

STONEFIELD

STORMWATER MANAGEMENT REPORT

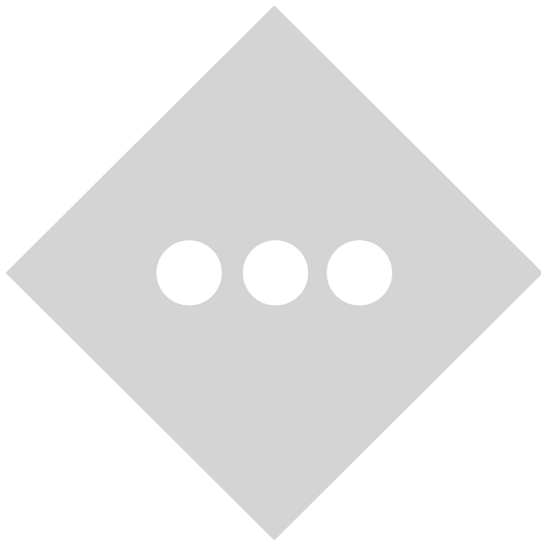
PROPOSED BANK OF AMERICA
BLOCK 6801, LOT 1 (MOORESTOWN TOWNSHIP)
BLOCK 503.02, LOT 1 (MOUNT LAUREL TOWNSHIP)
MARNE HIGHWAY
MOORESTOWN & MOUNT LAUREL TOWNSHIPS
BURLINGTON COUNTY, NEW JERSEY

PREPARED FOR:
MOUNT LAUREL REALTY, LLC

PREPARED BY:
STONEFIELD ENGINEERING & DESIGN, LLC
15 SPRING STREET
PRINCETON, NJ, 08542

REPORT DATE:
DECEMBER 13TH, 2024

LAST REVISED:
DECEMBER 13TH, 2024



PAUL D MUTCH, JR., (PE)
NJ PE LICENSE #55094

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1.0 PROJECT DESCRIPTION

Mount Laurel Realty, LLC is proposing the construction of Bank of America facility. The subject property is designated Block 6801, Lot 1 (Moorestown Township) & Block 503.2, Lot 1 (Mount Laurel Township), located at the corner of Marne Highway & Centerton Road. Additional improvements include off-street parking, lighting, landscaping, utility services, and stormwater management and conveyance systems.

The subject property is split-zoned and is located within the Moorestown Township's Special Restricted Commercial District (SRC-1) & Mount Laurel Township's Major Commercial District (MCD). The project site is bounded by the Camden & Burlington Co. Br. Main Line to the north, Top Golf facility to the east, apartment building to the south and commercial business to the west. The site will be accessed via full ingress, right only egress along Centerton Road and a full movement driveway along Marne Highway. Refer to **APPENDIX A** for project maps of the project site.

The project site is 59,284 SF (1.36 acres), the extent of land disturbance is 62,587 SF (1.44 acres), and 33,270 SF (0.76 acres) of new impervious surfaces will be created by the project. In addition, the project proposes the addition of 26,582 SF (0.61 acres) of new motor vehicle surface. The overall drainage area was modeled as 59,284 SF (1.36 acres).

This Report has been prepared to analyze the potential stormwater runoff impacts of the proposed project site and outline proposed measures to conform to the stormwater management regulations set forth by the Township of Moorestown, Township of Mount Laurel, Burlington County Planning Board and the Burlington County Soil Conservation District, the New Jersey Administrative Code (NJAC), and the New Jersey Department of Environmental Protection (NJDEP).

2.0 EXISTING CONDITIONS

EXISTING SITE DEVELOPMENT

The project site is located at the northwestern corner of Marne Highway & Centerton Road. The project site has never been developed, and the site is current entirely pervious with sporadic vegetation, which will be removed entirely as part of the proposed redevelopment. An Aerial Map depicting the existing site conditions can be found in **APPENDIX A**.

EXISTING TOPOGRAPHY

The high point of the project site is located on a mound within the center of the site. Sheet flow along the rear property line drains to the existing inlet and to the system within the Centerton Right of Way. In similar fashion, the Centerton frontage sheets flows off site, into the existing inlet along Centerton Road. The Marne Highway frontage sheet flows off the mound, and into the exiting inlet along Marne Highway. Grades on site generally range from 2% and increase to 10% as it approaches the intersection.

PROJECT SITE SOILS

Soil mapping was obtained from the National Resource Conservation Service (NRCS) for the project site and immediate area. Generally, the project site is underlain with 2 major soil groups. Overall, the soils drain moderately well, and runoff flows overland directly to the existing inlets along Centerton Road and Marne Highway. The table below provides a summary of soils for the project site:

TABLE 1: NRCS SOIL MAPPING RESULTS

Soil Unit Code	Soil Description	Approximate Project Coverage	Hydrologic Soil Group
SaeB	Sassafras fine sandy loam 2 to 5 percent slopes	50.5%	B
WofA	Woodstown fine sandy loam 0 to 2 percent slopes	49.5%	B

Additional information regarding the NRCS soil mapping can be found in **APPENDIX B**.

A Preliminary Stormwater Evaluation report was performed by Whitestone Engineering (report dated 9/13/2024), which consisted of 6 soil test pits being performed onsite in compliance with the soil testing standards outlined within Appendix E of the NJDEP Best Management Practices (BMP) Manual. The soils onsite primarily consisted of sandy loam ranging from depths of 2 to 9 feet below grade. Soil dampness was encountered at depths of 6 to 9 feet below grade. The table below provides a summary of the tested infiltration rates of the soils for the project site:

TABLE 2: INFILTRATION/PERMEABILITY TEST SUMMARY

Profile Pit #	ESHGW (fbgs)	USDA Classification @ Test	Depth of Test (fbgs)	In-Situ Rate @ Test (in/hour)
SPP-1	8	Sandy Loam	5	0.7
SPP-2	8	Sandy Loam	5	0.7
SPP-3	8	Sandy Loam	5	0.5
SPP-4	5	Loam	3	<0.2
SPP-5	5	Loam	3	<0.2
SPP-5	5	Loam	3	<0.2

Due to the tested infiltration rates onsite as well as the high seasonal high groundwater table elevations, it was determined that infiltration practices would not be practical for this site. Refer to **APPENDIX B** for the full Geotechnical Investigation.

EXISTING ENVIRONMENTAL INVENTORY

Based on the FEMA flood insurance rate mapping (FEMA Map #34005C0231F issued 12/21/2017), the entirety of the site is not located within the 100-year flood plain.

There are no federal (US Army Corps of Engineers) and/or state (NJDEP) regulated freshwater wetlands within the project site. Impacts to nearby freshwater wetlands are not anticipated with the proposed development. No records of endangered or threatened species sightings / suitable habitats are located within the vicinity of the proposed improvements.

3.0 PROPOSED CONDITIONS

PROPOSED SITE DEVELOPMENT

The proposed development will consist of 4,590 sf bank facility. Additional improvements include off-street parking lots, lighting, landscaping, utility services, and stormwater management and conveyance systems. The site will be accessed via full ingress, right only egress along Centerton Road and a full movement driveway along Marne Highway. Refer to **APPENDIX A** for a half-size Overall Site Plan depicting the proposed project improvements.

PROPOSED TOPOGRAPHY

Project site topography and drainage patterns will generally remain similar to existing conditions; however, due to the need for more commercially friendly and ADA compliant grades (1% to 2%), a wall will be implemented through the project to make up for the change in grades.

ANTICIPATED ENVIRONMENTAL INVENTORY IMPACTS

The proposed development will not disturb land within environmentally regulated areas.

4.0 STORMWATER MANAGEMENT METHODOLOGY & PARAMETERS

HYDROLOGIC METHODOLOGY

The analysis program “HydroCAD” Version 10.0 [2] by HydroCAD Software Solutions was utilized to calculate and plot the runoff hydrographs. The program incorporates the time of concentration, C values, rainfall data, and project drainage areas to calculate the runoff characteristics. The existing and proposed drainage areas have been analyzed utilizing Intensity-Duration-Frequency data obtained from NOAA for the project area; specifics of the rainfall distribution can be found in **APPENDIX C**. Additional key variables utilized in the analysis include:

TABLE 3: HYDROCAD DESIGN VARIABLES

Variable	Input	Variable	Input
Runoff Calculation Method	SCS TR-20	NRCS Rainfall Frequency Data Set	Burlington
Pervious/Impervious CN Calculations	Separate	Storm Intervals (Year Events)	2, 10, 100
Stage-Storage Relationship	Dynamic	Storm Duration	24 Hours
Minimum time of concentration	0 minutes	Storm Curve	NOAA D

Additional information regarding the hydrologic calculations can be found in **APPENDIX C**.

5.0 STORMWATER ANALYSIS

EXISTING DRAINAGE AREAS

Under current conditions, the project site is subdivided into three points of interest. POI-1 is an ultimate point of interest which is taken as the Centerton Road stormwater conveyance system located along the northern property line. This POI was chosen as the rear of the site flows towards the rear property line, and to the offsite existing inlet, and ultimately discharges into the existing stormwater system along Centerton Road. POI-2 is an ultimate point of interest for the eastern portion of the site, which overland flows off the central site mound into the existing inlet located at the intersection of Marne Highway and Centerton Road. POI-3 is the ultimate point of interest for the western portion of the site, and is taken as the Marne Highway stormwater conveyance system. The western and southern portion of the site overland flows to the existing inlet. See table for a short summary of each area:

TABLE 4: SUMMARY OF EXISTING DRAINAGE AREAS

Drainage Area	Description	Area Extents	Impervious Area	Time of Concentration
EX-1	Existing Drainage Direct to Centerton ROW	18,835 SF	0 SF	10.4 Minutes
EX-2	Existing Drainage to Site Intersection	12,120 SF	0 SF	8.5 Minutes
EX-3	Existing Drainage to Marne Highway	28,330 SF	0 SF	5.1 Minutes

All existing drainage areas were delineated based on field surveying data. Hydrologic calculations and parameters for each drainage area can be found in **APPENDIX C**; specific drainage area delineations and land cover can be found in **APPENDIX E**.

PROPOSED DRAINAGE AREAS

Under proposed conditions, the general drainage patterns and ultimate points of interest will be maintained. The intent behind the proposed delineations is to reduce the amount of direct runoff to Municipal stormwater conveyance systems. The diverted land from these drainage areas is proposed to be sent to various stormwater management features to meet the New Jersey Department of Environmental Protection Stormwater Design Regulations as outlined in the next Report section. See below for a short summary of each area:

TABLE 5: SUMMARY OF PROPOSED DRAINAGE AREAS

Drainage Area	Description	Area Extents	Impervious Area	Time of Concentration
P-1A	Proposed Drainage Direct to B-1	9,249 SF	7,989 SF	1.0 Minutes
P-1B	Proposed Drainage Bypass to Existing Off-Site Inlet	7,003 SF	0 SF	11.7 Minutes
POI (P-1)	Ultimate Point of Interest: Centerton Road	16,252 SF	7,989 SF	N/A
P-2	Proposed Bypass Area to Existing Inlet	5,435 SF	0 SF	2.9 Minutes
POI (P-2)	Ultimate Point of Interest: Site Intersection	5,435 SF	0 SF	N/A
P-3A	Proposed Drainage Direct to B-2	6,684 SF	6,233 SF	0.5 Minutes
P-3B	Proposed Drainage Bypass to Existing Off-Site Inlet	11,091 SF	0 SF	8.1 Minutes
P-3C	Proposed Drainage Direct to B-3	10,413 SF	9,748 SF	1.2 Minutes
P-3D	Proposed Drainage Direct to B-4	9,300 SF	9,300 SF	0.5 Minutes
POI (P-1)	Ultimate Point of Interest: Centerton Road	16,252 SF	7,989 SF	N/A

All proposed drainage areas were delineated based on the proposed grading design overlain on field survey data. Hydrologic calculations and parameters for each drainage area can be found in **APPENDIX C**; specific drainage area delineations and land cover can be found in **APPENDIX E**.

STORMWATER MANAGEMENT DESIGN PARAMETERS

The extent of development proposes to disturb more than one acre of land and add more than one-quarter acre of new impervious surfaces; as such, the project is considered a Major Development as defined in the Moorestown Township and Mt Laurel Township Ordinance and NJAC 7:8-1.2. A Major Development is subject to stormwater quantity, quality, and groundwater recharge requirements. See below for a summary of each design parameter and compliance requirements:

TABLE 6: STORMWATER MANAGEMENT DESIGN TARGET SUMMARY TABLE

Design Parameter	Design Target for Compliance
Stormwater Runoff Quantity	Design stormwater management measures so that the post-construction peak runoff rates for the 2-, 10-, and 100-year storm events are 50, 75 and 80 percent, respectively, of the pre-construction peak runoff rates. The percentages apply only to the post-construction stormwater runoff that is attributable to the portion of the site on which the proposed development or project is to be constructed.
Stormwater Runoff Quality	Stormwater management measures shall be designed to reduce the post-construction load of total suspended solids (TSS) in stormwater runoff generated from the water quality storm by 80% of the anticipated load from the developed site, expressed as an annual average.
Groundwater Recharge	The project is exempt from groundwater recharge requirements as the project site has soils onsite which are deemed unsuitable for infiltration.

STORMWATER RUNOFF QUANTITY

Four (4) pervious pavement systems are proposed throughout the drive aisles and parking areas to attenuate peak stormwater runoff rates to the mandated regulatory levels. The tables below summarize the various drainage areas in relation to flow rates and runoff volume during regulatory storm events:

TABLE 7: SUMMARY OF EXISTING DRAINAGE AREA FLOW RATES

Drainage Area	2-Year Flow Rate	10-Year Flow Rate	100-Year Flow Rate
EX-1	0.12 CFS	0.47 CFS	1.43 CFS
EX-2	0.08 CFS	0.34 CFS	1.01 CFS
EX-3	0.26 CFS	1.00 CFS	2.95 CFS

TABLE 8: SUMMARY OF PROPOSED DRAINAGE AREA FLOW RATES

Drainage Area	2-Year Flow Rate	10-Year Flow Rate	100-Year Flow Rate
P-1A	0.01 CFS	0.05 CFS	0.14 CFS
P-1B	0.04 CFS	0.17 CFS	0.50 CFS
POI (P-1)	0.04 CFS	0.23 CFS	0.88 CFS
P-2	0.06 CFS	0.23 CFS	0.67 CFS
POI (P-2)	0.06 CFS	0.23 CFS	0.67 CFS
P-3A	0.58 CFS	0.93 CFS	1.62 CFS
P-3B	0.08 CFS	0.32 CFS	0.95 CFS
P-3C	0.49 CFS	0.78 CFS	1.36 CFS
P-3D	0.84 CFS	1.30 CFS	2.21 CFS
POI (P-2)	0.12 CFS	0.48 CFS	2.36 CFS

Under post-development conditions the runoff flow rates are reduced to the undetained drainage areas. The diverted runoff from these areas is collected in the on-site stormwater management systems for runoff attenuation and water quality treatment. The table below outlines the regulatory compliance parameters for runoff quantity on the project site:

TABLE 9: STORMWATER RUNOFF QUANTITY COMPLIANCE SUMMARY (E-1 / P-1)

Rainfall Event	Existing Flow Rate	Required % Reduction	Proposed Flow Rate	Proposed % Reduction
2-Year Storm	0.12 CFS	50%	0.04 CFS	66.67%
10-Year Storm	0.47 CFS	25%	0.23 CFS	51.05%
100-Year Storm	1.43 CFS	20%	0.88 CFS	38.46%

TABLE 10: STORMWATER RUNOFF QUANTITY COMPLIANCE SUMMARY (E-2 / P-2)

Rainfall Event	Existing Flow Rate	Required Flow Rate	Proposed Flow Rate	Proposed % Reduction
2-Year Storm	0.08 CFS	0.08 CFS	0.06 CFS	25.00%
10-Year Storm	0.34 CFS	0.34 CFS	0.23 CFS	32.35%
100-Year Storm	1.01 CFS	1.01 CFS	0.67 CFS	33.66%

TABLE 11: STORMWATER RUNOFF QUANTITY COMPLIANCE SUMMARY (E-3 / P-3)

Rainfall Event	Existing Flow Rate	Required % Reduction	Proposed Flow Rate	Proposed % Reduction
2-Year Storm	0.26 CFS	50%	0.12 CFS	53.84%
10-Year Storm	1.00 CFS	25%	0.48 CFS	52.00%
100-Year Storm	2.95 CFS	20%	2.36 CFS	20.00%

The proposed pervious pavement systems provide sufficient flow rate attenuation to ensure that no adverse impacts are anticipated downstream of the project site. Detailed hydrologic calculations for each drainage area can be found in **APPENDIX C**.

STORMWATER RUNOFF QUALITY

As a Major Development, all proposed motor vehicle surfaces are subject to stormwater runoff quality requirements. More specifically, proposed motor vehicle surfaces developed over existing vehicular travel surfaces may meet or exceed the existing treatment rates of the existing vehicular travel surfaces and all new motor vehicle surfaces shall be required to remove 80% of total suspended solids. Non-vehicular travel surfaces (building roofs, plaza/amenity areas, sidewalks, etc.) are not subject to runoff quality regulations.

The proposed permeable pavement systems will provide water quality treatment for motor vehicle surfaces. As outlined in the New Jersey Stormwater Best Management Practices Manual, permeable pavement may qualify for TSS removal rates up to 80% as long as the additional inflow of the contributory drainage area to surface area of the permeable pavement is a maximum ratio of 3:1 and all motor vehicle surfaces enter the system through the surface course. The systems convey the entirety of the water quality design storm (WQDS) through the stone storage prior to conveyance through the underdrain to the existing off-site stormwater conveyance. The systems conform to the requirements for the loading ratio set forth in Chapter 9.6 – Pervious Paver Systems of the New Jersey Stormwater Best Management Practices (NJDEP BMP) Manual as shown in the following table:

TABLE 12: SUMMARY OF PERMEABLE PAVEMENT LOADING RATIOS

Permeable Pavement System	Treatment Drainage Area	Permeable Pavement Surface Area	Additional Inflow Area	Ratio
PV-1	9,249 SF	3,190 SF	6,059 SF	1.90:1
PV-2	6,684 SF	1,700 SF	6,710 SF	2.93:1
PV-3	10,413 SF	2,600 SF	7,813 SF	3.01:1
PV-3	9,300 SF	2,350 SF	6,950 SF	2.95:1

GROUNDWATER RECHARGE

As indicated in the Moorestown Township and Mt Laurel Township Ordinances and NJAC 7:8-5.4, the project site is **exempt** from groundwater recharge requirements as the site has soils onsite which are deemed unsuitable for groundwater recharge because infiltration rates are below 1 in/hr.

6.0 STORMWATER FACILITY OPERATIONS & MAINTENANCE

A Stormwater Operations & Maintenance Manual has been submitted for review to the Township and will be forwarded to the relevant jurisdictional agencies prior to obtaining final land use approvals and permits. Any necessary easements or covenants associated with the stormwater improvements will be recorded prior to the start of construction.

7.0 EROSION & SEDIMENT CONTROL

A Soil Erosion & Sediment Control Plan has been prepared in accordance with the latest edition of the Standards for Soil Erosion and Sediment Control in New Jersey. This plan can be found within the Preliminary & Final Major Site Plans prepared by Stonefield in conjunction with this Report. Proposed temporary measures during construction include silt fencing, stabilized construction entrances, inlet filters, hay bales, street sweeping, and temporary seeding for soil stabilization. No land disturbance will occur until certification and permits have been obtained from the Burlington Soil Conservation District.

8.0 CONCLUSIONS

As demonstrated in this Report, the increase in runoff flow rate and volume generated by the proposed development will be satisfactorily mitigated by the introduction of the four pervious pavement systems and on-site stormwater conveyance system. Runoff water quality will be impacted by the increase in impervious surfaces and the pervious pavement systems will provide treatment to remove total suspended solids to a satisfactory regulatory level.

The proposed project complies with all applicable stormwater management regulations and standards. As such, the project is not anticipated to have any adverse drainage impacts on neighboring properties, downstream watercourses, or adjoining conveyance systems.

9.0 REFERENCES

1. New Jersey Administrative Code Title 7, Chapter 8 Stormwater Management, last amended March 2, 2020
https://www.nj.gov/dep/rules/rules/njac7_8.pdf
2. New Jersey Stormwater Best Management Practices Manual, last revised March 2, 2020
https://www.njstormwater.org/bmp_manual2.htm
3. Township of Moorestown Municipal Zoning Code
<https://ecode360.com/MO1116>
4. Township of Mt Laurel Municipal Zoning Code
<https://ecode360.com/MO0794>

APPENDIX A

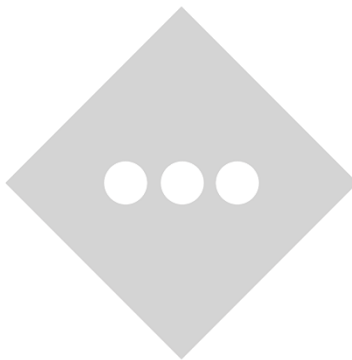
PROJECT FIGURES

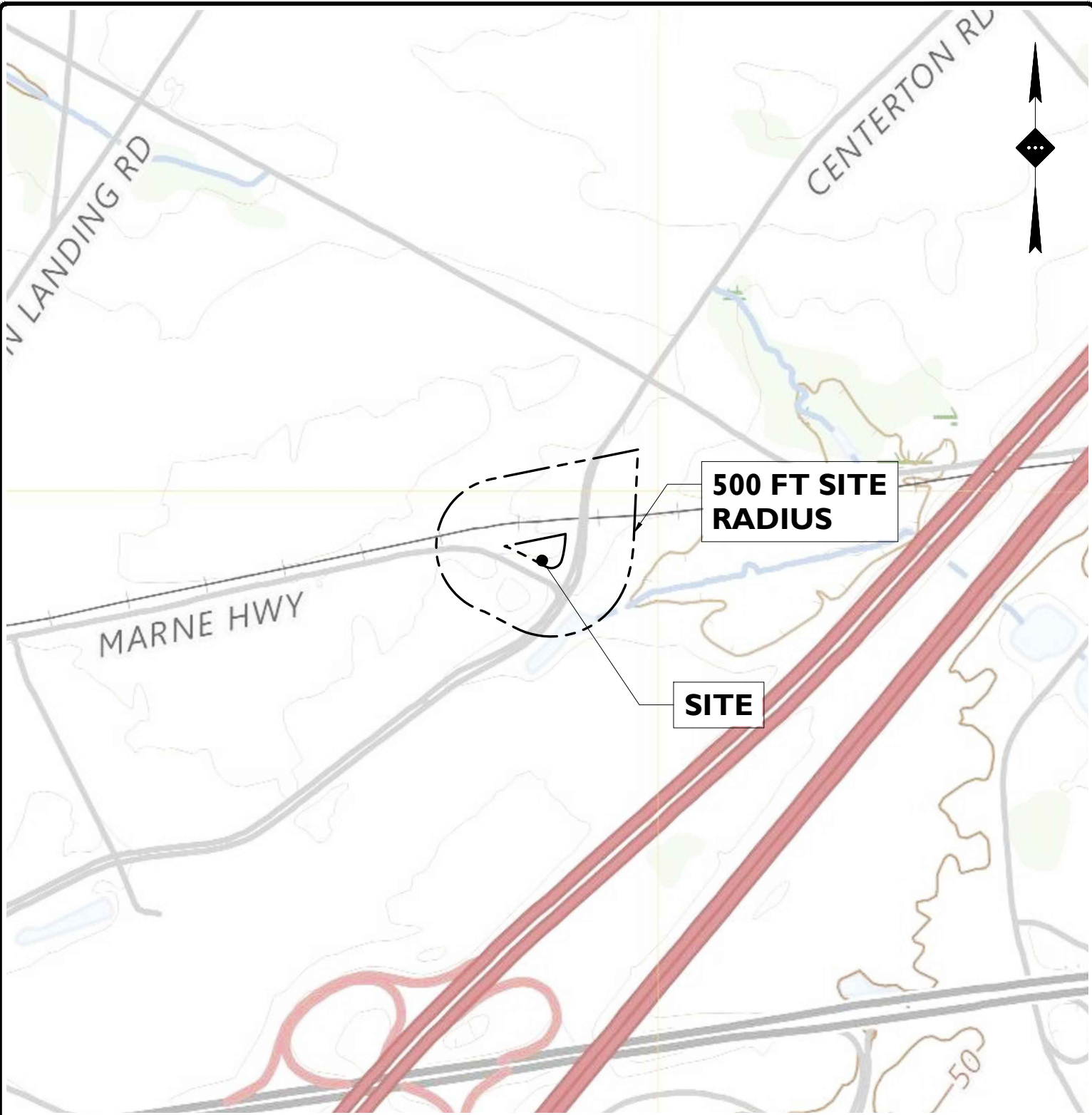
INVENTORY

FIGURE 1: USGS LOCATION MAP

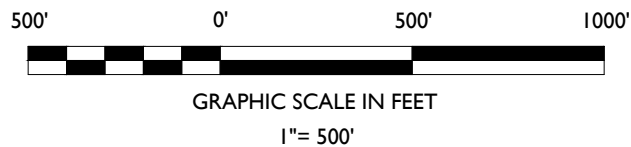
FIGURE 2: TAX & ZONING MAP

FIGURE 3: AERIAL MAP





USGS QUADRANGLE MAP



SOURCE: MOORESTOWN QUADRANGLE, NEW JERSEY 7.5 MINUTE SERIES, DATED 2023

MOUNT LAUREL REALTY, LLC

PROPOSED BANK

BLOCK 6801 LOT 1 & BLOCK 503.02, LOT 1
TAX MAP SHEET 68 (MOORESTOWN) & SHEET 5.05 (MOUNT LAUREL)

TOWNSHIP OF MOORESTOWN AND TOWNSHIP OF MOUNT LAUREL
BURLINGTON COUNTY, NEW JERSEY

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DATE:
12/12/2024

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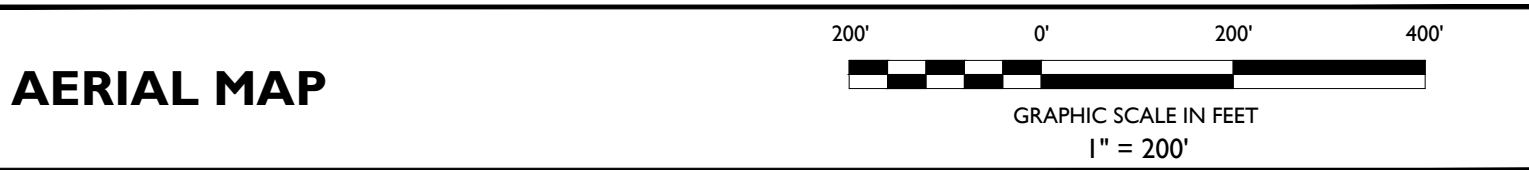
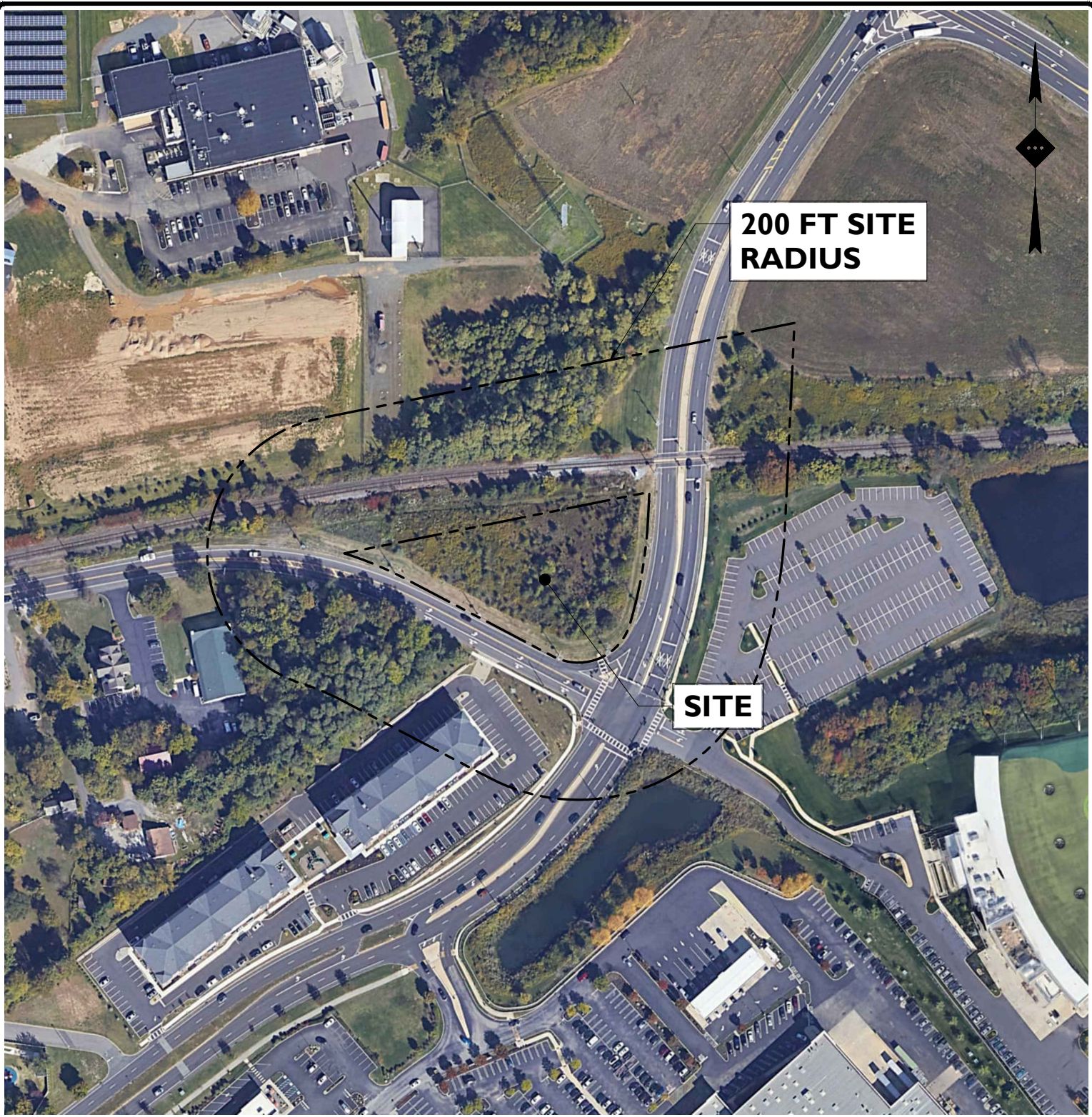
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engineering & design

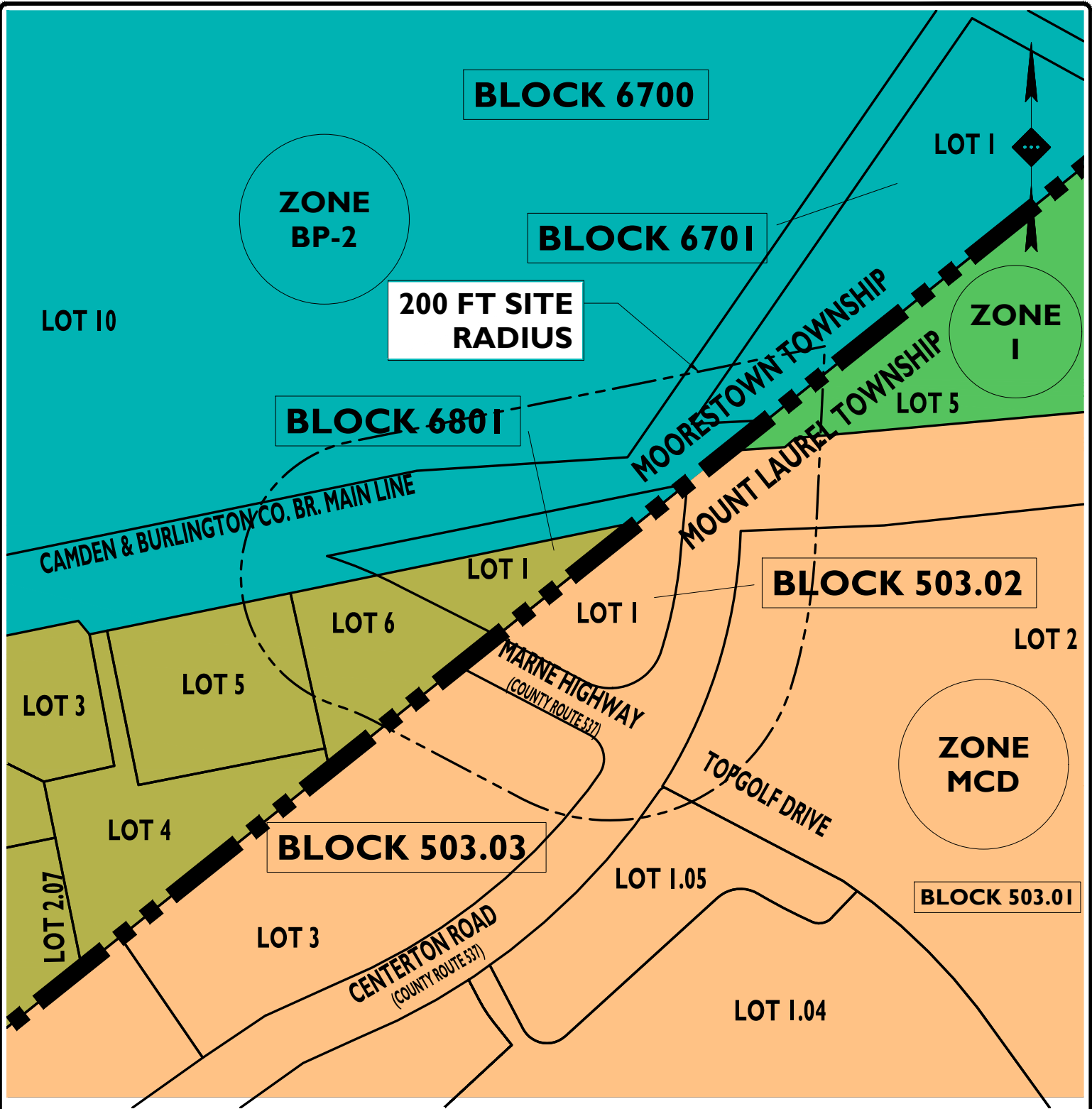
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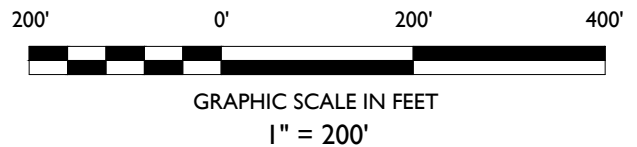


SOURCE: NEARMAPS, RETRIEVED 4/24/2024 MOUNT LAUREL REALTY, LLC PROPOSED BANK BLOCK 6801 LOT 1 & BLOCK 503.02, LOT 1 TAX MAP SHEET 68 (MOORESTOWN) & SHEET 5.05 (MOUNT LAUREL) TOWNSHIP OF MOORESTOWN AND TOWNSHIP OF MOUNT LAUREL BURLINGTON COUNTY, NEW JERSEY	DRAWN BY: OK	 STONEFIELD engineering & design Rutherford, NJ · New York, NY · Boston, MA Princeton, NJ · Tampa, FL · Detroit, MI www.stonefieldeng.com 15 Spring Street, Princeton, NJ 08542 Phone 609.362.6900
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TAX & ZONING MAP



SOURCE: TOWNSHIP OF MOORESTOWN ZONING MAP; BURLINGTON COUNTY TAX MAP SHEET 68 |
TOWNSHIP OF MOUNT LAUREL ZONING MAP; BURLINGTON COUNTY TAX MAP SHEET 5.05

MOUNT LAUREL REALTY, LLC

PROPOSED BANK

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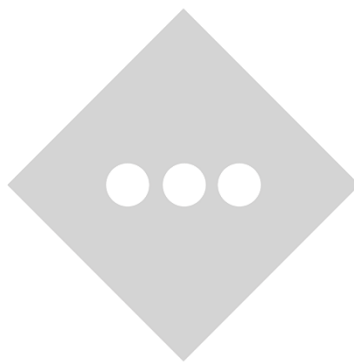
15 Spring Street, Princeton, NJ 08542
Phone 609.362.6900

APPENDIX B PROJECT SOILS

INVENTORY

B-1: NRCS SOILS REPORT

B-2: WHITESTONE GEOTECHNICAL REPORT





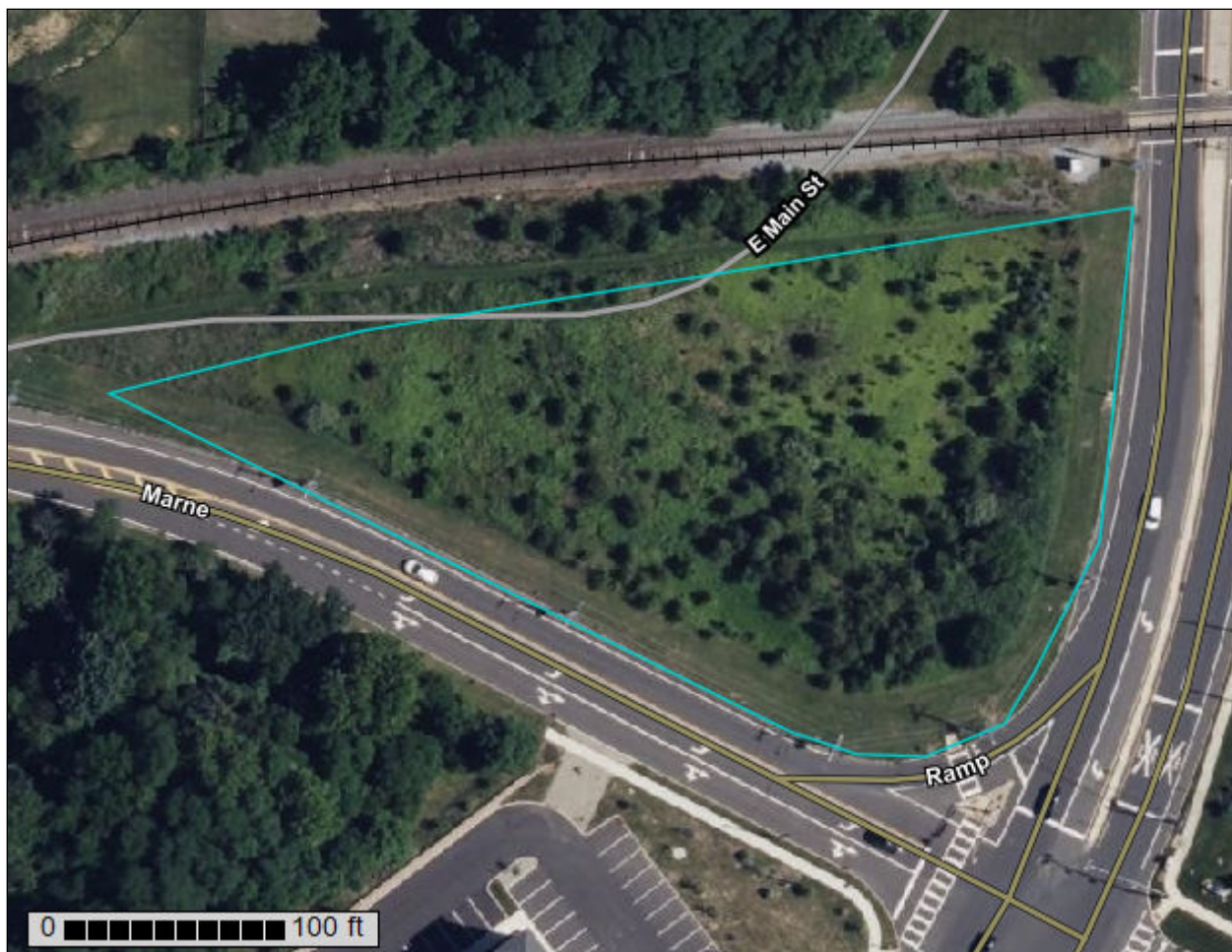
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Burlington County, New Jersey**



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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

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

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

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

Soil Survey Area: Burlington County, New Jersey
Survey Area Data: Version 21, Sep 3, 2024

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

Date(s) aerial images were photographed: Data not available.

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
SaeB	Sassafras fine sandy loam, 2 to 5 percent slopes	0.8	50.5%
WofA	Woodstown fine sandy loam, 0 to 2 percent slopes	0.7	49.5%
Totals for Area of Interest		1.5	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

Custom Soil Resource Report

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Burlington County, New Jersey

SaeB—Sassafras fine sandy loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: rf5k
Elevation: 10 to 330 feet
Mean annual precipitation: 28 to 59 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 161 to 231 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Sassafras and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sassafras

Setting

Landform: Hills, knolls
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy and/or gravelly fluviomarine deposits

Typical profile

Ap - 0 to 10 inches: fine sandy loam
E - 10 to 14 inches: fine sandy loam
Bt - 14 to 28 inches: fine sandy loam
BC - 28 to 34 inches: fine sandy loam
C - 34 to 60 inches: loamy sand

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 2.00 in/hr)
Depth to water table: About 48 to 122 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F149AY170MD - Well Drained Fine-Loamy Upland
Hydric soil rating: No

Minor Components

Woodstown

Percent of map unit: 5 percent
Landform: Flats
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F149AY130NJ - Moist Loamy Upland
Hydric soil rating: No

Downer

Percent of map unit: 5 percent
Landform: Low hills, knolls
Landform position (three-dimensional): Interfluvium
Down-slope shape: Linear, convex
Across-slope shape: Linear
Ecological site: F153DY160NJ - Well Drained Coarse-Loamy Upland
Hydric soil rating: No

Freehold

Percent of map unit: 5 percent
Landform: Low hills, flats
Landform position (two-dimensional): Summit
Down-slope shape: Convex, linear
Across-slope shape: Linear
Ecological site: F149AY170MD - Well Drained Fine-Loamy Upland
Hydric soil rating: No

Holmdel

Percent of map unit: 5 percent
Landform: Low hills, flats
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F149AY130NJ - Moist Loamy Upland
Hydric soil rating: No

WofA—Woodstown fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: rf81
Elevation: 10 to 330 feet
Mean annual precipitation: 28 to 59 inches
Mean annual air temperature: 46 to 79 degrees F
Frost-free period: 161 to 231 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Woodstown and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodstown

Setting

Landform: Flats

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Old alluvium and/or sandy marine deposits

Typical profile

Ap - 0 to 10 inches: fine sandy loam

E - 10 to 14 inches: fine sandy loam

BA - 14 to 24 inches: sandy clay loam

Bt - 24 to 34 inches: sandy clay loam

C - 34 to 60 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 6.00 in/hr)

Depth to water table: About 18 to 42 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B

Ecological site: F149AY130NJ - Moist Loamy Upland

Hydric soil rating: No

Minor Components

Fallsington

Percent of map unit: 5 percent

Landform: Depressions

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Concave

Ecological site: F149AY090NJ - Coastal Plain Hardwood Swamp

Hydric soil rating: Yes

Sassafras

Percent of map unit: 5 percent

Landform: Hills, knolls

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluvium

Down-slope shape: Convex

Across-slope shape: Linear

Ecological site: F149AY170MD - Well Drained Fine-Loamy Upland

Hydric soil rating: No

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September 13, 2024

via email

MOUNT LAUREL REALTY, LLC
275 Grave Street
Suite 2-150
Newton, Massachusetts 02466

Attention: Mr. Marc Steinberg
Manager

**Regarding: PRELIMINARY SWM AREA EVALUATION
PROPOSED BANK
770 MARNE HIGHWAY
BLOCK 6704, LOT 1;
BLOCK 503.02, LOT 1
MOORESTOWN, BURLINGTON COUNTY, NEW JERSEY
WHITESTONE PROJECT NO.: GP2422339.000**

Dear Mr. Steinberg:

Whitestone Associates, Inc. (Whitestone) is pleased to submit this *Preliminary Stormwater Management (SWM) Area Evaluation* report in support of the proposed development referenced above. This report is based on the April 25, 2024 *Concept A* plan prepared by Stonefield Engineering & Design, LLC (Stonefield), July 2024 *ALTA/NSPS Land Title Survey* prepared by MidAtlantic Engineering Partners, and correspondence with Stonefield.

1.0 PROJECT DESCRIPTION

The subject property located at 770 Marne Highway (Block 6704, Lot 1 and Block 503.02, Lot 1) in Moorestown, Burlington County, New Jersey currently is a vacant, moderately wooded lot. The proposed development is anticipated to include clearing the subject site and constructing an approximately 4,700-square feet (footprint), single-story bank with a drive-thru and associated pavements, SWM facilities, landscaping, and utilities.

Detailed grading information has not been provided, however, based on existing grades, the site, with the exception of the proposed SWM facilities, will be redeveloped at or near existing site elevations with maximum cuts and fills on the order of one foot to two feet. The proposed SWM facilities are anticipated to be situated approximately four feet below existing grades.

Office Locations:

2.0 FIELD EXPLORATION

Field exploration of the project site was conducted by means of six soil profile pits (identified as SPP-1 through SPP-6) conducted within accessible portions of the subject site with a rubber-tire backhoe. The soil profile pits were terminated at depths ranging from approximately 11 feet below ground surface (fbgs) to 12 fbgs. The locations of the subsurface tests are shown on the *Test Location Plan* included as Figure 1.

The subsurface tests were conducted in the presence of a Whitestone engineer who conducted field tests, recorded visual classifications, and collected samples of the various strata encountered. The profile pits were located in the field using normal taping procedures and estimated right angles. These locations are presumed to be accurate within a few feet.

Groundwater level observations were recorded during and immediately after the completion of field operations prior to backfilling the test locations. Groundwater elevations derived from sources other than seasonally observed groundwater monitor wells may not be representative of true groundwater levels.

3.0 SUMMARY OF FINDINGS

Estimated Seasonal High Groundwater Levels & Infiltration Test Results: The methods used in determining the estimated seasonal high groundwater (ESHGW) level include evaluating the soil morphology within a test excavation and identifying irregular spots or blotches of different colors or minerals unlike that of the surrounding soils (mottles). Mottling is the result of the oxidation of minerals within a soil structure as the water level slowly fluctuates. A summary of the estimated seasonal high groundwater observations as well as infiltration test results are included in the following table.

ESHGW & INFILTRATION TEST SUMMARY					
Profile Pit No.	Surface Elevation (feet*)	ESHGW (fbgs/feet*)	USDA Classification @ Test Depth	Infiltration Test Results	
				Depth (fbgs/feet*)	Infiltration Rate (in/hour)
SPP-1	± 71.0	8.0 / ± 63.0	Sandy Loam	5.0 / ± 66.0	0.7
SPP-2	± 72.0	8.0 / ± 64.0	Sandy Loam	5.0 / ± 67.0	0.7
SPP-3	± 71.0	8.0 / ± 63.0	Sandy Loam	5.0 / ± 66.0	0.5
SPP-4	± 71.5	5.0 / ± 66.5	Loam	3.0 / ± 68.5	< 0.2
SPP-5	± 70.0	5.0 / ± 65.0	Loam	3.0 / ± 67.0	< 0.2
SPP-6	± 71.0	5.0 / ± 66.0	Loam	3.0 / ± 68.0	< 0.2

USDA - United States Department of Agriculture; * - above the North American Vertical Datum of 1988

Infiltration Rates: Representative samples within the soil profile pits were subjected to laboratory tube permeameter analyses as detailed in *New Jersey Stormwater Best Practices Manual*. Laboratory tube permeameter testing on undisturbed samples resulted in infiltration rates ranging from less than 0.2 inches per hour (iph) to approximately 0.7 iph. Individual laboratory tube permeameter test results associated with the supplemental investigation are provided in Appendix B, *Soil Profile Pit Logs* are included in Appendix A.



4.0 CLOSING

Whitestone appreciates the opportunity to be of service to Mount Laurel Realty, LLC. Please contact us with any questions or comments regarding the information herein.

Sincerely,

WHITESTONE ASSOCIATES, INC.

James M. Morgan
Senior Associate

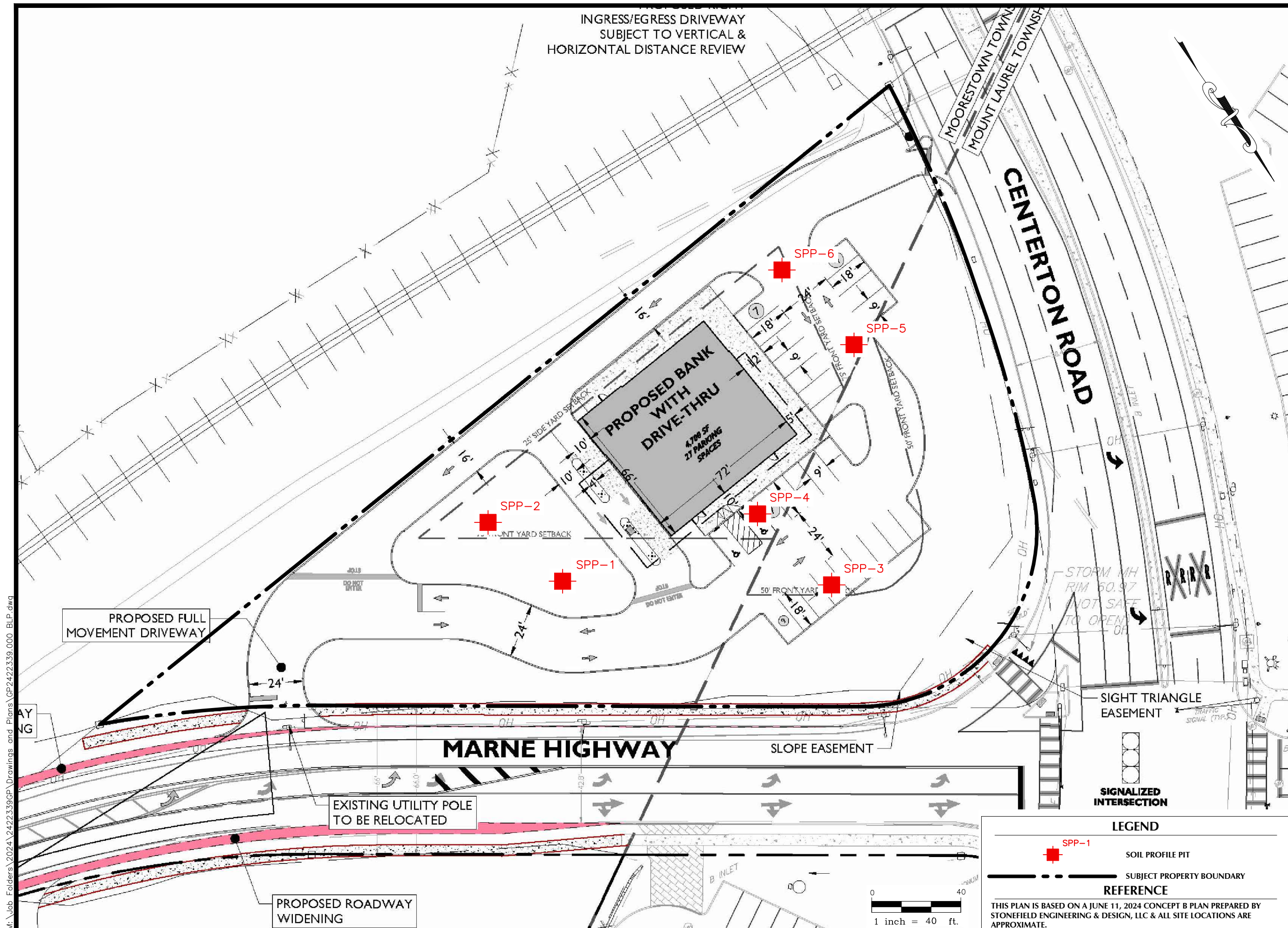
Laurence W. Keller, PE
Vice President

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Enclosures
Copy: Olivia Kononiuk, Stonefield Engineering & Design, LLC
Jacob Lewkowski, Stonefield Engineering & Design, LLC
John Kelly, Stonefield Engineering & Design, LLC



FIGURE 1

Test Location Plan





APPENDIX A

Records of Subsurface Exploration



RECORD OF SUBSURFACE EXPLORATION

Soil Profile Pit No.: **SPP-1**

Page **1** of **1**

Project: Proposed Bank				WAI Project No.: GP2422339.000			
Location: 770 Marne Highway; Moorestown, Burlington County, NJ				Client: Mount Laurel Realty, LLC			
Surface Elevation: ± 71.0 feet		Date Started: 9/6/2024		Water Depth Elevation (feet bgs) (feet)		Estimated Seasonal High	
Termination Depth: 12.0 feet bgs		Date Completed: 9/6/2024				Groundwater Depth Elevation (feet bgs) (feet)	
Proposed Location: SWM Basin		Logged By: RN		During: 9.0 62.0 ▼		At Completion: 8.0 63.0	
Excavating Method: Test Pit Excavation		Contractor: TS		At Completion: 9.0 62.0 ▼			
Test Method: Visual Observation		Rig Type: Komatsu PC88MR		24 Hours: --- --- ▼			
SAMPLE INFORMATION			DEPTH	HORIZON	DESCRIPTION OF MATERIALS (Classification)	REMARKS	
Depth (feet)	Number	Type	feet				
5.0	T-1A/B	TUBES	0.0	TOPSOIL	18" Topsoil		
			0 - 1.5				
			1.0	COASTAL PLAIN DEPOSITS	Dark Brown (10YR 3/4) and Brownish-Yellow (10YR 6/6) SANDY LOAM; No Coarse Fragments; Moist; Weak, Fine to Medium, Crumb Structure; Friable; Few Fine Roots		
			1.5 - 8				
			2.0				
			3.0				
			4.0				
			5.0				
			6.0				
			7.0				
			8.0				
			8 - 9				As Above, Common, Medium Mottling
9.0	9 - 10	As Above, Wet; Clear, Smooth Boundary					
10.0							
10 - 12	Black (10YR 2/1) CLAY LOAM; No Coarse Fragments; Wet; Weak, Coarse Crumb Structure; Sticky						
11.0	Soil Profile Pit SPP-1 Terminated at a Depth of 12.0 Feet Below Ground Surface						
12.0							
13.0							
			14.0				
			15.0				

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched



RECORD OF SUBSURFACE EXPLORATION

Soil Profile Pit No.: **SPP-2**

Page 1 of 1

Project: Proposed Bank				WAI Project No.: GP2422339.000			
Location: 770 Marne Highway; Moorestown, Burlington County, NJ				Client: Mount Laurel Realty, LLC			
Surface Elevation: ± 72.0 feet		Date Started: 9/6/2024		Water Depth Elevation (feet bgs) (feet)		Estimated Seasonal High Groundwater Depth Elevation (feet bgs) (feet)	
Termination Depth: 12.0 feet bgs		Date Completed: 9/6/2024		During: 9.0 63.0		At Completion: 8.0 64.0	
Proposed Location: SWM Basin		Logged By: RN		At Completion: 9.0 63.0		At Completion: 8.0 64.0	
Excavating Method: Test Pit Excavation		Contractor: TS		24 Hours: --- ---			
Test Method: Visual Observation		Rig Type: Komatsu PC88MR					
SAMPLE INFORMATION			DEPTH	HORIZON	DESCRIPTION OF MATERIALS (Classification)		REMARKS
Depth (feet)	Number	Type	feet				
5.0	T-1A/B	TUBES	0.0	TOPSOIL	18" Topsoil		
			0 - 1.5				
			1.0				
			1.5 - 8	COASTAL PLAIN DEPOSITS	Dark Brown (10YR 3/4) SANDY LOAM; No Coarse Fragments; Moist; Weak, Coarse Crumb Structure; Friable; Few Fine Roots		
			2.0				
			3.0				
			4.0				
			5.0				
			6.0				
			7.0				
			8.0				
			8 - 9	As Above, Common, Medium Mottling			
9.0	As Above, Wet; Clear Smooth Boundary						
9 - 11							
10.0							
11.0							
11 - 12	Black (10YR 2/1) CLAY LOAM; No Coarse Fragments; Wet; Weak, Coarse Crumb Structure; Sticky						
12.0							
					Soil Profile Pit SPP-2 Terminated at a Depth of 12.0 Feet Below Ground Surface		
			13.0				
			14.0				
			15.0				

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched



RECORD OF SUBSURFACE EXPLORATION

Soil Profile Pit No.: **SPP-3**

Page **1** of **1**

Project: Proposed Bank				WAI Project No.: GP2422339.000			
Location: 770 Marne Highway; Moorestown, Burlington County, NJ				Client: Mount Laurel Realty, LLC			
Surface Elevation: ± 71.0 feet		Date Started: 9/6/2024		Water Depth Elevation (feet bgs) (feet)		Estimated Seasonal High	
Termination Depth: 12.0 feet bgs		Date Completed: 9/6/2024				Groundwater Depth Elevation (feet bgs) (feet)	
Proposed Location: SWM Basin		Logged By: RN		During: 9.0 62.0 ▼			
Excavating Method: Test Pit Excavation		Contractor: TS		At Completion: 9.0 62.0 ▼		At Completion: 8.0 63.0	
Test Method: Visual Observation		Rig Type: Komatsu PC88MR		24 Hours: --- --- ▼			
SAMPLE INFORMATION			DEPTH	HORIZON	DESCRIPTION OF MATERIALS (Classification)	REMARKS	
Depth (feet)	Number	Type	feet				
5.0	T-1A/B	TUBES	0.0	TOPSOIL	12" Topsoil		
			0 - 1				
			1.0	COASTAL PLAIN DEPOSITS	Dark Brown (10YR 3/4) SANDY LOAM; No Coarse Fragments; Moist; Weak, Coarse Crumb Structure; Friable; No Roots; Common, Medium to Distinct Mottling; Gradual, Irregular Boundary		
			1 - 8				
			2.0				
			3.0				
			4.0				
			5.0				
			6.0				
			7.0				
			8.0				
			8 - 9				As Above, Common, Medium Mottling
9.0	As Above, Wet; Weak, Medium Crumb Structure	Water @ 9.0 fbs					
9 - 12							
Soil Profile Pit SPP-3 Terminated at a Depth of 12.0 Feet Below Ground Surface							
			13.0				
			14.0				
			15.0				



RECORD OF SUBSURFACE EXPLORATION

Soil Profile Pit No.: **SPP-4**

Page 1 of 1

Project: Proposed Bank		WAI Project No.: GP2422339.000	
Location: 770 Marne Highway; Moorestown, Burlington County, NJ		Client: Mount Laurel Realty, LLC	
Surface Elevation: ± 71.5 feet	Date Started: 9/6/2024	Water Depth Elevation (feet bgs) (feet)	
Termination Depth: 12.0 feet bgs	Date Completed: 9/6/2024	Estimated Seasonal High Groundwater Depth Elevation (feet bgs) (feet)	
Proposed Location: SWM Basin	Logged By: RN	During: 6.0 65.5	▼
Excavating Method: Test Pit Excavation	Contractor: TS	At Completion: 6.0 65.5	▼
Test Method: Visual Observation	Rig Type: Komatsu PC88MR	24 Hours: --- ---	▼
At Completion: 5.0 66.5			

SAMPLE INFORMATION			DEPTH		HORIZON	DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	Number	Type	feet				
3.0	T-1A/B	TUBES	0.0				
				0 - 1	TOPSOIL	12" Topsoil	
			1.0				
				1 - 5	COASTAL PLAIN DEPOSITS	Dark Brown (10YR 3/4) LOAM; No Coarse Fragments; Moist; Weak, Coarse Crumb Structure; Friable; Few Fine Roots	
			2.0				
			3.0				
			4.0				
			5.0				
				5 - 6		As Above, Common, Medium Mottling	
			6.0				
				6 - 11		As Above, Wet	
7.0							
8.0							
9.0							
10.0							
11.0							
	11 - 12		As Above, Dark Brown (10YR 3/4)				
12.0							
	</						

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched



RECORD OF SUBSURFACE EXPLORATION

Soil Profile Pit No.: **SPP-5**

Page 1 of 1

Project: Proposed Bank		WAI Project No.: GP2422339.000	
Location: 770 Marne Highway; Moorestown, Burlington County, NJ		Client: Mount Laurel Realty, LLC	
Surface Elevation: ± 70.0 feet	Date Started: 9/6/2024	Water Depth Elevation (feet bgs) (feet)	
Termination Depth: 11.0 feet bgs	Date Completed: 9/6/2024	Estimated Seasonal High Groundwater Depth Elevation (feet bgs) (feet)	
Proposed Location: SWM Basin	Logged By: RN	During: 6.0 64.0	▼
Excavating Method: Test Pit Excavation	Contractor: TS	At Completion: 6.0 64.0	▼
Test Method: Visual Observation	Rig Type: Komatsu PC88MR	24 Hours: --- ---	▼
At Completion: 5.0 65.0			

SAMPLE INFORMATION			DEPTH		HORIZON	DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	Number	Type	feet				
3.0	T-1A/B	TUBES	0.0	0 - 1.5	TOPSOIL	18" Topsoil	ESHGW @ 5.0 fbgs Water @ 6.0 fbgs
			1.0				
			2.0				
			1.5 - 3.5	COASTAL PLAIN DEPOSITS	Dark Brown (10YR 3/4) LOAM; No Coarse Fragments; Moist; Weak, Coarse Crumb Structure; Friable; Few, Fine Roots		
			2.0				
			3.0				
			4.0				
			5.0				
			5 - 6			As Above, Common, Medium Mottling	
			6.0			As Above, Wet	
			6 - 11				
			7.0				
			8.0			As Above, Light Brown (10YR 6/3); Weak, Fine Crumb Structure	
			9.0				
10.0							
10 - 11		Brown (10YR 3/2) LOAMY SAND, Weak, Fine Crumb Structure					
11.0							
			12.0		Soil Profile Pit SPP-5 Terminated at a Depth of 11.0 Feet Below Ground Surface Due to Continued Cave-In		
			13.0				
			14.0				
			15.0				

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched



RECORD OF SUBSURFACE EXPLORATION

Soil Profile Pit No.: **SPP-6**

Page **1** of **1**

Project: Proposed Bank		WAI Project No.: GP2422339.000	
Location: 770 Marne Highway; Moorestown, Burlington County, NJ		Client: Mount Laurel Realty, LLC	
Surface Elevation: ± 71.0 feet	Date Started: 9/6/2024	Water Depth Elevation (feet bgs) (feet)	
Termination Depth: 12.0 feet bgs	Date Completed: 9/6/2024	Estimated Seasonal High Groundwater Depth Elevation (feet bgs) (feet)	
Proposed Location: SWM Basin	Logged By: RN	During: 7.0 64.0	▼
Excavating Method: Test Pit Excavation	Contractor: TS	At Completion: 7.0 64.0	▼
Test Method: Visual Observation	Rig Type: Komatsu PC88MR	24 Hours: --- ---	▼
At Completion: 5.0 66.0			

SAMPLE INFORMATION			DEPTH		HORIZON	DESCRIPTION OF MATERIALS (Classification)	REMARKS
Depth (feet)	Number	Type	feet				
3.0	T-1A/B	TUBES	0.0				
				0 - 1	TOPSOIL	12" Topsoil	
			1.0				
				1 - 3	COASTAL PLAIN DEPOSITS	Dark Brown (10YR 3/4) LOAM; No Coarse Fragments; Moist; Weak, Coarse Crumb Structure; Friable; Few, Fine Roots	
			2.0				
			3.0				
			4.0				
			5.0				
				5 - 6		As Above, Common, Medium Mottling	
			6.0				
			7.0				
				7 - 8		As Above, Wet	
			8.0				
	8 - 10		Brown (10YR 3/2) LOAMY SAND; No Coarse Fragments; Wet; Weak, Medium Crumb Structure; Friable; No Roots				
9.0							
10.0							
	10 - 12		Reddish-Brown (10YR 4/2) SAND; No Coarse Fragments; Wet; Weak, Coarse Crumb Structure; Friable; No Roots				
11.0							
12.0							
					Soil Profile Pit SPP-6 Terminated at a Depth of 12.0 Feet Below Ground Surface		
			13.0				
			14.0				
			15.0				

NOTES: bgs = below ground surface, NA = Not Applicable, NE = Not Encountered, NS = Not Surveyed, P = Perched



APPENDIX B

Laboratory Test Results

Job Number: GP2422339.000
Project: Proposed Bank
Client: Mount Laurel Realty, LLC
Lab Tech: EL

_____ None

_____ Soil/Tube Contact _____ Large Gravel _____ Large Roots

_____ Dry Soil _____ Smearing _____ Compaction

_____ Other - Specify _____

Tube Permeameter Test Data

Job Number: GP2422339.000

Project: Proposed Bank

Client: Mount Laurel Realty, LLC

Lab Tech: EL

Sample ID: _____ Profile Pit No.: SPP-1 Sample No.: _____ T-1 _____ Depth: 5.0'
COUNTY/MUNICIPALITY Moorestown, Burlington County, NJ BLOCK 6704 LOT 1

1. Test Number 1 Replicate (letter) B Date Collected 9/6/2024

2. Material Tested: _____ Fill _____ X _____ Test in Native Soil

3. Type of Sample: _____ X _____ Undisturbed _____ Disturbed

4. Sample Dimensions: Inside Radius of Sample Tube, R, in cm 1.91
Length of Sample, L, in inches 3.00

5. Bulk Density Determination (Disturbed Samples Only): N/A

6. Sample Weight (Wt. Tube Containing Sample-Wt. of Empty Tube), grams 0.00

Wt. of Tube Containing Sample _____

Wt. of Empty Tube _____

7. Sample Volume (L x 2.54 cm./inch x 3.14R²), cc. 86.83

8. Bulk Density (Sample Wt./Sample Volume), grams/cc. 0 > 1.2

9. Standpipe Used: _____ No _____ Yes, Indicate Internal Radius, cm.

10. Height of Water Level Above Rim of Test Basin, in inches:

At the Beginning of Each Test Interval, H1 4.75
At the End of Each Test Interval, H2 3.75

11. Rate of Water Level Drop (Add additional lines if needed):

Time, Start of Test Interval, T1	Time End of Test Interval T2	Length of Test Interval, T, Minutes
2:05:00	2:42:00	37.00
2:43:00	3:13:00	40.00
3:15:00	3:52:00	37.00

12. Calculation of Permeability: $K, (\text{in/hr}) = 60 \text{ min/hr} \times r^2/R^2 \times L(\text{in})/T(\text{min}) \times \ln (H1/H2)$ T= 38.00

K (in/hr) = 1.12 Classification: **K2**

13. Defects in the Sample (Check appropriate items):

_____ None

_____ Soil/Tube Contact _____ Large Gravel _____ Large Roots

_____ Dry Soil _____ Smearing _____ Compaction

_____ Other - Specify _____

Job Number: GP2422339.000
Project: Proposed Bank
Client: Mount Laurel Realty, LLC
Lab Tech: EL

_____ None

_____ Soil/Tube Contact _____ Large Gravel _____ Large Roots

_____ Dry Soil _____ Smearing _____ Compaction

_____ Other - Specify _____

Job Number: GP2422339.000
Project: Proposed Bank
Client: Mount Laurel Realty, LLC
Lab Tech: EL

_____ None

_____ Soil/Tube Contact _____ Large Gravel _____ Large Roots

_____ Dry Soil _____ Smearing _____ Compaction

_____ Other - Specify _____

Job Number: GP2422339.000
Project: Proposed Bank
Client: Mount Laurel Realty, LLC
Lab Tech: EL

13. Defects in the Sample (Check appropriate items):

_____ None

_____ Soil/Tube Contact _____ Large Gravel _____ Large Roots

_____ Dry Soil _____ Smearing _____ Compaction

_____ Other - Specify _____

Job Number: GP2422339.000
Project: Proposed Bank
Client: Mount Laurel Realty, LLC
Lab Tech: EL

_____ None

_____ Soil/Tube Contact _____ Large Gravel _____ Large Roots

_____ Dry Soil _____ Smearing _____ Compaction

_____ Other - Specify _____

Job Number: GP2422339.000
Project: Proposed Bank
Client: Mount Laurel Realty, LLC
Lab Tech: EL

13. Defects in the Sample (Check appropriate items):

_____ None

_____ Soil/Tube Contact _____ Large Gravel _____ Large Roots

_____ Dry Soil _____ Smearing _____ Compaction

_____ Other - Specify _____

Job Number: GP2422339.000
Project: Proposed Bank
Client: Mount Laurel Realty, LLC
Lab Tech: EL

_____ None

_____ Soil/Tube Contact _____ Large Gravel _____ Large Roots

_____ Dry Soil _____ Smearing _____ Compaction

_____ Other - Specify _____

Job Number: GP2422339.000
Project: Proposed Bank
Client: Mount Laurel Realty, LLC
Lab Tech: EL

_____ None

_____ Soil/Tube Contact _____ Large Gravel _____ Large Roots

_____ Dry Soil _____ Smearing _____ Compaction

_____ Other - Specify _____

Tube Permeameter Test Data**Job Number:** GP2422339.000**Project:** Proposed Bank**Client:** Mount Laurel Realty, LLC**Lab Tech:** EL**Sample ID:** **Profile Pit No.:** SPP-6 **Sample No.:** **T-1** **Depth:** 3.0'**COUNTY/MUNICIPALITY** Moorestown, Burlington County, NJ **BLOCK** 6704 **LOT** 11. Test Number 1 Replicate (letter) A Date Collected 9/6/20242. Material Tested: Fill X Test in Native Soil3. Type of Sample: X Undisturbed Disturbed4. Sample Dimensions: Inside Radius of Sample Tube, R, in cm 1.91
Length of Sample, L, in inches 3.255. Bulk Density Determination (Disturbed Samples Only): N/A6. Sample Weight (Wt. Tube Containing Sample-Wt. of Empty Tube), grams 0.00Wt. of Tube Containing Sample Wt. of Empty Tube 7. Sample Volume (L x 2.54 cm./inch x 3.14R²), cc. 94.078. Bulk Density (Sample Wt./Sample Volume), grams/cc. 0 > 1.29. Standpipe Used: No Yes, Indicate Internal Radius, cm.

10. Height of Water Level Above Rim of Test Basin, in inches:

At the Beginning of Each Test Interval, H1 5.00
At the End of Each Test Interval, H2 5.00

11. Rate of Water Level Drop (Add additional lines if needed):

***No Significant Movement After Two Hours**

Time, Start of Test Interval, T1	Time End of Test Interval T2	Length of Test Interval, T, Minutes
2:05:00	4:05:00	120.00

12. Calculation of Permeability: $K, (in/hr) = 60 \text{ min/hr} \times r^2/R^2 \times L(in)/T(min) \times \ln (H1/H2)$ T= 120.00K (in/hr) = 0.00 **Classification:** **K0**

13. Defects in the Sample (Check appropriate items):

 None Soil/Tube Contact Large Gravel Large Roots Dry Soil Smearing Compaction Other - Specify

Job Number: GP2422339.000
Project: Proposed Bank
Client: Mount Laurel Realty, LLC
Lab Tech: EL

_____ None

_____ Soil/Tube Contact _____ Large Gravel _____ Large Roots

_____ Dry Soil _____ Smearing _____ Compaction

Other - Specify _____



APPENDIX C

Supplemental Information (USCS, Terms & Symbols)

UNIFIED SOIL CLASSIFICATION SYSTEM

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION <u>RETAINED</u> ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		CLEAN SAND (LITTLE OR NO FINES)	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
	SAND AND SANDY SOILS	MORE THAN 50% OF COARSE FRACTION <u>PASSING</u> NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GC
			SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
MORE THAN 50% OF MATERIAL IS <u>LARGER</u> THAN NO. 200 SIEVE SIZE			SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			SM	SILTY SANDS, SAND-SILT MIXTURES
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMITS <u>LESS</u> THAN 50	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
MORE THAN 50% OF MATERIAL IS <u>SMALLER</u> THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMITS <u>GREATER</u> THAN 50	OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
HIGHLY ORGANIC SOILS			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
			PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS FOR SAMPLES WITH 5% TO 12% FINES

GRADATION*

% FINER BY WEIGHT

TRACE..... 1% TO 10%
LITTLE..... 10% TO 20%
SOME..... 20% TO 35%
AND..... 35% TO 50%

COMPACTNESS*

Sand and/or Gravel

RELATIVE DENSITY

LOOSE..... 0% TO 40%
MEDIUM DENSE.... 40% TO 70%
DENSE..... 70% TO 90%
VERY DENSE..... 90% TO 100%

CONSISTENCY*

Clay and/or Silt

RANGE OF SHEARING STRENGTH IN POUNDS PER SQUARE FOOT

VERY SOFT..... LESS THAN 250
SOFT..... 250 TO 500
MEDIUM..... 500 TO 1000
STIFF..... 1000 TO 2000
VERY STIFF..... 2000 TO 4000
HARD..... GREATER THAN 4000

* VALUES ARE FROM LABORATORY OR FIELD TEST DATA, WHERE APPLICABLE.
WHEN NO TESTING WAS PERFORMED, VALUES ARE ESTIMATED.

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Office Locations:

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PENNSYLVANIA

MASSACHUSETTS

CONNECTICUT

FLORIDA

NEW HAMPSHIRE

NEW YORK

GEOTECHNICAL TERMS AND SYMBOLS

SAMPLE IDENTIFICATION

The Unified Soil Classification System is used to identify the soil unless otherwise noted.

SOIL PROPERTY SYMBOLS

- N: Standard Penetration Value: Blows per ft. of a 140 lb. hammer falling 30" on a 2" O.D. split-spoon.
 Qu: Unconfined compressive strength, TSF.
 Qp: Penetrometer value, unconfined compressive strength, TSF.
 Mc: Moisture content, %.
 LL: Liquid limit, %.
 PI: Plasticity index, %.
 δd: Natural dry density, PCF.
 ▽: Apparent groundwater level at time noted after completion of boring.

DRILLING AND SAMPLING SYMBOLS

- NE: Not Encountered (Groundwater was not encountered).
 SS: Split-Spoon - 1 3/8" I.D., 2" O.D., except where noted.
 ST: Shelby Tube - 3" O.D., except where noted.
 AU: Auger Sample.
 OB: Diamond Bit.
 CB: Carbide Bit
 WS: Washed Sample.

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

<u>Term (Non-Cohesive Soils)</u>	<u>Standard Penetration Resistance</u>
Very Loose	0-4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	Over 50

<u>Term (Cohesive Soils)</u>	<u>Qu (TSF)</u>
Very Soft	0 - 0.25
Soft	0.25 - 0.50
Firm (Medium)	0.50 - 1.00
Stiff	1.00 - 2.00
Very Stiff	2.00 - 4.00
Hard	4.00+

PARTICLE SIZE

Boulders	8 in.+	Coarse Sand	5mm-0.6mm	Silt	0.074mm-0.005mm
Cobbles	8 in.-3 in.	Medium Sand	0.6mm-0.2mm	Clay	-0.005mm
Gravel	3 in.-5mm	Fine Sand	0.2mm-0.074mm		

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Office Locations:

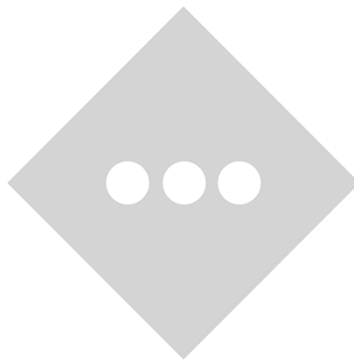
APPENDIX C

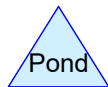
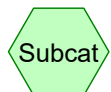
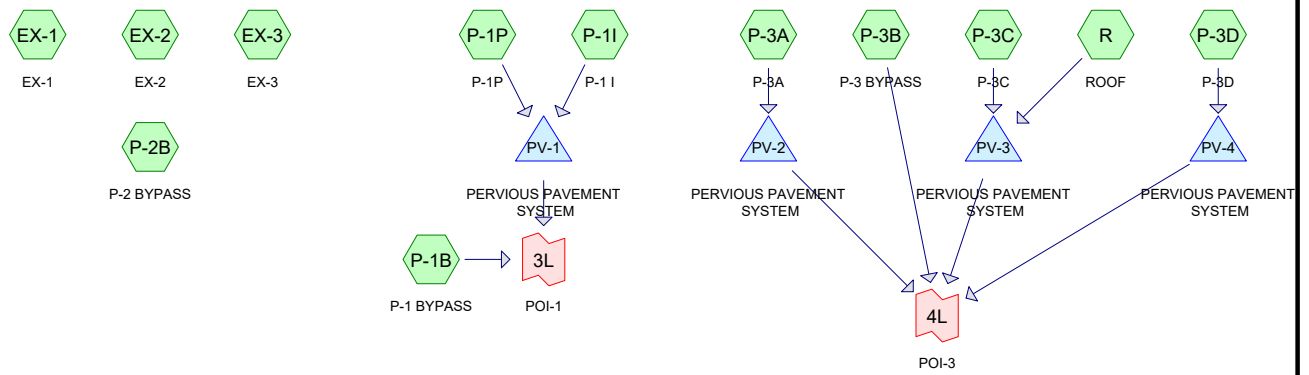
HYDROLOGIC & HYDRAULIC CALCULATIONS

INVENTORY

C-1: HYDROCAD NODE SCHEMATIC DIAGRAM

C-2: HYDROCAD HYDROLOGIC CALCULATIONS





Summary for Subcatchment EX-1: EX-1

Runoff = 0.12 cfs @ 12.25 hrs, Volume= 802 cf, Depth= 0.51"

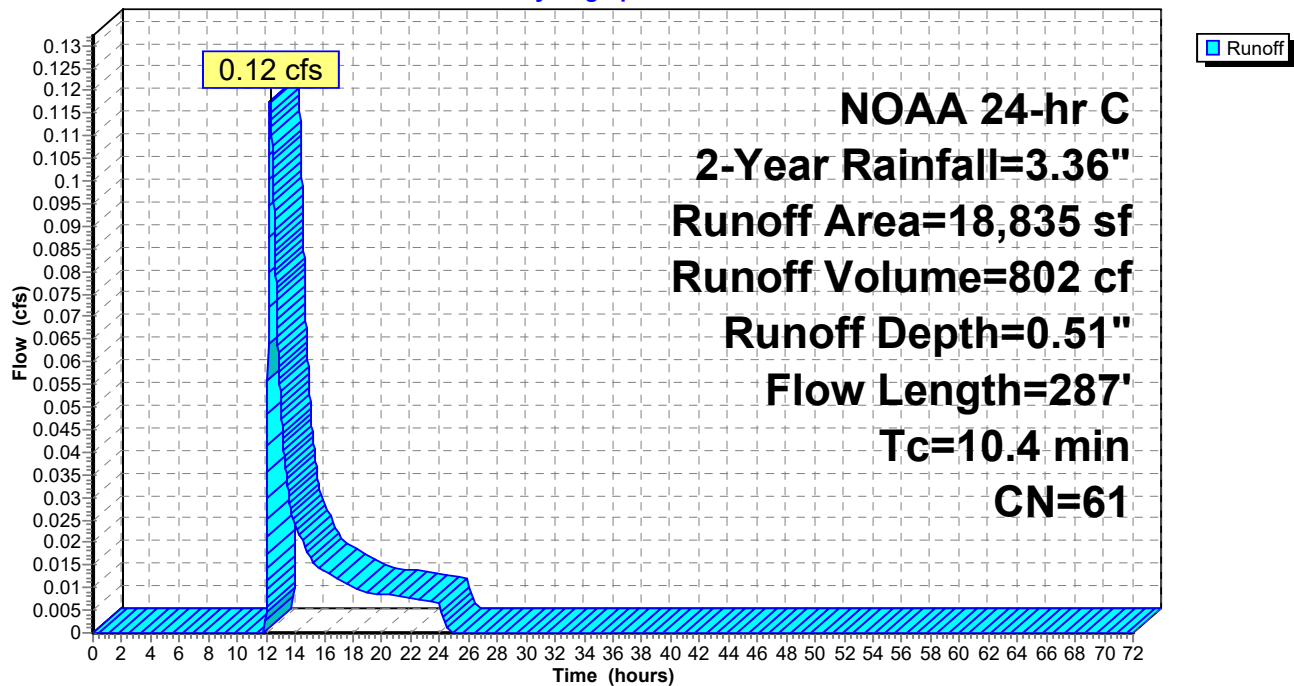
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year Rainfall=3.36"

Area (sf)	CN	Description
18,835	61	>75% Grass cover, Good, HSG B
18,835		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	100	0.0200	0.17		Sheet Flow, 1A-1B Grass: Short n= 0.150 P2= 3.36"
0.5	32	0.0200	0.99		Shallow Concentrated Flow, 1B-1C Short Grass Pasture Kv= 7.0 fps
0.3	155	0.0160	8.89	15.70	Pipe Channel, 1C-1D 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011
10.4	287	Total			

Subcatchment EX-1: EX-1

Hydrograph



Summary for Subcatchment EX-2: EX-2

Runoff = 0.08 cfs @ 12.21 hrs, Volume= 516 cf, Depth= 0.51"

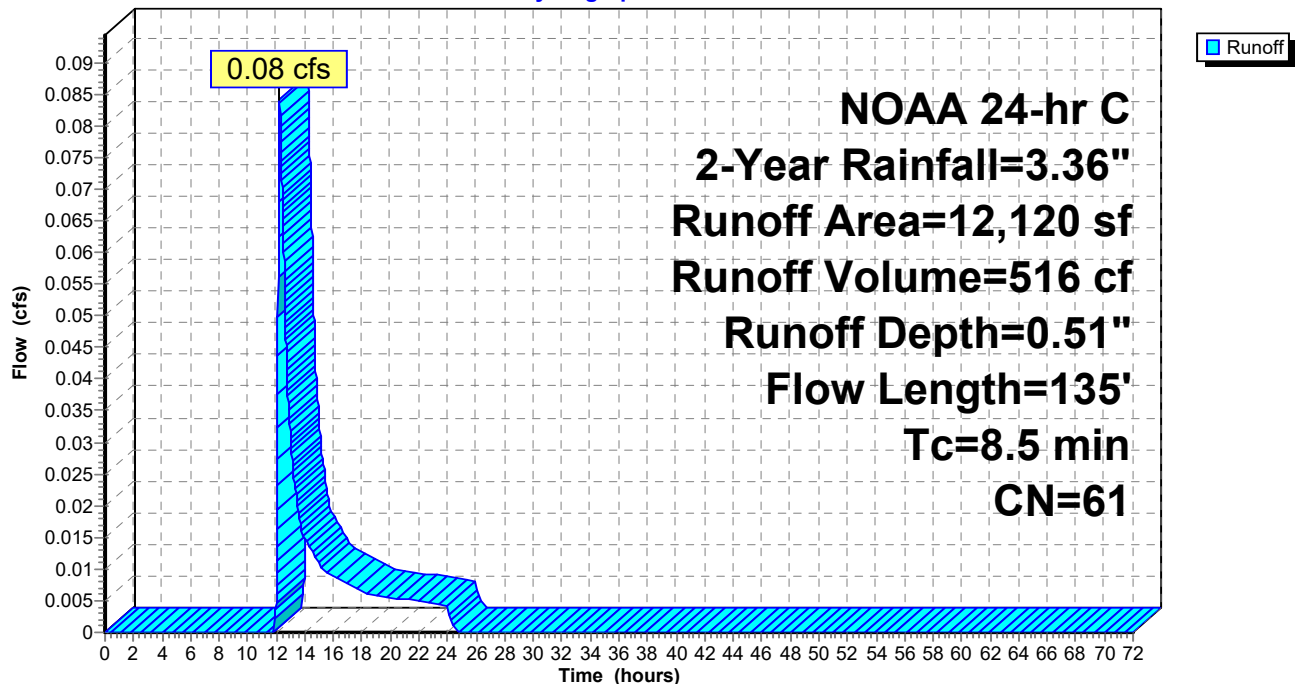
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year Rainfall=3.36"

Area (sf)	CN	Description
3,577	61	>75% Grass cover, Good, HSG B
8,543	61	>75% Grass cover, Good, HSG B
12,120	61	Weighted Average
12,120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	76	0.0180	0.16		Sheet Flow, 2A-2B
					Grass: Short n= 0.150 P2= 3.36"
0.5	59	0.0840	2.03		Shallow Concentrated Flow, 2B-2C
					Short Grass Pasture Kv= 7.0 fps
8.5	135	Total			

Subcatchment EX-2: EX-2

Hydrograph



Summary for Subcatchment EX-3: EX-3

Runoff = 0.26 cfs @ 12.15 hrs, Volume= 1,207 cf, Depth= 0.51"

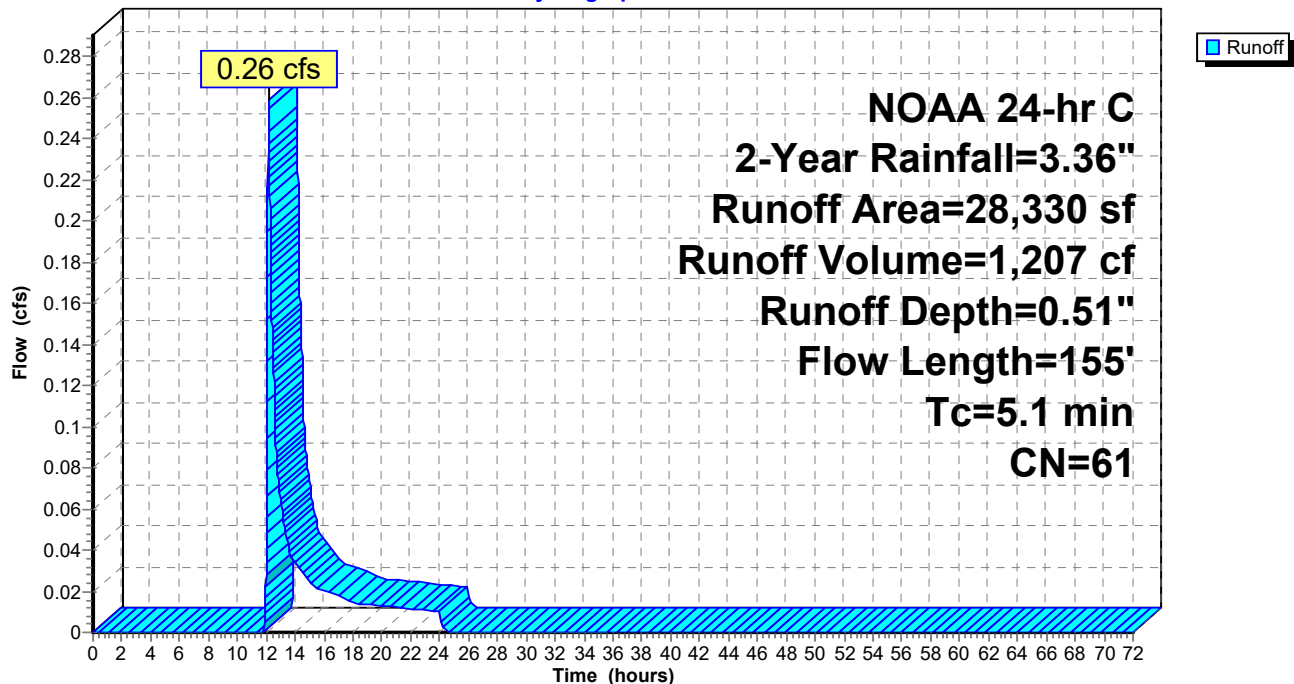
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year Rainfall=3.36"

Area (sf)	CN	Description
19,815	61	>75% Grass cover, Good, HSG B
8,515	61	>75% Grass cover, Good, HSG B
28,330	61	Weighted Average
28,330		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	93	0.0940	0.32		Sheet Flow, 3A-3B
					Grass: Short n= 0.150 P2= 3.36"
0.2	62	0.0430	4.21		Shallow Concentrated Flow, 3B-3C
					Paved Kv= 20.3 fps
5.1	155	Total			

Subcatchment EX-3: EX-3

Hydrograph



Summary for Subcatchment P-1B: P-1 BYPASS

Runoff = 0.04 cfs @ 12.29 hrs, Volume= 298 cf, Depth= 0.51"
Routed to Link 3L : POI-1

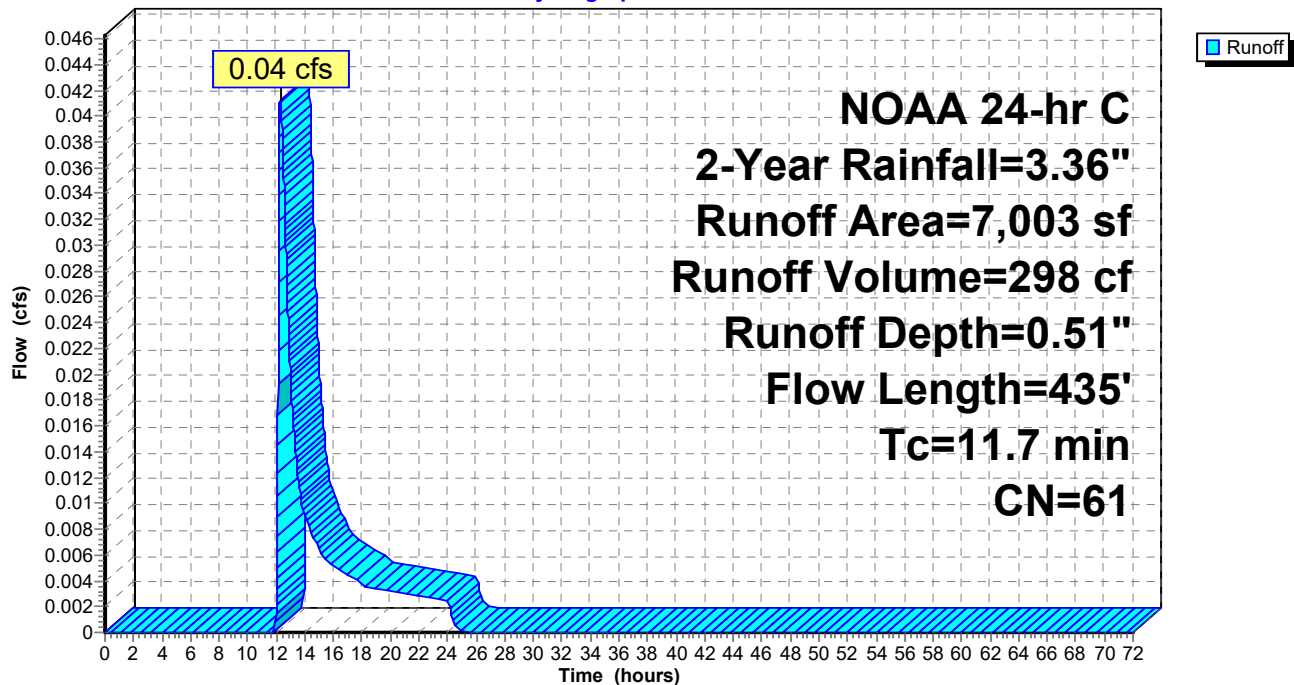
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year Rainfall=3.36"

Area (sf)	CN	Description
7,003	61	>75% Grass cover, Good, HSG B
7,003		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	53	0.0180	0.15		Sheet Flow, 1A-1B Grass: Short n= 0.150 P2= 3.36"
5.4	227	0.0100	0.70		Shallow Concentrated Flow, 1B-1C Short Grass Pasture Kv= 7.0 fps
0.3	155	0.0160	8.89	15.70	Pipe Channel, 1C-1D 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011
11.7	435	Total			

Subcatchment P-1B: P-1 BYPASS

Hydrograph



Summary for Subcatchment P-1I: P-1 I

Runoff = 0.72 cfs @ 12.10 hrs, Volume= 2,082 cf, Depth= 3.13"

Routed to Pond PV-1 : PERVIOUS PAVEMENT SYSTEM

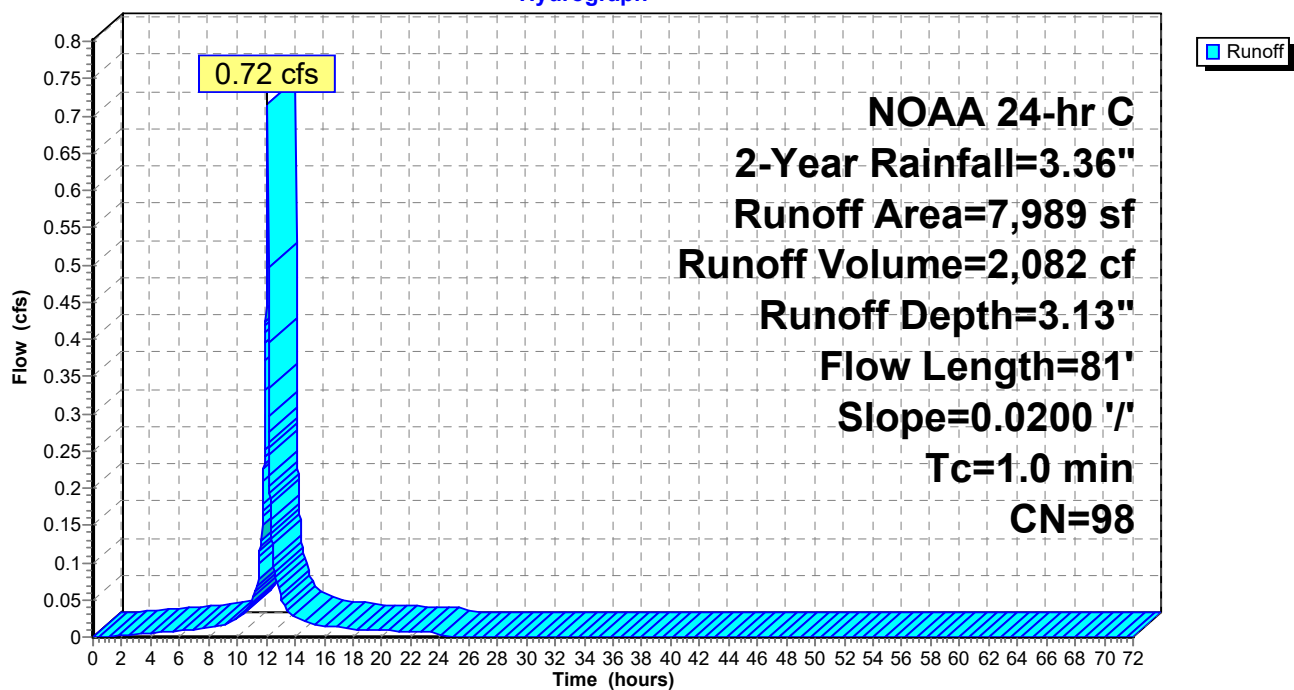
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year Rainfall=3.36"

Area (sf)	CN	Description
* 7,989	98	PARKING
7,989		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	81	0.0200	1.35		Sheet Flow, 2A-2B
Smooth surfaces n= 0.011 P2= 3.36"					

Subcatchment P-1I: P-1 I

Hydrograph



Summary for Subcatchment P-1P: P-1P

Runoff = 0.01 cfs @ 12.13 hrs, Volume= 54 cf, Depth= 0.51"
 Routed to Pond PV-1 : PERVIOUS PAVEMENT SYSTEM

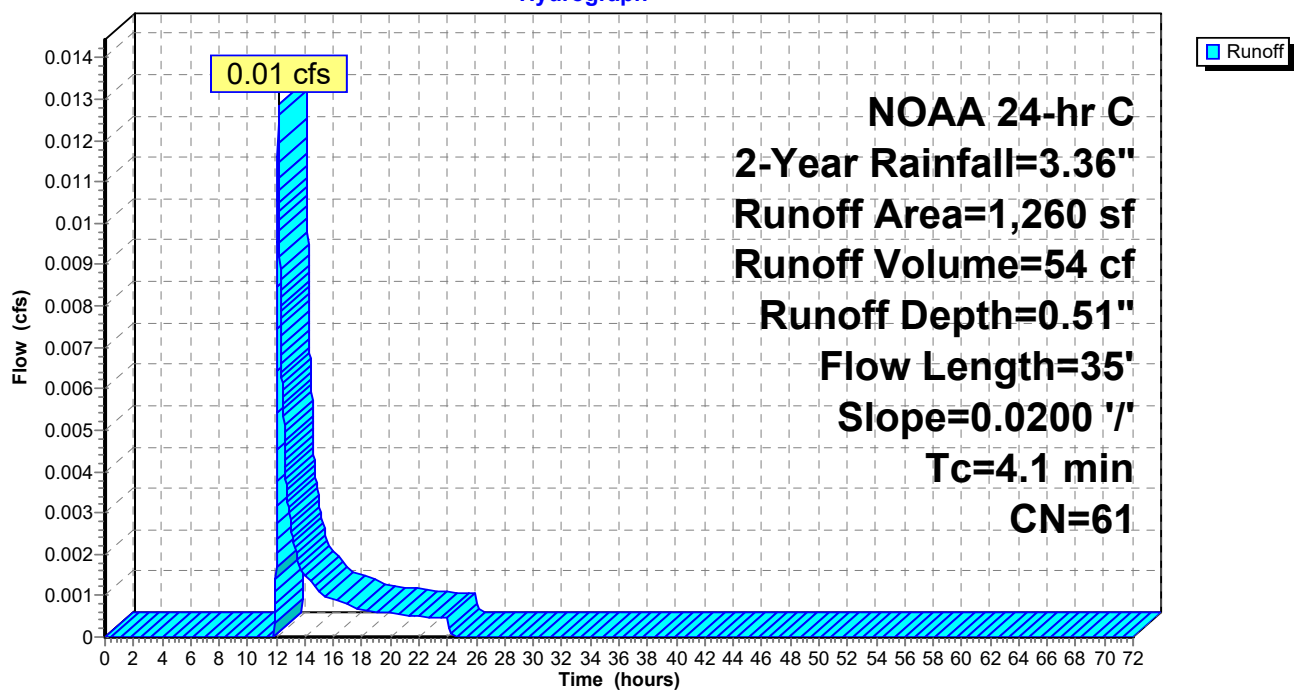
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 NOAA 24-hr C 2-Year Rainfall=3.36"

Area (sf)	CN	Description
1,260	61	>75% Grass cover, Good, HSG B
1,260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	35	0.0200	0.14		Sheet Flow, SHEET FLOW
Grass: Short n= 0.150 P2= 3.36"					

Subcatchment P-1P: P-1P

Hydrograph



Summary for Subcatchment P-2B: P-2 BYPASS

Runoff = 0.06 cfs @ 12.12 hrs, Volume= 232 cf, Depth= 0.51"

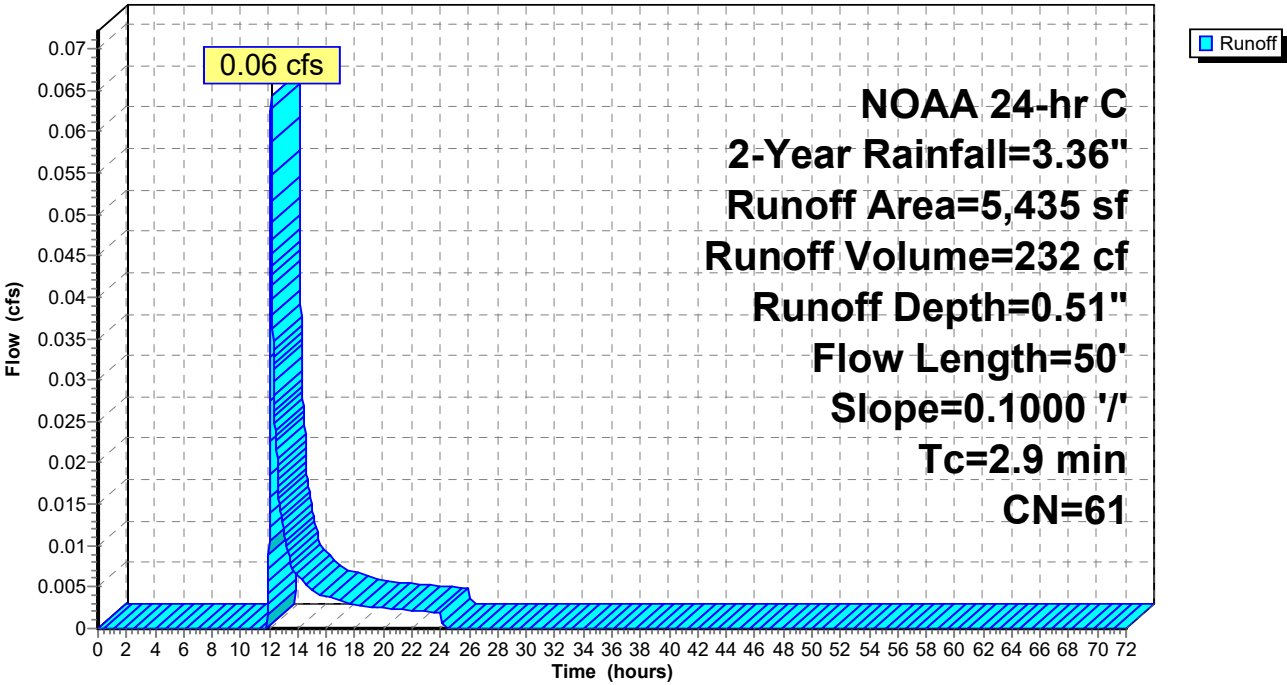
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year Rainfall=3.36"

Area (sf)	CN	Description
5,435	61	>75% Grass cover, Good, HSG B
5,435		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	50	0.1000	0.29		Sheet Flow, 4A-4B Grass: Short n= 0.150 P2= 3.36"

Subcatchment P-2B: P-2 BYPASS

Hydrograph



Summary for Subcatchment P-3A: P-3A

Runoff = 0.58 cfs @ 12.09 hrs, Volume= 1,552 cf, Depth= 2.70"

Routed to Pond PV-2 : PERVIOUS PAVEMENT SYSTEM

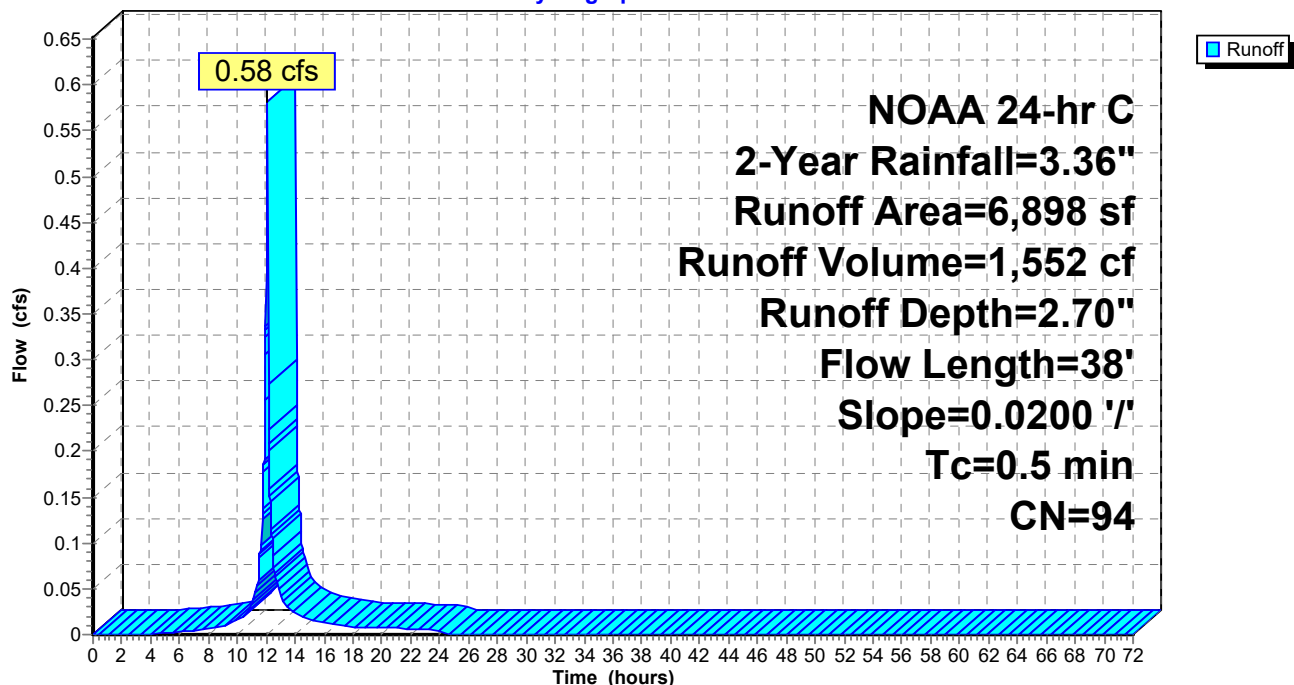
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year Rainfall=3.36"

	Area (sf)	CN	Description
*	6,233	98	PARKING
	665	61	>75% Grass cover, Good, HSG B
	6,898	94	Weighted Average
	665		9.64% Pervious Area
	6,233		90.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	38	0.0200	1.16		Sheet Flow, P-3A
Smooth surfaces n= 0.011 P2= 3.36"					

Subcatchment P-3A: P-3A

Hydrograph



Summary for Subcatchment P-3B: P-3 BYPASS

Runoff = 0.08 cfs @ 12.20 hrs, Volume= 472 cf, Depth= 0.51"
Routed to Link 4L : POI-3

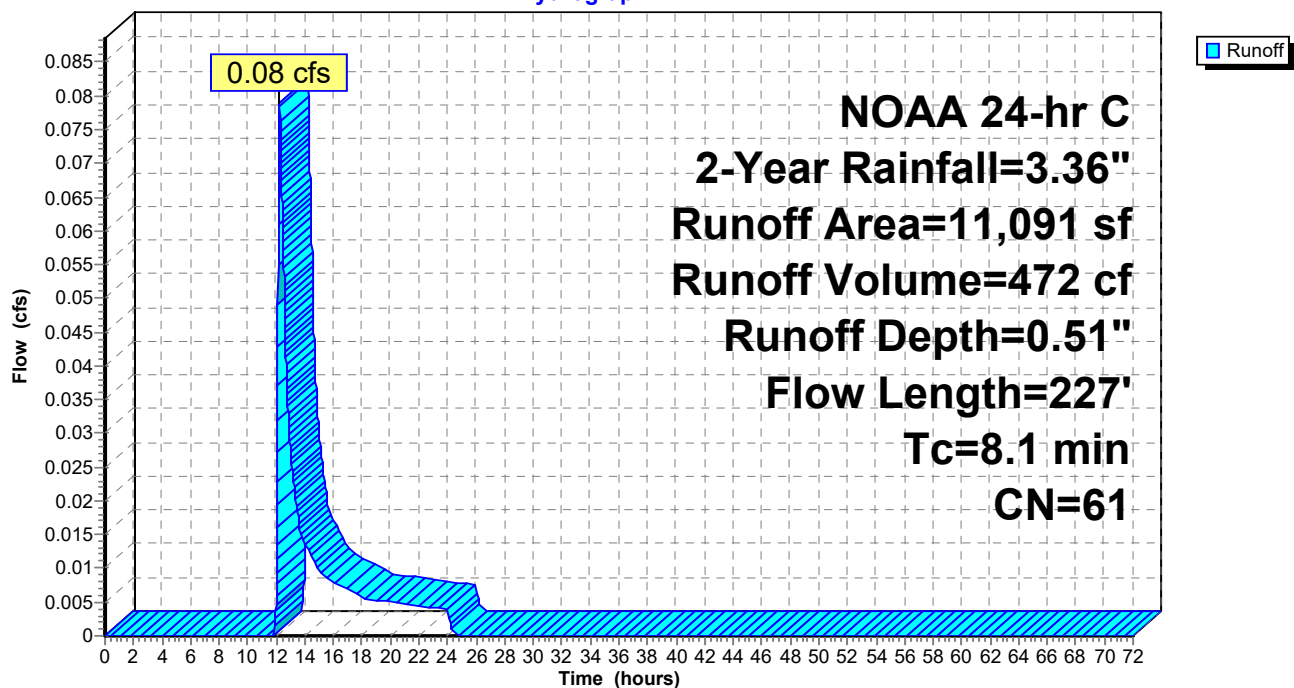
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year Rainfall=3.36"

Area (sf)	CN	Description
11,091	61	>75% Grass cover, Good, HSG B
11,091		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6	100	0.0350	0.22		Sheet Flow, 6A-6B
					Grass: Short n= 0.150 P2= 3.36"
0.5	127	0.0450	4.31		Shallow Concentrated Flow, 6B-6C
					Paved Kv= 20.3 fps
8.1	227	Total			

Subcatchment P-3B: P-3 BYPASS

Hydrograph



Summary for Subcatchment P-3C: P-3C

Runoff = 0.49 cfs @ 12.10 hrs, Volume= 1,310 cf, Depth= 2.70"
Routed to Pond PV-3 : PERVIOUS PAVEMENT SYSTEM

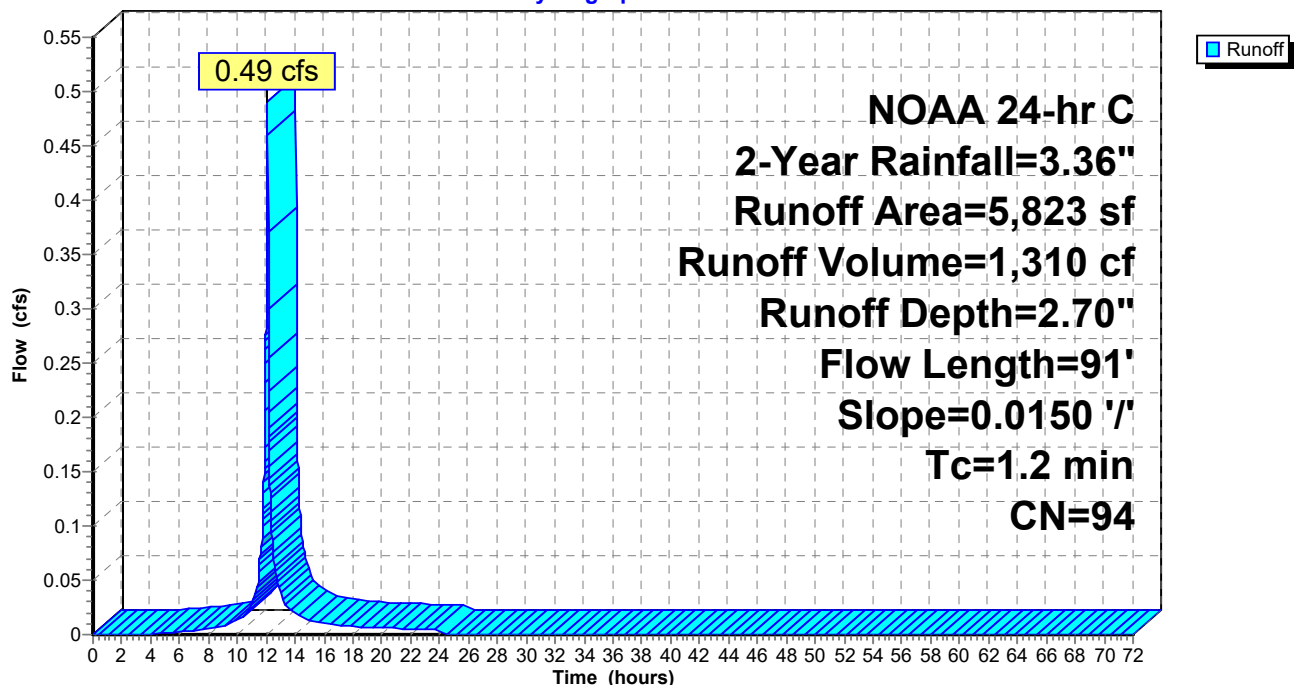
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year Rainfall=3.36"

	Area (sf)	CN	Description
*	5,158	98	PARKING
	665	61	>75% Grass cover, Good, HSG B
	5,823	94	Weighted Average
	665		11.42% Pervious Area
	5,158		88.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	91	0.0150	1.23		Sheet Flow, P-3A
Smooth surfaces n= 0.011 P2= 3.36"					

Subcatchment P-3C: P-3C

Hydrograph



Summary for Subcatchment P-3D: P-3D

Runoff = 0.84 cfs @ 12.09 hrs, Volume= 2,423 cf, Depth= 3.13"

Routed to Pond PV-4 : PERVIOUS PAVEMENT SYSTEM

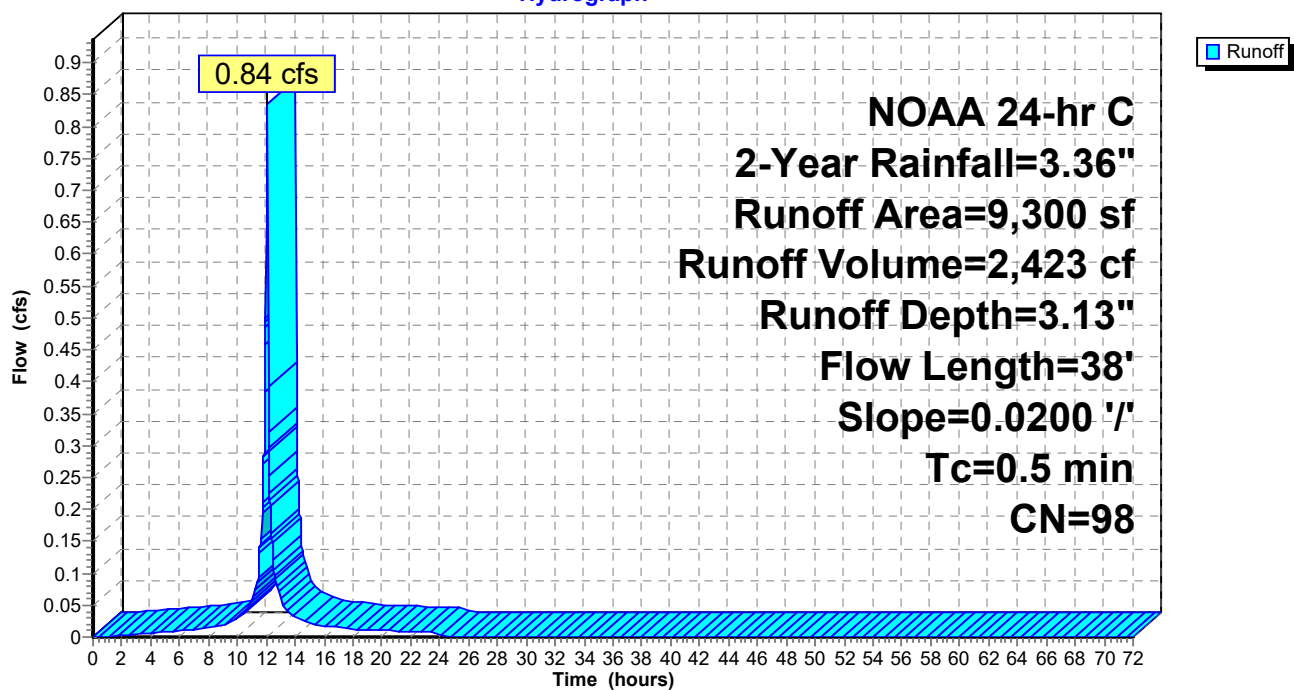
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year Rainfall=3.36"

Area (sf)	CN	Description
* 9,300	98	PARKING
9,300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	38	0.0200	1.16		Sheet Flow, P-3D
Smooth surfaces n= 0.011 P2= 3.36"					

Subcatchment P-3D: P-3D

Hydrograph



Summary for Subcatchment R: ROOF

Runoff = 0.41 cfs @ 12.09 hrs, Volume= 1,196 cf, Depth= 3.13"

Routed to Pond PV-3 : PERVIOUS PAVEMENT SYSTEM

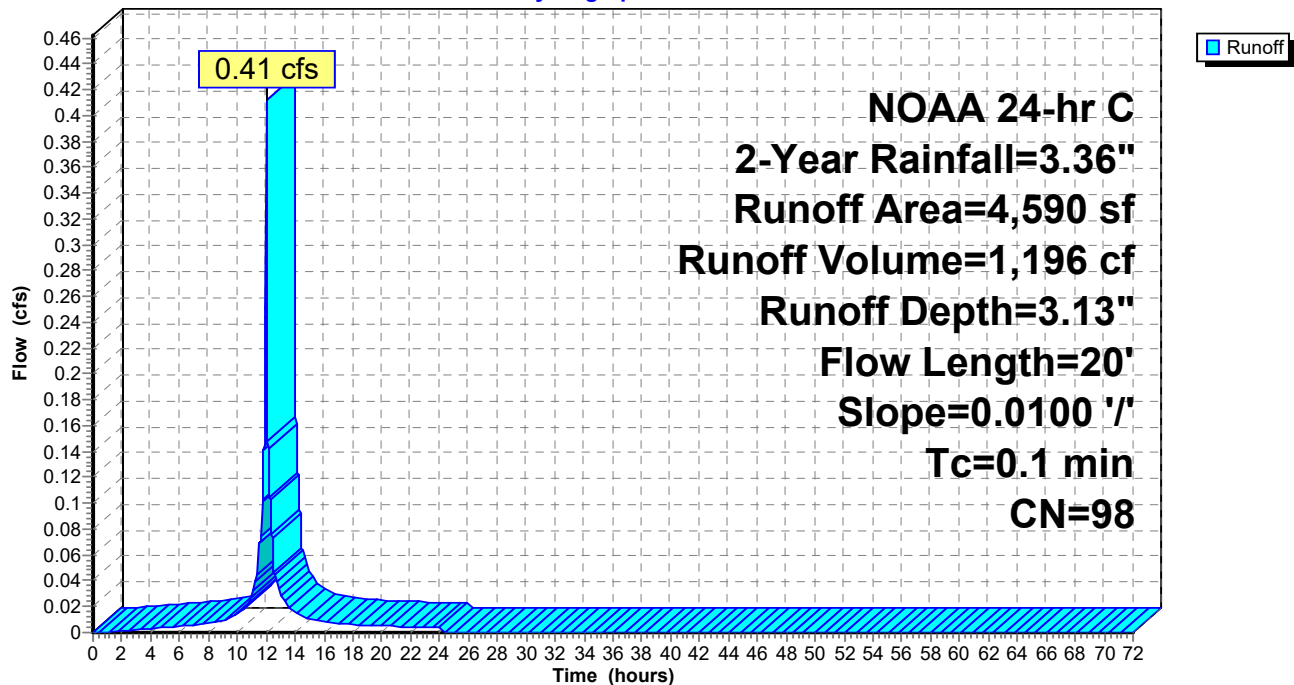
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 2-Year Rainfall=3.36"

Area (sf)	CN	Description
* 4,590	98	ROOF
4,590		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	3.38	0.66	Pipe Channel, ROOF LEADERS 6.0" Round Area= 0.2 sf Perim= 1.6' r= 0.13' n= 0.011

Subcatchment R: ROOF

Hydrograph



Summary for Pond PV-1: PERVIOUS PAVEMENT SYSTEM

Inflow Area = 9,249 sf, 86.38% Impervious, Inflow Depth = 2.77" for 2-Year event
 Inflow = 0.73 cfs @ 12.10 hrs, Volume= 2,135 cf
 Outflow = 0.02 cfs @ 15.13 hrs, Volume= 710 cf, Atten= 97%, Lag= 181.6 min
 Primary = 0.02 cfs @ 15.13 hrs, Volume= 710 cf
 Routed to Link 3L : POI-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 66.77' @ 15.13 hrs Surf.Area= 3,190 sf Storage= 1,679 cf

Plug-Flow detention time= 700.5 min calculated for 709 cf (33% of inflow)
 Center-of-Mass det. time= 525.0 min (1,281.6 - 756.5)

Volume	Invert	Avail.Storage	Storage Description
#1	65.75'	1,871 cf	Custom Stage Data (Irregular) Listed below (Recalc) 7,178 cf Overall - 2,500 cf Embedded = 4,678 cf x 40.0% Voids
#2	66.50'	2,375 cf	Custom Stage Data (Irregular) Listed below (Recalc) Inside #1 2,500 cf Overall x 95.0% Voids
		4,246 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
65.75	3,190	240.0	0	0	3,190
67.00	3,190	240.0	3,988	3,988	3,490
68.00	3,190	240.0	3,190	7,178	3,730

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
66.50	2,500	200.0	0	0	2,500
67.50	2,500	200.0	2,500	2,500	2,700

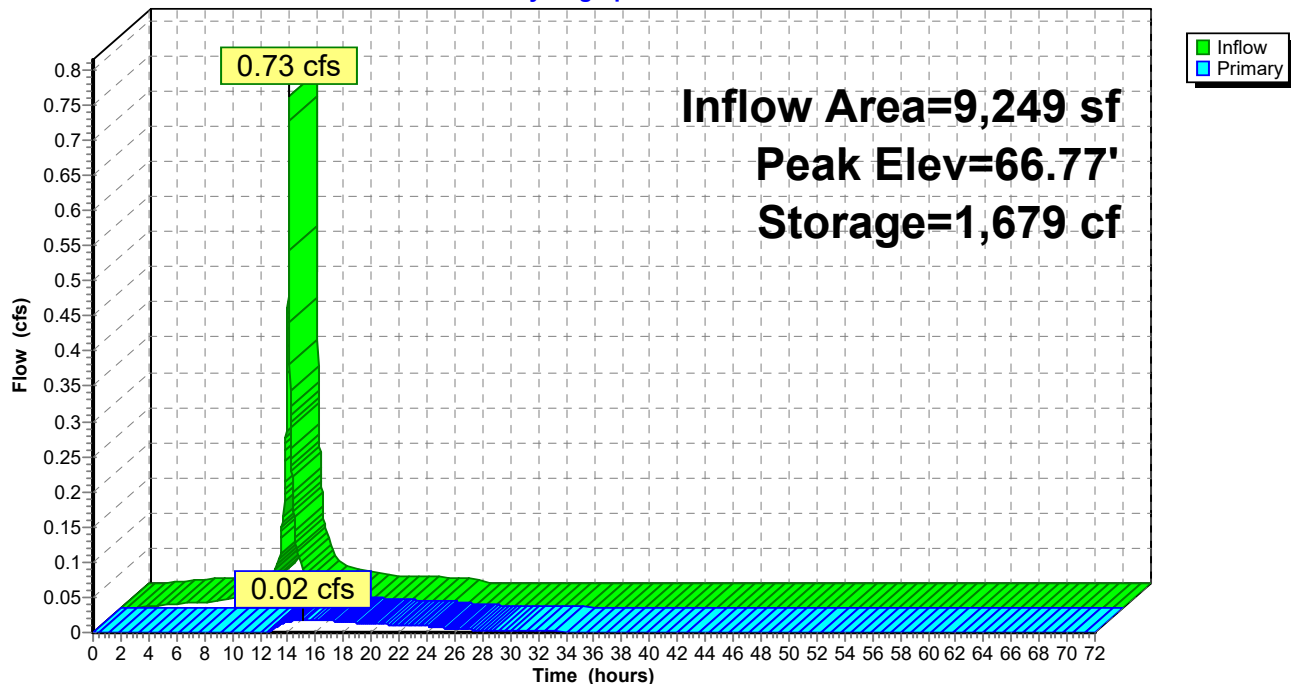
Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	15.0" Round Culvert L= 22.0' Ke= 0.900 Inlet / Outlet Invert= 65.00' / 62.00' S= 0.1364 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#2	Device 1	65.25'	3.0" Vert. UNDERDRAIN X 0.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	66.67'	2.5" Vert. ORIFICE 2.5" C= 0.600 Limited to weir flow at low heads
#4	Device 1	67.15'	6.0" W x 4.0" H Vert. SLOT 6" X 4" C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.02 cfs @ 15.13 hrs HW=66.77' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.02 cfs of 5.00 cfs potential flow)
- 2=UNDERDRAIN (Controls 0.00 cfs)
- 3=ORIFICE 2.5" (Orifice Controls 0.02 cfs @ 1.09 fps)
- 4=SLOT 6" X 4" (Controls 0.00 cfs)

Pond PV-1: PERVIOUS PAVEMENT SYSTEM

Hydrograph



Summary for Pond PV-2: PERVIOUS PAVEMENT SYSTEM

Inflow Area = 6,898 sf, 90.36% Impervious, Inflow Depth = 2.70" for 2-Year event
 Inflow = 0.58 cfs @ 12.09 hrs, Volume= 1,552 cf
 Outflow = 0.01 cfs @ 17.52 hrs, Volume= 258 cf, Atten= 98%, Lag= 325.8 min
 Primary = 0.01 cfs @ 17.52 hrs, Volume= 258 cf
 Routed to Link 4L : POI-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 65.97' @ 17.52 hrs Surf.Area= 1,700 sf Storage= 1,341 cf

Plug-Flow detention time= 681.5 min calculated for 258 cf (17% of inflow)
 Center-of-Mass det. time= 473.0 min (1,256.0 - 783.0)

Volume	Invert	Avail.Storage	Storage Description
#1	64.00'	2,496 cf	Custom Stage Data (Irregular) Listed below (Recalc) 6,239 cf Overall x 40.0% Voids

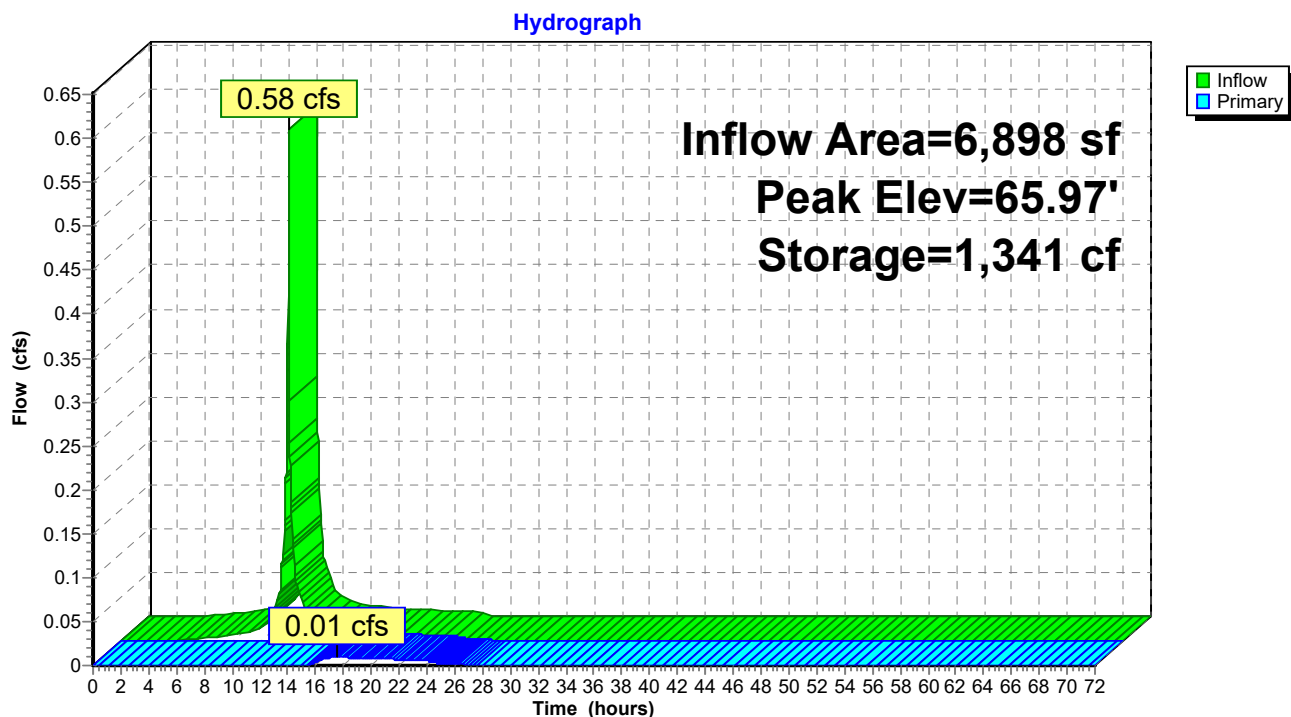
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.00	1,700	174.0	0	0	1,700
65.00	1,700	174.0	1,700	1,700	1,874
66.00	1,700	174.0	1,700	3,400	2,048
67.00	1,700	174.0	1,700	5,100	2,222
67.67	1,700	174.0	1,139	6,239	2,339

Device	Routing	Invert	Outlet Devices
#1	Primary	64.00'	15.0" Round Culvert L= 22.0' Ke= 0.900 Inlet / Outlet Invert= 64.00' / 62.00' S= 0.0909 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#2	Device 1	64.25'	3.0" Vert. UNDERDRAIN X 0.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	65.90'	2.5" Vert. ORIFICE C= 0.600 Limited to weir flow at low heads
#4	Device 1	66.50'	3.0" Vert. Orifice C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.01 cfs @ 17.52 hrs HW=65.97' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.01 cfs of 5.41 cfs potential flow)
- 2=UNDERDRAIN (Controls 0.00 cfs)
- 3=ORIFICE (Orifice Controls 0.01 cfs @ 0.91 fps)
- 4=Orifice (Controls 0.00 cfs)

Pond PV-2: PERVIOUS PAVEMENT SYSTEM



Summary for Pond PV-3: PERVIOUS PAVEMENT SYSTEM

Inflow Area = 10,413 sf, 93.61% Impervious, Inflow Depth = 2.89" for 2-Year event
 Inflow = 0.90 cfs @ 12.09 hrs, Volume= 2,506 cf
 Outflow = 0.06 cfs @ 13.09 hrs, Volume= 1,451 cf, Atten= 93%, Lag= 60.2 min
 Primary = 0.06 cfs @ 13.09 hrs, Volume= 1,451 cf
 Routed to Link 4L : POI-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 65.75' @ 13.09 hrs Surf.Area= 2,600 sf Storage= 1,641 cf

Plug-Flow detention time= 419.9 min calculated for 1,451 cf (58% of inflow)
 Center-of-Mass det. time= 309.4 min (1,077.8 - 768.3)

Volume	Invert	Avail.Storage	Storage Description
#1	64.50'	2,120 cf	Custom Stage Data (Irregular) Listed below (Recalc) 7,800 cf Overall - 2,500 cf Embedded = 5,300 cf x 40.0% Voids
#2	65.50'	2,375 cf	Custom Stage Data (Irregular) Listed below (Recalc) Inside #1 2,500 cf Overall x 95.0% Voids
		4,495 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.50	2,600	215.0	0	0	2,600
65.50	2,600	215.0	2,600	2,600	2,815
66.00	2,600	215.0	1,300	3,900	2,923
67.00	2,600	215.0	2,600	6,500	3,138
67.50	2,600	215.0	1,300	7,800	3,245

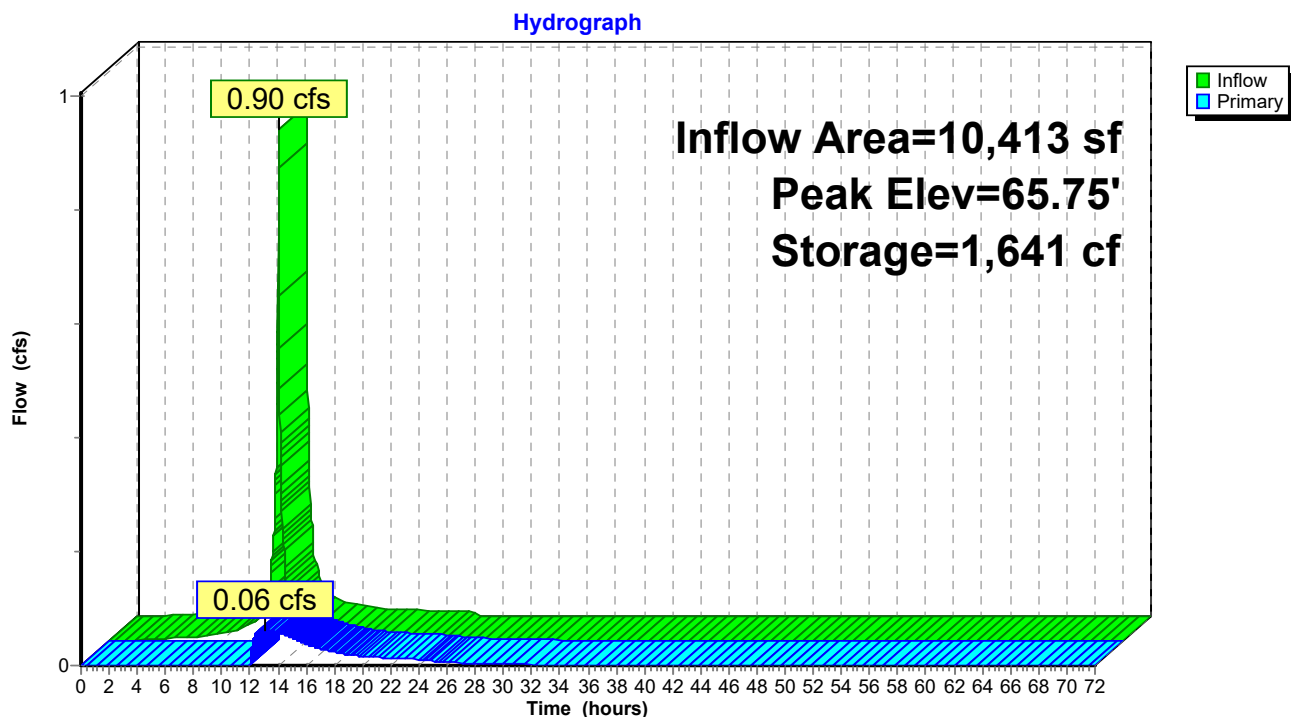
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
65.50	2,500	215.0	0	0	2,500
66.50	2,500	215.0	2,500	2,500	2,715

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	18.0" Round Culvert L= 22.0' Ke= 0.900 Inlet / Outlet Invert= 63.00' / 62.00' S= 0.0455 '/' Cc= 0.900 n= 0.011, Flow Area= 1.77 sf
#2	Device 1	63.25'	3.0" Vert. UNDERDRAIN X 0.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	65.50'	2.5" Vert. ORIFICE C= 0.600 Limited to weir flow at low heads
#4	Device 1	65.75'	6.0" Vert. Orifice/Grate X 0.00 C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.06 cfs @ 13.09 hrs HW=65.75' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.06 cfs of 9.50 cfs potential flow)
- 2=UNDERDRAIN (Controls 0.00 cfs)
- 3=ORIFICE (Orifice Controls 0.06 cfs @ 1.83 fps)
- 4=Orifice/Grate (Controls 0.00 cfs)

Pond PV-3: PERVIOUS PAVEMENT SYSTEM



Summary for Pond PV-4: PERVIOUS PAVEMENT SYSTEM

Inflow Area = 9,300 sf, 100.00% Impervious, Inflow Depth = 3.13" for 2-Year event
 Inflow = 0.84 cfs @ 12.09 hrs, Volume= 2,423 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 4L : POI-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 65.34' @ 24.06 hrs Surf.Area= 2,350 sf Storage= 2,423 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	63.75'	2,725 cf	Custom Stage Data (Irregular) Listed below (Recalc) 8,813 cf Overall - 2,000 cf Embedded = 6,813 cf x 40.0% Voids
#2	64.50'	1,900 cf	Custom Stage Data (Irregular) Listed below (Recalc) Inside #1 2,000 cf Overall x 95.0% Voids
		4,625 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
63.75	2,350	240.0	0	0	2,350
64.00	2,350	240.0	588	588	2,410
65.00	2,350	240.0	2,350	2,938	2,650
66.00	2,350	240.0	2,350	5,288	2,890
67.50	2,350	240.0	3,525	8,813	3,250

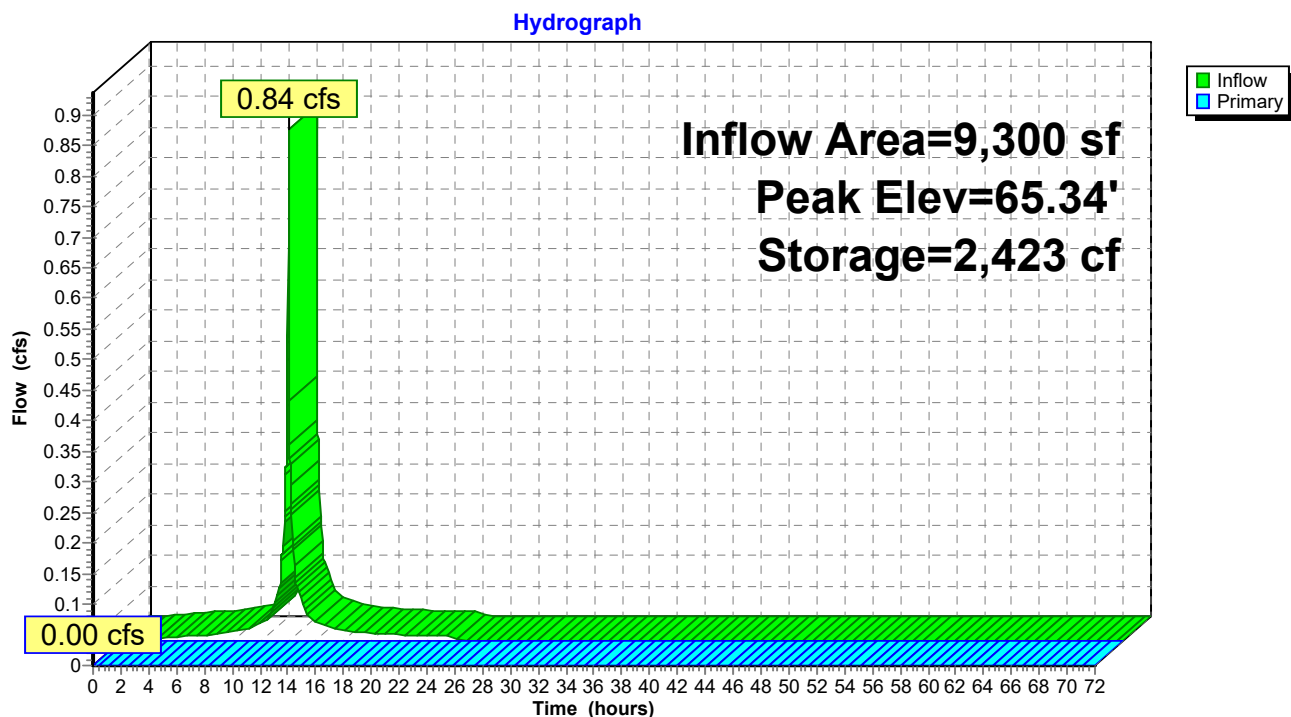
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.50	2,000	200.0	0	0	2,000
65.50	2,000	200.0	2,000	2,000	2,200

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	18.0" Round Culvert L= 75.0' Ke= 0.900 Inlet / Outlet Invert= 63.00' / 62.00' S= 0.0133 '/' Cc= 0.900 n= 0.011, Flow Area= 1.77 sf
#2	Device 1	63.25'	3.0" Vert. UNDERDRAIN X 0.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	65.40'	2.5" Vert. ORIFICE C= 0.600 Limited to weir flow at low heads
#4	Device 1	65.80'	6.0" Vert. Orifice C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=63.75' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.00 cfs of 2.06 cfs potential flow)
- 2=UNDERDRAIN (Controls 0.00 cfs)
- 3=ORIFICE (Controls 0.00 cfs)
- 4=Orifice (Controls 0.00 cfs)

Pond PV-4: PERVIOUS PAVEMENT SYSTEM



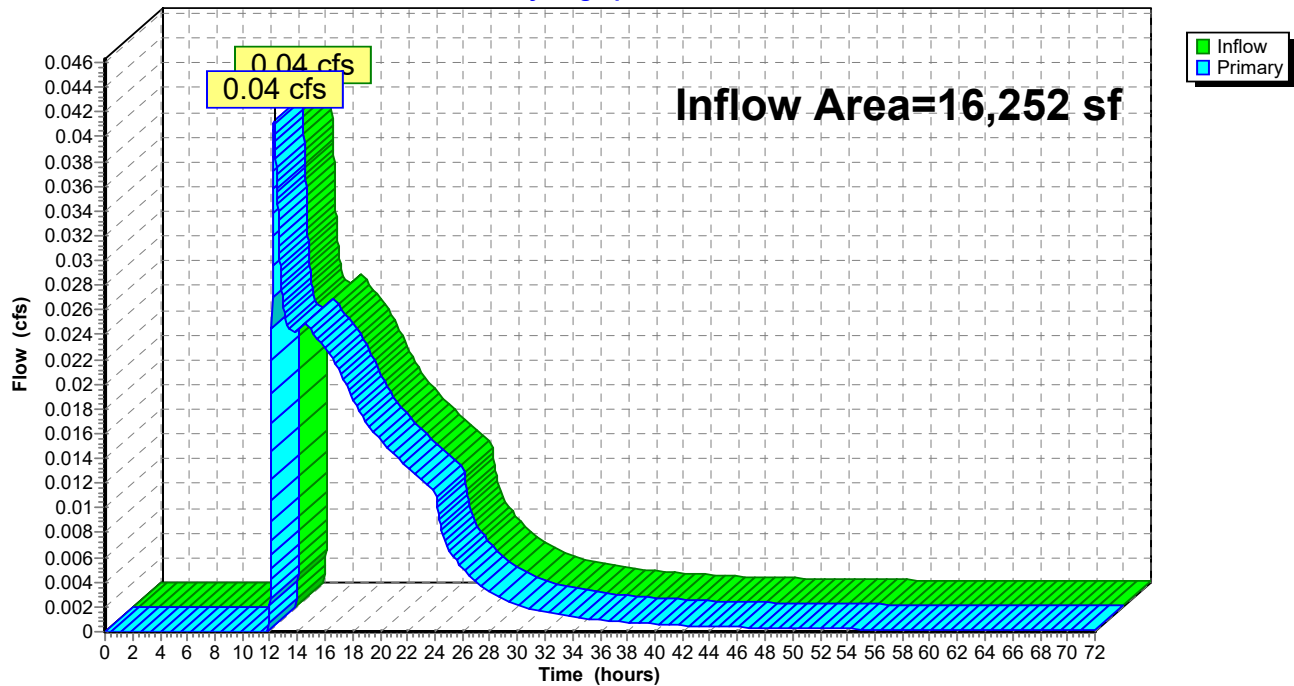
Summary for Link 3L: POI-1

Inflow Area = 16,252 sf, 49.16% Impervious, Inflow Depth > 0.74" for 2-Year event
 Inflow = 0.04 cfs @ 12.29 hrs, Volume= 1,008 cf
 Primary = 0.04 cfs @ 12.29 hrs, Volume= 1,008 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 3L: POI-1

Hydrograph



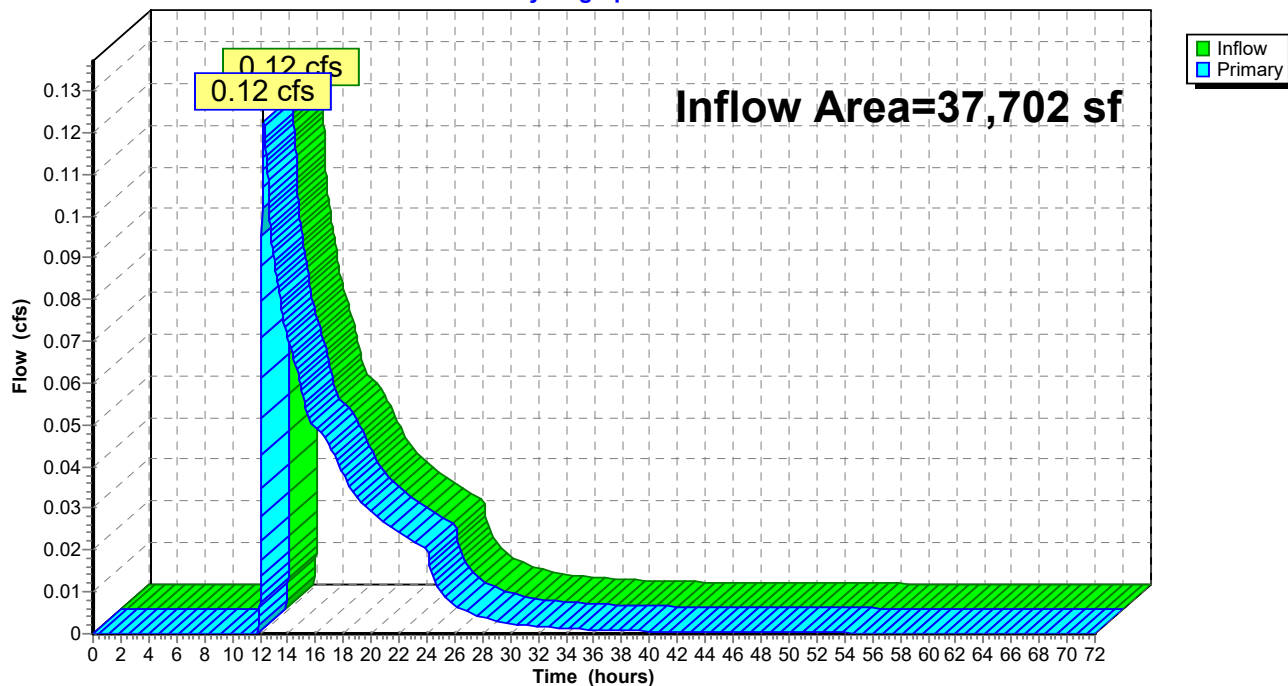
Summary for Link 4L: POI-3

Inflow Area = 37,702 sf, 67.05% Impervious, Inflow Depth > 0.69" for 2-Year event
Inflow = 0.12 cfs @ 12.28 hrs, Volume= 2,181 cf
Primary = 0.12 cfs @ 12.28 hrs, Volume= 2,181 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 4L: POI-3

Hydrograph



Summary for Subcatchment EX-1: EX-1

Runoff = 0.47 cfs @ 12.21 hrs, Volume= 2,321 cf, Depth= 1.48"

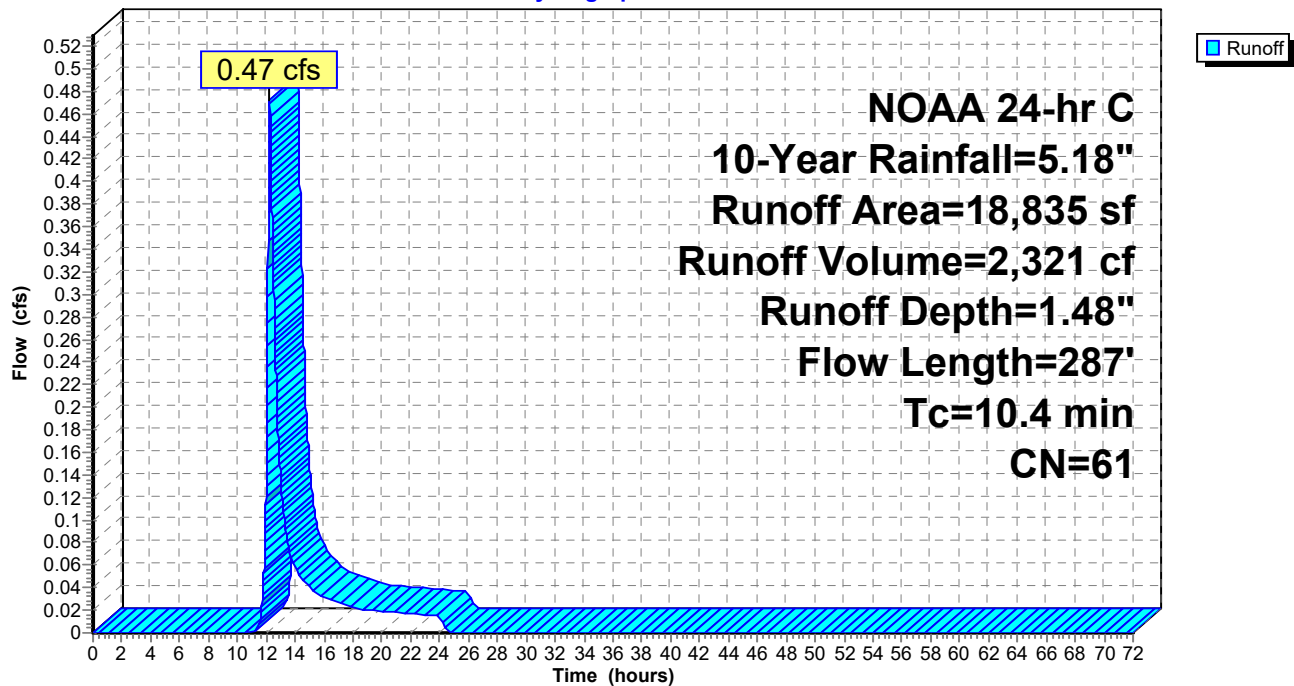
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year Rainfall=5.18"

Area (sf)	CN	Description
18,835	61	>75% Grass cover, Good, HSG B
18,835		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	100	0.0200	0.17		Sheet Flow, 1A-1B Grass: Short n= 0.150 P2= 3.36"
0.5	32	0.0200	0.99		Shallow Concentrated Flow, 1B-1C Short Grass Pasture Kv= 7.0 fps
0.3	155	0.0160	8.89	15.70	Pipe Channel, 1C-1D 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011
10.4	287	Total			

Subcatchment EX-1: EX-1

Hydrograph



Summary for Subcatchment EX-2: EX-2

Runoff = 0.34 cfs @ 12.18 hrs, Volume= 1,493 cf, Depth= 1.48"

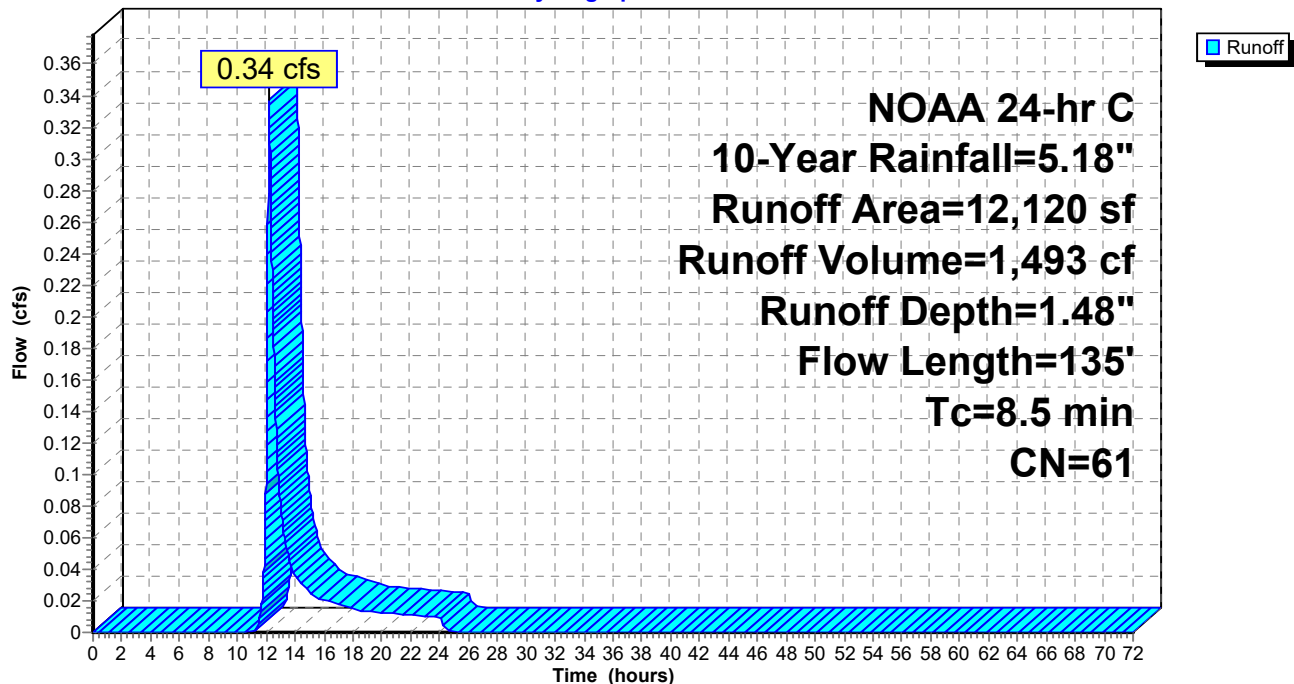
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year Rainfall=5.18"

Area (sf)	CN	Description
3,577	61	>75% Grass cover, Good, HSG B
8,543	61	>75% Grass cover, Good, HSG B
12,120	61	Weighted Average
12,120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	76	0.0180	0.16		Sheet Flow, 2A-2B
					Grass: Short n= 0.150 P2= 3.36"
0.5	59	0.0840	2.03		Shallow Concentrated Flow, 2B-2C
					Short Grass Pasture Kv= 7.0 fps
8.5	135	Total			

Subcatchment EX-2: EX-2

Hydrograph



Summary for Subcatchment EX-3: EX-3

Runoff = 1.00 cfs @ 12.14 hrs, Volume= 3,490 cf, Depth= 1.48"

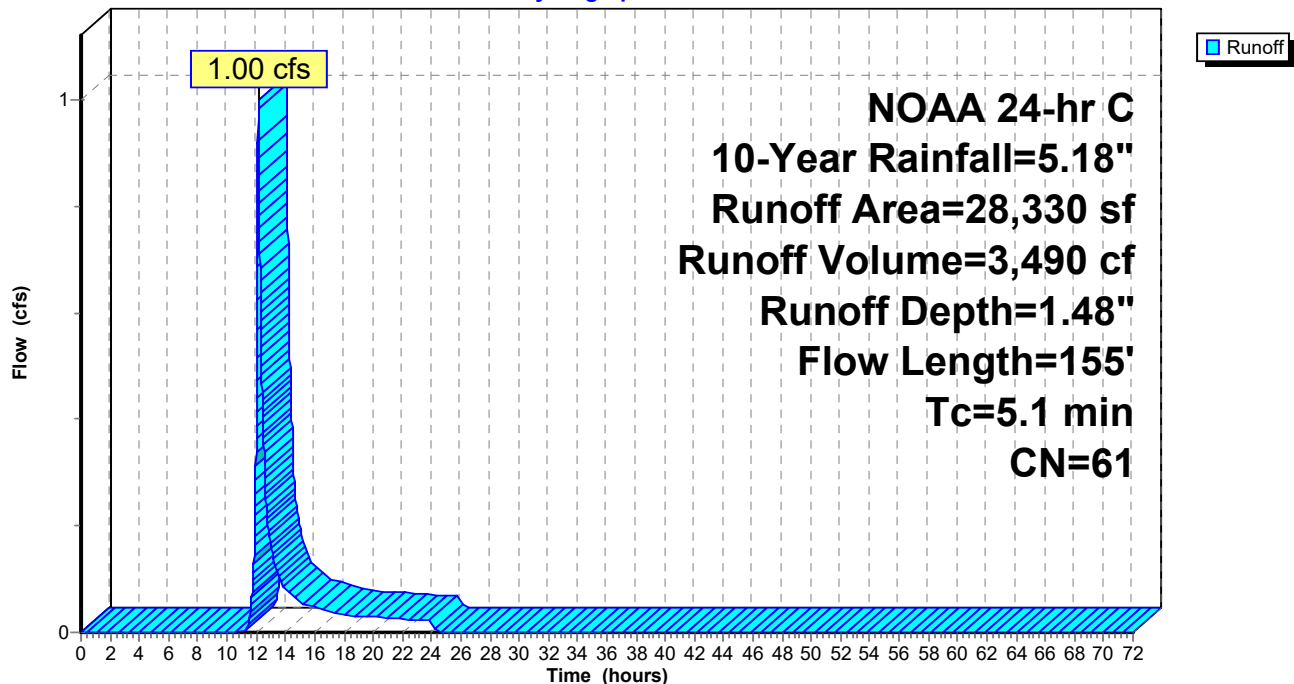
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year Rainfall=5.18"

Area (sf)	CN	Description
19,815	61	>75% Grass cover, Good, HSG B
8,515	61	>75% Grass cover, Good, HSG B
28,330	61	Weighted Average
28,330		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	93	0.0940	0.32		Sheet Flow, 3A-3B
					Grass: Short n= 0.150 P2= 3.36"
0.2	62	0.0430	4.21		Shallow Concentrated Flow, 3B-3C
					Paved Kv= 20.3 fps
5.1	155	Total			

Subcatchment EX-3: EX-3

Hydrograph



Summary for Subcatchment P-1B: P-1 BYPASS

Runoff = 0.17 cfs @ 12.22 hrs, Volume= 863 cf, Depth= 1.48"
Routed to Link 3L : POI-1

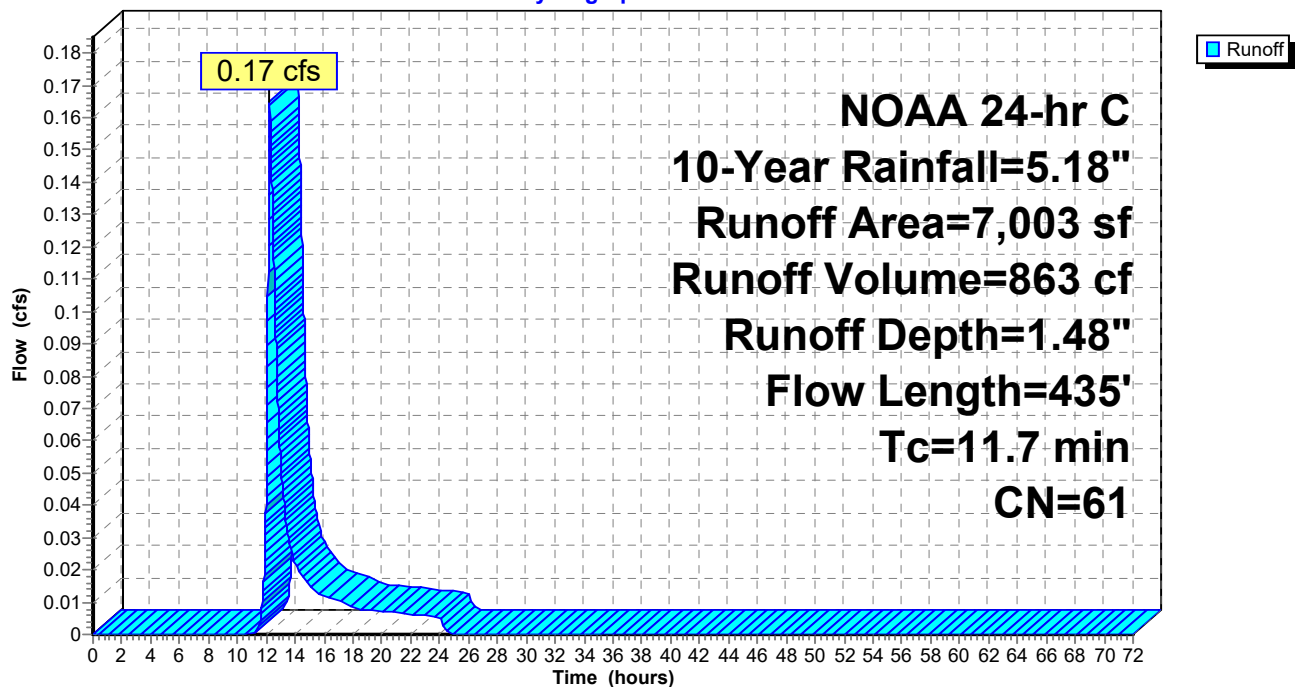
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year Rainfall=5.18"

Area (sf)	CN	Description
7,003	61	>75% Grass cover, Good, HSG B
7,003		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	53	0.0180	0.15		Sheet Flow, 1A-1B Grass: Short n= 0.150 P2= 3.36"
5.4	227	0.0100	0.70		Shallow Concentrated Flow, 1B-1C Short Grass Pasture Kv= 7.0 fps
0.3	155	0.0160	8.89	15.70	Pipe Channel, 1C-1D 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011
11.7	435	Total			

Subcatchment P-1B: P-1 BYPASS

Hydrograph



Summary for Subcatchment P-1I: P-1 I

Runoff = 1.11 cfs @ 12.10 hrs, Volume= 3,291 cf, Depth= 4.94"

Routed to Pond PV-1 : PERVIOUS PAVEMENT SYSTEM

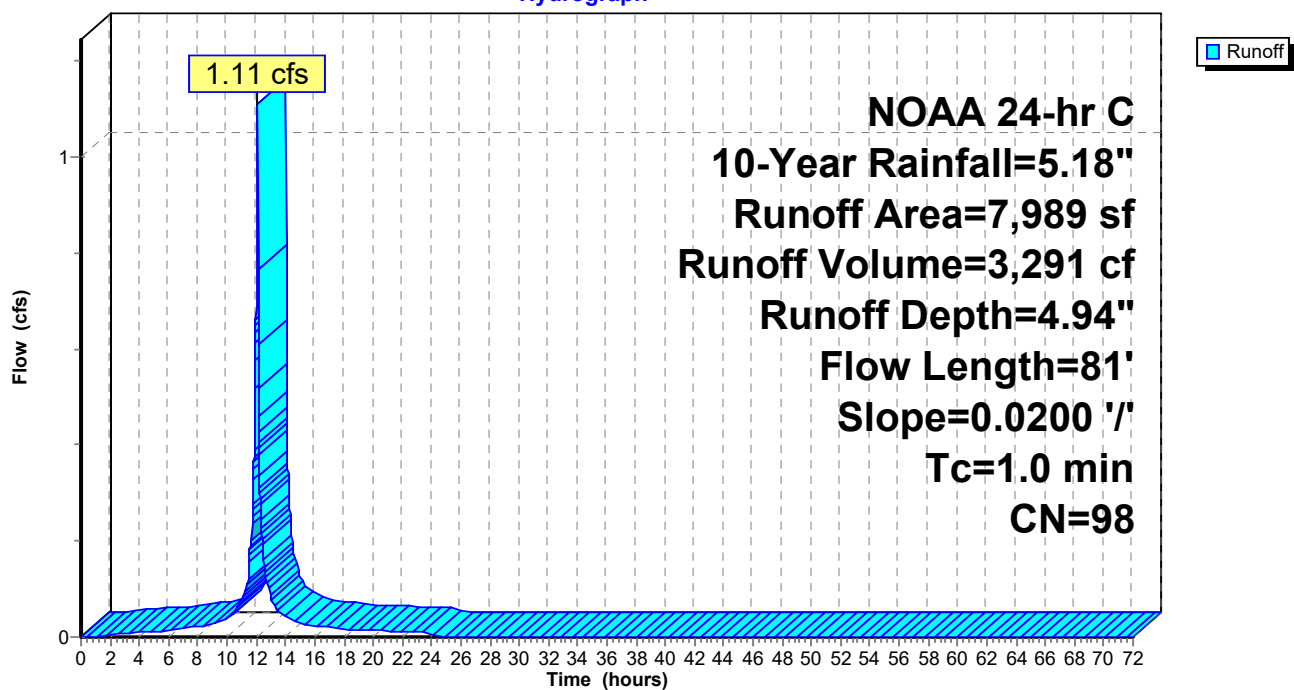
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year Rainfall=5.18"

Area (sf)	CN	Description
* 7,989	98	PARKING
7,989		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	81	0.0200	1.35		Sheet Flow, 2A-2B
Smooth surfaces n= 0.011 P2= 3.36"					

Subcatchment P-1I: P-1 I

Hydrograph



Summary for Subcatchment P-1P: P-1P

Runoff = 0.05 cfs @ 12.13 hrs, Volume= 155 cf, Depth= 1.48"
 Routed to Pond PV-1 : PERVIOUS PAVEMENT SYSTEM

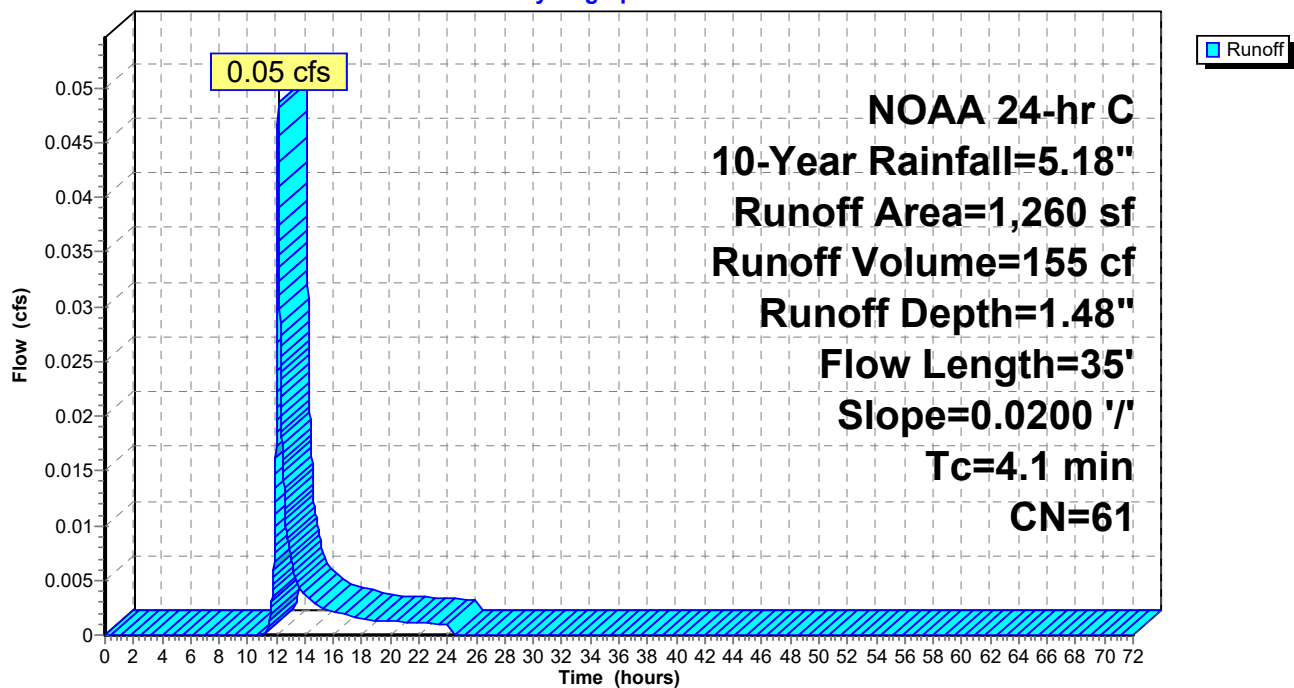
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 NOAA 24-hr C 10-Year Rainfall=5.18"

Area (sf)	CN	Description
1,260	61	>75% Grass cover, Good, HSG B
1,260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	35	0.0200	0.14		Sheet Flow, SHEET FLOW
Grass: Short n= 0.150 P2= 3.36"					

Subcatchment P-1P: P-1P

Hydrograph



Summary for Subcatchment P-2B: P-2 BYPASS

Runoff = 0.23 cfs @ 12.12 hrs, Volume= 670 cf, Depth= 1.48"

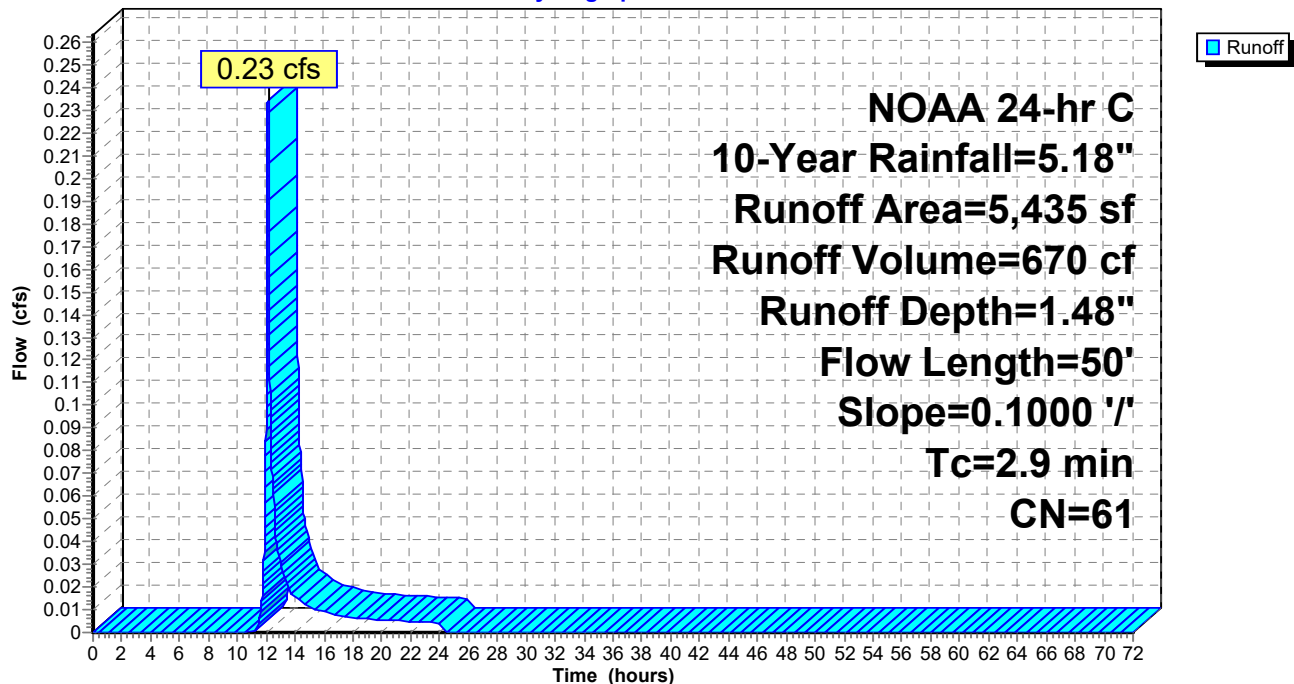
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year Rainfall=5.18"

Area (sf)	CN	Description
5,435	61	>75% Grass cover, Good, HSG B
5,435		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	50	0.1000	0.29		Sheet Flow, 4A-4B Grass: Short n= 0.150 P2= 3.36"

Subcatchment P-2B: P-2 BYPASS

Hydrograph



Summary for Subcatchment P-3A: P-3A

Runoff = 0.93 cfs @ 12.09 hrs, Volume= 2,578 cf, Depth= 4.49"

Routed to Pond PV-2 : PERVIOUS PAVEMENT SYSTEM

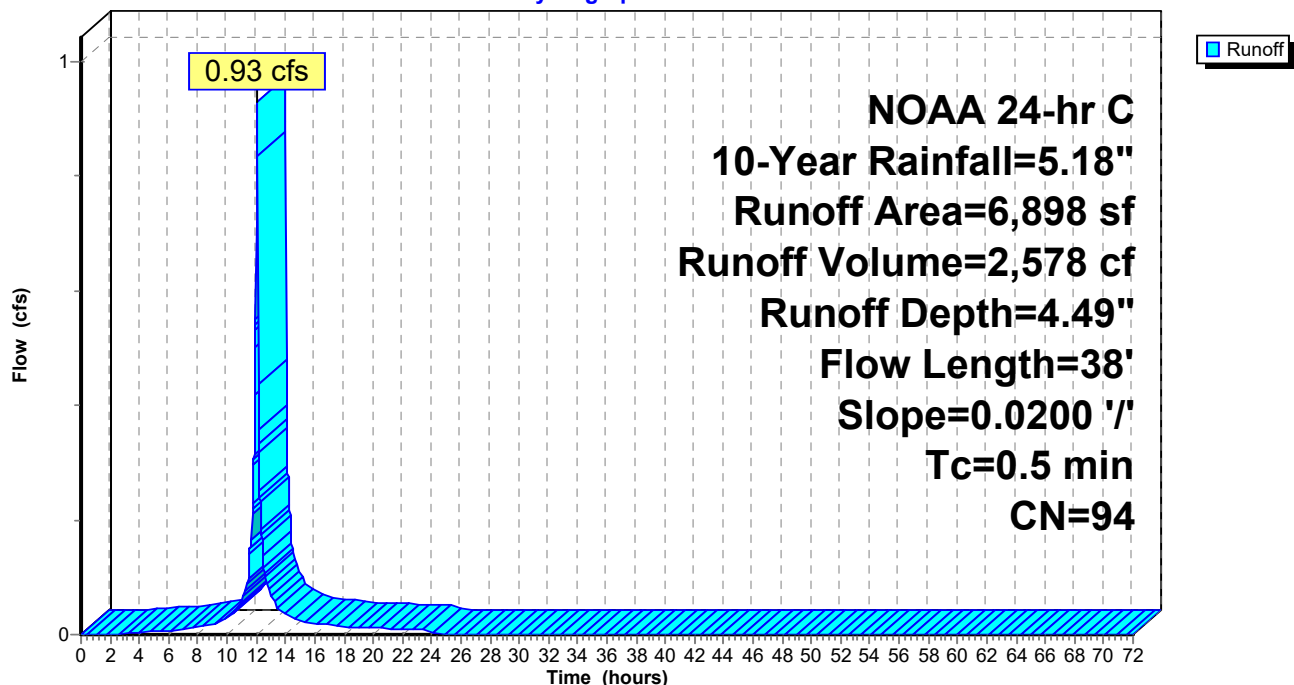
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year Rainfall=5.18"

	Area (sf)	CN	Description
*	6,233	98	PARKING
	665	61	>75% Grass cover, Good, HSG B
	6,898	94	Weighted Average
	665		9.64% Pervious Area
	6,233		90.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	38	0.0200	1.16		Sheet Flow, P-3A
					Smooth surfaces n= 0.011 P2= 3.36"

Subcatchment P-3A: P-3A

Hydrograph



Summary for Subcatchment P-3B: P-3 BYPASS

Runoff = 0.32 cfs @ 12.17 hrs, Volume= 1,366 cf, Depth= 1.48"
Routed to Link 4L : POI-3

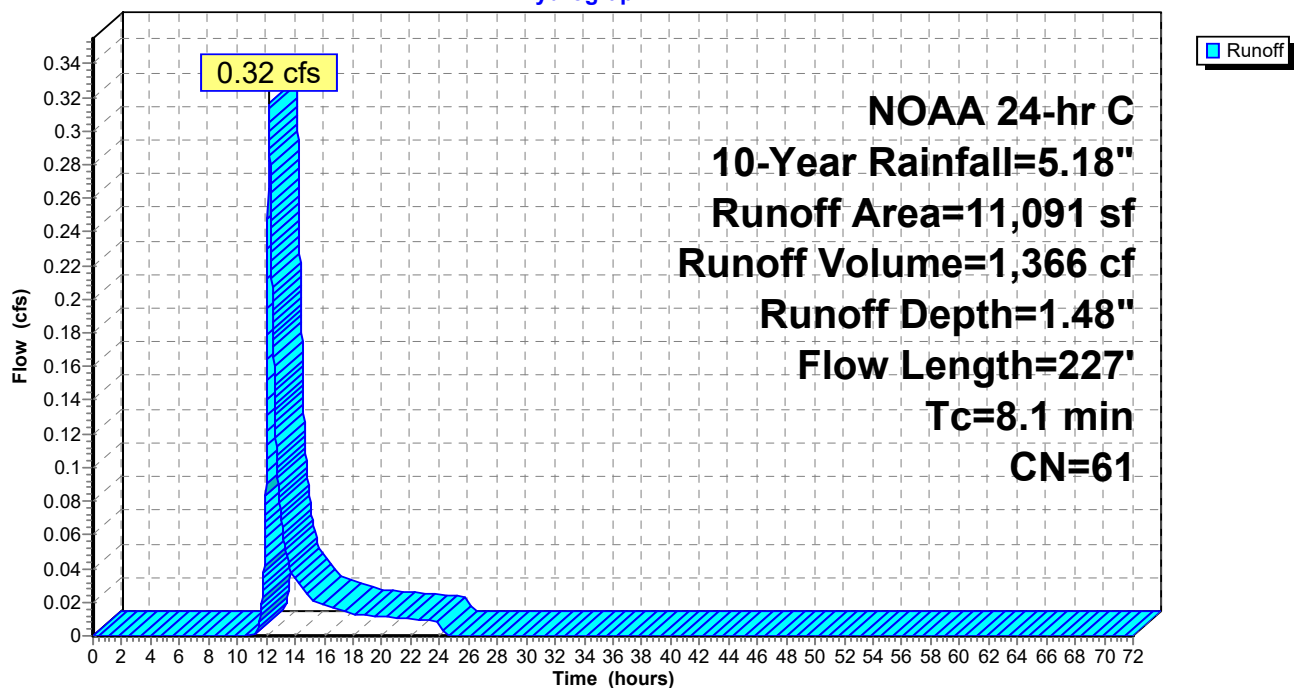
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year Rainfall=5.18"

Area (sf)	CN	Description
11,091	61	>75% Grass cover, Good, HSG B
11,091		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6	100	0.0350	0.22		Sheet Flow, 6A-6B Grass: Short n= 0.150 P2= 3.36"
0.5	127	0.0450	4.31		Shallow Concentrated Flow, 6B-6C Paved Kv= 20.3 fps
8.1	227	Total			

Subcatchment P-3B: P-3 BYPASS

Hydrograph



Summary for Subcatchment P-3C: P-3C

Runoff = 0.78 cfs @ 12.10 hrs, Volume= 2,177 cf, Depth= 4.49"
Routed to Pond PV-3 : PERVIOUS PAVEMENT SYSTEM

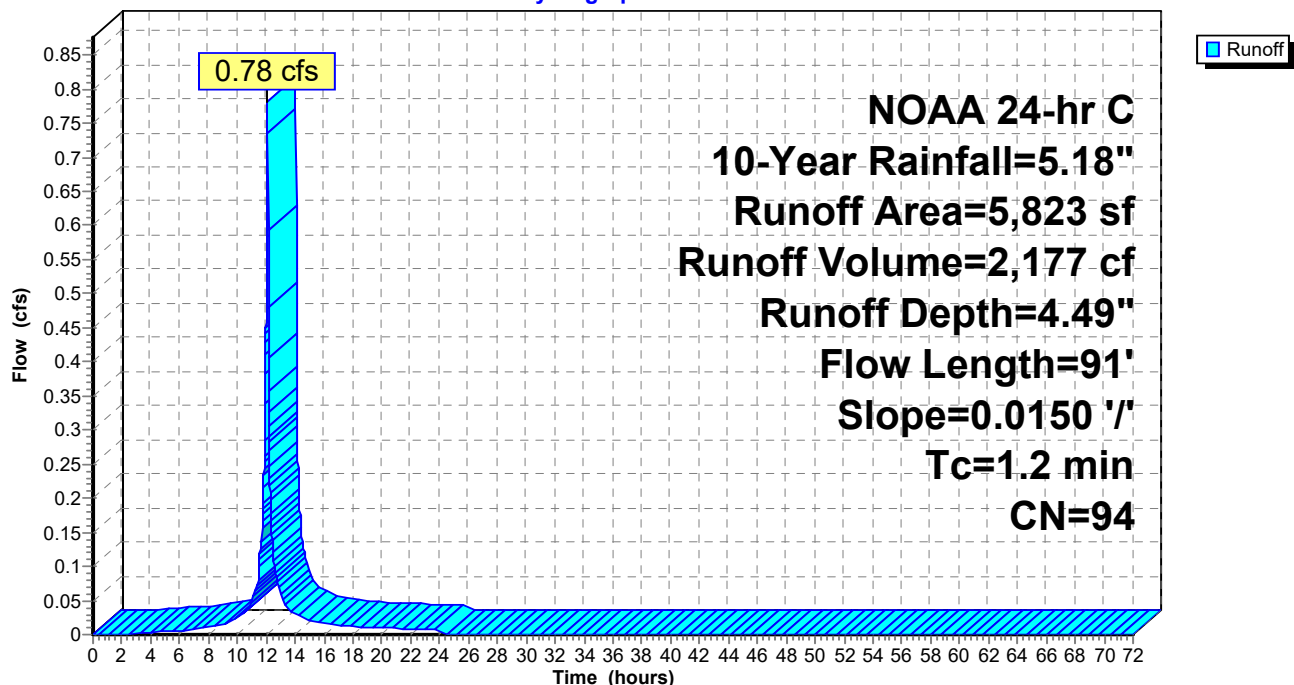
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year Rainfall=5.18"

	Area (sf)	CN	Description
*	5,158	98	PARKING
	665	61	>75% Grass cover, Good, HSG B
	5,823	94	Weighted Average
	665		11.42% Pervious Area
	5,158		88.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	91	0.0150	1.23		Sheet Flow, P-3A
					Smooth surfaces n= 0.011 P2= 3.36"

Subcatchment P-3C: P-3C

Hydrograph



Summary for Subcatchment P-3D: P-3D

Runoff = 1.30 cfs @ 12.09 hrs, Volume= 3,831 cf, Depth= 4.94"

Routed to Pond PV-4 : PERVIOUS PAVEMENT SYSTEM

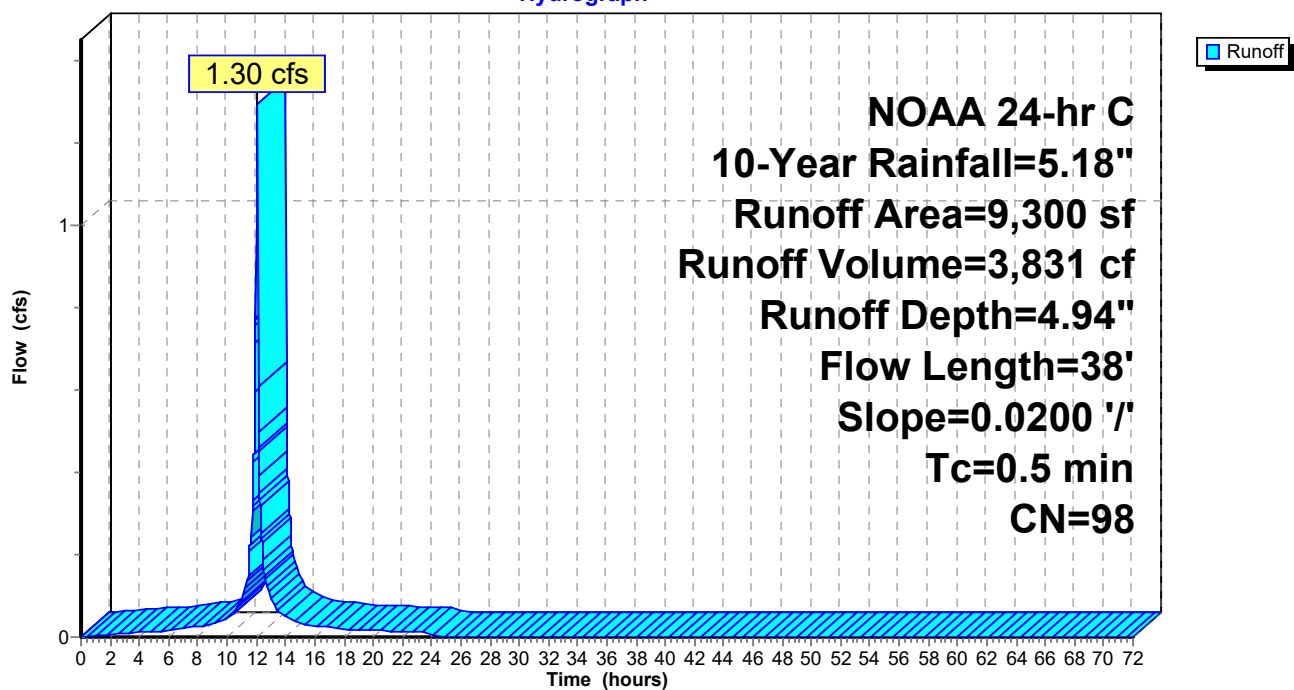
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year Rainfall=5.18"

Area (sf)	CN	Description
* 9,300	98	PARKING
9,300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	38	0.0200	1.16		Sheet Flow, P-3D
Smooth surfaces n= 0.011 P2= 3.36"					

Subcatchment P-3D: P-3D

Hydrograph



Summary for Subcatchment R: ROOF

Runoff = 0.64 cfs @ 12.09 hrs, Volume= 1,891 cf, Depth= 4.94"

Routed to Pond PV-3 : PERVIOUS PAVEMENT SYSTEM

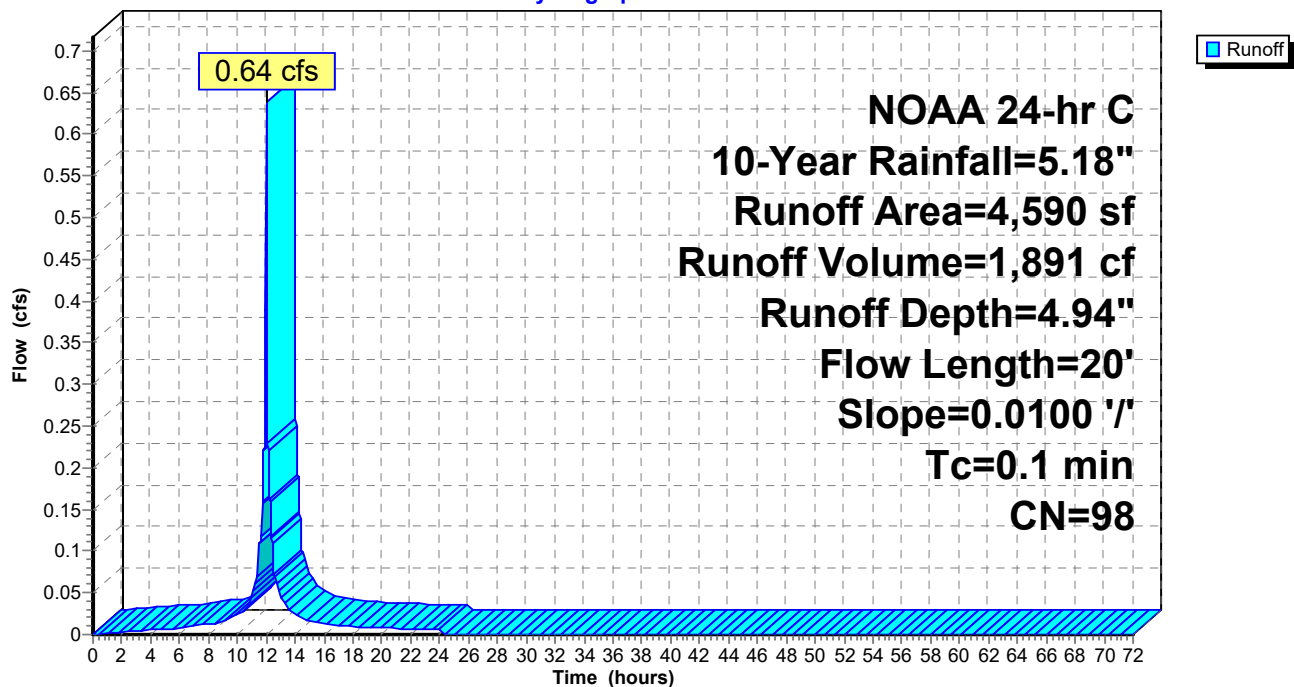
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 10-Year Rainfall=5.18"

Area (sf)	CN	Description
* 4,590	98	ROOF
4,590		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	3.38	0.66	Pipe Channel, ROOF LEADERS 6.0" Round Area= 0.2 sf Perim= 1.6' r= 0.13' n= 0.011

Subcatchment R: ROOF

Hydrograph



Summary for Pond PV-1: PERVIOUS PAVEMENT SYSTEM

Inflow Area = 9,249 sf, 86.38% Impervious, Inflow Depth = 4.47" for 10-Year event
 Inflow = 1.15 cfs @ 12.10 hrs, Volume= 3,446 cf
 Outflow = 0.08 cfs @ 13.12 hrs, Volume= 2,020 cf, Atten= 93%, Lag= 61.3 min
 Primary = 0.08 cfs @ 13.12 hrs, Volume= 2,020 cf
 Routed to Link 3L : POI-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 67.01' @ 13.12 hrs Surf.Area= 3,190 sf Storage= 2,304 cf

Plug-Flow detention time= 441.3 min calculated for 2,020 cf (59% of inflow)
 Center-of-Mass det. time= 324.2 min (1,074.3 - 750.1)

Volume	Invert	Avail.Storage	Storage Description
#1	65.75'	1,871 cf	Custom Stage Data (Irregular) Listed below (Recalc) 7,178 cf Overall - 2,500 cf Embedded = 4,678 cf x 40.0% Voids
#2	66.50'	2,375 cf	Custom Stage Data (Irregular) Listed below (Recalc) Inside #1 2,500 cf Overall x 95.0% Voids
		4,246 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
65.75	3,190	240.0	0	0	3,190
67.00	3,190	240.0	3,988	3,988	3,490
68.00	3,190	240.0	3,190	7,178	3,730

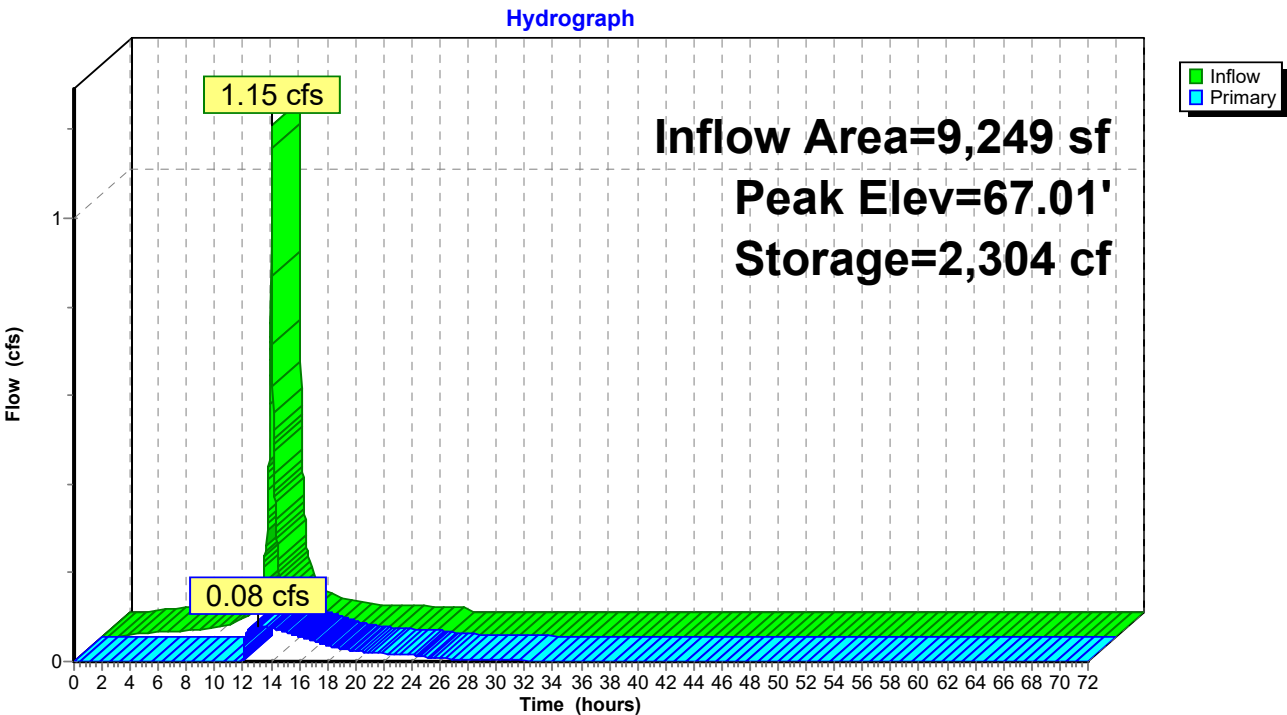
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
66.50	2,500	200.0	0	0	2,500
67.50	2,500	200.0	2,500	2,500	2,700

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	15.0" Round Culvert L= 22.0' Ke= 0.900 Inlet / Outlet Invert= 65.00' / 62.00' S= 0.1364 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#2	Device 1	65.25'	3.0" Vert. UNDERDRAIN X 0.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	66.67'	2.5" Vert. ORIFICE 2.5" C= 0.600 Limited to weir flow at low heads
#4	Device 1	67.15'	6.0" W x 4.0" H Vert. SLOT 6" X 4" C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.08 cfs @ 13.12 hrs HW=67.01' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.08 cfs of 5.49 cfs potential flow)
- 2=UNDERDRAIN (Controls 0.00 cfs)
- 3=ORIFICE 2.5" (Orifice Controls 0.08 cfs @ 2.33 fps)
- 4=SLOT 6" X 4" (Controls 0.00 cfs)

Pond PV-1: PERVIOUS PAVEMENT SYSTEM



Summary for Pond PV-2: PERVIOUS PAVEMENT SYSTEM

Inflow Area = 6,898 sf, 90.36% Impervious, Inflow Depth = 4.49" for 10-Year event
 Inflow = 0.93 cfs @ 12.09 hrs, Volume= 2,578 cf
 Outflow = 0.10 cfs @ 12.70 hrs, Volume= 1,285 cf, Atten= 90%, Lag= 36.7 min
 Primary = 0.10 cfs @ 12.70 hrs, Volume= 1,285 cf
 Routed to Link 4L : POI-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 66.36' @ 12.70 hrs Surf.Area= 1,700 sf Storage= 1,603 cf

Plug-Flow detention time= 301.6 min calculated for 1,285 cf (50% of inflow)
 Center-of-Mass det. time= 182.2 min (951.7 - 769.5)

Volume	Invert	Avail.Storage	Storage Description
#1	64.00'	2,496 cf	Custom Stage Data (Irregular) Listed below (Recalc) 6,239 cf Overall x 40.0% Voids

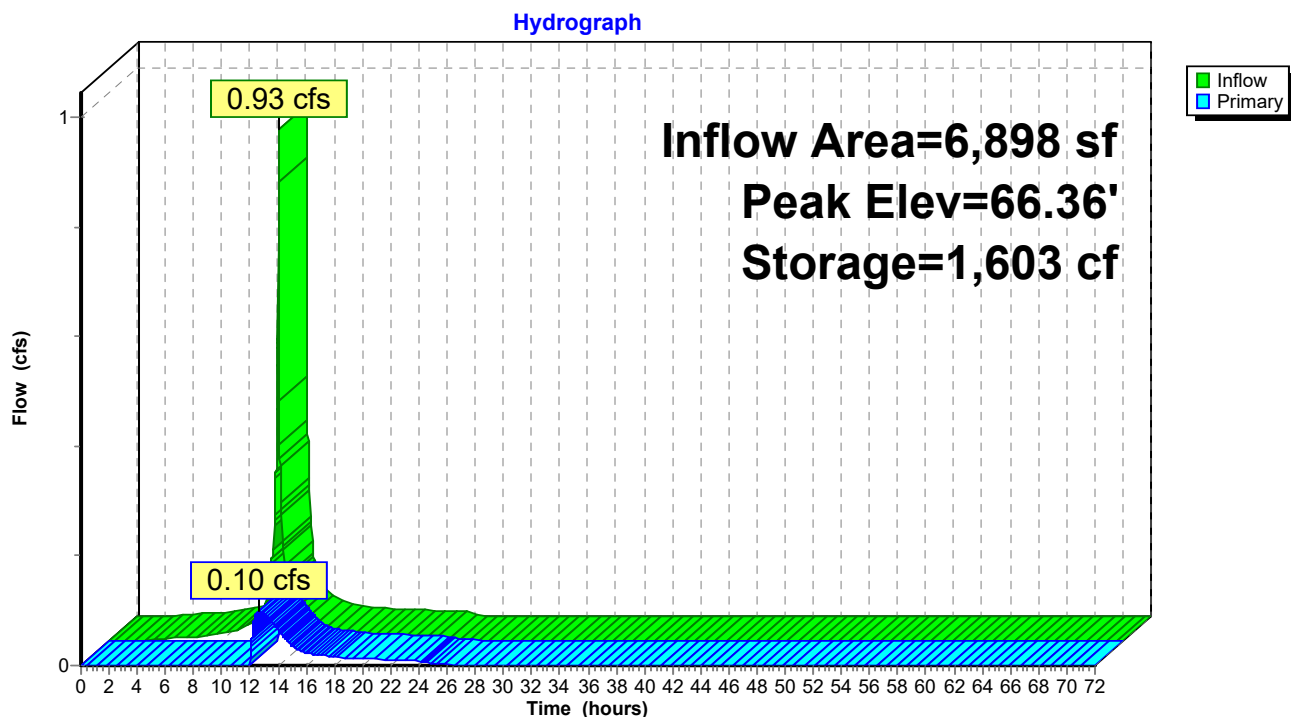
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.00	1,700	174.0	0	0	1,700
65.00	1,700	174.0	1,700	1,700	1,874
66.00	1,700	174.0	1,700	3,400	2,048
67.00	1,700	174.0	1,700	5,100	2,222
67.67	1,700	174.0	1,139	6,239	2,339

Device	Routing	Invert	Outlet Devices
#1	Primary	64.00'	15.0" Round Culvert L= 22.0' Ke= 0.900 Inlet / Outlet Invert= 64.00' / 62.00' S= 0.0909 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#2	Device 1	64.25'	3.0" Vert. UNDERDRAIN X 0.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	65.90'	2.5" Vert. ORIFICE C= 0.600 Limited to weir flow at low heads
#4	Device 1	66.50'	3.0" Vert. Orifice C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.10 cfs @ 12.70 hrs HW=66.36' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.10 cfs of 6.14 cfs potential flow)
- 2=UNDERDRAIN (Controls 0.00 cfs)
- 3=ORIFICE (Orifice Controls 0.10 cfs @ 2.86 fps)
- 4=Orifice (Controls 0.00 cfs)

Pond PV-2: PERVIOUS PAVEMENT SYSTEM



Summary for Pond PV-3: PERVIOUS PAVEMENT SYSTEM

Inflow Area = 10,413 sf, 93.61% Impervious, Inflow Depth = 4.69" for 10-Year event
 Inflow = 1.42 cfs @ 12.09 hrs, Volume= 4,067 cf
 Outflow = 0.12 cfs @ 12.91 hrs, Volume= 3,012 cf, Atten= 92%, Lag= 49.1 min
 Primary = 0.12 cfs @ 12.91 hrs, Volume= 3,012 cf
 Routed to Link 4L : POI-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 66.13' @ 12.91 hrs Surf.Area= 2,600 sf Storage= 2,563 cf

Plug-Flow detention time= 362.1 min calculated for 3,012 cf (74% of inflow)
 Center-of-Mass det. time= 272.2 min (1,029.9 - 757.7)

Volume	Invert	Avail.Storage	Storage Description
#1	64.50'	2,120 cf	Custom Stage Data (Irregular) Listed below (Recalc) 7,800 cf Overall - 2,500 cf Embedded = 5,300 cf x 40.0% Voids
#2	65.50'	2,375 cf	Custom Stage Data (Irregular) Listed below (Recalc) Inside #1 2,500 cf Overall x 95.0% Voids
		4,495 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.50	2,600	215.0	0	0	2,600
65.50	2,600	215.0	2,600	2,600	2,815
66.00	2,600	215.0	1,300	3,900	2,923
67.00	2,600	215.0	2,600	6,500	3,138
67.50	2,600	215.0	1,300	7,800	3,245

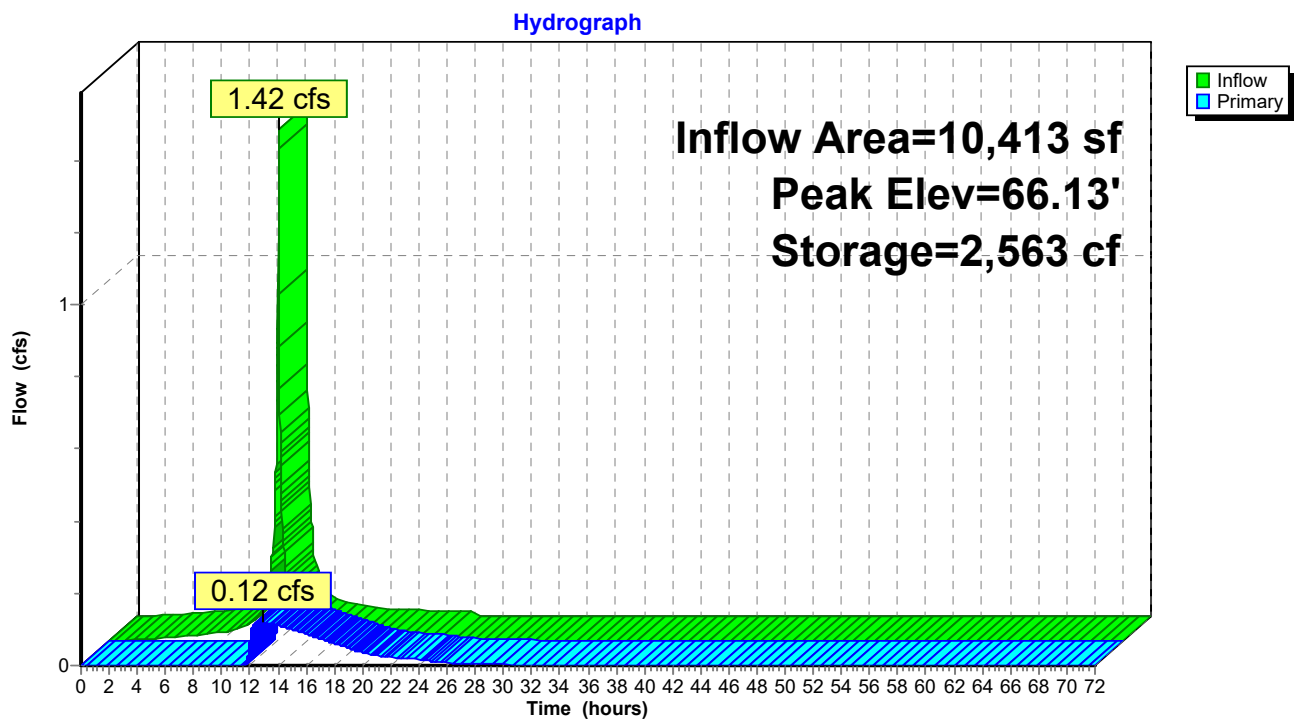
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
65.50	2,500	215.0	0	0	2,500
66.50	2,500	215.0	2,500	2,500	2,715

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	18.0" Round Culvert L= 22.0' Ke= 0.900 Inlet / Outlet Invert= 63.00' / 62.00' S= 0.0455 '/' Cc= 0.900 n= 0.011, Flow Area= 1.77 sf
#2	Device 1	63.25'	3.0" Vert. UNDERDRAIN X 0.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	65.50'	2.5" Vert. ORIFICE C= 0.600 Limited to weir flow at low heads
#4	Device 1	65.75'	6.0" Vert. Orifice/Grate X 0.00 C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.12 cfs @ 12.91 hrs HW=66.13' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.12 cfs of 10.37 cfs potential flow)
- 2=UNDERDRAIN (Controls 0.00 cfs)
- 3=ORIFICE (Orifice Controls 0.12 cfs @ 3.49 fps)
- 4=Orifice/Grate (Controls 0.00 cfs)

Pond PV-3: PERVIOUS PAVEMENT SYSTEM



Summary for Pond PV-4: PERVIOUS PAVEMENT SYSTEM

Inflow Area = 9,300 sf, 100.00% Impervious, Inflow Depth = 4.94" for 10-Year event
 Inflow = 1.30 cfs @ 12.09 hrs, Volume= 3,831 cf
 Outflow = 0.06 cfs @ 13.52 hrs, Volume= 1,279 cf, Atten= 96%, Lag= 86.0 min
 Primary = 0.06 cfs @ 13.52 hrs, Volume= 1,279 cf
 Routed to Link 4L : POI-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 65.63' @ 13.52 hrs Surf.Area= 2,350 sf Storage= 2,863 cf

Plug-Flow detention time= 557.7 min calculated for 1,278 cf (33% of inflow)
 Center-of-Mass det. time= 372.8 min (1,116.2 - 743.4)

Volume	Invert	Avail.Storage	Storage Description
#1	63.75'	2,725 cf	Custom Stage Data (Irregular) Listed below (Recalc) 8,813 cf Overall - 2,000 cf Embedded = 6,813 cf x 40.0% Voids
#2	64.50'	1,900 cf	Custom Stage Data (Irregular) Listed below (Recalc) Inside #1 2,000 cf Overall x 95.0% Voids
		4,625 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
63.75	2,350	240.0	0	0	2,350
64.00	2,350	240.0	588	588	2,410
65.00	2,350	240.0	2,350	2,938	2,650
66.00	2,350	240.0	2,350	5,288	2,890
67.50	2,350	240.0	3,525	8,813	3,250

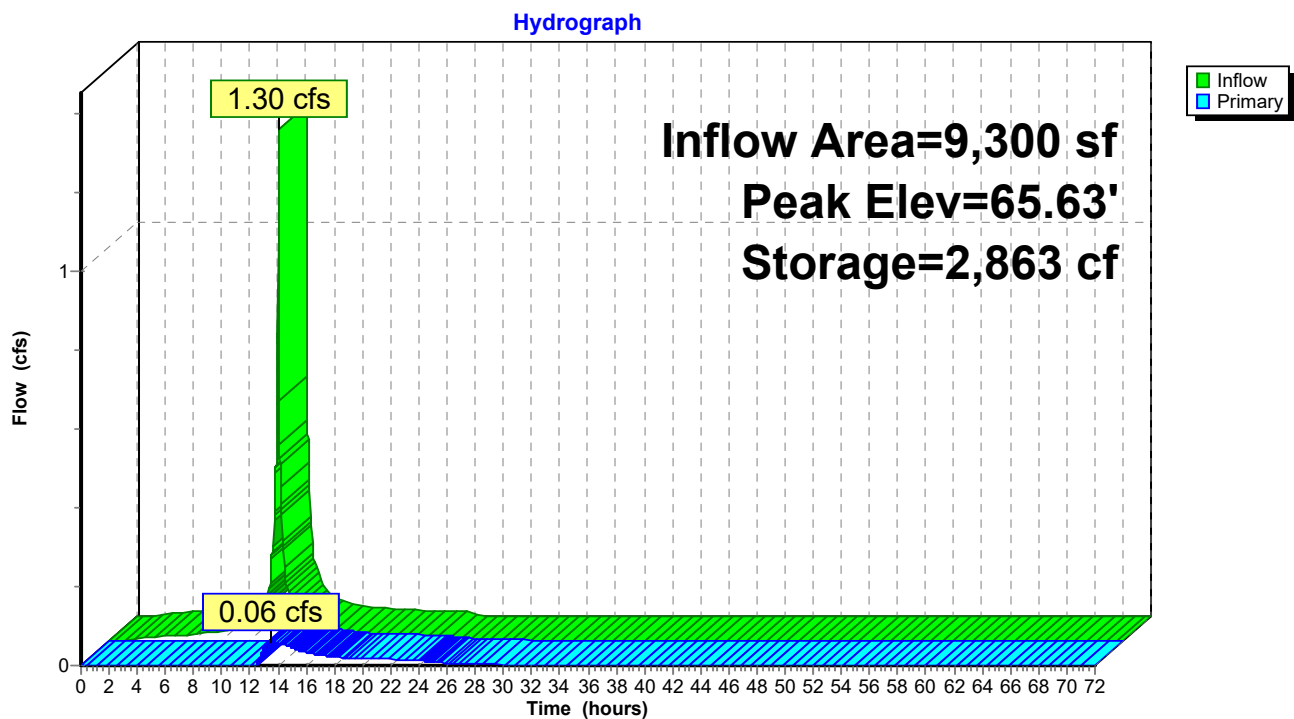
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.50	2,000	200.0	0	0	2,000
65.50	2,000	200.0	2,000	2,000	2,200

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	18.0" Round Culvert L= 75.0' Ke= 0.900 Inlet / Outlet Invert= 63.00' / 62.00' S= 0.0133 '/' Cc= 0.900 n= 0.011, Flow Area= 1.77 sf
#2	Device 1	63.25'	3.0" Vert. UNDERDRAIN X 0.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	65.40'	2.5" Vert. ORIFICE C= 0.600 Limited to weir flow at low heads
#4	Device 1	65.80'	6.0" Vert. Orifice C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.06 cfs @ 13.52 hrs HW=65.63' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.06 cfs of 9.20 cfs potential flow)
- 2=UNDERDRAIN (Controls 0.00 cfs)
- 3=ORIFICE (Orifice Controls 0.06 cfs @ 1.68 fps)
- 4=Orifice (Controls 0.00 cfs)

Pond PV-4: PERVIOUS PAVEMENT SYSTEM



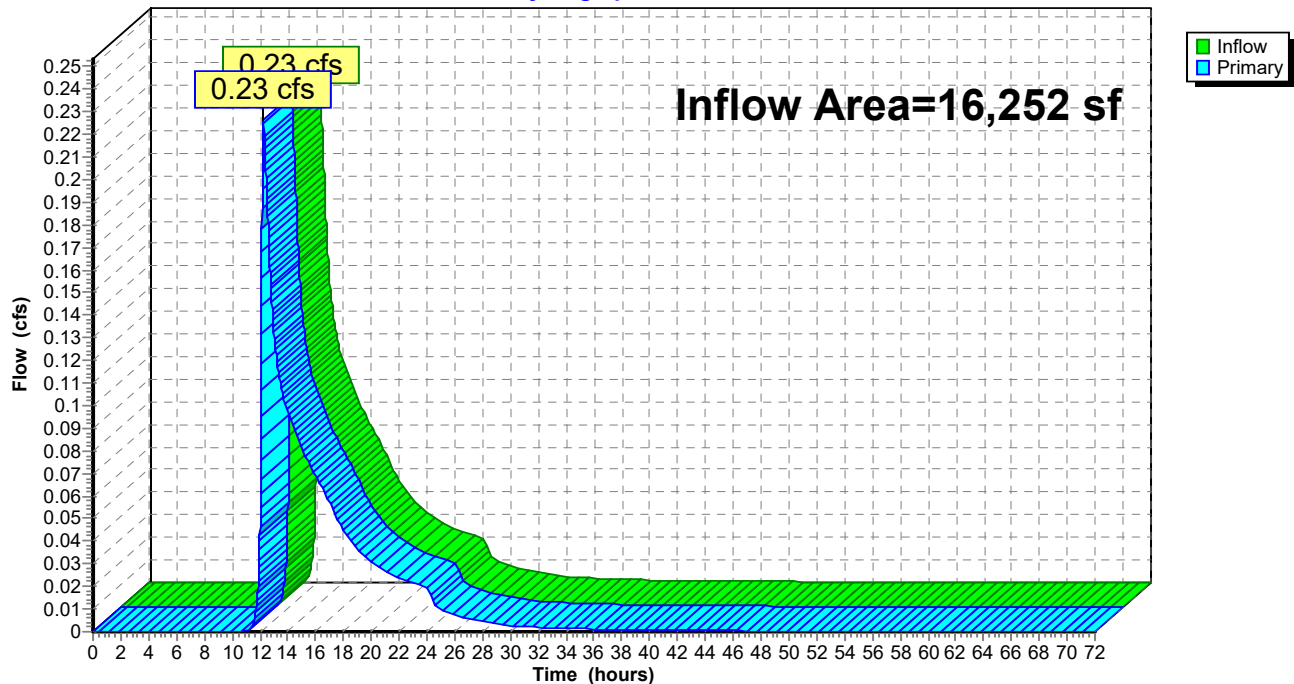
Summary for Link 3L: POI-1

Inflow Area = 16,252 sf, 49.16% Impervious, Inflow Depth > 2.13" for 10-Year event
Inflow = 0.23 cfs @ 12.25 hrs, Volume= 2,882 cf
Primary = 0.23 cfs @ 12.25 hrs, Volume= 2,882 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 3L: POI-1

Hydrograph



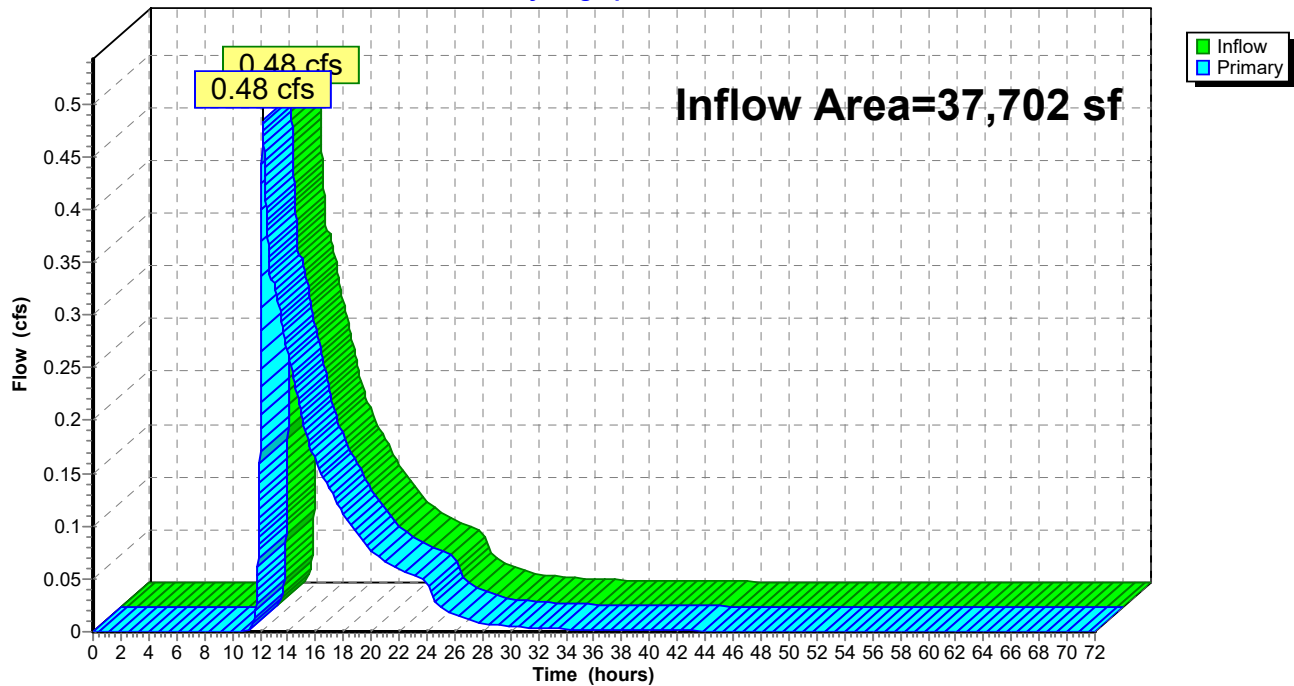
Summary for Link 4L: POI-3

Inflow Area = 37,702 sf, 67.05% Impervious, Inflow Depth > 2.21" for 10-Year event
 Inflow = 0.48 cfs @ 12.19 hrs, Volume= 6,942 cf
 Primary = 0.48 cfs @ 12.19 hrs, Volume= 6,942 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 4L: POI-3

Hydrograph



Summary for Subcatchment EX-1: EX-1

Runoff = 1.43 cfs @ 12.20 hrs, Volume= 6,393 cf, Depth= 4.07"

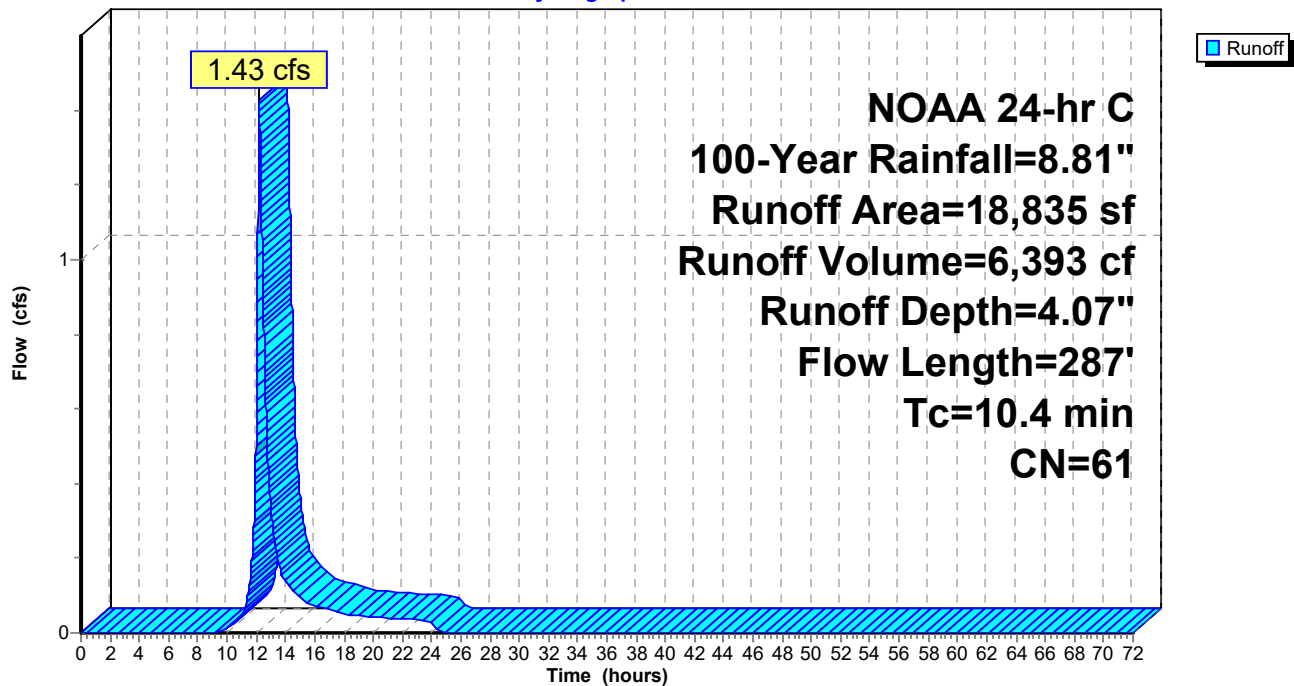
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year Rainfall=8.81"

Area (sf)	CN	Description
18,835	61	>75% Grass cover, Good, HSG B
18,835		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	100	0.0200	0.17		Sheet Flow, 1A-1B Grass: Short n= 0.150 P2= 3.36"
0.5	32	0.0200	0.99		Shallow Concentrated Flow, 1B-1C Short Grass Pasture Kv= 7.0 fps
0.3	155	0.0160	8.89	15.70	Pipe Channel, 1C-1D 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011
10.4	287	Total			

Subcatchment EX-1: EX-1

Hydrograph



Summary for Subcatchment EX-2: EX-2

Runoff = 1.01 cfs @ 12.17 hrs, Volume= 4,114 cf, Depth= 4.07"

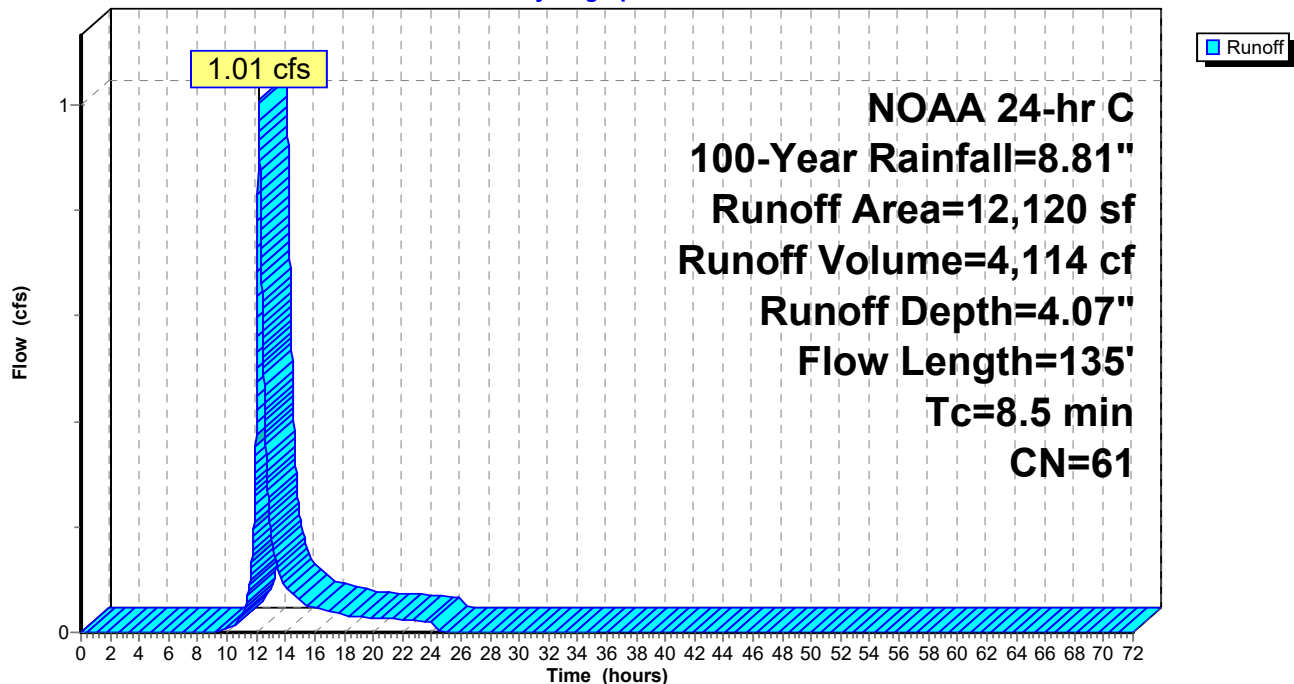
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year Rainfall=8.81"

Area (sf)	CN	Description
3,577	61	>75% Grass cover, Good, HSG B
8,543	61	>75% Grass cover, Good, HSG B
12,120	61	Weighted Average
12,120		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	76	0.0180	0.16		Sheet Flow, 2A-2B
					Grass: Short n= 0.150 P2= 3.36"
0.5	59	0.0840	2.03		Shallow Concentrated Flow, 2B-2C
					Short Grass Pasture Kv= 7.0 fps
8.5	135	Total			

Subcatchment EX-2: EX-2

Hydrograph



Summary for Subcatchment EX-3: EX-3

Runoff = 2.95 cfs @ 12.13 hrs, Volume= 9,617 cf, Depth= 4.07"

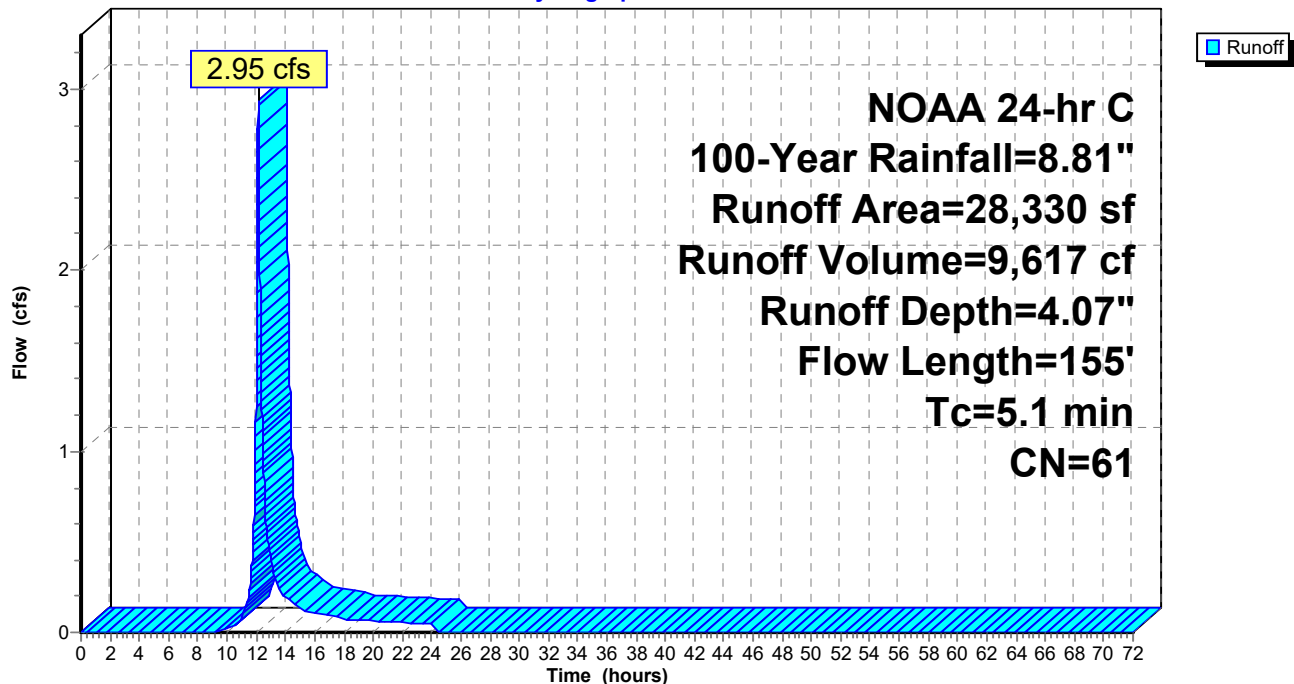
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year Rainfall=8.81"

Area (sf)	CN	Description
19,815	61	>75% Grass cover, Good, HSG B
8,515	61	>75% Grass cover, Good, HSG B
28,330	61	Weighted Average
28,330		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	93	0.0940	0.32		Sheet Flow, 3A-3B
					Grass: Short n= 0.150 P2= 3.36"
0.2	62	0.0430	4.21		Shallow Concentrated Flow, 3B-3C
					Paved Kv= 20.3 fps
5.1	155	Total			

Subcatchment EX-3: EX-3

Hydrograph



Summary for Subcatchment P-1B: P-1 BYPASS

Runoff = 0.50 cfs @ 12.22 hrs, Volume= 2,377 cf, Depth= 4.07"
 Routed to Link 3L : POI-1

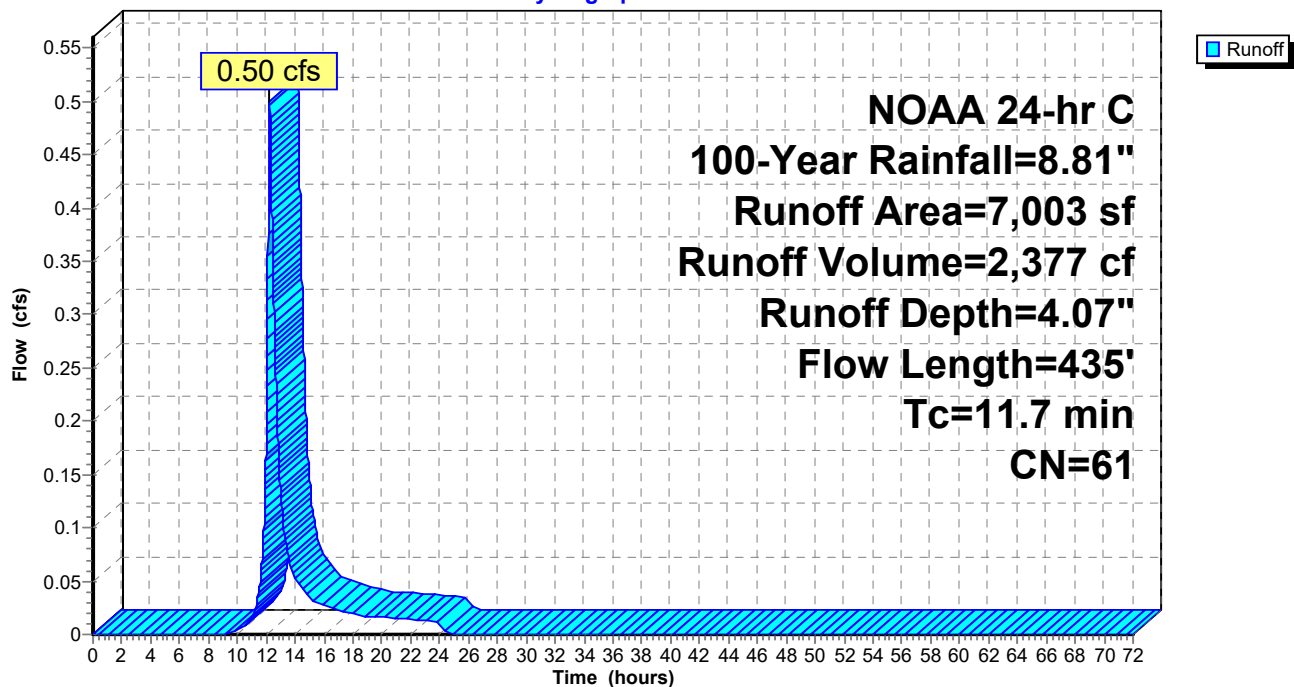
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 NOAA 24-hr C 100-Year Rainfall=8.81"

Area (sf)	CN	Description
7,003	61	>75% Grass cover, Good, HSG B
7,003		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0	53	0.0180	0.15		Sheet Flow, 1A-1B Grass: Short n= 0.150 P2= 3.36"
5.4	227	0.0100	0.70		Shallow Concentrated Flow, 1B-1C Short Grass Pasture Kv= 7.0 fps
0.3	155	0.0160	8.89	15.70	Pipe Channel, 1C-1D 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.011
11.7	435	Total			

Subcatchment P-1B: P-1 BYPASS

Hydrograph



Summary for Subcatchment P-1I: P-1 I

Runoff = 1.89 cfs @ 12.10 hrs, Volume= 5,705 cf, Depth= 8.57"

Routed to Pond PV-1 : PERVIOUS PAVEMENT SYSTEM

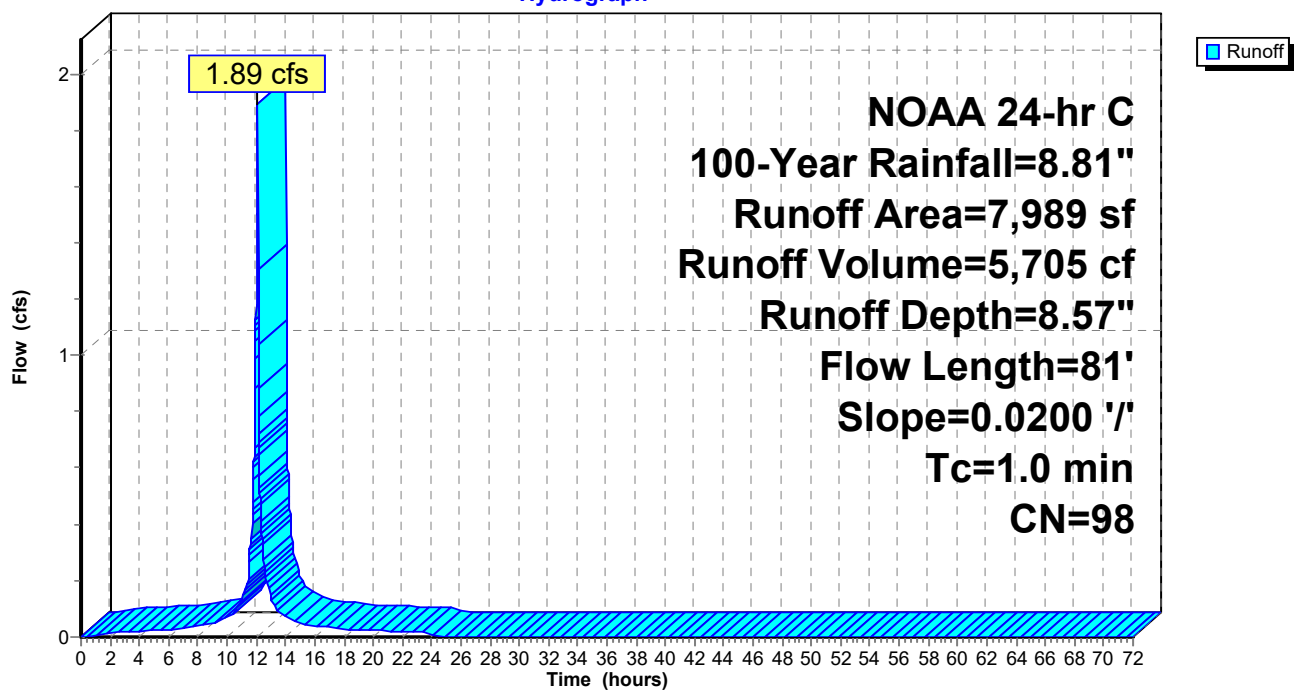
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year Rainfall=8.81"

Area (sf)	CN	Description
* 7,989	98	PARKING
7,989		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	81	0.0200	1.35		Sheet Flow, 2A-2B
Smooth surfaces n= 0.011 P2= 3.36"					

Subcatchment P-1I: P-1 I

Hydrograph



Summary for Subcatchment P-1P: P-1P

Runoff = 0.14 cfs @ 12.12 hrs, Volume= 428 cf, Depth= 4.07"

Routed to Pond PV-1 : PERVIOUS PAVEMENT SYSTEM

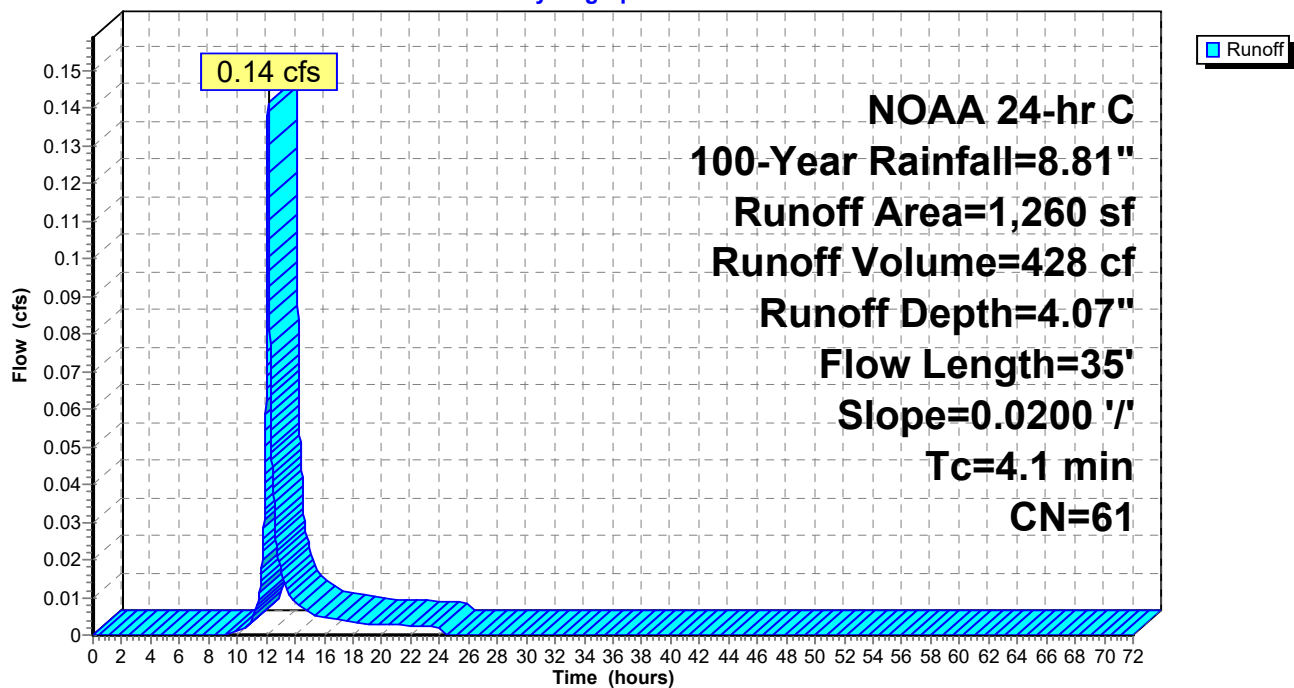
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year Rainfall=8.81"

Area (sf)	CN	Description
1,260	61	>75% Grass cover, Good, HSG B
1,260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	35	0.0200	0.14		Sheet Flow, SHEET FLOW
Grass: Short n= 0.150 P2= 3.36"					

Subcatchment P-1P: P-1P

Hydrograph



Summary for Subcatchment P-2B: P-2 BYPASS

Runoff = 0.67 cfs @ 12.11 hrs, Volume= 1,845 cf, Depth= 4.07"

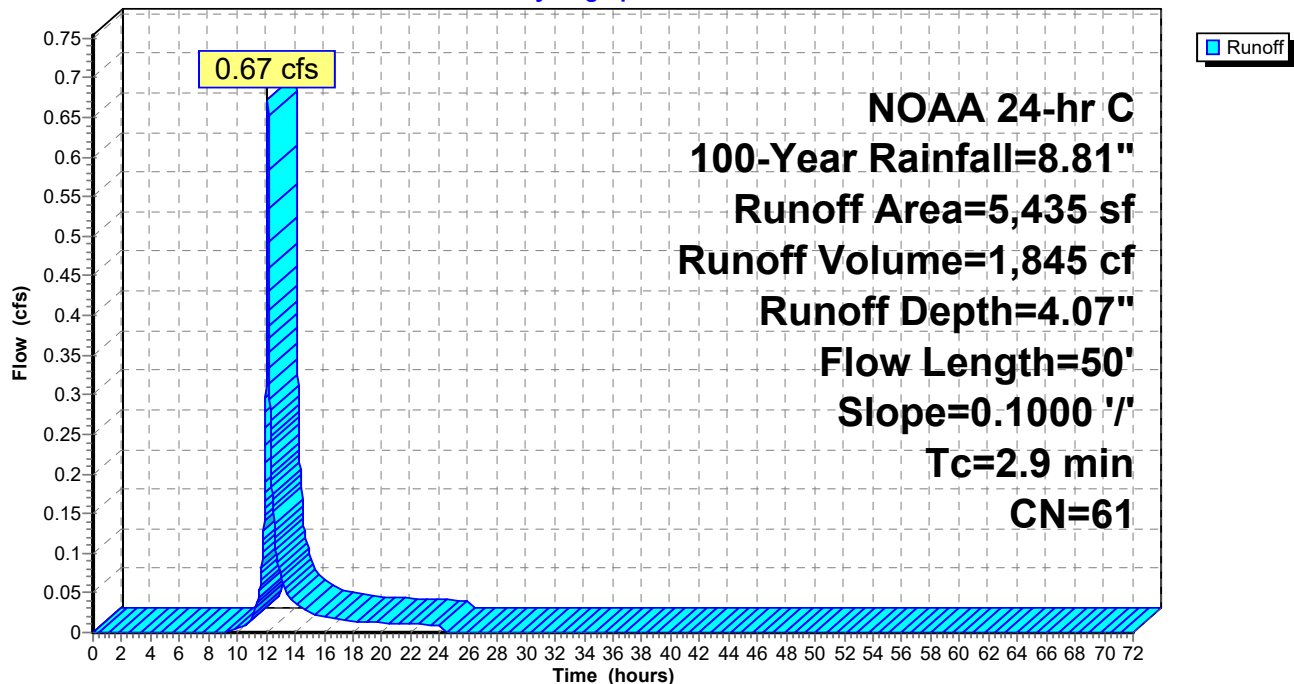
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year Rainfall=8.81"

Area (sf)	CN	Description
5,435	61	>75% Grass cover, Good, HSG B
5,435		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	50	0.1000	0.29		Sheet Flow, 4A-4B Grass: Short n= 0.150 P2= 3.36"

Subcatchment P-2B: P-2 BYPASS

Hydrograph



Summary for Subcatchment P-3A: P-3A

Runoff = 1.62 cfs @ 12.09 hrs, Volume= 4,649 cf, Depth= 8.09"
 Routed to Pond PV-2 : PERVIOUS PAVEMENT SYSTEM

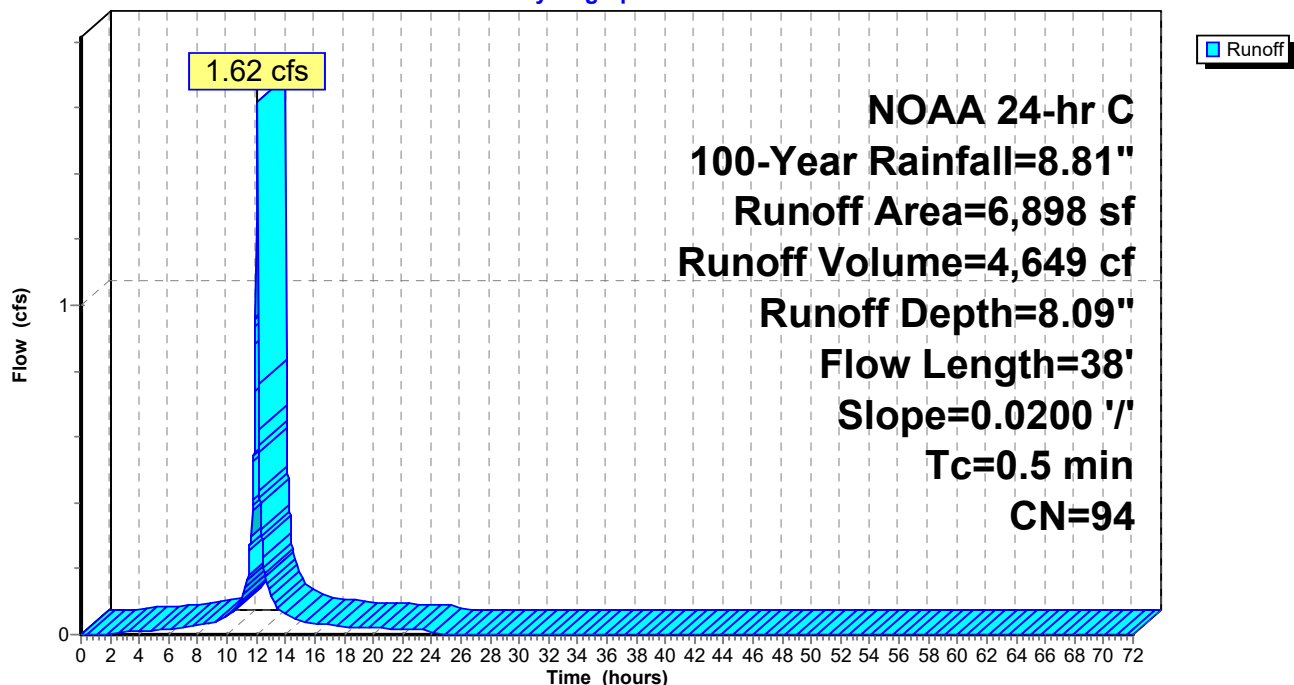
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 NOAA 24-hr C 100-Year Rainfall=8.81"

	Area (sf)	CN	Description
*	6,233	98	PARKING
	665	61	>75% Grass cover, Good, HSG B
	6,898	94	Weighted Average
	665		9.64% Pervious Area
	6,233		90.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	38	0.0200	1.16		Sheet Flow, P-3A
					Smooth surfaces n= 0.011 P2= 3.36"

Subcatchment P-3A: P-3A

Hydrograph



Summary for Subcatchment P-3B: P-3 BYPASS

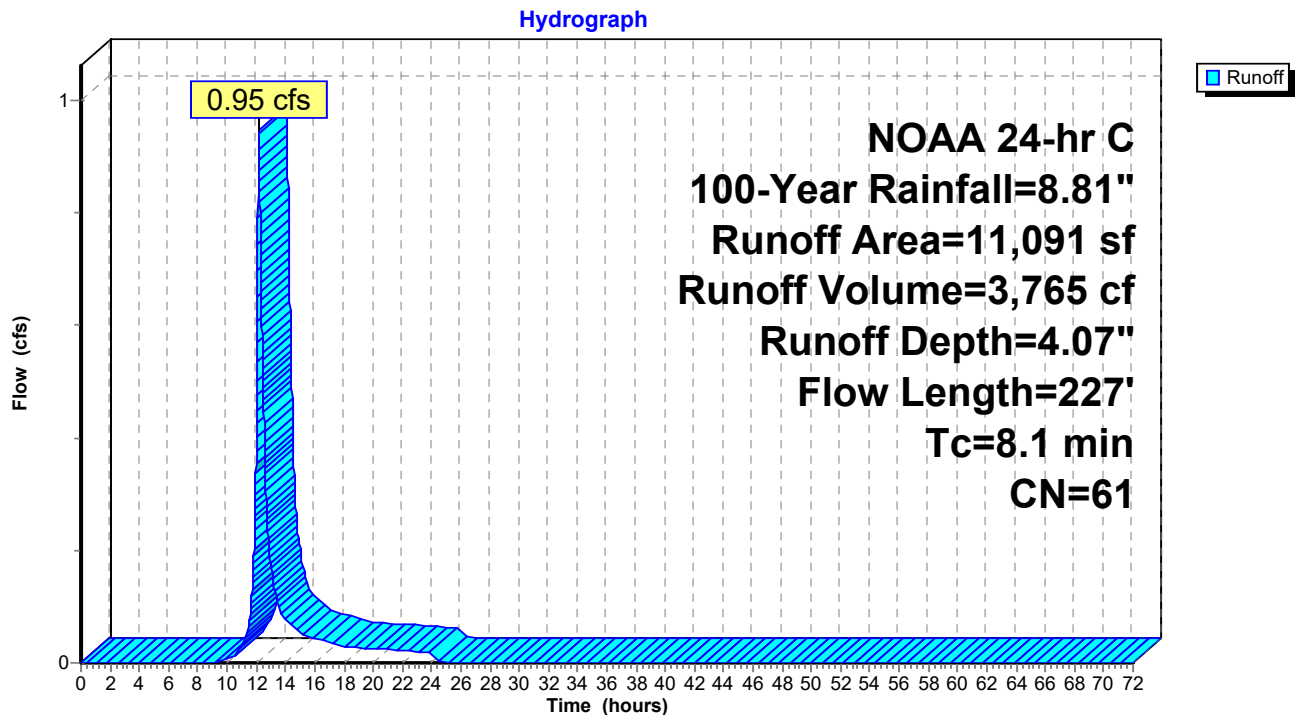
Runoff = 0.95 cfs @ 12.17 hrs, Volume= 3,765 cf, Depth= 4.07"
Routed to Link 4L : POI-3

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr C 100-Year Rainfall=8.81"

Area (sf)	CN	Description
11,091	61	>75% Grass cover, Good, HSG B
11,091		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6	100	0.0350	0.22		Sheet Flow, 6A-6B Grass: Short n= 0.150 P2= 3.36"
0.5	127	0.0450	4.31		Shallow Concentrated Flow, 6B-6C Paved Kv= 20.3 fps
8.1	227	Total			

Subcatchment P-3B: P-3 BYPASS



Summary for Subcatchment P-3C: P-3C

Runoff = 1.36 cfs @ 12.10 hrs, Volume= 3,925 cf, Depth= 8.09"
 Routed to Pond PV-3 : PERVIOUS PAVEMENT SYSTEM

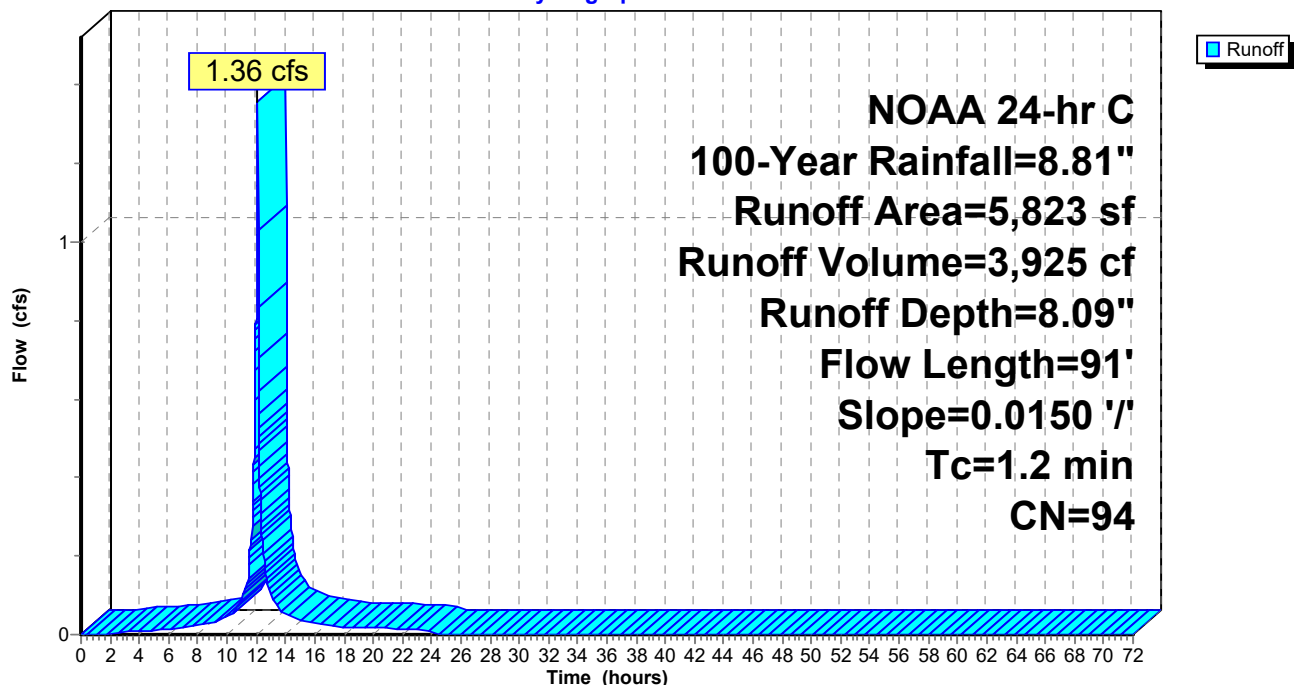
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 NOAA 24-hr C 100-Year Rainfall=8.81"

	Area (sf)	CN	Description
*	5,158	98	PARKING
	665	61	>75% Grass cover, Good, HSG B
	5,823	94	Weighted Average
	665		11.42% Pervious Area
	5,158		88.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.2	91	0.0150	1.23		Sheet Flow, P-3A
					Smooth surfaces n= 0.011 P2= 3.36"

Subcatchment P-3C: P-3C

Hydrograph



Summary for Subcatchment P-3D: P-3D

Runoff = 2.21 cfs @ 12.09 hrs, Volume= 6,642 cf, Depth= 8.57"
 Routed to Pond PV-4 : PERVIOUS PAVEMENT SYSTEM

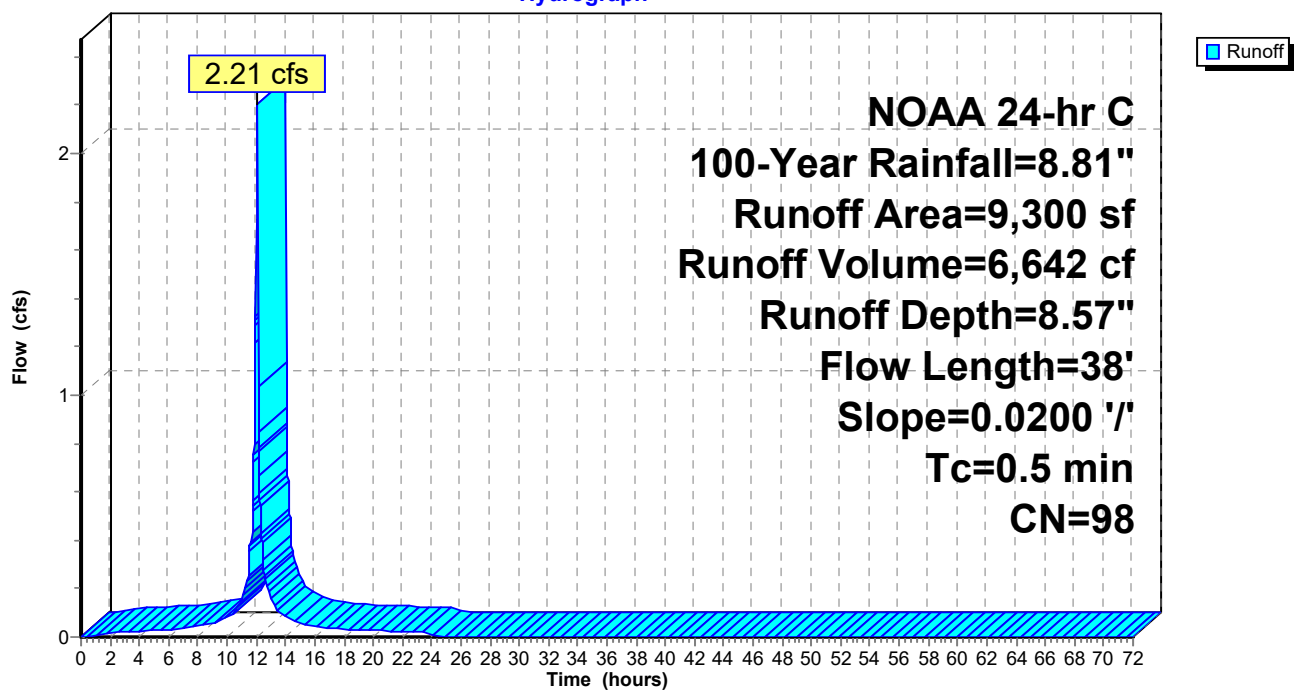
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 NOAA 24-hr C 100-Year Rainfall=8.81"

Area (sf)	CN	Description
* 9,300	98	PARKING
9,300		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	38	0.0200	1.16		Sheet Flow, P-3D
Smooth surfaces n= 0.011 P2= 3.36"					

Subcatchment P-3D: P-3D

Hydrograph



Summary for Subcatchment R: ROOF

Runoff = 1.09 cfs @ 12.09 hrs, Volume= 3,278 cf, Depth= 8.57"
 Routed to Pond PV-3 : PERVIOUS PAVEMENT SYSTEM

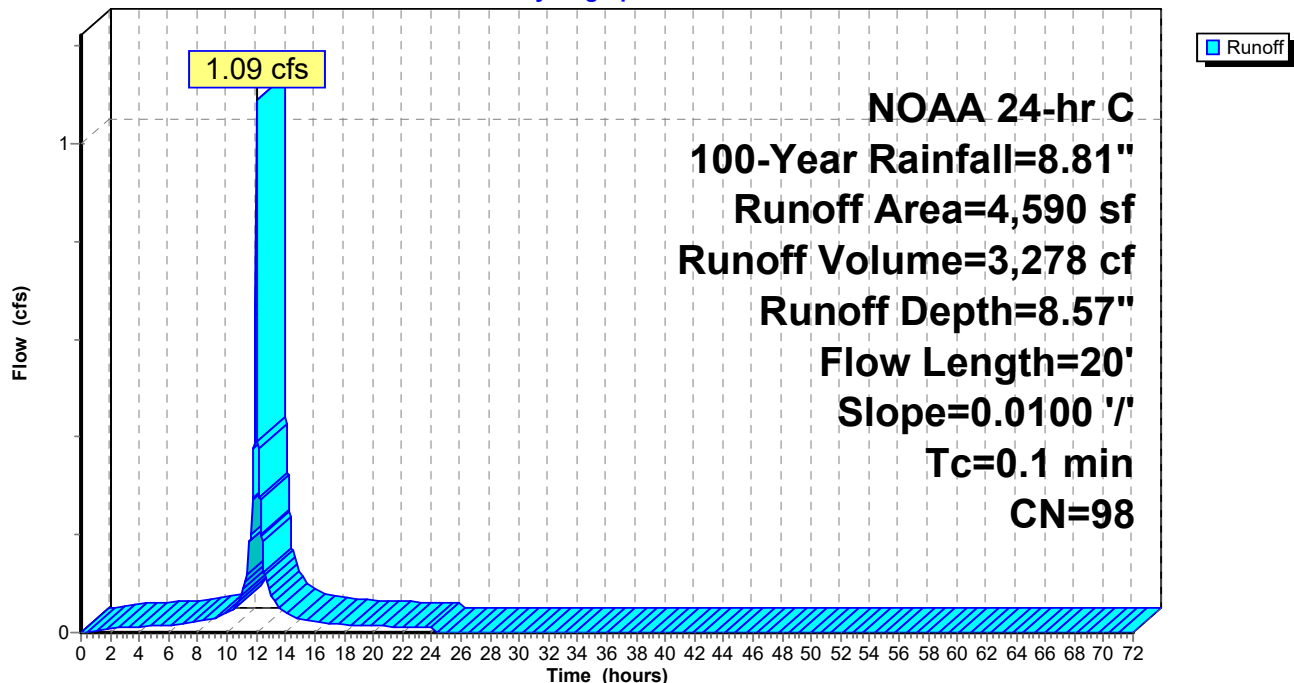
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 NOAA 24-hr C 100-Year Rainfall=8.81"

Area (sf)	CN	Description
* 4,590	98	ROOF
4,590		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	20	0.0100	3.38	0.66	Pipe Channel, ROOF LEADERS 6.0" Round Area= 0.2 sf Perim= 1.6' r= 0.13' n= 0.011

Subcatchment R: ROOF

Hydrograph



Summary for Pond PV-1: PERVIOUS PAVEMENT SYSTEM

Inflow Area = 9,249 sf, 86.38% Impervious, Inflow Depth = 7.96" for 100-Year event
 Inflow = 2.03 cfs @ 12.10 hrs, Volume= 6,133 cf
 Outflow = 0.41 cfs @ 12.36 hrs, Volume= 4,706 cf, Atten= 80%, Lag= 15.4 min
 Primary = 0.41 cfs @ 12.36 hrs, Volume= 4,706 cf
 Routed to Link 3L : POI-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 67.46' @ 12.36 hrs Surf.Area= 3,190 sf Storage= 3,493 cf

Plug-Flow detention time= 332.2 min calculated for 4,706 cf (77% of inflow)
 Center-of-Mass det. time= 243.8 min (987.8 - 744.0)

Volume	Invert	Avail.Storage	Storage Description
#1	65.75'	1,871 cf	Custom Stage Data (Irregular) Listed below (Recalc) 7,178 cf Overall - 2,500 cf Embedded = 4,678 cf x 40.0% Voids
#2	66.50'	2,375 cf	Custom Stage Data (Irregular) Listed below (Recalc) Inside #1 2,500 cf Overall x 95.0% Voids
		4,246 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
65.75	3,190	240.0	0	0	3,190
67.00	3,190	240.0	3,988	3,988	3,490
68.00	3,190	240.0	3,190	7,178	3,730

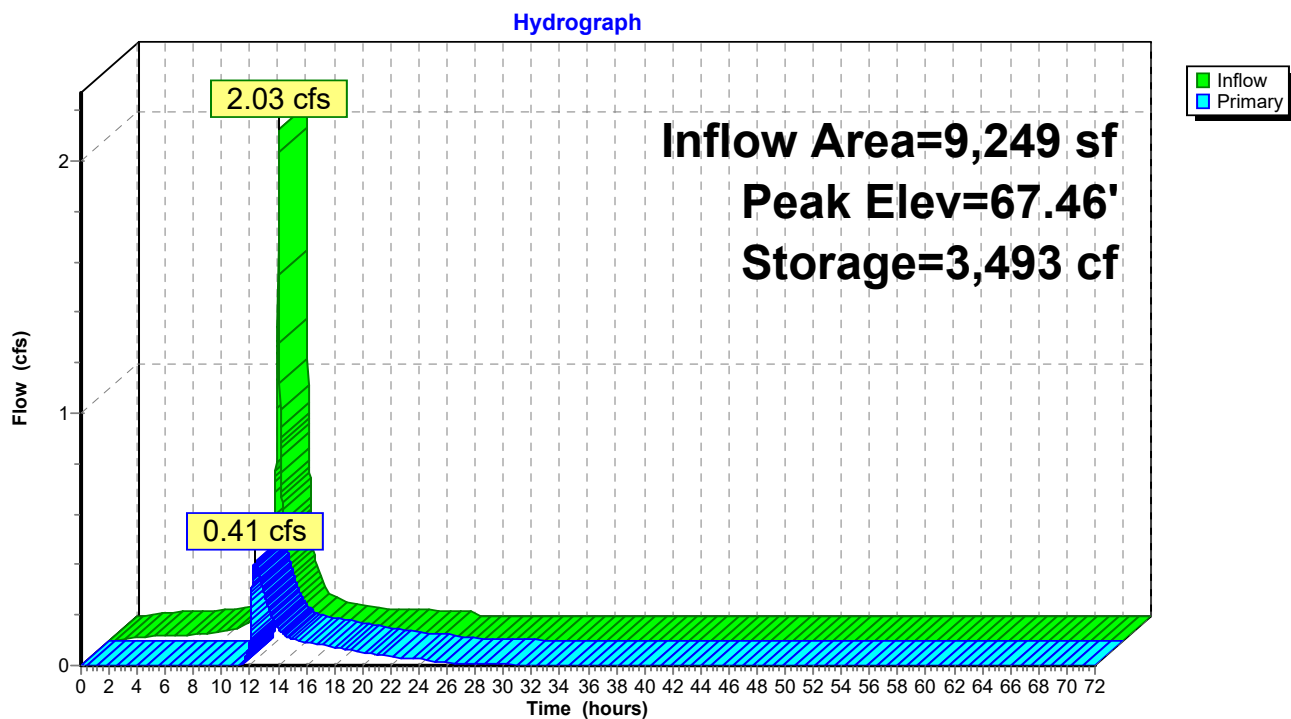
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
66.50	2,500	200.0	0	0	2,500
67.50	2,500	200.0	2,500	2,500	2,700

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	15.0" Round Culvert L= 22.0' Ke= 0.900 Inlet / Outlet Invert= 65.00' / 62.00' S= 0.1364 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#2	Device 1	65.25'	3.0" Vert. UNDERDRAIN X 0.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	66.67'	2.5" Vert. ORIFICE 2.5" C= 0.600 Limited to weir flow at low heads
#4	Device 1	67.15'	6.0" W x 4.0" H Vert. SLOT 6" X 4" C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.41 cfs @ 12.36 hrs HW=67.46' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.41 cfs of 6.31 cfs potential flow)
- 2=UNDERDRAIN (Controls 0.00 cfs)
- 3=ORIFICE 2.5" (Orifice Controls 0.14 cfs @ 3.98 fps)
- 4=SLOT 6" X 4" (Orifice Controls 0.27 cfs @ 1.78 fps)

Pond PV-1: PERVIOUS PAVEMENT SYSTEM



Summary for Pond PV-2: PERVIOUS PAVEMENT SYSTEM

Inflow Area = 6,898 sf, 90.36% Impervious, Inflow Depth = 8.09" for 100-Year event
 Inflow = 1.62 cfs @ 12.09 hrs, Volume= 4,649 cf
 Outflow = 0.43 cfs @ 12.22 hrs, Volume= 3,356 cf, Atten= 73%, Lag= 8.0 min
 Primary = 0.43 cfs @ 12.22 hrs, Volume= 3,356 cf
 Routed to Link 4L : POI-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 67.56' @ 12.22 hrs Surf.Area= 1,700 sf Storage= 2,423 cf

Plug-Flow detention time= 217.4 min calculated for 3,356 cf (72% of inflow)
 Center-of-Mass det. time= 125.0 min (880.6 - 755.6)

Volume	Invert	Avail.Storage	Storage Description
#1	64.00'	2,496 cf	Custom Stage Data (Irregular) Listed below (Recalc) 6,239 cf Overall x 40.0% Voids

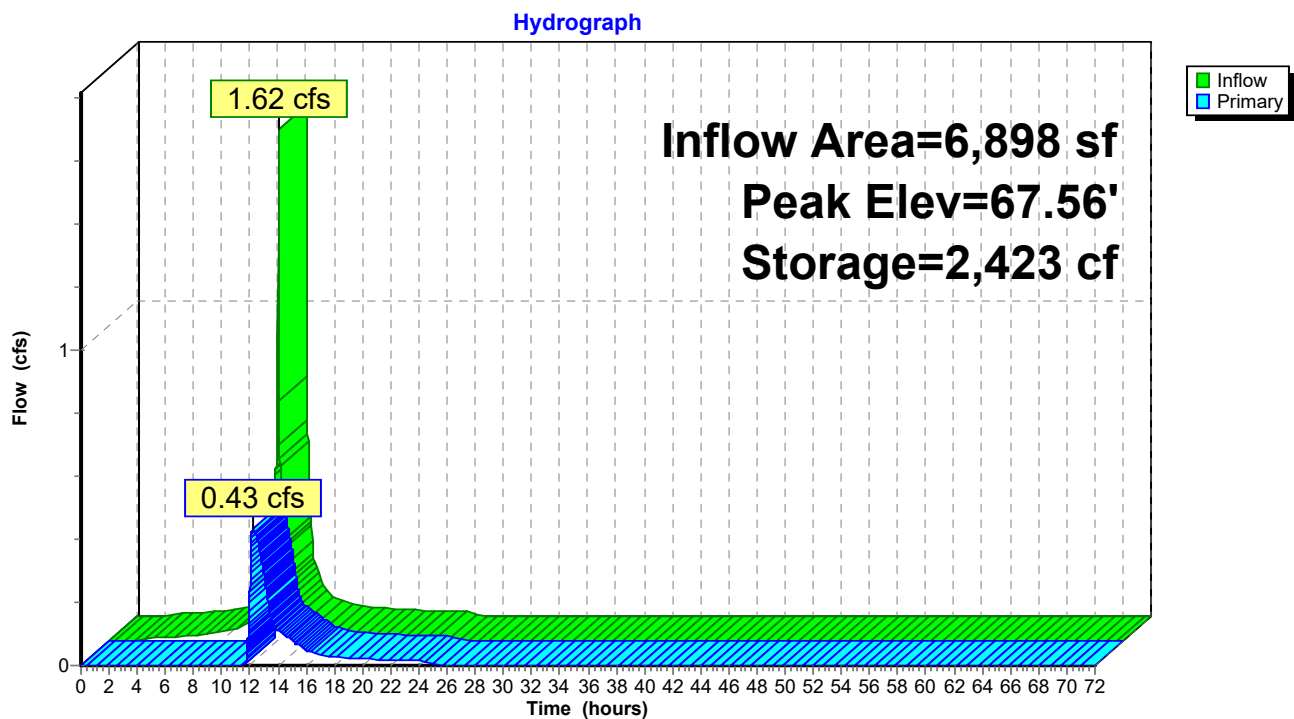
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.00	1,700	174.0	0	0	1,700
65.00	1,700	174.0	1,700	1,700	1,874
66.00	1,700	174.0	1,700	3,400	2,048
67.00	1,700	174.0	1,700	5,100	2,222
67.67	1,700	174.0	1,139	6,239	2,339

Device	Routing	Invert	Outlet Devices
#1	Primary	64.00'	15.0" Round Culvert L= 22.0' Ke= 0.900 Inlet / Outlet Invert= 64.00' / 62.00' S= 0.0909 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#2	Device 1	64.25'	3.0" Vert. UNDERDRAIN X 0.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	65.90'	2.5" Vert. ORIFICE C= 0.600 Limited to weir flow at low heads
#4	Device 1	66.50'	3.0" Vert. Orifice C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.43 cfs @ 12.22 hrs HW=67.56' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.43 cfs of 8.00 cfs potential flow)
- 2=UNDERDRAIN (Controls 0.00 cfs)
- 3=ORIFICE (Orifice Controls 0.20 cfs @ 6.01 fps)
- 4=Orifice (Orifice Controls 0.23 cfs @ 4.66 fps)

Pond PV-2: PERVIOUS PAVEMENT SYSTEM



Summary for Pond PV-3: PERVIOUS PAVEMENT SYSTEM

Inflow Area = 10,413 sf, 93.61% Impervious, Inflow Depth = 8.30" for 100-Year event
 Inflow = 2.45 cfs @ 12.09 hrs, Volume= 7,203 cf
 Outflow = 0.22 cfs @ 12.84 hrs, Volume= 6,146 cf, Atten= 91%, Lag= 44.8 min
 Primary = 0.22 cfs @ 12.84 hrs, Volume= 6,146 cf
 Routed to Link 4L : POI-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 67.35' @ 12.84 hrs Surf.Area= 2,600 sf Storage= 4,340 cf

Plug-Flow detention time= 350.0 min calculated for 6,146 cf (85% of inflow)
 Center-of-Mass det. time= 282.7 min (1,029.6 - 746.9)

Volume	Invert	Avail.Storage	Storage Description
#1	64.50'	2,120 cf	Custom Stage Data (Irregular) Listed below (Recalc) 7,800 cf Overall - 2,500 cf Embedded = 5,300 cf x 40.0% Voids
#2	65.50'	2,375 cf	Custom Stage Data (Irregular) Listed below (Recalc) Inside #1 2,500 cf Overall x 95.0% Voids
		4,495 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.50	2,600	215.0	0	0	2,600
65.50	2,600	215.0	2,600	2,600	2,815
66.00	2,600	215.0	1,300	3,900	2,923
67.00	2,600	215.0	2,600	6,500	3,138
67.50	2,600	215.0	1,300	7,800	3,245

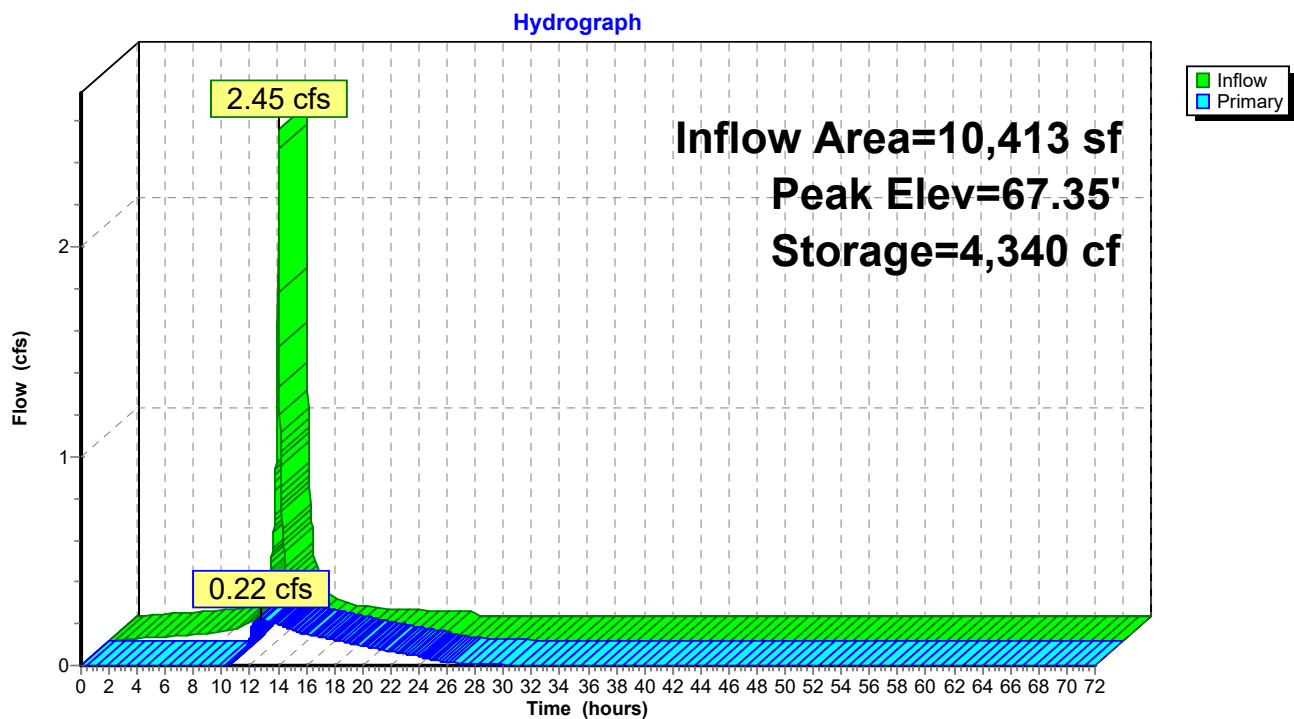
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
65.50	2,500	215.0	0	0	2,500
66.50	2,500	215.0	2,500	2,500	2,715

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	18.0" Round Culvert L= 22.0' Ke= 0.900 Inlet / Outlet Invert= 63.00' / 62.00' S= 0.0455 '/' Cc= 0.900 n= 0.011, Flow Area= 1.77 sf
#2	Device 1	63.25'	3.0" Vert. UNDERDRAIN X 0.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	65.50'	2.5" Vert. ORIFICE C= 0.600 Limited to weir flow at low heads
#4	Device 1	65.75'	6.0" Vert. Orifice/Grate X 0.00 C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.22 cfs @ 12.84 hrs HW=67.35' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.22 cfs of 12.75 cfs potential flow)
- 2=UNDERDRAIN (Controls 0.00 cfs)
- 3=ORIFICE (Orifice Controls 0.22 cfs @ 6.36 fps)
- 4=Orifice/Grate (Controls 0.00 cfs)

Pond PV-3: PERVIOUS PAVEMENT SYSTEM



Summary for Pond PV-4: PERVIOUS PAVEMENT SYSTEM

Inflow Area = 9,300 sf, 100.00% Impervious, Inflow Depth = 8.57" for 100-Year event
 Inflow = 2.21 cfs @ 12.09 hrs, Volume= 6,642 cf
 Outflow = 0.79 cfs @ 12.14 hrs, Volume= 4,089 cf, Atten= 64%, Lag= 3.1 min
 Primary = 0.79 cfs @ 12.14 hrs, Volume= 4,089 cf
 Routed to Link 4L : POI-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 66.49' @ 12.14 hrs Surf.Area= 2,350 sf Storage= 3,679 cf

Plug-Flow detention time= 301.2 min calculated for 4,089 cf (62% of inflow)
 Center-of-Mass det. time= 188.3 min (924.1 - 735.8)

Volume	Invert	Avail.Storage	Storage Description
#1	63.75'	2,725 cf	Custom Stage Data (Irregular) Listed below (Recalc) 8,813 cf Overall - 2,000 cf Embedded = 6,813 cf x 40.0% Voids
#2	64.50'	1,900 cf	Custom Stage Data (Irregular) Listed below (Recalc) Inside #1 2,000 cf Overall x 95.0% Voids
		4,625 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
63.75	2,350	240.0	0	0	2,350
64.00	2,350	240.0	588	588	2,410
65.00	2,350	240.0	2,350	2,938	2,650
66.00	2,350	240.0	2,350	5,288	2,890
67.50	2,350	240.0	3,525	8,813	3,250

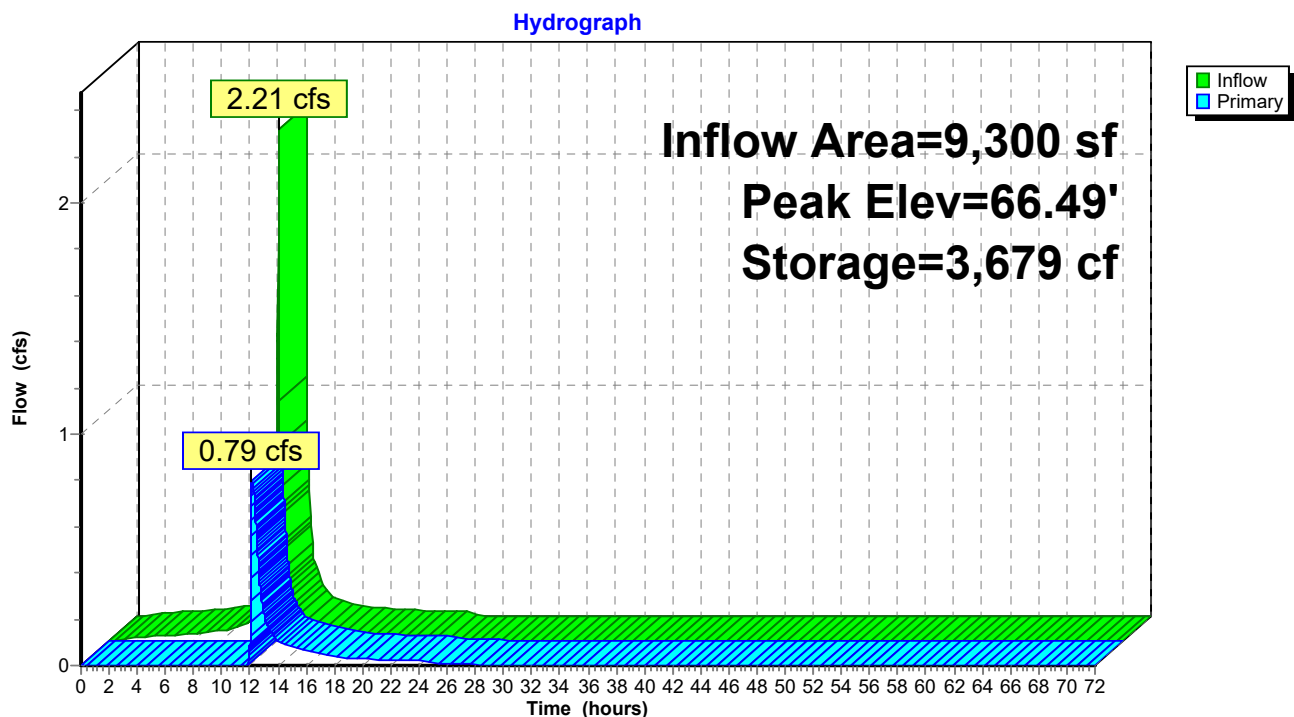
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.50	2,000	200.0	0	0	2,000
65.50	2,000	200.0	2,000	2,000	2,200

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	18.0" Round Culvert L= 75.0' Ke= 0.900 Inlet / Outlet Invert= 63.00' / 62.00' S= 0.0133 ' / ' Cc= 0.900 n= 0.011, Flow Area= 1.77 sf
#2	Device 1	63.25'	3.0" Vert. UNDERDRAIN X 0.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	65.40'	2.5" Vert. ORIFICE C= 0.600 Limited to weir flow at low heads
#4	Device 1	65.80'	6.0" Vert. Orifice C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.79 cfs @ 12.14 hrs HW=66.49' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.79 cfs of 11.13 cfs potential flow)
- 2=UNDERDRAIN (Controls 0.00 cfs)
- 3=ORIFICE (Orifice Controls 0.16 cfs @ 4.79 fps)
- 4=Orifice (Orifice Controls 0.63 cfs @ 3.21 fps)

Pond PV-4: PERVIOUS PAVEMENT SYSTEM



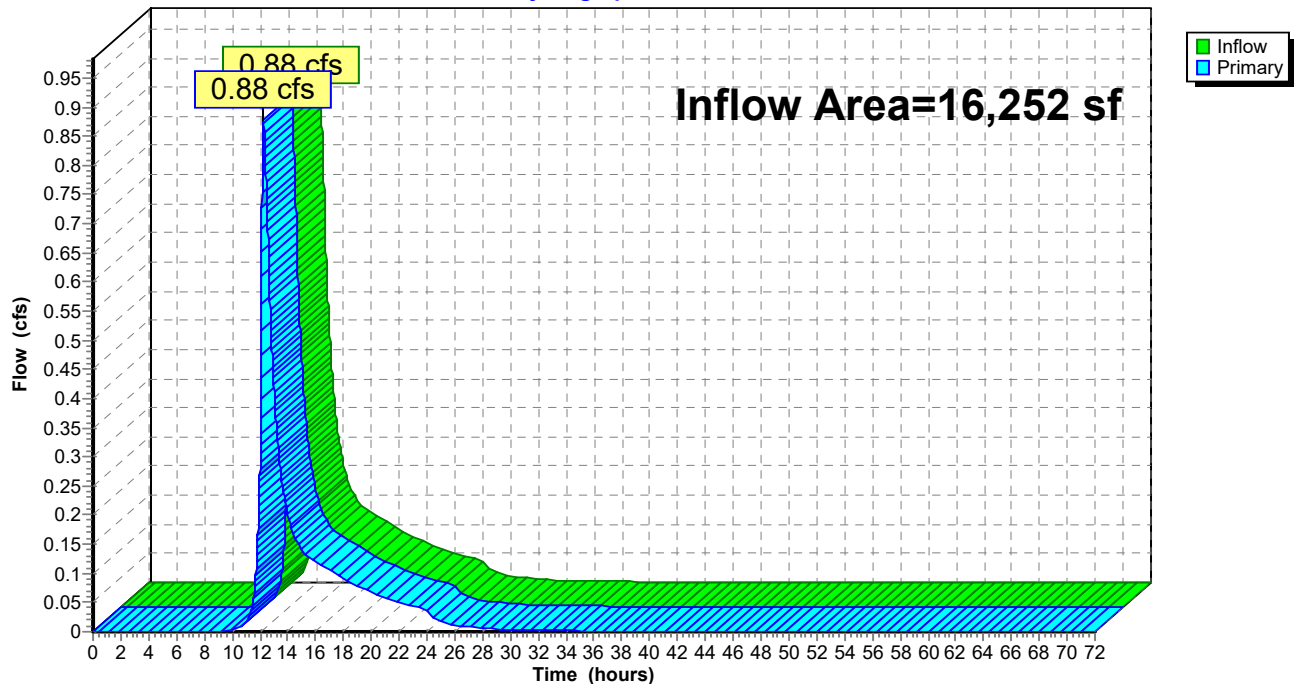
Summary for Link 3L: POI-1

Inflow Area = 16,252 sf, 49.16% Impervious, Inflow Depth > 5.23" for 100-Year event
 Inflow = 0.88 cfs @ 12.24 hrs, Volume= 7,083 cf
 Primary = 0.88 cfs @ 12.24 hrs, Volume= 7,083 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 3L: POI-1

Hydrograph



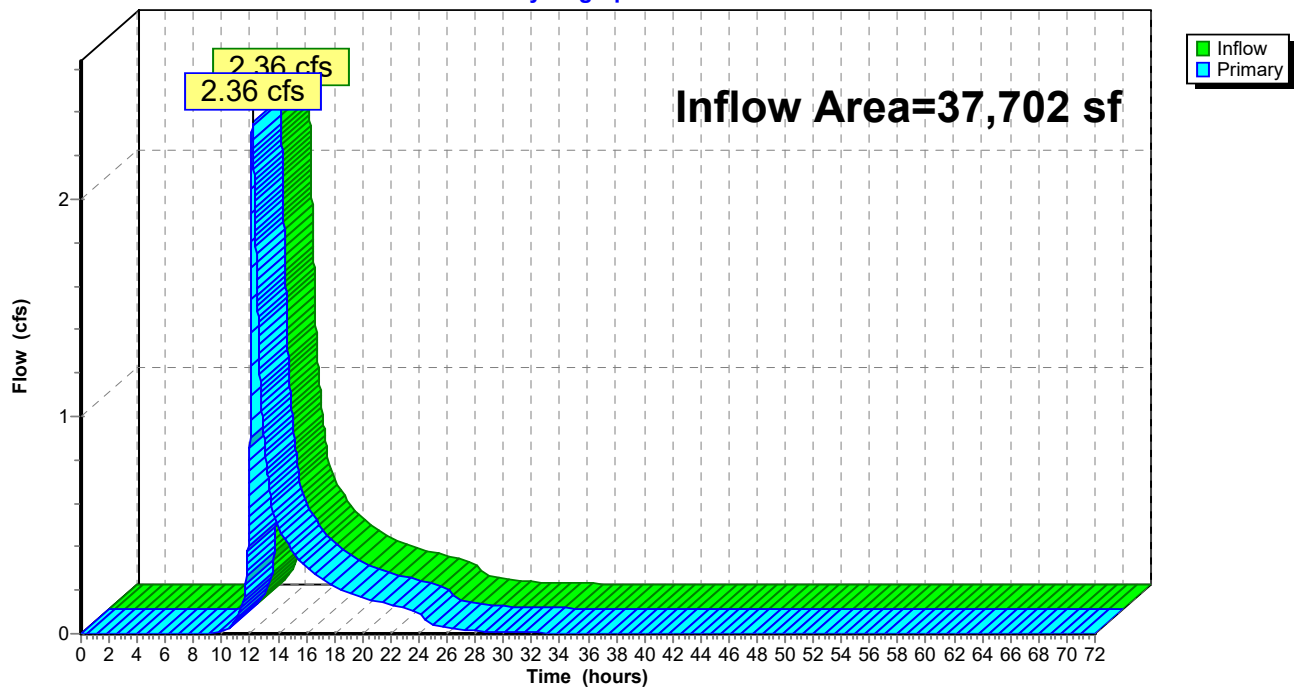
Summary for Link 4L: POI-3

Inflow Area = 37,702 sf, 67.05% Impervious, Inflow Depth = 5.52" for 100-Year event
Inflow = 2.36 cfs @ 12.17 hrs, Volume= 17,356 cf
Primary = 2.36 cfs @ 12.17 hrs, Volume= 17,356 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 4L: POI-3

Hydrograph



Summary for Pond PV-1: PERVIOUS PAVEMENT SYSTEM

Inflow Area = 9,249 sf, 86.38% Impervious, Inflow Depth = 1.00" for WQ event
 Inflow = 0.59 cfs @ 1.08 hrs, Volume= 771 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 3L : POI-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 66.35' @ 2.46 hrs Surf.Area= 3,190 sf Storage= 771 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	65.75'	1,871 cf	Custom Stage Data (Irregular) Listed below (Recalc) 7,178 cf Overall - 2,500 cf Embedded = 4,678 cf x 40.0% Voids
#2	66.50'	2,375 cf	Custom Stage Data (Irregular) Listed below (Recalc) Inside #1 2,500 cf Overall x 95.0% Voids
		4,246 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
65.75	3,190	240.0	0	0	3,190
67.00	3,190	240.0	3,988	3,988	3,490
68.00	3,190	240.0	3,190	7,178	3,730

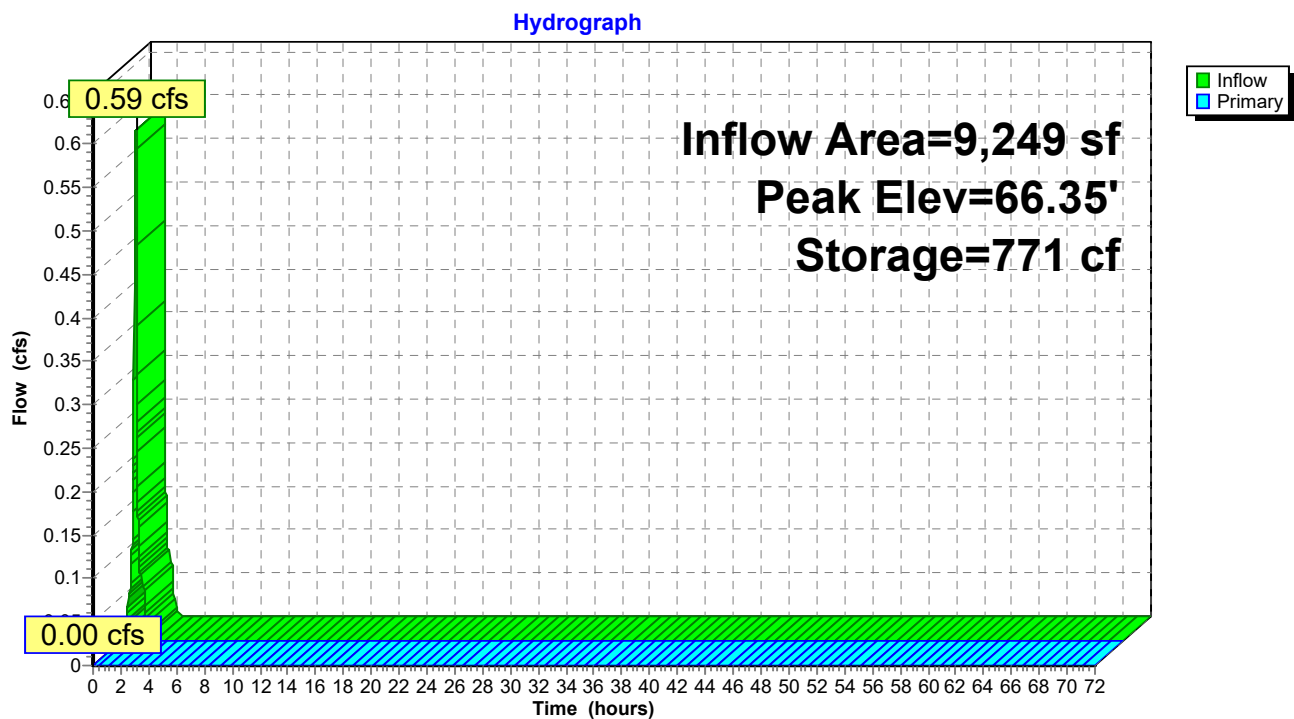
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
66.50	2,500	200.0	0	0	2,500
67.50	2,500	200.0	2,500	2,500	2,700

Device	Routing	Invert	Outlet Devices
#1	Primary	65.00'	15.0" Round Culvert L= 22.0' Ke= 0.900 Inlet / Outlet Invert= 65.00' / 62.00' S= 0.1364 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#2	Device 1	65.25'	3.0" Vert. UNDERDRAIN X 0.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	66.67'	2.5" Vert. ORIFICE 2.5" C= 0.600 Limited to weir flow at low heads
#4	Device 1	67.15'	6.0" W x 4.0" H Vert. SLOT 6" X 4" C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=65.75' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.00 cfs of 1.79 cfs potential flow)
- 2=UNDERDRAIN (Controls 0.00 cfs)
- 3=ORIFICE 2.5" (Controls 0.00 cfs)
- 4=SLOT 6" X 4" (Controls 0.00 cfs)

Pond PV-1: PERVIOUS PAVEMENT SYSTEM



Summary for Pond PV-2: PERVIOUS PAVEMENT SYSTEM

Inflow Area = 6,898 sf, 90.36% Impervious, Inflow Depth = 1.03" for WQ event
 Inflow = 0.49 cfs @ 1.08 hrs, Volume= 595 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 4L : POI-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 64.87' @ 2.06 hrs Surf.Area= 1,700 sf Storage= 595 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	64.00'	2,496 cf	Custom Stage Data (Irregular) Listed below (Recalc) 6,239 cf Overall x 40.0% Voids

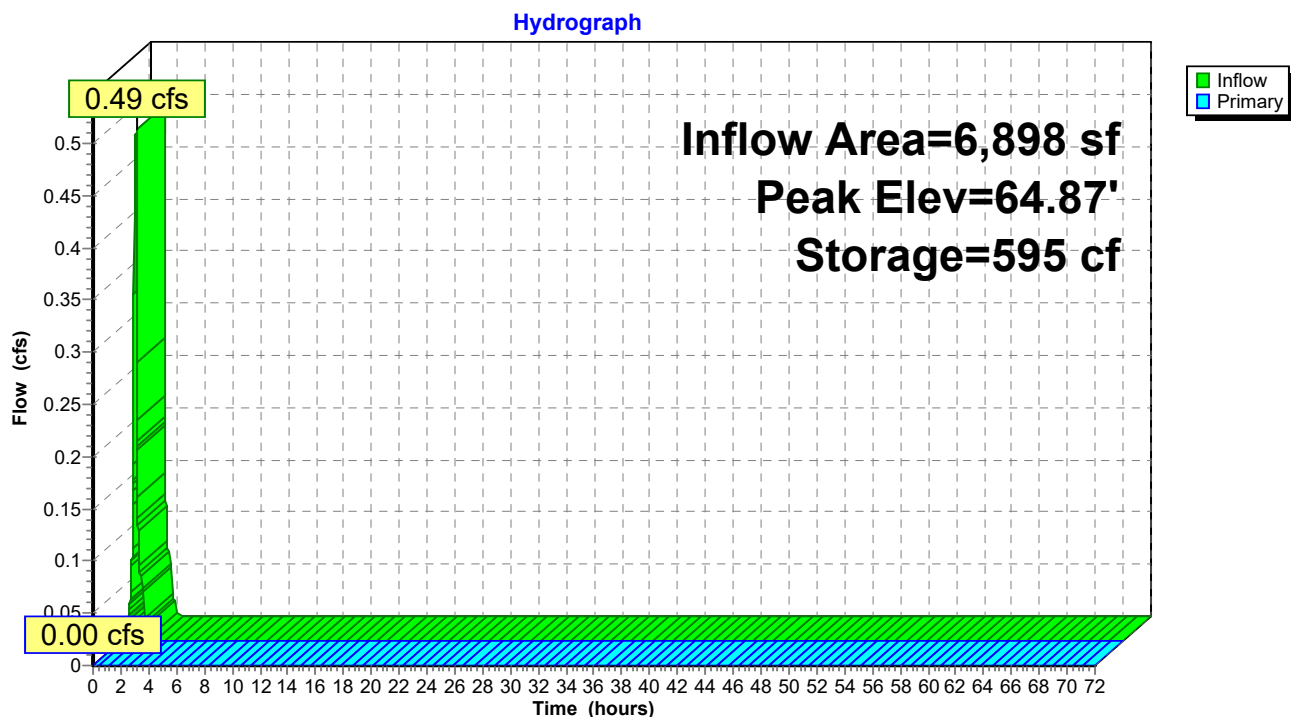
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.00	1,700	174.0	0	0	1,700
65.00	1,700	174.0	1,700	1,700	1,874
66.00	1,700	174.0	1,700	3,400	2,048
67.00	1,700	174.0	1,700	5,100	2,222
67.67	1,700	174.0	1,139	6,239	2,339

Device	Routing	Invert	Outlet Devices
#1	Primary	64.00'	15.0" Round Culvert L= 22.0' Ke= 0.900 Inlet / Outlet Invert= 64.00' / 62.00' S= 0.0909 '/' Cc= 0.900 n= 0.011, Flow Area= 1.23 sf
#2	Device 1	64.25'	3.0" Vert. UNDERDRAIN X 0.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	65.90'	2.5" Vert. ORIFICE C= 0.600 Limited to weir flow at low heads
#4	Device 1	66.50'	3.0" Vert. Orifice C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=64.00' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Controls 0.00 cfs)
- 2=UNDERDRAIN (Controls 0.00 cfs)
- 3=ORIFICE (Controls 0.00 cfs)
- 4=Orifice (Controls 0.00 cfs)

Pond PV-2: PERVIOUS PAVEMENT SYSTEM



Summary for Pond PV-3: PERVIOUS PAVEMENT SYSTEM

Inflow Area = 10,413 sf, 93.61% Impervious, Inflow Depth = 1.08" for WQ event
 Inflow = 0.75 cfs @ 1.07 hrs, Volume= 937 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 4L : POI-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 65.40' @ 2.14 hrs Surf.Area= 2,600 sf Storage= 937 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	64.50'	2,120 cf	Custom Stage Data (Irregular) Listed below (Recalc) 7,800 cf Overall - 2,500 cf Embedded = 5,300 cf x 40.0% Voids
#2	65.50'	2,375 cf	Custom Stage Data (Irregular) Listed below (Recalc) Inside #1 2,500 cf Overall x 95.0% Voids
		4,495 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.50	2,600	215.0	0	0	2,600
65.50	2,600	215.0	2,600	2,600	2,815
66.00	2,600	215.0	1,300	3,900	2,923
67.00	2,600	215.0	2,600	6,500	3,138
67.50	2,600	215.0	1,300	7,800	3,245

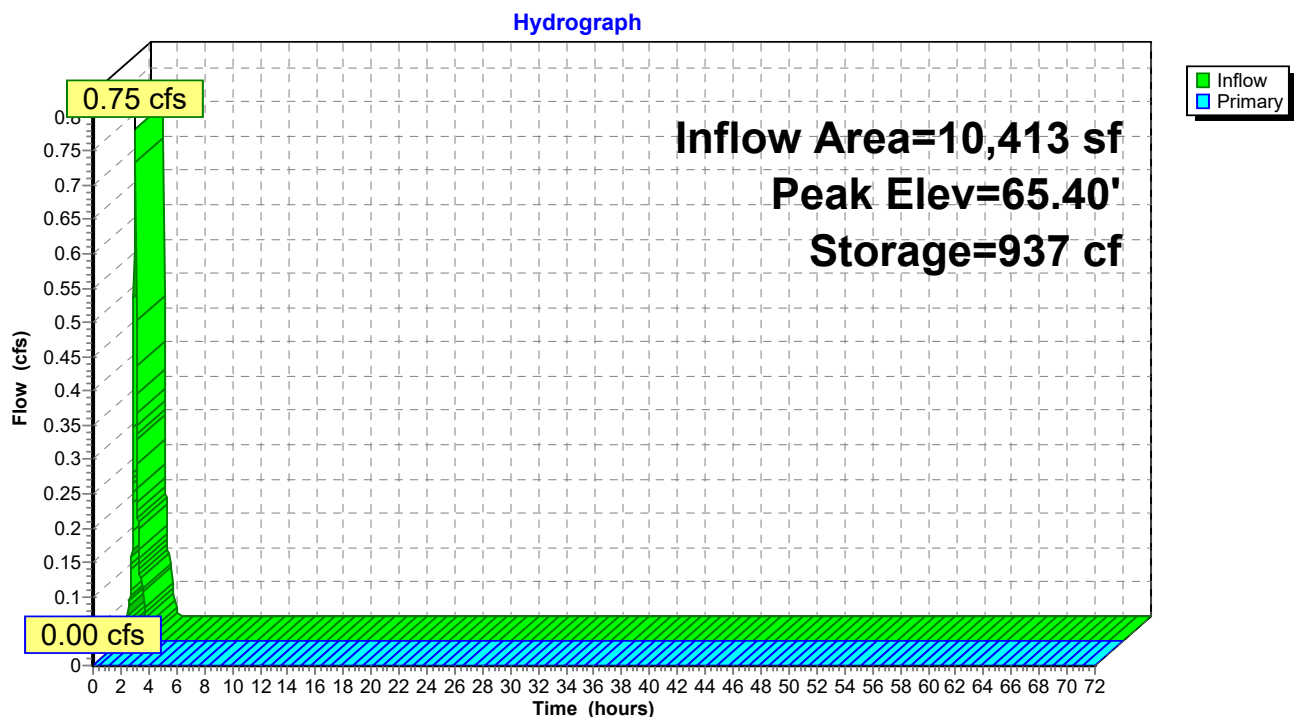
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
65.50	2,500	215.0	0	0	2,500
66.50	2,500	215.0	2,500	2,500	2,715

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	18.0" Round Culvert L= 22.0' Ke= 0.900 Inlet / Outlet Invert= 63.00' / 62.00' S= 0.0455 '/' Cc= 0.900 n= 0.011, Flow Area= 1.77 sf
#2	Device 1	63.25'	3.0" Vert. UNDERDRAIN X 0.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	65.50'	2.5" Vert. ORIFICE C= 0.600 Limited to weir flow at low heads
#4	Device 1	65.75'	6.0" Vert. Orifice/Grate X 0.00 C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=64.50' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.00 cfs of 5.82 cfs potential flow)
- 2=UNDERDRAIN (Controls 0.00 cfs)
- 3=ORIFICE (Controls 0.00 cfs)
- 4=Orifice/Grate (Controls 0.00 cfs)

Pond PV-3: PERVIOUS PAVEMENT SYSTEM



Summary for Pond PV-4: PERVIOUS PAVEMENT SYSTEM

Inflow Area = 9,300 sf, 100.00% Impervious, Inflow Depth = 1.14" for WQ event
 Inflow = 0.68 cfs @ 1.08 hrs, Volume= 881 cf
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
 Routed to Link 4L : POI-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 64.59' @ 2.06 hrs Surf.Area= 2,350 sf Storage= 881 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	63.75'	2,725 cf	Custom Stage Data (Irregular) Listed below (Recalc) 8,813 cf Overall - 2,000 cf Embedded = 6,813 cf x 40.0% Voids
#2	64.50'	1,900 cf	Custom Stage Data (Irregular) Listed below (Recalc) Inside #1 2,000 cf Overall x 95.0% Voids
		4,625 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
63.75	2,350	240.0	0	0	2,350
64.00	2,350	240.0	588	588	2,410
65.00	2,350	240.0	2,350	2,938	2,650
66.00	2,350	240.0	2,350	5,288	2,890
67.50	2,350	240.0	3,525	8,813	3,250

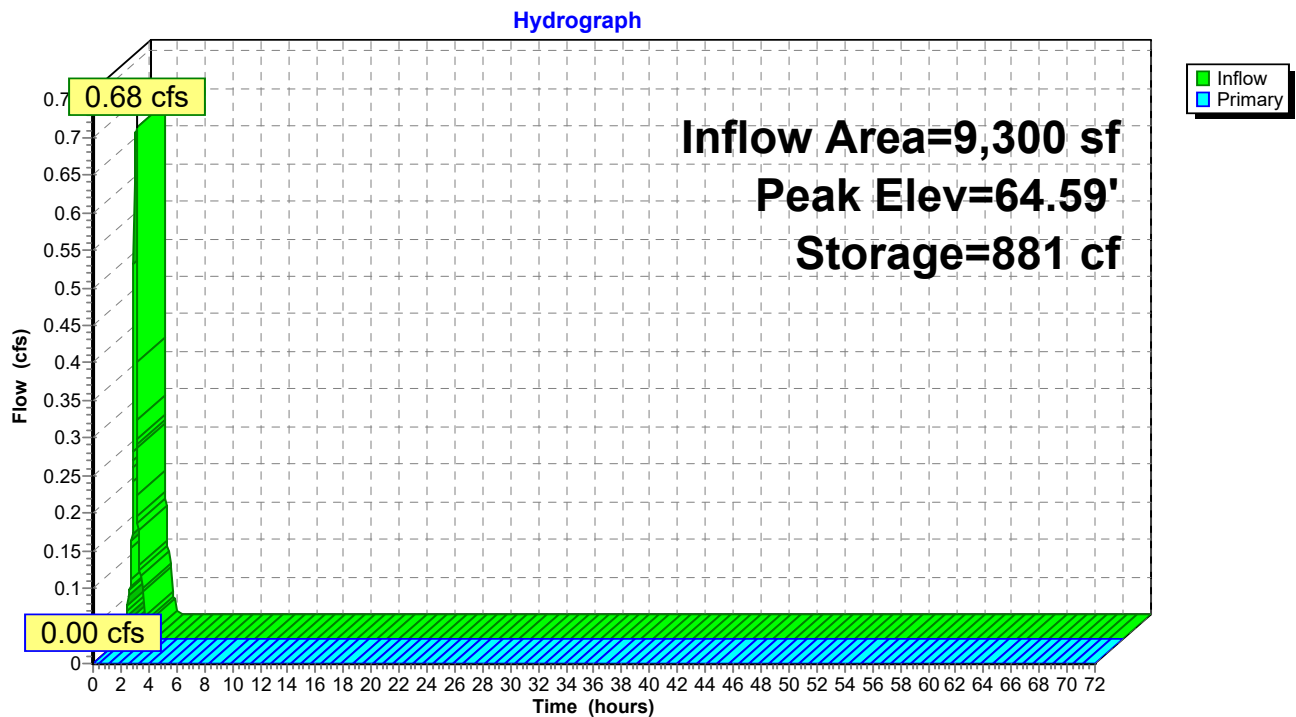
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.50	2,000	200.0	0	0	2,000
65.50	2,000	200.0	2,000	2,000	2,200

Device	Routing	Invert	Outlet Devices
#1	Primary	63.00'	18.0" Round Culvert L= 75.0' Ke= 0.900 Inlet / Outlet Invert= 63.00' / 62.00' S= 0.0133 '/' Cc= 0.900 n= 0.011, Flow Area= 1.77 sf
#2	Device 1	63.25'	3.0" Vert. UNDERDRAIN X 0.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	65.40'	2.5" Vert. ORIFICE C= 0.600 Limited to weir flow at low heads
#4	Device 1	65.80'	6.0" Vert. Orifice C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=63.75' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.00 cfs of 2.06 cfs potential flow)
- 2=UNDERDRAIN (Controls 0.00 cfs)
- 3=ORIFICE (Controls 0.00 cfs)
- 4=Orifice (Controls 0.00 cfs)

Pond PV-4: PERVIOUS PAVEMENT SYSTEM



2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

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Hydrograph for Pond PV-1: PERVIOUS PAVEMENT SYSTEM

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	65.75	0.00
0.20	0.00	0	65.75	0.00
0.40	0.03	8	65.76	0.00
0.60	0.06	38	65.78	0.00
0.80	0.11	87	65.82	0.00
1.00	0.57	292	65.98	0.00
1.20	0.16	592	66.21	0.00
1.40	0.08	665	66.27	0.00
1.60	0.06	716	66.31	0.00
1.80	0.02	754	66.34	0.00
2.00	0.02	769	66.35	0.00
2.20	0.00	771	66.35	0.00
2.40	0.00	771	66.35	0.00
2.60	0.00	771	66.35	0.00
2.80	0.00	771	66.35	0.00
3.00	0.00	771	66.35	0.00
3.20	0.00	771	66.35	0.00
3.40	0.00	771	66.35	0.00
3.60	0.00	771	66.35	0.00
3.80	0.00	771	66.35	0.00
4.00	0.00	771	66.35	0.00
4.20	0.00	771	66.35	0.00
4.40	0.00	771	66.35	0.00
4.60	0.00	771	66.35	0.00
4.80	0.00	771	66.35	0.00
5.00	0.00	771	66.35	0.00
5.20	0.00	771	66.35	0.00
5.40	0.00	771	66.35	0.00
5.60	0.00	771	66.35	0.00
5.80	0.00	771	66.35	0.00
6.00	0.00	771	66.35	0.00
6.20	0.00	771	66.35	0.00
6.40	0.00	771	66.35	0.00
6.60	0.00	771	66.35	0.00
6.80	0.00	771	66.35	0.00
7.00	0.00	771	66.35	0.00
7.20	0.00	771	66.35	0.00
7.40	0.00	771	66.35	0.00
7.60	0.00	771	66.35	0.00
7.80	0.00	771	66.35	0.00
8.00	0.00	771	66.35	0.00
8.20	0.00	771	66.35	0.00
8.40	0.00	771	66.35	0.00
8.60	0.00	771	66.35	0.00
8.80	0.00	771	66.35	0.00
9.00	0.00	771	66.35	0.00
9.20	0.00	771	66.35	0.00
9.40	0.00	771	66.35	0.00
9.60	0.00	771	66.35	0.00
9.80	0.00	771	66.35	0.00
10.00	0.00	771	66.35	0.00
10.20	0.00	771	66.35	0.00
10.40	0.00	771	66.35	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

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Hydrograph for Pond PV-1: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
10.60	0.00	771	66.35	0.00
10.80	0.00	771	66.35	0.00
11.00	0.00	771	66.35	0.00
11.20	0.00	771	66.35	0.00
11.40	0.00	771	66.35	0.00
11.60	0.00	771	66.35	0.00
11.80	0.00	771	66.35	0.00
12.00	0.00	771	66.35	0.00
12.20	0.00	771	66.35	0.00
12.40	0.00	771	66.35	0.00
12.60	0.00	771	66.35	0.00
12.80	0.00	771	66.35	0.00
13.00	0.00	771	66.35	0.00
13.20	0.00	771	66.35	0.00
13.40	0.00	771	66.35	0.00
13.60	0.00	771	66.35	0.00
13.80	0.00	771	66.35	0.00
14.00	0.00	771	66.35	0.00
14.20	0.00	771	66.35	0.00
14.40	0.00	771	66.35	0.00
14.60	0.00	771	66.35	0.00
14.80	0.00	771	66.35	0.00
15.00	0.00	771	66.35	0.00
15.20	0.00	771	66.35	0.00
15.40	0.00	771	66.35	0.00
15.60	0.00	771	66.35	0.00
15.80	0.00	771	66.35	0.00
16.00	0.00	771	66.35	0.00
16.20	0.00	771	66.35	0.00
16.40	0.00	771	66.35	0.00
16.60	0.00	771	66.35	0.00
16.80	0.00	771	66.35	0.00
17.00	0.00	771	66.35	0.00
17.20	0.00	771	66.35	0.00
17.40	0.00	771	66.35	0.00
17.60	0.00	771	66.35	0.00
17.80	0.00	771	66.35	0.00
18.00	0.00	771	66.35	0.00
18.20	0.00	771	66.35	0.00
18.40	0.00	771	66.35	0.00
18.60	0.00	771	66.35	0.00
18.80	0.00	771	66.35	0.00
19.00	0.00	771	66.35	0.00
19.20	0.00	771	66.35	0.00
19.40	0.00	771	66.35	0.00
19.60	0.00	771	66.35	0.00
19.80	0.00	771	66.35	0.00
20.00	0.00	771	66.35	0.00
20.20	0.00	771	66.35	0.00
20.40	0.00	771	66.35	0.00
20.60	0.00	771	66.35	0.00
20.80	0.00	771	66.35	0.00
21.00	0.00	771	66.35	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

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Hydrograph for Pond PV-1: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
21.20	0.00	771	66.35	0.00
21.40	0.00	771	66.35	0.00
21.60	0.00	771	66.35	0.00
21.80	0.00	771	66.35	0.00
22.00	0.00	771	66.35	0.00
22.20	0.00	771	66.35	0.00
22.40	0.00	771	66.35	0.00
22.60	0.00	771	66.35	0.00
22.80	0.00	771	66.35	0.00
23.00	0.00	771	66.35	0.00
23.20	0.00	771	66.35	0.00
23.40	0.00	771	66.35	0.00
23.60	0.00	771	66.35	0.00
23.80	0.00	771	66.35	0.00
24.00	0.00	771	66.35	0.00
24.20	0.00	771	66.35	0.00
24.40	0.00	771	66.35	0.00
24.60	0.00	771	66.35	0.00
24.80	0.00	771	66.35	0.00
25.00	0.00	771	66.35	0.00
25.20	0.00	771	66.35	0.00
25.40	0.00	771	66.35	0.00
25.60	0.00	771	66.35	0.00
25.80	0.00	771	66.35	0.00
26.00	0.00	771	66.35	0.00
26.20	0.00	771	66.35	0.00
26.40	0.00	771	66.35	0.00
26.60	0.00	771	66.35	0.00
26.80	0.00	771	66.35	0.00
27.00	0.00	771	66.35	0.00
27.20	0.00	771	66.35	0.00
27.40	0.00	771	66.35	0.00
27.60	0.00	771	66.35	0.00
27.80	0.00	771	66.35	0.00
28.00	0.00	771	66.35	0.00
28.20	0.00	771	66.35	0.00
28.40	0.00	771	66.35	0.00
28.60	0.00	771	66.35	0.00
28.80	0.00	771	66.35	0.00
29.00	0.00	771	66.35	0.00
29.20	0.00	771	66.35	0.00
29.40	0.00	771	66.35	0.00
29.60	0.00	771	66.35	0.00
29.80	0.00	771	66.35	0.00
30.00	0.00	771	66.35	0.00
30.20	0.00	771	66.35	0.00
30.40	0.00	771	66.35	0.00
30.60	0.00	771	66.35	0.00
30.80	0.00	771	66.35	0.00
31.00	0.00	771	66.35	0.00
31.20	0.00	771	66.35	0.00
31.40	0.00	771	66.35	0.00
31.60	0.00	771	66.35	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

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Hydrograph for Pond PV-1: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
31.80	0.00	771	66.35	0.00
32.00	0.00	771	66.35	0.00
32.20	0.00	771	66.35	0.00
32.40	0.00	771	66.35	0.00
32.60	0.00	771	66.35	0.00
32.80	0.00	771	66.35	0.00
33.00	0.00	771	66.35	0.00
33.20	0.00	771	66.35	0.00
33.40	0.00	771	66.35	0.00
33.60	0.00	771	66.35	0.00
33.80	0.00	771	66.35	0.00
34.00	0.00	771	66.35	0.00
34.20	0.00	771	66.35	0.00
34.40	0.00	771	66.35	0.00
34.60	0.00	771	66.35	0.00
34.80	0.00	771	66.35	0.00
35.00	0.00	771	66.35	0.00
35.20	0.00	771	66.35	0.00
35.40	0.00	771	66.35	0.00
35.60	0.00	771	66.35	0.00
35.80	0.00	771	66.35	0.00
36.00	0.00	771	66.35	0.00
36.20	0.00	771	66.35	0.00
36.40	0.00	771	66.35	0.00
36.60	0.00	771	66.35	0.00
36.80	0.00	771	66.35	0.00
37.00	0.00	771	66.35	0.00
37.20	0.00	771	66.35	0.00
37.40	0.00	771	66.35	0.00
37.60	0.00	771	66.35	0.00
37.80	0.00	771	66.35	0.00
38.00	0.00	771	66.35	0.00
38.20	0.00	771	66.35	0.00
38.40	0.00	771	66.35	0.00
38.60	0.00	771	66.35	0.00
38.80	0.00	771	66.35	0.00
39.00	0.00	771	66.35	0.00
39.20	0.00	771	66.35	0.00
39.40	0.00	771	66.35	0.00
39.60	0.00	771	66.35	0.00
39.80	0.00	771	66.35	0.00
40.00	0.00	771	66.35	0.00
40.20	0.00	771	66.35	0.00
40.40	0.00	771	66.35	0.00
40.60	0.00	771	66.35	0.00
40.80	0.00	771	66.35	0.00
41.00	0.00	771	66.35	0.00
41.20	0.00	771	66.35	0.00
41.40	0.00	771	66.35	0.00
41.60	0.00	771	66.35	0.00
41.80	0.00	771	66.35	0.00
42.00	0.00	771	66.35	0.00
42.20	0.00	771	66.35	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

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Hydrograph for Pond PV-1: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
42.40	0.00	771	66.35	0.00
42.60	0.00	771	66.35	0.00
42.80	0.00	771	66.35	0.00
43.00	0.00	771	66.35	0.00
43.20	0.00	771	66.35	0.00
43.40	0.00	771	66.35	0.00
43.60	0.00	771	66.35	0.00
43.80	0.00	771	66.35	0.00
44.00	0.00	771	66.35	0.00
44.20	0.00	771	66.35	0.00
44.40	0.00	771	66.35	0.00
44.60	0.00	771	66.35	0.00
44.80	0.00	771	66.35	0.00
45.00	0.00	771	66.35	0.00
45.20	0.00	771	66.35	0.00
45.40	0.00	771	66.35	0.00
45.60	0.00	771	66.35	0.00
45.80	0.00	771	66.35	0.00
46.00	0.00	771	66.35	0.00
46.20	0.00	771	66.35	0.00
46.40	0.00	771	66.35	0.00
46.60	0.00	771	66.35	0.00
46.80	0.00	771	66.35	0.00
47.00	0.00	771	66.35	0.00
47.20	0.00	771	66.35	0.00
47.40	0.00	771	66.35	0.00
47.60	0.00	771	66.35	0.00
47.80	0.00	771	66.35	0.00
48.00	0.00	771	66.35	0.00
48.20	0.00	771	66.35	0.00
48.40	0.00	771	66.35	0.00
48.60	0.00	771	66.35	0.00
48.80	0.00	771	66.35	0.00
49.00	0.00	771	66.35	0.00
49.20	0.00	771	66.35	0.00
49.40	0.00	771	66.35	0.00
49.60	0.00	771	66.35	0.00
49.80	0.00	771	66.35	0.00
50.00	0.00	771	66.35	0.00
50.20	0.00	771	66.35	0.00
50.40	0.00	771	66.35	0.00
50.60	0.00	771	66.35	0.00
50.80	0.00	771	66.35	0.00
51.00	0.00	771	66.35	0.00
51.20	0.00	771	66.35	0.00
51.40	0.00	771	66.35	0.00
51.60	0.00	771	66.35	0.00
51.80	0.00	771	66.35	0.00
52.00	0.00	771	66.35	0.00
52.20	0.00	771	66.35	0.00
52.40	0.00	771	66.35	0.00
52.60	0.00	771	66.35	0.00
52.80	0.00	771	66.35	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

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Hydrograph for Pond PV-1: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
53.00	0.00	771	66.35	0.00
53.20	0.00	771	66.35	0.00
53.40	0.00	771	66.35	0.00
53.60	0.00	771	66.35	0.00
53.80	0.00	771	66.35	0.00
54.00	0.00	771	66.35	0.00
54.20	0.00	771	66.35	0.00
54.40	0.00	771	66.35	0.00
54.60	0.00	771	66.35	0.00
54.80	0.00	771	66.35	0.00
55.00	0.00	771	66.35	0.00
55.20	0.00	771	66.35	0.00
55.40	0.00	771	66.35	0.00
55.60	0.00	771	66.35	0.00
55.80	0.00	771	66.35	0.00
56.00	0.00	771	66.35	0.00
56.20	0.00	771	66.35	0.00
56.40	0.00	771	66.35	0.00
56.60	0.00	771	66.35	0.00
56.80	0.00	771	66.35	0.00
57.00	0.00	771	66.35	0.00
57.20	0.00	771	66.35	0.00
57.40	0.00	771	66.35	0.00
57.60	0.00	771	66.35	0.00
57.80	0.00	771	66.35	0.00
58.00	0.00	771	66.35	0.00
58.20	0.00	771	66.35	0.00
58.40	0.00	771	66.35	0.00
58.60	0.00	771	66.35	0.00
58.80	0.00	771	66.35	0.00
59.00	0.00	771	66.35	0.00
59.20	0.00	771	66.35	0.00
59.40	0.00	771	66.35	0.00
59.60	0.00	771	66.35	0.00
59.80	0.00	771	66.35	0.00
60.00	0.00	771	66.35	0.00
60.20	0.00	771	66.35	0.00
60.40	0.00	771	66.35	0.00
60.60	0.00	771	66.35	0.00
60.80	0.00	771	66.35	0.00
61.00	0.00	771	66.35	0.00
61.20	0.00	771	66.35	0.00
61.40	0.00	771	66.35	0.00
61.60	0.00	771	66.35	0.00
61.80	0.00	771	66.35	0.00
62.00	0.00	771	66.35	0.00
62.20	0.00	771	66.35	0.00
62.40	0.00	771	66.35	0.00
62.60	0.00	771	66.35	0.00
62.80	0.00	771	66.35	0.00
63.00	0.00	771	66.35	0.00
63.20	0.00	771	66.35	0.00
63.40	0.00	771	66.35	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

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Hydrograph for Pond PV-1: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
63.60	0.00	771	66.35	0.00
63.80	0.00	771	66.35	0.00
64.00	0.00	771	66.35	0.00
64.20	0.00	771	66.35	0.00
64.40	0.00	771	66.35	0.00
64.60	0.00	771	66.35	0.00
64.80	0.00	771	66.35	0.00
65.00	0.00	771	66.35	0.00
65.20	0.00	771	66.35	0.00
65.40	0.00	771	66.35	0.00
65.60	0.00	771	66.35	0.00
65.80	0.00	771	66.35	0.00
66.00	0.00	771	66.35	0.00
66.20	0.00	771	66.35	0.00
66.40	0.00	771	66.35	0.00
66.60	0.00	771	66.35	0.00
66.80	0.00	771	66.35	0.00
67.00	0.00	771	66.35	0.00
67.20	0.00	771	66.35	0.00
67.40	0.00	771	66.35	0.00
67.60	0.00	771	66.35	0.00
67.80	0.00	771	66.35	0.00
68.00	0.00	771	66.35	0.00
68.20	0.00	771	66.35	0.00
68.40	0.00	771	66.35	0.00
68.60	0.00	771	66.35	0.00
68.80	0.00	771	66.35	0.00
69.00	0.00	771	66.35	0.00
69.20	0.00	771	66.35	0.00
69.40	0.00	771	66.35	0.00
69.60	0.00	771	66.35	0.00
69.80	0.00	771	66.35	0.00
70.00	0.00	771	66.35	0.00
70.20	0.00	771	66.35	0.00
70.40	0.00	771	66.35	0.00
70.60	0.00	771	66.35	0.00
70.80	0.00	771	66.35	0.00
71.00	0.00	771	66.35	0.00
71.20	0.00	771	66.35	0.00
71.40	0.00	771	66.35	0.00
71.60	0.00	771	66.35	0.00
71.80	0.00	771	66.35	0.00
72.00	0.00	771	66.35	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

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Hydrograph for Pond PV-2: PERVIOUS PAVEMENT SYSTEM

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	64.00	0.00
0.20	0.00	0	64.00	0.00
0.40	0.01	2	64.00	0.00
0.60	0.03	17	64.02	0.00
0.80	0.08	51	64.07	0.00
1.00	0.47	227	64.33	0.00
1.20	0.11	458	64.67	0.00
1.40	0.06	513	64.76	0.00
1.60	0.05	553	64.81	0.00
1.80	0.02	583	64.86	0.00
2.00	0.02	594	64.87	0.00
2.20	0.00	595	64.87	0.00
2.40	0.00	595	64.87	0.00
2.60	0.00	595	64.87	0.00
2.80	0.00	595	64.87	0.00
3.00	0.00	595	64.87	0.00
3.20	0.00	595	64.87	0.00
3.40	0.00	595	64.87	0.00
3.60	0.00	595	64.87	0.00
3.80	0.00	595	64.87	0.00
4.00	0.00	595	64.87	0.00
4.20	0.00	595	64.87	0.00
4.40	0.00	595	64.87	0.00
4.60	0.00	595	64.87	0.00
4.80	0.00	595	64.87	0.00
5.00	0.00	595	64.87	0.00
5.20	0.00	595	64.87	0.00
5.40	0.00	595	64.87	0.00
5.60	0.00	595	64.87	0.00
5.80	0.00	595	64.87	0.00
6.00	0.00	595	64.87	0.00
6.20	0.00	595	64.87	0.00
6.40	0.00	595	64.87	0.00
6.60	0.00	595	64.87	0.00
6.80	0.00	595	64.87	0.00
7.00	0.00	595	64.87	0.00
7.20	0.00	595	64.87	0.00
7.40	0.00	595	64.87	0.00
7.60	0.00	595	64.87	0.00
7.80	0.00	595	64.87	0.00
8.00	0.00	595	64.87	0.00
8.20	0.00	595	64.87	0.00
8.40	0.00	595	64.87	0.00
8.60	0.00	595	64.87	0.00
8.80	0.00	595	64.87	0.00
9.00	0.00	595	64.87	0.00
9.20	0.00	595	64.87	0.00
9.40	0.00	595	64.87	0.00
9.60	0.00	595	64.87	0.00
9.80	0.00	595	64.87	0.00
10.00	0.00	595	64.87	0.00
10.20	0.00	595	64.87	0.00
10.40	0.00	595	64.87	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

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Hydrograph for Pond PV-2: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
10.60	0.00	595	64.87	0.00
10.80	0.00	595	64.87	0.00
11.00	0.00	595	64.87	0.00
11.20	0.00	595	64.87	0.00
11.40	0.00	595	64.87	0.00
11.60	0.00	595	64.87	0.00
11.80	0.00	595	64.87	0.00
12.00	0.00	595	64.87	0.00
12.20	0.00	595	64.87	0.00
12.40	0.00	595	64.87	0.00
12.60	0.00	595	64.87	0.00
12.80	0.00	595	64.87	0.00
13.00	0.00	595	64.87	0.00
13.20	0.00	595	64.87	0.00
13.40	0.00	595	64.87	0.00
13.60	0.00	595	64.87	0.00
13.80	0.00	595	64.87	0.00
14.00	0.00	595	64.87	0.00
14.20	0.00	595	64.87	0.00
14.40	0.00	595	64.87	0.00
14.60	0.00	595	64.87	0.00
14.80	0.00	595	64.87	0.00
15.00	0.00	595	64.87	0.00
15.20	0.00	595	64.87	0.00
15.40	0.00	595	64.87	0.00
15.60	0.00	595	64.87	0.00
15.80	0.00	595	64.87	0.00
16.00	0.00	595	64.87	0.00
16.20	0.00	595	64.87	0.00
16.40	0.00	595	64.87	0.00
16.60	0.00	595	64.87	0.00
16.80	0.00	595	64.87	0.00
17.00	0.00	595	64.87	0.00
17.20	0.00	595	64.87	0.00
17.40	0.00	595	64.87	0.00
17.60	0.00	595	64.87	0.00
17.80	0.00	595	64.87	0.00
18.00	0.00	595	64.87	0.00
18.20	0.00	595	64.87	0.00
18.40	0.00	595	64.87	0.00
18.60	0.00	595	64.87	0.00
18.80	0.00	595	64.87	0.00
19.00	0.00	595	64.87	0.00
19.20	0.00	595	64.87	0.00
19.40	0.00	595	64.87	0.00
19.60	0.00	595	64.87	0.00
19.80	0.00	595	64.87	0.00
20.00	0.00	595	64.87	0.00
20.20	0.00	595	64.87	0.00
20.40	0.00	595	64.87	0.00
20.60	0.00	595	64.87	0.00
20.80	0.00	595	64.87	0.00
21.00	0.00	595	64.87	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

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Hydrograph for Pond PV-2: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
21.20	0.00	595	64.87	0.00
21.40	0.00	595	64.87	0.00
21.60	0.00	595	64.87	0.00
21.80	0.00	595	64.87	0.00
22.00	0.00	595	64.87	0.00
22.20	0.00	595	64.87	0.00
22.40	0.00	595	64.87	0.00
22.60	0.00	595	64.87	0.00
22.80	0.00	595	64.87	0.00
23.00	0.00	595	64.87	0.00
23.20	0.00	595	64.87	0.00
23.40	0.00	595	64.87	0.00
23.60	0.00	595	64.87	0.00
23.80	0.00	595	64.87	0.00
24.00	0.00	595	64.87	0.00
24.20	0.00	595	64.87	0.00
24.40	0.00	595	64.87	0.00
24.60	0.00	595	64.87	0.00
24.80	0.00	595	64.87	0.00
25.00	0.00	595	64.87	0.00
25.20	0.00	595	64.87	0.00
25.40	0.00	595	64.87	0.00
25.60	0.00	595	64.87	0.00
25.80	0.00	595	64.87	0.00
26.00	0.00	595	64.87	0.00
26.20	0.00	595	64.87	0.00
26.40	0.00	595	64.87	0.00
26.60	0.00	595	64.87	0.00
26.80	0.00	595	64.87	0.00
27.00	0.00	595	64.87	0.00
27.20	0.00	595	64.87	0.00
27.40	0.00	595	64.87	0.00
27.60	0.00	595	64.87	0.00
27.80	0.00	595	64.87	0.00
28.00	0.00	595	64.87	0.00
28.20	0.00	595	64.87	0.00
28.40	0.00	595	64.87	0.00
28.60	0.00	595	64.87	0.00
28.80	0.00	595	64.87	0.00
29.00	0.00	595	64.87	0.00
29.20	0.00	595	64.87	0.00
29.40	0.00	595	64.87	0.00
29.60	0.00	595	64.87	0.00
29.80	0.00	595	64.87	0.00
30.00	0.00	595	64.87	0.00
30.20	0.00	595	64.87	0.00
30.40	0.00	595	64.87	0.00
30.60	0.00	595	64.87	0.00
30.80	0.00	595	64.87	0.00
31.00	0.00	595	64.87	0.00
31.20	0.00	595	64.87	0.00
31.40	0.00	595	64.87	0.00
31.60	0.00	595	64.87	0.00

Hydrograph for Pond PV-2: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
31.80	0.00	595	64.87	0.00
32.00	0.00	595	64.87	0.00
32.20	0.00	595	64.87	0.00
32.40	0.00	595	64.87	0.00
32.60	0.00	595	64.87	0.00
32.80	0.00	595	64.87	0.00
33.00	0.00	595	64.87	0.00
33.20	0.00	595	64.87	0.00
33.40	0.00	595	64.87	0.00
33.60	0.00	595	64.87	0.00
33.80	0.00	595	64.87	0.00
34.00	0.00	595	64.87	0.00
34.20	0.00	595	64.87	0.00
34.40	0.00	595	64.87	0.00
34.60	0.00	595	64.87	0.00
34.80	0.00	595	64.87	0.00
35.00	0.00	595	64.87	0.00
35.20	0.00	595	64.87	0.00
35.40	0.00	595	64.87	0.00
35.60	0.00	595	64.87	0.00
35.80	0.00	595	64.87	0.00
36.00	0.00	595	64.87	0.00
36.20	0.00	595	64.87	0.00
36.40	0.00	595	64.87	0.00
36.60	0.00	595	64.87	0.00
36.80	0.00	595	64.87	0.00
37.00	0.00	595	64.87	0.00
37.20	0.00	595	64.87	0.00
37.40	0.00	595	64.87	0.00
37.60	0.00	595	64.87	0.00
37.80	0.00	595	64.87	0.00
38.00	0.00	595	64.87	0.00
38.20	0.00	595	64.87	0.00
38.40	0.00	595	64.87	0.00
38.60	0.00	595	64.87	0.00
38.80	0.00	595	64.87	0.00
39.00	0.00	595	64.87	0.00
39.20	0.00	595	64.87	0.00
39.40	0.00	595	64.87	0.00
39.60	0.00	595	64.87	0.00
39.80	0.00	595	64.87	0.00
40.00	0.00	595	64.87	0.00
40.20	0.00	595	64.87	0.00
40.40	0.00	595	64.87	0.00
40.60	0.00	595	64.87	0.00
40.80	0.00	595	64.87	0.00
41.00	0.00	595	64.87	0.00
41.20	0.00	595	64.87	0.00
41.40	0.00	595	64.87	0.00
41.60	0.00	595	64.87	0.00
41.80	0.00	595	64.87	0.00
42.00	0.00	595	64.87	0.00
42.20	0.00	595	64.87	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

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Hydrograph for Pond PV-2: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
42.40	0.00	595	64.87	0.00
42.60	0.00	595	64.87	0.00
42.80	0.00	595	64.87	0.00
43.00	0.00	595	64.87	0.00
43.20	0.00	595	64.87	0.00
43.40	0.00	595	64.87	0.00
43.60	0.00	595	64.87	0.00
43.80	0.00	595	64.87	0.00
44.00	0.00	595	64.87	0.00
44.20	0.00	595	64.87	0.00
44.40	0.00	595	64.87	0.00
44.60	0.00	595	64.87	0.00
44.80	0.00	595	64.87	0.00
45.00	0.00	595	64.87	0.00
45.20	0.00	595	64.87	0.00
45.40	0.00	595	64.87	0.00
45.60	0.00	595	64.87	0.00
45.80	0.00	595	64.87	0.00
46.00	0.00	595	64.87	0.00
46.20	0.00	595	64.87	0.00
46.40	0.00	595	64.87	0.00
46.60	0.00	595	64.87	0.00
46.80	0.00	595	64.87	0.00
47.00	0.00	595	64.87	0.00
47.20	0.00	595	64.87	0.00
47.40	0.00	595	64.87	0.00
47.60	0.00	595	64.87	0.00
47.80	0.00	595	64.87	0.00
48.00	0.00	595	64.87	0.00
48.20	0.00	595	64.87	0.00
48.40	0.00	595	64.87	0.00
48.60	0.00	595	64.87	0.00
48.80	0.00	595	64.87	0.00
49.00	0.00	595	64.87	0.00
49.20	0.00	595	64.87	0.00
49.40	0.00	595	64.87	0.00
49.60	0.00	595	64.87	0.00
49.80	0.00	595	64.87	0.00
50.00	0.00	595	64.87	0.00
50.20	0.00	595	64.87	0.00
50.40	0.00	595	64.87	0.00
50.60	0.00	595	64.87	0.00
50.80	0.00	595	64.87	0.00
51.00	0.00	595	64.87	0.00
51.20	0.00	595	64.87	0.00
51.40	0.00	595	64.87	0.00
51.60	0.00	595	64.87	0.00
51.80	0.00	595	64.87	0.00
52.00	0.00	595	64.87	0.00
52.20	0.00	595	64.87	0.00
52.40	0.00	595	64.87	0.00
52.60	0.00	595	64.87	0.00
52.80	0.00	595	64.87	0.00

Hydrograph for Pond PV-2: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
53.00	0.00	595	64.87	0.00
53.20	0.00	595	64.87	0.00
53.40	0.00	595	64.87	0.00
53.60	0.00	595	64.87	0.00
53.80	0.00	595	64.87	0.00
54.00	0.00	595	64.87	0.00
54.20	0.00	595	64.87	0.00
54.40	0.00	595	64.87	0.00
54.60	0.00	595	64.87	0.00
54.80	0.00	595	64.87	0.00
55.00	0.00	595	64.87	0.00
55.20	0.00	595	64.87	0.00
55.40	0.00	595	64.87	0.00
55.60	0.00	595	64.87	0.00
55.80	0.00	595	64.87	0.00
56.00	0.00	595	64.87	0.00
56.20	0.00	595	64.87	0.00
56.40	0.00	595	64.87	0.00
56.60	0.00	595	64.87	0.00
56.80	0.00	595	64.87	0.00
57.00	0.00	595	64.87	0.00
57.20	0.00	595	64.87	0.00
57.40	0.00	595	64.87	0.00
57.60	0.00	595	64.87	0.00
57.80	0.00	595	64.87	0.00
58.00	0.00	595	64.87	0.00
58.20	0.00	595	64.87	0.00
58.40	0.00	595	64.87	0.00
58.60	0.00	595	64.87	0.00
58.80	0.00	595	64.87	0.00
59.00	0.00	595	64.87	0.00
59.20	0.00	595	64.87	0.00
59.40	0.00	595	64.87	0.00
59.60	0.00	595	64.87	0.00
59.80	0.00	595	64.87	0.00
60.00	0.00	595	64.87	0.00
60.20	0.00	595	64.87	0.00
60.40	0.00	595	64.87	0.00
60.60	0.00	595	64.87	0.00
60.80	0.00	595	64.87	0.00
61.00	0.00	595	64.87	0.00
61.20	0.00	595	64.87	0.00
61.40	0.00	595	64.87	0.00
61.60	0.00	595	64.87	0.00
61.80	0.00	595	64.87	0.00
62.00	0.00	595	64.87	0.00
62.20	0.00	595	64.87	0.00
62.40	0.00	595	64.87	0.00
62.60	0.00	595	64.87	0.00
62.80	0.00	595	64.87	0.00
63.00	0.00	595	64.87	0.00
63.20	0.00	595	64.87	0.00
63.40	0.00	595	64.87	0.00

Hydrograph for Pond PV-2: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
63.60	0.00	595	64.87	0.00
63.80	0.00	595	64.87	0.00
64.00	0.00	595	64.87	0.00
64.20	0.00	595	64.87	0.00
64.40	0.00	595	64.87	0.00
64.60	0.00	595	64.87	0.00
64.80	0.00	595	64.87	0.00
65.00	0.00	595	64.87	0.00
65.20	0.00	595	64.87	0.00
65.40	0.00	595	64.87	0.00
65.60	0.00	595	64.87	0.00
65.80	0.00	595	64.87	0.00
66.00	0.00	595	64.87	0.00
66.20	0.00	595	64.87	0.00
66.40	0.00	595	64.87	0.00
66.60	0.00	595	64.87	0.00
66.80	0.00	595	64.87	0.00
67.00	0.00	595	64.87	0.00
67.20	0.00	595	64.87	0.00
67.40	0.00	595	64.87	0.00
67.60	0.00	595	64.87	0.00
67.80	0.00	595	64.87	0.00
68.00	0.00	595	64.87	0.00
68.20	0.00	595	64.87	0.00
68.40	0.00	595	64.87	0.00
68.60	0.00	595	64.87	0.00
68.80	0.00	595	64.87	0.00
69.00	0.00	595	64.87	0.00
69.20	0.00	595	64.87	0.00
69.40	0.00	595	64.87	0.00
69.60	0.00	595	64.87	0.00
69.80	0.00	595	64.87	0.00
70.00	0.00	595	64.87	0.00
70.20	0.00	595	64.87	0.00
70.40	0.00	595	64.87	0.00
70.60	0.00	595	64.87	0.00
70.80	0.00	595	64.87	0.00
71.00	0.00	595	64.87	0.00
71.20	0.00	595	64.87	0.00
71.40	0.00	595	64.87	0.00
71.60	0.00	595	64.87	0.00
71.80	0.00	595	64.87	0.00
72.00	0.00	595	64.87	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

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Hydrograph for Pond PV-3: PERVIOUS PAVEMENT SYSTEM

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	64.50	0.00
0.20	0.00	0	64.50	0.00
0.40	0.02	7	64.51	0.00
0.60	0.06	37	64.54	0.00
0.80	0.13	94	64.59	0.00
1.00	0.72	362	64.85	0.00
1.20	0.19	724	65.20	0.00
1.40	0.09	811	65.28	0.00
1.60	0.07	872	65.34	0.00
1.80	0.03	918	65.38	0.00
2.00	0.02	935	65.40	0.00
2.20	0.00	937	65.40	0.00
2.40	0.00	937	65.40	0.00
2.60	0.00	937	65.40	0.00
2.80	0.00	937	65.40	0.00
3.00	0.00	937	65.40	0.00
3.20	0.00	937	65.40	0.00
3.40	0.00	937	65.40	0.00
3.60	0.00	937	65.40	0.00
3.80	0.00	937	65.40	0.00
4.00	0.00	937	65.40	0.00
4.20	0.00	937	65.40	0.00
4.40	0.00	937	65.40	0.00
4.60	0.00	937	65.40	0.00
4.80	0.00	937	65.40	0.00
5.00	0.00	937	65.40	0.00
5.20	0.00	937	65.40	0.00
5.40	0.00	937	65.40	0.00
5.60	0.00	937	65.40	0.00
5.80	0.00	937	65.40	0.00
6.00	0.00	937	65.40	0.00
6.20	0.00	937	65.40	0.00
6.40	0.00	937	65.40	0.00
6.60	0.00	937	65.40	0.00
6.80	0.00	937	65.40	0.00
7.00	0.00	937	65.40	0.00
7.20	0.00	937	65.40	0.00
7.40	0.00	937	65.40	0.00
7.60	0.00	937	65.40	0.00
7.80	0.00	937	65.40	0.00
8.00	0.00	937	65.40	0.00
8.20	0.00	937	65.40	0.00
8.40	0.00	937	65.40	0.00
8.60	0.00	937	65.40	0.00
8.80	0.00	937	65.40	0.00
9.00	0.00	937	65.40	0.00
9.20	0.00	937	65.40	0.00
9.40	0.00	937	65.40	0.00
9.60	0.00	937	65.40	0.00
9.80	0.00	937	65.40	0.00
10.00	0.00	937	65.40	0.00
10.20	0.00	937	65.40	0.00
10.40	0.00	937	65.40	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

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Hydrograph for Pond PV-3: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
10.60	0.00	937	65.40	0.00
10.80	0.00	937	65.40	0.00
11.00	0.00	937	65.40	0.00
11.20	0.00	937	65.40	0.00
11.40	0.00	937	65.40	0.00
11.60	0.00	937	65.40	0.00
11.80	0.00	937	65.40	0.00
12.00	0.00	937	65.40	0.00
12.20	0.00	937	65.40	0.00
12.40	0.00	937	65.40	0.00
12.60	0.00	937	65.40	0.00
12.80	0.00	937	65.40	0.00
13.00	0.00	937	65.40	0.00
13.20	0.00	937	65.40	0.00
13.40	0.00	937	65.40	0.00
13.60	0.00	937	65.40	0.00
13.80	0.00	937	65.40	0.00
14.00	0.00	937	65.40	0.00
14.20	0.00	937	65.40	0.00
14.40	0.00	937	65.40	0.00
14.60	0.00	937	65.40	0.00
14.80	0.00	937	65.40	0.00
15.00	0.00	937	65.40	0.00
15.20	0.00	937	65.40	0.00
15.40	0.00	937	65.40	0.00
15.60	0.00	937	65.40	0.00
15.80	0.00	937	65.40	0.00
16.00	0.00	937	65.40	0.00
16.20	0.00	937	65.40	0.00
16.40	0.00	937	65.40	0.00
16.60	0.00	937	65.40	0.00
16.80	0.00	937	65.40	0.00
17.00	0.00	937	65.40	0.00
17.20	0.00	937	65.40	0.00
17.40	0.00	937	65.40	0.00
17.60	0.00	937	65.40	0.00
17.80	0.00	937	65.40	0.00
18.00	0.00	937	65.40	0.00
18.20	0.00	937	65.40	0.00
18.40	0.00	937	65.40	0.00
18.60	0.00	937	65.40	0.00
18.80	0.00	937	65.40	0.00
19.00	0.00	937	65.40	0.00
19.20	0.00	937	65.40	0.00
19.40	0.00	937	65.40	0.00
19.60	0.00	937	65.40	0.00
19.80	0.00	937	65.40	0.00
20.00	0.00	937	65.40	0.00
20.20	0.00	937	65.40	0.00
20.40	0.00	937	65.40	0.00
20.60	0.00	937	65.40	0.00
20.80	0.00	937	65.40	0.00
21.00	0.00	937	65.40	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

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Hydrograph for Pond PV-3: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
21.20	0.00	937	65.40	0.00
21.40	0.00	937	65.40	0.00
21.60	0.00	937	65.40	0.00
21.80	0.00	937	65.40	0.00
22.00	0.00	937	65.40	0.00
22.20	0.00	937	65.40	0.00
22.40	0.00	937	65.40	0.00
22.60	0.00	937	65.40	0.00
22.80	0.00	937	65.40	0.00
23.00	0.00	937	65.40	0.00
23.20	0.00	937	65.40	0.00
23.40	0.00	937	65.40	0.00
23.60	0.00	937	65.40	0.00
23.80	0.00	937	65.40	0.00
24.00	0.00	937	65.40	0.00
24.20	0.00	937	65.40	0.00
24.40	0.00	937	65.40	0.00
24.60	0.00	937	65.40	0.00
24.80	0.00	937	65.40	0.00
25.00	0.00	937	65.40	0.00
25.20	0.00	937	65.40	0.00
25.40	0.00	937	65.40	0.00
25.60	0.00	937	65.40	0.00
25.80	0.00	937	65.40	0.00
26.00	0.00	937	65.40	0.00
26.20	0.00	937	65.40	0.00
26.40	0.00	937	65.40	0.00
26.60	0.00	937	65.40	0.00
26.80	0.00	937	65.40	0.00
27.00	0.00	937	65.40	0.00
27.20	0.00	937	65.40	0.00
27.40	0.00	937	65.40	0.00
27.60	0.00	937	65.40	0.00
27.80	0.00	937	65.40	0.00
28.00	0.00	937	65.40	0.00
28.20	0.00	937	65.40	0.00
28.40	0.00	937	65.40	0.00
28.60	0.00	937	65.40	0.00
28.80	0.00	937	65.40	0.00
29.00	0.00	937	65.40	0.00
29.20	0.00	937	65.40	0.00
29.40	0.00	937	65.40	0.00
29.60	0.00	937	65.40	0.00
29.80	0.00	937	65.40	0.00
30.00	0.00	937	65.40	0.00
30.20	0.00	937	65.40	0.00
30.40	0.00	937	65.40	0.00
30.60	0.00	937	65.40	0.00
30.80	0.00	937	65.40	0.00
31.00	0.00	937	65.40	0.00
31.20	0.00	937	65.40	0.00
31.40	0.00	937	65.40	0.00
31.60	0.00	937	65.40	0.00

Hydrograph for Pond PV-3: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
31.80	0.00	937	65.40	0.00
32.00	0.00	937	65.40	0.00
32.20	0.00	937	65.40	0.00
32.40	0.00	937	65.40	0.00
32.60	0.00	937	65.40	0.00
32.80	0.00	937	65.40	0.00
33.00	0.00	937	65.40	0.00
33.20	0.00	937	65.40	0.00
33.40	0.00	937	65.40	0.00
33.60	0.00	937	65.40	0.00
33.80	0.00	937	65.40	0.00
34.00	0.00	937	65.40	0.00
34.20	0.00	937	65.40	0.00
34.40	0.00	937	65.40	0.00
34.60	0.00	937	65.40	0.00
34.80	0.00	937	65.40	0.00
35.00	0.00	937	65.40	0.00
35.20	0.00	937	65.40	0.00
35.40	0.00	937	65.40	0.00
35.60	0.00	937	65.40	0.00
35.80	0.00	937	65.40	0.00
36.00	0.00	937	65.40	0.00
36.20	0.00	937	65.40	0.00
36.40	0.00	937	65.40	0.00
36.60	0.00	937	65.40	0.00
36.80	0.00	937	65.40	0.00
37.00	0.00	937	65.40	0.00
37.20	0.00	937	65.40	0.00
37.40	0.00	937	65.40	0.00
37.60	0.00	937	65.40	0.00
37.80	0.00	937	65.40	0.00
38.00	0.00	937	65.40	0.00
38.20	0.00	937	65.40	0.00
38.40	0.00	937	65.40	0.00
38.60	0.00	937	65.40	0.00
38.80	0.00	937	65.40	0.00
39.00	0.00	937	65.40	0.00
39.20	0.00	937	65.40	0.00
39.40	0.00	937	65.40	0.00
39.60	0.00	937	65.40	0.00
39.80	0.00	937	65.40	0.00
40.00	0.00	937	65.40	0.00
40.20	0.00	937	65.40	0.00
40.40	0.00	937	65.40	0.00
40.60	0.00	937	65.40	0.00
40.80	0.00	937	65.40	0.00
41.00	0.00	937	65.40	0.00
41.20	0.00	937	65.40	0.00
41.40	0.00	937	65.40	0.00
41.60	0.00	937	65.40	0.00
41.80	0.00	937	65.40	0.00
42.00	0.00	937	65.40	0.00
42.20	0.00	937	65.40	0.00

Hydrograph for Pond PV-3: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
42.40	0.00	937	65.40	0.00
42.60	0.00	937	65.40	0.00
42.80	0.00	937	65.40	0.00
43.00	0.00	937	65.40	0.00
43.20	0.00	937	65.40	0.00
43.40	0.00	937	65.40	0.00
43.60	0.00	937	65.40	0.00
43.80	0.00	937	65.40	0.00
44.00	0.00	937	65.40	0.00
44.20	0.00	937	65.40	0.00
44.40	0.00	937	65.40	0.00
44.60	0.00	937	65.40	0.00
44.80	0.00	937	65.40	0.00
45.00	0.00	937	65.40	0.00
45.20	0.00	937	65.40	0.00
45.40	0.00	937	65.40	0.00
45.60	0.00	937	65.40	0.00
45.80	0.00	937	65.40	0.00
46.00	0.00	937	65.40	0.00
46.20	0.00	937	65.40	0.00
46.40	0.00	937	65.40	0.00
46.60	0.00	937	65.40	0.00
46.80	0.00	937	65.40	0.00
47.00	0.00	937	65.40	0.00
47.20	0.00	937	65.40	0.00
47.40	0.00	937	65.40	0.00
47.60	0.00	937	65.40	0.00
47.80	0.00	937	65.40	0.00
48.00	0.00	937	65.40	0.00
48.20	0.00	937	65.40	0.00
48.40	0.00	937	65.40	0.00
48.60	0.00	937	65.40	0.00
48.80	0.00	937	65.40	0.00
49.00	0.00	937	65.40	0.00
49.20	0.00	937	65.40	0.00
49.40	0.00	937	65.40	0.00
49.60	0.00	937	65.40	0.00
49.80	0.00	937	65.40	0.00
50.00	0.00	937	65.40	0.00
50.20	0.00	937	65.40	0.00
50.40	0.00	937	65.40	0.00
50.60	0.00	937	65.40	0.00
50.80	0.00	937	65.40	0.00
51.00	0.00	937	65.40	0.00
51.20	0.00	937	65.40	0.00
51.40	0.00	937	65.40	0.00
51.60	0.00	937	65.40	0.00
51.80	0.00	937	65.40	0.00
52.00	0.00	937	65.40	0.00
52.20	0.00	937	65.40	0.00
52.40	0.00	937	65.40	0.00
52.60	0.00	937	65.40	0.00
52.80	0.00	937	65.40	0.00

Hydrograph for Pond PV-3: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
53.00	0.00	937	65.40	0.00
53.20	0.00	937	65.40	0.00
53.40	0.00	937	65.40	0.00
53.60	0.00	937	65.40	0.00
53.80	0.00	937	65.40	0.00
54.00	0.00	937	65.40	0.00
54.20	0.00	937	65.40	0.00
54.40	0.00	937	65.40	0.00
54.60	0.00	937	65.40	0.00
54.80	0.00	937	65.40	0.00
55.00	0.00	937	65.40	0.00
55.20	0.00	937	65.40	0.00
55.40	0.00	937	65.40	0.00
55.60	0.00	937	65.40	0.00
55.80	0.00	937	65.40	0.00
56.00	0.00	937	65.40	0.00
56.20	0.00	937	65.40	0.00
56.40	0.00	937	65.40	0.00
56.60	0.00	937	65.40	0.00
56.80	0.00	937	65.40	0.00
57.00	0.00	937	65.40	0.00
57.20	0.00	937	65.40	0.00
57.40	0.00	937	65.40	0.00
57.60	0.00	937	65.40	0.00
57.80	0.00	937	65.40	0.00
58.00	0.00	937	65.40	0.00
58.20	0.00	937	65.40	0.00
58.40	0.00	937	65.40	0.00
58.60	0.00	937	65.40	0.00
58.80	0.00	937	65.40	0.00
59.00	0.00	937	65.40	0.00
59.20	0.00	937	65.40	0.00
59.40	0.00	937	65.40	0.00
59.60	0.00	937	65.40	0.00
59.80	0.00	937	65.40	0.00
60.00	0.00	937	65.40	0.00
60.20	0.00	937	65.40	0.00
60.40	0.00	937	65.40	0.00
60.60	0.00	937	65.40	0.00
60.80	0.00	937	65.40	0.00
61.00	0.00	937	65.40	0.00
61.20	0.00	937	65.40	0.00
61.40	0.00	937	65.40	0.00
61.60	0.00	937	65.40	0.00
61.80	0.00	937	65.40	0.00
62.00	0.00	937	65.40	0.00
62.20	0.00	937	65.40	0.00
62.40	0.00	937	65.40	0.00
62.60	0.00	937	65.40	0.00
62.80	0.00	937	65.40	0.00
63.00	0.00	937	65.40	0.00
63.20	0.00	937	65.40	0.00
63.40	0.00	937	65.40	0.00

2024-12-12-Storm Design-Mt Laurel*NJ DEP 2-hr WQ Rainfall=1.25", AMC=3*

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Hydrograph for Pond PV-3: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
63.60	0.00	937	65.40	0.00
63.80	0.00	937	65.40	0.00
64.00	0.00	937	65.40	0.00
64.20	0.00	937	65.40	0.00
64.40	0.00	937	65.40	0.00
64.60	0.00	937	65.40	0.00
64.80	0.00	937	65.40	0.00
65.00	0.00	937	65.40	0.00
65.20	0.00	937	65.40	0.00
65.40	0.00	937	65.40	0.00
65.60	0.00	937	65.40	0.00
65.80	0.00	937	65.40	0.00
66.00	0.00	937	65.40	0.00
66.20	0.00	937	65.40	0.00
66.40	0.00	937	65.40	0.00
66.60	0.00	937	65.40	0.00
66.80	0.00	937	65.40	0.00
67.00	0.00	937	65.40	0.00
67.20	0.00	937	65.40	0.00
67.40	0.00	937	65.40	0.00
67.60	0.00	937	65.40	0.00
67.80	0.00	937	65.40	0.00
68.00	0.00	937	65.40	0.00
68.20	0.00	937	65.40	0.00
68.40	0.00	937	65.40	0.00
68.60	0.00	937	65.40	0.00
68.80	0.00	937	65.40	0.00
69.00	0.00	937	65.40	0.00
69.20	0.00	937	65.40	0.00
69.40	0.00	937	65.40	0.00
69.60	0.00	937	65.40	0.00
69.80	0.00	937	65.40	0.00
70.00	0.00	937	65.40	0.00
70.20	0.00	937	65.40	0.00
70.40	0.00	937	65.40	0.00
70.60	0.00	937	65.40	0.00
70.80	0.00	937	65.40	0.00
71.00	0.00	937	65.40	0.00
71.20	0.00	937	65.40	0.00
71.40	0.00	937	65.40	0.00
71.60	0.00	937	65.40	0.00
71.80	0.00	937	65.40	0.00
72.00	0.00	937	65.40	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

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Hydrograph for Pond PV-4: PERVIOUS PAVEMENT SYSTEM

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	63.75	0.00
0.20	0.00	0	63.75	0.00
0.40	0.03	11	63.76	0.00
0.60	0.07	47	63.80	0.00
0.80	0.13	107	63.86	0.00
1.00	0.67	371	64.14	0.00
1.20	0.15	693	64.49	0.00
1.40	0.08	769	64.53	0.00
1.60	0.06	824	64.56	0.00
1.80	0.02	864	64.58	0.00
2.00	0.02	880	64.59	0.00
2.20	0.00	881	64.59	0.00
2.40	0.00	881	64.59	0.00
2.60	0.00	881	64.59	0.00
2.80	0.00	881	64.59	0.00
3.00	0.00	881	64.59	0.00
3.20	0.00	881	64.59	0.00
3.40	0.00	881	64.59	0.00
3.60	0.00	881	64.59	0.00
3.80	0.00	881	64.59	0.00
4.00	0.00	881	64.59	0.00
4.20	0.00	881	64.59	0.00
4.40	0.00	881	64.59	0.00
4.60	0.00	881	64.59	0.00
4.80	0.00	881	64.59	0.00
5.00	0.00	881	64.59	0.00
5.20	0.00	881	64.59	0.00
5.40	0.00	881	64.59	0.00
5.60	0.00	881	64.59	0.00
5.80	0.00	881	64.59	0.00
6.00	0.00	881	64.59	0.00
6.20	0.00	881	64.59	0.00
6.40	0.00	881	64.59	0.00
6.60	0.00	881	64.59	0.00
6.80	0.00	881	64.59	0.00
7.00	0.00	881	64.59	0.00
7.20	0.00	881	64.59	0.00
7.40	0.00	881	64.59	0.00
7.60	0.00	881	64.59	0.00
7.80	0.00	881	64.59	0.00
8.00	0.00	881	64.59	0.00
8.20	0.00	881	64.59	0.00
8.40	0.00	881	64.59	0.00
8.60	0.00	881	64.59	0.00
8.80	0.00	881	64.59	0.00
9.00	0.00	881	64.59	0.00
9.20	0.00	881	64.59	0.00
9.40	0.00	881	64.59	0.00
9.60	0.00	881	64.59	0.00
9.80	0.00	881	64.59	0.00
10.00	0.00	881	64.59	0.00
10.20	0.00	881	64.59	0.00
10.40	0.00	881	64.59	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

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Hydrograph for Pond PV-4: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
10.60	0.00	881	64.59	0.00
10.80	0.00	881	64.59	0.00
11.00	0.00	881	64.59	0.00
11.20	0.00	881	64.59	0.00
11.40	0.00	881	64.59	0.00
11.60	0.00	881	64.59	0.00
11.80	0.00	881	64.59	0.00
12.00	0.00	881	64.59	0.00
12.20	0.00	881	64.59	0.00
12.40	0.00	881	64.59	0.00
12.60	0.00	881	64.59	0.00
12.80	0.00	881	64.59	0.00
13.00	0.00	881	64.59	0.00
13.20	0.00	881	64.59	0.00
13.40	0.00	881	64.59	0.00
13.60	0.00	881	64.59	0.00
13.80	0.00	881	64.59	0.00
14.00	0.00	881	64.59	0.00
14.20	0.00	881	64.59	0.00
14.40	0.00	881	64.59	0.00
14.60	0.00	881	64.59	0.00
14.80	0.00	881	64.59	0.00
15.00	0.00	881	64.59	0.00
15.20	0.00	881	64.59	0.00
15.40	0.00	881	64.59	0.00
15.60	0.00	881	64.59	0.00
15.80	0.00	881	64.59	0.00
16.00	0.00	881	64.59	0.00
16.20	0.00	881	64.59	0.00
16.40	0.00	881	64.59	0.00
16.60	0.00	881	64.59	0.00
16.80	0.00	881	64.59	0.00
17.00	0.00	881	64.59	0.00
17.20	0.00	881	64.59	0.00
17.40	0.00	881	64.59	0.00
17.60	0.00	881	64.59	0.00
17.80	0.00	881	64.59	0.00
18.00	0.00	881	64.59	0.00
18.20	0.00	881	64.59	0.00
18.40	0.00	881	64.59	0.00
18.60	0.00	881	64.59	0.00
18.80	0.00	881	64.59	0.00
19.00	0.00	881	64.59	0.00
19.20	0.00	881	64.59	0.00
19.40	0.00	881	64.59	0.00
19.60	0.00	881	64.59	0.00
19.80	0.00	881	64.59	0.00
20.00	0.00	881	64.59	0.00
20.20	0.00	881	64.59	0.00
20.40	0.00	881	64.59	0.00
20.60	0.00	881	64.59	0.00
20.80	0.00	881	64.59	0.00
21.00	0.00	881	64.59	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

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Hydrograph for Pond PV-4: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
21.20	0.00	881	64.59	0.00
21.40	0.00	881	64.59	0.00
21.60	0.00	881	64.59	0.00
21.80	0.00	881	64.59	0.00
22.00	0.00	881	64.59	0.00
22.20	0.00	881	64.59	0.00
22.40	0.00	881	64.59	0.00
22.60	0.00	881	64.59	0.00
22.80	0.00	881	64.59	0.00
23.00	0.00	881	64.59	0.00
23.20	0.00	881	64.59	0.00
23.40	0.00	881	64.59	0.00
23.60	0.00	881	64.59	0.00
23.80	0.00	881	64.59	0.00
24.00	0.00	881	64.59	0.00
24.20	0.00	881	64.59	0.00
24.40	0.00	881	64.59	0.00
24.60	0.00	881	64.59	0.00
24.80	0.00	881	64.59	0.00
25.00	0.00	881	64.59	0.00
25.20	0.00	881	64.59	0.00
25.40	0.00	881	64.59	0.00
25.60	0.00	881	64.59	0.00
25.80	0.00	881	64.59	0.00
26.00	0.00	881	64.59	0.00
26.20	0.00	881	64.59	0.00
26.40	0.00	881	64.59	0.00
26.60	0.00	881	64.59	0.00
26.80	0.00	881	64.59	0.00
27.00	0.00	881	64.59	0.00
27.20	0.00	881	64.59	0.00
27.40	0.00	881	64.59	0.00
27.60	0.00	881	64.59	0.00
27.80	0.00	881	64.59	0.00
28.00	0.00	881	64.59	0.00
28.20	0.00	881	64.59	0.00
28.40	0.00	881	64.59	0.00
28.60	0.00	881	64.59	0.00
28.80	0.00	881	64.59	0.00
29.00	0.00	881	64.59	0.00
29.20	0.00	881	64.59	0.00
29.40	0.00	881	64.59	0.00
29.60	0.00	881	64.59	0.00
29.80	0.00	881	64.59	0.00
30.00	0.00	881	64.59	0.00
30.20	0.00	881	64.59	0.00
30.40	0.00	881	64.59	0.00
30.60	0.00	881	64.59	0.00
30.80	0.00	881	64.59	0.00
31.00	0.00	881	64.59	0.00
31.20	0.00	881	64.59	0.00
31.40	0.00	881	64.59	0.00
31.60	0.00	881	64.59	0.00

Hydrograph for Pond PV-4: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
31.80	0.00	881	64.59	0.00
32.00	0.00	881	64.59	0.00
32.20	0.00	881	64.59	0.00
32.40	0.00	881	64.59	0.00
32.60	0.00	881	64.59	0.00
32.80	0.00	881	64.59	0.00
33.00	0.00	881	64.59	0.00
33.20	0.00	881	64.59	0.00
33.40	0.00	881	64.59	0.00
33.60	0.00	881	64.59	0.00
33.80	0.00	881	64.59	0.00
34.00	0.00	881	64.59	0.00
34.20	0.00	881	64.59	0.00
34.40	0.00	881	64.59	0.00
34.60	0.00	881	64.59	0.00
34.80	0.00	881	64.59	0.00
35.00	0.00	881	64.59	0.00
35.20	0.00	881	64.59	0.00
35.40	0.00	881	64.59	0.00
35.60	0.00	881	64.59	0.00
35.80	0.00	881	64.59	0.00
36.00	0.00	881	64.59	0.00
36.20	0.00	881	64.59	0.00
36.40	0.00	881	64.59	0.00
36.60	0.00	881	64.59	0.00
36.80	0.00	881	64.59	0.00
37.00	0.00	881	64.59	0.00
37.20	0.00	881	64.59	0.00
37.40	0.00	881	64.59	0.00
37.60	0.00	881	64.59	0.00
37.80	0.00	881	64.59	0.00
38.00	0.00	881	64.59	0.00
38.20	0.00	881	64.59	0.00
38.40	0.00	881	64.59	0.00
38.60	0.00	881	64.59	0.00
38.80	0.00	881	64.59	0.00
39.00	0.00	881	64.59	0.00
39.20	0.00	881	64.59	0.00
39.40	0.00	881	64.59	0.00
39.60	0.00	881	64.59	0.00
39.80	0.00	881	64.59	0.00
40.00	0.00	881	64.59	0.00
40.20	0.00	881	64.59	0.00
40.40	0.00	881	64.59	0.00
40.60	0.00	881	64.59	0.00
40.80	0.00	881	64.59	0.00
41.00	0.00	881	64.59	0.00
41.20	0.00	881	64.59	0.00
41.40	0.00	881	64.59	0.00
41.60	0.00	881	64.59	0.00
41.80	0.00	881	64.59	0.00
42.00	0.00	881	64.59	0.00
42.20	0.00	881	64.59	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

Prepared by Stonefield Engineering & Design

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Hydrograph for Pond PV-4: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
42.40	0.00	881	64.59	0.00
42.60	0.00	881	64.59	0.00
42.80	0.00	881	64.59	0.00
43.00	0.00	881	64.59	0.00
43.20	0.00	881	64.59	0.00
43.40	0.00	881	64.59	0.00
43.60	0.00	881	64.59	0.00
43.80	0.00	881	64.59	0.00
44.00	0.00	881	64.59	0.00
44.20	0.00	881	64.59	0.00
44.40	0.00	881	64.59	0.00
44.60	0.00	881	64.59	0.00
44.80	0.00	881	64.59	0.00
45.00	0.00	881	64.59	0.00
45.20	0.00	881	64.59	0.00
45.40	0.00	881	64.59	0.00
45.60	0.00	881	64.59	0.00
45.80	0.00	881	64.59	0.00
46.00	0.00	881	64.59	0.00
46.20	0.00	881	64.59	0.00
46.40	0.00	881	64.59	0.00
46.60	0.00	881	64.59	0.00
46.80	0.00	881	64.59	0.00
47.00	0.00	881	64.59	0.00
47.20	0.00	881	64.59	0.00
47.40	0.00	881	64.59	0.00
47.60	0.00	881	64.59	0.00
47.80	0.00	881	64.59	0.00
48.00	0.00	881	64.59	0.00
48.20	0.00	881	64.59	0.00
48.40	0.00	881	64.59	0.00
48.60	0.00	881	64.59	0.00
48.80	0.00	881	64.59	0.00
49.00	0.00	881	64.59	0.00
49.20	0.00	881	64.59	0.00
49.40	0.00	881	64.59	0.00
49.60	0.00	881	64.59	0.00
49.80	0.00	881	64.59	0.00
50.00	0.00	881	64.59	0.00
50.20	0.00	881	64.59	0.00
50.40	0.00	881	64.59	0.00
50.60	0.00	881	64.59	0.00
50.80	0.00	881	64.59	0.00
51.00	0.00	881	64.59	0.00
51.20	0.00	881	64.59	0.00
51.40	0.00	881	64.59	0.00
51.60	0.00	881	64.59	0.00
51.80	0.00	881	64.59	0.00
52.00	0.00	881	64.59	0.00
52.20	0.00	881	64.59	0.00
52.40	0.00	881	64.59	0.00
52.60	0.00	881	64.59	0.00
52.80	0.00	881	64.59	0.00

2024-12-12-Storm Design-Mt Laurel

NJ DEP 2-hr WQ Rainfall=1.25", AMC=3

Prepared by Stonefield Engineering & Design

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Hydrograph for Pond PV-4: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
53.00	0.00	881	64.59	0.00
53.20	0.00	881	64.59	0.00
53.40	0.00	881	64.59	0.00
53.60	0.00	881	64.59	0.00
53.80	0.00	881	64.59	0.00
54.00	0.00	881	64.59	0.00
54.20	0.00	881	64.59	0.00
54.40	0.00	881	64.59	0.00
54.60	0.00	881	64.59	0.00
54.80	0.00	881	64.59	0.00
55.00	0.00	881	64.59	0.00
55.20	0.00	881	64.59	0.00
55.40	0.00	881	64.59	0.00
55.60	0.00	881	64.59	0.00
55.80	0.00	881	64.59	0.00
56.00	0.00	881	64.59	0.00
56.20	0.00	881	64.59	0.00
56.40	0.00	881	64.59	0.00
56.60	0.00	881	64.59	0.00
56.80	0.00	881	64.59	0.00
57.00	0.00	881	64.59	0.00
57.20	0.00	881	64.59	0.00
57.40	0.00	881	64.59	0.00
57.60	0.00	881	64.59	0.00
57.80	0.00	881	64.59	0.00
58.00	0.00	881	64.59	0.00
58.20	0.00	881	64.59	0.00
58.40	0.00	881	64.59	0.00
58.60	0.00	881	64.59	0.00
58.80	0.00	881	64.59	0.00
59.00	0.00	881	64.59	0.00
59.20	0.00	881	64.59	0.00
59.40	0.00	881	64.59	0.00
59.60	0.00	881	64.59	0.00
59.80	0.00	881	64.59	0.00
60.00	0.00	881	64.59	0.00
60.20	0.00	881	64.59	0.00
60.40	0.00	881	64.59	0.00
60.60	0.00	881	64.59	0.00
60.80	0.00	881	64.59	0.00
61.00	0.00	881	64.59	0.00
61.20	0.00	881	64.59	0.00
61.40	0.00	881	64.59	0.00
61.60	0.00	881	64.59	0.00
61.80	0.00	881	64.59	0.00
62.00	0.00	881	64.59	0.00
62.20	0.00	881	64.59	0.00
62.40	0.00	881	64.59	0.00
62.60	0.00	881	64.59	0.00
62.80	0.00	881	64.59	0.00
63.00	0.00	881	64.59	0.00
63.20	0.00	881	64.59	0.00
63.40	0.00	881	64.59	0.00

Hydrograph for Pond PV-4: PERVIOUS PAVEMENT SYSTEM (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
63.60	0.00	881	64.59	0.00
63.80	0.00	881	64.59	0.00
64.00	0.00	881	64.59	0.00
64.20	0.00	881	64.59	0.00
64.40	0.00	881	64.59	0.00
64.60	0.00	881	64.59	0.00
64.80	0.00	881	64.59	0.00
65.00	0.00	881	64.59	0.00
65.20	0.00	881	64.59	0.00
65.40	0.00	881	64.59	0.00
65.60	0.00	881	64.59	0.00
65.80	0.00	881	64.59	0.00
66.00	0.00	881	64.59	0.00
66.20	0.00	881	64.59	0.00
66.40	0.00	881	64.59	0.00
66.60	0.00	881	64.59	0.00
66.80	0.00	881	64.59	0.00
67.00	0.00	881	64.59	0.00
67.20	0.00	881	64.59	0.00
67.40	0.00	881	64.59	0.00
67.60	0.00	881	64.59	0.00
67.80	0.00	881	64.59	0.00
68.00	0.00	881	64.59	0.00
68.20	0.00	881	64.59	0.00
68.40	0.00	881	64.59	0.00
68.60	0.00	881	64.59	0.00
68.80	0.00	881	64.59	0.00
69.00	0.00	881	64.59	0.00
69.20	0.00	881	64.59	0.00
69.40	0.00	881	64.59	0.00
69.60	0.00	881	64.59	0.00
69.80	0.00	881	64.59	0.00
70.00	0.00	881	64.59	0.00
70.20	0.00	881	64.59	0.00
70.40	0.00	881	64.59	0.00
70.60	0.00	881	64.59	0.00
70.80	0.00	881	64.59	0.00
71.00	0.00	881	64.59	0.00
71.20	0.00	881	64.59	0.00
71.40	0.00	881	64.59	0.00
71.60	0.00	881	64.59	0.00
71.80	0.00	881	64.59	0.00
72.00	0.00	881	64.59	0.00

Stage-Area-Storage for Pond PV-1: PERVIOUS PAVEMENT SYSTEM

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
65.75	0	66.28	676	66.81	1,779
65.76	13	66.29	689	66.82	1,805
65.77	26	66.30	702	66.83	1,832
65.78	38	66.31	715	66.84	1,858
65.79	51	66.32	727	66.85	1,885
65.80	64	66.33	740	66.86	1,911
65.81	77	66.34	753	66.87	1,938
65.82	89	66.35	766	66.88	1,964
65.83	102	66.36	778	66.89	1,991
65.84	115	66.37	791	66.90	2,017
65.85	128	66.38	804	66.91	2,044
65.86	140	66.39	817	66.92	2,070
65.87	153	66.40	829	66.93	2,097
65.88	166	66.41	842	66.94	2,123
65.89	179	66.42	855	66.95	2,150
65.90	191	66.43	868	66.96	2,176
65.91	204	66.44	880	66.97	2,203
65.92	217	66.45	893	66.98	2,229
65.93	230	66.46	906	66.99	2,256
65.94	242	66.47	919	67.00	2,283
65.95	255	66.48	931	67.01	2,309
65.96	268	66.49	944	67.02	2,336
65.97	281	66.50	957	67.03	2,362
65.98	293	66.51	984	67.04	2,389
65.99	306	66.52	1,010	67.05	2,415
66.00	319	66.53	1,037	67.06	2,442
66.01	332	66.54	1,063	67.07	2,468
66.02	345	66.55	1,090	67.08	2,495
66.03	357	66.56	1,116	67.09	2,521
66.04	370	66.57	1,143	67.10	2,548
66.05	383	66.58	1,169	67.11	2,574
66.06	396	66.59	1,196	67.12	2,601
66.07	408	66.60	1,222	67.13	2,627
66.08	421	66.61	1,249	67.14	2,654
66.09	434	66.62	1,275	67.15	2,680
66.10	447	66.63	1,302	67.16	2,707
66.11	459	66.64	1,328	67.17	2,733
66.12	472	66.65	1,355	67.18	2,760
66.13	485	66.66	1,381	67.19	2,786
66.14	498	66.67	1,408	67.20	2,813
66.15	510	66.68	1,434	67.21	2,839
66.16	523	66.69	1,461	67.22	2,866
66.17	536	66.70	1,487	67.23	2,892
66.18	549	66.71	1,514	67.24	2,919
66.19	561	66.72	1,540	67.25	2,945
66.20	574	66.73	1,567	67.26	2,972
66.21	587	66.74	1,593	67.27	2,998
66.22	600	66.75	1,620	67.28	3,025
66.23	612	66.76	1,646	67.29	3,051
66.24	625	66.77	1,673	67.30	3,078
66.25	638	66.78	1,699	67.31	3,104
66.26	651	66.79	1,726	67.32	3,131
66.27	664	66.80	1,752	67.33	3,157

Stage-Area-Storage for Pond PV-1: PERVIOUS PAVEMENT SYSTEM (continued)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
67.34	3,184	67.87	4,080
67.35	3,210	67.88	4,093
67.36	3,237	67.89	4,106
67.37	3,263	67.90	4,118
67.38	3,290	67.91	4,131
67.39	3,316	67.92	4,144
67.40	3,343	67.93	4,157
67.41	3,369	67.94	4,169
67.42	3,396	67.95	4,182
67.43	3,422	67.96	4,195
67.44	3,449	67.97	4,208
67.45	3,475	67.98	4,220
67.46	3,502	67.99	4,233
67.47	3,528	68.00	4,246
67.48	3,555		
67.49	3,581		
67.50	3,608		
67.51	3,621		
67.52	3,634		
67.53	3,646		
67.54	3,659		
67.55	3,672		
67.56	3,685		
67.57	3,697		
67.58	3,710		
67.59	3,723		
67.60	3,736		
67.61	3,748		
67.62	3,761		
67.63	3,774		
67.64	3,787		
67.65	3,799		
67.66	3,812		
67.67	3,825		
67.68	3,838		
67.69	3,850		
67.70	3,863		
67.71	3,876		
67.72	3,889		
67.73	3,901		
67.74	3,914		
67.75	3,927		
67.76	3,940		
67.77	3,953		
67.78	3,965		
67.79	3,978		
67.80	3,991		
67.81	4,004		
67.82	4,016		
67.83	4,029		
67.84	4,042		
67.85	4,055		
67.86	4,067		

Stage-Area-Storage for Pond PV-2: PERVIOUS PAVEMENT SYSTEM

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
64.00	1,700	0	64.53	1,700	360
64.01	1,700	7	64.54	1,700	367
64.02	1,700	14	64.55	1,700	374
64.03	1,700	20	64.56	1,700	381
64.04	1,700	27	64.57	1,700	388
64.05	1,700	34	64.58	1,700	394
64.06	1,700	41	64.59	1,700	401
64.07	1,700	48	64.60	1,700	408
64.08	1,700	54	64.61	1,700	415
64.09	1,700	61	64.62	1,700	422
64.10	1,700	68	64.63	1,700	428
64.11	1,700	75	64.64	1,700	435
64.12	1,700	82	64.65	1,700	442
64.13	1,700	88	64.66	1,700	449
64.14	1,700	95	64.67	1,700	456
64.15	1,700	102	64.68	1,700	462
64.16	1,700	109	64.69	1,700	469
64.17	1,700	116	64.70	1,700	476
64.18	1,700	122	64.71	1,700	483
64.19	1,700	129	64.72	1,700	490
64.20	1,700	136	64.73	1,700	496
64.21	1,700	143	64.74	1,700	503
64.22	1,700	150	64.75	1,700	510
64.23	1,700	156	64.76	1,700	517
64.24	1,700	163	64.77	1,700	524
64.25	1,700	170	64.78	1,700	530
64.26	1,700	177	64.79	1,700	537
64.27	1,700	184	64.80	1,700	544
64.28	1,700	190	64.81	1,700	551
64.29	1,700	197	64.82	1,700	558
64.30	1,700	204	64.83	1,700	564
64.31	1,700	211	64.84	1,700	571
64.32	1,700	218	64.85	1,700	578
64.33	1,700	224	64.86	1,700	585
64.34	1,700	231	64.87	1,700	592
64.35	1,700	238	64.88	1,700	598
64.36	1,700	245	64.89	1,700	605
64.37	1,700	252	64.90	1,700	612
64.38	1,700	258	64.91	1,700	619
64.39	1,700	265	64.92	1,700	626
64.40	1,700	272	64.93	1,700	632
64.41	1,700	279	64.94	1,700	639
64.42	1,700	286	64.95	1,700	646
64.43	1,700	292	64.96	1,700	653
64.44	1,700	299	64.97	1,700	660
64.45	1,700	306	64.98	1,700	666
64.46	1,700	313	64.99	1,700	673
64.47	1,700	320	65.00	1,700	680
64.48	1,700	326	65.01	1,700	687
64.49	1,700	333	65.02	1,700	694
64.50	1,700	340	65.03	1,700	700
64.51	1,700	347	65.04	1,700	707
64.52	1,700	354	65.05	1,700	714

Stage-Area-Storage for Pond PV-2: PERVIOUS PAVEMENT SYSTEM (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
65.06	1,700	721	65.59	1,700	1,081
65.07	1,700	728	65.60	1,700	1,088
65.08	1,700	734	65.61	1,700	1,095
65.09	1,700	741	65.62	1,700	1,102
65.10	1,700	748	65.63	1,700	1,108
65.11	1,700	755	65.64	1,700	1,115
65.12	1,700	762	65.65	1,700	1,122
65.13	1,700	768	65.66	1,700	1,129
65.14	1,700	775	65.67	1,700	1,136
65.15	1,700	782	65.68	1,700	1,142
65.16	1,700	789	65.69	1,700	1,149
65.17	1,700	796	65.70	1,700	1,156
65.18	1,700	802	65.71	1,700	1,163
65.19	1,700	809	65.72	1,700	1,170
65.20	1,700	816	65.73	1,700	1,176
65.21	1,700	823	65.74	1,700	1,183
65.22	1,700	830	65.75	1,700	1,190
65.23	1,700	836	65.76	1,700	1,197
65.24	1,700	843	65.77	1,700	1,204
65.25	1,700	850	65.78	1,700	1,210
65.26	1,700	857	65.79	1,700	1,217
65.27	1,700	864	65.80	1,700	1,224
65.28	1,700	870	65.81	1,700	1,231
65.29	1,700	877	65.82	1,700	1,238
65.30	1,700	884	65.83	1,700	1,244
65.31	1,700	891	65.84	1,700	1,251
65.32	1,700	898	65.85	1,700	1,258
65.33	1,700	904	65.86	1,700	1,265
65.34	1,700	911	65.87	1,700	1,272
65.35	1,700	918	65.88	1,700	1,278
65.36	1,700	925	65.89	1,700	1,285
65.37	1,700	932	65.90	1,700	1,292
65.38	1,700	938	65.91	1,700	1,299
65.39	1,700	945	65.92	1,700	1,306
65.40	1,700	952	65.93	1,700	1,312
65.41	1,700	959	65.94	1,700	1,319
65.42	1,700	966	65.95	1,700	1,326
65.43	1,700	972	65.96	1,700	1,333
65.44	1,700	979	65.97	1,700	1,340
65.45	1,700	986	65.98	1,700	1,346
65.46	1,700	993	65.99	1,700	1,353
65.47	1,700	1,000	66.00	1,700	1,360
65.48	1,700	1,006	66.01	1,700	1,367
65.49	1,700	1,013	66.02	1,700	1,374
65.50	1,700	1,020	66.03	1,700	1,380
65.51	1,700	1,027	66.04	1,700	1,387
65.52	1,700	1,034	66.05	1,700	1,394
65.53	1,700	1,040	66.06	1,700	1,401
65.54	1,700	1,047	66.07	1,700	1,408
65.55	1,700	1,054	66.08	1,700	1,414
65.56	1,700	1,061	66.09	1,700	1,421
65.57	1,700	1,068	66.10	1,700	1,428
65.58	1,700	1,074	66.11	1,700	1,435

Stage-Area-Storage for Pond PV-2: PERVIOUS PAVEMENT SYSTEM (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
66.12	1,700	1,442	66.65	1,700	1,802
66.13	1,700	1,448	66.66	1,700	1,809
66.14	1,700	1,455	66.67	1,700	1,816
66.15	1,700	1,462	66.68	1,700	1,822
66.16	1,700	1,469	66.69	1,700	1,829
66.17	1,700	1,476	66.70	1,700	1,836
66.18	1,700	1,482	66.71	1,700	1,843
66.19	1,700	1,489	66.72	1,700	1,850
66.20	1,700	1,496	66.73	1,700	1,856
66.21	1,700	1,503	66.74	1,700	1,863
66.22	1,700	1,510	66.75	1,700	1,870
66.23	1,700	1,516	66.76	1,700	1,877
66.24	1,700	1,523	66.77	1,700	1,884
66.25	1,700	1,530	66.78	1,700	1,890
66.26	1,700	1,537	66.79	1,700	1,897
66.27	1,700	1,544	66.80	1,700	1,904
66.28	1,700	1,550	66.81	1,700	1,911
66.29	1,700	1,557	66.82	1,700	1,918
66.30	1,700	1,564	66.83	1,700	1,924
66.31	1,700	1,571	66.84	1,700	1,931
66.32	1,700	1,578	66.85	1,700	1,938
66.33	1,700	1,584	66.86	1,700	1,945
66.34	1,700	1,591	66.87	1,700	1,952
66.35	1,700	1,598	66.88	1,700	1,958
66.36	1,700	1,605	66.89	1,700	1,965
66.37	1,700	1,612	66.90	1,700	1,972
66.38	1,700	1,618	66.91	1,700	1,979
66.39	1,700	1,625	66.92	1,700	1,986
66.40	1,700	1,632	66.93	1,700	1,992
66.41	1,700	1,639	66.94	1,700	1,999
66.42	1,700	1,646	66.95	1,700	2,006
66.43	1,700	1,652	66.96	1,700	2,013
66.44	1,700	1,659	66.97	1,700	2,020
66.45	1,700	1,666	66.98	1,700	2,026
66.46	1,700	1,673	66.99	1,700	2,033
66.47	1,700	1,680	67.00	1,700	2,040
66.48	1,700	1,686	67.01	1,700	2,047
66.49	1,700	1,693	67.02	1,700	2,054
66.50	1,700	1,700	67.03	1,700	2,060
66.51	1,700	1,707	67.04	1,700	2,067
66.52	1,700	1,714	67.05	1,700	2,074
66.53	1,700	1,720	67.06	1,700	2,081
66.54	1,700	1,727	67.07	1,700	2,088
66.55	1,700	1,734	67.08	1,700	2,094
66.56	1,700	1,741	67.09	1,700	2,101
66.57	1,700	1,748	67.10	1,700	2,108
66.58	1,700	1,754	67.11	1,700	2,115
66.59	1,700	1,761	67.12	1,700	2,122
66.60	1,700	1,768	67.13	1,700	2,128
66.61	1,700	1,775	67.14	1,700	2,135
66.62	1,700	1,782	67.15	1,700	2,142
66.63	1,700	1,788	67.16	1,700	2,149
66.64	1,700	1,795	67.17	1,700	2,156

Stage-Area-Storage for Pond PV-2: PERVIOUS PAVEMENT SYSTEM (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
67.18	1,700	2,162
67.19	1,700	2,169
67.20	1,700	2,176
67.21	1,700	2,183
67.22	1,700	2,190
67.23	1,700	2,196
67.24	1,700	2,203
67.25	1,700	2,210
67.26	1,700	2,217
67.27	1,700	2,224
67.28	1,700	2,230
67.29	1,700	2,237
67.30	1,700	2,244
67.31	1,700	2,251
67.32	1,700	2,258
67.33	1,700	2,264
67.34	1,700	2,271
67.35	1,700	2,278
67.36	1,700	2,285
67.37	1,700	2,292
67.38	1,700	2,298
67.39	1,700	2,305
67.40	1,700	2,312
67.41	1,700	2,319
67.42	1,700	2,326
67.43	1,700	2,332
67.44	1,700	2,339
67.45	1,700	2,346
67.46	1,700	2,353
67.47	1,700	2,360
67.48	1,700	2,366
67.49	1,700	2,373
67.50	1,700	2,380
67.51	1,700	2,387
67.52	1,700	2,394
67.53	1,700	2,400
67.54	1,700	2,407
67.55	1,700	2,414
67.56	1,700	2,421
67.57	1,700	2,428
67.58	1,700	2,434
67.59	1,700	2,441
67.60	1,700	2,448
67.61	1,700	2,455
67.62	1,700	2,462
67.63	1,700	2,468
67.64	1,700	2,475
67.65	1,700	2,482
67.66	1,700	2,489
67.67	1,700	2,496

Stage-Area-Storage for Pond PV-3: PERVIOUS PAVEMENT SYSTEM

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
64.50	0	65.03	551	65.56	1,185
64.51	10	65.04	562	65.57	1,209
64.52	21	65.05	572	65.58	1,233
64.53	31	65.06	582	65.59	1,257
64.54	42	65.07	593	65.60	1,281
64.55	52	65.08	603	65.61	1,306
64.56	62	65.09	614	65.62	1,330
64.57	73	65.10	624	65.63	1,354
64.58	83	65.11	634	65.64	1,378
64.59	94	65.12	645	65.65	1,402
64.60	104	65.13	655	65.66	1,426
64.61	114	65.14	666	65.67	1,451
64.62	125	65.15	676	65.68	1,475
64.63	135	65.16	686	65.69	1,499
64.64	146	65.17	697	65.70	1,523
64.65	156	65.18	707	65.71	1,547
64.66	166	65.19	718	65.72	1,571
64.67	177	65.20	728	65.73	1,595
64.68	187	65.21	738	65.74	1,620
64.69	198	65.22	749	65.75	1,644
64.70	208	65.23	759	65.76	1,668
64.71	218	65.24	770	65.77	1,692
64.72	229	65.25	780	65.78	1,716
64.73	239	65.26	790	65.79	1,740
64.74	250	65.27	801	65.80	1,764
64.75	260	65.28	811	65.81	1,789
64.76	270	65.29	822	65.82	1,813
64.77	281	65.30	832	65.83	1,837
64.78	291	65.31	842	65.84	1,861
64.79	302	65.32	853	65.85	1,885
64.80	312	65.33	863	65.86	1,909
64.81	322	65.34	874	65.87	1,934
64.82	333	65.35	884	65.88	1,958
64.83	343	65.36	894	65.89	1,982
64.84	354	65.37	905	65.90	2,006
64.85	364	65.38	915	65.91	2,030
64.86	374	65.39	926	65.92	2,054
64.87	385	65.40	936	65.93	2,078
64.88	395	65.41	946	65.94	2,103
64.89	406	65.42	957	65.95	2,127
64.90	416	65.43	967	65.96	2,151
64.91	426	65.44	978	65.97	2,175
64.92	437	65.45	988	65.98	2,199
64.93	447	65.46	998	65.99	2,223
64.94	458	65.47	1,009	66.00	2,248
64.95	468	65.48	1,019	66.01	2,272
64.96	478	65.49	1,030	66.02	2,296
64.97	489	65.50	1,040	66.03	2,320
64.98	499	65.51	1,064	66.04	2,344
64.99	510	65.52	1,088	66.05	2,368
65.00	520	65.53	1,112	66.06	2,392
65.01	530	65.54	1,137	66.07	2,417
65.02	541	65.55	1,161	66.08	2,441

Stage-Area-Storage for Pond PV-3: PERVIOUS PAVEMENT SYSTEM (continued)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
66.09	2,465	66.62	3,580	67.15	4,131
66.10	2,489	66.63	3,590	67.16	4,141
66.11	2,513	66.64	3,601	67.17	4,152
66.12	2,537	66.65	3,611	67.18	4,162
66.13	2,561	66.66	3,621	67.19	4,173
66.14	2,586	66.67	3,632	67.20	4,183
66.15	2,610	66.68	3,642	67.21	4,193
66.16	2,634	66.69	3,653	67.22	4,204
66.17	2,658	66.70	3,663	67.23	4,214
66.18	2,682	66.71	3,673	67.24	4,225
66.19	2,706	66.72	3,684	67.25	4,235
66.20	2,731	66.73	3,694	67.26	4,245
66.21	2,755	66.74	3,705	67.27	4,256
66.22	2,779	66.75	3,715	67.28	4,266
66.23	2,803	66.76	3,725	67.29	4,277
66.24	2,827	66.77	3,736	67.30	4,287
66.25	2,851	66.78	3,746	67.31	4,297
66.26	2,875	66.79	3,757	67.32	4,308
66.27	2,900	66.80	3,767	67.33	4,318
66.28	2,924	66.81	3,777	67.34	4,329
66.29	2,948	66.82	3,788	67.35	4,339
66.30	2,972	66.83	3,798	67.36	4,349
66.31	2,996	66.84	3,809	67.37	4,360
66.32	3,020	66.85	3,819	67.38	4,370
66.33	3,044	66.86	3,829	67.39	4,381
66.34	3,069	66.87	3,840	67.40	4,391
66.35	3,093	66.88	3,850	67.41	4,401
66.36	3,117	66.89	3,861	67.42	4,412
66.37	3,141	66.90	3,871	67.43	4,422
66.38	3,165	66.91	3,881	67.44	4,433
66.39	3,189	66.92	3,892	67.45	4,443
66.40	3,214	66.93	3,902	67.46	4,453
66.41	3,238	66.94	3,913	67.47	4,464
66.42	3,262	66.95	3,923	67.48	4,474
66.43	3,286	66.96	3,933	67.49	4,485
66.44	3,310	66.97	3,944	67.50	4,495
66.45	3,334	66.98	3,954		
66.46	3,358	66.99	3,965		
66.47	3,383	67.00	3,975		
66.48	3,407	67.01	3,985		
66.49	3,431	67.02	3,996		
66.50	3,455	67.03	4,006		
66.51	3,465	67.04	4,017		
66.52	3,476	67.05	4,027		
66.53	3,486	67.06	4,037		
66.54	3,497	67.07	4,048		
66.55	3,507	67.08	4,058		
66.56	3,517	67.09	4,069		
66.57	3,528	67.10	4,079		
66.58	3,538	67.11	4,089		
66.59	3,549	67.12	4,100		
66.60	3,559	67.13	4,110		
66.61	3,569	67.14	4,121		

Stage-Area-Storage for Pond PV-4: PERVIOUS PAVEMENT SYSTEM

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
63.75	0	64.28	498	64.81	1,337
63.76	9	64.29	508	64.82	1,358
63.77	19	64.30	517	64.83	1,378
63.78	28	64.31	526	64.84	1,399
63.79	38	64.32	536	64.85	1,419
63.80	47	64.33	545	64.86	1,439
63.81	56	64.34	555	64.87	1,460
63.82	66	64.35	564	64.88	1,480
63.83	75	64.36	573	64.89	1,501
63.84	85	64.37	583	64.90	1,521
63.85	94	64.38	592	64.91	1,541
63.86	103	64.39	602	64.92	1,562
63.87	113	64.40	611	64.93	1,582
63.88	122	64.41	620	64.94	1,603
63.89	132	64.42	630	64.95	1,623
63.90	141	64.43	639	64.96	1,643
63.91	150	64.44	649	64.97	1,664
63.92	160	64.45	658	64.98	1,684
63.93	169	64.46	667	64.99	1,705
63.94	179	64.47	677	65.00	1,725
63.95	188	64.48	686	65.01	1,745
63.96	197	64.49	696	65.02	1,766
63.97	207	64.50	705	65.03	1,786
63.98	216	64.51	725	65.04	1,807
63.99	226	64.52	746	65.05	1,827
64.00	235	64.53	766	65.06	1,847
64.01	244	64.54	787	65.07	1,868
64.02	254	64.55	807	65.08	1,888
64.03	263	64.56	827	65.09	1,909
64.04	273	64.57	848	65.10	1,929
64.05	282	64.58	868	65.11	1,949
64.06	291	64.59	889	65.12	1,970
64.07	301	64.60	909	65.13	1,990
64.08	310	64.61	929	65.14	2,011
64.09	320	64.62	950	65.15	2,031
64.10	329	64.63	970	65.16	2,051
64.11	338	64.64	991	65.17	2,072
64.12	348	64.65	1,011	65.18	2,092
64.13	357	64.66	1,031	65.19	2,113
64.14	367	64.67	1,052	65.20	2,133
64.15	376	64.68	1,072	65.21	2,153
64.16	385	64.69	1,093	65.22	2,174
64.17	395	64.70	1,113	65.23	2,194
64.18	404	64.71	1,133	65.24	2,215
64.19	414	64.72	1,154	65.25	2,235
64.20	423	64.73	1,174	65.26	2,255
64.21	432	64.74	1,195	65.27	2,276
64.22	442	64.75	1,215	65.28	2,296
64.23	451	64.76	1,235	65.29	2,317
64.24	461	64.77	1,256	65.30	2,337
64.25	470	64.78	1,276	65.31	2,357
64.26	479	64.79	1,297	65.32	2,378
64.27	489	64.80	1,317	65.33	2,398

Stage-Area-Storage for Pond PV-4: PERVIOUS PAVEMENT SYSTEM (continued)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
65.34	2,419	65.87	3,093	66.40	3,591
65.35	2,439	65.88	3,102	66.41	3,600
65.36	2,459	65.89	3,112	66.42	3,610
65.37	2,480	65.90	3,121	66.43	3,619
65.38	2,500	65.91	3,130	66.44	3,629
65.39	2,521	65.92	3,140	66.45	3,638
65.40	2,541	65.93	3,149	66.46	3,647
65.41	2,561	65.94	3,159	66.47	3,657
65.42	2,582	65.95	3,168	66.48	3,666
65.43	2,602	65.96	3,177	66.49	3,676
65.44	2,623	65.97	3,187	66.50	3,685
65.45	2,643	65.98	3,196	66.51	3,694
65.46	2,663	65.99	3,206	66.52	3,704
65.47	2,684	66.00	3,215	66.53	3,713
65.48	2,704	66.01	3,224	66.54	3,723
65.49	2,725	66.02	3,234	66.55	3,732
65.50	2,745	66.03	3,243	66.56	3,741
65.51	2,754	66.04	3,253	66.57	3,751
65.52	2,764	66.05	3,262	66.58	3,760
65.53	2,773	66.06	3,271	66.59	3,770
65.54	2,783	66.07	3,281	66.60	3,779
65.55	2,792	66.08	3,290	66.61	3,788
65.56	2,801	66.09	3,300	66.62	3,798
65.57	2,811	66.10	3,309	66.63	3,807
65.58	2,820	66.11	3,318	66.64	3,817
65.59	2,830	66.12	3,328	66.65	3,826
65.60	2,839	66.13	3,337	66.66	3,835
65.61	2,848	66.14	3,347	66.67	3,845
65.62	2,858	66.15	3,356	66.68	3,854
65.63	2,867	66.16	3,365	66.69	3,864
65.64	2,877	66.17	3,375	66.70	3,873
65.65	2,886	66.18	3,384	66.71	3,882
65.66	2,895	66.19	3,394	66.72	3,892
65.67	2,905	66.20	3,403	66.73	3,901
65.68	2,914	66.21	3,412	66.74	3,911
65.69	2,924	66.22	3,422	66.75	3,920
65.70	2,933	66.23	3,431	66.76	3,929
65.71	2,942	66.24	3,441	66.77	3,939
65.72	2,952	66.25	3,450	66.78	3,948
65.73	2,961	66.26	3,459	66.79	3,958
65.74	2,971	66.27	3,469	66.80	3,967
65.75	2,980	66.28	3,478	66.81	3,976
65.76	2,989	66.29	3,488	66.82	3,986
65.77	2,999	66.30	3,497	66.83	3,995
65.78	3,008	66.31	3,506	66.84	4,005
65.79	3,018	66.32	3,516	66.85	4,014
65.80	3,027	66.33	3,525	66.86	4,023
65.81	3,036	66.34	3,535	66.87	4,033
65.82	3,046	66.35	3,544	66.88	4,042
65.83	3,055	66.36	3,553	66.89	4,052
65.84	3,065	66.37	3,563	66.90	4,061
65.85	3,074	66.38	3,572	66.91	4,070
65.86	3,083	66.39	3,582	66.92	4,080

Stage-Area-Storage for Pond PV-4: PERVIOUS PAVEMENT SYSTEM (continued)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
66.93	4,089	67.46	4,587
66.94	4,099	67.47	4,597
66.95	4,108	67.48	4,606
66.96	4,117	67.49	4,616
66.97	4,127	67.50	4,625
66.98	4,136		
66.99	4,146		
67.00	4,155		
67.01	4,164		
67.02	4,174		
67.03	4,183		
67.04	4,193		
67.05	4,202		
67.06	4,211		
67.07	4,221		
67.08	4,230		
67.09	4,240		
67.10	4,249		
67.11	4,258		
67.12	4,268		
67.13	4,277		
67.14	4,287		
67.15	4,296		
67.16	4,305		
67.17	4,315		
67.18	4,324		
67.19	4,334		
67.20	4,343		
67.21	4,352		
67.22	4,362		
67.23	4,371		
67.24	4,381		
67.25	4,390		
67.26	4,399		
67.27	4,409		
67.28	4,418		
67.29	4,428		
67.30	4,437		
67.31	4,446		
67.32	4,456		
67.33	4,465		
67.34	4,475		
67.35	4,484		
67.36	4,493		
67.37	4,503		
67.38	4,512		
67.39	4,522		
67.40	4,531		
67.41	4,540		
67.42	4,550		
67.43	4,559		
67.44	4,569		
67.45	4,578		

2024-12-12-Storm Design-Mt Laurel

NOAA 24-hr C 100-Year Rainfall=8.81"

Prepared by Stonefield Engineering & Design

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Hydrograph for Pond PV-1: PERVIOUS PAVEMENT SYSTEM

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	65.75	0.00
2.00	0.01	0	65.75	0.01
4.00	0.02	0	65.75	0.02
6.00	0.02	0	65.75	0.02
8.00	0.04	0	65.75	0.04
10.00	0.07	0	65.75	0.07
12.00	1.21	756	66.34	0.23
14.00	0.08	1,045	66.53	0.25
16.00	0.04	5	65.75	0.15
18.00	0.03	0	65.75	0.00
20.00	0.03	0	65.75	0.00
22.00	0.02	0	65.75	0.00
24.00	0.02	0	65.75	0.00
26.00	0.00	0	65.75	0.00
28.00	0.00	0	65.75	0.00
30.00	0.00	0	65.75	0.00
32.00	0.00	0	65.75	0.00
34.00	0.00	0	65.75	0.00
36.00	0.00	0	65.75	0.00
38.00	0.00	0	65.75	0.00
40.00	0.00	0	65.75	0.00
42.00	0.00	0	65.75	0.00
44.00	0.00	0	65.75	0.00
46.00	0.00	0	65.75	0.00
48.00	0.00	0	65.75	0.00
50.00	0.00	0	65.75	0.00
52.00	0.00	0	65.75	0.00
54.00	0.00	0	65.75	0.00
56.00	0.00	0	65.75	0.00
58.00	0.00	0	65.75	0.00
60.00	0.00	0	65.75	0.00
62.00	0.00	0	65.75	0.00
64.00	0.00	0	65.75	0.00
66.00	0.00	0	65.75	0.00
68.00	0.00	0	65.75	0.00
70.00	0.00	0	65.75	0.00
72.00	0.00	0	65.75	0.00

2024-12-12-Storm Design-Mt Laurel

NOAA 24-hr C 100-Year Rainfall=8.81"

Prepared by Stonefield Engineering & Design

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Page 2

Hydrograph for Pond PV-2: PERVIOUS PAVEMENT SYSTEM

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	64.00	0.00
2.00	0.00	4	64.01	0.00
4.00	0.01	56	64.08	0.00
6.00	0.02	154	64.23	0.00
8.00	0.03	245	64.36	0.02
10.00	0.05	282	64.42	0.05
12.00	0.98	979	65.44	0.24
14.00	0.06	655	64.96	0.18
16.00	0.03	273	64.40	0.04
18.00	0.02	248	64.37	0.03
20.00	0.02	240	64.35	0.02
22.00	0.02	234	64.34	0.02
24.00	0.02	230	64.34	0.02
26.00	0.00	190	64.28	0.00
28.00	0.00	182	64.27	0.00
30.00	0.00	178	64.26	0.00
32.00	0.00	177	64.26	0.00
34.00	0.00	175	64.26	0.00
36.00	0.00	174	64.26	0.00
38.00	0.00	174	64.26	0.00
40.00	0.00	173	64.26	0.00
42.00	0.00	173	64.25	0.00
44.00	0.00	173	64.25	0.00
46.00	0.00	173	64.25	0.00
48.00	0.00	172	64.25	0.00
50.00	0.00	172	64.25	0.00
52.00	0.00	172	64.25	0.00
54.00	0.00	172	64.25	0.00
56.00	0.00	172	64.25	0.00
58.00	0.00	172	64.25	0.00
60.00	0.00	172	64.25	0.00
62.00	0.00	171	64.25	0.00
64.00	0.00	171	64.25	0.00
66.00	0.00	171	64.25	0.00
68.00	0.00	171	64.25	0.00
70.00	0.00	171	64.25	0.00
72.00	0.00	171	64.25	0.00

Hydrograph for Pond PV-3: PERVIOUS PAVEMENT SYSTEM

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	64.50	0.00
2.00	0.01	0	64.50	0.01
4.00	0.02	0	64.50	0.02
6.00	0.03	0	64.50	0.03
8.00	0.05	0	64.50	0.05
10.00	0.09	0	64.50	0.09
12.00	1.58	796	65.27	0.33
14.00	0.09	669	65.14	0.31
16.00	0.05	0	64.50	0.00
18.00	0.03	0	64.50	0.00
20.00	0.03	0	64.50	0.00
22.00	0.03	0	64.50	0.00
24.00	0.02	0	64.50	0.00
26.00	0.00	0	64.50	0.00
28.00	0.00	0	64.50	0.00
30.00	0.00	0	64.50	0.00
32.00	0.00	0	64.50	0.00
34.00	0.00	0	64.50	0.00
36.00	0.00	0	64.50	0.00
38.00	0.00	0	64.50	0.00
40.00	0.00	0	64.50	0.00
42.00	0.00	0	64.50	0.00
44.00	0.00	0	64.50	0.00
46.00	0.00	0	64.50	0.00
48.00	0.00	0	64.50	0.00
50.00	0.00	0	64.50	0.00
52.00	0.00	0	64.50	0.00
54.00	0.00	0	64.50	0.00
56.00	0.00	0	64.50	0.00
58.00	0.00	0	64.50	0.00
60.00	0.00	0	64.50	0.00
62.00	0.00	0	64.50	0.00
64.00	0.00	0	64.50	0.00
66.00	0.00	0	64.50	0.00
68.00	0.00	0	64.50	0.00
70.00	0.00	0	64.50	0.00
72.00	0.00	0	64.50	0.00

Hydrograph for Pond PV-4: PERVIOUS PAVEMENT SYSTEM

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0	63.75	0.00
2.00	0.02	0	63.75	0.02
4.00	0.02	0	63.75	0.02
6.00	0.03	0	63.75	0.03
8.00	0.04	0	63.75	0.04
10.00	0.08	0	63.75	0.08
12.00	1.34	915	64.60	0.26
14.00	0.08	1,154	64.72	0.27
16.00	0.05	5	63.76	0.15
18.00	0.03	0	63.75	0.03
20.00	0.03	0	63.75	0.03
22.00	0.02	0	63.75	0.02
24.00	0.02	0	63.75	0.02
26.00	0.00	0	63.75	0.00
28.00	0.00	0	63.75	0.00
30.00	0.00	0	63.75	0.00
32.00	0.00	0	63.75	0.00
34.00	0.00	0	63.75	0.00
36.00	0.00	0	63.75	0.00
38.00	0.00	0	63.75	0.00
40.00	0.00	0	63.75	0.00
42.00	0.00	0	63.75	0.00
44.00	0.00	0	63.75	0.00
46.00	0.00	0	63.75	0.00
48.00	0.00	0	63.75	0.00
50.00	0.00	0	63.75	0.00
52.00	0.00	0	63.75	0.00
54.00	0.00	0	63.75	0.00
56.00	0.00	0	63.75	0.00
58.00	0.00	0	63.75	0.00
60.00	0.00	0	63.75	0.00
62.00	0.00	0	63.75	0.00
64.00	0.00	0	63.75	0.00
66.00	0.00	0	63.75	0.00
68.00	0.00	0	63.75	0.00
70.00	0.00	0	63.75	0.00
72.00	0.00	0	63.75	0.00

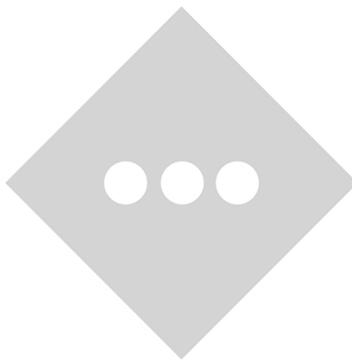
APPENDIX D

DRAINAGE AREA MAPS

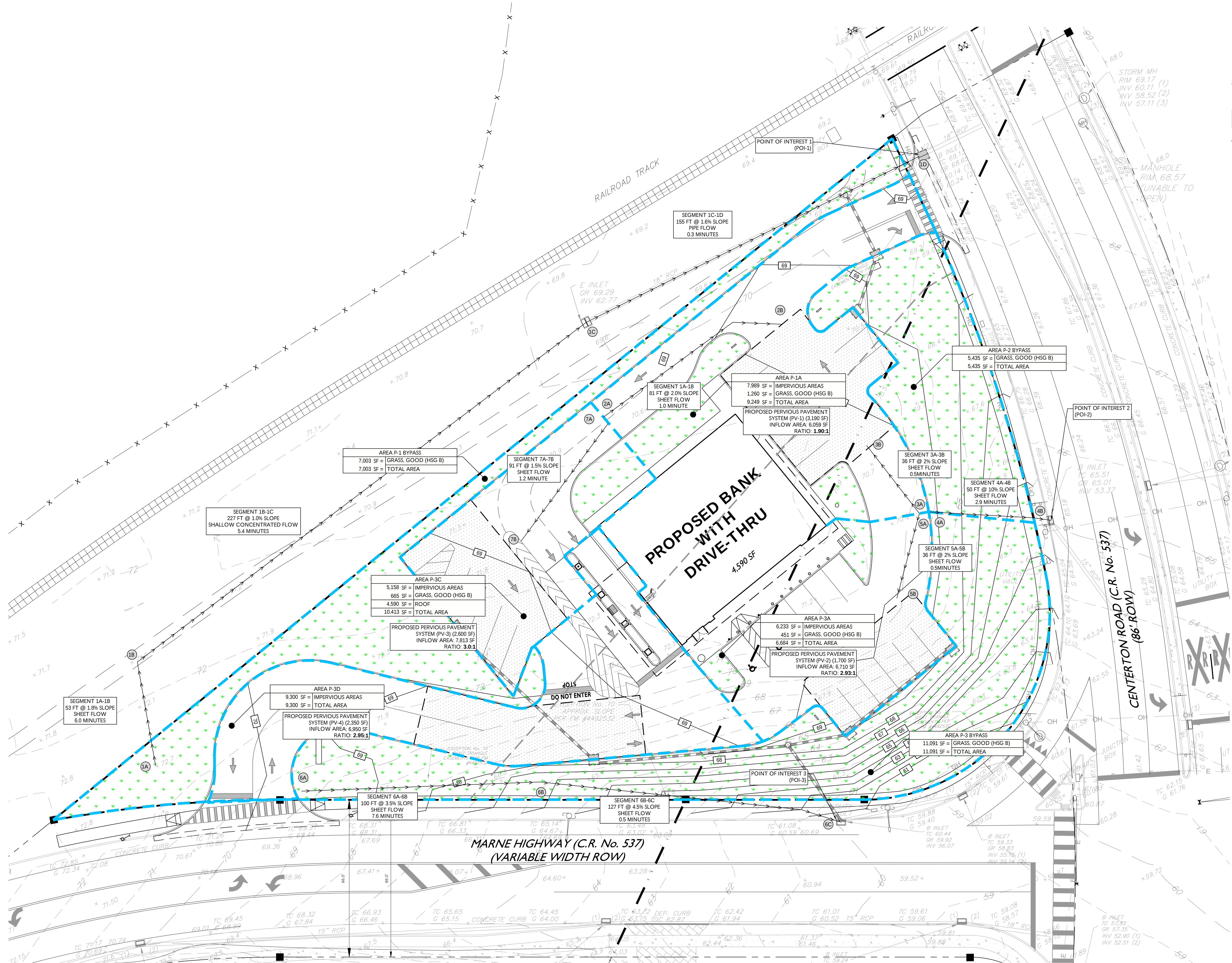
INVENTORY

SHEET 1 OF 2: EXISTING DRAINAGE AREA MAP

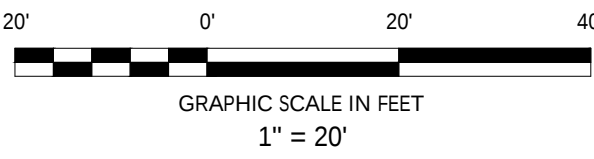
SHEET 2 OF 2: PROPOSED DRAINAGE AREA MAP



Z:\PROJECTS\2024\240117 PRELIMINARY & FINAL MAJOR SITE PLAN - MARNE HIGHWAY & CENTER TOWN ROAD, MT. LAUREL, NJ\CAD\DWG\240117 PRELIMINARY & FINAL MAJOR SITE PLAN - MARNE HIGHWAY & CENTER TOWN ROAD, MT. LAUREL, NJ.dwg



SYMBOL	DESCRIPTION
	PROPOSED DRAINAGE AREA
	PROPOSED GRASSED AREA
	PROPOSED TIME OF CONCENTRATION



FOR INTERNAL REVIEW

DATE

BY

DESCRIPTION

12/13/2024

01

ISSUE

NOT APPROVED FOR CONSTRUCTION

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Phone 609.362.6900

PRELIMINARY & FINAL MAJOR SITE PLAN

MOUNT LAUREL REALTY, LLC

PROPOSED BANK W/ DRIVE-THRU

BLOCK 6801 LOT 1 & BLOCK 6802 LOT 1
TAX MAP SHEET 68 (MOORESTOWN) & SHEET 5.05 (MOUNT LAUREL)
MARNE HIGHWAY & CENTER TOWN ROAD
TOWNSHIP OF MOORESTOWN AND TOWNSHIP OF MOUNT LAUREL
BURLINGTON COUNTY, NEW JERSEY

STONEFIELD
engineering & design

PAUL D. MUTCH Jr., P.E.
NEW JERSEY LICENSE No. 55094
LICENSED PROFESSIONAL ENGINEER

SCALE: 1" = 20'

PROJECT ID: PRI-240117

TITLE:

**PROPOSED DRAINAGE
AREA MAP**

DRAWING:

2 OF 2