76	0.00
66.00	5.00	4.76	0.00
67.00	5.00	4.76	0.00
68.00	5.00	4.76	0.00
69.00	5.00	4.76	0.00
70.00	5.00	4.76	0.00
71.00	5.00	4.76	0.00
72.00	5.00	4.76	0.00

Summary for Subcatchment 11S: Basin Area

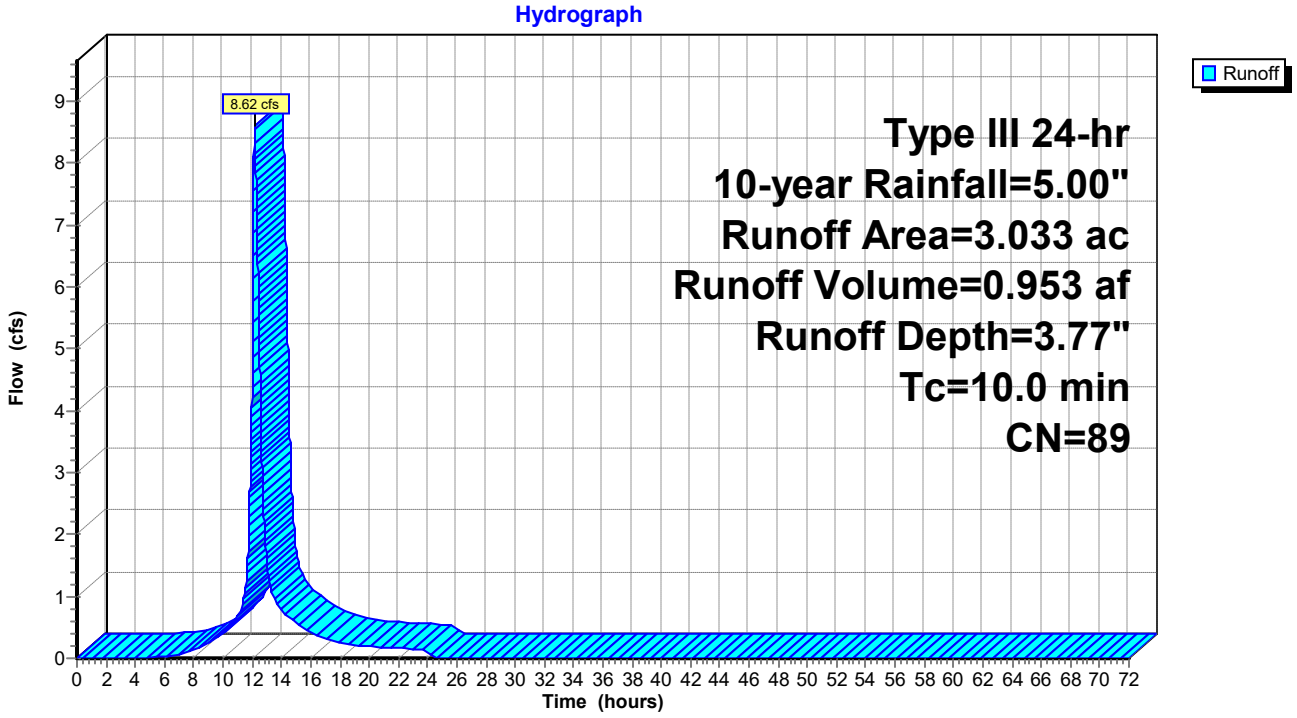
Runoff = 8.62 cfs @ 12.16 hrs, Volume= 0.953 af, Depth= 3.77"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=5.00"

Area (ac)	CN	Description
0.473	74	>75% Grass cover, Good, HSG C
0.886	80	>75% Grass cover, Good, HSG D
1.674	98	Paved parking, HSG D
3.033	89	Weighted Average
1.359		44.81% Pervious Area
1.674		55.19% Impervious Area

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

Subcatchment 11S: Basin Area



Hydrograph for Subcatchment 11S: Basin Area

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.05	0.00	0.00
2.00	0.10	0.00	0.00
3.00	0.15	0.00	0.00
4.00	0.22	0.00	0.00
5.00	0.28	0.00	0.01
6.00	0.36	0.01	0.03
7.00	0.45	0.03	0.07
8.00	0.57	0.07	0.13
9.00	0.73	0.14	0.24
10.00	0.95	0.25	0.40
11.00	1.25	0.45	0.69
12.00	2.50	1.45	**4.60**
13.00	3.75	2.59	**1.55**
14.00	4.06	2.87	0.79
15.00	4.27	3.08	0.58
16.00	4.43	3.23	0.42
17.00	4.55	3.34	0.32
18.00	4.64	3.43	0.25
19.00	4.72	3.50	0.22
20.00	4.79	3.57	0.20
21.00	4.85	3.63	0.18
22.00	4.90	3.68	0.16
23.00	4.95	3.73	0.15
24.00	**5.00**	**3.77**	0.13
25.00	5.00	3.77	0.00
26.00	5.00	3.77	0.00
27.00	5.00	3.77	0.00
28.00	5.00	3.77	0.00
29.00	5.00	3.77	0.00
30.00	5.00	3.77	0.00
31.00	5.00	3.77	0.00
32.00	5.00	3.77	0.00
33.00	5.00	3.77	0.00
34.00	5.00	3.77	0.00
35.00	5.00	3.77	0.00
36.00	5.00	3.77	0.00
37.00	5.00	3.77	0.00
38.00	5.00	3.77	0.00
39.00	5.00	3.77	0.00
40.00	5.00	3.77	0.00
41.00	5.00	3.77	0.00
42.00	5.00	3.77	0.00
43.00	5.00	3.77	0.00
44.00	5.00	3.77	0.00
45.00	5.00	3.77	0.00
46.00	5.00	3.77	0.00
47.00	5.00	3.77	0.00
48.00	5.00	3.77	0.00
49.00	5.00	3.77	0.00
50.00	5.00	3.77	0.00
51.00	5.00	3.77	0.00
52.00	5.00	3.77	0.00
53.00	5.00	3.77	0.00
54.00	5.00	3.77	0.00
55.00	5.00	3.77	0.00
56.00	5.00	3.77	0.00
57.00	5.00	3.77	0.00
58.00	5.00	3.77	0.00
59.00	5.00	3.77	0.00
60.00	5.00	3.77	0.00
61.00	5.00	3.77	0.00
62.00	5.00	3.77	0.00
63.00	5.00	3.77	0.00
64.00	5.00	3.77	0.00
65.00	5.00	3.77	0.00
66.00	5.00	3.77	0.00
67.00	5.00	3.77	0.00
68.00	5.00	3.77	0.00
69.00	5.00	3.77	0.00
70.00	5.00	3.77	0.00
71.00	5.00	3.77	0.00
72.00	5.00	3.77	0.00

Summary for Pond 6P: Basin

Inflow Area = 29.766 ac, 61.76% Impervious, Inflow Depth = 3.67" for 10-year event
Inflow = 76.22 cfs @ 12.16 hrs, Volume= 9.092 af
Outflow = 14.52 cfs @ 12.97 hrs, Volume= 7.949 af, Atten= 81%, Lag= 48.7 min
Primary = 14.52 cfs @ 12.97 hrs, Volume= 7.949 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 92.00' Surf.Area= 48,084 sf Storage= 161,280 cf
Peak Elev= 95.91' @ 12.97 hrs Surf.Area= 65,607 sf Storage= 385,127 cf (223,847 cf above start)

Plug-Flow detention time= 1,088.8 min calculated for 4.246 af (47% of inflow)
Center-of-Mass det. time= 528.6 min (1,309.1 - 780.5)

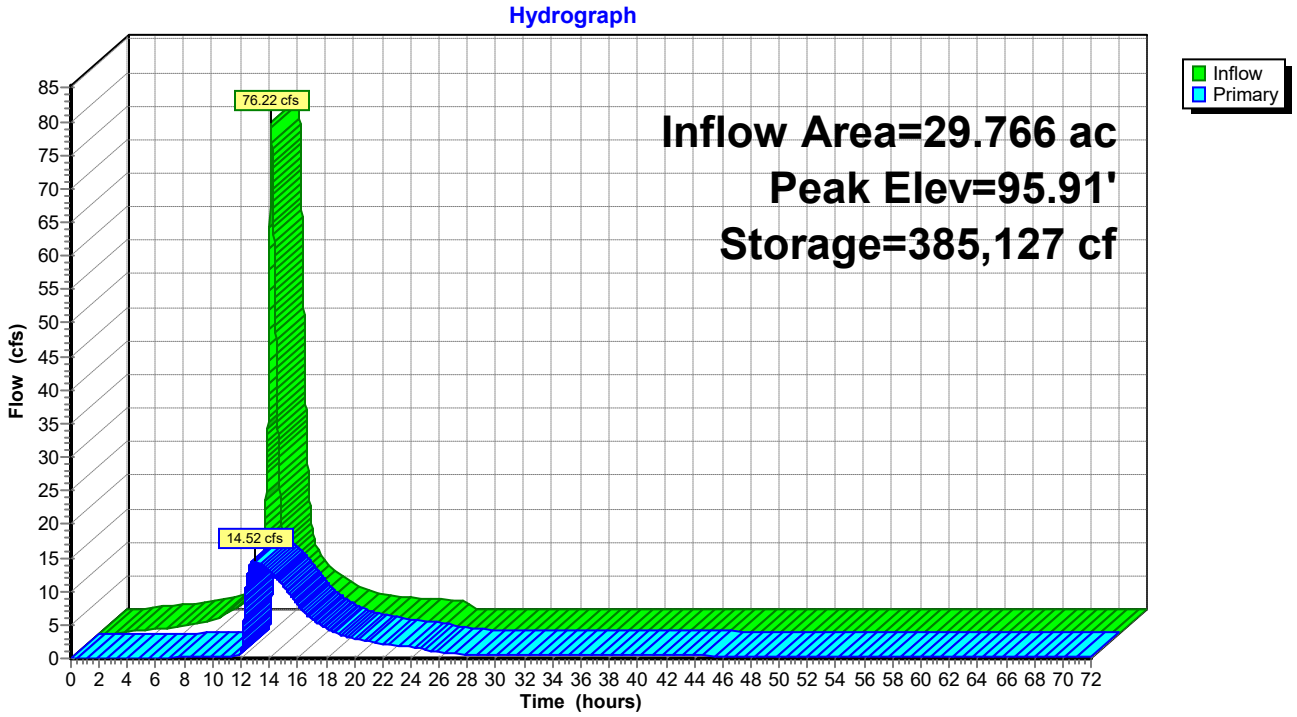
Volume	Invert	Avail.Storage	Storage Description
#1	88.00'	604,830 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.00	31,756	0	0
89.00	34,723	33,240	33,240
90.00	41,747	38,235	71,475
91.00	44,890	43,319	114,793
92.00	48,084	46,487	161,280
93.00	51,328	49,706	210,986
94.00	59,031	55,180	266,166
95.00	62,451	60,741	326,907
96.00	65,922	64,187	391,093
97.00	69,443	67,683	458,776
98.00	73,016	71,230	530,005
99.00	76,634	74,825	604,830

Device	Routing	Invert	Outlet Devices
#1	Primary	91.80'	**30.0" Round Culvert** L= 427.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 91.80' / 90.30' S= 0.0035 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	92.00'	**3.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	94.00'	**26.0" W x 14.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	96.15'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 1	98.05'	**16.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=14.52 cfs @ 12.97 hrs HW=95.91' (Free Discharge)
↑**1=Culvert** (Passes 14.52 cfs of 29.75 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 0.62 cfs @ 9.34 fps)
3=Orifice/Grate (Orifice Controls 13.90 cfs @ 5.50 fps)
4=Orifice/Grate (Controls 0.00 cfs)
5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 6P: Basin



Hydrograph for Pond 6P: Basin

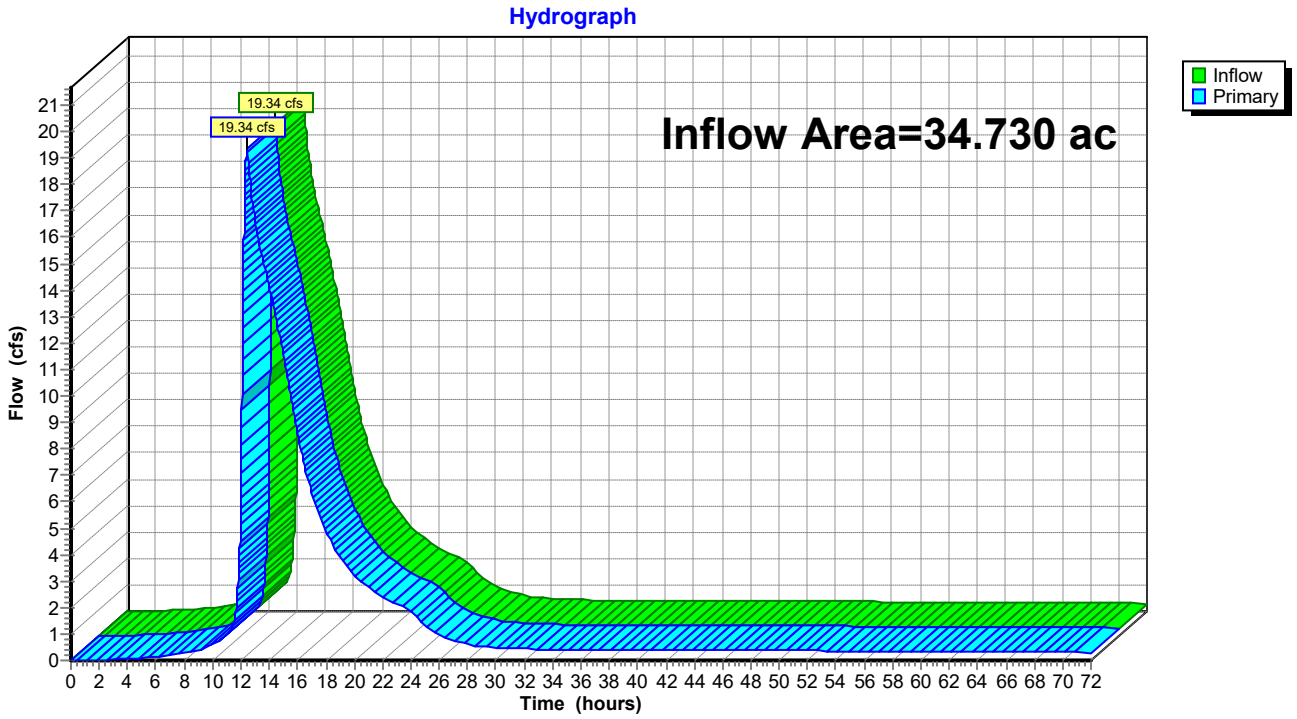
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	161,280	92.00	0.00
2.00	0.28	161,811	92.01	0.00
4.00	0.72	165,410	92.09	0.02
6.00	1.13	171,744	92.22	0.08
8.00	2.04	181,965	92.42	0.17
10.00	4.13	202,061	92.83	0.27
12.00	**40.77**	**267,791**	**94.03**	**0.48**
14.00	**7.14**	**368,318**	**95.65**	**13.01**
16.00	3.80	329,912	95.05	8.01
18.00	2.29	307,854	94.69	4.52
20.00	1.78	296,026	94.50	2.95
22.00	1.47	289,488	94.39	2.18
24.00	1.18	285,044	94.32	1.73
26.00	0.00	276,528	94.17	0.97
28.00	0.00	270,919	94.08	0.63
30.00	0.00	267,120	94.02	0.47
32.00	0.00	263,950	93.96	0.43
34.00	0.00	260,851	93.91	0.43
36.00	0.00	257,798	93.86	0.42
38.00	0.00	254,792	93.80	0.41
40.00	0.00	251,832	93.75	0.41
42.00	0.00	248,919	93.70	0.40
44.00	0.00	246,054	93.65	0.39
46.00	0.00	243,236	93.60	0.39
48.00	0.00	240,467	93.55	0.38
50.00	0.00	237,745	93.50	0.37
52.00	0.00	235,072	93.45	0.37
54.00	0.00	232,448	93.41	0.36
56.00	0.00	229,873	93.36	0.35
58.00	0.00	227,348	93.31	0.35
60.00	0.00	224,873	93.27	0.34
62.00	0.00	222,448	93.22	0.33
64.00	0.00	220,074	93.17	0.33
66.00	0.00	217,751	93.13	0.32
68.00	0.00	215,479	93.09	0.31
70.00	0.00	213,258	93.04	0.30
72.00	0.00	211,089	93.00	0.30

Summary for Pond 7P: Total

Inflow Area = 34.730 ac, 55.81% Impervious, Inflow Depth > 3.16" for 10-year event
Inflow = 19.34 cfs @ 12.44 hrs, Volume= 9.155 af
Primary = 19.34 cfs @ 12.44 hrs, Volume= 9.155 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond 7P: Total



Hydrograph for Pond 7P: Total

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
1.00	0.00		0.00
2.00	0.02		0.02
3.00	0.04		0.04
4.00	0.06		0.06
5.00	0.10		0.10
6.00	0.15		0.15
7.00	0.22		0.22
8.00	0.28		0.28
9.00	0.39		0.39
10.00	0.60		0.60
11.00	0.98		0.98
12.00	**5.78**		**5.78**
13.00	**16.62**		**16.62**
14.00	14.11		14.11
15.00	11.55		11.55
16.00	8.61		8.61
17.00	6.36		6.36
18.00	4.88		4.88
19.00	3.89		3.89
20.00	3.23		3.23
21.00	2.77		2.77
22.00	2.42		2.42
23.00	2.15		2.15
24.00	1.91		1.91
25.00	1.31		1.31
26.00	0.97		0.97
27.00	0.77		0.77
28.00	0.63		0.63
29.00	0.51		0.51
30.00	0.47		0.47
31.00	0.44		0.44
32.00	0.43		0.43
33.00	0.43		0.43
34.00	0.43		0.43
35.00	0.42		0.42
36.00	0.42		0.42
37.00	0.42		0.42
38.00	0.41		0.41
39.00	0.41		0.41
40.00	0.41		0.41
41.00	0.40		0.40
42.00	0.40		0.40
43.00	0.40		0.40
44.00	0.39		0.39
45.00	0.39		0.39
46.00	0.39		0.39
47.00	0.38		0.38
48.00	0.38		0.38
49.00	0.38		0.38
50.00	0.37		0.37
51.00	0.37		0.37
52.00	0.37		0.37
53.00	0.36		0.36
54.00	0.36		0.36
55.00	0.36		0.36
56.00	0.35		0.35
57.00	0.35		0.35
58.00	0.35		0.35
59.00	0.34		0.34
60.00	0.34		0.34
61.00	0.34		0.34
62.00	0.33		0.33
63.00	0.33		0.33
64.00	0.33		0.33
65.00	0.32		0.32
66.00	0.32		0.32
67.00	0.32		0.32
68.00	0.31		0.31
69.00	0.31		0.31
70.00	0.30		0.30
71.00	0.30		0.30
72.00	0.30		0.30

Summary for Subcatchment 2S: DA-Piped Pervious

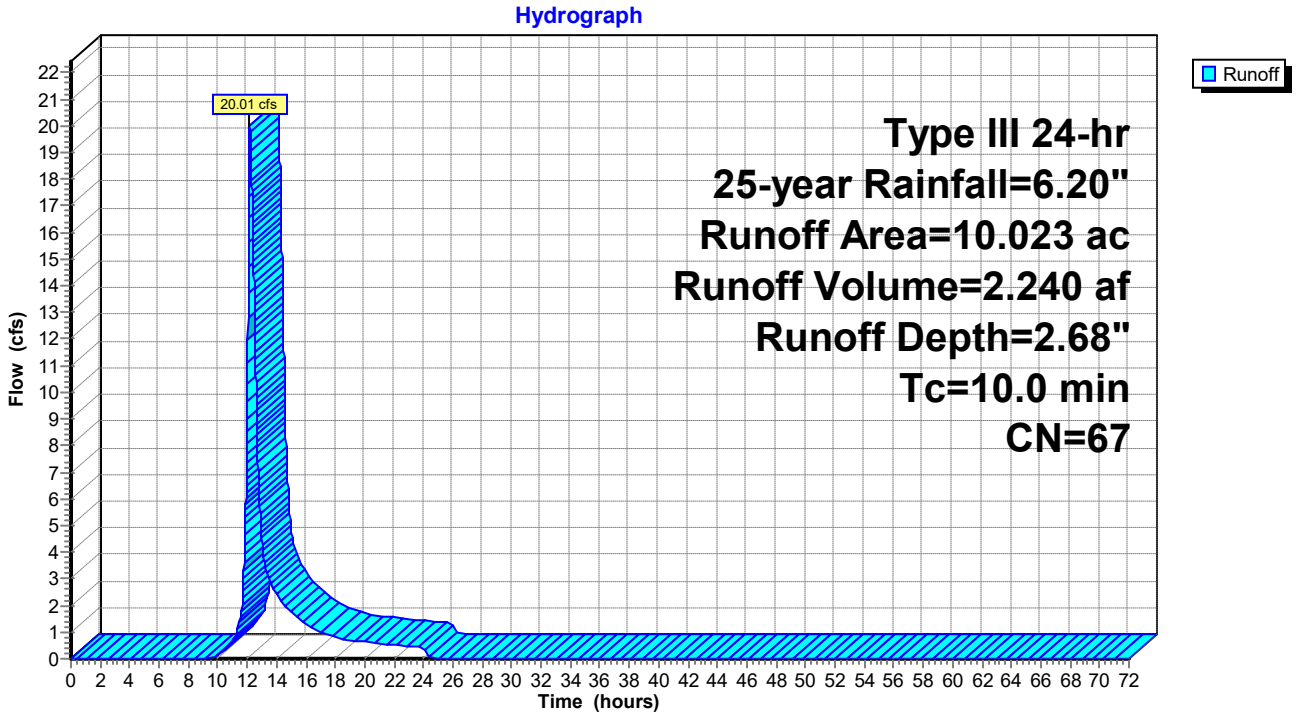
Runoff = 20.01 cfs @ 12.18 hrs, Volume= 2.240 af, Depth= 2.68"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
5.868	61	>75% Grass cover, Good, HSG B
2.563	74	>75% Grass cover, Good, HSG C
1.592	80	>75% Grass cover, Good, HSG D
10.023	67	Weighted Average
10.023		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Pipes to Basin**

Subcatchment 2S: DA-Piped Pervious



Hydrograph for Subcatchment 2S: DA-Piped Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.12	0.00	0.00
3.00	0.19	0.00	0.00
4.00	0.27	0.00	0.00
5.00	0.35	0.00	0.00
6.00	0.45	0.00	0.00
7.00	0.56	0.00	0.00
8.00	0.71	0.00	0.00
9.00	0.90	0.00	0.00
10.00	1.17	0.01	0.13
11.00	1.55	0.06	0.68
12.00	3.10	0.64	**9.04**
13.00	4.65	1.56	**4.45**
14.00	5.03	1.82	2.39
15.00	5.30	2.01	1.80
16.00	5.49	2.15	1.31
17.00	5.64	2.26	1.02
18.00	5.75	2.35	0.80
19.00	5.85	2.42	0.70
20.00	5.93	2.48	0.63
21.00	6.01	2.54	0.57
22.00	6.08	2.59	0.52
23.00	6.14	2.64	0.47
24.00	**6.20**	**2.68**	0.42
25.00	6.20	2.68	0.00
26.00	6.20	2.68	0.00
27.00	6.20	2.68	0.00
28.00	6.20	2.68	0.00
29.00	6.20	2.68	0.00
30.00	6.20	2.68	0.00
31.00	6.20	2.68	0.00
32.00	6.20	2.68	0.00
33.00	6.20	2.68	0.00
34.00	6.20	2.68	0.00
35.00	6.20	2.68	0.00
36.00	6.20	2.68	0.00
37.00	6.20	2.68	0.00
38.00	6.20	2.68	0.00
39.00	6.20	2.68	0.00
40.00	6.20	2.68	0.00
41.00	6.20	2.68	0.00
42.00	6.20	2.68	0.00
43.00	6.20	2.68	0.00
44.00	6.20	2.68	0.00
45.00	6.20	2.68	0.00
46.00	6.20	2.68	0.00
47.00	6.20	2.68	0.00
48.00	6.20	2.68	0.00
49.00	6.20	2.68	0.00
50.00	6.20	2.68	0.00
51.00	6.20	2.68	0.00
52.00	6.20	2.68	0.00
53.00	6.20	2.68	0.00
54.00	6.20	2.68	0.00
55.00	6.20	2.68	0.00
56.00	6.20	2.68	0.00
57.00	6.20	2.68	0.00
58.00	6.20	2.68	0.00
59.00	6.20	2.68	0.00
60.00	6.20	2.68	0.00
61.00	6.20	2.68	0.00
62.00	6.20	2.68	0.00
63.00	6.20	2.68	0.00
64.00	6.20	2.68	0.00
65.00	6.20	2.68	0.00
66.00	6.20	2.68	0.00
67.00	6.20	2.68	0.00
68.00	6.20	2.68	0.00
69.00	6.20	2.68	0.00
70.00	6.20	2.68	0.00
71.00	6.20	2.68	0.00
72.00	6.20	2.68	0.00

Summary for Subcatchment 3S: DA-Piped Impervious

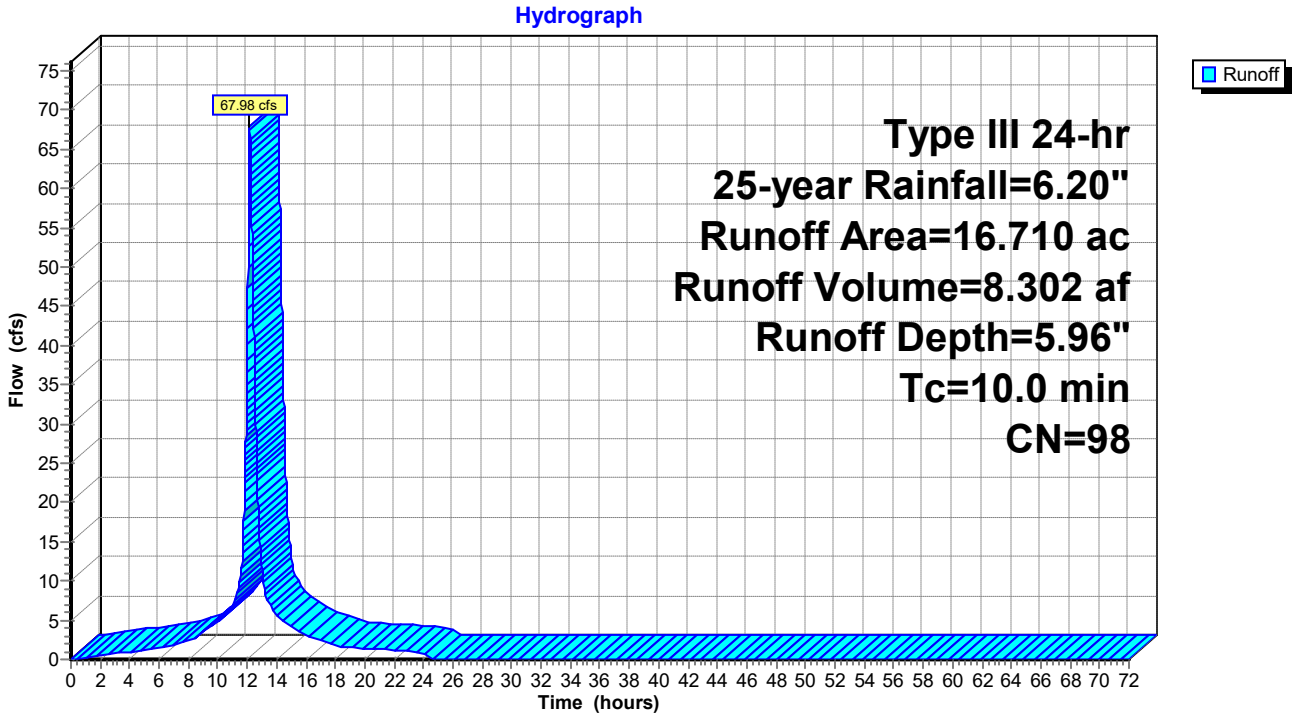
Runoff = 67.98 cfs @ 12.15 hrs, Volume= 8.302 af, Depth= 5.96"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
16.710	98	Paved parking, HSG B
16.710		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Pipes to Basin**

Subcatchment 3S: DA-Piped Impervious



Hydrograph for Subcatchment 3S: DA-Piped Impervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.07
2.00	0.12	0.02	0.45
3.00	0.19	0.06	0.73
4.00	0.27	0.12	0.99
5.00	0.35	0.19	1.22
6.00	0.45	0.27	1.43
7.00	0.56	0.37	1.88
8.00	0.71	0.51	2.43
9.00	0.90	0.70	3.46
10.00	1.17	0.96	4.68
11.00	1.55	1.33	6.87
12.00	3.10	2.87	**38.21**
13.00	4.65	4.41	**11.40**
14.00	5.03	4.79	5.75
15.00	5.30	5.06	4.22
16.00	5.49	5.26	3.02
17.00	5.64	5.40	2.32
18.00	5.75	5.52	1.80
19.00	5.85	5.61	1.55
20.00	5.93	5.70	1.40
21.00	6.01	5.77	1.27
22.00	6.08	5.84	1.15
23.00	6.14	5.91	1.03
24.00	**6.20**	**5.96**	0.92
25.00	6.20	5.96	0.00
26.00	6.20	5.96	0.00
27.00	6.20	5.96	0.00
28.00	6.20	5.96	0.00
29.00	6.20	5.96	0.00
30.00	6.20	5.96	0.00
31.00	6.20	5.96	0.00
32.00	6.20	5.96	0.00
33.00	6.20	5.96	0.00
34.00	6.20	5.96	0.00
35.00	6.20	5.96	0.00
36.00	6.20	5.96	0.00
37.00	6.20	5.96	0.00
38.00	6.20	5.96	0.00
39.00	6.20	5.96	0.00
40.00	6.20	5.96	0.00
41.00	6.20	5.96	0.00
42.00	6.20	5.96	0.00
43.00	6.20	5.96	0.00
44.00	6.20	5.96	0.00
45.00	6.20	5.96	0.00
46.00	6.20	5.96	0.00
47.00	6.20	5.96	0.00
48.00	6.20	5.96	0.00
49.00	6.20	5.96	0.00
50.00	6.20	5.96	0.00
51.00	6.20	5.96	0.00
52.00	6.20	5.96	0.00
53.00	6.20	5.96	0.00
54.00	6.20	5.96	0.00
55.00	6.20	5.96	0.00
56.00	6.20	5.96	0.00
57.00	6.20	5.96	0.00
58.00	6.20	5.96	0.00
59.00	6.20	5.96	0.00
60.00	6.20	5.96	0.00
61.00	6.20	5.96	0.00
62.00	6.20	5.96	0.00
63.00	6.20	5.96	0.00
64.00	6.20	5.96	0.00
65.00	6.20	5.96	0.00
66.00	6.20	5.96	0.00
67.00	6.20	5.96	0.00
68.00	6.20	5.96	0.00
69.00	6.20	5.96	0.00
70.00	6.20	5.96	0.00
71.00	6.20	5.96	0.00
72.00	6.20	5.96	0.00

Summary for Subcatchment 9S: Offsite Pervious

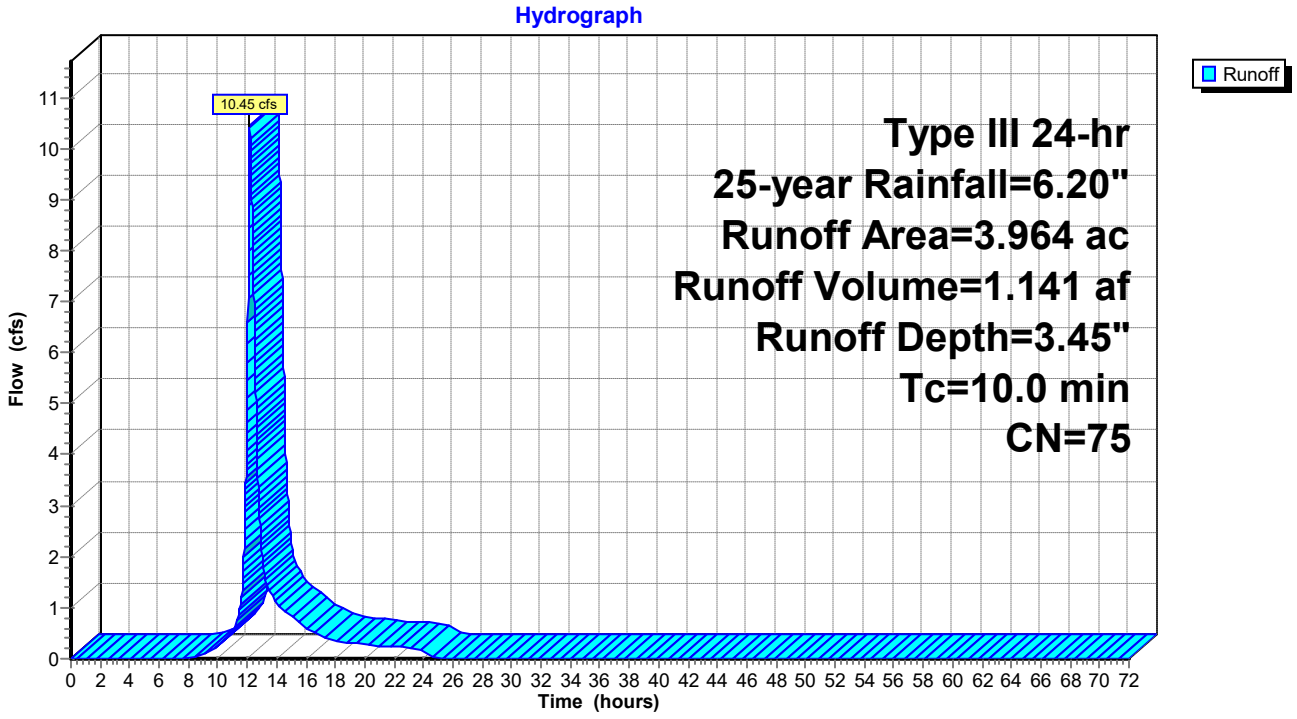
Runoff = 10.45 cfs @ 12.16 hrs, Volume= 1.141 af, Depth= 3.45"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.502	61	>75% Grass cover, Good, HSG B
1.759	74	>75% Grass cover, Good, HSG C
1.703	80	>75% Grass cover, Good, HSG D
3.964	75	Weighted Average
3.964		100.00% Pervious Area

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

Subcatchment 9S: Offsite Pervious



Hydrograph for Subcatchment 9S: Offsite Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.12	0.00	0.00
3.00	0.19	0.00	0.00
4.00	0.27	0.00	0.00
5.00	0.35	0.00	0.00
6.00	0.45	0.00	0.00
7.00	0.56	0.00	0.00
8.00	0.71	0.00	0.00
9.00	0.90	0.02	0.09
10.00	1.17	0.07	0.25
11.00	1.55	0.19	0.57
12.00	3.10	1.03	**5.13**
13.00	4.65	2.17	**2.10**
14.00	5.03	2.47	1.10
15.00	5.30	2.69	0.82
16.00	5.49	2.85	0.60
17.00	5.64	2.98	0.46
18.00	5.75	3.07	0.36
19.00	5.85	3.15	0.31
20.00	5.93	3.23	0.28
21.00	6.01	3.29	0.26
22.00	6.08	3.35	0.23
23.00	6.14	3.40	0.21
24.00	**6.20**	**3.45**	0.19
25.00	6.20	3.45	0.00
26.00	6.20	3.45	0.00
27.00	6.20	3.45	0.00
28.00	6.20	3.45	0.00
29.00	6.20	3.45	0.00
30.00	6.20	3.45	0.00
31.00	6.20	3.45	0.00
32.00	6.20	3.45	0.00
33.00	6.20	3.45	0.00
34.00	6.20	3.45	0.00
35.00	6.20	3.45	0.00
36.00	6.20	3.45	0.00
37.00	6.20	3.45	0.00
38.00	6.20	3.45	0.00
39.00	6.20	3.45	0.00
40.00	6.20	3.45	0.00
41.00	6.20	3.45	0.00
42.00	6.20	3.45	0.00
43.00	6.20	3.45	0.00
44.00	6.20	3.45	0.00
45.00	6.20	3.45	0.00
46.00	6.20	3.45	0.00
47.00	6.20	3.45	0.00
48.00	6.20	3.45	0.00
49.00	6.20	3.45	0.00
50.00	6.20	3.45	0.00
51.00	6.20	3.45	0.00
52.00	6.20	3.45	0.00
53.00	6.20	3.45	0.00
54.00	6.20	3.45	0.00
55.00	6.20	3.45	0.00
56.00	6.20	3.45	0.00
57.00	6.20	3.45	0.00
58.00	6.20	3.45	0.00
59.00	6.20	3.45	0.00
60.00	6.20	3.45	0.00
61.00	6.20	3.45	0.00
62.00	6.20	3.45	0.00
63.00	6.20	3.45	0.00
64.00	6.20	3.45	0.00
65.00	6.20	3.45	0.00
66.00	6.20	3.45	0.00
67.00	6.20	3.45	0.00
68.00	6.20	3.45	0.00
69.00	6.20	3.45	0.00
70.00	6.20	3.45	0.00
71.00	6.20	3.45	0.00
72.00	6.20	3.45	0.00

Summary for Subcatchment 10S: Offsite Impervious

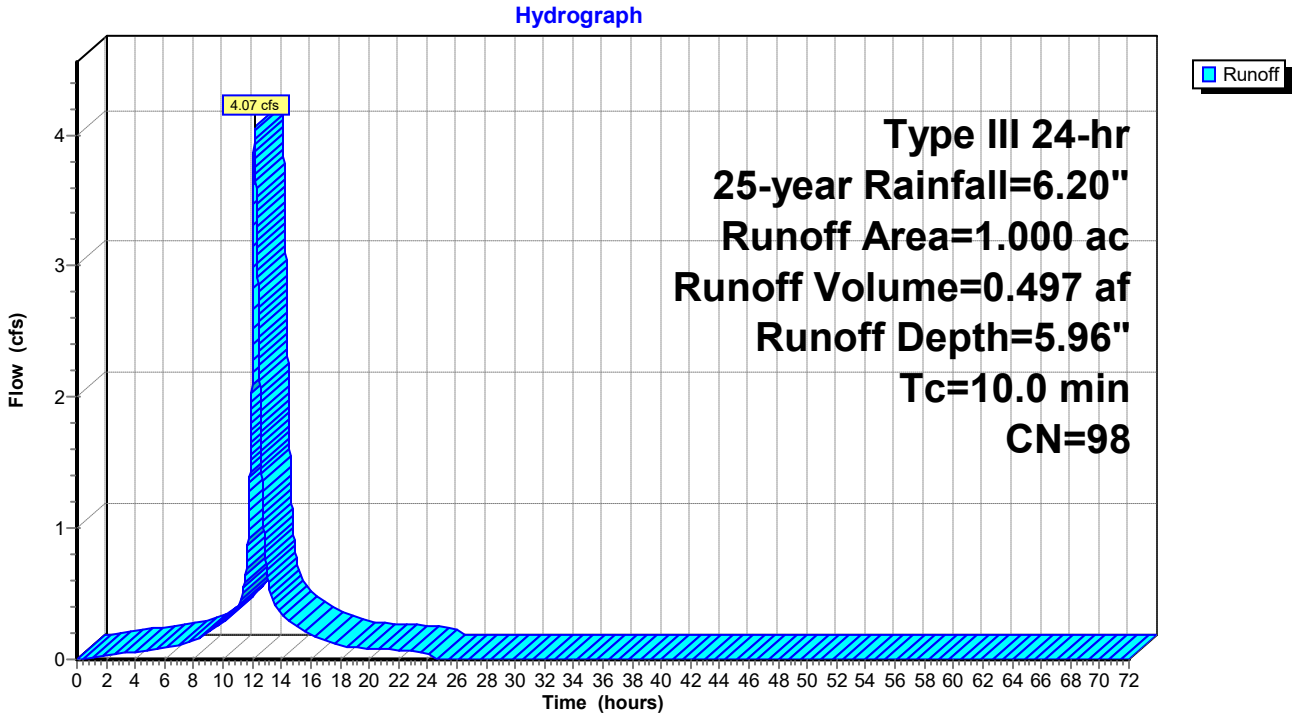
Runoff = 4.07 cfs @ 12.15 hrs, Volume= 0.497 af, Depth= 5.96"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
1.000	98	Paved parking, HSG D
1.000		100.00% Impervious Area

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

Subcatchment 10S: Offsite Impervious



Hydrograph for Subcatchment 10S: Offsite Impervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.12	0.02	0.03
3.00	0.19	0.06	0.04
4.00	0.27	0.12	0.06
5.00	0.35	0.19	0.07
6.00	0.45	0.27	0.09
7.00	0.56	0.37	0.11
8.00	0.71	0.51	0.15
9.00	0.90	0.70	0.21
10.00	1.17	0.96	0.28
11.00	1.55	1.33	0.41
12.00	3.10	2.87	**2.29**
13.00	4.65	4.41	**0.68**
14.00	5.03	4.79	0.34
15.00	5.30	5.06	0.25
16.00	5.49	5.26	0.18
17.00	5.64	5.40	0.14
18.00	5.75	5.52	0.11
19.00	5.85	5.61	0.09
20.00	5.93	5.70	0.08
21.00	6.01	5.77	0.08
22.00	6.08	5.84	0.07
23.00	6.14	5.91	0.06
24.00	**6.20**	**5.96**	0.05
25.00	6.20	5.96	0.00
26.00	6.20	5.96	0.00
27.00	6.20	5.96	0.00
28.00	6.20	5.96	0.00
29.00	6.20	5.96	0.00
30.00	6.20	5.96	0.00
31.00	6.20	5.96	0.00
32.00	6.20	5.96	0.00
33.00	6.20	5.96	0.00
34.00	6.20	5.96	0.00
35.00	6.20	5.96	0.00
36.00	6.20	5.96	0.00
37.00	6.20	5.96	0.00
38.00	6.20	5.96	0.00
39.00	6.20	5.96	0.00
40.00	6.20	5.96	0.00
41.00	6.20	5.96	0.00
42.00	6.20	5.96	0.00
43.00	6.20	5.96	0.00
44.00	6.20	5.96	0.00
45.00	6.20	5.96	0.00
46.00	6.20	5.96	0.00
47.00	6.20	5.96	0.00
48.00	6.20	5.96	0.00
49.00	6.20	5.96	0.00
50.00	6.20	5.96	0.00
51.00	6.20	5.96	0.00
52.00	6.20	5.96	0.00
53.00	6.20	5.96	0.00
54.00	6.20	5.96	0.00
55.00	6.20	5.96	0.00
56.00	6.20	5.96	0.00
57.00	6.20	5.96	0.00
58.00	6.20	5.96	0.00
59.00	6.20	5.96	0.00
60.00	6.20	5.96	0.00
61.00	6.20	5.96	0.00
62.00	6.20	5.96	0.00
63.00	6.20	5.96	0.00
64.00	6.20	5.96	0.00
65.00	6.20	5.96	0.00
66.00	6.20	5.96	0.00
67.00	6.20	5.96	0.00
68.00	6.20	5.96	0.00
69.00	6.20	5.96	0.00
70.00	6.20	5.96	0.00
71.00	6.20	5.96	0.00
72.00	6.20	5.96	0.00

Summary for Subcatchment 11S: Basin Area

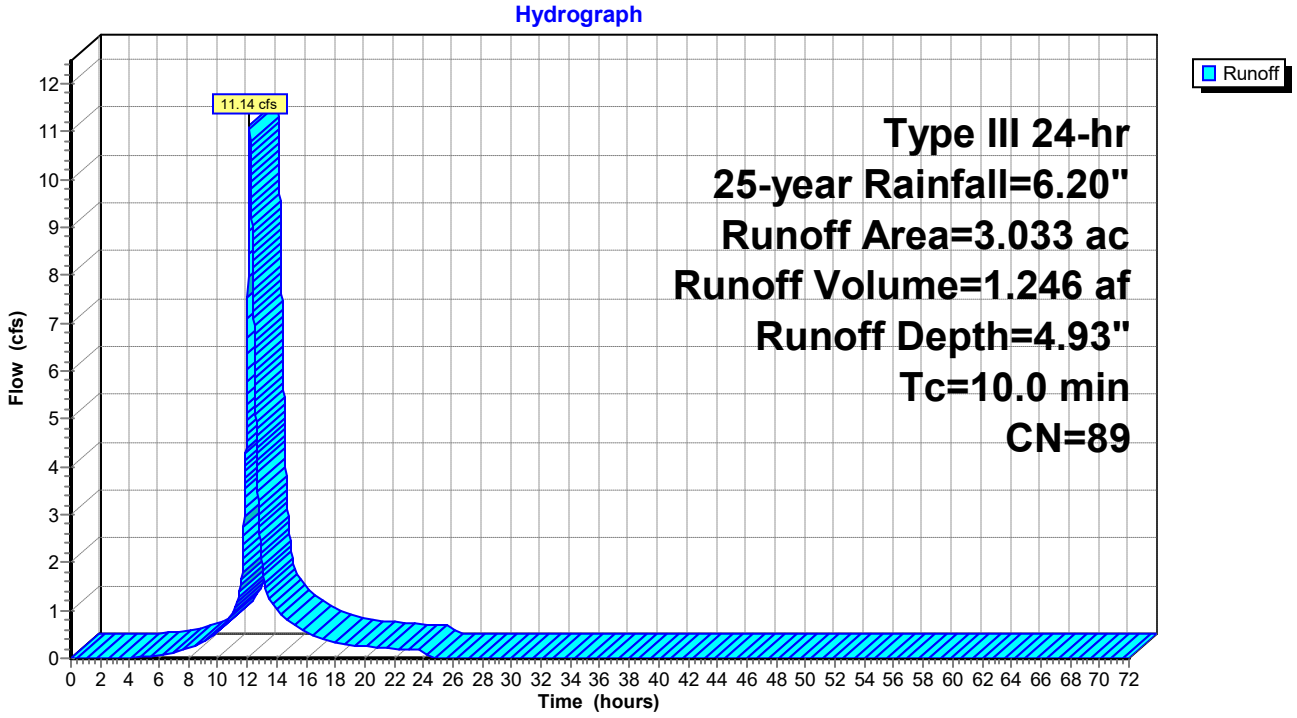
Runoff = 11.14 cfs @ 12.16 hrs, Volume= 1.246 af, Depth= 4.93"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.473	74	>75% Grass cover, Good, HSG C
0.886	80	>75% Grass cover, Good, HSG D
1.674	98	Paved parking, HSG D
3.033	89	Weighted Average
1.359		44.81% Pervious Area
1.674		55.19% Impervious Area

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

Subcatchment 11S: Basin Area



Hydrograph for Subcatchment 11S: Basin Area

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.06	0.00	0.00
2.00	0.12	0.00	0.00
3.00	0.19	0.00	0.00
4.00	0.27	0.00	0.00
5.00	0.35	0.01	0.03
6.00	0.45	0.03	0.07
7.00	0.56	0.06	0.13
8.00	0.71	0.12	0.21
9.00	0.90	0.23	0.36
10.00	1.17	0.40	0.57
11.00	1.55	0.67	0.94
12.00	3.10	1.99	**6.03**
13.00	4.65	3.44	**1.96**
14.00	5.03	3.80	1.00
15.00	5.30	4.06	0.74
16.00	5.49	4.25	0.53
17.00	5.64	4.39	0.41
18.00	5.75	4.50	0.32
19.00	5.85	4.59	0.27
20.00	5.93	4.67	0.25
21.00	6.01	4.75	0.22
22.00	6.08	4.81	0.20
23.00	6.14	4.87	0.18
24.00	**6.20**	**4.93**	0.16
25.00	6.20	4.93	0.00
26.00	6.20	4.93	0.00
27.00	6.20	4.93	0.00
28.00	6.20	4.93	0.00
29.00	6.20	4.93	0.00
30.00	6.20	4.93	0.00
31.00	6.20	4.93	0.00
32.00	6.20	4.93	0.00
33.00	6.20	4.93	0.00
34.00	6.20	4.93	0.00
35.00	6.20	4.93	0.00
36.00	6.20	4.93	0.00
37.00	6.20	4.93	0.00
38.00	6.20	4.93	0.00
39.00	6.20	4.93	0.00
40.00	6.20	4.93	0.00
41.00	6.20	4.93	0.00
42.00	6.20	4.93	0.00
43.00	6.20	4.93	0.00
44.00	6.20	4.93	0.00
45.00	6.20	4.93	0.00
46.00	6.20	4.93	0.00
47.00	6.20	4.93	0.00
48.00	6.20	4.93	0.00
49.00	6.20	4.93	0.00
50.00	6.20	4.93	0.00
51.00	6.20	4.93	0.00
52.00	6.20	4.93	0.00
53.00	6.20	4.93	0.00
54.00	6.20	4.93	0.00
55.00	6.20	4.93	0.00
56.00	6.20	4.93	0.00
57.00	6.20	4.93	0.00
58.00	6.20	4.93	0.00
59.00	6.20	4.93	0.00
60.00	6.20	4.93	0.00
61.00	6.20	4.93	0.00
62.00	6.20	4.93	0.00
63.00	6.20	4.93	0.00
64.00	6.20	4.93	0.00
65.00	6.20	4.93	0.00
66.00	6.20	4.93	0.00
67.00	6.20	4.93	0.00
68.00	6.20	4.93	0.00
69.00	6.20	4.93	0.00
70.00	6.20	4.93	0.00
71.00	6.20	4.93	0.00
72.00	6.20	4.93	0.00

Summary for Pond 6P: Basin

Inflow Area = 29.766 ac, 61.76% Impervious, Inflow Depth = 4.75" for 25-year event
Inflow = 99.04 cfs @ 12.16 hrs, Volume= 11.788 af
Outflow = 21.76 cfs @ 12.88 hrs, Volume= 10.629 af, Atten= 78%, Lag= 43.5 min
Primary = 21.76 cfs @ 12.88 hrs, Volume= 10.629 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 92.00' Surf.Area= 48,084 sf Storage= 161,280 cf
Peak Elev= 96.77' @ 12.88 hrs Surf.Area= 68,628 sf Storage= 442,804 cf (281,524 cf above start)

Plug-Flow detention time= 785.9 min calculated for 6.926 af (59% of inflow)
Center-of-Mass det. time= 439.6 min (1,217.3 - 777.8)

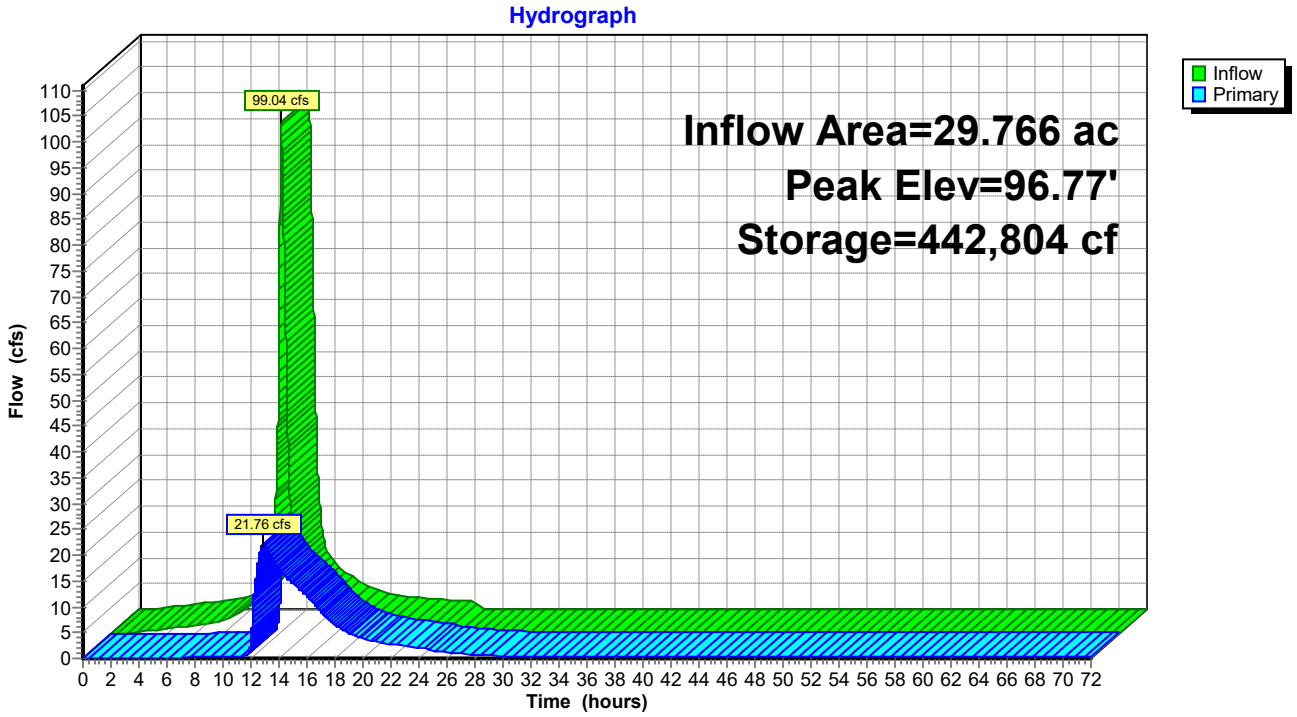
Volume	Invert	Avail.Storage	Storage Description
#1	88.00'	604,830 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.00	31,756	0	0
89.00	34,723	33,240	33,240
90.00	41,747	38,235	71,475
91.00	44,890	43,319	114,793
92.00	48,084	46,487	161,280
93.00	51,328	49,706	210,986
94.00	59,031	55,180	266,166
95.00	62,451	60,741	326,907
96.00	65,922	64,187	391,093
97.00	69,443	67,683	458,776
98.00	73,016	71,230	530,005
99.00	76,634	74,825	604,830

Device	Routing	Invert	Outlet Devices
#1	Primary	91.80'	**30.0" Round Culvert** L= 427.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 91.80' / 90.30' S= 0.0035 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	92.00'	**3.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	94.00'	**26.0" W x 14.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	96.15'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 1	98.05'	**16.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=21.75 cfs @ 12.88 hrs HW=96.77' (Free Discharge)
└**1=Culvert** (Passes 21.75 cfs of 33.61 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 0.69 cfs @ 10.35 fps)
  ├**3=Orifice/Grate** (Orifice Controls 17.94 cfs @ 7.10 fps)
  ├**4=Orifice/Grate** (Orifice Controls 3.12 cfs @ 2.52 fps)
  └**5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 6P: Basin



Hydrograph for Pond 6P: Basin

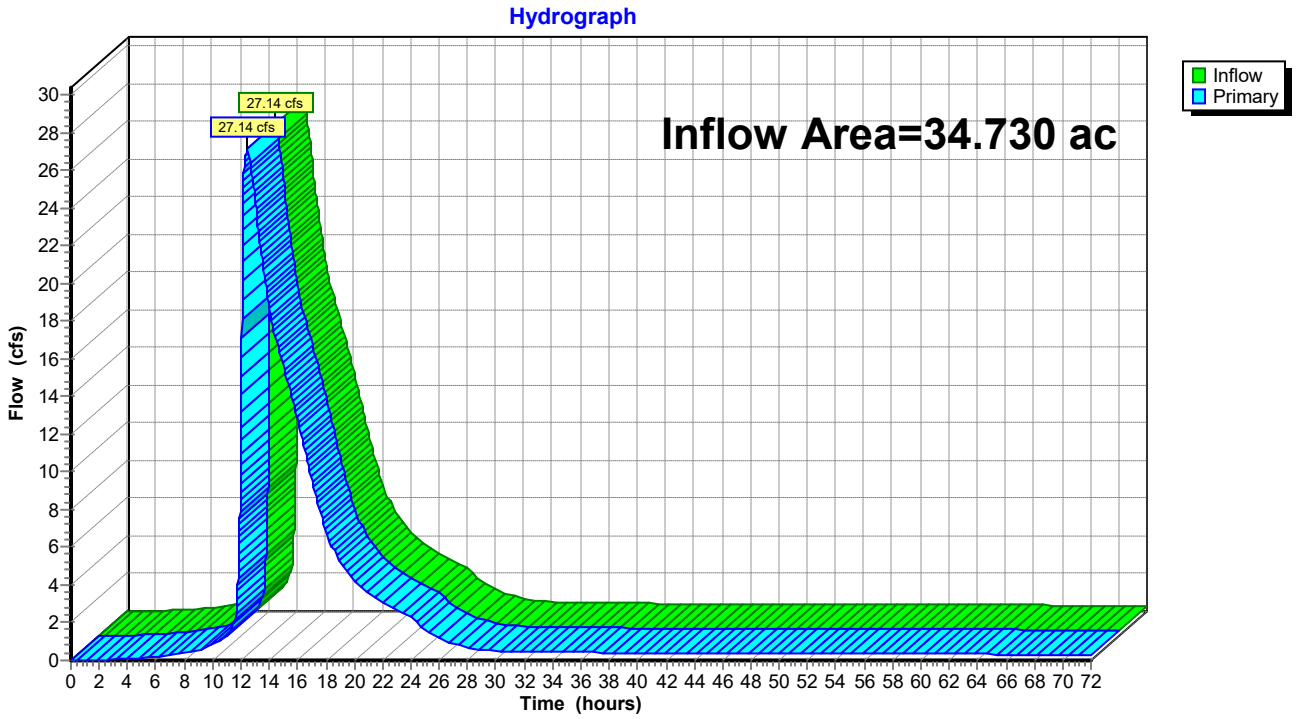
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	161,280	92.00	0.00
2.00	0.45	162,303	92.02	0.00
4.00	0.99	167,435	92.13	0.04
6.00	1.50	175,873	92.30	0.13
8.00	2.63	189,223	92.57	0.21
10.00	5.38	215,188	93.08	0.31
12.00	**53.28**	**300,994**	**94.58**	**3.58**
14.00	**9.15**	**414,307**	**96.35**	**17.33**
16.00	4.86	358,505	95.50	12.02
18.00	2.92	320,318	94.89	6.42
20.00	2.27	303,065	94.61	3.86
22.00	1.88	294,558	94.47	2.77
24.00	1.50	289,149	94.39	2.15
26.00	0.00	278,816	94.21	1.16
28.00	0.00	272,351	94.10	0.71
30.00	0.00	268,150	94.03	0.49
32.00	0.00	264,883	93.98	0.44
34.00	0.00	261,770	93.93	0.43
36.00	0.00	258,704	93.87	0.42
38.00	0.00	255,684	93.82	0.42
40.00	0.00	252,710	93.77	0.41
42.00	0.00	249,783	93.72	0.40
44.00	0.00	246,904	93.67	0.40
46.00	0.00	244,072	93.62	0.39
48.00	0.00	241,288	93.57	0.38
50.00	0.00	238,552	93.52	0.38
52.00	0.00	235,864	93.47	0.37
54.00	0.00	233,226	93.42	0.36
56.00	0.00	230,636	93.37	0.36
58.00	0.00	228,096	93.33	0.35
60.00	0.00	225,606	93.28	0.34
62.00	0.00	223,166	93.23	0.34
64.00	0.00	220,777	93.19	0.33
66.00	0.00	218,438	93.14	0.32
68.00	0.00	216,151	93.10	0.31
70.00	0.00	213,915	93.06	0.31
72.00	0.00	211,731	93.01	0.30

Summary for Pond 7P: Total

Inflow Area = 34.730 ac, 55.81% Impervious, Inflow Depth > 4.24" for 25-year event
Inflow = 27.14 cfs @ 12.49 hrs, Volume= 12.267 af
Primary = 27.14 cfs @ 12.49 hrs, Volume= 12.267 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond 7P: Total



Hydrograph for Pond 7P: Total

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
1.00	0.00		0.00
2.00	0.03		0.03
3.00	0.05		0.05
4.00	0.10		0.10
5.00	0.15		0.15
6.00	0.21		0.21
7.00	0.28		0.28
8.00	0.36		0.36
9.00	0.55		0.55
10.00	0.84		0.84
11.00	1.35		1.35
12.00	**11.00**		**11.00**
13.00	**24.40**		**24.40**
14.00	18.78		18.78
15.00	15.63		15.63
16.00	12.79		12.79
17.00	9.63		9.63
18.00	6.89		6.89
19.00	5.23		5.23
20.00	4.22		4.22
21.00	3.55		3.55
22.00	3.07		3.07
23.00	2.70		2.70
24.00	2.39		2.39
25.00	1.59		1.59
26.00	1.16		1.16
27.00	0.87		0.87
28.00	0.71		0.71
29.00	0.58		0.58
30.00	0.49		0.49
31.00	0.45		0.45
32.00	0.44		0.44
33.00	0.43		0.43
34.00	0.43		0.43
35.00	0.43		0.43
36.00	0.42		0.42
37.00	0.42		0.42
38.00	0.42		0.42
39.00	0.41		0.41
40.00	0.41		0.41
41.00	0.41		0.41
42.00	0.40		0.40
43.00	0.40		0.40
44.00	0.40		0.40
45.00	0.39		0.39
46.00	0.39		0.39
47.00	0.39		0.39
48.00	0.38		0.38
49.00	0.38		0.38
50.00	0.38		0.38
51.00	0.37		0.37
52.00	0.37		0.37
53.00	0.37		0.37
54.00	0.36		0.36
55.00	0.36		0.36
56.00	0.36		0.36
57.00	0.35		0.35
58.00	0.35		0.35
59.00	0.35		0.35
60.00	0.34		0.34
61.00	0.34		0.34
62.00	0.34		0.34
63.00	0.33		0.33
64.00	0.33		0.33
65.00	0.32		0.32
66.00	0.32		0.32
67.00	0.32		0.32
68.00	0.31		0.31
69.00	0.31		0.31
70.00	0.31		0.31
71.00	0.30		0.30
72.00	0.30		0.30

Summary for Subcatchment 2S: DA-Piped Pervious

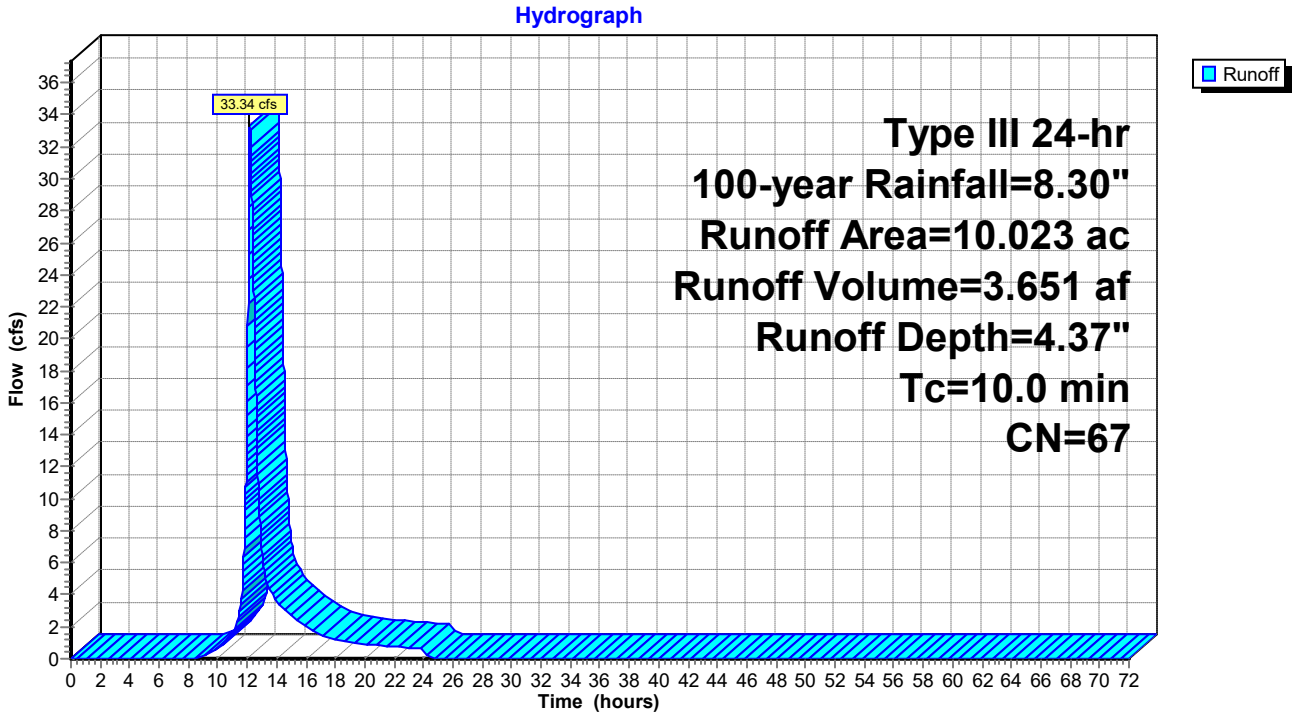
Runoff = 33.34 cfs @ 12.16 hrs, Volume= 3.651 af, Depth= 4.37"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-year Rainfall=8.30"

Area (ac)	CN	Description
5.868	61	>75% Grass cover, Good, HSG B
2.563	74	>75% Grass cover, Good, HSG C
1.592	80	>75% Grass cover, Good, HSG D
10.023	67	Weighted Average
10.023		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Pipes to Basin**

Subcatchment 2S: DA-Piped Pervious



Hydrograph for Subcatchment 2S: DA-Piped Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.08	0.00	0.00
2.00	0.17	0.00	0.00
3.00	0.26	0.00	0.00
4.00	0.36	0.00	0.00
5.00	0.47	0.00	0.00
6.00	0.60	0.00	0.00
7.00	0.75	0.00	0.00
8.00	0.95	0.00	0.00
9.00	1.21	0.01	0.17
10.00	1.57	0.06	0.66
11.00	2.08	0.20	1.66
12.00	4.15	1.24	**16.09**
13.00	6.22	2.70	**6.85**
14.00	6.73	3.09	3.62
15.00	7.09	3.38	2.71
16.00	7.35	3.59	1.96
17.00	7.55	3.75	1.52
18.00	7.70	3.88	1.19
19.00	7.83	3.98	1.03
20.00	7.94	4.07	0.93
21.00	8.05	4.16	0.85
22.00	8.14	4.24	0.77
23.00	8.22	4.31	0.69
24.00	**8.30**	**4.37**	0.62
25.00	8.30	4.37	0.00
26.00	8.30	4.37	0.00
27.00	8.30	4.37	0.00
28.00	8.30	4.37	0.00
29.00	8.30	4.37	0.00
30.00	8.30	4.37	0.00
31.00	8.30	4.37	0.00
32.00	8.30	4.37	0.00
33.00	8.30	4.37	0.00
34.00	8.30	4.37	0.00
35.00	8.30	4.37	0.00
36.00	8.30	4.37	0.00
37.00	8.30	4.37	0.00
38.00	8.30	4.37	0.00
39.00	8.30	4.37	0.00
40.00	8.30	4.37	0.00
41.00	8.30	4.37	0.00
42.00	8.30	4.37	0.00
43.00	8.30	4.37	0.00
44.00	8.30	4.37	0.00
45.00	8.30	4.37	0.00
46.00	8.30	4.37	0.00
47.00	8.30	4.37	0.00
48.00	8.30	4.37	0.00
49.00	8.30	4.37	0.00
50.00	8.30	4.37	0.00
51.00	8.30	4.37	0.00
52.00	8.30	4.37	0.00
53.00	8.30	4.37	0.00
54.00	8.30	4.37	0.00
55.00	8.30	4.37	0.00
56.00	8.30	4.37	0.00
57.00	8.30	4.37	0.00
58.00	8.30	4.37	0.00
59.00	8.30	4.37	0.00
60.00	8.30	4.37	0.00
61.00	8.30	4.37	0.00
62.00	8.30	4.37	0.00
63.00	8.30	4.37	0.00
64.00	8.30	4.37	0.00
65.00	8.30	4.37	0.00
66.00	8.30	4.37	0.00
67.00	8.30	4.37	0.00
68.00	8.30	4.37	0.00
69.00	8.30	4.37	0.00
70.00	8.30	4.37	0.00
71.00	8.30	4.37	0.00
72.00	8.30	4.37	0.00

Summary for Subcatchment 3S: DA-Piped Impervious

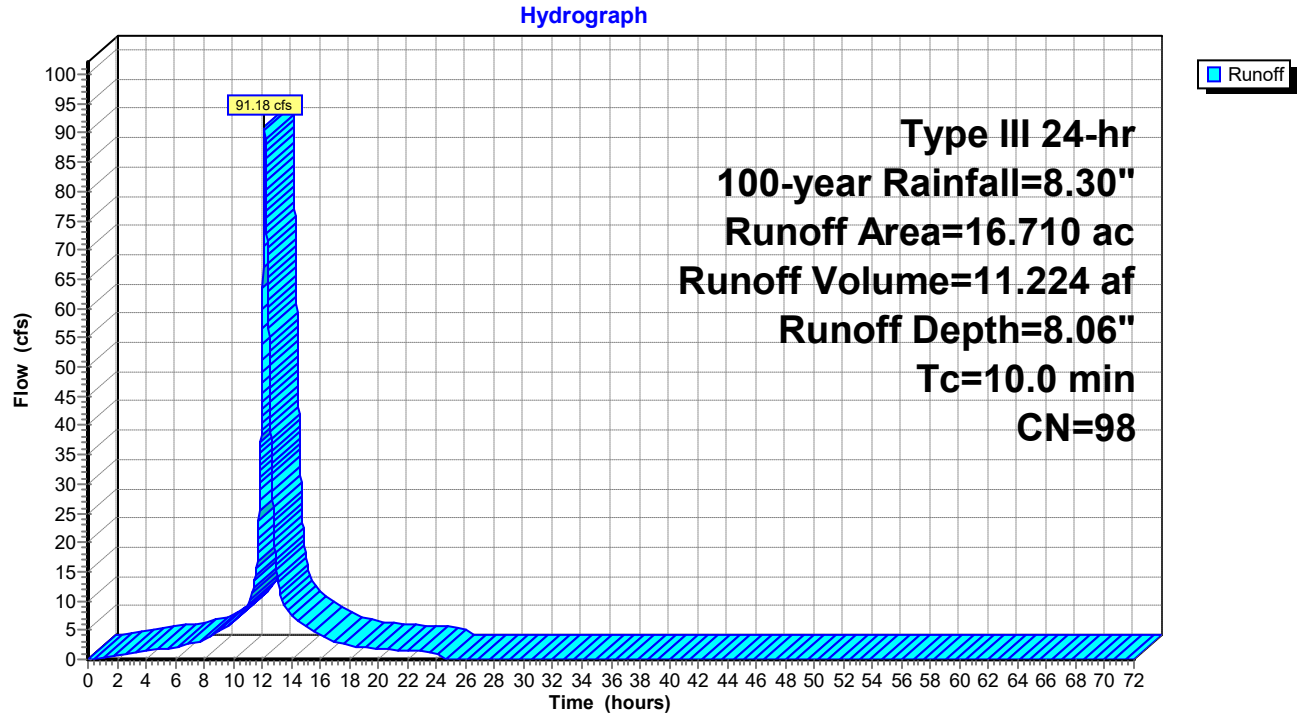
Runoff = 91.18 cfs @ 12.15 hrs, Volume= 11.224 af, Depth= 8.06"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-year Rainfall=8.30"

Area (ac)	CN	Description
16.710	98	Paved parking, HSG B
16.710		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Pipes to Basin**

Subcatchment 3S: DA-Piped Impervious



Hydrograph for Subcatchment 3S: DA-Piped Impervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.08	0.01	0.25
2.00	0.17	0.05	0.78
3.00	0.26	0.11	1.14
4.00	0.36	0.19	1.46
5.00	0.47	0.29	1.75
6.00	0.60	0.41	2.01
7.00	0.75	0.55	2.61
8.00	0.95	0.74	3.33
9.00	1.21	1.00	4.71
10.00	1.57	1.35	6.34
11.00	2.08	1.85	9.26
12.00	4.15	3.91	**51.30**
13.00	6.22	5.99	**15.28**
14.00	6.73	6.49	7.71
15.00	7.09	6.85	5.65
16.00	7.35	7.11	4.05
17.00	7.55	7.31	3.11
18.00	7.70	7.46	2.42
19.00	7.83	7.59	2.08
20.00	7.94	7.70	1.87
21.00	8.05	7.81	1.70
22.00	8.14	7.90	1.54
23.00	8.22	7.98	1.39
24.00	**8.30**	**8.06**	1.23
25.00	8.30	8.06	0.00
26.00	8.30	8.06	0.00
27.00	8.30	8.06	0.00
28.00	8.30	8.06	0.00
29.00	8.30	8.06	0.00
30.00	8.30	8.06	0.00
31.00	8.30	8.06	0.00
32.00	8.30	8.06	0.00
33.00	8.30	8.06	0.00
34.00	8.30	8.06	0.00
35.00	8.30	8.06	0.00
36.00	8.30	8.06	0.00
37.00	8.30	8.06	0.00
38.00	8.30	8.06	0.00
39.00	8.30	8.06	0.00
40.00	8.30	8.06	0.00
41.00	8.30	8.06	0.00
42.00	8.30	8.06	0.00
43.00	8.30	8.06	0.00
44.00	8.30	8.06	0.00
45.00	8.30	8.06	0.00
46.00	8.30	8.06	0.00
47.00	8.30	8.06	0.00
48.00	8.30	8.06	0.00
49.00	8.30	8.06	0.00
50.00	8.30	8.06	0.00
51.00	8.30	8.06	0.00
52.00	8.30	8.06	0.00
53.00	8.30	8.06	0.00
54.00	8.30	8.06	0.00
55.00	8.30	8.06	0.00
56.00	8.30	8.06	0.00
57.00	8.30	8.06	0.00
58.00	8.30	8.06	0.00
59.00	8.30	8.06	0.00
60.00	8.30	8.06	0.00
61.00	8.30	8.06	0.00
62.00	8.30	8.06	0.00
63.00	8.30	8.06	0.00
64.00	8.30	8.06	0.00
65.00	8.30	8.06	0.00
66.00	8.30	8.06	0.00
67.00	8.30	8.06	0.00
68.00	8.30	8.06	0.00
69.00	8.30	8.06	0.00
70.00	8.30	8.06	0.00
71.00	8.30	8.06	0.00
72.00	8.30	8.06	0.00

Summary for Subcatchment 9S: Offsite Pervious

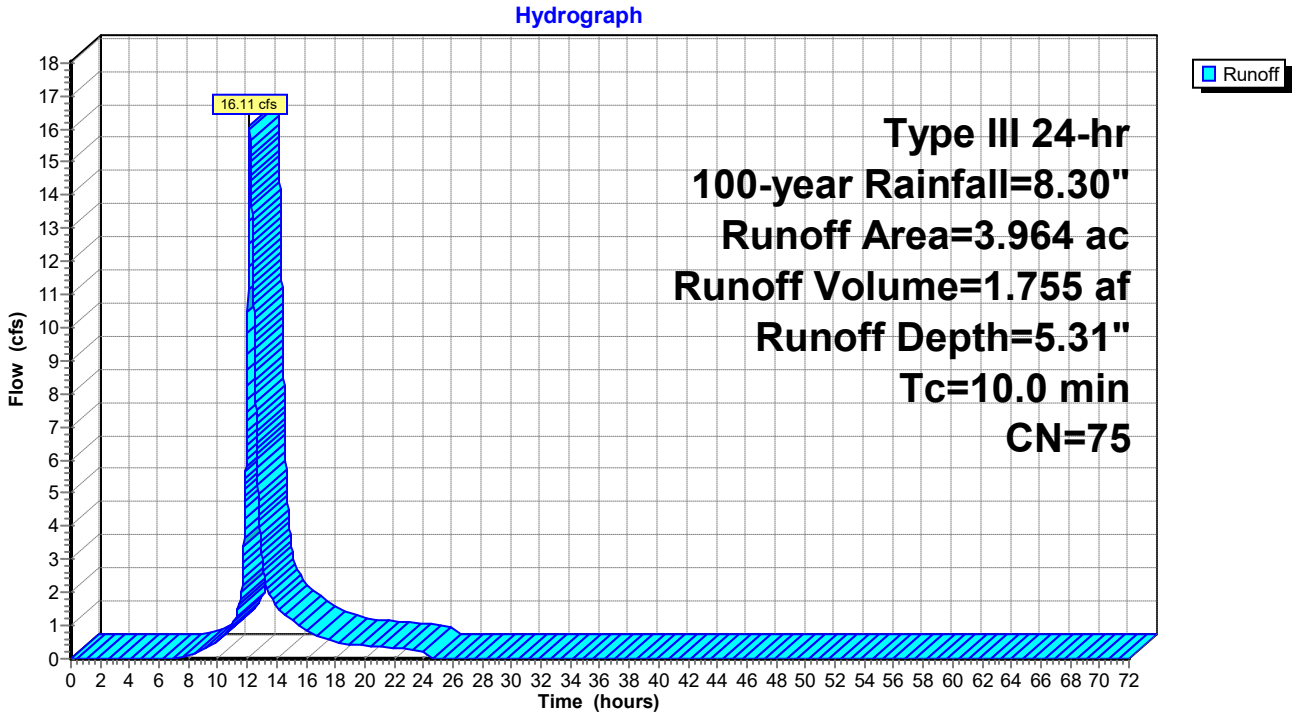
Runoff = 16.11 cfs @ 12.16 hrs, Volume= 1.755 af, Depth= 5.31"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-year Rainfall=8.30"

Area (ac)	CN	Description
0.502	61	>75% Grass cover, Good, HSG B
1.759	74	>75% Grass cover, Good, HSG C
1.703	80	>75% Grass cover, Good, HSG D
3.964	75	Weighted Average
3.964		100.00% Pervious Area

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

Subcatchment 9S: Offsite Pervious



Hydrograph for Subcatchment 9S: Offsite Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.08	0.00	0.00
2.00	0.17	0.00	0.00
3.00	0.26	0.00	0.00
4.00	0.36	0.00	0.00
5.00	0.47	0.00	0.00
6.00	0.60	0.00	0.00
7.00	0.75	0.00	0.02
8.00	0.95	0.02	0.10
9.00	1.21	0.08	0.27
10.00	1.57	0.19	0.54
11.00	2.08	0.42	1.05
12.00	4.15	1.78	**8.23**
13.00	6.22	3.47	**3.07**
14.00	6.73	3.91	1.59
15.00	7.09	4.23	1.18
16.00	7.35	4.46	0.85
17.00	7.55	4.64	0.66
18.00	7.70	4.77	0.51
19.00	7.83	4.89	0.44
20.00	7.94	4.99	0.40
21.00	8.05	5.08	0.36
22.00	8.14	5.17	0.33
23.00	8.22	5.24	0.30
24.00	**8.30**	**5.31**	0.26
25.00	8.30	5.31	0.00
26.00	8.30	5.31	0.00
27.00	8.30	5.31	0.00
28.00	8.30	5.31	0.00
29.00	8.30	5.31	0.00
30.00	8.30	5.31	0.00
31.00	8.30	5.31	0.00
32.00	8.30	5.31	0.00
33.00	8.30	5.31	0.00
34.00	8.30	5.31	0.00
35.00	8.30	5.31	0.00
36.00	8.30	5.31	0.00
37.00	8.30	5.31	0.00
38.00	8.30	5.31	0.00
39.00	8.30	5.31	0.00
40.00	8.30	5.31	0.00
41.00	8.30	5.31	0.00
42.00	8.30	5.31	0.00
43.00	8.30	5.31	0.00
44.00	8.30	5.31	0.00
45.00	8.30	5.31	0.00
46.00	8.30	5.31	0.00
47.00	8.30	5.31	0.00
48.00	8.30	5.31	0.00
49.00	8.30	5.31	0.00
50.00	8.30	5.31	0.00
51.00	8.30	5.31	0.00
52.00	8.30	5.31	0.00
53.00	8.30	5.31	0.00
54.00	8.30	5.31	0.00
55.00	8.30	5.31	0.00
56.00	8.30	5.31	0.00
57.00	8.30	5.31	0.00
58.00	8.30	5.31	0.00
59.00	8.30	5.31	0.00
60.00	8.30	5.31	0.00
61.00	8.30	5.31	0.00
62.00	8.30	5.31	0.00
63.00	8.30	5.31	0.00
64.00	8.30	5.31	0.00
65.00	8.30	5.31	0.00
66.00	8.30	5.31	0.00
67.00	8.30	5.31	0.00
68.00	8.30	5.31	0.00
69.00	8.30	5.31	0.00
70.00	8.30	5.31	0.00
71.00	8.30	5.31	0.00
72.00	8.30	5.31	0.00

Summary for Subcatchment 10S: Offsite Impervious

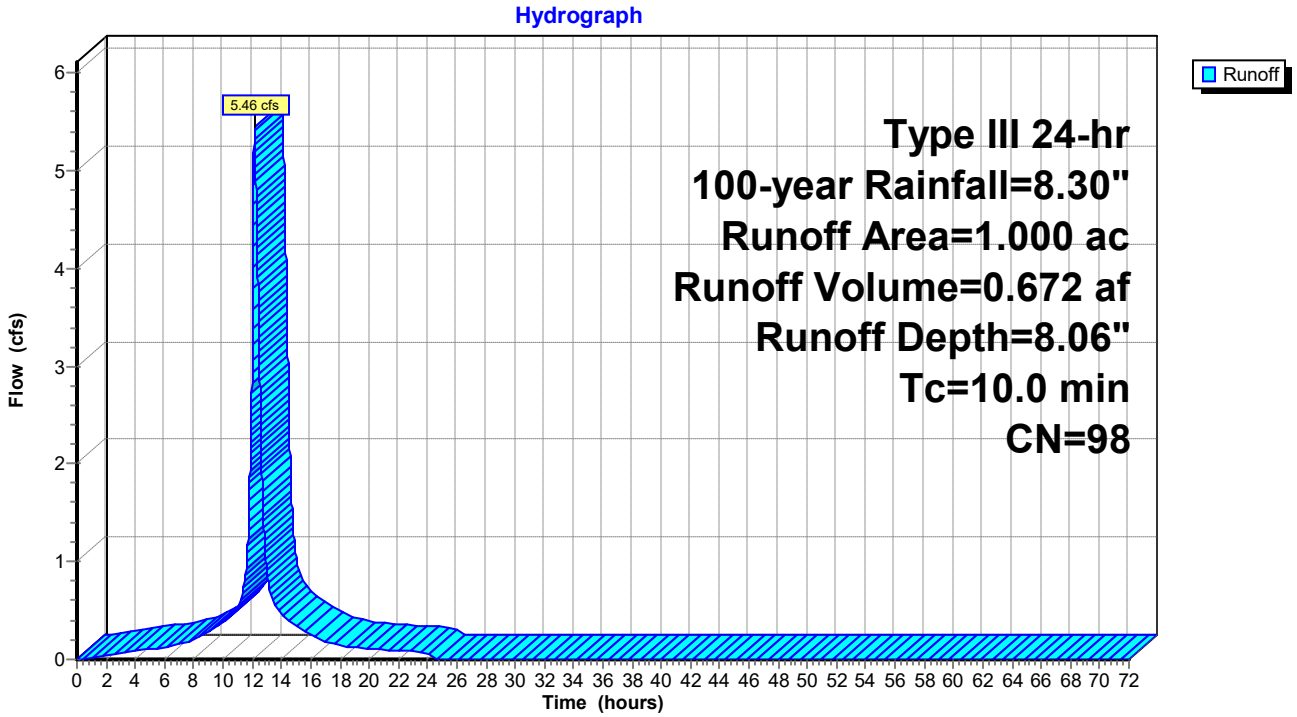
Runoff = 5.46 cfs @ 12.15 hrs, Volume= 0.672 af, Depth= 8.06"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-year Rainfall=8.30"

Area (ac)	CN	Description
1.000	98	Paved parking, HSG D
1.000		100.00% Impervious Area

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

Subcatchment 10S: Offsite Impervious



Hydrograph for Subcatchment 10S: Offsite Impervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.08	0.01	0.01
2.00	0.17	0.05	0.05
3.00	0.26	0.11	0.07
4.00	0.36	0.19	0.09
5.00	0.47	0.29	0.10
6.00	0.60	0.41	0.12
7.00	0.75	0.55	0.16
8.00	0.95	0.74	0.20
9.00	1.21	1.00	0.28
10.00	1.57	1.35	0.38
11.00	2.08	1.85	0.55
12.00	4.15	3.91	**3.07**
13.00	6.22	5.99	**0.91**
14.00	6.73	6.49	0.46
15.00	7.09	6.85	0.34
16.00	7.35	7.11	0.24
17.00	7.55	7.31	0.19
18.00	7.70	7.46	0.14
19.00	7.83	7.59	0.12
20.00	7.94	7.70	0.11
21.00	8.05	7.81	0.10
22.00	8.14	7.90	0.09
23.00	8.22	7.98	0.08
24.00	**8.30**	**8.06**	0.07
25.00	8.30	8.06	0.00
26.00	8.30	8.06	0.00
27.00	8.30	8.06	0.00
28.00	8.30	8.06	0.00
29.00	8.30	8.06	0.00
30.00	8.30	8.06	0.00
31.00	8.30	8.06	0.00
32.00	8.30	8.06	0.00
33.00	8.30	8.06	0.00
34.00	8.30	8.06	0.00
35.00	8.30	8.06	0.00
36.00	8.30	8.06	0.00
37.00	8.30	8.06	0.00
38.00	8.30	8.06	0.00
39.00	8.30	8.06	0.00
40.00	8.30	8.06	0.00
41.00	8.30	8.06	0.00
42.00	8.30	8.06	0.00
43.00	8.30	8.06	0.00
44.00	8.30	8.06	0.00
45.00	8.30	8.06	0.00
46.00	8.30	8.06	0.00
47.00	8.30	8.06	0.00
48.00	8.30	8.06	0.00
49.00	8.30	8.06	0.00
50.00	8.30	8.06	0.00
51.00	8.30	8.06	0.00
52.00	8.30	8.06	0.00
53.00	8.30	8.06	0.00
54.00	8.30	8.06	0.00
55.00	8.30	8.06	0.00
56.00	8.30	8.06	0.00
57.00	8.30	8.06	0.00
58.00	8.30	8.06	0.00
59.00	8.30	8.06	0.00
60.00	8.30	8.06	0.00
61.00	8.30	8.06	0.00
62.00	8.30	8.06	0.00
63.00	8.30	8.06	0.00
64.00	8.30	8.06	0.00
65.00	8.30	8.06	0.00
66.00	8.30	8.06	0.00
67.00	8.30	8.06	0.00
68.00	8.30	8.06	0.00
69.00	8.30	8.06	0.00
70.00	8.30	8.06	0.00
71.00	8.30	8.06	0.00
72.00	8.30	8.06	0.00

Summary for Subcatchment 11S: Basin Area

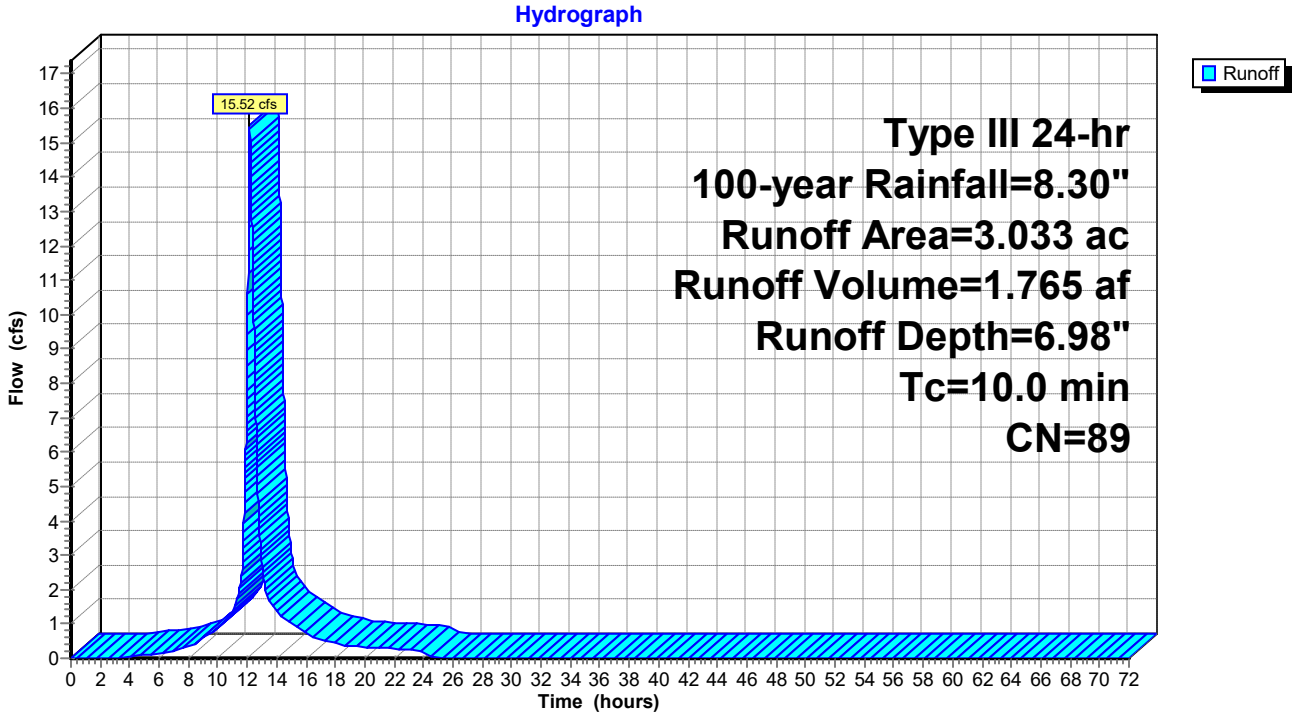
Runoff = 15.52 cfs @ 12.16 hrs, Volume= 1.765 af, Depth= 6.98"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-year Rainfall=8.30"

Area (ac)	CN	Description
0.473	74	>75% Grass cover, Good, HSG C
0.886	80	>75% Grass cover, Good, HSG D
1.674	98	Paved parking, HSG D
3.033	89	Weighted Average
1.359		44.81% Pervious Area
1.674		55.19% Impervious Area

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

Subcatchment 11S: Basin Area



Hydrograph for Subcatchment 11S: Basin Area

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.08	0.00	0.00
2.00	0.17	0.00	0.00
3.00	0.26	0.00	0.00
4.00	0.36	0.01	0.04
5.00	0.47	0.03	0.09
6.00	0.60	0.08	0.15
7.00	0.75	0.15	0.24
8.00	0.95	0.25	0.36
9.00	1.21	0.42	0.58
10.00	1.57	0.68	0.87
11.00	2.08	1.09	1.39
12.00	4.15	2.96	**8.52**
13.00	6.22	4.95	**2.69**
14.00	6.73	5.45	1.36
15.00	7.09	5.80	1.00
16.00	7.35	6.05	0.72
17.00	7.55	6.24	0.55
18.00	7.70	6.40	0.43
19.00	7.83	6.52	0.37
20.00	7.94	6.63	0.33
21.00	8.05	6.73	0.30
22.00	8.14	6.82	0.28
23.00	8.22	6.91	0.25
24.00	**8.30**	**6.98**	0.22
25.00	8.30	6.98	0.00
26.00	8.30	6.98	0.00
27.00	8.30	6.98	0.00
28.00	8.30	6.98	0.00
29.00	8.30	6.98	0.00
30.00	8.30	6.98	0.00
31.00	8.30	6.98	0.00
32.00	8.30	6.98	0.00
33.00	8.30	6.98	0.00
34.00	8.30	6.98	0.00
35.00	8.30	6.98	0.00
36.00	8.30	6.98	0.00
37.00	8.30	6.98	0.00
38.00	8.30	6.98	0.00
39.00	8.30	6.98	0.00
40.00	8.30	6.98	0.00
41.00	8.30	6.98	0.00
42.00	8.30	6.98	0.00
43.00	8.30	6.98	0.00
44.00	8.30	6.98	0.00
45.00	8.30	6.98	0.00
46.00	8.30	6.98	0.00
47.00	8.30	6.98	0.00
48.00	8.30	6.98	0.00
49.00	8.30	6.98	0.00
50.00	8.30	6.98	0.00
51.00	8.30	6.98	0.00
52.00	8.30	6.98	0.00
53.00	8.30	6.98	0.00
54.00	8.30	6.98	0.00
55.00	8.30	6.98	0.00
56.00	8.30	6.98	0.00
57.00	8.30	6.98	0.00
58.00	8.30	6.98	0.00
59.00	8.30	6.98	0.00
60.00	8.30	6.98	0.00
61.00	8.30	6.98	0.00
62.00	8.30	6.98	0.00
63.00	8.30	6.98	0.00
64.00	8.30	6.98	0.00
65.00	8.30	6.98	0.00
66.00	8.30	6.98	0.00
67.00	8.30	6.98	0.00
68.00	8.30	6.98	0.00
69.00	8.30	6.98	0.00
70.00	8.30	6.98	0.00
71.00	8.30	6.98	0.00
72.00	8.30	6.98	0.00

Summary for Pond 6P: Basin

Inflow Area = 29.766 ac, 61.76% Impervious, Inflow Depth = 6.71" for 100-year event
Inflow = 139.97 cfs @ 12.16 hrs, Volume= 16.639 af
Outflow = 35.56 cfs @ 12.80 hrs, Volume= 15.464 af, Atten= 75%, Lag= 38.8 min
Primary = 35.56 cfs @ 12.80 hrs, Volume= 15.464 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 92.00' Surf.Area= 48,084 sf Storage= 161,280 cf
Peak Elev= 98.09' @ 12.80 hrs Surf.Area= 73,349 sf Storage= 536,744 cf (375,464 cf above start)

Plug-Flow detention time= 565.4 min calculated for 11.760 af (71% of inflow)
Center-of-Mass det. time= 350.3 min (1,124.3 - 774.0)

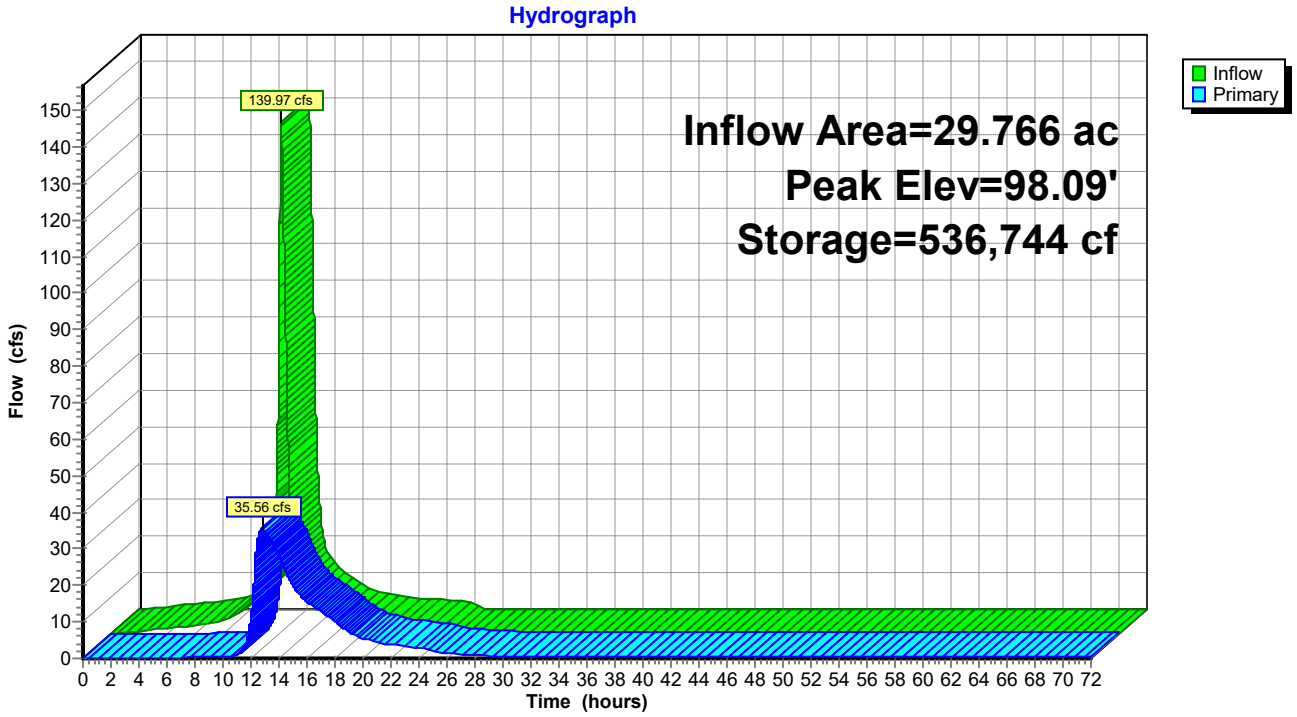
Volume	Invert	Avail.Storage	Storage Description
#1	88.00'	604,830 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.00	31,756	0	0
89.00	34,723	33,240	33,240
90.00	41,747	38,235	71,475
91.00	44,890	43,319	114,793
92.00	48,084	46,487	161,280
93.00	51,328	49,706	210,986
94.00	59,031	55,180	266,166
95.00	62,451	60,741	326,907
96.00	65,922	64,187	391,093
97.00	69,443	67,683	458,776
98.00	73,016	71,230	530,005
99.00	76,634	74,825	604,830

Device	Routing	Invert	Outlet Devices
#1	Primary	91.80'	**30.0" Round Culvert** L= 427.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 91.80' / 90.30' S= 0.0035 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	92.00'	**3.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	94.00'	**26.0" W x 14.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	96.15'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 1	98.05'	**16.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=35.45 cfs @ 12.80 hrs HW=98.09' (Free Discharge)
↑**1=Culvert** (Passes 35.45 cfs of 38.81 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 0.78 cfs @ 11.74 fps)
3=Orifice/Grate (Orifice Controls 22.77 cfs @ 9.01 fps)
4=Orifice/Grate (Orifice Controls 11.50 cfs @ 5.75 fps)
5=Broad-Crested Rectangular Weir (Weir Controls 0.39 cfs @ 0.57 fps)

Pond 6P: Basin



Hydrograph for Pond 6P: Basin

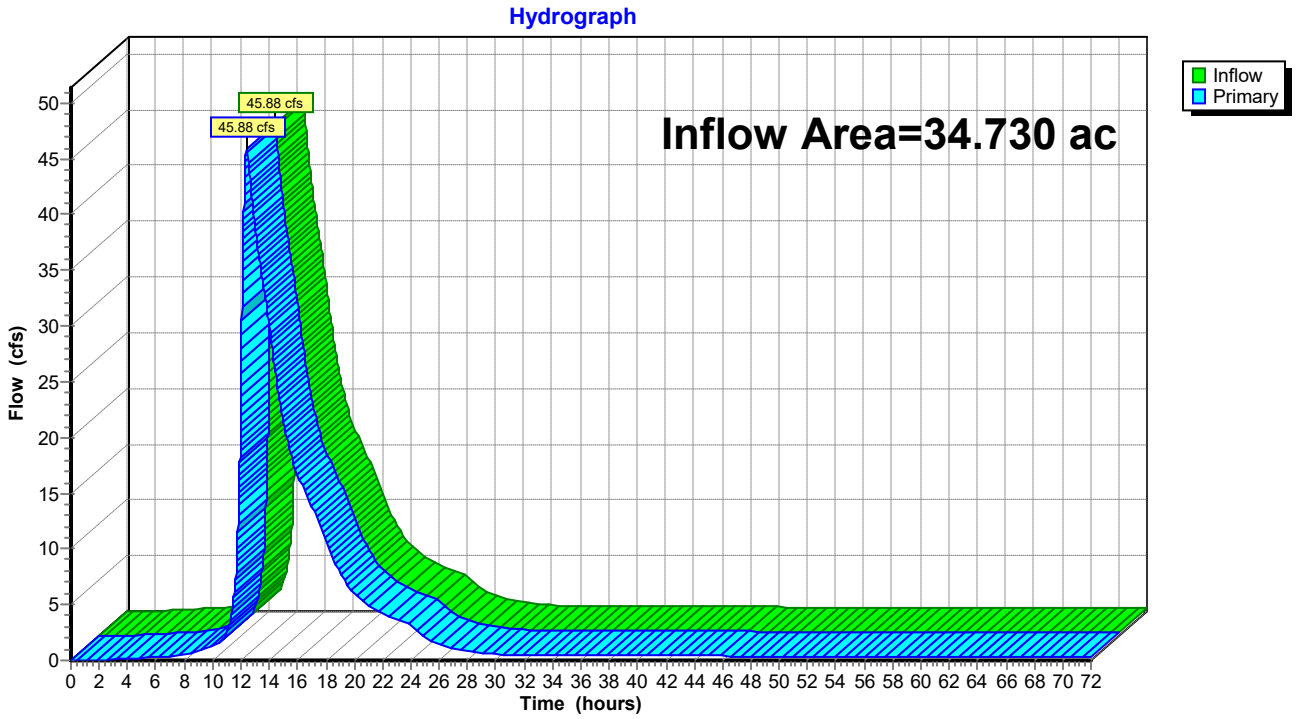
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	161,280	92.00	0.00
2.00	0.78	163,414	92.04	0.01
4.00	1.50	171,361	92.21	0.08
6.00	2.16	183,623	92.46	0.18
8.00	3.68	202,610	92.84	0.27
10.00	7.88	240,255	93.55	0.38
12.00	**75.90**	**353,503**	**95.42**	**11.46**
14.00	**12.69**	**478,042**	**97.28**	**28.03**
16.00	6.72	397,895	96.10	15.55
18.00	4.03	342,603	95.25	10.10
20.00	3.13	314,417	94.80	5.50
22.00	2.59	302,431	94.60	3.77
24.00	2.06	295,479	94.49	2.88
26.00	0.00	282,131	94.27	1.44
28.00	0.00	274,309	94.14	0.82
30.00	0.00	269,465	94.06	0.54
32.00	0.00	266,000	94.00	0.44
34.00	0.00	262,871	93.94	0.43
36.00	0.00	259,789	93.89	0.42
38.00	0.00	256,752	93.84	0.42
40.00	0.00	253,762	93.79	0.41
42.00	0.00	250,818	93.74	0.41
44.00	0.00	247,922	93.68	0.40
46.00	0.00	245,073	93.63	0.39
48.00	0.00	242,272	93.58	0.39
50.00	0.00	239,519	93.53	0.38
52.00	0.00	236,814	93.49	0.37
54.00	0.00	234,158	93.44	0.37
56.00	0.00	231,551	93.39	0.36
58.00	0.00	228,993	93.34	0.35
60.00	0.00	226,486	93.30	0.34
62.00	0.00	224,028	93.25	0.34
64.00	0.00	221,621	93.20	0.33
66.00	0.00	219,264	93.16	0.32
68.00	0.00	216,958	93.12	0.32
70.00	0.00	214,704	93.07	0.31
72.00	0.00	212,501	93.03	0.30

Summary for Pond 7P: Total

Inflow Area = 34.730 ac, 55.81% Impervious, Inflow Depth > 6.18" for 100-year event
Inflow = 45.88 cfs @ 12.42 hrs, Volume= 17.890 af
Primary = 45.88 cfs @ 12.42 hrs, Volume= 17.890 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond 7P: Total



Hydrograph for Pond 7P: Total

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
1.00	0.02		0.02
2.00	0.05		0.05
3.00	0.10		0.10
4.00	0.17		0.17
5.00	0.24		0.24
6.00	0.30		0.30
7.00	0.39		0.39
8.00	0.57		0.57
9.00	0.87		0.87
10.00	1.30		1.30
11.00	2.42		2.42
12.00	**22.76**		**22.76**
13.00	**38.64**		**38.64**
14.00	30.08		30.08
15.00	21.43		21.43
16.00	16.64		16.64
17.00	13.78		13.78
18.00	10.76		10.76
19.00	7.76		7.76
20.00	6.01		6.01
21.00	4.93		4.93
22.00	4.19		4.19
23.00	3.66		3.66
24.00	3.21		3.21
25.00	2.06		2.06
26.00	1.44		1.44
27.00	1.07		1.07
28.00	0.82		0.82
29.00	0.67		0.67
30.00	0.54		0.54
31.00	0.48		0.48
32.00	0.44		0.44
33.00	0.43		0.43
34.00	0.43		0.43
35.00	0.43		0.43
36.00	0.42		0.42
37.00	0.42		0.42
38.00	0.42		0.42
39.00	0.42		0.42
40.00	0.41		0.41
41.00	0.41		0.41
42.00	0.41		0.41
43.00	0.40		0.40
44.00	0.40		0.40
45.00	0.40		0.40
46.00	0.39		0.39
47.00	0.39		0.39
48.00	0.39		0.39
49.00	0.38		0.38
50.00	0.38		0.38
51.00	0.38		0.38
52.00	0.37		0.37
53.00	0.37		0.37
54.00	0.37		0.37
55.00	0.36		0.36
56.00	0.36		0.36
57.00	0.36		0.36
58.00	0.35		0.35
59.00	0.35		0.35
60.00	0.34		0.34
61.00	0.34		0.34
62.00	0.34		0.34
63.00	0.33		0.33
64.00	0.33		0.33
65.00	0.33		0.33
66.00	0.32		0.32
67.00	0.32		0.32
68.00	0.32		0.32
69.00	0.31		0.31
70.00	0.31		0.31
71.00	0.31		0.31
72.00	0.30		0.30

Summary for Subcatchment 2S: DA-Piped Pervious

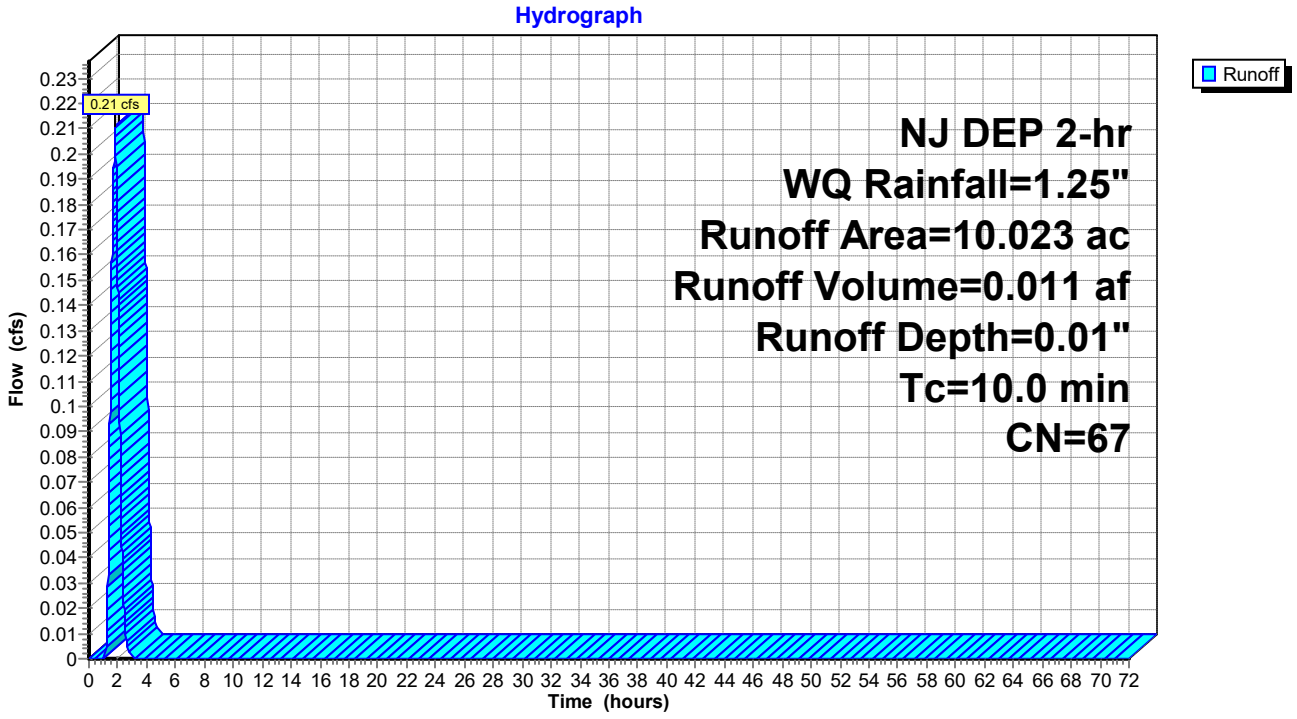
Runoff = 0.21 cfs @ 1.81 hrs, Volume= 0.011 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

Area (ac)	CN	Description
5.868	61	>75% Grass cover, Good, HSG B
2.563	74	>75% Grass cover, Good, HSG C
1.592	80	>75% Grass cover, Good, HSG D
10.023	67	Weighted Average
10.023		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Pipes to Basin**

Subcatchment 2S: DA-Piped Pervious



Hydrograph for Subcatchment 2S: DA-Piped Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.63	0.00	**0.00**
2.00	**1.25**	**0.01**	**0.15**
3.00	1.25	0.01	0.00
4.00	1.25	0.01	0.00
5.00	1.25	0.01	0.00
6.00	1.25	0.01	0.00
7.00	1.25	0.01	0.00
8.00	1.25	0.01	0.00
9.00	1.25	0.01	0.00
10.00	1.25	0.01	0.00
11.00	1.25	0.01	0.00
12.00	1.25	0.01	0.00
13.00	1.25	0.01	0.00
14.00	1.25	0.01	0.00
15.00	1.25	0.01	0.00
16.00	1.25	0.01	0.00
17.00	1.25	0.01	0.00
18.00	1.25	0.01	0.00
19.00	1.25	0.01	0.00
20.00	1.25	0.01	0.00
21.00	1.25	0.01	0.00
22.00	1.25	0.01	0.00
23.00	1.25	0.01	0.00
24.00	1.25	0.01	0.00
25.00	1.25	0.01	0.00
26.00	1.25	0.01	0.00
27.00	1.25	0.01	0.00
28.00	1.25	0.01	0.00
29.00	1.25	0.01	0.00
30.00	1.25	0.01	0.00
31.00	1.25	0.01	0.00
32.00	1.25	0.01	0.00
33.00	1.25	0.01	0.00
34.00	1.25	0.01	0.00
35.00	1.25	0.01	0.00
36.00	1.25	0.01	0.00
37.00	1.25	0.01	0.00
38.00	1.25	0.01	0.00
39.00	1.25	0.01	0.00
40.00	1.25	0.01	0.00
41.00	1.25	0.01	0.00
42.00	1.25	0.01	0.00
43.00	1.25	0.01	0.00
44.00	1.25	0.01	0.00
45.00	1.25	0.01	0.00
46.00	1.25	0.01	0.00
47.00	1.25	0.01	0.00
48.00	1.25	0.01	0.00
49.00	1.25	0.01	0.00
50.00	1.25	0.01	0.00
51.00	1.25	0.01	0.00
52.00	1.25	0.01	0.00
53.00	1.25	0.01	0.00
54.00	1.25	0.01	0.00
55.00	1.25	0.01	0.00
56.00	1.25	0.01	0.00
57.00	1.25	0.01	0.00
58.00	1.25	0.01	0.00
59.00	1.25	0.01	0.00
60.00	1.25	0.01	0.00
61.00	1.25	0.01	0.00
62.00	1.25	0.01	0.00
63.00	1.25	0.01	0.00
64.00	1.25	0.01	0.00
65.00	1.25	0.01	0.00
66.00	1.25	0.01	0.00
67.00	1.25	0.01	0.00
68.00	1.25	0.01	0.00
69.00	1.25	0.01	0.00
70.00	1.25	0.01	0.00
71.00	1.25	0.01	0.00
72.00	1.25	0.01	0.00

Summary for Subcatchment 3S: DA-Piped Impervious

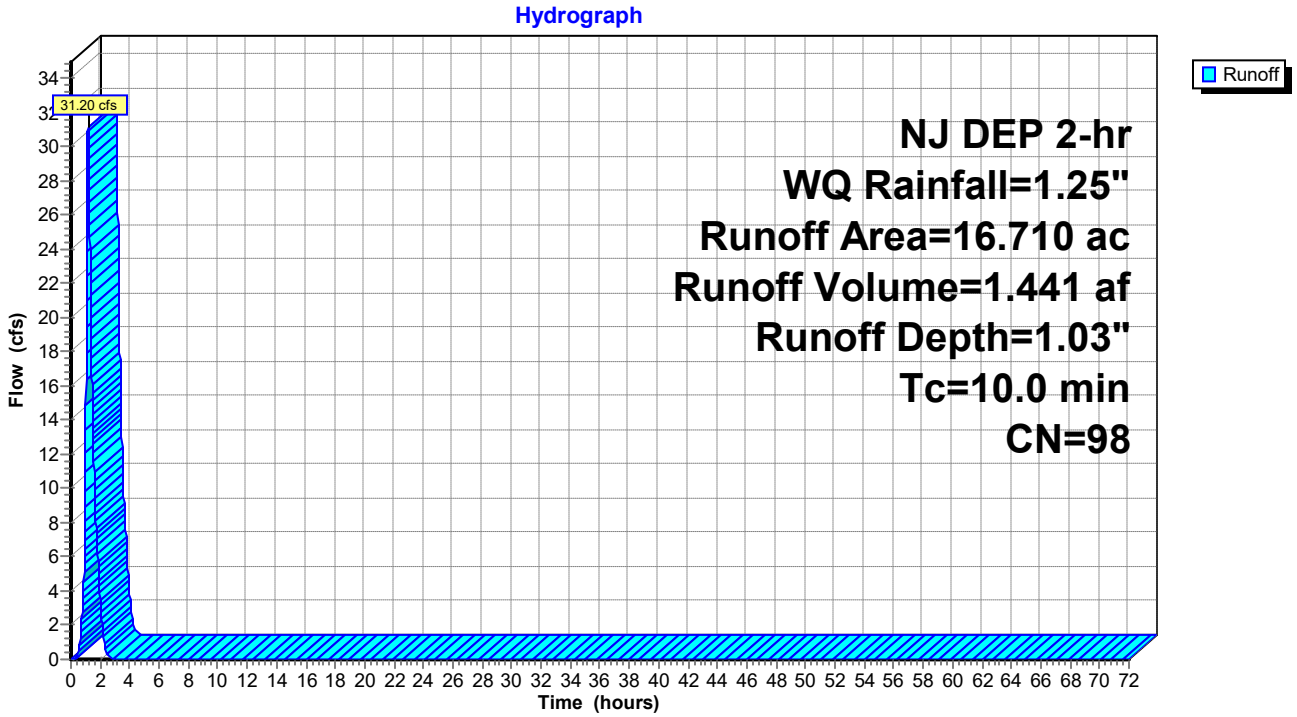
Runoff = 31.20 cfs @ 1.17 hrs, Volume= 1.441 af, Depth= 1.03"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

Area (ac)	CN	Description
16.710	98	Paved parking, HSG B
16.710		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Pipes to Basin**

Subcatchment 3S: DA-Piped Impervious



Hydrograph for Subcatchment 3S: DA-Piped Impervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.63	0.43	**12.06**
2.00	**1.25**	**1.03**	**3.43**
3.00	1.25	1.03	0.00
4.00	1.25	1.03	0.00
5.00	1.25	1.03	0.00
6.00	1.25	1.03	0.00
7.00	1.25	1.03	0.00
8.00	1.25	1.03	0.00
9.00	1.25	1.03	0.00
10.00	1.25	1.03	0.00
11.00	1.25	1.03	0.00
12.00	1.25	1.03	0.00
13.00	1.25	1.03	0.00
14.00	1.25	1.03	0.00
15.00	1.25	1.03	0.00
16.00	1.25	1.03	0.00
17.00	1.25	1.03	0.00
18.00	1.25	1.03	0.00
19.00	1.25	1.03	0.00
20.00	1.25	1.03	0.00
21.00	1.25	1.03	0.00
22.00	1.25	1.03	0.00
23.00	1.25	1.03	0.00
24.00	1.25	1.03	0.00
25.00	1.25	1.03	0.00
26.00	1.25	1.03	0.00
27.00	1.25	1.03	0.00
28.00	1.25	1.03	0.00
29.00	1.25	1.03	0.00
30.00	1.25	1.03	0.00
31.00	1.25	1.03	0.00
32.00	1.25	1.03	0.00
33.00	1.25	1.03	0.00
34.00	1.25	1.03	0.00
35.00	1.25	1.03	0.00
36.00	1.25	1.03	0.00
37.00	1.25	1.03	0.00
38.00	1.25	1.03	0.00
39.00	1.25	1.03	0.00
40.00	1.25	1.03	0.00
41.00	1.25	1.03	0.00
42.00	1.25	1.03	0.00
43.00	1.25	1.03	0.00
44.00	1.25	1.03	0.00
45.00	1.25	1.03	0.00
46.00	1.25	1.03	0.00
47.00	1.25	1.03	0.00
48.00	1.25	1.03	0.00
49.00	1.25	1.03	0.00
50.00	1.25	1.03	0.00
51.00	1.25	1.03	0.00
52.00	1.25	1.03	0.00
53.00	1.25	1.03	0.00
54.00	1.25	1.03	0.00
55.00	1.25	1.03	0.00
56.00	1.25	1.03	0.00
57.00	1.25	1.03	0.00
58.00	1.25	1.03	0.00
59.00	1.25	1.03	0.00
60.00	1.25	1.03	0.00
61.00	1.25	1.03	0.00
62.00	1.25	1.03	0.00
63.00	1.25	1.03	0.00
64.00	1.25	1.03	0.00
65.00	1.25	1.03	0.00
66.00	1.25	1.03	0.00
67.00	1.25	1.03	0.00
68.00	1.25	1.03	0.00
69.00	1.25	1.03	0.00
70.00	1.25	1.03	0.00
71.00	1.25	1.03	0.00
72.00	1.25	1.03	0.00

Summary for Subcatchment 9S: Offsite Pervious

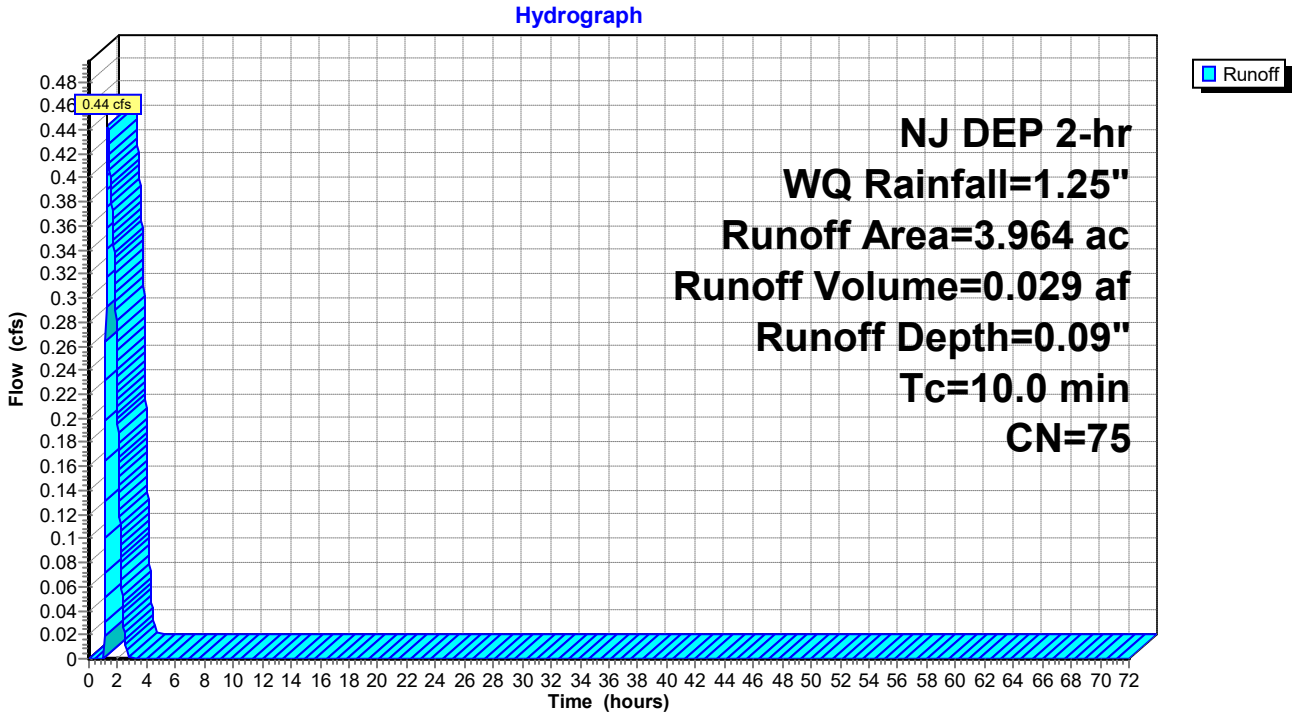
Runoff = 0.44 cfs @ 1.31 hrs, Volume= 0.029 af, Depth= 0.09"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

Area (ac)	CN	Description
0.502	61	>75% Grass cover, Good, HSG B
1.759	74	>75% Grass cover, Good, HSG C
1.703	80	>75% Grass cover, Good, HSG D
3.964	75	Weighted Average
3.964		100.00% Pervious Area

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

Subcatchment 9S: Offsite Pervious



Hydrograph for Subcatchment 9S: Offsite Pervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	52.00	1.25	0.09	0.00
1.00	0.63	0.00	**0.00**	53.00	1.25	0.09	0.00
2.00	**1.25**	**0.09**	**0.19**	54.00	1.25	0.09	0.00
3.00	1.25	0.09	0.00	55.00	1.25	0.09	0.00
4.00	1.25	0.09	0.00	56.00	1.25	0.09	0.00
5.00	1.25	0.09	0.00	57.00	1.25	0.09	0.00
6.00	1.25	0.09	0.00	58.00	1.25	0.09	0.00
7.00	1.25	0.09	0.00	59.00	1.25	0.09	0.00
8.00	1.25	0.09	0.00	60.00	1.25	0.09	0.00
9.00	1.25	0.09	0.00	61.00	1.25	0.09	0.00
10.00	1.25	0.09	0.00	62.00	1.25	0.09	0.00
11.00	1.25	0.09	0.00	63.00	1.25	0.09	0.00
12.00	1.25	0.09	0.00	64.00	1.25	0.09	0.00
13.00	1.25	0.09	0.00	65.00	1.25	0.09	0.00
14.00	1.25	0.09	0.00	66.00	1.25	0.09	0.00
15.00	1.25	0.09	0.00	67.00	1.25	0.09	0.00
16.00	1.25	0.09	0.00	68.00	1.25	0.09	0.00
17.00	1.25	0.09	0.00	69.00	1.25	0.09	0.00
18.00	1.25	0.09	0.00	70.00	1.25	0.09	0.00
19.00	1.25	0.09	0.00	71.00	1.25	0.09	0.00
20.00	1.25	0.09	0.00	72.00	1.25	0.09	0.00
21.00	1.25	0.09	0.00				
22.00	1.25	0.09	0.00				
23.00	1.25	0.09	0.00				
24.00	1.25	0.09	0.00				
25.00	1.25	0.09	0.00				
26.00	1.25	0.09	0.00				
27.00	1.25	0.09	0.00				
28.00	1.25	0.09	0.00				
29.00	1.25	0.09	0.00				
30.00	1.25	0.09	0.00				
31.00	1.25	0.09	0.00				
32.00	1.25	0.09	0.00				
33.00	1.25	0.09	0.00				
34.00	1.25	0.09	0.00				
35.00	1.25	0.09	0.00				
36.00	1.25	0.09	0.00				
37.00	1.25	0.09	0.00				
38.00	1.25	0.09	0.00				
39.00	1.25	0.09	0.00				
40.00	1.25	0.09	0.00				
41.00	1.25	0.09	0.00				
42.00	1.25	0.09	0.00				
43.00	1.25	0.09	0.00				
44.00	1.25	0.09	0.00				
45.00	1.25	0.09	0.00				
46.00	1.25	0.09	0.00				
47.00	1.25	0.09	0.00				
48.00	1.25	0.09	0.00				
49.00	1.25	0.09	0.00				
50.00	1.25	0.09	0.00				
51.00	1.25	0.09	0.00				

Summary for Subcatchment 10S: Offsite Impervious

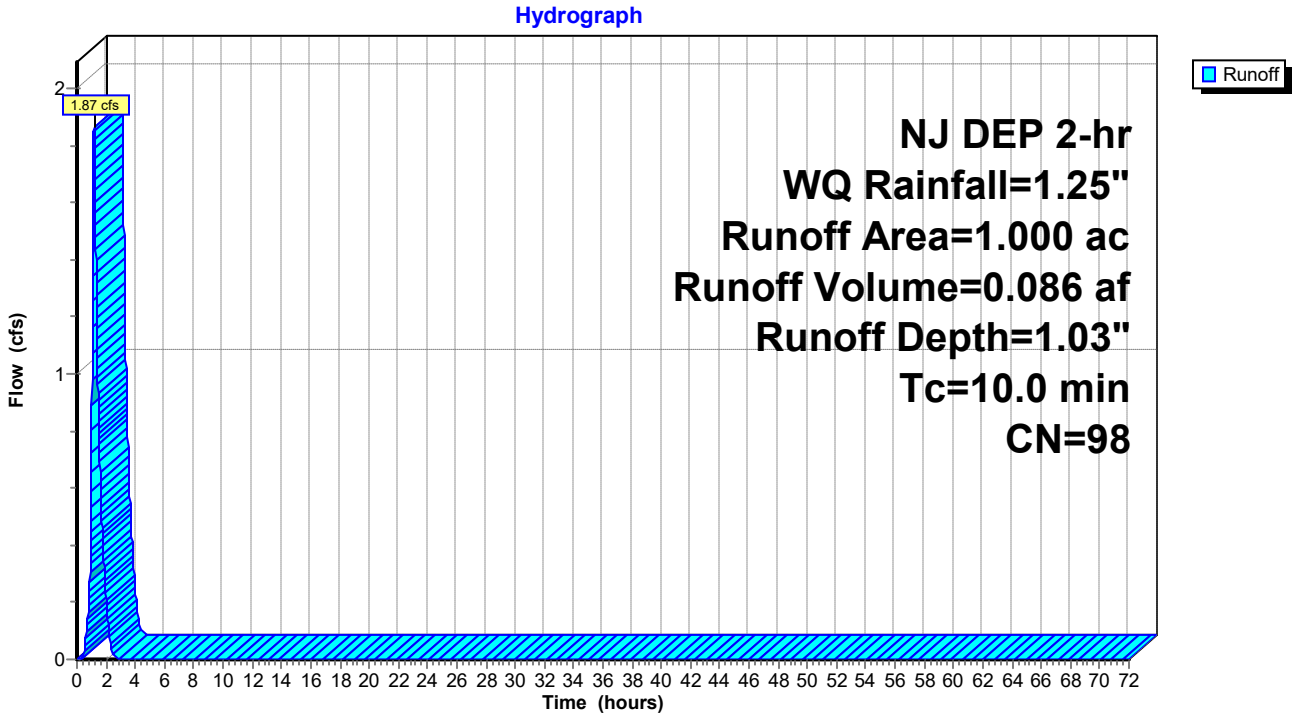
Runoff = 1.87 cfs @ 1.17 hrs, Volume= 0.086 af, Depth= 1.03"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

Area (ac)	CN	Description
1.000	98	Paved parking, HSG D
1.000		100.00% Impervious Area

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

Subcatchment 10S: Offsite Impervious



Hydrograph for Subcatchment 10S: Offsite Impervious

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.63	0.43	**0.72**
2.00	**1.25**	**1.03**	**0.20**
3.00	1.25	1.03	0.00
4.00	1.25	1.03	0.00
5.00	1.25	1.03	0.00
6.00	1.25	1.03	0.00
7.00	1.25	1.03	0.00
8.00	1.25	1.03	0.00
9.00	1.25	1.03	0.00
10.00	1.25	1.03	0.00
11.00	1.25	1.03	0.00
12.00	1.25	1.03	0.00
13.00	1.25	1.03	0.00
14.00	1.25	1.03	0.00
15.00	1.25	1.03	0.00
16.00	1.25	1.03	0.00
17.00	1.25	1.03	0.00
18.00	1.25	1.03	0.00
19.00	1.25	1.03	0.00
20.00	1.25	1.03	0.00
21.00	1.25	1.03	0.00
22.00	1.25	1.03	0.00
23.00	1.25	1.03	0.00
24.00	1.25	1.03	0.00
25.00	1.25	1.03	0.00
26.00	1.25	1.03	0.00
27.00	1.25	1.03	0.00
28.00	1.25	1.03	0.00
29.00	1.25	1.03	0.00
30.00	1.25	1.03	0.00
31.00	1.25	1.03	0.00
32.00	1.25	1.03	0.00
33.00	1.25	1.03	0.00
34.00	1.25	1.03	0.00
35.00	1.25	1.03	0.00
36.00	1.25	1.03	0.00
37.00	1.25	1.03	0.00
38.00	1.25	1.03	0.00
39.00	1.25	1.03	0.00
40.00	1.25	1.03	0.00
41.00	1.25	1.03	0.00
42.00	1.25	1.03	0.00
43.00	1.25	1.03	0.00
44.00	1.25	1.03	0.00
45.00	1.25	1.03	0.00
46.00	1.25	1.03	0.00
47.00	1.25	1.03	0.00
48.00	1.25	1.03	0.00
49.00	1.25	1.03	0.00
50.00	1.25	1.03	0.00
51.00	1.25	1.03	0.00
52.00	1.25	1.03	0.00
53.00	1.25	1.03	0.00
54.00	1.25	1.03	0.00
55.00	1.25	1.03	0.00
56.00	1.25	1.03	0.00
57.00	1.25	1.03	0.00
58.00	1.25	1.03	0.00
59.00	1.25	1.03	0.00
60.00	1.25	1.03	0.00
61.00	1.25	1.03	0.00
62.00	1.25	1.03	0.00
63.00	1.25	1.03	0.00
64.00	1.25	1.03	0.00
65.00	1.25	1.03	0.00
66.00	1.25	1.03	0.00
67.00	1.25	1.03	0.00
68.00	1.25	1.03	0.00
69.00	1.25	1.03	0.00
70.00	1.25	1.03	0.00
71.00	1.25	1.03	0.00
72.00	1.25	1.03	0.00

Summary for Subcatchment 11S: Basin Area

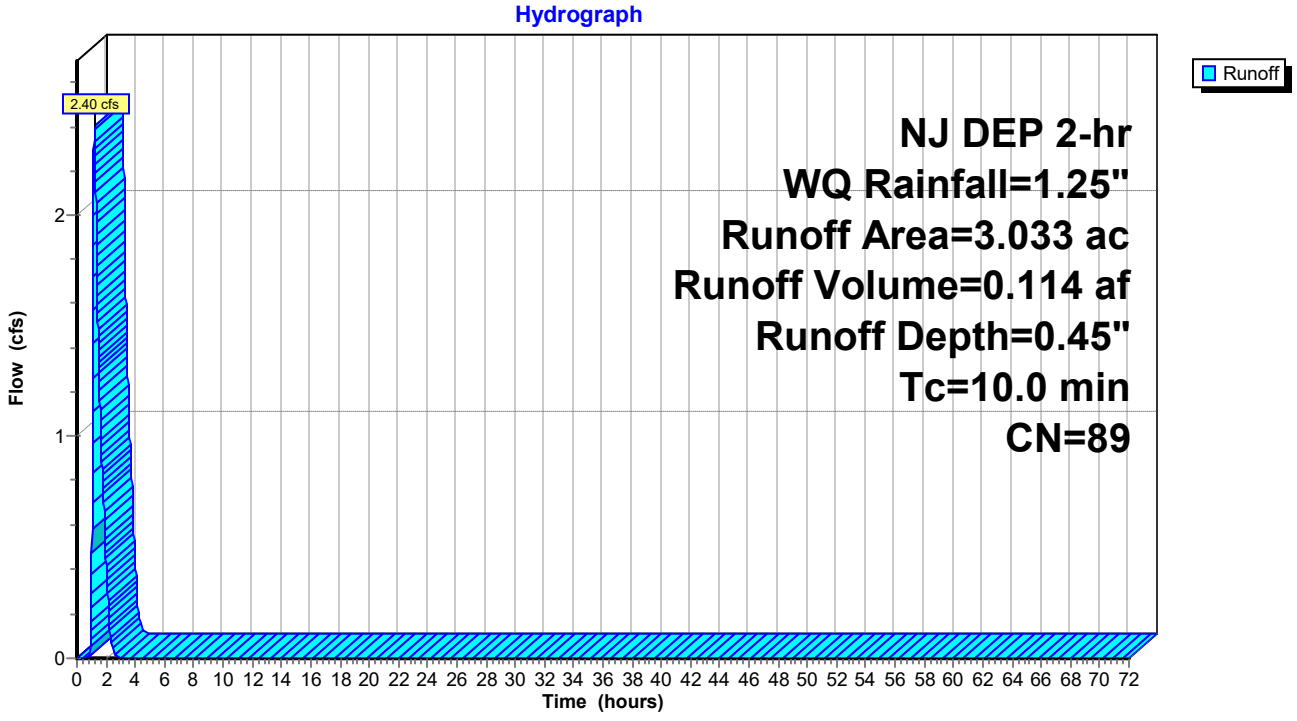
Runoff = 2.40 cfs @ 1.20 hrs, Volume= 0.114 af, Depth= 0.45"

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

Area (ac)	CN	Description
0.473	74	>75% Grass cover, Good, HSG C
0.886	80	>75% Grass cover, Good, HSG D
1.674	98	Paved parking, HSG D
3.033	89	Weighted Average
1.359		44.81% Pervious Area
1.674		55.19% Impervious Area

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

Subcatchment 11S: Basin Area



Hydrograph for Subcatchment 11S: Basin Area

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
1.00	0.63	0.09	**0.29**
2.00	**1.25**	**0.45**	**0.42**
3.00	1.25	0.45	0.00
4.00	1.25	0.45	0.00
5.00	1.25	0.45	0.00
6.00	1.25	0.45	0.00
7.00	1.25	0.45	0.00
8.00	1.25	0.45	0.00
9.00	1.25	0.45	0.00
10.00	1.25	0.45	0.00
11.00	1.25	0.45	0.00
12.00	1.25	0.45	0.00
13.00	1.25	0.45	0.00
14.00	1.25	0.45	0.00
15.00	1.25	0.45	0.00
16.00	1.25	0.45	0.00
17.00	1.25	0.45	0.00
18.00	1.25	0.45	0.00
19.00	1.25	0.45	0.00
20.00	1.25	0.45	0.00
21.00	1.25	0.45	0.00
22.00	1.25	0.45	0.00
23.00	1.25	0.45	0.00
24.00	1.25	0.45	0.00
25.00	1.25	0.45	0.00
26.00	1.25	0.45	0.00
27.00	1.25	0.45	0.00
28.00	1.25	0.45	0.00
29.00	1.25	0.45	0.00
30.00	1.25	0.45	0.00
31.00	1.25	0.45	0.00
32.00	1.25	0.45	0.00
33.00	1.25	0.45	0.00
34.00	1.25	0.45	0.00
35.00	1.25	0.45	0.00
36.00	1.25	0.45	0.00
37.00	1.25	0.45	0.00
38.00	1.25	0.45	0.00
39.00	1.25	0.45	0.00
40.00	1.25	0.45	0.00
41.00	1.25	0.45	0.00
42.00	1.25	0.45	0.00
43.00	1.25	0.45	0.00
44.00	1.25	0.45	0.00
45.00	1.25	0.45	0.00
46.00	1.25	0.45	0.00
47.00	1.25	0.45	0.00
48.00	1.25	0.45	0.00
49.00	1.25	0.45	0.00
50.00	1.25	0.45	0.00
51.00	1.25	0.45	0.00
52.00	1.25	0.45	0.00
53.00	1.25	0.45	0.00
54.00	1.25	0.45	0.00
55.00	1.25	0.45	0.00
56.00	1.25	0.45	0.00
57.00	1.25	0.45	0.00
58.00	1.25	0.45	0.00
59.00	1.25	0.45	0.00
60.00	1.25	0.45	0.00
61.00	1.25	0.45	0.00
62.00	1.25	0.45	0.00
63.00	1.25	0.45	0.00
64.00	1.25	0.45	0.00
65.00	1.25	0.45	0.00
66.00	1.25	0.45	0.00
67.00	1.25	0.45	0.00
68.00	1.25	0.45	0.00
69.00	1.25	0.45	0.00
70.00	1.25	0.45	0.00
71.00	1.25	0.45	0.00
72.00	1.25	0.45	0.00

Summary for Pond 6P: Basin

Inflow Area = 29.766 ac, 61.76% Impervious, Inflow Depth = 0.63" for WQ event
Inflow = 33.54 cfs @ 1.17 hrs, Volume= 1.565 af
Outflow = 0.35 cfs @ 2.46 hrs, Volume= 1.310 af, Atten= 99%, Lag= 77.0 min
Primary = 0.35 cfs @ 2.46 hrs, Volume= 1.310 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 92.00' Surf.Area= 48,084 sf Storage= 161,280 cf
Peak Elev= 93.32' @ 2.46 hrs Surf.Area= 53,786 sf Storage= 227,759 cf (66,479 cf above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 1,700.9 min (1,781.7 - 80.8)

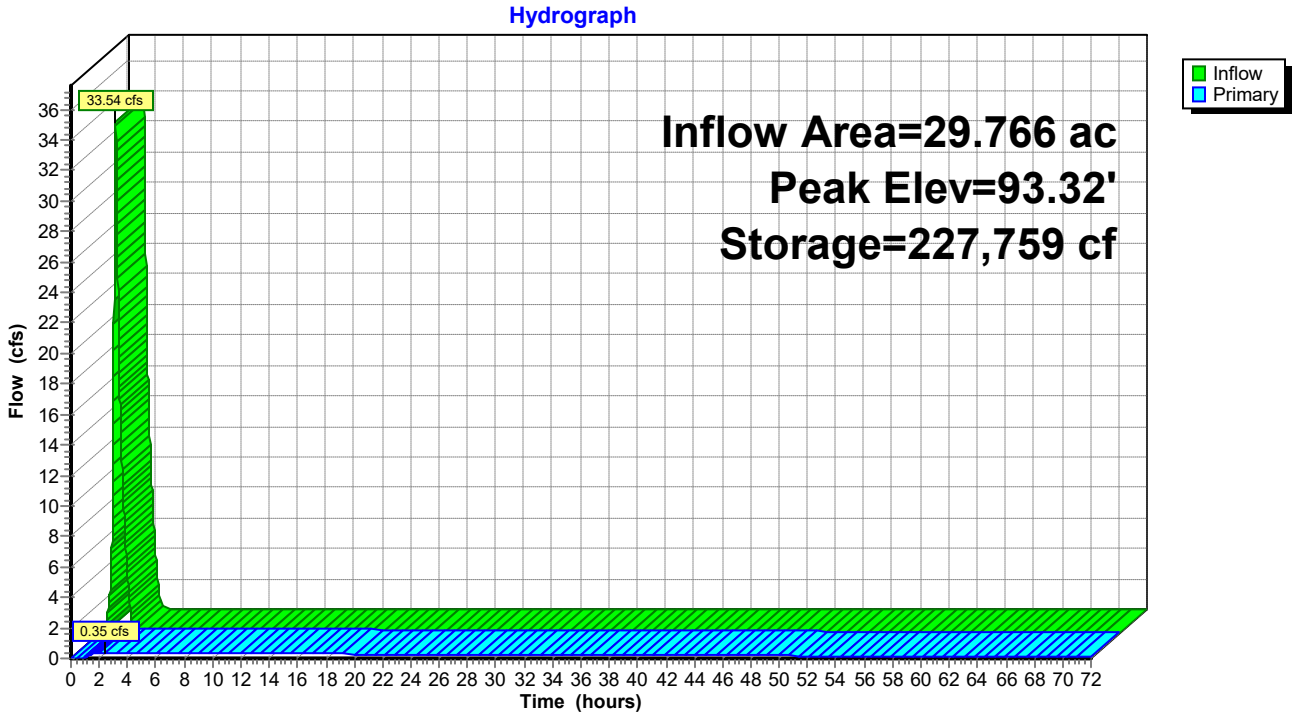
Volume	Invert	Avail.Storage	Storage Description
#1	88.00'	604,830 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.00	31,756	0	0
89.00	34,723	33,240	33,240
90.00	41,747	38,235	71,475
91.00	44,890	43,319	114,793
92.00	48,084	46,487	161,280
93.00	51,328	49,706	210,986
94.00	59,031	55,180	266,166
95.00	62,451	60,741	326,907
96.00	65,922	64,187	391,093
97.00	69,443	67,683	458,776
98.00	73,016	71,230	530,005
99.00	76,634	74,825	604,830

Device	Routing	Invert	Outlet Devices
#1	Primary	91.80'	**30.0" Round Culvert** L= 427.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 91.80' / 90.30' S= 0.0035 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Device 1	92.00'	**3.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	94.00'	**26.0" W x 14.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 1	96.15'	**24.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 1	98.05'	**16.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.35 cfs @ 2.46 hrs HW=93.32' (Free Discharge)
↑**1=Culvert** (Passes 0.35 cfs of 9.96 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 0.35 cfs @ 5.22 fps)
3=Orifice/Grate (Controls 0.00 cfs)
4=Orifice/Grate (Controls 0.00 cfs)
5=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 6P: Basin



Hydrograph for Pond 6P: Basin

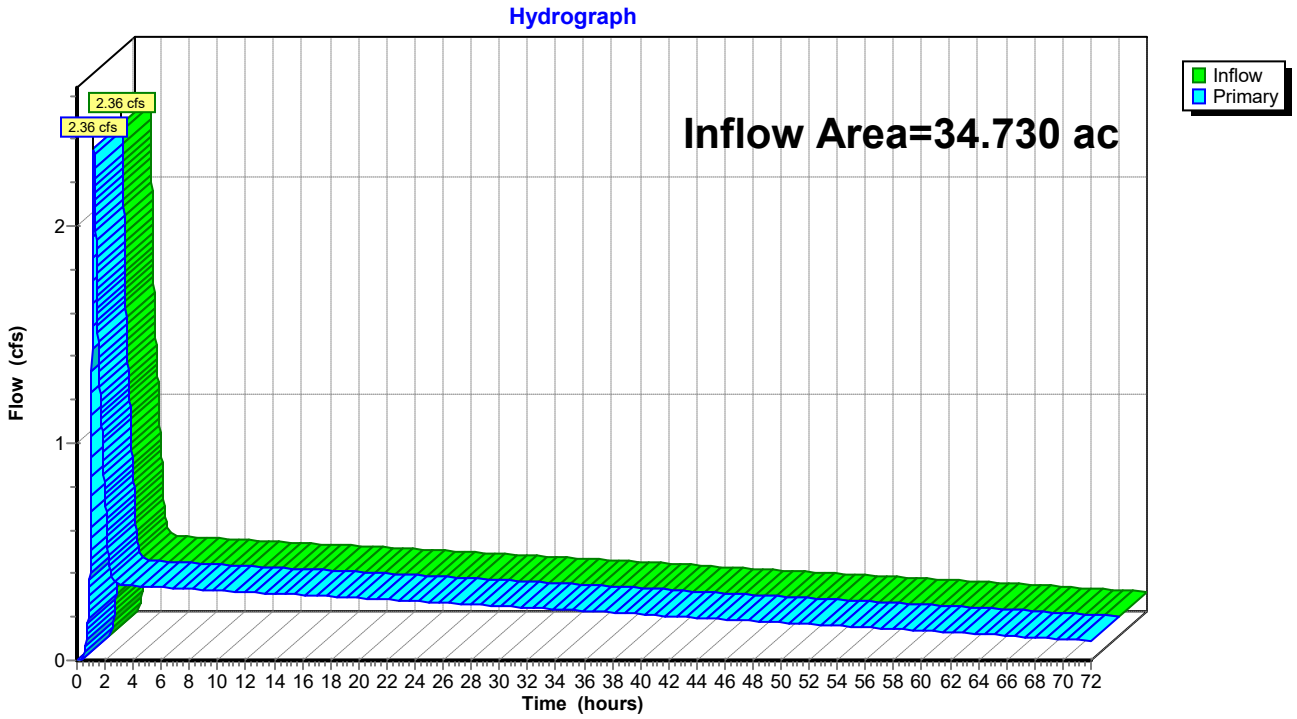
Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	**0.00**	161,280	92.00	0.00
2.00	**3.99**	**225,558**	**93.28**	**0.34**
4.00	0.00	**226,022**	**93.29**	**0.34**
6.00	0.00	223,574	93.24	0.34
8.00	0.00	221,176	93.20	0.33
10.00	0.00	218,829	93.15	0.32
12.00	0.00	216,533	93.11	0.32
14.00	0.00	214,288	93.06	0.31
16.00	0.00	212,095	93.02	0.30
18.00	0.00	209,954	92.98	0.29
20.00	0.00	207,865	92.94	0.29
22.00	0.00	205,829	92.90	0.28
24.00	0.00	203,846	92.86	0.27
26.00	0.00	201,915	92.82	0.26
28.00	0.00	200,038	92.79	0.26
30.00	0.00	198,214	92.75	0.25
32.00	0.00	196,442	92.71	0.24
34.00	0.00	194,725	92.68	0.23
36.00	0.00	193,061	92.65	0.23
38.00	0.00	191,449	92.61	0.22
40.00	0.00	189,892	92.58	0.21
42.00	0.00	188,389	92.55	0.20
44.00	0.00	186,940	92.52	0.20
46.00	0.00	185,543	92.50	0.19
48.00	0.00	184,202	92.47	0.18
50.00	0.00	182,917	92.44	0.17
52.00	0.00	181,685	92.42	0.17
54.00	0.00	180,504	92.39	0.16
56.00	0.00	179,381	92.37	0.15
58.00	0.00	178,315	92.35	0.14
60.00	0.00	177,304	92.33	0.14
62.00	0.00	176,346	92.31	0.13
64.00	0.00	175,437	92.29	0.12
66.00	0.00	174,584	92.27	0.11
68.00	0.00	173,797	92.26	0.10
70.00	0.00	173,071	92.24	0.10
72.00	0.00	172,400	92.23	0.09

Summary for Pond 7P: Total

Inflow Area = 34.730 ac, 55.81% Impervious, Inflow Depth > 0.49" for WQ event
Inflow = 2.36 cfs @ 1.20 hrs, Volume= 1.425 af
Primary = 2.36 cfs @ 1.20 hrs, Volume= 1.425 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Pond 7P: Total



Hydrograph for Pond 7P: Total

Time (hours)	Inflow (cfs)	Elevation (feet)	Primary (cfs)
0.00	0.00		0.00
1.00	**0.76**		**0.76**
2.00	**0.74**		**0.74**
3.00	0.35		0.35
4.00	0.34		0.34
5.00	0.34		0.34
6.00	0.34		0.34
7.00	0.33		0.33
8.00	0.33		0.33
9.00	0.33		0.33
10.00	0.32		0.32
11.00	0.32		0.32
12.00	0.32		0.32
13.00	0.31		0.31
14.00	0.31		0.31
15.00	0.30		0.30
16.00	0.30		0.30
17.00	0.30		0.30
18.00	0.29		0.29
19.00	0.29		0.29
20.00	0.29		0.29
21.00	0.28		0.28
22.00	0.28		0.28
23.00	0.28		0.28
24.00	0.27		0.27
25.00	0.27		0.27
26.00	0.26		0.26
27.00	0.26		0.26
28.00	0.26		0.26
29.00	0.25		0.25
30.00	0.25		0.25
31.00	0.25		0.25
32.00	0.24		0.24
33.00	0.24		0.24
34.00	0.23		0.23
35.00	0.23		0.23
36.00	0.23		0.23
37.00	0.22		0.22
38.00	0.22		0.22
39.00	0.22		0.22
40.00	0.21		0.21
41.00	0.21		0.21
42.00	0.20		0.20
43.00	0.20		0.20
44.00	0.20		0.20
45.00	0.19		0.19
46.00	0.19		0.19
47.00	0.19		0.19
48.00	0.18		0.18
49.00	0.18		0.18
50.00	0.17		0.17
51.00	0.17		0.17
52.00	0.17		0.17
53.00	0.16		0.16
54.00	0.16		0.16
55.00	0.16		0.16
56.00	0.15		0.15
57.00	0.15		0.15
58.00	0.14		0.14
59.00	0.14		0.14
60.00	0.14		0.14
61.00	0.13		0.13
62.00	0.13		0.13
63.00	0.13		0.13
64.00	0.12		0.12
65.00	0.12		0.12
66.00	0.11		0.11
67.00	0.11		0.11
68.00	0.10		0.10
69.00	0.10		0.10
70.00	0.10		0.10
71.00	0.09		0.09
72.00	0.09		0.09

APPENDIX C

POST-DEVELOPMENT DRAINAGE ANALYSIS
(EMERGENCY SPILLWAY)

Summary for Pond 6P: Basin

Inflow Area = 29.766 ac, 61.76% Impervious, Inflow Depth = 6.71" for 100-year event
Inflow = 139.97 cfs @ 12.16 hrs, Volume= 16.639 af
Outflow = 133.87 cfs @ 12.21 hrs, Volume= 16.454 af, Atten= 4%, Lag= 3.2 min
Secondary = 133.87 cfs @ 12.21 hrs, Volume= 16.454 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 98.09' Surf.Area= 73,342 sf Storage= 536,591 cf
Peak Elev= 98.65' @ 12.21 hrs Surf.Area= 75,367 sf Storage= 578,220 cf (41,629 cf above start)

Plug-Flow detention time= 495.2 min calculated for 4.135 af (25% of inflow)
Center-of-Mass det. time= 15.1 min (789.1 - 774.0)

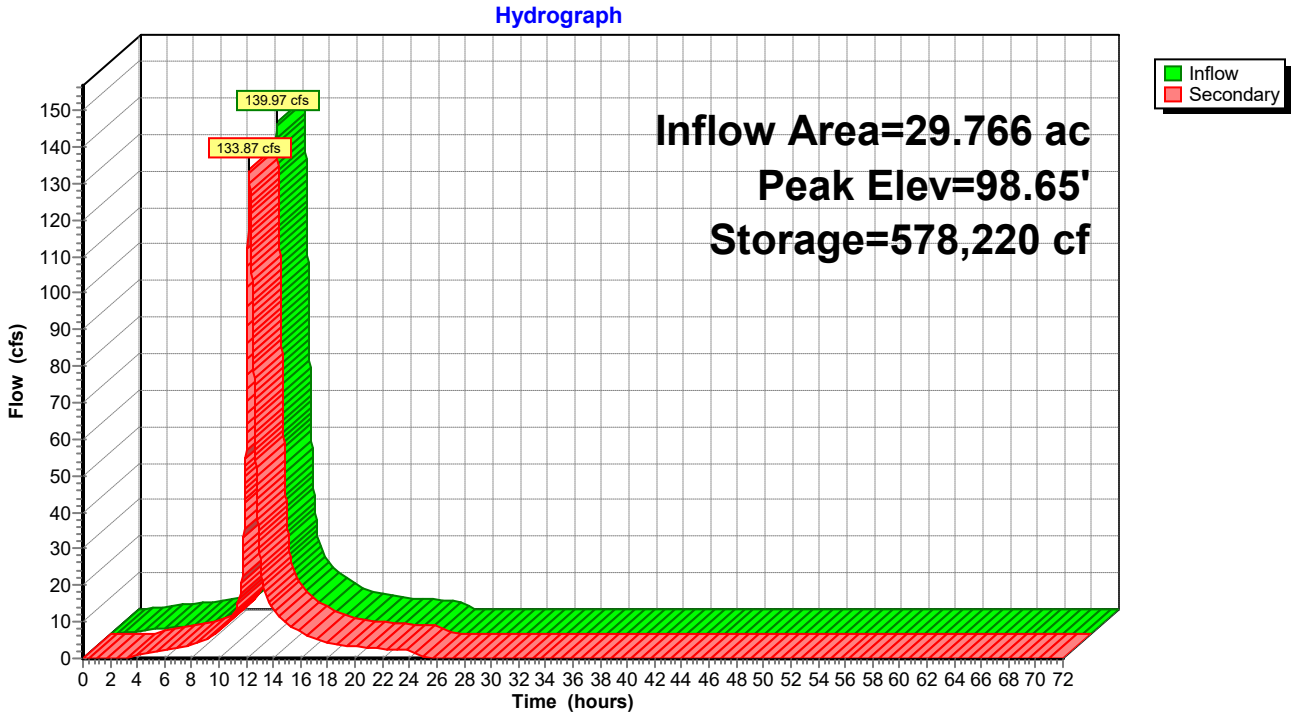
Volume	Invert	Avail.Storage	Storage Description
#1	88.00'	604,830 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
88.00	31,756	0	0
89.00	34,723	33,240	33,240
90.00	41,747	38,235	71,475
91.00	44,890	43,319	114,793
92.00	48,084	46,487	161,280
93.00	51,328	49,706	210,986
94.00	59,031	55,180	266,166
95.00	62,451	60,741	326,907
96.00	65,922	64,187	391,093
97.00	69,443	67,683	458,776
98.00	73,016	71,230	530,005
99.00	76,634	74,825	604,830

Device	Routing	Invert	Outlet Devices
#1	Secondary	98.20'	**170.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Secondary OutFlow Max=133.08 cfs @ 12.21 hrs HW=98.65' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 133.08 cfs @ 1.74 fps)

Pond 6P: Basin



Hydrograph for Pond 6P: Basin

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Secondary (cfs)
0.00	0.00	536,591	98.09	0.00
2.00	0.78	538,737	98.12	0.00
4.00	1.50	545,831	98.22	1.14
6.00	2.16	546,763	98.23	2.07
8.00	3.68	547,461	98.24	3.59
10.00	7.88	549,092	98.26	7.59
12.00	**75.90**	**564,935**	**98.47**	**61.62**
14.00	**12.69**	**551,430**	**98.29**	**13.32**
16.00	6.72	548,862	98.26	7.02
18.00	4.03	547,696	98.24	4.16
20.00	3.13	547,291	98.24	3.17
22.00	2.59	547,065	98.23	2.62
24.00	2.06	546,822	98.23	2.13
26.00	0.00	544,686	98.20	0.01
28.00	0.00	544,681	98.20	0.00
30.00	0.00	544,681	98.20	0.00
32.00	0.00	544,681	98.20	0.00
34.00	0.00	544,681	98.20	0.00
36.00	0.00	544,681	98.20	0.00
38.00	0.00	544,681	98.20	0.00
40.00	0.00	544,681	98.20	0.00
42.00	0.00	544,681	98.20	0.00
44.00	0.00	544,681	98.20	0.00
46.00	0.00	544,681	98.20	0.00
48.00	0.00	544,681	98.20	0.00
50.00	0.00	544,681	98.20	0.00
52.00	0.00	544,681	98.20	0.00
54.00	0.00	544,681	98.20	0.00
56.00	0.00	544,681	98.20	0.00
58.00	0.00	544,681	98.20	0.00
60.00	0.00	544,681	98.20	0.00
62.00	0.00	544,681	98.20	0.00
64.00	0.00	544,681	98.20	0.00
66.00	0.00	544,681	98.20	0.00
68.00	0.00	544,681	98.20	0.00
70.00	0.00	544,681	98.20	0.00
72.00	0.00	544,681	98.20	0.00

APPENDIX D

OUTLET PROTECTION

JOB NAME: West Windsor
JOB NUMBER: APR-184
CALCULATED: DJS
DATE: 03/05/20
OUTLET ID: FES-2C

Rip-Rap Design

Scour Hole

Q (cfs)	W (in)	H (in)	TW	W_o (ft)	H (ft)	D_o Multiplier	W (Total)	L	D_{50} (in)	
1.48	15	15	0.25	1.25	1.25	1	10.0	11.3	0.5	--------
1.48	15	15	0.25	1.25	1.25	0.5	6.25	7.5	0.8	THIS ONE

Rip Rap Apron

	Q (cfs)	W (in)	H (in)	TW	W_o (ft)	H (ft)	$3W_o$	W (Total)	L_a	D_{50} (in)	
TW < $0.5D_o$	1.48	15	15	0.25	1.25	1.25	3.8	14.4	10.7	1.0	THIS ONE
TW > $0.5D_o$	1.48	15	15	0.25	1.25	1.25	3.8	5.0	3.2	1.0	------

JOB NAME: West Windsor
JOB NUMBER: APR-184
CALCULATED: DJS
DATE: 03/05/20
OUTLET ID: FES-4C

Rip-Rap Design

Scour Hole

Q (cfs)	W (in)	H (in)	TW	W_o (ft)	H (ft)	D_o Multiplier	W (Total)	L	D_{50} (in)	
15.21	24	24	0.4	2	2	1	16.0	18.0	3.7	--------
15.21	24	24	0.4	2	2	0.5	10	12	5.6	THIS ONE

Rip Rap Apron

	Q (cfs)	W (in)	H (in)	TW	W_o (ft)	H (ft)	$3W_o$	W (Total)	L_a	D_{50} (in)	
TW < $0.5D_o$	15.21	24	24	0.4	2	2	6.0	29.7	23.7	7.1	THIS ONE
TW > $0.5D_o$	15.21	24	24	0.4	2	2	6.0	12.5	16.1	7.1	------

JOB NAME: West Windsor
JOB NUMBER: APR-184
CALCULATED: DJS
DATE: 03/05/20
OUTLET ID: FES-7C

Rip-Rap Design

Scour Hole

Q (cfs)	W (in)	H (in)	TW	W_o (ft)	H (ft)	D_o Multiplier	W (Total)	L	D_{50} (in)	
1.76	15	15	0.25	1.25	1.25	1	10.0	11.3	0.6	--------
1.76	15	15	0.25	1.25	1.25	0.5	6.25	7.5	0.9	THIS ONE

Rip Rap Apron

	Q (cfs)	W (in)	H (in)	TW	W_o (ft)	H (ft)	$3W_o$	W (Total)	L_a	D_{50} (in)	
TW < $0.5D_o$	1.76	15	15	0.25	1.25	1.25	3.8	14.8	11.0	1.2	THIS ONE
TW > $0.5D_o$	1.76	15	15	0.25	1.25	1.25	3.8	5.3	3.8	1.2	------

JOB NAME: West Windsor
JOB NUMBER: APR-184
CALCULATED: DJS
DATE: 03/05/20
OUTLET ID: FES-11C

Rip-Rap Design

Scour Hole

Q (cfs)	W (in)	H (in)	TW	W_o (ft)	H (ft)	D_o Multiplier	W (Total)	L	D_{50} (in)	
28.58	30	30	0.5	2.5	2.5	1	20.0	22.5	5.0	THIS ONE
28.58	30	30	0.5	2.5	2.5	0.5	12.5	15	7.7	--------

Rip Rap Apron

	Q (cfs)	W (in)	H (in)	TW	W_o (ft)	H (ft)	$3W_o$	W (Total)	L_a	D_{50} (in)	
TW < $0.5D_o$	28.58	30	30	0.5	2.5	2.5	7.5	38.0	30.5	9.8	THIS ONE
TW > $0.5D_o$	28.58	30	30	0.5	2.5	2.5	7.5	16.2	21.7	9.8	------

JOB NAME: West Windsor
JOB NUMBER: APR-184
CALCULATED: DJS
DATE: 03/05/20
OUTLET ID: FES-48A

Rip-Rap Design

Scour Hole

Q (cfs)	W (in)	H (in)	TW	W_o (ft)	H (ft)	D_o Multiplier	W (Total)	L	D_{50} (in)	
40.63	42	42	0.7	3.5	3.5	1	28.0	31.5	3.7	--------
40.63	42	42	0.7	3.5	3.5	0.5	17.5	21	5.6	THIS ONE

Rip Rap Apron

	Q (cfs)	W (in)	H (in)	TW	W_o (ft)	H (ft)	$3W_o$	W (Total)	L_a	D_{50} (in)	
TW < $0.5D_o$	40.63	42	42	0.7	3.5	3.5	10.5	46.2	35.7	7.2	THIS ONE
TW > $0.5D_o$	40.63	42	42	0.7	3.5	3.5	10.5	17.9	18.6	7.2	------

JOB NAME: West Windsor
JOB NUMBER: APR-184
CALCULATED: DJS
DATE: 03/05/20
OUTLET ID: FES-70B

Rip-Rap Design

Scour Hole

Q (cfs)	W (in)	H (in)	TW	W_o (ft)	H (ft)	D_o Multiplier	W (Total)	L	D_{50} (in)	
50.79	48	48	0.8	4	4	1	32.0	36.0	3.6	--------
50.79	48	48	0.8	4	4	0.5	20	24	5.5	THIS ONE

Rip Rap Apron

	Q (cfs)	W (in)	H (in)	TW	W_o (ft)	H (ft)	$3W_o$	W (Total)	L_a	D_{50} (in)	
TW < $0.5D_o$	50.79	48	48	0.8	4	4	12.0	51.4	39.4	7.0	THIS ONE
TW > $0.5D_o$	50.79	48	48	0.8	4	4	12.0	19.6	19.0	7.0	------

APPENDIX E

STORM SEWER CHARTS

MyReport

25-YEAR STORM

Line No.	Inlet ID	DnStm Ln No	Drng Area (ac)	Total Area (ac)	Runoff Coeff (C)	i Sys (in/hr)	Line Size (in)	Line Length (ft)	Invert Up (ft)	Invert Dn (ft)	Line Slope (%)	Flow Rate (cfs)	Capac Full (cfs)	Vel Ave (ft/s)	Vel Up (ft/s)	Vel Dn (ft/s)	Cover Up (ft)	Cover Dn (ft)	n-val Pipe	Tc (min)	
1	CB-47A 'E'	Outfall	0.21	10.58	0.76	4.57	42	59.256	92.22	92.00	0.37	36.71	66.41	5.41	6.98	3.85	3.88	1.67	0.012	21.1	
2	CB-46A 'B'	1	0.42	10.37	0.76	4.63	42	126.280	92.66	92.22	0.35	36.46	64.34	6.89	6.88	6.89	3.05	3.88	0.012	20.6	
3	MH-34A	2	0.00	7.95	0.00	4.68	42	92.000	92.98	92.66	0.35	28.30	64.78	4.73	6.39	3.06	2.52	3.06	0.012	20.1	
4	CB-32A 'E'	3	0.25	7.60	0.76	4.79	42	154.732	93.52	92.98	0.35	27.65	64.39	6.30	6.35	6.25	2.14	2.52	0.012	19.3	
5	CB-26A 'B'	4	0.24	5.63	0.76	4.97	42	199.306	94.22	93.52	0.35	21.28	64.59	5.37	5.85	4.88	1.76	2.14	0.012	17.8	
6	CB-23A 'B'	5	0.13	4.86	0.76	5.18	36	250.522	95.35	94.47	0.35	19.13	42.82	5.88	5.87	5.89	2.11	2.01	0.012	16.4	
7	CB-21A 'B'	6	0.11	4.40	0.76	5.25	30	106.268	95.96	95.59	0.35	17.56	26.22	4.55	4.86	4.23	2.45	2.37	0.012	15.9	
8	CB-13A 'B'	7	0.34	2.37	0.76	5.43	24	224.017	96.75	95.97	0.35	9.78	14.46	3.20	3.28	3.11	2.33	2.94	0.012	14.8	
9	CB-9A 'B'	8	0.07	1.50	0.76	5.59	24	125.864	97.19	96.75	0.35	6.38	14.49	2.15	2.26	2.03	3.79	2.33	0.012	13.9	
10	CB-7A 'B'	9	0.14	1.29	0.76	5.67	24	50.000	97.37	97.19	0.36	5.56	14.70	1.96	2.04	1.88	3.61	3.79	0.012	13.4	
11	CB-3A 'Y'	10	0.14	0.40	0.76	5.77	15	46.000	97.90	97.74	0.35	1.75	4.13	1.43	1.43	1.43	2.62	3.99	0.012	12.9	
12	MH-2A	11	0.00	0.26	0.00	6.04	15	82.000	98.19	97.90	0.35	1.19	4.16	1.05	1.13	0.97	7.20	2.62	0.012	11.6	
13	CB-1A 'Y'	12	0.26	0.26	0.76	6.39	15	97.000	98.53	98.19	0.35	1.26	4.14	1.46	1.75	1.18	2.03	7.20	0.012	10.0	
14	CB-6A 'B'	10	0.30	0.75	0.76	5.82	15	107.720	98.12	97.74	0.35	3.32	4.15	2.71	2.71	2.70	2.31	3.99	0.012	12.7	
15	CB-5A 'B'	14	0.25	0.45	0.76	5.87	15	30.000	98.25	98.14	0.37	2.01	4.24	1.64	1.64	1.64	2.18	2.29	0.012	12.4	
16	CB-20A 'A'	7	0.66	1.92	0.76	5.58	24	130.544	96.47	96.01	0.35	8.14	14.54	2.62	2.64	2.59	1.91	2.90	0.012	14.0	
17	CB-19A 'A'	16	0.35	1.26	0.76	5.70	24	71.712	96.72	96.47	0.35	5.46	14.47	1.81	1.87	1.74	1.82	1.91	0.012	13.3	
18	CB-18A 'B'	17	0.25	0.91	0.76	5.87	18	130.461	97.43	96.97	0.35	4.06	6.76	2.47	2.65	2.30	2.18	2.07	0.012	12.4	
19	CB-16A 'B'	18	0.18	0.66	0.76	5.93	18	31.063	97.54	97.43	0.35	2.97	6.77	1.80	1.85	1.75	2.72	2.18	0.012	12.1	
20	CB-15A 'B'	19	0.23	0.48	0.76	5.98	15	30.000	97.78	97.67	0.37	2.18	4.24	1.82	1.86	1.78	2.73	2.84	0.012	11.8	
21	CB-14A 'Y'	20	0.25	0.25	0.76	6.39	15	109.016	98.16	97.78	0.35	1.21	4.13	1.22	1.43	1.02	2.20	2.73	0.012	10.0	
22	CB-8A 'Y'	9	0.14	0.14	0.76	6.39	15	52.783	98.83	98.57	0.49	0.68	4.91	2.34	2.72	1.96	1.48	3.16	0.012	10.0	
23	CB-12A 'B'	8	0.36	0.53	0.76	5.81	15	30.000	97.15	97.00	0.50	2.34	4.95	1.91	1.91	1.91	2.68	2.83	0.012	12.7	

Project File: 2020-07-07 Storm A .stm | Number of lines: 45 | Date: 7/10/2020

NOTES: Intensity = 84.74 / (Inlet time + 12.30) ^ 0.83 -- Return period = 25 Yrs. ; ** Critical depth

MyReport

25-YEAR STORM

Line No.	Inlet ID	DnStm Ln No	Drng Area (ac)	Total Area (ac)	Runoff Coeff (C)	i Sys (in/hr)	Line Size (in)	Line Length (ft)	Invert Up (ft)	Invert Dn (ft)	Line Slope (%)	Flow Rate (cfs)	Capac Full (cfs)	Vel Ave (ft/s)	Vel Up (ft/s)	Vel Dn (ft/s)	Cover Up (ft)	Cover Dn (ft)	n-val Pipe	Tc (min)	
24	CB-11A 'Y'	23	0.17	0.17	0.76	6.39	15	109.648	97.53	97.15	0.35	0.83	4.12	0.67	0.67	0.67	3.04	2.68	0.012	10.0	
25	CB-22A 'B'	6	0.33	0.33	0.76	6.39	15	30.000	96.53	96.38	0.50	1.60	4.95	2.41	3.48	1.33	2.68	2.83	0.012	10.0	
26	CB-45A 'B'	2	0.25	0.49	0.76	5.61	15	278.892	96.02	94.63	0.50	2.09	4.94	2.74	3.78	1.70	3.23	3.33	0.012	13.8	
27	CB-44A 'B'	26	0.14	0.14	0.76	6.39	15	43.223	96.59	96.37	0.51	0.68	4.99	2.78	2.72	2.84	2.68	2.88	0.012	10.0	
28	CB-42A 'B'	2	0.41	1.51	0.76	5.27	18	30.000	93.67	93.57	0.33	6.05	6.57	3.42	3.42	3.43	4.04	4.14	0.012	15.8	
29	CB-41A 'E'	28	0.16	1.10	0.76	5.31	18	38.184	93.80	93.67	0.34	4.44	6.64	2.51	2.51	2.51	4.58	4.04	0.012	15.6	
30	CB-39A 'B'	29	0.17	0.87	0.76	5.42	15	129.585	94.56	93.93	0.49	3.58	4.88	2.92	2.92	2.92	4.05	4.70	0.012	14.9	
31	CB-37A 'B'	30	0.23	0.45	0.76	5.66	15	149.179	95.32	94.57	0.50	1.94	4.96	1.58	1.58	1.58	3.70	4.04	0.012	13.5	
32	CB-36A 'B'	31	0.09	0.09	0.76	6.39	15	31.668	96.52	96.36	0.51	0.44	4.97	1.52	2.41	0.63	2.69	2.66	0.012	10.0	
33	CB-31A 'B'	4	0.40	1.72	0.76	5.28	24	30.000	94.38	94.27	0.37	6.91	14.84	4.63	4.62	4.64	2.78	2.89	0.012	15.7	
34	CB-30A 'Y'	33	0.16	1.32	0.76	5.44	24	109.004	94.75	94.37	0.35	5.46	14.47	3.55	4.14	2.96	2.43	2.79	0.012	14.7	
35	CB-29A 'Y'	34	0.36	1.16	0.76	5.58	18	144.958	95.48	95.00	0.33	4.92	6.55	3.97	4.11	3.83	2.06	2.68	0.012	13.9	
36	CB-28A 'Y'	35	0.35	0.80	0.76	5.88	18	202.553	96.19	95.48	0.35	3.58	6.74	3.30	4.01	2.59	2.09	2.06	0.012	12.3	
37	CB-27A 'Y'	36	0.45	0.45	0.76	6.39	18	173.421	96.80	96.19	0.35	2.19	6.75	2.82	3.62	2.02	2.08	2.09	0.012	10.0	
38	CB-43A 'B'	26	0.10	0.10	0.76	6.39	15	90.176	96.47	96.02	0.50	0.49	4.94	1.68	2.48	0.88	2.69	3.23	0.012	10.0	
39	CB-40A 'B'	29	0.07	0.07	0.76	6.39	15	25.000	95.94	95.82	0.48	0.34	4.85	1.49	2.25	0.73	2.69	2.81	0.012	10.0	
40	CB-38A 'B'	30	0.25	0.25	0.76	6.39	15	24.852	95.93	95.81	0.48	1.21	4.86	2.15	3.21	1.10	2.67	2.80	0.012	10.0	
41	CB-24A 'Y'	5	0.19	0.19	0.76	6.39	15	49.806	95.91	95.66	0.50	0.92	4.96	3.02	2.96	3.09	2.19	2.57	0.012	10.0	
42	CB-25A 'B'	5	0.34	0.34	0.76	6.39	15	30.000	95.54	95.39	0.50	1.65	4.95	3.57	3.52	3.63	2.69	2.84	0.012	10.0	
43	CB-35A 'B'	31	0.13	0.13	0.76	6.39	15	107.210	95.86	95.32	0.50	0.63	4.96	0.52	0.52	0.51	2.69	3.70	0.012	10.0	
44	CB-33A 'Y'	3	0.35	0.35	0.76	6.39	15	87.624	94.42	94.11	0.35	1.70	4.16	3.21	3.21	3.22	4.13	3.64	0.012	10.0	
45	CB-4A 'Y'	15	0.20	0.20	0.76	6.39	15	112.881	98.64	98.24	0.35	0.97	4.16	0.88	0.98	0.79	-0.09	2.19	0.012	10.0	

Project File: 2020-07-07 Storm A .stm | Number of lines: 45 | Date: 7/10/2020

NOTES: Intensity = 84.74 / (Inlet time + 12.30) ^ 0.83 -- Return period = 25 Yrs. ; ** Critical depth

MyReport

100-YEAR STORM

Line No.	Inlet ID	DnStm Ln No	Drng Area (ac)	Total Area (ac)	Runoff Coeff (C)	i Sys (in/hr)	Line Size (in)	Line Length (ft)	Invert Up (ft)	Invert Dn (ft)	Line Slope (%)	Flow Rate (cfs)	Capac Full (cfs)	Vel Ave (ft/s)	Vel Up (ft/s)	Vel Dn (ft/s)	Cover Up (ft)	Cover Dn (ft)	n-val Pipe	Tc (min)	HGL Dn (ft)	
1	CB-47A 'E'	Outfall	0.21	10.58	0.76	6.74	42	59.256	92.22	92.00	0.37	54.21	66.41	5.73	5.78	5.68	3.88	1.67	0.012	18.3	95.40	
2	CB-46A 'B'	1	0.42	10.37	0.76	6.80	42	126.280	92.66	92.22	0.35	53.60	64.34	5.57	5.57	5.57	3.05	3.88	0.012	17.9	96.09	
3	MH-34A	2	0.00	7.95	0.00	6.86	42	92.000	92.98	92.66	0.35	41.43	64.78	4.31	4.31	4.31	2.52	3.06	0.012	17.6	97.26	
4	CB-32A 'E'	3	0.25	7.60	0.76	6.96	42	154.732	93.52	92.98	0.35	40.18	64.39	4.18	4.18	4.18	2.14	2.52	0.012	17.0	97.68	
5	CB-26A 'B'	4	0.24	5.63	0.76	7.13	42	199.306	94.22	93.52	0.35	30.51	64.59	3.17	3.17	3.17	1.76	2.14	0.012	15.9	98.29	
6	CB-23A 'B'	5	0.13	4.86	0.76	7.32	36	250.522	95.35	94.47	0.35	27.05	42.82	3.83	3.83	3.83	2.11	2.01	0.012	14.9	98.68	
7	CB-21A 'B'	6	0.11	4.40	0.76	7.39	30	106.268	95.96	95.59	0.35	24.70	26.22	5.03	5.03	5.03	2.45	2.37	0.012	14.5	99.38	
8	CB-13A 'B'	7	0.34	2.37	0.76	7.55	24	224.017	96.75	95.97	0.35	13.59	14.46	4.33	4.33	4.33	2.33	2.94	0.012	13.7	100.30	
9	CB-9A 'B'	8	0.07	1.50	0.76	7.69	24	125.864	97.19	96.75	0.35	8.77	14.49	2.79	2.79	2.79	3.79	2.33	0.012	12.9	101.42	
10	CB-7A 'B'	9	0.14	1.29	0.76	7.76	24	50.000	97.37	97.19	0.36	7.61	14.70	2.42	2.42	2.42	3.61	3.79	0.012	12.6	101.75	
11	CB-3A 'Y'	10	0.14	0.40	0.76	7.84	15	46.000	97.90	97.74	0.35	2.38	4.13	1.94	1.94	1.94	2.62	3.99	0.012	12.2	101.97	
12	MH-2A	11	0.00	0.26	0.00	8.07	15	82.000	98.19	97.90	0.35	1.59	4.16	1.30	1.30	1.30	7.20	2.62	0.012	11.2	102.08	
13	CB-1A 'Y'	12	0.26	0.26	0.76	8.35	15	97.000	98.53	98.19	0.35	1.65	4.14	1.35	1.35	1.35	2.03	7.20	0.012	10.0	102.15	
14	CB-6A 'B'	10	0.30	0.75	0.76	7.88	15	107.720	98.12	97.74	0.35	4.49	4.15	3.66	3.66	3.66	2.31	3.99	0.012	12.0	101.97	
15	CB-5A 'B'	14	0.25	0.45	0.76	7.93	15	30.000	98.25	98.14	0.37	2.71	4.24	2.21	2.21	2.21	2.18	2.29	0.012	11.8	102.73	
16	CB-20A 'A'	7	0.66	1.92	0.76	7.68	24	130.544	96.47	96.01	0.35	11.21	14.54	3.57	3.57	3.57	1.91	2.90	0.012	13.0	100.30	
17	CB-19A 'A'	16	0.35	1.26	0.76	7.78	24	71.712	96.72	96.47	0.35	7.45	14.47	2.37	2.37	2.37	1.82	1.91	0.012	12.5	100.71	
18	CB-18A 'B'	17	0.25	0.91	0.76	7.93	18	130.461	97.43	96.97	0.35	5.48	6.76	3.10	3.10	3.10	2.18	2.07	0.012	11.8	100.84	
19	CB-16A 'B'	18	0.18	0.66	0.76	7.98	18	31.063	97.54	97.43	0.35	4.00	6.77	2.26	2.26	2.26	2.72	2.18	0.012	11.6	101.36	
20	CB-15A 'B'	19	0.23	0.48	0.76	8.02	15	30.000	97.78	97.67	0.37	2.93	4.24	2.39	2.39	2.39	2.73	2.84	0.012	11.4	101.52	
21	CB-14A 'Y'	20	0.25	0.25	0.76	8.35	15	109.016	98.16	97.78	0.35	1.59	4.13	1.29	1.29	1.29	2.20	2.73	0.012	10.0	101.62	
22	CB-8A 'Y'	9	0.14	0.14	0.76	8.35	15	52.783	98.83	98.57	0.49	0.89	4.91	0.72	0.72	0.72	1.48	3.16	0.012	10.0	101.75	
23	CB-12A 'B'	8	0.36	0.53	0.76	7.88	15	30.000	97.15	97.00	0.50	3.17	4.95	2.59	2.58	2.59	2.68	2.83	0.012	12.1	101.42	

Project File: 2020-07-07 Storm A .stm | Number of lines: 45 | Date: 7/10/2020

NOTES: Intensity = 124.57 / (Inlet time + 17.60) ^ 0.81 -- Return period = 100 Yrs. ; ** Critical depth

MyReport

Line No.	Inlet ID	DnStm Ln No	Drng Area (ac)	Total Area (ac)	Runoff Coeff (C)	i Sys (in/hr)	Line Size (in)	Line Length (ft)	Invert Up (ft)	Invert Dn (ft)	Line Slope (%)	Flow Rate (cfs)	Capac Full (cfs)	Vel Ave (ft/s)	Vel Up (ft/s)	Vel Dn (ft/s)	Cover Up (ft)	Cover Dn (ft)	n-val Pipe	Tc (min)	HGL Dn (ft)	
24	CB-11A 'Y'	23	0.17	0.17	0.76	8.35	15	109.648	97.53	97.15	0.35	1.08	4.12	0.88	0.88	0.88	3.04	2.68	0.012	10.0	101.54	
25	CB-22A 'B'	6	0.33	0.33	0.76	8.35	15	30.000	96.53	96.38	0.50	2.10	4.95	1.71	1.71	1.71	2.68	2.83	0.012	10.0	99.38	
26	CB-45A 'B'	2	0.25	0.49	0.76	7.70	15	278.892	96.02	94.63	0.50	2.87	4.94	2.34	2.34	2.34	3.23	3.33	0.012	12.9	97.26	
27	CB-44A 'B'	26	0.14	0.14	0.76	8.35	15	43.223	96.59	96.37	0.51	0.89	4.99	0.72	0.72	0.72	2.68	2.88	0.012	10.0	97.87	
28	CB-42A 'B'	2	0.41	1.51	0.76	7.40	18	30.000	93.67	93.57	0.33	8.50	6.57	4.81	4.81	4.81	4.04	4.14	0.012	14.4	97.26	
29	CB-41A 'E'	28	0.16	1.10	0.76	7.44	18	38.184	93.80	93.67	0.34	6.22	6.64	3.52	3.52	3.52	4.58	4.04	0.012	14.2	97.83	
30	CB-39A 'B'	29	0.17	0.87	0.76	7.53	15	129.585	94.56	93.93	0.49	4.98	4.88	4.06	4.06	4.06	4.05	4.70	0.012	13.7	98.16	
31	CB-37A 'B'	30	0.23	0.45	0.76	7.75	15	149.179	95.32	94.57	0.50	2.65	4.96	2.16	2.16	2.16	3.70	4.04	0.012	12.7	99.20	
32	CB-36A 'B'	31	0.09	0.09	0.76	8.35	15	31.668	96.52	96.36	0.51	0.57	4.97	0.47	0.47	0.47	2.69	2.66	0.012	10.0	99.54	
33	CB-31A 'B'	4	0.40	1.72	0.76	7.42	24	30.000	94.38	94.27	0.37	9.69	14.84	3.09	3.09	3.09	2.78	2.89	0.012	14.3	98.29	
34	CB-30A 'Y'	33	0.16	1.32	0.76	7.56	24	109.004	94.75	94.37	0.35	7.58	14.47	2.41	2.41	2.41	2.43	2.79	0.012	13.6	98.41	
35	CB-29A 'Y'	34	0.36	1.16	0.76	7.68	18	144.958	95.48	95.00	0.33	6.77	6.55	3.83	3.83	3.83	2.06	2.68	0.012	13.0	98.66	
36	CB-28A 'Y'	35	0.35	0.80	0.76	7.94	18	202.553	96.19	95.48	0.35	4.83	6.74	2.73	2.73	2.73	2.09	2.06	0.012	11.8	99.28	
37	CB-27A 'Y'	36	0.45	0.45	0.76	8.35	18	173.421	96.80	96.19	0.35	2.86	6.75	1.62	1.62	1.62	2.08	2.09	0.012	10.0	99.71	
38	CB-43A 'B'	26	0.10	0.10	0.76	8.35	15	90.176	96.47	96.02	0.50	0.63	4.94	0.52	0.52	0.52	2.69	3.23	0.012	10.0	97.87	
39	CB-40A 'B'	29	0.07	0.07	0.76	8.35	15	25.000	95.94	95.82	0.48	0.44	4.85	0.36	0.36	0.36	2.69	2.81	0.012	10.0	98.16	
40	CB-38A 'B'	30	0.25	0.25	0.76	8.35	15	24.852	95.93	95.81	0.48	1.59	4.86	1.29	1.29	1.29	2.67	2.80	0.012	10.0	99.20	
41	CB-24A 'Y'	5	0.19	0.19	0.76	8.35	15	49.806	95.91	95.66	0.50	1.21	4.96	0.98	0.98	0.98	2.19	2.57	0.012	10.0	98.68	
42	CB-25A 'B'	5	0.34	0.34	0.76	8.35	15	30.000	95.54	95.39	0.50	2.16	4.95	1.76	1.76	1.76	2.69	2.84	0.012	10.0	98.68	
43	CB-35A 'B'	31	0.13	0.13	0.76	8.35	15	107.210	95.86	95.32	0.50	0.83	4.96	0.67	0.67	0.67	2.69	3.70	0.012	10.0	99.54	
44	CB-33A 'Y'	3	0.35	0.35	0.76	8.35	15	87.624	94.42	94.11	0.35	2.22	4.16	1.81	1.81	1.81	4.13	3.64	0.012	10.0	97.68	
45	CB-4A 'Y'	15	0.20	0.20	0.76	8.35	15	112.881	98.64	98.24	0.35	1.27	4.16	1.03	1.03	1.04	-0.09	2.19	0.012	10.0	102.82	

Project File: 2020-07-07 Storm A .stm | Number of lines: 45 | Date: 7/10/2020

NOTES: Intensity = 124.57 / (Inlet time + 17.60) ^ 0.81 -- Return period = 100 Yrs. ; ** Critical depth

HGL Up (ft)	Gnd/Rim El Dn (ft)	
95.51	97.17	
96.39	99.60	
97.39	99.21	
97.89	99.00	
98.45	99.16	
99.04	99.48	
99.71	100.46	
100.99	100.91	
101.58	101.08	
101.80	102.98	
102.03	102.98	
102.12	101.77	
102.20	106.64	
102.42	102.98	
102.78	101.68	
100.57	100.91	
100.77	100.38	
101.14	100.54	
101.40	101.11	
101.57	101.76	
101.67	101.76	
101.76	102.98	
101.48	101.08	

Project File: 2020-07-07 Storm A .stm	Number of lines: 45	Date: 7/10/2020

NOTES: ** Critical depth

HGL Up (ft)	Gnd/Rim El Dn (ft)	
101.56	101.08	
99.40	100.46	
97.72	99.21	
97.88	100.50	
97.42	99.21	
97.94	99.21	
98.82	99.88	
99.42	99.86	
99.55	100.27	
98.34	99.16	
98.52	99.16	
99.17	99.18	
99.65	99.04	
99.82	99.78	
97.88	100.50	
98.16	99.88	
99.21	99.86	
98.70	99.48	
98.71	99.48	
99.56	100.27	
97.77	99.00	
102.85	101.68	

Project File: 2020-07-07 Storm A .stm	Number of lines: 45	Date: 7/10/2020

NOTES: ** Critical depth

MyReport

25-YEAR STORM

Line No.	Inlet ID	DnStm Ln No	Drng Area (ac)	Total Area (ac)	Runoff Coeff (C)	i Sys (in/hr)	Line Size (in)	Line Length (ft)	Invert Up (ft)	Invert Dn (ft)	Line Slope (%)	Flow Rate (cfs)	Capac Full (cfs)	Vel Ave (ft/s)	Vel Up (ft/s)	Vel Dn (ft/s)	Cover Up (ft)	Cover Dn (ft)	n-val Pipe	Tc (min)	
1	MH-69B	Outfall	0.00	15.61	0.00	4.11	48	26.669	92.09	92.00	0.34	48.71	90.40	5.40	5.49	5.31	3.35	1.17	0.012	25.6	
2	CB-68B 'E'	1	0.36	3.22	0.76	4.75	30	223.322	92.88	92.10	0.35	11.62	26.26	2.37	2.37	2.37	1.84	4.84	0.012	19.6	
3	CB-67B 'E'	2	0.15	2.86	0.76	4.77	24	39.779	93.02	92.88	0.35	10.37	14.54	3.30	3.30	3.30	1.88	2.34	0.012	19.4	
4	CB-66B 'B'	3	0.17	2.71	0.76	4.83	24	97.982	94.15	93.80	0.35	9.94	14.58	3.31	3.44	3.18	3.80	1.10	0.012	18.9	
5	CB-61B 'B'	4	0.06	1.58	0.76	4.99	24	150.979	94.68	94.15	0.35	5.99	14.52	2.10	2.30	1.91	3.55	3.80	0.012	17.7	
6	CB-60B 'B'	5	0.06	1.52	0.76	5.01	24	25.000	94.77	94.68	0.36	5.79	14.70	2.12	2.16	2.07	3.46	3.55	0.012	17.5	
7	CB-59B 'B'	6	0.13	1.46	0.76	5.29	24	226.103	95.56	94.77	0.35	5.87	14.48	2.92	3.69	2.15	1.98	3.46	0.012	15.7	
8	CB-57B 'B'	7	0.07	1.08	0.76	5.41	18	126.089	96.25	95.81	0.35	4.44	6.72	3.36	3.77	2.95	1.99	2.23	0.012	14.9	
9	CB-52B 'B'	8	0.04	0.80	0.76	5.65	18	175.379	96.86	96.25	0.35	3.43	6.70	2.72	3.30	2.14	2.53	1.99	0.012	13.6	
10	CB-50B 'E'	9	0.25	0.45	0.76	5.93	18	107.524	97.25	96.87	0.35	2.03	6.76	1.86	2.26	1.46	2.89	2.52	0.012	12.1	
11	CB-49B 'B'	10	0.07	0.20	0.76	6.17	15	52.406	97.94	97.76	0.34	0.94	4.08	2.69	2.69	2.70	1.97	2.63	0.012	11.0	
12	CB-48B 'B'	11	0.13	0.13	0.76	6.39	15	30.000	98.04	97.94	0.35	0.63	4.14	1.30	1.47	1.14	1.86	1.97	0.012	10.0	
13	CB-51B 'B'	9	0.31	0.31	0.76	6.39	15	30.025	96.98	96.83	0.50	1.51	4.94	2.35	3.42	1.28	2.68	2.81	0.012	10.0	
14	CB-47B 'B'	1	0.44	12.39	0.76	4.15	48	124.734	92.54	92.10	0.35	39.11	92.43	5.27	6.81	3.72	3.10	3.34	0.012	25.1	
15	CB-43 'B'	14	0.00	11.01	0.00	4.18	48	61.475	92.76	92.54	0.36	34.98	93.09	6.34	6.58	6.09	3.73	3.10	0.012	24.8	
16	CB-28B 'E'	15	0.50	8.36	0.76	5.00	48	134.000	93.23	92.76	0.35	31.80	92.16	6.18	6.38	5.98	1.07	3.73	0.012	17.6	
17	CB-19B 'B'	16	0.11	5.32	0.76	5.12	42	115.437	93.63	93.23	0.35	20.71	64.16	5.18	5.80	4.56	1.94	1.57	0.012	16.8	
18	CB-13B 'B'	17	0.44	3.70	0.76	5.26	36	123.148	94.31	93.88	0.35	14.78	42.69	5.47	5.45	5.49	1.40	2.19	0.012	15.9	
19	CB-12B 'E'	18	0.33	3.26	0.76	5.29	36	25.000	94.40	94.31	0.36	13.10	43.35	5.04	5.25	4.83	1.31	1.40	0.012	15.7	
20	CB-11B 'Y'	19	0.58	2.93	0.76	5.45	36	110.657	94.79	94.40	0.35	12.14	42.89	5.00	5.13	4.87	0.11	1.31	0.012	14.7	
21	CB-10B	20	0.10	1.33	0.76	5.83	30	99.087	95.14	94.79	0.35	5.90	26.41	3.51	4.21	2.82	2.91	0.61	0.012	12.6	
22	CB-7B 'B'	21	0.27	0.56	0.76	6.27	18	188.374	96.30	95.64	0.35	2.67	6.75	3.48	3.85	3.12	2.01	3.41	0.012	10.5	
23	CB-6B 'B'	22	0.29	0.29	0.76	6.39	18	24.994	96.39	96.30	0.38	1.41	6.98	1.23	1.31	1.16	1.92	2.01	0.012	10.0	

Project File: 2020-07-07 Storm B.stm | Number of lines: 65 | Date: 7/9/2020

NOTES: Intensity = 84.74 / (Inlet time + 12.30) ^ 0.83 -- Return period = 25 Yrs. ; ** Critical depth

MyReport

25-YEAR STORM

Line No.	Inlet ID	DnStm Ln No	Drng Area (ac)	Total Area (ac)	Runoff Coeff (C)	i Sys (in/hr)	Line Size (in)	Line Length (ft)	Invert Up (ft)	Invert Dn (ft)	Line Slope (%)	Flow Rate (cfs)	Capac Full (cfs)	Vel Ave (ft/s)	Vel Up (ft/s)	Vel Dn (ft/s)	Cover Up (ft)	Cover Dn (ft)	n-val Pipe	Tc (min)	
24	CB-42B 'B'	15	0.15	2.65	0.76	4.22	24	84.562	93.55	93.26	0.34	8.50	14.35	4.38	4.68	4.08	4.41	5.23	0.012	24.4	
25	MH-40B	24	0.00	2.24	0.00	4.30	24	157.886	94.10	93.55	0.35	7.33	14.50	3.20	3.72	2.67	4.53	4.41	0.012	23.6	
26	CB-39B 'B'	25	0.10	0.13	0.76	5.39	18	26.399	96.62	96.49	0.49	0.53	7.98	2.51	2.46	2.56	2.57	2.65	0.012	15.1	
27	CB-38B 'B'	26	0.03	0.03	0.76	6.39	18	25.000	96.75	96.63	0.50	0.15	8.04	1.10	1.50	0.69	2.43	2.57	0.012	10.0	
28	CB-56B 'B'	8	0.21	0.21	0.76	6.39	15	30.000	96.71	96.56	0.50	1.02	4.95	2.02	3.05	1.00	1.78	1.93	0.012	10.0	
29	CB-5B 'Y'	20	0.20	1.02	0.76	5.81	24	179.598	95.67	95.04	0.35	4.50	14.51	3.87	4.22	3.51	0.83	0.86	0.012	12.7	
30	CB-4B 'B'	29	0.15	0.82	0.76	6.06	24	90.446	95.99	95.67	0.35	3.77	14.57	3.75	3.97	3.54	1.51	0.83	0.012	11.5	
31	CB-37B 'B'	25	0.35	2.11	0.76	4.37	24	123.139	94.53	94.10	0.35	7.02	14.48	3.47	3.99	2.94	2.60	4.54	0.012	22.9	
32	MH-35B	31	0.00	1.42	0.00	4.47	24	108.000	94.91	94.53	0.35	4.82	14.53	2.31	2.66	1.96	2.11	2.60	0.012	22.0	
33	CB-32B 'Y'	32	0.17	0.71	0.76	4.76	24	153.124	95.45	94.91	0.35	2.57	14.50	1.85	2.43	1.27	0.78	2.11	0.012	19.5	
34	CB-31B 'Y'	33	0.20	0.54	0.76	5.00	24	87.895	95.76	95.45	0.35	2.05	14.55	2.10	2.62	1.57	0.90	0.78	0.012	17.6	
35	CB-30B 'Y'	34	0.17	0.34	0.76	5.61	24	119.484	96.18	95.76	0.35	1.45	14.56	2.33	3.02	1.64	0.83	0.90	0.012	13.8	
36	CB-29B 'Y'	35	0.17	0.17	0.76	6.39	18	105.650	96.80	96.43	0.35	0.83	6.75	2.59	2.60	2.59	1.02	1.08	0.012	10.0	
37	CB-2B 'B'	30	0.20	0.67	0.76	6.12	18	30.000	96.35	96.24	0.37	3.11	6.89	3.50	3.67	3.33	1.65	1.76	0.012	11.2	
38	CB-1B 'Y'	37	0.47	0.47	0.76	6.39	18	111.817	96.73	96.34	0.35	2.28	6.72	2.83	3.43	2.24	0.98	1.66	0.012	10.0	
39	CB-41B 'B'	24	0.26	0.26	0.76	6.39	15	24.998	96.52	96.40	0.48	1.26	4.85	3.28	3.24	3.32	2.19	2.31	0.012	10.0	
40	CB-9B 'B'	21	0.35	0.67	0.76	6.31	18	67.579	95.89	95.65	0.36	3.21	6.85	3.81	3.81	3.81	1.94	3.41	0.012	10.3	
41	CB-8B 'B'	40	0.32	0.32	0.76	6.39	15	24.997	96.40	96.31	0.36	1.55	4.20	2.65	2.83	2.48	1.68	1.77	0.012	10.0	
42	CB-58B 'B'	7	0.25	0.25	0.76	6.39	15	30.000	96.35	96.20	0.50	1.21	4.95	2.33	3.21	1.46	1.94	2.09	0.012	10.0	
43	CB-25B 'A'	16	0.54	1.76	0.76	5.65	30	192.626	94.40	93.73	0.35	7.56	26.20	4.00	4.66	3.34	1.36	2.07	0.012	13.5	
44	CB-24B 'A'	43	0.25	1.22	0.76	5.93	24	156.921	95.20	94.65	0.35	5.50	14.52	4.31	4.31	4.30	1.43	1.61	0.012	12.1	
45	CB-23B 'B'	44	0.14	0.97	0.76	6.01	18	56.620	95.65	95.45	0.36	4.43	6.80	4.10	4.11	4.10	1.64	1.68	0.012	11.7	
46	CB-21B 'B'	45	0.26	0.58	0.76	6.30	15	179.363	96.27	95.65	0.35	2.78	4.13	2.50	2.74	2.26	1.30	1.89	0.012	10.4	

Project File: 2020-07-07 Storm B.stm | Number of lines: 65 | Date: 7/9/2020

NOTES: Intensity = 84.74 / (Inlet time + 12.30) ^ 0.83 -- Return period = 25 Yrs. ; ** Critical depth

MyReport

25-YEAR STORM

Line No.	Inlet ID	DnStm Ln No	Drng Area (ac)	Total Area (ac)	Runoff Coeff (C)	i Sys (in/hr)	Line Size (in)	Line Length (ft)	Invert Up (ft)	Invert Dn (ft)	Line Slope (%)	Flow Rate (cfs)	Capac Full (cfs)	Vel Ave (ft/s)	Vel Up (ft/s)	Vel Dn (ft/s)	Cover Up (ft)	Cover Dn (ft)	n-val Pipe	Tc (min)	
47	CB-20B 'B'	46	0.32	0.32	0.76	6.39	15	30.000	96.38	96.27	0.35	1.55	4.16	1.38	1.43	1.33	1.19	1.30	0.012	10.0	
48	CB-46B 'B'	14	0.31	0.31	0.76	6.39	15	25.000	96.21	96.09	0.48	1.51	4.85	3.45	3.42	3.48	2.18	2.30	0.012	10.0	
49	CB-34B 'B'	32	0.35	0.71	0.76	6.27	18	29.247	95.26	95.16	0.33	3.38	6.52	2.90	3.02	2.78	1.90	2.36	0.012	10.5	
50	CB-33B 'B'	49	0.36	0.36	0.76	6.39	18	30.005	95.74	95.62	0.40	1.75	7.19	2.16	2.38	1.94	1.41	1.54	0.012	10.0	
51	CB-22B 'B'	45	0.25	0.25	0.76	6.39	15	30.000	95.88	95.77	0.36	1.21	4.22	1.04	1.07	1.00	1.66	1.77	0.012	10.0	
52	CB-36B 'B'	31	0.34	0.34	0.76	6.39	15	24.998	95.69	95.57	0.48	1.65	4.85	3.54	3.52	3.57	2.19	2.31	0.012	10.0	
53	CB-18B 'B'	17	0.21	0.21	0.76	6.39	15	25.000	95.64	95.52	0.48	1.02	4.85	3.09	3.05	3.12	2.18	2.30	0.012	10.0	
54	CB-17B 'B'	17	0.00	1.30	0.00	6.13	18	81.700	94.67	94.38	0.35	6.06	6.78	4.34	4.34	4.34	3.81	3.19	0.012	11.1	
55	CB-16B 'B'	54	0.43	0.75	0.76	6.31	15	87.670	95.27	94.83	0.50	3.60	4.96	3.00	3.08	2.93	2.32	3.90	0.012	10.3	
56	CB-15B 'E'	55	0.32	0.32	0.76	6.39	15	25.000	95.40	95.28	0.48	1.55	4.85	1.27	1.27	1.27	2.19	2.31	0.012	10.0	
57	CB-65B 'B'	4	0.25	0.96	0.76	5.97	15	25.000	94.62	94.53	0.36	4.35	4.20	3.55	3.55	3.55	4.08	4.17	0.012	11.9	
58	MH-64B	57	0.00	0.71	0.00	6.03	15	46.350	94.78	94.62	0.35	3.25	4.14	2.65	2.65	2.65	4.38	4.08	0.012	11.6	
59	CB-63B 'Y'	58	0.35	0.71	0.76	6.13	15	82.893	95.07	94.78	0.35	3.31	4.14	2.70	2.70	2.70	2.43	4.38	0.012	11.1	
60	CB-62B 'Y'	59	0.36	0.36	0.76	6.39	15	95.673	95.41	95.07	0.36	1.75	4.17	1.42	1.42	1.42	2.09	2.43	0.012	10.0	
61	CB-14B 'Y'	54	0.55	0.55	0.76	6.39	15	147.169	95.31	94.79	0.35	2.67	4.16	2.27	2.36	2.18	1.24	3.94	0.012	10.0	
62	CB-27B 'Y'	16	0.49	0.78	0.76	5.95	18	192.588	94.90	94.23	0.35	3.53	6.74	3.85	3.85	3.85	2.00	2.58	0.012	12.0	
63	CB-26B 'Y'	62	0.29	0.29	0.76	6.39	15	137.799	95.51	95.02	0.35	1.41	4.15	2.46	3.13	1.79	1.74	2.13	0.012	10.0	
64	CB-45B 'B'	14	0.32	0.63	0.76	6.31	15	281.660	94.65	93.67	0.35	3.02	4.13	3.68	3.68	3.68	3.21	4.72	0.012	10.3	
65	CB-44B 'B'	64	0.31	0.31	0.76	6.39	15	25.000	94.78	94.65	0.51	1.51	5.01	2.36	3.42	1.31	3.08	3.21	0.012	10.0	

Project File: 2020-07-07 Storm B.stm | Number of lines: 65 | Date: 7/9/2020

NOTES: Intensity = 84.74 / (Inlet time + 12.30) ^ 0.83 -- Return period = 25 Yrs. ; ** Critical depth

MyReport

100-YEAR STORM

Line No.	Inlet ID	DnStm Ln No	Drng Area (ac)	Total Area (ac)	Runoff Coeff (C)	i Sys (in/hr)	Line Size (in)	Line Length (ft)	Invert Up (ft)	Invert Dn (ft)	Line Slope (%)	Flow Rate (cfs)	Capac Full (cfs)	Vel Ave (ft/s)	Vel Up (ft/s)	Vel Dn (ft/s)	Cover Up (ft)	Cover Dn (ft)	n-val Pipe	Tc (min)	HGL Dn (ft)	
1	MH-69B	Outfall	0.00	15.61	0.00	6.25	48	26.669	92.09	92.00	0.34	74.12	90.40	8.07	8.07	8.08	3.35	1.17	0.012	21.8	94.74	
2	CB-68B 'E'	1	0.36	3.22	0.76	6.91	30	223.322	92.88	92.10	0.35	16.92	26.26	3.45	3.45	3.45	1.84	4.84	0.012	17.2	95.85	
3	CB-67B 'E'	2	0.15	2.86	0.76	6.94	24	39.779	93.02	92.88	0.35	15.07	14.54	4.80	4.80	4.80	1.88	2.34	0.012	17.1	96.38	
4	CB-66B 'B'	3	0.17	2.71	0.76	6.99	24	97.982	94.15	93.80	0.35	14.40	14.58	4.58	4.58	4.58	3.80	1.10	0.012	16.7	97.01	
5	CB-61B 'B'	4	0.06	1.58	0.76	7.14	24	150.979	94.68	94.15	0.35	8.57	14.52	2.73	2.73	2.73	3.55	3.80	0.012	15.9	97.84	
6	CB-60B 'B'	5	0.06	1.52	0.76	7.17	24	25.000	94.77	94.68	0.36	8.28	14.70	2.64	2.64	2.64	3.46	3.55	0.012	15.7	98.20	
7	CB-59B 'B'	6	0.13	1.46	0.76	7.42	24	226.103	95.56	94.77	0.35	8.23	14.48	2.62	2.62	2.62	1.98	3.46	0.012	14.3	98.28	
8	CB-57B 'B'	7	0.07	1.08	0.76	7.53	18	126.089	96.25	95.81	0.35	6.18	6.72	3.50	3.50	3.50	1.99	2.23	0.012	13.8	98.76	
9	CB-52B 'B'	8	0.04	0.80	0.76	7.74	18	175.379	96.86	96.25	0.35	4.71	6.70	2.66	2.66	2.66	2.53	1.99	0.012	12.7	99.41	
10	CB-50B 'E'	9	0.25	0.45	0.76	7.98	18	107.524	97.25	96.87	0.35	2.73	6.76	1.54	1.54	1.55	2.89	2.52	0.012	11.6	99.88	
11	CB-49B 'B'	10	0.07	0.20	0.76	8.18	15	52.406	97.94	97.76	0.34	1.24	4.08	1.01	1.01	1.01	1.97	2.63	0.012	10.7	99.96	
12	CB-48B 'B'	11	0.13	0.13	0.76	8.35	15	30.000	98.04	97.94	0.35	0.83	4.14	0.67	0.67	0.67	1.86	1.97	0.012	10.0	100.00	
13	CB-51B 'B'	9	0.31	0.31	0.76	8.35	15	30.025	96.98	96.83	0.50	1.97	4.94	1.60	1.60	1.60	2.68	2.81	0.012	10.0	99.88	
14	CB-47B 'B'	1	0.44	12.39	0.76	6.30	48	124.734	92.54	92.10	0.35	59.30	92.43	5.02	5.19	4.85	3.10	3.34	0.012	21.5	95.85	
15	CB-43 'B'	14	0.00	11.01	0.00	6.33	48	61.475	92.76	92.54	0.36	52.93	93.09	4.21	4.21	4.21	3.73	3.10	0.012	21.2	96.89	
16	CB-28B 'E'	15	0.50	8.36	0.76	7.16	48	134.000	93.23	92.76	0.35	45.50	92.16	3.62	3.62	3.62	1.07	3.73	0.012	15.8	97.38	
17	CB-19B 'B'	16	0.11	5.32	0.76	7.27	42	115.437	93.63	93.23	0.35	29.39	64.16	3.06	3.05	3.06	1.94	1.57	0.012	15.1	97.80	
18	CB-13B 'B'	17	0.44	3.70	0.76	7.39	36	123.148	94.31	93.88	0.35	20.79	42.69	2.94	2.94	2.94	1.40	2.19	0.012	14.5	98.10	
19	CB-12B 'E'	18	0.33	3.26	0.76	7.42	36	25.000	94.40	94.31	0.36	18.39	43.35	2.60	2.60	2.60	1.31	1.40	0.012	14.3	98.41	
20	CB-11B 'Y'	19	0.58	2.93	0.76	7.57	36	110.657	94.79	94.40	0.35	16.85	42.89	2.38	2.38	2.38	0.11	1.31	0.012	13.6	98.48	
21	CB-10B	20	0.10	1.33	0.76	7.90	30	99.087	95.14	94.79	0.35	7.98	26.41	1.63	1.63	1.63	2.91	0.61	0.012	12.0	98.67	
22	CB-7B 'B'	21	0.27	0.56	0.76	8.26	18	188.374	96.30	95.64	0.35	3.51	6.75	1.99	1.99	1.99	2.01	3.41	0.012	10.4	98.76	
23	CB-6B 'B'	22	0.29	0.29	0.76	8.35	18	24.994	96.39	96.30	0.38	1.84	6.98	1.04	1.04	1.04	1.92	2.01	0.012	10.0	99.03	

Project File: 2020-07-07 Storm B.stm | Number of lines: 65 | Date: 7/10/2020

NOTES: Intensity = 124.57 / (Inlet time + 17.60) ^ 0.81 -- Return period = 100 Yrs. ; ** Critical depth

MyReport

Line No.	Inlet ID	DnStm Ln No	Drng Area (ac)	Total Area (ac)	Runoff Coeff (C)	i Sys (in/hr)	Line Size (in)	Line Length (ft)	Invert Up (ft)	Invert Dn (ft)	Line Slope (%)	Flow Rate (cfs)	Capac Full (cfs)	Vel Ave (ft/s)	Vel Up (ft/s)	Vel Dn (ft/s)	Cover Up (ft)	Cover Dn (ft)	n-val Pipe	Tc (min)	HGL Dn (ft)	
24	CB-42B 'B'	15	0.15	2.65	0.76	6.37	24	84.562	93.55	93.26	0.34	12.82	14.35	4.08	4.08	4.08	4.41	5.23	0.012	20.9	97.38	
25	MH-40B	24	0.00	2.24	0.00	6.45	24	157.886	94.10	93.55	0.35	10.99	14.50	3.50	3.50	3.50	4.53	4.41	0.012	20.3	98.00	
26	CB-39B 'B'	25	0.10	0.13	0.76	7.51	18	26.399	96.62	96.49	0.49	0.74	7.98	0.42	0.42	0.42	2.57	2.65	0.012	13.9	98.51	
27	CB-38B 'B'	26	0.03	0.03	0.76	8.35	18	25.000	96.75	96.63	0.50	0.19	8.04	0.11	0.11	0.11	2.43	2.57	0.012	10.0	98.51	
28	CB-56B 'B'	8	0.21	0.21	0.76	8.35	15	30.000	96.71	96.56	0.50	1.33	4.95	1.09	1.09	1.09	1.78	1.93	0.012	10.0	99.41	
29	CB-5B 'Y'	20	0.20	1.02	0.76	7.88	24	179.598	95.67	95.04	0.35	6.11	14.51	1.94	1.94	1.94	0.83	0.86	0.012	12.1	98.67	
30	CB-4B 'B'	29	0.15	0.82	0.76	8.09	24	90.446	95.99	95.67	0.35	5.04	14.57	1.60	1.60	1.60	1.51	0.83	0.012	11.1	98.87	
31	CB-37B 'B'	25	0.35	2.11	0.76	6.53	24	123.139	94.53	94.10	0.35	10.47	14.48	3.33	3.33	3.33	2.60	4.54	0.012	19.8	98.51	
32	MH-35B	31	0.00	1.42	0.00	6.63	24	108.000	94.91	94.53	0.35	7.15	14.53	2.28	2.28	2.28	2.11	2.60	0.012	19.1	98.99	
33	CB-32B 'Y'	32	0.17	0.71	0.76	6.91	24	153.124	95.45	94.91	0.35	3.73	14.50	1.19	1.19	1.19	0.78	2.11	0.012	17.2	99.17	
34	CB-31B 'Y'	33	0.20	0.54	0.76	7.15	24	87.895	95.76	95.45	0.35	2.93	14.55	0.93	0.93	0.93	0.90	0.78	0.012	15.8	99.23	
35	CB-30B 'Y'	34	0.17	0.34	0.76	7.71	24	119.484	96.18	95.76	0.35	1.99	14.56	0.63	0.63	0.63	0.83	0.90	0.012	12.9	99.25	
36	CB-29B 'Y'	35	0.17	0.17	0.76	8.35	18	105.650	96.80	96.43	0.35	1.08	6.75	0.61	0.61	0.61	1.02	1.08	0.012	10.0	99.26	
37	CB-2B 'B'	30	0.20	0.67	0.76	8.13	18	30.000	96.35	96.24	0.37	4.14	6.89	2.34	2.34	2.34	1.65	1.76	0.012	10.9	98.96	
38	CB-1B 'Y'	37	0.47	0.47	0.76	8.35	18	111.817	96.73	96.34	0.35	2.98	6.72	1.69	1.69	1.69	0.98	1.66	0.012	10.0	99.05	
39	CB-41B 'B'	24	0.26	0.26	0.76	8.35	15	24.998	96.52	96.40	0.48	1.65	4.85	1.35	1.35	1.35	2.19	2.31	0.012	10.0	98.00	
40	CB-9B 'B'	21	0.35	0.67	0.76	8.29	18	67.579	95.89	95.65	0.36	4.22	6.85	2.39	2.39	2.39	1.94	3.41	0.012	10.3	98.76	
41	CB-8B 'B'	40	0.32	0.32	0.76	8.35	15	24.997	96.40	96.31	0.36	2.03	4.20	1.66	1.66	1.66	1.68	1.77	0.012	10.0	98.99	
42	CB-58B 'B'	7	0.25	0.25	0.76	8.35	15	30.000	96.35	96.20	0.50	1.59	4.95	1.29	1.29	1.29	1.94	2.09	0.012	10.0	98.76	
43	CB-25B 'A'	16	0.54	1.76	0.76	7.75	30	192.626	94.40	93.73	0.35	10.36	26.20	2.11	2.11	2.11	1.36	2.07	0.012	12.7	97.80	
44	CB-24B 'A'	43	0.25	1.22	0.76	7.98	24	156.921	95.20	94.65	0.35	7.40	14.52	2.36	2.36	2.36	1.43	1.61	0.012	11.6	97.94	
45	CB-23B 'B'	44	0.14	0.97	0.76	8.05	18	56.620	95.65	95.45	0.36	5.93	6.80	3.36	3.36	3.36	1.64	1.68	0.012	11.3	98.13	
46	CB-21B 'B'	45	0.26	0.58	0.76	8.28	15	179.363	96.27	95.65	0.35	3.65	4.13	2.97	2.97	2.98	1.30	1.89	0.012	10.3	98.57	

Project File: 2020-07-07 Storm B.stm | Number of lines: 65 | Date: 7/10/2020

NOTES: Intensity = 124.57 / (Inlet time + 17.60) ^ 0.81 -- Return period = 100 Yrs. ; ** Critical depth

MyReport

Line No.	Inlet ID	DnStm Ln No	Drng Area (ac)	Total Area (ac)	Runoff Coeff (C)	i Sys (in/hr)	Line Size (in)	Line Length (ft)	Invert Up (ft)	Invert Dn (ft)	Line Slope (%)	Flow Rate (cfs)	Capac Full (cfs)	Vel Ave (ft/s)	Vel Up (ft/s)	Vel Dn (ft/s)	Cover Up (ft)	Cover Dn (ft)	n-val Pipe	Tc (min)	HGL Dn (ft)	
47	CB-20B 'B'	46	0.32	0.32	0.76	8.35	15	30.000	96.38	96.27	0.35	2.03	4.16	1.66	1.66	1.66	1.19	1.30	0.012	10.0	99.27	
48	CB-46B 'B'	14	0.31	0.31	0.76	8.35	15	25.000	96.21	96.09	0.48	1.97	4.85	3.05	3.71	2.38	2.18	2.30	0.012	10.0	96.89	
49	CB-34B 'B'	32	0.35	0.71	0.76	8.26	18	29.247	95.26	95.16	0.33	4.46	6.52	2.52	2.52	2.52	1.90	2.36	0.012	10.4	99.17	
50	CB-33B 'B'	49	0.36	0.36	0.76	8.35	18	30.005	95.74	95.62	0.40	2.29	7.19	1.29	1.29	1.29	1.41	1.54	0.012	10.0	99.36	
51	CB-22B 'B'	45	0.25	0.25	0.76	8.35	15	30.000	95.88	95.77	0.36	1.59	4.22	1.29	1.29	1.29	1.66	1.77	0.012	10.0	98.57	
52	CB-36B 'B'	31	0.34	0.34	0.76	8.35	15	24.998	95.69	95.57	0.48	2.16	4.85	1.76	1.76	1.76	2.19	2.31	0.012	10.0	98.99	
53	CB-18B 'B'	17	0.21	0.21	0.76	8.35	15	25.000	95.64	95.52	0.48	1.33	4.85	1.09	1.09	1.09	2.18	2.30	0.012	10.0	98.10	
54	CB-17B 'B'	17	0.00	1.30	0.00	8.15	18	81.700	94.67	94.38	0.35	8.05	6.78	4.56	4.56	4.56	3.81	3.19	0.012	10.9	98.10	
55	CB-16B 'B'	54	0.43	0.75	0.76	8.29	15	87.670	95.27	94.83	0.50	4.73	4.96	3.85	3.85	3.85	2.32	3.90	0.012	10.3	98.98	
56	CB-15B 'E'	55	0.32	0.32	0.76	8.35	15	25.000	95.40	95.28	0.48	2.03	4.85	1.66	1.66	1.66	2.19	2.31	0.012	10.0	99.73	
57	CB-65B 'B'	4	0.25	0.96	0.76	8.01	15	25.000	94.62	94.53	0.36	5.85	4.20	4.76	4.76	4.76	4.08	4.17	0.012	11.5	97.84	
58	MH-64B	57	0.00	0.71	0.00	8.06	15	46.350	94.78	94.62	0.35	4.35	4.14	3.55	3.54	3.55	4.38	4.08	0.012	11.2	98.37	
59	CB-63B 'Y'	58	0.35	0.71	0.76	8.15	15	82.893	95.07	94.78	0.35	4.40	4.14	3.58	3.58	3.58	2.43	4.38	0.012	10.9	98.68	
60	CB-62B 'Y'	59	0.36	0.36	0.76	8.35	15	95.673	95.41	95.07	0.36	2.29	4.17	1.86	1.86	1.86	2.09	2.43	0.012	10.0	99.30	
61	CB-14B 'Y'	54	0.55	0.55	0.76	8.35	15	147.169	95.31	94.79	0.35	3.49	4.16	2.85	2.85	2.85	1.24	3.94	0.012	10.0	98.98	
62	CB-27B 'Y'	16	0.49	0.78	0.76	8.00	18	192.588	94.90	94.23	0.35	4.74	6.74	2.68	2.68	2.68	2.00	2.58	0.012	11.5	97.80	
63	CB-26B 'Y'	62	0.29	0.29	0.76	8.35	15	137.799	95.51	95.02	0.35	1.84	4.15	1.50	1.50	1.50	1.74	2.13	0.012	10.0	98.19	
64	CB-45B 'B'	14	0.32	0.63	0.76	8.29	15	281.660	94.65	93.67	0.35	3.97	4.13	3.24	3.23	3.24	3.21	4.72	0.012	10.3	96.89	
65	CB-44B 'B'	64	0.31	0.31	0.76	8.35	15	25.000	94.78	94.65	0.51	1.97	5.01	1.60	1.60	1.60	3.08	3.21	0.012	10.0	98.04	

Project File: 2020-07-07 Storm B.stm | Number of lines: 65 | Date: 7/10/2020

NOTES: Intensity = 124.57 / (Inlet time + 17.60) ^ 0.81 -- Return period = 100 Yrs. ; ** Critical depth

HGL Up (ft)	Gnd/Rim El Dn (ft)	
94.83	97.17	
96.17	99.44	
96.53	97.22	
97.35	96.90	
98.03	99.95	
98.23	100.23	
98.54	100.23	
99.13	99.54	
99.71	99.74	
99.94	100.89	
99.98	101.64	
100.00	101.15	
99.90	100.89	
95.95	99.44	
96.96	99.64	
97.50	100.49	
97.89	98.30	
98.21	99.07	
98.42	98.71	
98.54	98.71	
98.70	97.90	
98.94	100.55	
99.04	99.81	

Project File: 2020-07-07 Storm B.stm	Number of lines: 65	Date: 7/10/2020

NOTES: ** Critical depth

HGL Up (ft)	Gnd/Rim El Dn (ft)	
97.61	100.49	
98.32	99.96	
98.51	100.64	
98.51	100.69	
99.43	99.74	
98.78	97.90	
98.91	98.50	
98.73	100.64	
99.08	99.13	
99.20	99.02	
99.24	98.23	
99.26	98.66	
99.27	99.01	
99.00	99.50	
99.12	99.50	
98.02	99.96	
98.85	100.55	
99.01	99.33	
98.77	99.54	
97.91	98.30	
98.08	98.26	
98.28	98.63	
99.06	98.79	

Project File: 2020-07-07 Storm B.stm	Number of lines: 65	Date: 7/10/2020

NOTES: ** Critical depth

HGL Up (ft)	Gnd/Rim El Dn (ft)	
99.29	98.82	
96.77	99.64	
99.21	99.02	
99.37	98.66	
98.59	98.79	
99.02	99.13	
98.11	99.07	
98.51	99.07	
99.38	99.98	
99.75	98.84	
98.02	99.95	
98.55	99.95	
99.01	100.41	
99.41	98.75	
99.35	99.98	
98.14	98.30	
98.29	98.40	
97.80	99.64	
98.06	99.11	

Project File: 2020-07-07 Storm B.stm	Number of lines: 65	Date: 7/10/2020

NOTES: ** Critical depth

MyReport

25-YEAR STORM

Line No.	Inlet ID	DnStm Ln No	Drng Area (ac)	Total Area (ac)	Runoff Coeff (C)	i Sys (in/hr)	Line Size (in)	Line Length (ft)	Invert Up (ft)	Invert Dn (ft)	Line Slope (%)	Flow Rate (cfs)	Capac Full (cfs)	Vel Ave (ft/s)	Vel Up (ft/s)	Vel Dn (ft/s)	Cover Up (ft)	Cover Dn (ft)	n-val Pipe	Tc (min)	
1	FES-1C	Outfall	0.53	0.53	0.51	6.39	15	99.300	95.60	94.71	0.90	1.73	6.11	3.02	3.56	2.49	0.57	0.87	0.013	10.0	
2	FES-3C	Outfall	13.16	13.16	0.33	3.13	24	78.710	94.06	93.75	0.39	13.58	14.19	5.58	5.13	6.02	-0.19	-0.08	0.013	40.3	
3	MH-6C	Outfall	0.00	1.16	0.00	5.17	15	85.205	94.41	94.15	0.31	1.92	3.57	3.15	2.61	3.68	1.14	-0.58	0.013	16.4	
4	FES-5C	3	1.16	1.16	0.32	5.38	15	130.119	94.80	94.41	0.30	2.00	3.54	2.73	2.99	2.47	-0.58	1.14	0.013	15.1	

Project File: 2020-07-07 Storm C.stm | Number of lines: 4 | Date: 7/9/2020

NOTES: Intensity = 84.74 / (Inlet time + 12.30) ^ 0.83 -- Return period = 25 Yrs. ; ** Critical depth

MyReport

100-YEAR STORM

Line No.	Inlet ID	DnStm Ln No	Drng Area (ac)	Total Area (ac)	Runoff Coeff (C)	i Sys (in/hr)	Line Size (in)	Line Length (ft)	Invert Up (ft)	Invert Dn (ft)	Line Slope (%)	Flow Rate (cfs)	Capac Full (cfs)	Vel Ave (ft/s)	Vel Up (ft/s)	Vel Dn (ft/s)	Cover Up (ft)	Cover Dn (ft)	n-val Pipe	Tc (min)	HGL Dn (ft)	
1	FES-1C	Outfall	0.53	0.53	0.51	8.35	15	99.300	95.60	94.71	0.90	2.26	6.11	3.57	3.88	3.25	0.57	0.87	0.013	10.0	95.40	
2	FES-3C	Outfall	13.16	13.16	0.33	4.57	24	78.710	94.06	93.75	0.39	19.85	14.19	6.84	6.32	7.37	-0.19	-0.08	0.013	40.3	95.35	
3	MH-6C	Outfall	0.00	1.16	0.00	7.10	15	85.205	94.41	94.15	0.31	2.64	3.57	3.49	2.89	4.09	1.14	-0.58	0.013	16.1	94.80	
4	FES-5C	3	1.16	1.16	0.32	7.28	15	130.119	94.80	94.41	0.30	2.70	3.54	2.90	3.09	2.71	-0.58	1.14	0.013	15.1	95.36	

Project File: 2020-07-07 Storm C.stm | Number of lines: 4 | Date: 7/10/2020

NOTES: Intensity = 124.57 / (Inlet time + 17.60) ^ 0.81 -- Return period = 100 Yrs. ; ** Critical depth

HGL Up (ft)	Gnd/Rim El Dn (ft)	
96.20 j	96.83	
96.19	95.67	
95.28	94.82	
95.64	96.80	

Project File: 2020-07-07 Storm C.stm	Number of lines: 4	Date: 7/10/2020

NOTES: ** Critical depth

JOB NAME: Heritage at West Windsor	CLIENT: American Properties	CALCULATED / CHECKED BY: MVW
JOB #: APR-184	LOCATION: West Windsor, NJ	DATE: 03/05/20

ROOF LEADER CHART

	BLDG	PORTION	A (ac.)	TOTAL A	C	(AxC)	TOTAL (A x C)	TOTAL Tc	I (in/hr)	Q=CIA (cfs)	TOTAL Q=CIA (cfs)		PIPE INFORMATION					
												S (%)	DIA. (IN.)	TYPE	n	CAP. FULL	VEL. FULL	VEL. DES.
ROOF LEADERS	**Largest (Type C, D, E)**	**Half**	0.10	0.10	0.99	0.10	0.10	10.0	6.0	0.61	0.61	0.50	8	HDPE	0.011	1.01	2.9	3.0
ROOF LEADERS	**Building 8, Type C**	**Whole**	0.20	0.20	0.99	0.20	0.20	10.0	6.0	1.21	1.21	0.50	10	HDPE	0.011	1.83	3.4	3.6
ROOF LEADERS	**Buildings 21, 22, 23**	**3 Rears**	0.27	0.27	0.99	0.26	0.26	10.0	6.0	1.58	1.58	0.50	10	HDPE	0.011	1.83	3.4	3.7

APPENDIX F

EMERGENCY SPILLWAY STABILITY CALCULATIONS

North American Green
5401 St. Wendel-Cynthiana Rd.
Poseyville, Indiana 47633
Tel. 800.772.2040
>Fax 812.867.0247
www.nagreen.com
ECMDS v7.0

SPILLWAY ANALYSIS

> > > Emergency Spillway

Name	Emergency Spillway
Discharge	133.83
Peak Flow Period	2
Channel Slope	0.3333
Channel Bottom Width	170
Low Flow Liner	
Retardence Class	D 2-6 in
Vegetation Type	Mix (Sod and Bunch)
Vegetation Density	Good 75-95%
Soil Type	Silt Loam (SM)

P550 - Class D - Mix (Sod & Bunch) - Good 75-95%

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissable Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
P550 Unvegetated	Straight	133.83 cfs	7.04 ft/s	0.11 ft	0.028	3.2 lbs/ft2	2.32 lbs/ft2	1.38	STABLE	E
Underlying Substrate	Straight	133.83 cfs	7.04 ft/s	0.11 ft	0.028	2.34 lbs/ft2	2.32 lbs/ft2	1.01	STABLE	E
P550 Reinforced Vegetation	Straight	133.83 cfs	7.87 ft/s	0.1 ft	0.023	14 lbs/ft2	2.07 lbs/ft2	6.75	STABLE	E
Underlying Substrate	Straight	133.83 cfs	7.87 ft/s	0.1 ft	0.023	3.2 lbs/ft2	2.07 lbs/ft2	1.55	STABLE	E

APPENDIX G

BASIN SUMMARY SHEETS

New Jersey Department of Agriculture

Hydrologic Modeling Database – Data Entry Form

Project Site Details

Chpt. 251 Application Number: _____

Start Date (if known): _____

County: Mercer

Street Address: 2044 Old Trenton Rd.

Municipality: West Windsor Township

Block: 28

Lot: 15 & 21

NJDEP Anderson Landuse Code (4 digits): 1110

Landuse description: Residential / Multifamily

Site Centroid Location (NJ State Plane Feet): [1]

Northing: 528,713 Easting: 472,398

Project Contact Details

Applicant: American Properties at West Windsor, LLC

Address: 517 Route 1 South, Suite 2100 Iselin, NJ 08830

Phone: 732-283-9700

Email: gkanter@americanproperties.net

Post Construction Operation & Maintenance:[2]

Party Name: American Properties at West Windsor, LLC

Address: 517 Route 1 South, Suite 2100 Iselin, NJ 08830

Phone: 732-283-9700

Email: gkanter@americanproperties.net

Party type: _____

New Jersey Department of Agriculture

Hydrologic Modeling Database – Data Entry Form

Basin Details:[3]

Basin Centroid (NJ State Plane Feet):[4]

Northing: 528,877 Easting: 472,360

Basin Type: Wet Pond

Construction: surface basin / earth

Status phase:[5] Design ☒ As-built ☐

Dam Height: (ft) N/A top width: (ft) N/A

Dam Classification: N/A

Drainage Area(s) to Basin [note- include any bypass areas][6]

Drainage Area Name	Drainage Area (acres)	Post-Development CN#	Percent Impervious	Time of Concentration (min)
DA-1	26.73	87	62.5%	10
DA-2	3.03	89	55.1%	10

Basin Outlet Structure(s)[7]

ID: OS-8C

End of Pipe Location:[8] Northing: 528,675 Easting: 471,741

Discharge Type[9] (weir, orifice, etc)	Dimensions (diameter, length)	Elevation (USGS)	Discharge Coefficient[10]	Equation Used[11]
Orifice	5" Dia.	92.00	-	Q=CA(2gh)^0.5
Orifice	1' H x 3' W	94.00	-	Q=1.71CL(H^(3/2))
Weir	16.00'	95.55	-	Q=1.71CL(H^(3/2))

New Jersey Department of Agriculture

Hydrologic Modeling Database – Data Entry Form

Basin Outlet Structure(s)

ID: Emergency Spillway

End of Pipe Location: Northing: 528,959 Easting: 472,299

Discharge Type (weir, orifice, etc)	Dimensions (diameter, length)	Elevation (USGS)	Discharge Coefficient	Equation Used
Weir	170.0'	98.12		Q=1.71CL(H^(3/2))

Basin Stage-Discharge Rating Table[12]

Elevation (USGS Feet)	Storage (Acre-Ft)	Total Outlet Structure Discharge (cfs)
88.00	0	0
90.01	1.770	0
92.02	3.947	0
93.01	5.124	0.22
94.00	6.422	0.32
95.02	7.885	6.29
96.01	9.381	16.24
97.00	10.954	21.90
98.09	12.771	36.12

NJDEP BMP Water Quality Structures[13]

Type (rain garden, green roof, seepage pit etc)	Size	Size Units (cu ft, sq ft etc)	Northing (SPF)	Easting (SPF)
Wet Pond	625,897	cu ft	528,877	472,360

New Jersey Department of Agriculture

Hydrologic Modeling Database – Data Entry Form

Explanatory Notes-

[1] Approximate location of center of site, coordinates in state plane feet
[2] Indicate who will be responsible for permanent operation and maintenance
[3] Additional Basin Detail Pages can be used for more than one basin in a project.
[4] Approximate location of center of basin, coordinates in state plane feet
[5] Indicate "design" for basins not yet constructed
[6] Drainage areas which are modified by construction, but not directed to the basin should still be listed and described
[7] "Outlet structure" means the control box, outlet headwall, FES etc. This does not refer to an individual control on the structure such as a weir or orifice. There are two tables for more than one outlet structure
[8] Approximate location of terminal discharge end of basin outfall, coordinates instate plane feet
[9] Indicate the type of outlet – weir, orifice, hydro brake, etc.
[10] Discharge Coefficient specific to the type of outlet control i.e., 0.6 for circular orifice
[11] List the discharge equation for each outlet (weir, orifice etc) used
[12] For basins with dead storage below the primary outlet, indicate 0 cfs discharge until the lowest outlet is reached. Routing table should begin at the lowest basin elevation.
[13] Describe NJDEP BMP Manual water quality devices such as seepage pits, rain gardens etc. Size is appropriate for device – cubic feet, square feet or linear feet. Location of device using state plane feet coordinates.

APPENDIX H

ANTI-SEEP COLLAR CALCULATIONS

ANTI-SEEP COLLAR CALCULATIONS

Design Criteria

- The maximum spacing between adjacent collars shall be approximately 14 times the minimum projection of the collar measured perpendicular to the pipe (not greater than 25 feet).
- Place all collars within the saturation zone.
- All collars and their connections shall be water tight.
- The minimum thickness shall be 6 inches.

Let: V = Vertical projection and minimum horizontal projection of the anti-seep collar in feet.
L = Length in feet of the conduit within the zone of saturation, measured from the downstream side of the riser to the toe drain or point where the phreatic line intercepts the conduit, whichever is shorter.
n = Number of anti-seep collars.
z = Slope of upstream embankment as a ratio of ft./ft. (horizontal to 1 ft. vertical).
y = Distance in feet from upstream invert of pipe to the highest normal water level expected to occur during the life of the structure, usually the top of the river.
Pipe Slope = Slope of pipe in feet per foot.

Basin #1

OS-8C to MH-9C: 30" RCP @ 0.25%

Beginning with our given information, we know that

- The maximum spacing is 14 x 12" = 168" or 14.0'
- 12" collars will be used. So V = 1.0'
- The slope of the embankment is 3:1, so z = 3
- 100-yr– upstream pipe invert = 98.09' –92.00' = 6.09', so y = 6.09'
- Pipe Slope = 0.25% = 0.0025

Now compute L:

L = y(z+4)[1+(pipe slope)/(0.25-pipe slope)]

L = 6.09' (3+4)[1+(0.0025)/(0.25-0.0025)]

L = 44 feet

Length of pipe in saturation zone = 44 feet

Now compute n:

(L+2nV) / L shall be at least 1.15 (RSIS)

$$\frac{L+2nV}{L} = \frac{44 + 2(1.00)(n)}{44} = 1.15$$

n = 3.30

n = 4, so there shall be 4 anti-seep collars

APPENDIX I

DRAINAGE AREA MAPS