STORMWATER REPORT

FOR

"HAYES WOODS"
MAPLE AVENUE

IN

GROTON,
MASSACHUSETTS

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CDG PROJECT # 5454

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A Stormwater Report Prepared for:

Maple Realty Trust
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"Hayes Woods"
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1.0 Project Narrative

1.1 Project Type

The proposed project consists of the development of the 91.7-acre site located off Maple Avenue in the Town of Groton. The project includes the subdivision of the property into 19 lots, the construction of 16 Single-Family houses, and the construction of 3 multi-family units on Pepperell Road. The remainder of the property (~61.61 acres) will be protected open space and will be conveyed to The Groton Conservation Commission.

1.2 Purpose and Scope

This report has been prepared to comply with the requirements of the Stormwater Management Standards incorporated in the Massachusetts Wetlands Protection Act Regulations, 310 CMR 10.00 and the Town of Groton Stormwater Management Regulations. These standards are intended to promote increased groundwater recharge and prevent stormwater discharges from causing or contributing to the pollution of surface waters and ground waters of the Commonwealth. The standards aim to accomplish these goals by encouraging the greater use of low impact development techniques and improving the operation and maintenance of stormwater best management practices.

This report addresses compliance of the proposed development with each of the ten stormwater standards, provides calculations to support the compliance information, and provides an Operation and Maintenance Plan and Long-Term Pollution Prevention Plan for the stormwater management system.

1.3 Proposed Development

As mentioned, the proposed subdivision consists of 19 house lots, 16 of which will have single-family houses and 3 of which will have either duplex or triplex dwellings. The multi-family dwellings will be accessed from Pepperell Road via a common driveway. A loop road will provide access to the 16 single family lots and will have 2 access points on Maple Avenue, one of which will be gated and used only for emergencies. The project is being proposed pursuant to the Flexible Development Special Permit. The site will have access for municipal water, but individual septic systems will be required.

1.4 LID Measures

Care has been taken to lay out the proposed site in a manner that works with existing topography. BMPs such as an Infiltration Basins, Rain Gardens, and Subsurface Infiltration areas are used to manage the stormwater runoff. Individual Infiltration systems are provided on each lot to collect stormwater from roof areas

before discharging back to the groundwater. Stormwater from the impervious areas is routed via swales, and storm drains to stormwater management areas. These systems will be used to promote groundwater recharge and limit the runoff.

1.5 Site Description

The 80.33-acre property consists almost entirely of wooded area, of which ~60 acres will remain undisturbed. Due to a large portion of the site remaining undisturbed, a reduced portion of the site has been analyzed for all stormwater calculations and discussions. A portion of the existing site was logged several years ago, and the cart paths used for access still exist on the site. These areas were heavily trafficked with equipment and were not restored at the end of the logging. The end landcover result was a poor mix of topsoil and clay. To be conservative with pre-developed runoff calculations, the existing cart paths were modeled as "Fair Grass".

As mentioned above, the site is located on the western side of Maple Avenue, and the eastern side of Pepperell Road. The topography of the site varies greatly with steep slopes throughout the entire property. The proposed project will include the construction of a loop road that has two access points on Maple Avenue, one of which will be gated and used for emergencies only. The site drains to one of four low points, three of which are located on the property. The remained of the stormwater runoff currently drains toward Maple Avenue.

The site is comprised primarily of Canton fine sandy loam, Quonset sandy loam, and Charlton-Hollis-Rock Outcrop complex. These soils fall within Hydrologic Soils Group (HSG) A,B, & D. On-site Soil testing confirmed this classification. The proposed development area is located on the portion of the site that belongs primarily to HSG A & B with small pockets of D soil. Soils Groups A&B have a high-medium rate of water transmission, respectfully. The proposed development includes the construction of a public road and individual driveways for each lot. The proposed work will require the construction of a new stormwater management system along with private septic systems for each single-family lot.

The proposed development includes the construction of two public roads and individual driveways for each lot. The proposed work will require the construction of a new stormwater management system along with individual septic systems for each lot.

1.6 Proposed Stormwater Management System

Runoff from the proposed impervious areas will be conveyed and treated through a combination of BMP's and infiltrated to the groundwater. The infiltration will help to recharge the groundwater and ensure that the proposed development will not cause any off-site flooding. The following is a brief discussion of each

conveyance and treatment BMP proposed.

Yard Drains

Several yard drains are proposed to capture and route stormwater to the BMP's described in this section. All yard drains will consist of a 24" vertical perforated ADS pipe with a 12" culvert routing stormwater the BMP's. The grate of the yard drains shall be beehive grates to allow stormwater to flow into the vertical standpipe.

Infiltration Basin

Three infiltration basins will collect runoff from portions of the pavement and roof tops. The basins have been designed to accommodate the runoff associated with the 100-year storm event. Pretreatment is provided using a sediment forebay within the basin. All infiltration basins will have a broad-crested weir as an emergency outlet device.

Rain Garden

Several Rain Gardens are proposed to capture runoff via sheet flow from a portion of the pavement and grassed areas. The runoff captured by the rain gardens will percolate through the soil media which will act as a filter. Outlet structures are proposed in the Rain Gardens to route stormwater to either one of the infiltration basins or subsurface infiltration areas.

Subsurface Infiltration Area

Two subsurface infiltration areas are proposed. Cultec Chambers (Model 330XLHD) will be installed to collect the runoff from portions of pavement after pretreatment in rain gardens or grassed swales. A drainage manhole will be installed with a weir to direct flow into the rows of chambers. The infiltration system will provide recharge for groundwater and has been designed to infiltrate the runoff associated with the 100-year storm event.

Level Spreader

Multiple level spreaders are proposed along the slope of the adjacent to Maple Avenue. The proposed level spreaders consist of a 3-foot-wide trench filled with crushed stone which will capture stormwater as it flows downhill. As the stormwater is collected in the trench, it will be discharged evenly over the entire length of the level spreader, as opposed to a concentrated single-point discharge. This will help prevent scour and erosion along the slope. Each level spreader will have a 4" perforated pipe along the bottom to facilitate exfiltration and route stormwater through the entirety of the level spreader. These level spreaders will exfiltrate a majority of the stormwater runoff, however the primary purpose is to slow and spread the stormwater runoff along the slope to prevent a channelized flow toward Maple Ave.

1.7 Methods of Analysis

United States Department of Agriculture Natural Resources Conservation Service (NRCS) soil cover complex methods (TR-20) were employed to compute runoff quantities for the subject property and, where appropriate, adjacent property that drains toward a common discharge point with runoff from the subject site. HydroCAD 10.10 computer software was employed in this hydrologic analysis.

Due to the existing topography of the site, all runoff from the proposed property and adjacent properties collect at one of five low points on site. A pre- and post-development analysis was performed to determine that there will be no flooding in the existing low points during the 24-hour rainfall events of the 2-, 10-, 25-, and 100-year return frequencies. Watershed boundaries for existing conditions are depicted on the attached Pre-development Watershed Plan. Post-Developed watershed boundaries are indicated on the Post-Development Watershed Plan.

2.0 Stormwater Standards Compliance

2.1 Standard 1 – Untreated Discharges

The stormwater management system for the proposed development will not result in any new discharges of untreated stormwater to wetland resource areas. Stormwater management structures have been designed such that there is no erosion or scour to wetland resource areas or waters of the Commonwealth.

2.2 Standard 2 – Peak Rate Attenuation

The stormwater management system for the proposed development will employ subsurface infiltration systems, above ground infiltration basins, and several rain gardens that have been sized to retain and recharge the runoff related to a 100-year, 24-hour rainfall event.

Hydrologic calculations for existing and proposed site conditions are included in Appendices D and E respectively. Calculations for 24-hour rainfall events of 2-, 10-, 25-, and 100-year return frequencies are provided. For all rainfall events considered, the proposed stormwater management system will control runoff from the development such that corresponding water levels at the existing low points will not cause any off or on-site flooding. Per Groton Stormwater Regulations, water velocities in pipes and proposed gutters shall be between 2 and 10 feet per second, and not more than five feet per second on unpaved surfaces.

Due to the natural topography of the site, a small section of the proposed road adjacent to Maple Avenue is unable to be captured. The drainage calculations performed indicate that the amount of runoff will not create any flooding during any of the 24-hour rainfall events. An overall design point as been included in the table below showing the total runoff values for the entire site. While there is some negligible runoff in the 2-year storm event, the overall design point shows a significant reduction in the overall site runoff from the pre-developed to the post developed in the larger storm events.

	Pre-Developed	Post-Developed	Delta
Design Point "A"			
2-Year	0.01 cfs	0.04 cfs	+0.03 cfs
10-Year	0.47 cfs	0.45 cfs	-0.02 cfs
25-Year	1.84 cfs	1.84 cfs	0 cfs cfs
100-Year	8.70 cfs	7.51 cfs	-1.19 cfs
Design Point "B"			
2-Year	0.00 cfs	0.00 cfs	0 cfs
10-Year	0.03 cfs	0.04 cfs	+0.01cfs
25-Year	0.12 cfs	0.15 cfs	+0.03 cfs
100-Year	1.40 cfs	1.38 cfs	-0.02 cfs
Design Point "C"			
2-Year	0.00 cfs	0.00 cfs	0 cfs
10-Year	0.00 cfs	0.00 cfs	0 cfs
25-Year	0.00 cfs	0.00 cfs	0 cfs
100-Year	0.07 cfs	0.04 cfs	-0.03 cfs
Design Point "D"			
2-Year	0.00 cfs	0.00 cfs	0 cfs
10-Year	0.01 cfs	0.00 cfs	-0.01 cfs
25-Year	0.06 cfs	0.01 cfs	-0.05 cfs
100-Year	0.36 cfs	0.16 cfs	-0.20 cfs
Design Point "E"			
2-Year	0.00 cfs	0.00 cfs	0 cfs
10-Year	0.02 cfs	0.02 cfs	0 cfs
25-Year	0.10 cfs	0.06 cfs	-0.04 cfs
100-Year	1.30 cfs	1.14 cfs	-0.16 cfs
Overall Design Point			
2-Year	0.01 cfs	0.04 cfs	+0.03 cfs
10-Year	0.53 cfs	0.51 cfs	-0.02 cfs
25-Year	2.12 cfs	2.06 cfs	-0.06 cfs
100-Year	11.83 cfs	10.23 cfs	-1.6 cfs

2.3 Standard 3 – Recharge

As discussed in the Introduction, Natural Resource Conservation Service data indicates that the areas within the proposed development consist of varying soils from Hydrologic Group A, B, C, &D.

Four stormwater infiltration basins and several rain gardens have been designed to provide infiltration of the required recharge and water quality volume. Roof infiltration trenches have also been provided for each house to collect runoff from the roofs before discharging to groundwater. Recharge calculations can be found in Appendix F.

2.4 Standard 4 – Water Quality

A total of 99% TSS removal was achieved using BMPs. As part of the proposed project, infiltration requires a minimum of 44% TSS removal provided prior to discharge. Three TSS calculation sheets have been provided. The sheet with a Rain Garden and the sheet with the Rain Garden and the Sediment Forebay both show proper pre-treatment prior to entering the infiltration basin. The sheet with the Rain Garden into the Infiltration basin shows there is enough TSS removal within the whole system. See Appendix F for detailed calculations. A 2.41 Rawls Rate was used for exfiltration for the proposed soil. Water will drain through a Loamy Sand before discharging to soils with faster recharge rates (Fine Loamy Sands). This was confirmed by the on-site soil testing performed by Dillis & Roy.

2.5 Standard 5 – Land Uses with Higher Pollutant Loads

The current and proposed uses of the subject site do not constitute land use with higher potential pollutant load, thus Standard 5 does not apply to the proposed project.

Standard 6 – Critical Areas

The proposed project does not involve a stormwater discharge within or near to any of the areas defined as "Critical Areas" at 314 CMR 9.02 and 310 CMR 10.04.

2.6 Standard 7 – Redevelopment

The project does not qualify for redevelopment provisions.

2.7 Standard 8 – Construction Period Pollution Prevention and Erosion and Sediment Control

The project is subject to the filing of an Environmental Protection Agency Notice of Intent (EPA NOI), the Stormwater Pollution Prevention Plan (SWPPP) will be prepared prior to construction. This document will be prepared to satisfy the requirements of the EPA NOI and the Standard 8 Construction Period Pollution prevention and Erosion and Sedimentation Control Plan.

2.8 Standard 9 – Operation and Maintenance Plan

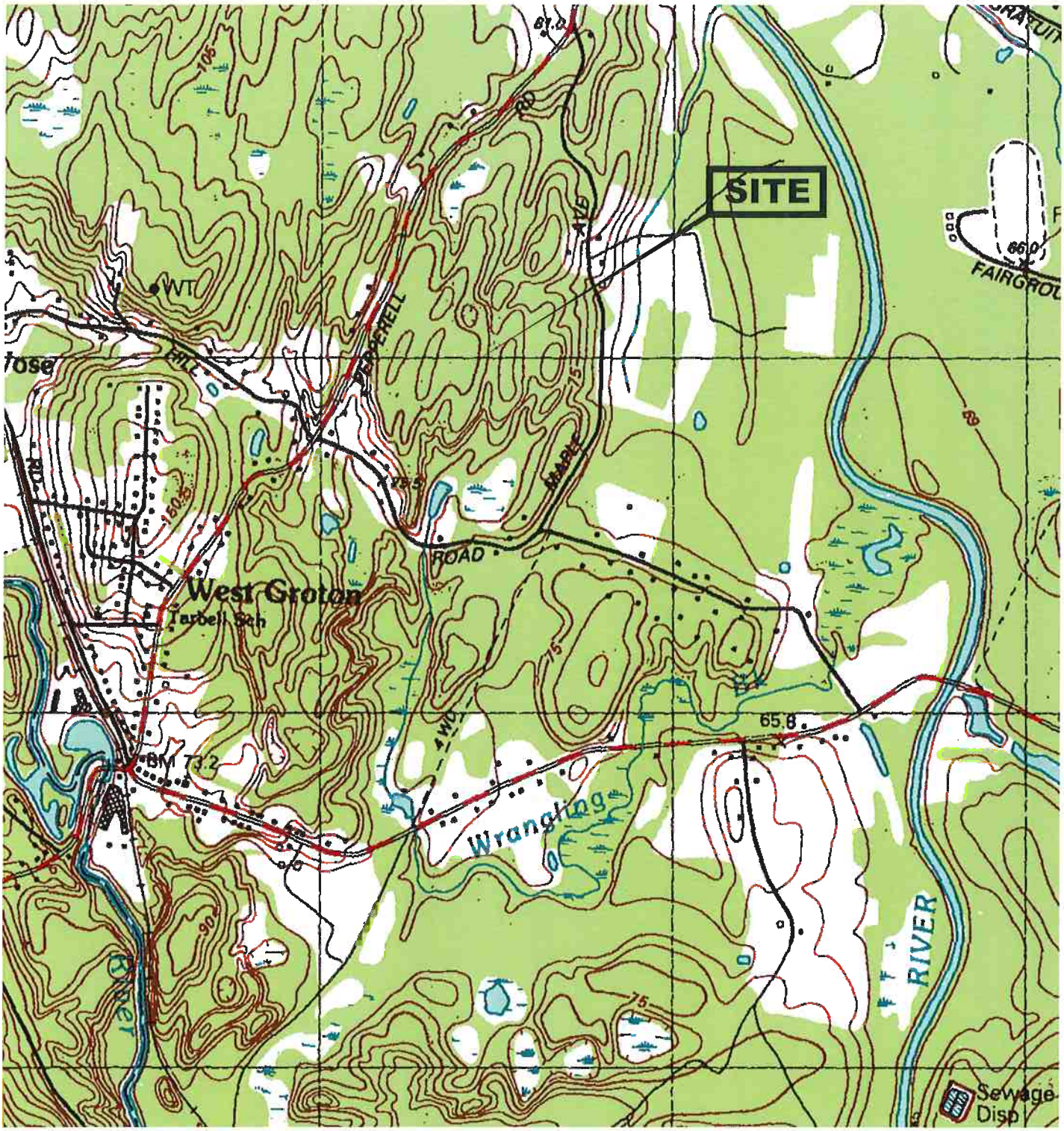
Refer to Appendix G for a complete copy of the Stormwater Operation and Maintenance Plan.

2.9 Standard 10 – Prohibition of Illicit Discharges

An illicit discharge statement will be prepared after approvals are received and prior to construction.

APPENDIX A

Locus Map



LOCUS MAP

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DATE: FEBRUARY 2021

Prepared For: Maple Realty Trust
P.O. BOX 381
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SCALE: 1" = 2500'

APPENDIX B

Checklist for Stormwater Report

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the Massachusetts Stormwater Handbook. The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.[1] This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8[2]
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

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[1] The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

[2] For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

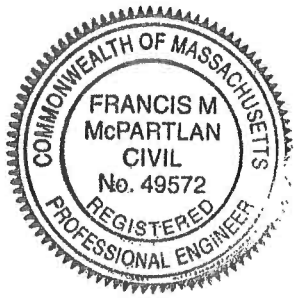
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



2/10/2021
Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

☒ New development

☐ Redevelopment

☐ Mix of New Development and Redevelopment

Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- ☒ No disturbance to any Wetland Resource Areas
- ☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- ☐ Reduced Impervious Area (Redevelopment Only)
- ☒ Minimizing disturbance to existing trees and shrubs
- ☐ LID Site Design Credit Requested:
  - ☐ Credit 1
  - ☐ Credit 2
  - ☐ Credit 3
- ☒ Use of "country drainage" versus curb and gutter conveyance and pipe
- ☒ Bioretention Cells (includes Rain Gardens)
- ☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- ☐ Treebox Filter
- ☐ Water Quality Swale
- ☐ Grass Channel
- ☐ Green Roof
- ☒ Other (describe): Inifltration Basin, Subsurface Infiltration Chambers

Standard 1: No New Untreated Discharges

- ☒ No new untreated discharges
- ☐ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- ☐ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.

☐ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.

☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

☒ Soil Analysis provided.

☒ Required Recharge Volume calculation provided.

☐ Required Recharge volume reduced through use of the LID site Design Credits.

☒ Sizing the infiltration, BMPs is based on the following method: Check the method used.

☒ Static ☐ Simple Dynamic ☐ Dynamic Field[1]

☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.

☒ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.

☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:

- ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
- ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
- ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
- ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.

☒ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.

☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

[1] 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.

Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

☒ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.

☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
- Provisions for storing materials and waste products inside or under cover;
- Vehicle washing controls;
- Requirements for routine inspections and maintenance of stormwater BMPs;
- Spill prevention and response plans;
- Provisions for maintenance of lawns, gardens, and other landscaped areas;
- Requirements for storage and use of fertilizers, herbicides, and pesticides;
- Pet waste management provisions;
- Provisions for operation and management of septic systems;
- Provisions for solid waste management;
- Snow disposal and plowing plans relative to Wetland Resource Areas;
- Winter Road Salt and/or Sand Use and Storage restrictions;
- Street sweeping schedules;
- Provisions for prevention of illicit discharges to the stormwater management system;
- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.

☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.

☒ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:

- ☐ is within the Zone II or Interim Wellhead Protection Area
- ☐ is near or to other critical areas
- ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
- ☐ involves runoff from land uses with higher potential pollutant loads.

☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.

☒ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

☒ The BMP is sized (and calculations provided) based on:

- ☒ The ½" or 1" Water Quality Volume or
- ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.

☐ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.

☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.

☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted ***prior to*** the discharge of stormwater to the post-construction stormwater BMPs.

☐ The NPDES Multi-Sector General Permit does ***not*** cover the land use.

☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.

☐ All exposure has been eliminated.

☐ All exposure has ***not*** been eliminated and all BMPs selected are on MassDEP LUHPPL list.

☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.

☐ Critical areas and BMPs are identified in the Stormwater Report.

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

☐ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:

- ☐ Limited Project
- ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
- ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
- ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
- ☐ Bike Path and/or Foot Path
- ☐ Redevelopment Project
- ☐ Redevelopment portion of mix of new and redevelopment.

☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.

☐ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
- Construction Period Operation and Maintenance Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- Operation and Maintenance of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

☐ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has ***not*** been included in the Stormwater Report but will be submitted ***before*** land disturbance begins.

☐ The project is ***not*** covered by a NPDES Construction General Permit.

☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.

☒ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:

- ☒ Name of the stormwater management system owners;
- ☒ Party responsible for operation and maintenance;
- ☒ Schedule for implementation of routine and non-routine maintenance tasks;
- ☒ Plan showing the location of all stormwater BMPs maintenance access areas;
- ☒ Description and delineation of public safety features;
- ☐ Estimated operation and maintenance budget; and
- ☐ Operation and Maintenance Log Form.

☐ The responsible party is ***not*** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:

- ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
- ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

☐ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;

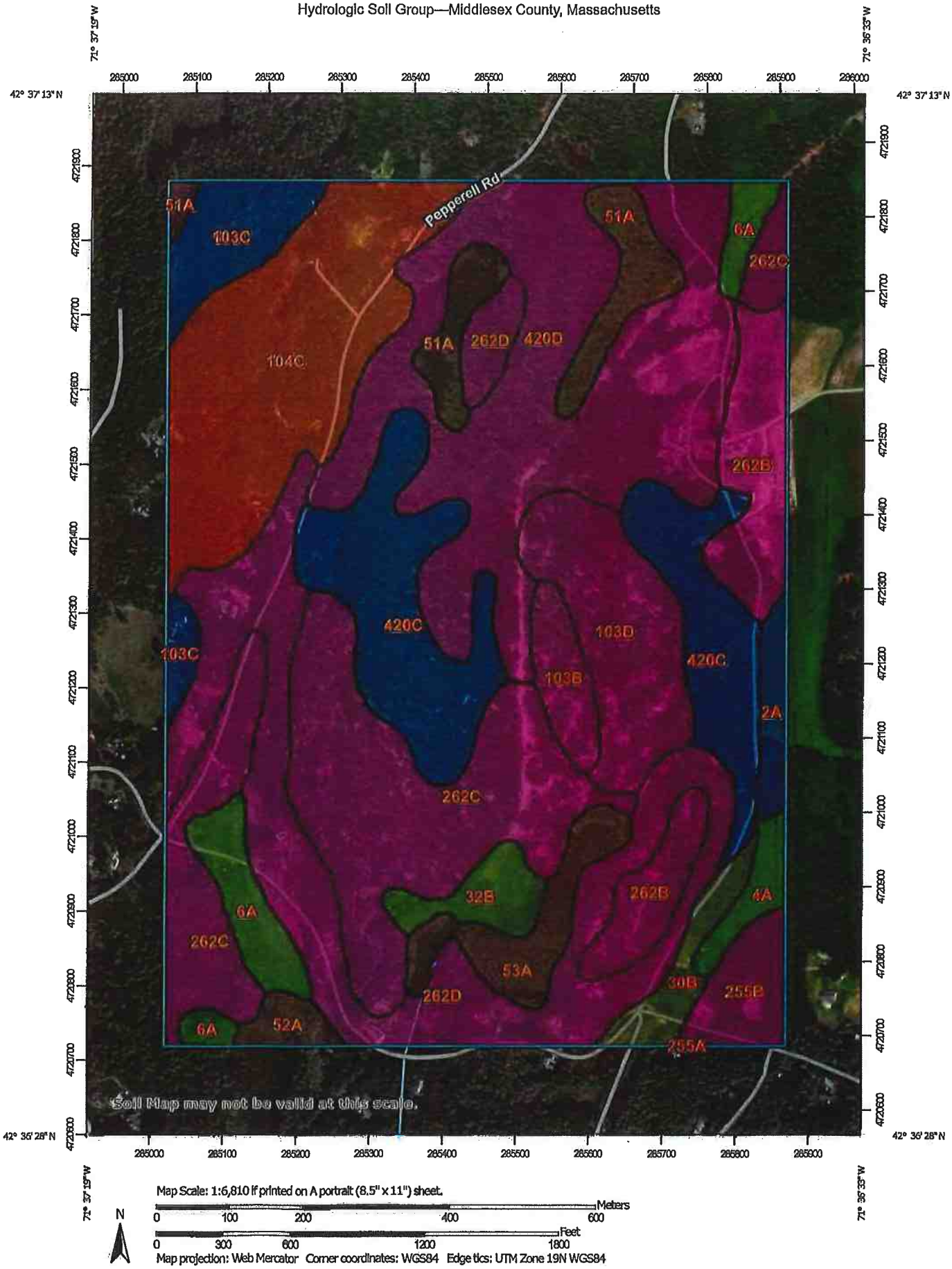
☐ An Illicit Discharge Compliance Statement is attached;

☒ NO Illicit Discharge Compliance Statement is attached but will be submitted ***prior to*** the discharge of any stormwater to post-construction BMPs.

APPENDIX C

NRCS Soils Data

Hydrologic Soil Group—Middlesex County, Massachusetts



Map Scale: 1:6,810 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

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

Soil Rating Lines

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

Soil Rating Points

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

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

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: Middlesex County, Massachusetts
Survey Area Data: Version 19, Sep 12, 2019

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

Date(s) aerial images were photographed: May 22, 2015—Sep 29, 2019

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
2A	Pootatuck fine sandy loam, 0 to 3 percent slopes	B	2.6	1.0%
4A	Rippowam fine sandy loam, 0 to 3 percent slopes	A/D	2.4	1.0%
6A	Scarboro mucky fine sandy loam, 0 to 3 percent slopes	A/D	7.1	2.9%
30B	Raynham silt loam, 0 to 5 percent slopes	C/D	3.7	1.5%
32B	Wareham loamy fine sand, 0 to 5 percent slopes	A/D	3.6	1.5%
51A	Swansea muck, 0 to 1 percent slopes	B/D	8.3	3.4%
52A	Freetown muck, 0 to 1 percent slopes	B/D	1.9	0.8%
53A	Freetown muck, ponded, 0 to 1 percent slopes	B/D	6.1	2.5%
103B	Charlton-Hollis-Rock outcrop complex, 3 to 8 percent slopes	A	3.8	1.5%
103C	Charlton-Hollis-Rock outcrop complex, 8 to 15 percent slopes	B	7.4	3.0%
103D	Charlton-Hollis-Rock outcrop complex, 15 to 25 percent slopes	A	13.1	5.3%
104C	Hollis-Rock outcrop-Charlton complex, 0 to 15 percent slopes	D	27.8	11.3%
255A	Windsor loamy sand, 0 to 3 percent slopes	A	0.0	0.0%
255B	Windsor loamy sand, 3 to 8 percent slopes	A	4.5	1.8%
262B	Quonset sandy loam, 3 to 8 percent slopes	A	12.8	5.2%
262C	Quonset sandy loam, 8 to 15 percent slopes	A	37.0	15.1%
262D	Quonset sandy loam, 15 to 25 percent slopes	A	32.9	13.4%
420C	Canton fine sandy loam, 8 to 15 percent slopes	B	26.1	10.7%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
420D	Canton fine sandy loam, 15 to 25 percent slopes	A	43.9	17.9%
Totals for Area of Interest			**245.0**	**100.0%**

Description

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

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

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

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

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

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

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

Rating Options

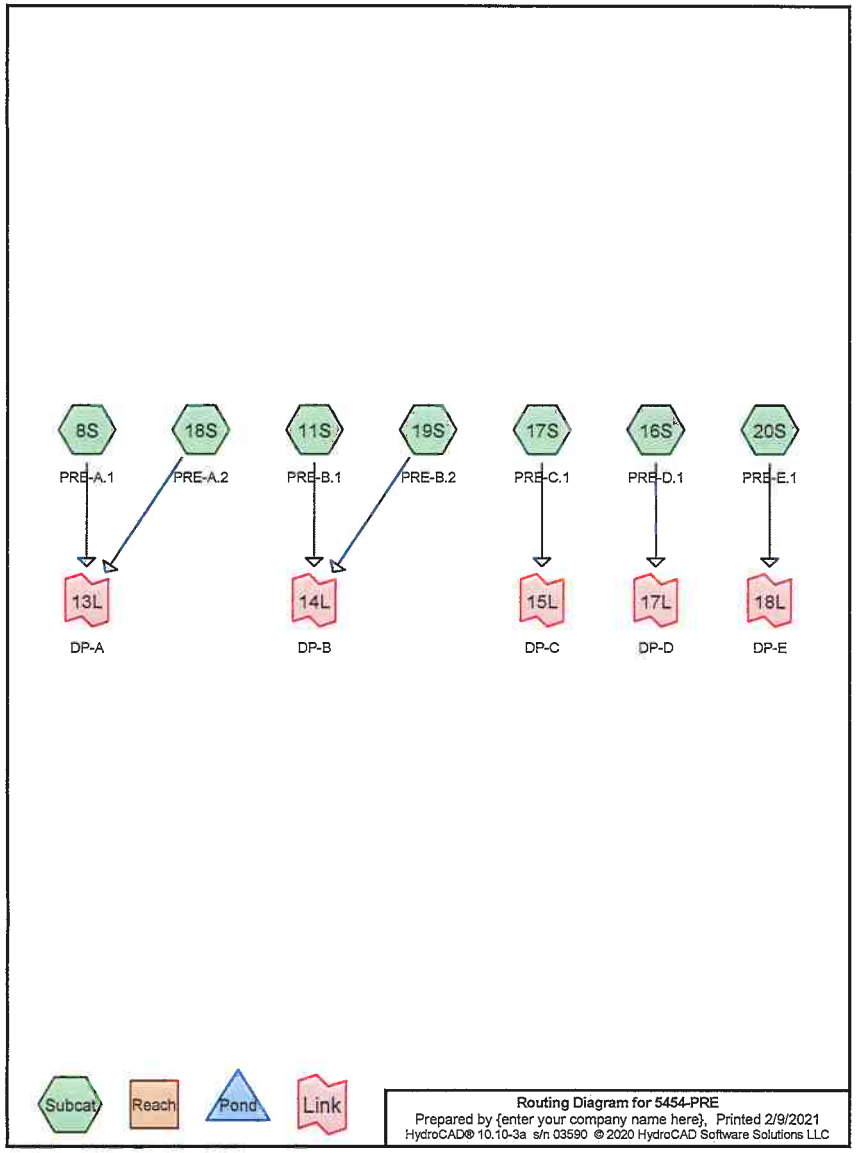
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

APPENDIX D

Existing Conditions – Hydrologic Calculations



Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type III 24-hr		Default	24.00	1	2.95	2
2	10-yr	Type III 24-hr		Default	24.00	1	4.45	2
3	25-yr	Type III 24-hr		Default	24.00	1	5.20	2
4	100-yr	Type III 24-hr		Default	24.00	1	7.00	2

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 8S: PRE-A.1 Runoff Area=721,010 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=1,027' Tc=22.6 min CN=42 Runoff=0.01 cfs 0.003 af

Subcatchment 11S: PRE-B.1 Runoff Area=366,935 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=829' Tc=20.4 min CN=35 Runoff=0.00 cfs 0.000 af

Subcatchment 16S: PRE-D.1 Runoff Area=30,308 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=161' Tc=6.7 min CN=40 Runoff=0.00 cfs 0.000 af

Subcatchment 17S: PRE-C.1 Runoff Area=99,891 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=614' Tc=18.2 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 18S: PRE-A.2 Runoff Area=131,838 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=1,027' Tc=22.6 min CN=35 Runoff=0.00 cfs 0.000 af

Subcatchment 19S: PRE-B.2 Runoff Area=163,454 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=829' Tc=20.4 min CN=31 Runoff=0.00 cfs 0.000 af

Subcatchment 20S: PRE-E.1 Runoff Area=292,516 sf 0.00% Impervious Runoff Depth=0.00"
Tc=0.0 min CN=35 Runoff=0.00 cfs 0.000 af

Link 13L: DP-A Inflow=0.01 cfs 0.003 af
Primary=0.01 cfs 0.003 af

Link 14L: DP-B Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link 15L: DP-C Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link 17L: DP-D Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link 18L: DP-E Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 41.459 ac Runoff Volume = 0.003 af Average Runoff Depth = 0.00"
100.00% Pervious = 41.459 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 8S: PRE-A.1

Runoff = 0.01 cfs @ 23.99 hrs, Volume= 0.003 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
392,299	30	Woods, Good, HSG A
251,862	55	Woods, Good, HSG B
46,177	49	50-75% Grass cover, Fair, HSG A
30,672	69	50-75% Grass cover, Fair, HSG B
721,010	42	Weighted Average
721,010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
13.0	977	0.0630	1.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
22.6	1,027	Total			

Summary for Subcatchment 11S: PRE-B.1

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
327,002	30	Woods, Good, HSG A
38,209	77	Woods, Good, HSG D
1,724	49	50-75% Grass cover, Fair, HSG A
366,935	35	Weighted Average
366,935		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
10.8	779	0.0580	1.20		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.4	829	Total			

Summary for Subcatchment 16S: PRE-D.1

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
18,011	30	Woods, Good, HSG A
12,297	55	Woods, Good, HSG B
30,308	40	Weighted Average
30,308		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	50	0.1400	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
0.9	111	0.1530	1.96		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.7	161	Total			

Summary for Subcatchment 17S: PRE-C.1

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
99,891	30	Woods, Good, HSG A
99,891		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	50	0.0340	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
8.0	564	0.0550	1.17		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.2	614	Total			

Summary for Subcatchment 18S: PRE-A.2

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
95,446	30	Woods, Good, HSG A
36,392	49	50-75% Grass cover, Fair, HSG A
131,838	35	Weighted Average
131,838		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
13.0	977	0.0630	1.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
22.6	1,027	Total			

Summary for Subcatchment 19S: PRE-B.2

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
158,998	30	Woods, Good, HSG A
4,456	77	Woods, Good, HSG D
163,454	31	Weighted Average
163,454		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
10.8	779	0.0580	1.20		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.4	829	Total			

Summary for Subcatchment 20S: PRE-E.1

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
6,445	69	50-75% Grass cover, Fair, HSG B
34,388	55	Woods, Good, HSG B
20,440	49	50-75% Grass cover, Fair, HSG A
231,243	30	Woods, Good, HSG A
292,516	35	Weighted Average
292,516		100.00% Pervious Area

Summary for Link 13L: DP-A

Inflow Area = 19.579 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.01 cfs @ 23.99 hrs, Volume= 0.003 af
Primary = 0.01 cfs @ 23.99 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 14L: DP-B

Inflow Area = 12.176 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 15L: DP-C

Inflow Area = 2.293 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 17L: DP-D

Inflow Area = 0.696 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 18L: DP-E

Inflow Area = 6.715 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 8S: PRE-A.1 Runoff Area=721,010 sf 0.00% Impervious Runoff Depth=0.18"
Flow Length=1,027' Tc=22.6 min CN=42 Runoff=0.47 cfs 0.254 af

Subcatchment 11S: PRE-B.1 Runoff Area=366,935 sf 0.00% Impervious Runoff Depth=0.03"
Flow Length=829' Tc=20.4 min CN=35 Runoff=0.03 cfs 0.020 af

Subcatchment 16S: PRE-D.1 Runoff Area=30,308 sf 0.00% Impervious Runoff Depth=0.13"
Flow Length=161' Tc=6.7 min CN=40 Runoff=0.01 cfs 0.007 af

Subcatchment 17S: PRE-C.1 Runoff Area=99,891 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=614' Tc=18.2 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 18S: PRE-A.2 Runoff Area=131,838 sf 0.00% Impervious Runoff Depth=0.03"
Flow Length=1,027' Tc=22.6 min CN=35 Runoff=0.01 cfs 0.007 af

Subcatchment 19S: PRE-B.2 Runoff Area=163,454 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=829' Tc=20.4 min CN=31 Runoff=0.00 cfs 0.000 af

Subcatchment 20S: PRE-E.1 Runoff Area=292,516 sf 0.00% Impervious Runoff Depth=0.03"
Tc=0.0 min CN=35 Runoff=0.02 cfs 0.016 af

Link 13L: DP-A Inflow=0.47 cfs 0.261 af
Primary=0.47 cfs 0.261 af

Link 14L: DP-B Inflow=0.03 cfs 0.020 af
Primary=0.03 cfs 0.020 af

Link 15L: DP-C Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link 17L: DP-D Inflow=0.01 cfs 0.007 af
Primary=0.01 cfs 0.007 af

Link 18L: DP-E Inflow=0.02 cfs 0.016 af
Primary=0.02 cfs 0.016 af

Total Runoff Area = 41.459 ac Runoff Volume = 0.303 af Average Runoff Depth = 0.09"
100.00% Pervious = 41.459 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 8S: PRE-A.1

Runoff = 0.47 cfs @ 12.98 hrs, Volume= 0.254 af, Depth= 0.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
392,299	30	Woods, Good, HSG A
251,862	55	Woods, Good, HSG B
46,177	49	50-75% Grass cover, Fair, HSG A
30,672	69	50-75% Grass cover, Fair, HSG B
721,010	42	Weighted Average
721,010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
13.0	977	0.0630	1.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
22.6	1,027	Total			

Summary for Subcatchment 11S: PRE-B.1

Runoff = 0.03 cfs @ 17.50 hrs, Volume= 0.020 af, Depth= 0.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
327,002	30	Woods, Good, HSG A
38,209	77	Woods, Good, HSG D
1,724	49	50-75% Grass cover, Fair, HSG A
366,935	35	Weighted Average
366,935		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
10.8	779	0.0580	1.20		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.4	829	Total			

Summary for Subcatchment 16S: PRE-D.1

Runoff = 0.01 cfs @ 14.54 hrs, Volume= 0.007 af, Depth= 0.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
18,011	30	Woods, Good, HSG A
12,297	55	Woods, Good, HSG B
30,308	40	Weighted Average
30,308		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	50	0.1400	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
0.9	111	0.1530	1.96		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.7	161	Total			

Summary for Subcatchment 17S: PRE-C.1

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
99,891	30	Woods, Good, HSG A
99,891		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	50	0.0340	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
8.0	564	0.0550	1.17		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.2	614	Total			

Summary for Subcatchment 18S: PRE-A.2

Runoff = 0.01 cfs @ 17.53 hrs, Volume= 0.007 af, Depth= 0.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
95,446	30	Woods, Good, HSG A
36,392	49	50-75% Grass cover, Fair, HSG A
131,838	35	Weighted Average
131,838		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
13.0	977	0.0630	1.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
22.6	1,027	Total			

Summary for Subcatchment 19S: PRE-B.2

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
158,998	30	Woods, Good, HSG A
4,456	77	Woods, Good, HSG D
163,454	31	Weighted Average
163,454		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
10.8	779	0.0580	1.20		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.4	829	Total			

Summary for Subcatchment 20S: PRE-E.1

Runoff = 0.02 cfs @ 17.18 hrs, Volume= 0.016 af, Depth= 0.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
6,445	69	50-75% Grass cover, Fair, HSG B
34,388	55	Woods, Good, HSG B
20,440	49	50-75% Grass cover, Fair, HSG A
231,243	30	Woods, Good, HSG A
292,516	35	Weighted Average
292,516		100.00% Pervious Area

Summary for Link 13L: DP-A

Inflow Area = 19.579 ac, 0.00% Impervious, Inflow Depth = 0.16" for 10-yr event
Inflow = 0.47 cfs @ 12.98 hrs, Volume= 0.261 af
Primary = 0.47 cfs @ 12.98 hrs, Volume= 0.261 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 14L: DP-B

Inflow Area = 12.176 ac, 0.00% Impervious, Inflow Depth = 0.02" for 10-yr event
Inflow = 0.03 cfs @ 17.50 hrs, Volume= 0.020 af
Primary = 0.03 cfs @ 17.50 hrs, Volume= 0.020 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 15L: DP-C

Inflow Area = 2.293 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 17L: DP-D

Inflow Area = 0.696 ac, 0.00% Impervious, Inflow Depth = 0.13" for 10-yr event
Inflow = 0.01 cfs @ 14.54 hrs, Volume= 0.007 af
Primary = 0.01 cfs @ 14.54 hrs, Volume= 0.007 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 18L: DP-E

Inflow Area = 6.715 ac, 0.00% Impervious, Inflow Depth = 0.03" for 10-yr event
Inflow = 0.02 cfs @ 17.18 hrs, Volume= 0.016 af
Primary = 0.02 cfs @ 17.18 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 8S: PRE-A.1 Runoff Area=721,010 sf 0.00% Impervious Runoff Depth=0.37"
Flow Length=1,027' Tc=22.6 min CN=42 Runoff=1.84 cfs 0.505 af

Subcatchment 11S: PRE-B.1 Runoff Area=366,935 sf 0.00% Impervious Runoff Depth=0.11"
Flow Length=829' Tc=20.4 min CN=35 Runoff=0.12 cfs 0.077 af

Subcatchment 16S: PRE-D.1 Runoff Area=30,308 sf 0.00% Impervious Runoff Depth=0.28"
Flow Length=161' Tc=6.7 min CN=40 Runoff=0.06 cfs 0.016 af

Subcatchment 17S: PRE-C.1 Runoff Area=99,891 sf 0.00% Impervious Runoff Depth=0.01"
Flow Length=614' Tc=18.2 min CN=30 Runoff=0.00 cfs 0.002 af

Subcatchment 18S: PRE-A.2 Runoff Area=131,838 sf 0.00% Impervious Runoff Depth=0.11"
Flow Length=1,027' Tc=22.6 min CN=35 Runoff=0.04 cfs 0.028 af

Subcatchment 19S: PRE-B.2 Runoff Area=163,454 sf 0.00% Impervious Runoff Depth=0.02"
Flow Length=829' Tc=20.4 min CN=31 Runoff=0.01 cfs 0.008 af

Subcatchment 20S: PRE-E.1 Runoff Area=292,516 sf 0.00% Impervious Runoff Depth=0.11"
Tc=0.0 min CN=35 Runoff=0.10 cfs 0.062 af

Link 13L: DP-A Inflow=1.84 cfs 0.532 af
Primary=1.84 cfs 0.532 af

Link 14L: DP-B Inflow=0.12 cfs 0.085 af
Primary=0.12 cfs 0.085 af

Link 15L: DP-C Inflow=0.00 cfs 0.002 af
Primary=0.00 cfs 0.002 af

Link 17L: DP-D Inflow=0.06 cfs 0.016 af
Primary=0.06 cfs 0.016 af

Link 18L: DP-E Inflow=0.10 cfs 0.062 af
Primary=0.10 cfs 0.062 af

Total Runoff Area = 41.459 ac Runoff Volume = 0.697 af Average Runoff Depth = 0.20"
100.00% Pervious = 41.459 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 8S: PRE-A.1

Runoff = 1.84 cfs @ 12.60 hrs, Volume= 0.505 af, Depth= 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
392,299	30	Woods, Good, HSG A
251,862	55	Woods, Good, HSG B
46,177	49	50-75% Grass cover, Fair, HSG A
30,672	69	50-75% Grass cover, Fair, HSG B
721,010	42	Weighted Average
721,010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
13.0	977	0.0630	1.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
22.6	1,027	Total			

Summary for Subcatchment 11S: PRE-B.1

Runoff = 0.12 cfs @ 15.10 hrs, Volume= 0.077 af, Depth= 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
327,002	30	Woods, Good, HSG A
38,209	77	Woods, Good, HSG D
1,724	49	50-75% Grass cover, Fair, HSG A
366,935	35	Weighted Average
366,935		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
10.8	779	0.0580	1.20		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.4	829	Total			

Summary for Subcatchment 16S: PRE-D.1

Runoff = 0.06 cfs @ 12.42 hrs, Volume= 0.016 af, Depth= 0.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
18,011	30	Woods, Good, HSG A
12,297	55	Woods, Good, HSG B
30,308	40	Weighted Average
30,308		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	50	0.1400	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
0.9	111	0.1530	1.96		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.7	161	Total			

Summary for Subcatchment 17S: PRE-C.1

Runoff = 0.00 cfs @ 22.84 hrs, Volume= 0.002 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
99,891	30	Woods, Good, HSG A
99,891		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	50	0.0340	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
8.0	564	0.0550	1.17		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.2	614	Total			

Summary for Subcatchment 18S: PRE-A.2

Runoff = 0.04 cfs @ 15.14 hrs, Volume= 0.028 af, Depth= 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
95,446	30	Woods, Good, HSG A
36,392	49	50-75% Grass cover, Fair, HSG A
131,838	35	Weighted Average
131,838		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
13.0	977	0.0630	1.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
22.6	1,027	Total			

Summary for Subcatchment 19S: PRE-B.2

Runoff = 0.01 cfs @ 21.50 hrs, Volume= 0.008 af, Depth= 0.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
158,998	30	Woods, Good, HSG A
4,456	77	Woods, Good, HSG D
163,454	31	Weighted Average
163,454		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
10.8	779	0.0580	1.20		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.4	829	Total			

Summary for Subcatchment 20S: PRE-E.1

Runoff = 0.10 cfs @ 14.78 hrs, Volume= 0.062 af, Depth= 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
6,445	69	50-75% Grass cover, Fair, HSG B
34,388	55	Woods, Good, HSG B
20,440	49	50-75% Grass cover, Fair, HSG A
231,243	30	Woods, Good, HSG A
292,516	35	Weighted Average
292,516		100.00% Pervious Area

Summary for Link 13L: DP-A

Inflow Area = 19.579 ac, 0.00% Impervious, Inflow Depth = 0.33" for 25-yr event
Inflow = 1.84 cfs @ 12.60 hrs, Volume= 0.532 af
Primary = 1.84 cfs @ 12.60 hrs, Volume= 0.532 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 14L: DP-B

Inflow Area = 12.176 ac, 0.00% Impervious, Inflow Depth = 0.08" for 25-yr event
Inflow = 0.12 cfs @ 15.10 hrs, Volume= 0.085 af
Primary = 0.12 cfs @ 15.10 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 15L: DP-C

Inflow Area = 2.293 ac, 0.00% Impervious, Inflow Depth = 0.01" for 25-yr event
Inflow = 0.00 cfs @ 22.84 hrs, Volume= 0.002 af
Primary = 0.00 cfs @ 22.84 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 17L: DP-D

Inflow Area = 0.696 ac, 0.00% Impervious, Inflow Depth = 0.28" for 25-yr event
Inflow = 0.06 cfs @ 12.42 hrs, Volume= 0.016 af
Primary = 0.06 cfs @ 12.42 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 18L: DP-E

Inflow Area = 6.715 ac, 0.00% Impervious, Inflow Depth = 0.11" for 25-yr event
Inflow = 0.10 cfs @ 14.78 hrs, Volume= 0.062 af
Primary = 0.10 cfs @ 14.78 hrs, Volume= 0.062 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 8S: PRE-A.1 Runoff Area=721,010 sf 0.00% Impervious Runoff Depth=1.00"
Flow Length=1,027' Tc=22.6 min CN=42 Runoff=8.34 cfs 1.373 af

Subcatchment 11S: PRE-B.1 Runoff Area=366,935 sf 0.00% Impervious Runoff Depth=0.49"
Flow Length=829' Tc=20.4 min CN=35 Runoff=1.31 cfs 0.347 af

Subcatchment 16S: PRE-D.1 Runoff Area=30,308 sf 0.00% Impervious Runoff Depth=0.84"
Flow Length=161' Tc=6.7 min CN=40 Runoff=0.36 cfs 0.049 af

Subcatchment 17S: PRE-C.1 Runoff Area=99,891 sf 0.00% Impervious Runoff Depth=0.21"
Flow Length=614' Tc=18.2 min CN=30 Runoff=0.07 cfs 0.041 af

Subcatchment 18S: PRE-A.2 Runoff Area=131,838 sf 0.00% Impervious Runoff Depth=0.49"
Flow Length=1,027' Tc=22.6 min CN=35 Runoff=0.45 cfs 0.125 af

Subcatchment 19S: PRE-B.2 Runoff Area=163,454 sf 0.00% Impervious Runoff Depth=0.26"
Flow Length=829' Tc=20.4 min CN=31 Runoff=0.14 cfs 0.082 af

Subcatchment 20S: PRE-E.1 Runoff Area=292,516 sf 0.00% Impervious Runoff Depth=0.49"
Tc=0.0 min CN=35 Runoff=1.30 cfs 0.276 af

Link 13L: DP-A Inflow=8.70 cfs 1.497 af
Primary=8.70 cfs 1.497 af

Link 14L: DP-B Inflow=1.40 cfs 0.429 af
Primary=1.40 cfs 0.429 af

Link 15L: DP-C Inflow=0.07 cfs 0.041 af
Primary=0.07 cfs 0.041 af

Link 17L: DP-D Inflow=0.36 cfs 0.049 af
Primary=0.36 cfs 0.049 af

Link 18L: DP-E Inflow=1.30 cfs 0.276 af
Primary=1.30 cfs 0.276 af

Total Runoff Area = 41.459 ac Runoff Volume = 2.292 af Average Runoff Depth = 0.66"
100.00% Pervious = 41.459 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 8S: PRE-A.1

Runoff = 8.34 cfs @ 12.44 hrs, Volume= 1.373 af, Depth= 1.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
392,299	30	Woods, Good, HSG A
251,862	55	Woods, Good, HSG B
46,177	49	50-75% Grass cover, Fair, HSG A
30,672	69	50-75% Grass cover, Fair, HSG B
721,010	42	Weighted Average
721,010		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
13.0	977	0.0630	1.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
22.6	1,027	Total			

Summary for Subcatchment 11S: PRE-B.1

Runoff = 1.31 cfs @ 12.57 hrs, Volume= 0.347 af, Depth= 0.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
327,002	30	Woods, Good, HSG A
38,209	77	Woods, Good, HSG D
1,724	49	50-75% Grass cover, Fair, HSG A
366,935	35	Weighted Average
366,935		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
10.8	779	0.0580	1.20		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.4	829	Total			

Summary for Subcatchment 16S: PRE-D.1

Runoff = 0.36 cfs @ 12.16 hrs, Volume= 0.049 af, Depth= 0.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
18,011	30	Woods, Good, HSG A
12,297	55	Woods, Good, HSG B
30,308	40	Weighted Average
30,308		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	50	0.1400	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
0.9	111	0.1530	1.96		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
6.7	161	Total			

Summary for Subcatchment 17S: PRE-C.1

Runoff = 0.07 cfs @ 13.96 hrs, Volume= 0.041 af, Depth= 0.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
99,891	30	Woods, Good, HSG A
99,891		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2	50	0.0340	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
8.0	564	0.0550	1.17		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
18.2	614	Total			

Summary for Subcatchment 18S: PRE-A.2

Runoff = 0.45 cfs @ 12.60 hrs, Volume= 0.125 af, Depth= 0.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
95,446	30	Woods, Good, HSG A
36,392	49	50-75% Grass cover, Fair, HSG A
131,838	35	Weighted Average
131,838		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
13.0	977	0.0630	1.25		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
22.6	1,027	Total			

Summary for Subcatchment 19S: PRE-B.2

Runoff = 0.14 cfs @ 13.79 hrs, Volume= 0.082 af, Depth= 0.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
158,998	30	Woods, Good, HSG A
4,456	77	Woods, Good, HSG D
163,454	31	Weighted Average
163,454		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.6	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
10.8	779	0.0580	1.20		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
20.4	829	Total			

Summary for Subcatchment 20S: PRE-E.1

Runoff = 1.30 cfs @ 12.26 hrs, Volume= 0.276 af, Depth= 0.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
6,445	69	50-75% Grass cover, Fair, HSG B
34,388	55	Woods, Good, HSG B
20,440	49	50-75% Grass cover, Fair, HSG A
231,243	30	Woods, Good, HSG A
292,516	35	Weighted Average
292,516		100.00% Pervious Area

Summary for Link 13L: DP-A

Inflow Area = 19.579 ac, 0.00% Impervious, Inflow Depth = 0.92" for 100-yr event
Inflow = 8.70 cfs @ 12.45 hrs, Volume= 1.497 af
Primary = 8.70 cfs @ 12.45 hrs, Volume= 1.497 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 14L: DP-B

Inflow Area = 12.176 ac, 0.00% Impervious, Inflow Depth = 0.42" for 100-yr event
Inflow = 1.40 cfs @ 12.59 hrs, Volume= 0.429 af
Primary = 1.40 cfs @ 12.59 hrs, Volume= 0.429 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 15L: DP-C

Inflow Area = 2.293 ac, 0.00% Impervious, Inflow Depth = 0.21" for 100-yr event
Inflow = 0.07 cfs @ 13.96 hrs, Volume= 0.041 af
Primary = 0.07 cfs @ 13.96 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 17L: DP-D

Inflow Area = 0.696 ac, 0.00% Impervious, Inflow Depth = 0.84" for 100-yr event
Inflow = 0.36 cfs @ 12.16 hrs, Volume= 0.049 af
Primary = 0.36 cfs @ 12.16 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 18L: DP-E

Inflow Area = 6.715 ac, 0.00% Impervious, Inflow Depth = 0.49" for 100-yr event
Inflow = 1.30 cfs @ 12.26 hrs, Volume= 0.276 af
Primary = 1.30 cfs @ 12.26 hrs, Volume= 0.276 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

POST-DRAINAGE AREAS

Design Point B

Post	Surface Type	HSG	SF
1	Pavement	A	1818
	Grass	A	67412
	Grass	D	657
	Woods	A	97838
	Woods	D	15432
			183157
2	Pavement	A	5948
	Grass	A	81446
	Woods	A	150988
	Woods	D	26576
			264958

POST-DRAINAGE AREAS

Design Point C

Post	Surface Type	HSG	SF
1	Pavement	A	1818
	Grass	A	67412
	Woods	A	657
			69887
2	Woods	A	53944
			53944

POST-DRAINAGE AREAS

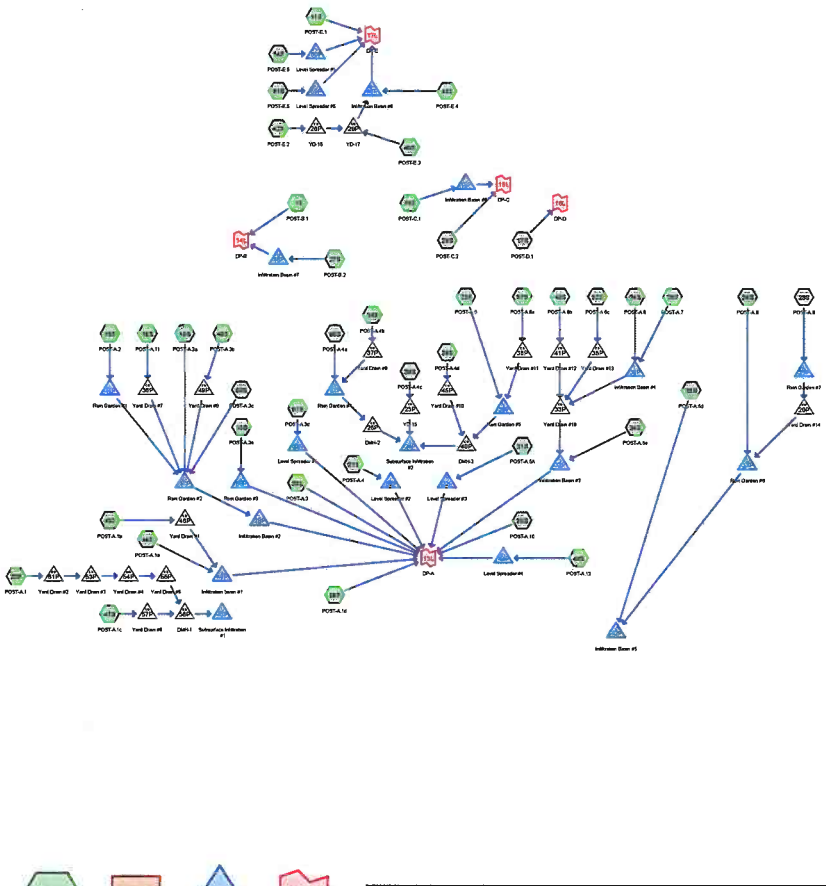
Design Point D

Post	Surface Type	HSG	SF
1	Woods	A	1818
	Woods	D	67412
			69230

POST-DRAINAGE AREAS

Design Point E

Post	Surface Type	HSG	SF
1	Pavement	A	4774
	Grass	A	56936
	Grass	B	374
	Woods	A	71569
	Woods	B	10523
			144176
2	Pavement	A	1898
	Grass	A	18874
	Woods	A	698
			21470
3	Pavement	A	1862
	Grass	A	2717
			4579
4	Pavement	A	4738
	Grass	A	29679
	Grass	B	3702
	Woods	A	37211
	Woods	B	27214
			102544
5	Pavement	A	4074
	Grass	A	12550
			16624



Subcat Reach Pond Link

Routing Diagram for 5454-POST
Prepared by {enter your company name here}, Printed 2/9/2021
HydroCAD® 10.10-3a s/n 03590 © 2020 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type III 24-hr		Default	24.00	1	2.95	2
2	10-yr	Type III 24-hr		Default	24.00	1	4.45	2
3	25-yr	Type III 24-hr		Default	24.00	1	5.20	2
4	100-yr	Type III 24-hr		Default	24.00	1	7.00	2

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 11S: POST-B.1 Runoff Area=183,157 sf 0.99% Impervious Runoff Depth=0.00"
Flow Length=532' Tc=9.8 min CN=38 Runoff=0.00 cfs 0.000 af

Subcatchment 17S: POST-D.1 Runoff Area=24,140 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=269' Tc=6.0 min CN=37 Runoff=0.00 cfs 0.000 af

Subcatchment 18S: POST-C.1 Runoff Area=135,470 sf 0.20% Impervious Runoff Depth=0.00"
Flow Length=269' Tc=6.0 min CN=32 Runoff=0.00 cfs 0.000 af

Subcatchment 19S: POST-A.2 Runoff Area=17,885 sf 8.12% Impervious Runoff Depth=0.01"
Tc=6.0 min CN=44 Runoff=0.00 cfs 0.000 af

Subcatchment 20S: POST-A.3 Runoff Area=94,941 sf 0.00% Impervious Runoff Depth=0.03"
Tc=6.0 min CN=46 Runoff=0.01 cfs 0.005 af

Subcatchment 21S: POST-A.4 Runoff Area=32,517 sf 0.00% Impervious Runoff Depth=0.29"
Tc=6.0 min CN=59 Runoff=0.10 cfs 0.018 af

Subcatchment 22S: POST-A.1 Runoff Area=84,919 sf 1.71% Impervious Runoff Depth=0.00"
Flow Length=320' Tc=6.0 min CN=40 Runoff=0.00 cfs 0.000 af

Subcatchment 23S: POST-A.5 Runoff Area=12,931 sf 7.92% Impervious Runoff Depth=0.38"
Tc=6.0 min CN=62 Runoff=0.08 cfs 0.009 af

Subcatchment 24S: POST-A.6 Runoff Area=35,352 sf 4.16% Impervious Runoff Depth=0.00"
Tc=6.0 min CN=42 Runoff=0.00 cfs 0.000 af

Subcatchment 25S: POST-A.7 Runoff Area=26,420 sf 5.37% Impervious Runoff Depth=0.03"
Tc=6.0 min CN=46 Runoff=0.00 cfs 0.001 af

Subcatchment 26S: POST-A.8 Runoff Area=12,388 sf 14.26% Impervious Runoff Depth=0.52"
Tc=6.0 min CN=66 Runoff=0.13 cfs 0.012 af

Subcatchment 27S: POST-B.2 Runoff Area=264,958 sf 2.24% Impervious Runoff Depth=0.00"
Flow Length=532' Tc=9.8 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment 28S: POST-A.9 Runoff Area=57,178 sf 0.00% Impervious Runoff Depth=0.05"
Flow Length=262' Tc=6.2 min CN=48 Runoff=0.01 cfs 0.006 af

Subcatchment 29S: POST-C.2 Runoff Area=53,944 sf 0.00% Impervious Runoff Depth=0.00"
Tc=0.0 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 30S: POST-A.10 Runoff Area=17,994 sf 23.65% Impervious Runoff Depth=0.23"
Flow Length=290' Tc=6.5 min CN=57 Runoff=0.04 cfs 0.008 af

Subcatchment 31S: POST-A.5A Runoff Area=22,701 sf 0.00% Impervious Runoff Depth=0.23"
Tc=6.0 min CN=57 Runoff=0.05 cfs 0.010 af

Subcatchment 32S: POST-A.6c Runoff Area=5,196 sf 44.77% Impervious Runoff Depth=0.88"
Flow Length=730' Tc=12.4 min CN=74 Runoff=0.09 cfs 0.009 af

Subcatchment 33S: POST-A.6d Runoff Area=14,480 sf 29.89% Impervious Runoff Depth=0.48"
Flow Length=730' Tc=12.4 min CN=65 Runoff=0.11 cfs 0.013 af

Subcatchment 34S: POST-A.6e Runoff Area=18,570 sf 3.33% Impervious Runoff Depth=0.23"
Flow Length=730' Tc=12.4 min CN=57 Runoff=0.04 cfs 0.008 af

Subcatchment 35S: POST-A.11 Runoff Area=37,046 sf 28.27% Impervious Runoff Depth=0.21"
Tc=6.0 min CN=56 Runoff=0.07 cfs 0.015 af

Subcatchment 36S: POST-A.4b Runoff Area=10,993 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=488' Tc=6.0 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment 37S: POST-A.6a Runoff Area=12,105 sf 29.82% Impervious Runoff Depth=0.23"
Flow Length=730' Tc=12.4 min CN=57 Runoff=0.02 cfs 0.005 af

Subcatchment 38S: POST-A.4c Runoff Area=29,954 sf 1.00% Impervious Runoff Depth=0.29"
Flow Length=488' Tc=6.0 min CN=59 Runoff=0.09 cfs 0.016 af

Subcatchment 39S: POST-A.4d Runoff Area=23,538 sf 11.27% Impervious Runoff Depth=0.38"
Flow Length=488' Tc=6.0 min CN=62 Runoff=0.14 cfs 0.017 af

Subcatchment 40S: POST-A.6b Runoff Area=4,400 sf 35.07% Impervious Runoff Depth=0.38"
Flow Length=730' Tc=12.4 min CN=62 Runoff=0.02 cfs 0.003 af

Subcatchment 41S: POST-E.1 Runoff Area=134,832 sf 1.37% Impervious Runoff Depth=0.00"
Tc=10.0 min CN=36 Runoff=0.00 cfs 0.000 af

Subcatchment 42S: POST-E.2 Runoff Area=21,470 sf 8.84% Impervious Runoff Depth=0.01"
Tc=6.0 min CN=44 Runoff=0.00 cfs 0.001 af

Subcatchment 43S: POST-E.4 Runoff Area=102,544 sf 4.62% Impervious Runoff Depth=0.01"
Tc=6.0 min CN=43 Runoff=0.00 cfs 0.001 af

Subcatchment 44S: POST-A.1a Runoff Area=25,447 sf 8.40% Impervious Runoff Depth=0.01"
Flow Length=320' Tc=6.0 min CN=43 Runoff=0.00 cfs 0.000 af

Subcatchment 45S: POST-A.1b Runoff Area=17,282 sf 24.50% Impervious Runoff Depth=0.14"
Flow Length=320' Tc=6.0 min CN=53 Runoff=0.01 cfs 0.005 af

Subcatchment 46S: POST-A.12 Runoff Area=32,064 sf 0.71% Impervious Runoff Depth=0.23"
Flow Length=290' Tc=6.5 min CN=57 Runoff=0.07 cfs 0.014 af

Subcatchment 47S: POST-A.1c Runoff Area=5,117 sf 53.39% Impervious Runoff Depth=0.73"
Flow Length=320' Tc=6.0 min CN=71 Runoff=0.09 cfs 0.007 af

Subcatchment 48S: POST-A.3b Runoff Area=11,358 sf 33.76% Impervious Runoff Depth=0.29"
Tc=6.0 min CN=59 Runoff=0.04 cfs 0.006 af

Subcatchment 49S: POST-E.3 Runoff Area=4,579 sf 40.66% Impervious Runoff Depth=0.41"
Tc=6.0 min CN=63 Runoff=0.03 cfs 0.004 af

Subcatchment 50S: POST-A.3c Runoff Area=12,606 sf 0.00% Impervious Runoff Depth=0.00"
Tc=6.0 min CN=39 Runoff=0.00 cfs 0.000 af

Subcatchment 51S: POST-A.3d Runoff Area=26,983 sf 10.40% Impervious Runoff Depth=0.02"
Tc=6.0 min CN=45 Runoff=0.00 cfs 0.001 af

Subcatchment 53S: POST-A.3e Runoff Area=20,756 sf 0.00% Impervious Runoff Depth=0.05"
Tc=6.0 min CN=48 Runoff=0.00 cfs 0.002 af

Subcatchment 54S: POST-E.5 Runoff Area=8,378 sf 23.42% Impervious Runoff Depth=0.10"
Tc=10.0 min CN=51 Runoff=0.00 cfs 0.002 af

Subcatchment 58S: POST-A.1d Runoff Area=26,666 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=320' Tc=6.0 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 59S: POST-A.3a Runoff Area=20,380 sf 32.76% Impervious Runoff Depth=0.26"
Tc=6.0 min CN=58 Runoff=0.05 cfs 0.010 af

Subcatchment 60S: POST-A.4a Runoff Area=41,361 sf 19.55% Impervious Runoff Depth=0.12"
Flow Length=488' Tc=6.0 min CN=52 Runoff=0.02 cfs 0.009 af

Subcatchment 61S: POST-E.5 Runoff Area=16,624 sf 24.51% Impervious Runoff Depth=0.14"
Tc=6.0 min CN=53 Runoff=0.01 cfs 0.004 af

Pond 17P: Rain Garden #2 Peak Elev=244.73' Storage=367 cf Inflow=0.15 cfs 0.031 af
Discarded=0.03 cfs 0.031 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.031 af

Pond 18P: Infiltration Basin #7 Peak Elev=237.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 19P: Infiltration Basin #8 Peak Elev=261.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 20P: Yard Drain #14 Peak Elev=232.67' Inflow=0.00 cfs 0.000 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0100 '/' Outflow=0.00 cfs 0.000 af

Pond 21P: Rain Garden #7 Peak Elev=234.08' Storage=51 cf Inflow=0.01 cfs 0.006 af
Discarded=0.01 cfs 0.006 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.006 af

Pond 22P: Level Spreader #3 Peak Elev=227.07' Storage=0.001 af Inflow=0.05 cfs 0.010 af
Discarded=0.04 cfs 0.010 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.010 af

Pond 23P: YD-15 Peak Elev=220.96' Inflow=0.09 cfs 0.016 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0400 '/' Outflow=0.09 cfs 0.016 af

Pond 24P: Subsurface Infiltration #2 Peak Elev=218.03' Storage=0.001 af Inflow=0.23 cfs 0.033 af
Outflow=0.20 cfs 0.033 af

Pond 25P: DMH-2 Peak Elev=227.50' Inflow=0.00 cfs 0.000 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 '/' Outflow=0.00 cfs 0.000 af

Pond 26P: YD-16 Peak Elev=285.31' Inflow=0.00 cfs 0.001 af
12.0" Round Culvert n=0.013 L=56.0' S=0.0200 '/' Outflow=0.00 cfs 0.001 af

Pond 27P: Rain Garden #1 Peak Elev=246.01' Storage=1 cf Inflow=0.00 cfs 0.000 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 28P: Infiltration Basin #2 Peak Elev=240.00' Storage=0 cf Inflow=0.00 cfs 0.000 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 29P: YD-17 Peak Elev=284.17' Inflow=0.03 cfs 0.004 af
12.0" Round Culvert n=0.013 L=166.0' S=0.0150 '/' Outflow=0.03 cfs 0.004 af

Pond 30P: Infiltration Basin #4 Peak Elev=236.00' Storage=2 cf Inflow=0.00 cfs 0.002 af
Discarded=0.00 cfs 0.002 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.002 af

Pond 31P: Rain Garden #6 Peak Elev=230.49' Storage=143 cf Inflow=0.13 cfs 0.012 af
Discarded=0.02 cfs 0.012 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.012 af

Pond 32P: Infiltration Basin #3 Peak Elev=228.02' Storage=59 cf Inflow=0.13 cfs 0.020 af
Discarded=0.11 cfs 0.020 af Primary=0.00 cfs 0.000 af Outflow=0.11 cfs 0.020 af

Pond 33P: Yard Drain #18 Peak Elev=230.28' Inflow=0.11 cfs 0.012 af
12.0" Round Culvert n=0.013 L=66.0' S=0.0106 '/' Outflow=0.11 cfs 0.012 af

Pond 35P: Yard Drain #13 Peak Elev=230.56' Inflow=0.09 cfs 0.009 af
12.0" Round Culvert n=0.013 L=18.0' S=0.0111 '/' Outflow=0.09 cfs 0.009 af

Pond 36P: Yard Drain #7 Peak Elev=246.94' Inflow=0.07 cfs 0.015 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0149 '/' Outflow=0.07 cfs 0.015 af

Pond 37P: Yard Drain #9 Peak Elev=245.50' Inflow=0.00 cfs 0.000 af
12.0" Round Culvert n=0.013 L=50.0' S=0.0200 '/' Outflow=0.00 cfs 0.000 af

Pond 38P: Yard Drain #11 Peak Elev=247.88' Inflow=0.02 cfs 0.005 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0290 '/' Outflow=0.02 cfs 0.005 af

Pond 39P: Rain Garden #5 Peak Elev=234.77' Storage=162 cf Inflow=0.08 cfs 0.015 af
Discarded=0.02 cfs 0.015 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.015 af

Pond 40P: DMH-3 Peak Elev=225.10' Inflow=0.14 cfs 0.017 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 '/' Outflow=0.14 cfs 0.017 af

Pond 41P: Yard Drain #12 Peak Elev=234.98' Inflow=0.02 cfs 0.003 af
12.0" Round Culvert n=0.013 L=44.0' S=0.0659 '/' Outflow=0.02 cfs 0.003 af

Pond 42P: Infiltration Basin #5 Peak Elev=226.17' Storage=103 cf Inflow=0.11 cfs 0.013 af
Discarded=0.04 cfs 0.013 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.013 af

Pond 43P: Subsurface Infiltration #1 Peak Elev=235.03' Storage=0.000 af Inflow=0.09 cfs 0.007 af
Outflow=0.07 cfs 0.007 af

Pond 44P: Level Spreader #4 Peak Elev=222.21' Storage=55 cf Inflow=0.07 cfs 0.014 af
Discarded=0.03 cfs 0.014 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.014 af

Pond 45P: Yard Drain #10 Peak Elev=227.90' Inflow=0.14 cfs 0.017 af
12.0" Round Culvert n=0.013 L=36.0' S=0.0750 '/' Outflow=0.14 cfs 0.017 af

Pond 46P: Yard Drain #1 Peak Elev=236.96' Inflow=0.01 cfs 0.005 af
12.0" Round Culvert n=0.013 L=65.0' S=0.0100 '/' Outflow=0.01 cfs 0.005 af

Pond 47P: Infiltration Basin #6 Peak Elev=279.01' Storage=14 cf Inflow=0.03 cfs 0.005 af
Discarded=0.02 cfs 0.005 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.005 af

Pond 48P: Infiltration basin #1 Peak Elev=235.01' Storage=5 cf Inflow=0.01 cfs 0.005 af
Discarded=0.01 cfs 0.005 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.005 af

Pond 49P: Yard Drain #8 Peak Elev=249.90' Inflow=0.04 cfs 0.006 af
12.0" Round Culvert n=0.013 L=100.0' S=0.0380 '/' Outflow=0.04 cfs 0.006 af

Pond 50P: Level Spreader #2 Peak Elev=216.27' Storage=91 cf Inflow=0.10 cfs 0.018 af
Discarded=0.04 cfs 0.018 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.018 af

Pond 51P: Yard Drain #2 Peak Elev=247.90' Inflow=0.00 cfs 0.000 af
12.0" Round Culvert n=0.013 L=86.0' S=0.0105 '/' Outflow=0.00 cfs 0.000 af

Pond 52P: Level Spreader #1 Peak Elev=235.01' Storage=1 cf Inflow=0.00 cfs 0.001 af
Discarded=0.00 cfs 0.001 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.001 af

Pond 53P: Yard Drain #3 Peak Elev=246.90' Inflow=0.00 cfs 0.000 af
12.0" Round Culvert n=0.013 L=125.0' S=0.0312 '/' Outflow=0.00 cfs 0.000 af

Pond 54P: Yard Drain #4 Peak Elev=242.90' Inflow=0.00 cfs 0.000 af
12.0" Round Culvert n=0.013 L=115.0' S=0.0189 '/' Outflow=0.00 cfs 0.000 af

Pond 55P: Yard Drain #5 Peak Elev=240.63' Inflow=0.00 cfs 0.000 af
12.0" Round Culvert n=0.013 L=72.0' S=0.0500 '/' Outflow=0.00 cfs 0.000 af

Pond 56P: DMH-1 Peak Elev=237.07' Inflow=0.09 cfs 0.007 af
12.0" Round Culvert n=0.013 L=9.0' S=0.0200 '/' Outflow=0.09 cfs 0.007 af

Pond 57P: Yard Drain #6 Peak Elev=240.14' Inflow=0.09 cfs 0.007 af
12.0" Round Culvert n=0.013 L=32.0' S=0.0928 '/' Outflow=0.09 cfs 0.007 af

Pond 58P: Rain Garden #3 Peak Elev=230.01' Storage=2 cf Inflow=0.00 cfs 0.002 af
Discarded=0.00 cfs 0.002 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.002 af

Pond 59P: Level Spreader #5 Peak Elev=285.03' Storage=0.000 af Inflow=0.01 cfs 0.004 af
Discarded=0.01 cfs 0.004 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.004 af

Pond 60P: Level Spreader #5 Peak Elev=297.01' Storage=0.000 af Inflow=0.00 cfs 0.002 af
Discarded=0.00 cfs 0.002 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.002 af

Pond 61P: Rain Garden #4 Peak Elev=242.02' Storage=13 cf Inflow=0.02 cfs 0.009 af
Discarded=0.02 cfs 0.009 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.009 af

Link 13L: DP-A Inflow=0.04 cfs 0.013 af
Primary=0.04 cfs 0.013 af

Link 14L: DP-B Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link 15L: DP-C Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link 16L: DP-D Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link 17L: DP-E Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 40.441 ac Runoff Volume = 0.224 af Average Runoff Depth = 0.07"
94.67% Pervious = 38.287 ac 5.33% Impervious = 2.154 ac

Summary for Subcatchment 11S: POST-B.1

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
67,412	39	>75% Grass cover, Good, HSG A
657	80	>75% Grass cover, Good, HSG D
97,838	30	Woods, Good, HSG A
15,432	77	Woods, Good, HSG D
1,818	98	Paved parking, HSG A
183,157	38	Weighted Average
181,339		99.01% Pervious Area
1,818		0.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	50	0.3200	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
4.5	338	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.4	144	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.8	532	Total			

Summary for Subcatchment 17S: POST-D.1

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

	Area (sf)	CN	Description
*	20,455	30	Woods, Fair, HSG A
	3,685	79	Woods, Fair, HSG D
	24,140	37	Weighted Average
	24,140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	50	0.3200	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
3.1	219	0.0550	1.17		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.0	269	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 18S: POST-C.1

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
28,202	39	>75% Grass cover, Good, HSG A
106,995	30	Woods, Good, HSG A
273	98	Paved parking, HSG A
135,470	32	Weighted Average
135,197		99.80% Pervious Area
273		0.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	50	0.3200	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
3.1	219	0.0550	1.17		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.0	269	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 19S: POST-A.2

Runoff = 0.00 cfs @ 21.50 hrs, Volume= 0.000 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
16,433	39	>75% Grass cover, Good, HSG A
1,452	98	Paved parking, HSG A
17,885	44	Weighted Average
16,433		91.88% Pervious Area
1,452		8.12% Impervious Area

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

Summary for Subcatchment 20S: POST-A.3

Runoff = 0.01 cfs @ 15.70 hrs, Volume= 0.005 af, Depth= 0.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
31,027	39	>75% Grass cover, Good, HSG A
13,820	61	>75% Grass cover, Good, HSG B
18,769	30	Woods, Good, HSG A
31,325	55	Woods, Good, HSG B
94,941	46	Weighted Average
94,941		100.00% Pervious Area

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

Summary for Subcatchment 21S: POST-A.4

Runoff = 0.10 cfs @ 12.28 hrs, Volume= 0.018 af, Depth= 0.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
20,979	61	>75% Grass cover, Good, HSG B
11,538	55	Woods, Good, HSG B
32,517	59	Weighted Average
32,517		100.00% Pervious Area

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

Summary for Subcatchment 22S: POST-A.1

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
83,471	39	>75% Grass cover, Good, HSG A
1,448	98	Paved parking, HSG A
84,919	40	Weighted Average
83,471		98.29% Pervious Area
1,448		1.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 23S: POST-A.5

Runoff = 0.08 cfs @ 12.13 hrs, Volume= 0.009 af, Depth= 0.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
1,396	39	>75% Grass cover, Good, HSG A
10,511	61	>75% Grass cover, Good, HSG B
1,024	98	Paved parking, HSG B
12,931	62	Weighted Average
11,907		92.08% Pervious Area
1,024		7.92% Impervious Area

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

Summary for Subcatchment 24S: POST-A.6

Runoff = 0.00 cfs @ 23.98 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
33,489	39	>75% Grass cover, Good, HSG A
394	61	>75% Grass cover, Good, HSG B
1,469	98	Paved parking, HSG A
35,352	42	Weighted Average
33,883		95.84% Pervious Area
1,469		4.16% Impervious Area

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

Summary for Subcatchment 25S: POST-A.7

Runoff = 0.00 cfs @ 15.70 hrs, Volume= 0.001 af, Depth= 0.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
20,683	39	>75% Grass cover, Good, HSG A
4,318	61	>75% Grass cover, Good, HSG B
1,419	98	Paved parking, HSG A
26,420	46	Weighted Average
25,001		94.63% Pervious Area
1,419		5.37% Impervious Area

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

Summary for Subcatchment 26S: POST-A.8

Runoff = 0.13 cfs @ 12.11 hrs, Volume= 0.012 af, Depth= 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
353	39	>75% Grass cover, Good, HSG A
10,269	61	>75% Grass cover, Good, HSG B
1,766	98	Paved parking, HSG B
12,388	66	Weighted Average
10,622		85.74% Pervious Area
1,766		14.26% Impervious Area

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

Summary for Subcatchment 27S: POST-B.2

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
81,446	39	>75% Grass cover, Good, HSG A
150,988	30	Woods, Good, HSG A
26,576	77	Woods, Good, HSG D
5,948	98	Paved parking, HSG A
264,958	39	Weighted Average
259,010		97.76% Pervious Area
5,948		2.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	50	0.3200	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
4.5	338	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.4	144	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.8	532	Total			

Summary for Subcatchment 28S: POST-A.9

Runoff = 0.01 cfs @ 15.08 hrs, Volume= 0.006 af, Depth= 0.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
10,827	39	>75% Grass cover, Good, HSG A
12,873	61	>75% Grass cover, Good, HSG B
11,770	30	Woods, Good, HSG A
21,708	55	Woods, Good, HSG B
57,178	48	Weighted Average
57,178		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.2200	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
0.1	16	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.3	196	0.1380	2.60		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.2	262	Total			

Summary for Subcatchment 29S: POST-C.2

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
53,944	30	Woods, Good, HSG A
53,944		100.00% Pervious Area

Summary for Subcatchment 30S: POST-A.10

Runoff = 0.04 cfs @ 12.34 hrs, Volume= 0.008 af, Depth= 0.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
10,710	39	>75% Grass cover, Good, HSG A
3,029	61	>75% Grass cover, Good, HSG B
2,191	98	Paved parking, HSG B
2,064	98	Paved parking, HSG A
17,994	57	Weighted Average
13,739		76.35% Pervious Area
4,255		23.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	50	0.2000	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
1.5	240	0.1500	2.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.5	290	Total			

Summary for Subcatchment 31S: POST-A.5A

Runoff = 0.05 cfs @ 12.33 hrs, Volume= 0.010 af, Depth= 0.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
1,396	30	Woods, Good, HSG A
14,294	61	>75% Grass cover, Good, HSG B
7,011	55	Woods, Good, HSG B
22,701	57	Weighted Average
22,701		100.00% Pervious Area

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

Summary for Subcatchment 32S: POST-A.6c

Runoff = 0.09 cfs @ 12.19 hrs, Volume= 0.009 af, Depth= 0.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
912	39	>75% Grass cover, Good, HSG A
1,958	61	>75% Grass cover, Good, HSG B
242	98	Paved parking, HSG A
2,084	98	Paved parking, HSG B
5,196	74	Weighted Average
2,870		55.23% Pervious Area
2,326		44.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 33S: POST-A.6d

Runoff = 0.11 cfs @ 12.22 hrs, Volume= 0.013 af, Depth= 0.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
4,343	39	>75% Grass cover, Good, HSG A
5,809	61	>75% Grass cover, Good, HSG B
4,328	98	Paved parking, HSG B
14,480	65	Weighted Average
10,152		70.11% Pervious Area
4,328		29.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 34S: POST-A.6e

Runoff = 0.04 cfs @ 12.44 hrs, Volume= 0.008 af, Depth= 0.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
4,505	39	>75% Grass cover, Good, HSG A
13,446	61	>75% Grass cover, Good, HSG B
619	98	Paved parking, HSG B
18,570	57	Weighted Average
17,951		96.67% Pervious Area
619		3.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 35S: POST-A.11

Runoff = 0.07 cfs @ 12.36 hrs, Volume= 0.015 af, Depth= 0.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
26,573	39	>75% Grass cover, Good, HSG A
10,473	98	Paved parking, HSG B
37,046	56	Weighted Average
26,573		71.73% Pervious Area
10,473		28.27% Impervious Area

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

Summary for Subcatchment 36S: POST-A.4b

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
10,993	39	>75% Grass cover, Good, HSG A
10,993		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	50	0.2800	0.42		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
1.4	191	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	30	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	217	0.1200	2.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.0	488	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 37S: POST-A.6a

Runoff = 0.02 cfs @ 12.44 hrs, Volume= 0.005 af, Depth= 0.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
8,058	39	>75% Grass cover, Good, HSG A
437	61	>75% Grass cover, Good, HSG B
3,038	98	Paved parking, HSG A
572	98	Paved parking, HSG B
12,105	57	Weighted Average
8,495		70.18% Pervious Area
3,610		29.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 38S: POST-A.4c

Runoff = 0.09 cfs @ 12.28 hrs, Volume= 0.016 af, Depth= 0.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
27,058	61	>75% Grass cover, Good, HSG B
2,595	39	>75% Grass cover, Good, HSG A
301	98	Paved parking, HSG A
29,954	59	Weighted Average
29,653		99.00% Pervious Area
301		1.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	50	0.2800	0.42		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
1.4	191	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	30	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	217	0.1200	2.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.0	488	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 39S: POST-A.4d

Runoff = 0.14 cfs @ 12.13 hrs, Volume= 0.017 af, Depth= 0.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
17,806	61	>75% Grass cover, Good, HSG B
3,080	39	>75% Grass cover, Good, HSG A
1,089	98	Paved parking, HSG A
1,563	98	Paved parking, HSG B
23,538	62	Weighted Average
20,886		88.73% Pervious Area
2,652		11.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	50	0.2800	0.42		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
1.4	191	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	30	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	217	0.1200	2.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.0	488	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 40S: POST-A.6b

Runoff = 0.02 cfs @ 12.25 hrs, Volume= 0.003 af, Depth= 0.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
2,300	39	>75% Grass cover, Good, HSG A
557	61	>75% Grass cover, Good, HSG B
125	98	Paved parking, HSG A
1,418	98	Paved parking, HSG B
4,400	62	Weighted Average
2,857		64.93% Pervious Area
1,543		35.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 41S: POST-E.1

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
69,446	30	Woods, Good, HSG A
52,643	39	>75% Grass cover, Good, HSG A
10,523	55	Woods, Good, HSG B
374	61	>75% Grass cover, Good, HSG B
1,846	98	Paved parking, HSG A
134,832	36	Weighted Average
132,986		98.63% Pervious Area
1,846		1.37% Impervious Area

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

Summary for Subcatchment 42S: POST-E.2

Runoff = 0.00 cfs @ 21.50 hrs, Volume= 0.001 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
698	30	Woods, Good, HSG A
18,874	39	>75% Grass cover, Good, HSG A
1,898	98	Paved parking, HSG A
21,470	44	Weighted Average
19,572		91.16% Pervious Area
1,898		8.84% Impervious Area

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

Summary for Subcatchment 43S: POST-E.4

Runoff = 0.00 cfs @ 22.66 hrs, Volume= 0.001 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
39,211	30	Woods, Good, HSG A
27,679	39	>75% Grass cover, Good, HSG A
4,738	98	Paved parking, HSG A
29,214	55	Woods, Good, HSG B
1,702	61	>75% Grass cover, Good, HSG B
102,544	43	Weighted Average
97,806		95.38% Pervious Area
4,738		4.62% Impervious Area

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

Summary for Subcatchment 44S: POST-A.1a

Runoff = 0.00 cfs @ 22.66 hrs, Volume= 0.000 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
20,478	39	>75% Grass cover, Good, HSG A
2,137	98	Paved parking, HSG A
2,832	30	Woods, Good, HSG A
25,447	43	Weighted Average
23,310		91.60% Pervious Area
2,137		8.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 45S: POST-A.1b

Runoff = 0.01 cfs @ 12.44 hrs, Volume= 0.005 af, Depth= 0.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
13,048	39	>75% Grass cover, Good, HSG A
4,234	98	Paved parking, HSG A
17,282	53	Weighted Average
13,048		75.50% Pervious Area
4,234		24.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 46S: POST-A.12

Runoff = 0.07 cfs @ 12.34 hrs, Volume= 0.014 af, Depth= 0.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
6,230	39	>75% Grass cover, Good, HSG A
25,605	61	>75% Grass cover, Good, HSG B
229	98	Paved parking, HSG B
32,064	57	Weighted Average
31,835		99.29% Pervious Area
229		0.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	50	0.2000	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
1.5	240	0.1500	2.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.5	290	Total			

Summary for Subcatchment 47S: POST-A.1c

Runoff = 0.09 cfs @ 12.10 hrs, Volume= 0.007 af, Depth= 0.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
2,385	39	>75% Grass cover, Good, HSG A
2,732	98	Paved parking, HSG A
5,117	71	Weighted Average
2,385		46.61% Pervious Area
2,732		53.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 48S: POST-A.3b

Runoff = 0.04 cfs @ 12.28 hrs, Volume= 0.006 af, Depth= 0.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
7,524	39	>75% Grass cover, Good, HSG A
3,834	98	Paved parking, HSG A
11,358	59	Weighted Average
7,524		66.24% Pervious Area
3,834		33.76% Impervious Area

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

Summary for Subcatchment 49S: POST-E.3

Runoff = 0.03 cfs @ 12.12 hrs, Volume= 0.004 af, Depth= 0.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
2,717	39	>75% Grass cover, Good, HSG A
1,862	98	Paved parking, HSG A
4,579	63	Weighted Average
2,717		59.34% Pervious Area
1,862		40.66% Impervious Area

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

Summary for Subcatchment 50S: POST-A.3c

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
12,606	39	>75% Grass cover, Good, HSG A
12,606		100.00% Pervious Area

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

Summary for Subcatchment 51S: POST-A.3d

Runoff = 0.00 cfs @ 17.18 hrs, Volume= 0.001 af, Depth= 0.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
24,178	39	>75% Grass cover, Good, HSG A
2,805	98	Paved parking, HSG A
26,983	45	Weighted Average
24,178		89.60% Pervious Area
2,805		10.40% Impervious Area

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

Summary for Subcatchment 53S: POST-A.3e

Runoff = 0.00 cfs @ 15.06 hrs, Volume= 0.002 af, Depth= 0.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
12,681	39	>75% Grass cover, Good, HSG A
8,075	61	>75% Grass cover, Good, HSG B
20,756	48	Weighted Average
20,756		100.00% Pervious Area

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

Summary for Subcatchment 54S: POST-E.5

Runoff = 0.00 cfs @ 13.72 hrs, Volume= 0.002 af, Depth= 0.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
2,123	30	Woods, Good, HSG A
4,293	39	>75% Grass cover, Good, HSG A
1,962	98	Paved parking, HSG A
8,378	51	Weighted Average
6,416		76.58% Pervious Area
1,962		23.42% Impervious Area

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

Summary for Subcatchment 58S: POST-A.1d

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
26,666	30	Woods, Good, HSG A
26,666		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 59S: POST-A.3a

Runoff = 0.05 cfs @ 12.31 hrs, Volume= 0.010 af, Depth= 0.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
13,704	39	>75% Grass cover, Good, HSG A
6,676	98	Paved parking, HSG A
20,380	58	Weighted Average
13,704		67.24% Pervious Area
6,676		32.76% Impervious Area

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

Summary for Subcatchment 60S: POST-A.4a

Runoff = 0.02 cfs @ 12.48 hrs, Volume= 0.009 af, Depth= 0.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
29,986	39	>75% Grass cover, Good, HSG A
3,287	61	>75% Grass cover, Good, HSG B
8,088	98	Paved parking, HSG A
41,361	52	Weighted Average
33,273		80.45% Pervious Area
8,088		19.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	50	0.2800	0.42		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
1.4	191	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	30	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	217	0.1200	2.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.0	488	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 61S: POST-E.5

Runoff = 0.01 cfs @ 12.44 hrs, Volume= 0.004 af, Depth= 0.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-yr Rainfall=2.95"

Area (sf)	CN	Description
12,550	39	>75% Grass cover, Good, HSG A
4,074	98	Paved parking, HSG A
16,624	53	Weighted Average
12,550		75.49% Pervious Area
4,074		24.51% Impervious Area

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

Summary for Pond 17P: Rain Garden #2

Inflow Area = 2.279 ac, 22.60% Impervious, Inflow Depth = 0.16" for 2-yr event
Inflow = 0.15 cfs @ 12.33 hrs, Volume= 0.031 af
Outflow = 0.03 cfs @ 15.63 hrs, Volume= 0.031 af, Atten= 78%, Lag= 198.1 min
Discarded = 0.03 cfs @ 15.63 hrs, Volume= 0.031 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 244.73' @ 15.63 hrs Surf.Area= 605 sf Storage= 367 cf
Flood Elev= 248.00' Surf.Area= 1,797 sf Storage= 2,865 cf

Plug-Flow detention time= 126.7 min calculated for 0.031 af (100% of inflow)
Center-of-Mass det. time= 126.7 min (1,080.5 - 953.8)

Volume	Invert	Avail.Storage	Storage Description
#1	244.00'	2,865 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
244.00	407	85.0	0	0	407
245.00	689	104.0	542	542	708
246.00	1,102	138.0	887	1,429	1,374
247.00	1,797	202.0	1,435	2,865	3,114

Device	Routing	Invert	Outlet Devices
#1	Discarded	244.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 212.00'
#2	Device 3	246.00'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	243.50'	**12.0" Round Culvert** L= 150.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 243.50' / 242.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.03 cfs @ 15.63 hrs HW=244.73' (Free Discharge)
└**1=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=244.00' (Free Discharge)
└**3=Culvert** (Passes 0.00 cfs of 0.75 cfs potential flow)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 18P: Infiltration Basin #7

Inflow Area = 6.083 ac, 2.24% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 237.00' @ 0.00 hrs Surf.Area= 1,741 sf Storage= 0 cf
Flood Elev= 240.00' Surf.Area= 4,106 sf Storage= 8,627 cf

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

Volume	Invert	Avail.Storage	Storage Description
#1	237.00'	8,627 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
237.00	1,741	234.0	0	0	1,741
238.00	2,471	252.0	2,095	2,095	2,478
239.00	3,260	271.0	2,856	4,952	3,311
240.00	4,106	291.0	3,675	8,627	4,249

Device	Routing	Invert	Outlet Devices
#1	Discarded	237.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 236.00'

#2	Primary	239.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=237.00' (Free Discharge)
└**1=Exfiltration** (Passes 0.00 cfs of 0.10 cfs potential flow)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=237.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 19P: Infiltration Basin #8

Inflow Area = 3.110 ac, 0.20% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 261.00' @ 0.00 hrs Surf.Area= 2,047 sf Storage= 0 cf
Flood Elev= 295.00' Surf.Area= 3,949 sf Storage= 8,862 cf

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

Volume	Invert	Avail.Storage	Storage Description
#1	261.00'	8,862 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
261.00	2,047	182.0	0	0	2,047
262.00	2,623	202.0	2,329	2,329	2,688
263.00	3,258	221.0	2,935	5,264	3,361
264.00	3,949	240.0	3,598	8,862	4,095

Device	Routing	Invert	Outlet Devices
#1	Discarded	261.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 259.00'
#2	Primary	263.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=261.00' (Free Discharge)
└**1=Exfiltration** (Passes 0.00 cfs of 0.11 cfs potential flow)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=261.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 20P: Yard Drain #14

Inflow Area = 1.313 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 232.67' @ 0.00 hrs
Flood Elev= 257.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	232.67'	**12.0" Round Culvert** L= 71.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 232.67' / 231.96' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=232.67' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)

Summary for Pond 21P: Rain Garden #7

Inflow Area = 1.313 ac, 0.00% Impervious, Inflow Depth = 0.05" for 2-yr event
Inflow = 0.01 cfs @ 15.08 hrs, Volume= 0.006 af
Outflow = 0.01 cfs @ 17.80 hrs, Volume= 0.006 af, Atten= 29%, Lag= 163.1 min
Discarded = 0.01 cfs @ 17.80 hrs, Volume= 0.006 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 234.08' @ 17.80 hrs Surf.Area= 689 sf Storage= 51 cf
Flood Elev= 295.00' Surf.Area= 1,938 sf Storage= 3,728 cf

Plug-Flow detention time= 147.3 min calculated for 0.006 af (100% of inflow)
Center-of-Mass det. time= 147.5 min (1,230.5 - 1,083.0)

Volume	Invert	Avail.Storage	Storage Description
#1	234.00'	3,728 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
234.00	665	104.0	0	0	665
235.00	1,010	126.0	832	832	1,084
236.00	1,435	149.0	1,216	2,048	1,606
237.00	1,938	172.0	1,680	3,728	2,215

Device	Routing	Invert	Outlet Devices
#1	Discarded	234.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 228.00'
#2	Device 3	236.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	233.50'	**12.0" Round Culvert** L= 73.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 233.50' / 232.77' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.04 cfs @ 17.80 hrs HW=234.08' (Free Discharge)
└**1=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=234.00' (Free Discharge)
└**3=Culvert** (Passes 0.00 cfs of 0.75 cfs potential flow)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 22P: Level Spreader #3

Inflow Area = 0.521 ac, 0.00% Impervious, Inflow Depth = 0.23" for 2-yr event
Inflow = 0.05 cfs @ 12.33 hrs, Volume= 0.010 af
Outflow = 0.04 cfs @ 12.52 hrs, Volume= 0.010 af, Atten= 28%, Lag= 11.0 min
Discarded = 0.04 cfs @ 12.52 hrs, Volume= 0.010 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 227.07' @ 12.52 hrs Surf.Area= 0.021 ac Storage= 0.001 af
Flood Elev= 230.00' Surf.Area= 0.021 ac Storage= 0.032 af

Plug-Flow detention time= 14.8 min calculated for 0.010 af (100% of inflow)
Center-of-Mass det. time= 14.8 min (970.2 - 955.4)

Volume	Invert	Avail.Storage	Storage Description
#1	227.00'	0.032 af	**3.00'W x 310.00'L x 3.00'H Prismatoid** 0.064 af Overall x 50.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	229.75'	**200.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	227.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 222.00' Phase-In= 0.10'

Discarded OutFlow Max=0.04 cfs @ 12.52 hrs HW=227.07' (Free Discharge)
└**2=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=227.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 23P: YD-15

Inflow Area = 0.688 ac, 1.00% Impervious, Inflow Depth = 0.29" for 2-yr event
Inflow = 0.09 cfs @ 12.28 hrs, Volume= 0.016 af
Outflow = 0.09 cfs @ 12.28 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min
Primary = 0.09 cfs @ 12.28 hrs, Volume= 0.016 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 220.96' @ 12.28 hrs
Flood Elev= 223.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	220.80'	**12.0" Round Culvert** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 220.80' / 220.60' S= 0.0400 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.09 cfs @ 12.28 hrs HW=220.96' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.09 cfs @ 1.09 fps)

Summary for Pond 24P: Subsurface Infiltration #2

Inflow Area = 3.005 ac, 11.98% Impervious, Inflow Depth = 0.13" for 2-yr event
Inflow = 0.23 cfs @ 12.14 hrs, Volume= 0.033 af
Outflow = 0.20 cfs @ 12.30 hrs, Volume= 0.033 af, Atten= 12%, Lag= 9.6 min
Discarded = 0.20 cfs @ 12.30 hrs, Volume= 0.033 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 218.03' @ 12.30 hrs Surf.Area= 0.110 ac Storage= 0.001 af

Plug-Flow detention time= 4.2 min calculated for 0.033 af (100% of inflow)
Center-of-Mass det. time= 4.2 min (933.8 - 929.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	218.00'	0.091 af	**54.67'W x 87.50'L x 3.54'H Field A** 0.389 af Overall - 0.161 af Embedded = 0.228 af x 40.0% Voids
#2A	218.50'	0.161 af	**Cultec R-330XLHD** x 132 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 11 rows
		0.252 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	218.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 216.00'

Discarded OutFlow Max=0.27 cfs @ 12.30 hrs HW=218.03' (Free Discharge)
└**1=Exfiltration** (Controls 0.27 cfs)

Summary for Pond 25P: DMH-2

Inflow Area = 1.202 ac, 15.45% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 227.50' @ 0.00 hrs
Flood Elev= 230.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	227.50'	**12.0" Round Culvert** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 227.50' / 227.40' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=227.50' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)

Summary for Pond 26P: YD-16

Inflow Area = 0.493 ac, 8.84% Impervious, Inflow Depth = 0.01" for 2-yr event
Inflow = 0.00 cfs @ 21.50 hrs, Volume= 0.001 af
Outflow = 0.00 cfs @ 21.50 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 21.50 hrs, Volume= 0.001 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 285.31' @ 21.50 hrs
Flood Elev= 287.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	285.30'	**12.0" Round Culvert** L= 56.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 285.30' / 284.18' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 21.50 hrs HW=285.31' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.00 cfs @ 0.26 fps)

Summary for Pond 27P: Rain Garden #1

Inflow Area = 0.411 ac, 8.12% Impervious, Inflow Depth = 0.01" for 2-yr event
Inflow = 0.00 cfs @ 21.50 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 21.71 hrs, Volume= 0.000 af, Atten= 0%, Lag= 12.8 min
Discarded = 0.00 cfs @ 21.71 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 246.01' @ 21.71 hrs Surf.Area= 58 sf Storage= 1 cf
Flood Elev= 249.00' Surf.Area= 789 sf Storage= 1,042 cf

Plug-Flow detention time= 12.9 min calculated for 0.000 af (100% of inflow)
Center-of-Mass det. time= 12.9 min (1,223.7 - 1,210.8)

Volume	Invert	Avail.Storage	Storage Description
#1	246.00'	1,042 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
246.00	57	32.5	0	0	57
247.00	201	56.4	122	122	232
248.00	441	85.0	313	435	561
249.00	789	119.0	607	1,042	1,123

Device	Routing	Invert	Outlet Devices
#1	Discarded	246.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 212.00'
#2	Device 3	248.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	246.00'	**12.0" Round Culvert** L= 56.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 246.00' / 244.50' S= 0.0268 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.00 cfs @ 21.71 hrs HW=246.01' (Free Discharge)
└─**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=246.00' (Free Discharge)
└─**3=Culvert** (Controls 0.00 cfs)
  └─**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 28P: Infiltration Basin #2

Inflow Area = 2.279 ac, 22.60% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 240.00' @ 0.00 hrs Surf.Area= 1,835 sf Storage= 0 cf
Flood Elev= 246.00' Surf.Area= 5,174 sf Storage= 13,642 cf

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

Volume	Invert	Avail.Storage	Storage Description
#1	240.00'	13,642 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
240.00	1,835	233.0	0	0	1,835
241.00	2,573	254.0	2,194	2,194	2,684
242.00	3,368	274.0	2,962	5,155	3,565
243.00	4,232	294.0	3,792	8,947	4,513
244.00	5,174	315.0	4,695	13,642	5,575

Device	Routing	Invert	Outlet Devices
#1	Discarded	240.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 236.00'
#2	Primary	243.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.00 cfs @ 0.00 hrs HW=240.00' (Free Discharge)
└─**1=Exfiltration** (Passes 0.00 cfs of 0.10 cfs potential flow)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=240.00' (Free Discharge)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 29P: YD-17

Inflow Area = 0.598 ac, 14.43% Impervious, Inflow Depth = 0.08" for 2-yr event
Inflow = 0.03 cfs @ 12.12 hrs, Volume= 0.004 af
Outflow = 0.03 cfs @ 12.12 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.0 min
Primary = 0.03 cfs @ 12.12 hrs, Volume= 0.004 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 284.17' @ 12.12 hrs
Flood Elev= 287.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	284.08'	**12.0" Round Culvert** L= 166.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 284.08' / 281.59' S= 0.0150 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.03 cfs @ 12.12 hrs HW=284.17' (Free Discharge)
└─**1=Culvert** (Inlet Controls 0.03 cfs @ 0.82 fps)

Summary for Pond 30P: Infiltration Basin #4

Inflow Area = 1.418 ac, 4.68% Impervious, Inflow Depth = 0.01" for 2-yr event
Inflow = 0.00 cfs @ 21.78 hrs, Volume= 0.002 af
Outflow = 0.00 cfs @ 22.03 hrs, Volume= 0.002 af, Atten= 0%, Lag= 15.3 min
Discarded = 0.00 cfs @ 22.03 hrs, Volume= 0.002 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 236.00' @ 22.03 hrs Surf.Area= 679 sf Storage= 2 cf
Flood Elev= 241.00' Surf.Area= 3,125 sf Storage= 8,911 cf

Plug-Flow detention time= 14.7 min calculated for 0.002 af (100% of inflow)
Center-of-Mass det. time= 14.7 min (1,170.0 - 1,155.3)

Volume	Invert	Avail.Storage	Storage Description
#1	236.00'	8,911 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
236.00	678	116.0	0	0	678
237.00	1,054	135.0	859	859	1,078
238.00	1,487	154.0	1,264	2,123	1,538
239.00	1,976	173.0	1,726	3,849	2,059
240.00	2,522	191.0	2,243	6,093	2,611
241.00	3,125	210.0	2,818	8,911	3,250

Device	Routing	Invert	Outlet Devices
#1	Discarded	236.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 228.00'
#2	Device 3	238.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	235.50'	**12.0" Round Culvert** L= 91.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 235.50' / 230.20' S= 0.0582 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#4	Primary	240.50'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.04 cfs @ 22.03 hrs HW=236.00' (Free Discharge)
└─**1=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=236.00' (Free Discharge)
├─**3=Culvert** (Passes 0.00 cfs of 0.75 cfs potential flow)
│ └─**2=Orifice/Grate** (Controls 0.00 cfs)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 31P: Rain Garden #6

Inflow Area = 1.597 ac, 2.54% Impervious, Inflow Depth = 0.09" for 2-yr event
Inflow = 0.13 cfs @ 12.11 hrs, Volume= 0.012 af
Outflow = 0.02 cfs @ 12.99 hrs, Volume= 0.012 af, Atten= 82%, Lag= 52.5 min
Discarded = 0.02 cfs @ 12.99 hrs, Volume= 0.012 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 230.49' @ 12.99 hrs Surf.Area= 349 sf Storage= 143 cf
Flood Elev= 233.00' Surf.Area= 1,148 sf Storage= 1,932 cf

Plug-Flow detention time= 62.6 min calculated for 0.012 af (100% of inflow)
Center-of-Mass det. time= 62.6 min (961.8 - 899.1)

Volume	Invert	Avail.Storage	Storage Description
#1	230.00'	3,369 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
230.00	242	63.2	0	0	242
231.00	483	87.0	356	356	536
232.00	773	106.0	622	978	844
233.00	1,148	128.0	954	1,932	1,270
234.00	1,747	162.0	1,437	3,369	2,068

Device	Routing	Invert	Outlet Devices
#1	Discarded	230.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 228.00' Phase-In= 0.01'
#2	Primary	233.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	230.50'	**12.0" Round Culvert** L= 80.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 230.50' / 228.50' S= 0.0250 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.02 cfs @ 12.99 hrs HW=230.49' (Free Discharge)
└─**1=Exfiltration** (Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=230.00' (Free Discharge)
├─**2=Orifice/Grate** (Controls 0.00 cfs)
└─**3=Culvert** (Controls 0.00 cfs)

Summary for Pond 32P: Infiltration Basin #3

Inflow Area = 2.065 ac, 8.20% Impervious, Inflow Depth = 0.12" for 2-yr event
Inflow = 0.13 cfs @ 12.23 hrs, Volume= 0.020 af
Outflow = 0.11 cfs @ 12.44 hrs, Volume= 0.020 af, Atten= 15%, Lag= 12.5 min
Discarded = 0.11 cfs @ 12.44 hrs, Volume= 0.020 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 228.02' @ 12.44 hrs Surf.Area= 2,664 sf Storage= 59 cf
Flood Elev= 231.00' Surf.Area= 5,349 sf Storage= 11,854 cf

Plug-Flow detention time= 8.9 min calculated for 0.020 af (100% of inflow)
Center-of-Mass det. time= 8.9 min (926.5 - 917.6)

Volume	Invert	Avail.Storage	Storage Description
#1	228.00'	11,854 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
228.00	2,646	272.0	0	0	2,646
229.00	3,491	291.0	3,059	3,059	3,543
230.00	4,392	310.0	3,933	6,992	4,500
231.00	5,349	329.0	4,863	11,854	5,517

Device	Routing	Invert	Outlet Devices
#1	Discarded	228.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 224.00'
#2	Primary	229.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.15 cfs @ 12.44 hrs HW=228.02' (Free Discharge)
└**1=Exfiltration** (Controls 0.15 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=228.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 33P: Yard Drain #18

Inflow Area = 1.638 ac, 9.47% Impervious, Inflow Depth = 0.09" for 2-yr event
Inflow = 0.11 cfs @ 12.19 hrs, Volume= 0.012 af
Outflow = 0.11 cfs @ 12.19 hrs, Volume= 0.012 af, Atten= 0%, Lag= 0.0 min
Primary = 0.11 cfs @ 12.19 hrs, Volume= 0.012 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 230.28' @ 12.19 hrs
Flood Elev= 232.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	230.10'	**12.0" Round Culvert** L= 66.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 230.10' / 229.40' S= 0.0106 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.11 cfs @ 12.19 hrs HW=230.28' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.11 cfs @ 1.14 fps)

Summary for Pond 35P: Yard Drain #13

Inflow Area = 0.119 ac, 44.77% Impervious, Inflow Depth = 0.88" for 2-yr event
Inflow = 0.09 cfs @ 12.19 hrs, Volume= 0.009 af
Outflow = 0.09 cfs @ 12.19 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min
Primary = 0.09 cfs @ 12.19 hrs, Volume= 0.009 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 230.56' @ 12.19 hrs
Flood Elev= 232.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	230.40'	**12.0" Round Culvert** L= 18.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 230.40' / 230.20' S= 0.0111 '/' Cc= 0.900

n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.09 cfs @ 12.19 hrs HW=230.56' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.09 cfs @ 1.09 fps)

Summary for Pond 36P: Yard Drain #7

Inflow Area = 0.850 ac, 28.27% Impervious, Inflow Depth = 0.21" for 2-yr event
Inflow = 0.07 cfs @ 12.36 hrs, Volume= 0.015 af
Outflow = 0.07 cfs @ 12.36 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min
Primary = 0.07 cfs @ 12.36 hrs, Volume= 0.015 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 246.94' @ 12.36 hrs
Flood Elev= 249.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	246.80'	**12.0" Round Culvert** L= 71.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 246.80' / 245.74' S= 0.0149 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.07 cfs @ 12.36 hrs HW=246.94' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.07 cfs @ 1.00 fps)

Summary for Pond 37P: Yard Drain #9

Inflow Area = 0.252 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 245.50' @ 0.00 hrs
Flood Elev= 248.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	245.50'	**12.0" Round Culvert** L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 245.50' / 244.50' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=245.50' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)

Summary for Pond 38P: Yard Drain #11

Inflow Area = 0.278 ac, 29.82% Impervious, Inflow Depth = 0.23" for 2-yr event
Inflow = 0.02 cfs @ 12.44 hrs, Volume= 0.005 af
Outflow = 0.02 cfs @ 12.44 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min
Primary = 0.02 cfs @ 12.44 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 247.88' @ 12.44 hrs
Flood Elev= 249.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	247.80'	**12.0" Round Culvert** L= 71.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 247.80' / 245.74' S= 0.0290 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.02 cfs @ 12.44 hrs HW=247.88' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.02 cfs @ 0.78 fps)

Summary for Pond 39P: Rain Garden #5

Inflow Area = 0.575 ac, 18.51% Impervious, Inflow Depth = 0.31" for 2-yr event
Inflow = 0.08 cfs @ 12.30 hrs, Volume= 0.015 af
Outflow = 0.02 cfs @ 14.36 hrs, Volume= 0.015 af, Atten= 75%, Lag= 123.1 min
Discarded = 0.02 cfs @ 14.36 hrs, Volume= 0.015 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 234.77' @ 14.36 hrs Surf.Area= 284 sf Storage= 162 cf
Flood Elev= 236.00' Surf.Area= 580 sf Storage= 684 cf

Plug-Flow detention time= 99.0 min calculated for 0.015 af (100% of inflow)
Center-of-Mass det. time= 99.0 min (1,034.1 - 935.0)

Volume	Invert	Avail.Storage	Storage Description
#1	234.00'	684 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
234.00	144	51.0	0	0	144
235.00	334	73.0	232	232	370
236.00	580	91.0	451	684	619

Device	Routing	Invert	Outlet Devices
#1	Discarded	234.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 232.00'
#2	Device 3	235.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	232.00'	**15.0" Round Culvert** L= 130.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 232.00' / 225.00' S= 0.0538 '/' Cc= 0.900

n= 0.013, Flow Area= 1.23 sf

Discarded OutFlow Max=0.02 cfs @ 14.36 hrs HW=234.77' (Free Discharge)
└**1=Exfiltration** (Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=234.00' (Free Discharge)
└**3=Culvert** (Passes 0.00 cfs of 5.47 cfs potential flow)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 40P: DMH-3

Inflow Area = 1.115 ac, 15.00% Impervious, Inflow Depth = 0.18" for 2-yr event
Inflow = 0.14 cfs @ 12.13 hrs, Volume= 0.017 af
Outflow = 0.14 cfs @ 12.13 hrs, Volume= 0.017 af, Atten= 0%, Lag= 0.0 min
Primary = 0.14 cfs @ 12.13 hrs, Volume= 0.017 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 225.10' @ 12.13 hrs
Flood Elev= 229.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	224.90'	**12.0" Round Culvert** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 224.90' / 224.80' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.14 cfs @ 12.13 hrs HW=225.10' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.14 cfs @ 1.21 fps)

Summary for Pond 41P: Yard Drain #12

Inflow Area = 0.101 ac, 35.07% Impervious, Inflow Depth = 0.38" for 2-yr event
Inflow = 0.02 cfs @ 12.25 hrs, Volume= 0.003 af
Outflow = 0.02 cfs @ 12.25 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min
Primary = 0.02 cfs @ 12.25 hrs, Volume= 0.003 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 234.98' @ 12.25 hrs
Flood Elev= 237.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	234.90'	**12.0" Round Culvert** L= 44.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 234.90' / 232.00' S= 0.0659 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.02 cfs @ 12.25 hrs HW=234.98' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.02 cfs @ 0.74 fps)

Summary for Pond 42P: Infiltration Basin #5

Inflow Area = 1.929 ac, 7.25% Impervious, Inflow Depth = 0.08" for 2-yr event
Inflow = 0.11 cfs @ 12.22 hrs, Volume= 0.013 af
Outflow = 0.04 cfs @ 12.70 hrs, Volume= 0.013 af, Atten= 63%, Lag= 29.0 min
Discarded = 0.04 cfs @ 12.70 hrs, Volume= 0.013 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 226.17' @ 12.70 hrs Surf.Area= 671 sf Storage= 103 cf
Flood Elev= 229.00' Surf.Area= 3,122 sf Storage= 5,125 cf

Plug-Flow detention time= 19.8 min calculated for 0.013 af (100% of inflow)
Center-of-Mass det. time= 19.8 min (929.7 - 909.9)

Volume	Invert	Avail.Storage	Storage Description
#1	226.00'	5,125 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
226.00	561	96.0	0	0	561
227.00	1,365	167.0	934	934	2,053
228.00	1,979	216.0	1,663	2,596	3,558
229.00	3,122	277.0	2,529	5,125	5,964

Device	Routing	Invert	Outlet Devices
#1	Discarded	226.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 223.54'
#2	Primary	228.50'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.04 cfs @ 12.70 hrs HW=226.17' (Free Discharge)
└**1=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=226.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 43P: Subsurface Infiltration #1

Inflow Area = 2.067 ac, 4.64% Impervious, Inflow Depth = 0.04" for 2-yr event
Inflow = 0.09 cfs @ 12.10 hrs, Volume= 0.007 af
Outflow = 0.07 cfs @ 12.16 hrs, Volume= 0.007 af, Atten= 17%, Lag= 3.5 min
Discarded = 0.07 cfs @ 12.16 hrs, Volume= 0.007 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 235.03' @ 12.16 hrs Surf.Area= 0.039 ac Storage= 0.000 af

Plug-Flow detention time= 4.2 min calculated for 0.007 af (100% of inflow)

Center-of-Mass det. time= 4.2 min (882.5 - 878.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	235.00'	0.033 af	**20.83'W x 80.50'L x 3.54'H Field A** 0.136 af Overall - 0.054 af Embedded = 0.083 af x 40.0% Voids
#2A	235.50'	0.054 af	**Cultec R-330XLHD** x 44 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 4 rows
		0.087 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	235.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 222.80'

Discarded OutFlow Max=0.09 cfs @ 12.16 hrs HW=235.03' (Free Discharge)
└**1=Exfiltration** (Controls 0.09 cfs)

Summary for Pond 44P: Level Spreader #4

Inflow Area = 0.736 ac, 0.71% Impervious, Inflow Depth = 0.23" for 2-yr event
Inflow = 0.07 cfs @ 12.34 hrs, Volume= 0.014 af
Outflow = 0.03 cfs @ 12.87 hrs, Volume= 0.014 af, Atten= 55%, Lag= 31.5 min
Discarded = 0.03 cfs @ 12.87 hrs, Volume= 0.014 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 222.21' @ 12.87 hrs Surf.Area= 525 sf Storage= 55 cf
Flood Elev= 225.00' Surf.Area= 525 sf Storage= 788 cf

Plug-Flow detention time= 11.6 min calculated for 0.014 af (100% of inflow)
Center-of-Mass det. time= 11.6 min (967.5 - 955.9)

Volume	Invert	Avail.Storage	Storage Description
#1	222.00'	788 cf	**3.00'W x 175.00'L x 3.00'H Prismatoid** 1,575 cf Overall x 50.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	224.90'	**150.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	222.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 219.00' Phase-In= 0.01'

Discarded OutFlow Max=0.03 cfs @ 12.87 hrs HW=222.21' (Free Discharge)
└**2=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=222.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 45P: Yard Drain #10

Inflow Area = 0.540 ac, 11.27% Impervious, Inflow Depth = 0.38" for 2-yr event
Inflow = 0.14 cfs @ 12.13 hrs, Volume= 0.017 af
Outflow = 0.14 cfs @ 12.13 hrs, Volume= 0.017 af, Atten= 0%, Lag= 0.0 min
Primary = 0.14 cfs @ 12.13 hrs, Volume= 0.017 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 227.90' @ 12.13 hrs
Flood Elev= 230.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	227.70'	**12.0" Round Culvert** L= 36.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 227.70' / 225.00' S= 0.0750 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.14 cfs @ 12.13 hrs HW=227.90' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.14 cfs @ 1.21 fps)

Summary for Pond 46P: Yard Drain #1

Inflow Area = 0.397 ac, 24.50% Impervious, Inflow Depth = 0.14" for 2-yr event
Inflow = 0.01 cfs @ 12.44 hrs, Volume= 0.005 af
Outflow = 0.01 cfs @ 12.44 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min
Primary = 0.01 cfs @ 12.44 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 236.96' @ 12.44 hrs
Flood Elev= 239.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	236.90'	**12.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 236.90' / 236.25' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.01 cfs @ 12.44 hrs HW=236.96' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.01 cfs @ 1.07 fps)

Summary for Pond 47P: Infiltration Basin #6

Inflow Area = 2.952 ac, 6.61% Impervious, Inflow Depth = 0.02" for 2-yr event
Inflow = 0.03 cfs @ 12.12 hrs, Volume= 0.005 af
Outflow = 0.02 cfs @ 12.38 hrs, Volume= 0.005 af, Atten= 36%, Lag= 15.4 min
Discarded = 0.02 cfs @ 12.38 hrs, Volume= 0.005 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 279.01' @ 12.38 hrs Surf.Area= 1,062 sf Storage= 14 cf
Flood Elev= 283.00' Surf.Area= 2,844 sf Storage= 7,353 cf

Plug-Flow detention time= 11.7 min calculated for 0.005 af (100% of inflow)
Center-of-Mass det. time= 11.7 min (1,036.6 - 1,024.8)

Volume	Invert	Avail.Storage	Storage Description
#1	279.00'	7,353 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
279.00	1,058	153.0	0	0	1,058
280.00	1,373	169.0	1,212	1,212	1,498
281.00	1,777	206.0	1,571	2,783	2,618
282.00	2,270	248.0	2,018	4,801	4,153
283.00	2,844	268.0	2,552	7,353	5,013

Device	Routing	Invert	Outlet Devices
#1	Discarded	279.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 276.00'
#2	Primary	282.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.06 cfs @ 12.38 hrs HW=279.01' (Free Discharge)
└**1=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=279.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 48P: Infiltration basin #1

Inflow Area = 0.981 ac, 14.91% Impervious, Inflow Depth = 0.06" for 2-yr event
Inflow = 0.01 cfs @ 12.44 hrs, Volume= 0.005 af
Outflow = 0.01 cfs @ 12.57 hrs, Volume= 0.005 af, Atten= 22%, Lag= 7.5 min
Discarded = 0.01 cfs @ 12.57 hrs, Volume= 0.005 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 235.01' @ 12.57 hrs Surf.Area= 673 sf Storage= 5 cf
Flood Elev= 238.00' Surf.Area= 2,137 sf Storage= 3,986 cf

Plug-Flow detention time= 8.9 min calculated for 0.005 af (100% of inflow)
Center-of-Mass det. time= 8.9 min (1,023.2 - 1,014.4)

Volume	Invert	Avail.Storage	Storage Description
#1	235.00'	3,986 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
235.00	670	115.0	0	0	670
236.00	1,054	137.0	855	855	1,129
237.00	1,552	172.0	1,295	2,150	2,003
238.00	2,137	202.0	1,837	3,986	2,915

Device	Routing	Invert	Outlet Devices
#1	Discarded	235.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 220.00'
#2	Primary	237.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.04 cfs @ 12.57 hrs HW=235.01' (Free Discharge)
└**1=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 49P: Yard Drain #8

Inflow Area = 0.261 ac, 33.76% Impervious, Inflow Depth = 0.29" for 2-yr event
Inflow = 0.04 cfs @ 12.28 hrs, Volume= 0.006 af
Outflow = 0.04 cfs @ 12.28 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.0 min
Primary = 0.04 cfs @ 12.28 hrs, Volume= 0.006 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 249.90' @ 12.28 hrs
Flood Elev= 252.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	249.80'	**12.0" Round Culvert** L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 249.80' / 246.00' S= 0.0380 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.03 cfs @ 12.28 hrs HW=249.90' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.03 cfs @ 0.85 fps)

Summary for Pond 50P: Level Spreader #2

Inflow Area = 0.746 ac, 0.00% Impervious, Inflow Depth = 0.29" for 2-yr event
Inflow = 0.10 cfs @ 12.28 hrs, Volume= 0.018 af
Outflow = 0.04 cfs @ 12.73 hrs, Volume= 0.018 af, Atten= 58%, Lag= 27.0 min
Discarded = 0.04 cfs @ 12.73 hrs, Volume= 0.018 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 216.27' @ 12.73 hrs Surf.Area= 675 sf Storage= 91 cf
Flood Elev= 219.00' Surf.Area= 675 sf Storage= 1,013 cf

Plug-Flow detention time= 14.1 min calculated for 0.018 af (100% of inflow)
Center-of-Mass det. time= 14.1 min (953.7 - 939.6)

Volume	Invert	Avail.Storage	Storage Description
#1	216.00'	1,013 cf	**3.00'W x 225.00'L x 3.00'H Prismatoid** 2,025 cf Overall x 50.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	218.75'	**190.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	216.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 214.00' Phase-In= 0.01'

Discarded OutFlow Max=0.04 cfs @ 12.73 hrs HW=216.27' (Free Discharge)
└**2=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=216.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 51P: Yard Drain #2

Inflow Area = 1.949 ac, 1.71% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 247.90' @ 0.00 hrs
Flood Elev= 252.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	247.90'	**12.0" Round Culvert** L= 86.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 247.90' / 247.00' S= 0.0105 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=247.90' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)

Summary for Pond 52P: Level Spreader #1

Inflow Area = 0.619 ac, 10.40% Impervious, Inflow Depth = 0.02" for 2-yr event
Inflow = 0.00 cfs @ 17.18 hrs, Volume= 0.001 af
Outflow = 0.00 cfs @ 17.37 hrs, Volume= 0.001 af, Atten= 0%, Lag= 11.6 min
Discarded = 0.00 cfs @ 17.37 hrs, Volume= 0.001 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 235.01' @ 17.37 hrs Surf.Area= 390 sf Storage= 1 cf
Flood Elev= 239.00' Surf.Area= 390 sf Storage= 468 cf

Plug-Flow detention time= 11.8 min calculated for 0.001 af (100% of inflow)
Center-of-Mass det. time= 11.8 min (1,182.0 - 1,170.2)

Volume	Invert	Avail.Storage	Storage Description
#1	235.00'	468 cf	**3.00'W x 130.00'L x 3.00'H Prismatoid** 1,170 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	237.40'	**120.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	235.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 232.00' Phase-In= 0.10'

Discarded OutFlow Max=0.00 cfs @ 17.37 hrs HW=235.01' (Free Discharge)
└**2=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 53P: Yard Drain #3

Inflow Area = 1.949 ac, 1.71% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 246.90' @ 0.00 hrs
Flood Elev= 251.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	246.90'	**12.0" Round Culvert**

L= 125.0' CPP, square edge headwall, Ke= 0.500
Inlet / Outlet Invert= 246.90' / 243.00' S= 0.0312 '/' Cc= 0.900
n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=246.90' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)

Summary for Pond 54P: Yard Drain #4

Inflow Area = 1.949 ac, 1.71% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 242.90' @ 0.00 hrs
Flood Elev= 247.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	242.90'	**12.0" Round Culvert** L= 115.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 242.90' / 240.73' S= 0.0189 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=242.90' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)

Summary for Pond 55P: Yard Drain #5

Inflow Area = 1.949 ac, 1.71% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 240.63' @ 0.00 hrs
Flood Elev= 245.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	240.63'	**12.0" Round Culvert** L= 72.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.63' / 237.03' S= 0.0500 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=240.63' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)

Summary for Pond 56P: DMH-1

Inflow Area = 2.067 ac, 4.64% Impervious, Inflow Depth = 0.04" for 2-yr event
Inflow = 0.09 cfs @ 12.10 hrs, Volume= 0.007 af
Outflow = 0.09 cfs @ 12.10 hrs, Volume= 0.007 af, Atten= 0%, Lag= 0.0 min
Primary = 0.09 cfs @ 12.10 hrs, Volume= 0.007 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 237.07' @ 12.10 hrs
Flood Elev= 241.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	236.93'	**12.0" Round Culvert** L= 9.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 236.93' / 236.75' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.09 cfs @ 12.10 hrs HW=237.07' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.09 cfs @ 1.28 fps)

Summary for Pond 57P: Yard Drain #6

Inflow Area = 0.117 ac, 53.39% Impervious, Inflow Depth = 0.73" for 2-yr event
Inflow = 0.09 cfs @ 12.10 hrs, Volume= 0.007 af
Outflow = 0.09 cfs @ 12.10 hrs, Volume= 0.007 af, Atten= 0%, Lag= 0.0 min
Primary = 0.09 cfs @ 12.10 hrs, Volume= 0.007 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 240.14' @ 12.10 hrs
Flood Elev= 247.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	240.00'	**12.0" Round Culvert** L= 32.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.00' / 237.03' S= 0.0928 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.08 cfs @ 12.10 hrs HW=240.14' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.08 cfs @ 1.27 fps)

Summary for Pond 58P: Rain Garden #3

Inflow Area = 0.476 ac, 0.00% Impervious, Inflow Depth = 0.05" for 2-yr event
Inflow = 0.00 cfs @ 15.06 hrs, Volume= 0.002 af
Outflow = 0.00 cfs @ 15.22 hrs, Volume= 0.002 af, Atten= 0%, Lag= 9.3 min
Discarded = 0.00 cfs @ 15.22 hrs, Volume= 0.002 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 230.01' @ 15.22 hrs Surf.Area= 183 sf Storage= 2 cf
Flood Elev= 233.00' Surf.Area= 1,035 sf Storage= 1,661 cf

Plug-Flow detention time= 8.8 min calculated for 0.002 af (100% of inflow)
Center-of-Mass det. time= 8.8 min (1,091.6 - 1,082.8)

Volume	Invert	Avail.Storage	Storage Description
#1	230.00'	1,661 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
230.00	181	57.0	0	0	181
231.00	392	83.0	280	280	479
232.00	680	109.0	529	809	888
233.00	1,035	128.0	851	1,661	1,265

Device	Routing	Invert	Outlet Devices
#1	Discarded	230.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 226.00'
#2	Primary	232.50'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.01 cfs @ 15.22 hrs HW=230.01' (Free Discharge)
└**1=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=230.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 59P: Level Spreader #5

Inflow Area = 0.382 ac, 24.51% Impervious, Inflow Depth = 0.14" for 2-yr event
Inflow = 0.01 cfs @ 12.44 hrs, Volume= 0.004 af
Outflow = 0.01 cfs @ 12.62 hrs, Volume= 0.004 af, Atten= 30%, Lag= 10.9 min
Discarded = 0.01 cfs @ 12.62 hrs, Volume= 0.004 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 285.03' @ 12.62 hrs Surf.Area= 0.013 ac Storage= 0.000 af
Flood Elev= 288.00' Surf.Area= 0.013 ac Storage= 0.015 af

Plug-Flow detention time= 11.9 min calculated for 0.004 af (100% of inflow)
Center-of-Mass det. time= 11.9 min (1,009.0 - 997.1)

Volume	Invert	Avail.Storage	Storage Description
#1	285.00'	0.015 af	**2.50'W x 225.00'L x 3.00'H Prismatoid** 0.039 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	287.90'	**225.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	285.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 222.00' Phase-In= 0.10'

Discarded OutFlow Max=0.01 cfs @ 12.62 hrs HW=285.03' (Free Discharge)
└**2=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=285.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 60P: Level Spreader #5

Inflow Area = 0.192 ac, 23.42% Impervious, Inflow Depth = 0.10" for 2-yr event
Inflow = 0.00 cfs @ 13.72 hrs, Volume= 0.002 af
Outflow = 0.00 cfs @ 13.92 hrs, Volume= 0.002 af, Atten= 1%, Lag= 12.2 min
Discarded = 0.00 cfs @ 13.92 hrs, Volume= 0.002 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 297.01' @ 13.92 hrs Surf.Area= 0.009 ac Storage= 0.000 af
Flood Elev= 300.00' Surf.Area= 0.009 ac Storage= 0.011 af

Plug-Flow detention time= 11.9 min calculated for 0.002 af (100% of inflow)
Center-of-Mass det. time= 11.9 min (1,040.9 - 1,029.1)

Volume	Invert	Avail.Storage	Storage Description
#1	297.00'	0.011 af	**2.50'W x 160.00'L x 3.00'H Prismatoid** 0.028 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	299.90'	**225.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	297.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 293.00' Phase-In= 0.10'

Discarded OutFlow Max=0.00 cfs @ 13.92 hrs HW=297.01' (Free Discharge)
└**2=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=297.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 61P: Rain Garden #4

Inflow Area = 1.202 ac, 15.45% Impervious, Inflow Depth = 0.09" for 2-yr event
Inflow = 0.02 cfs @ 12.48 hrs, Volume= 0.009 af
Outflow = 0.02 cfs @ 13.02 hrs, Volume= 0.009 af, Atten= 23%, Lag= 32.4 min
Discarded = 0.02 cfs @ 13.02 hrs, Volume= 0.009 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 242.02' @ 13.02 hrs Surf.Area= 833 sf Storage= 13 cf
Flood Elev= 245.00' Surf.Area= 2,237 sf Storage= 4,441 cf

Plug-Flow detention time= 13.6 min calculated for 0.009 af (100% of inflow)
Center-of-Mass det. time= 13.6 min (1,024.0 - 1,010.4)

Volume	Invert	Avail.Storage	Storage Description
#1	242.00'	4,441 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
242.00	827	122.0	0	0	827
243.00	1,228	146.0	1,021	1,021	1,356
244.00	1,700	169.0	1,458	2,479	1,954
245.00	2,237	189.0	1,962	4,441	2,551

Device	Routing	Invert	Outlet Devices
#1	Discarded	242.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 240.00'
#2	Device 3	244.70'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	241.70'	**15.0" Round Culvert** L= 140.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 241.70' / 227.75' S= 0.0996 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Discarded OutFlow Max=0.05 cfs @ 13.02 hrs HW=242.02' (Free Discharge)
└**1=Exfiltration** (Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=242.00' (Free Discharge)
└**3=Culvert** (Passes 0.00 cfs of 0.33 cfs potential flow)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Link 13L: DP-A

Inflow Area = 11.629 ac, 8.58% Impervious, Inflow Depth = 0.01" for 2-yr event
Inflow = 0.04 cfs @ 12.34 hrs, Volume= 0.013 af
Primary = 0.04 cfs @ 12.34 hrs, Volume= 0.013 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 14L: DP-B

Inflow Area = 10.287 ac, 1.73% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 15L: DP-C

Inflow Area = 4.348 ac, 0.14% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 16L: DP-D

Inflow Area = 0.554 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 17L: DP-E

Inflow Area = 6.621 ac, 5.68% Impervious, Inflow Depth = 0.00" for 2-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

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

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 11S: POST-B.1 Runoff Area=183,157 sf 0.99% Impervious Runoff Depth=0.08"
Flow Length=532' Tc=9.8 min CN=38 Runoff=0.04 cfs 0.028 af

Subcatchment 17S: POST-D.1 Runoff Area=24,140 sf 0.00% Impervious Runoff Depth=0.06"
Flow Length=269' Tc=6.0 min CN=37 Runoff=0.00 cfs 0.003 af

Subcatchment 18S: POST-C.1 Runoff Area=135,470 sf 0.20% Impervious Runoff Depth=0.00"
Flow Length=269' Tc=6.0 min CN=32 Runoff=0.00 cfs 0.000 af

Subcatchment 19S: POST-A.2 Runoff Area=17,885 sf 8.12% Impervious Runoff Depth=0.25"
Tc=6.0 min CN=44 Runoff=0.03 cfs 0.008 af

Subcatchment 20S: POST-A.3 Runoff Area=94,941 sf 0.00% Impervious Runoff Depth=0.32"
Tc=6.0 min CN=46 Runoff=0.27 cfs 0.058 af

Subcatchment 21S: POST-A.4 Runoff Area=32,517 sf 0.00% Impervious Runoff Depth=0.94"
Tc=6.0 min CN=59 Runoff=0.68 cfs 0.058 af

Subcatchment 22S: POST-A.1 Runoff Area=84,919 sf 1.71% Impervious Runoff Depth=0.13"
Flow Length=320' Tc=6.0 min CN=40 Runoff=0.03 cfs 0.021 af

Subcatchment 23S: POST-A.5 Runoff Area=12,931 sf 7.92% Impervious Runoff Depth=1.11"
Tc=6.0 min CN=62 Runoff=0.34 cfs 0.027 af

Subcatchment 24S: POST-A.6 Runoff Area=35,352 sf 4.16% Impervious Runoff Depth=0.18"
Tc=6.0 min CN=42 Runoff=0.03 cfs 0.012 af

Subcatchment 25S: POST-A.7 Runoff Area=26,420 sf 5.37% Impervious Runoff Depth=0.32"
Tc=6.0 min CN=46 Runoff=0.08 cfs 0.016 af

Subcatchment 26S: POST-A.8 Runoff Area=12,388 sf 14.26% Impervious Runoff Depth=1.36"
Tc=6.0 min CN=66 Runoff=0.43 cfs 0.032 af

Subcatchment 27S: POST-B.2 Runoff Area=264,958 sf 2.24% Impervious Runoff Depth=0.10"
Flow Length=532' Tc=9.8 min CN=39 Runoff=0.08 cfs 0.052 af

Subcatchment 28S: POST-A.9 Runoff Area=57,178 sf 0.00% Impervious Runoff Depth=0.40"
Flow Length=262' Tc=6.2 min CN=48 Runoff=0.24 cfs 0.043 af

Subcatchment 29S: POST-C.2 Runoff Area=53,944 sf 0.00% Impervious Runoff Depth=0.00"
Tc=0.0 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 30S: POST-A.10 Runoff Area=17,994 sf 23.65% Impervious Runoff Depth=0.83"
Flow Length=290' Tc=6.5 min CN=57 Runoff=0.30 cfs 0.028 af

Subcatchment 31S: POST-A.5A Runoff Area=22,701 sf 0.00% Impervious Runoff Depth=0.83"
Tc=6.0 min CN=57 Runoff=0.39 cfs 0.036 af

Subcatchment 32S: POST-A.6c Runoff Area=5,196 sf 44.77% Impervious Runoff Depth=1.93"
Flow Length=730' Tc=12.4 min CN=74 Runoff=0.22 cfs 0.019 af

Subcatchment 33S: POST-A.6d Runoff Area=14,480 sf 29.89% Impervious Runoff Depth=1.30"
Flow Length=730' Tc=12.4 min CN=65 Runoff=0.38 cfs 0.036 af

Subcatchment 34S: POST-A.6e Runoff Area=18,570 sf 3.33% Impervious Runoff Depth=0.83"
Flow Length=730' Tc=12.4 min CN=57 Runoff=0.26 cfs 0.029 af

Subcatchment 35S: POST-A.11 Runoff Area=37,046 sf 28.27% Impervious Runoff Depth=0.77"
Tc=6.0 min CN=56 Runoff=0.57 cfs 0.055 af

Subcatchment 36S: POST-A.4b Runoff Area=10,993 sf 0.00% Impervious Runoff Depth=0.10"
Flow Length=488' Tc=6.0 min CN=39 Runoff=0.00 cfs 0.002 af

Subcatchment 37S: POST-A.6a Runoff Area=12,105 sf 29.82% Impervious Runoff Depth=0.83"
Flow Length=730' Tc=12.4 min CN=57 Runoff=0.17 cfs 0.019 af

Subcatchment 38S: POST-A.4c Runoff Area=29,954 sf 1.00% Impervious Runoff Depth=0.94"
Flow Length=488' Tc=6.0 min CN=59 Runoff=0.62 cfs 0.054 af

Subcatchment 39S: POST-A.4d Runoff Area=23,538 sf 11.27% Impervious Runoff Depth=1.11"
Flow Length=488' Tc=6.0 min CN=62 Runoff=0.62 cfs 0.050 af

Subcatchment 40S: POST-A.6b Runoff Area=4,400 sf 35.07% Impervious Runoff Depth=1.11"
Flow Length=730' Tc=12.4 min CN=62 Runoff=0.09 cfs 0.009 af

Subcatchment 41S: POST-E.1 Runoff Area=134,832 sf 1.37% Impervious Runoff Depth=0.04"
Tc=10.0 min CN=36 Runoff=0.02 cfs 0.011 af

Subcatchment 42S: POST-E.2 Runoff Area=21,470 sf 8.84% Impervious Runoff Depth=0.25"
Tc=6.0 min CN=44 Runoff=0.04 cfs 0.010 af

Subcatchment 43S: POST-E.4 Runoff Area=102,544 sf 4.62% Impervious Runoff Depth=0.21"
Tc=6.0 min CN=43 Runoff=0.13 cfs 0.042 af

Subcatchment 44S: POST-A.1a Runoff Area=25,447 sf 8.40% Impervious Runoff Depth=0.21"
Flow Length=320' Tc=6.0 min CN=43 Runoff=0.03 cfs 0.010 af

Subcatchment 45S: POST-A.1b Runoff Area=17,282 sf 24.50% Impervious Runoff Depth=0.62"
Flow Length=320' Tc=6.0 min CN=53 Runoff=0.18 cfs 0.021 af

Subcatchment 46S: POST-A.12 Runoff Area=32,064 sf 0.71% Impervious Runoff Depth=0.83"
Flow Length=290' Tc=6.5 min CN=57 Runoff=0.54 cfs 0.051 af

Subcatchment 47S: POST-A.1c Runoff Area=5,117 sf 53.39% Impervious Runoff Depth=1.71"
Flow Length=320' Tc=6.0 min CN=71 Runoff=0.23 cfs 0.017 af

Subcatchment 48S: POST-A.3b Runoff Area=11,358 sf 33.76% Impervious Runoff Depth=0.94"
Tc=6.0 min CN=59 Runoff=0.24 cfs 0.020 af

Subcatchment 49S: POST-E.3 Runoff Area=4,579 sf 40.66% Impervious Runoff Depth=1.17"
Tc=6.0 min CN=63 Runoff=0.13 cfs 0.010 af

Subcatchment 50S: POST-A.3c Runoff Area=12,606 sf 0.00% Impervious Runoff Depth=0.10"
Tc=6.0 min CN=39 Runoff=0.00 cfs 0.002 af

Subcatchment 51S: POST-A.3d Runoff Area=26,983 sf 10.40% Impervious Runoff Depth=0.28"
Tc=6.0 min CN=45 Runoff=0.06 cfs 0.015 af

Subcatchment 53S: POST-A.3e Runoff Area=20,756 sf 0.00% Impervious Runoff Depth=0.40"
Tc=6.0 min CN=48 Runoff=0.09 cfs 0.016 af

Subcatchment 54S: POST-E.5 Runoff Area=8,378 sf 23.42% Impervious Runoff Depth=0.53"
Tc=10.0 min CN=51 Runoff=0.05 cfs 0.008 af

Subcatchment 58S: POST-A.1d Runoff Area=26,666 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=320' Tc=6.0 min CN=30 Runoff=0.00 cfs 0.000 af

Subcatchment 59S: POST-A.3a Runoff Area=20,380 sf 32.76% Impervious Runoff Depth=0.88"
Tc=6.0 min CN=58 Runoff=0.39 cfs 0.034 af

Subcatchment 60S: POST-A.4a Runoff Area=41,361 sf 19.55% Impervious Runoff Depth=0.57"
Flow Length=488' Tc=6.0 min CN=52 Runoff=0.37 cfs 0.045 af

Subcatchment 61S: POST-E.5 Runoff Area=16,624 sf 24.51% Impervious Runoff Depth=0.62"
Tc=6.0 min CN=53 Runoff=0.17 cfs 0.020 af

Pond 17P: Rain Garden #2 Peak Elev=246.15' Storage=1,603 cf Inflow=1.20 cfs 0.112 af
Discarded=0.07 cfs 0.087 af Primary=0.15 cfs 0.025 af Outflow=0.21 cfs 0.112 af

Pond 18P: Infiltration Basin #7 Peak Elev=237.02' Storage=43 cf Inflow=0.08 cfs 0.052 af
Discarded=0.08 cfs 0.052 af Primary=0.00 cfs 0.000 af Outflow=0.08 cfs 0.052 af

Pond 19P: Infiltration Basin #8 Peak Elev=261.00' Storage=8 cf Inflow=0.00 cfs 0.000 af
Discarded=0.00 cfs 0.000 af Primary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 20P: Yard Drain #14 Peak Elev=232.67' Inflow=0.00 cfs 0.000 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0100 '/' Outflow=0.00 cfs 0.000 af

Pond 21P: Rain Garden #7 Peak Elev=234.67' Storage=518 cf Inflow=0.24 cfs 0.043 af
Discarded=0.05 cfs 0.043 af Primary=0.00 cfs 0.000 af Outflow=0.05 cfs 0.043 af

Pond 22P: Level Spreader #3 Peak Elev=227.94' Storage=0.010 af Inflow=0.39 cfs 0.036 af
Discarded=0.06 cfs 0.036 af Primary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.036 af

Pond 23P: YD-15 Peak Elev=221.25' Inflow=0.62 cfs 0.054 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0400 '/' Outflow=0.62 cfs 0.054 af

Pond 24P: Subsurface Infiltration #2 Peak Elev=218.54' Storage=0.026 af Inflow=1.25 cfs 0.115 af
Outflow=0.34 cfs 0.115 af

Pond 25P: DMH-2 Peak Elev=227.50' Inflow=0.00 cfs 0.000 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 '/' Outflow=0.00 cfs 0.000 af

Pond 26P: YD-16 Peak Elev=285.40' Inflow=0.04 cfs 0.010 af
12.0" Round Culvert n=0.013 L=56.0' S=0.0200 '/' Outflow=0.04 cfs 0.010 af

Pond 27P: Rain Garden #1 Peak Elev=246.84' Storage=91 cf Inflow=0.03 cfs 0.008 af
Discarded=0.01 cfs 0.008 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.008 af

Pond 28P: Infiltration Basin #2 Peak Elev=240.07' Storage=137 cf Inflow=0.15 cfs 0.025 af
Discarded=0.11 cfs 0.025 af Primary=0.00 cfs 0.000 af Outflow=0.11 cfs 0.025 af

Pond 29P: YD-17 Peak Elev=284.28' Inflow=0.13 cfs 0.020 af
12.0" Round Culvert n=0.013 L=166.0' S=0.0150 '/' Outflow=0.13 cfs 0.020 af

Pond 30P: Infiltration Basin #4 Peak Elev=236.20' Storage=139 cf Inflow=0.10 cfs 0.029 af
Discarded=0.04 cfs 0.029 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.029 af

Pond 31P: Rain Garden #6 Peak Elev=230.77' Storage=254 cf Inflow=0.43 cfs 0.032 af
Discarded=0.03 cfs 0.020 af Primary=0.25 cfs 0.012 af Outflow=0.28 cfs 0.032 af

Pond 32P: Infiltration Basin #3 Peak Elev=228.21' Storage=564 cf Inflow=0.56 cfs 0.058 af
Discarded=0.16 cfs 0.058 af Primary=0.00 cfs 0.000 af Outflow=0.16 cfs 0.058 af

Pond 33P: Yard Drain #18 Peak Elev=230.41' Inflow=0.31 cfs 0.029 af
12.0" Round Culvert n=0.013 L=66.0' S=0.0106 '/' Outflow=0.31 cfs 0.029 af

Pond 35P: Yard Drain #13 Peak Elev=230.66' Inflow=0.22 cfs 0.019 af
12.0" Round Culvert n=0.013 L=18.0' S=0.0111 '/' Outflow=0.22 cfs 0.019 af

Pond 36P: Yard Drain #7 Peak Elev=247.23' Inflow=0.57 cfs 0.055 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0149 '/' Outflow=0.57 cfs 0.055 af

Pond 37P: Yard Drain #9 Peak Elev=245.53' Inflow=0.00 cfs 0.002 af
12.0" Round Culvert n=0.013 L=50.0' S=0.0200 '/' Outflow=0.00 cfs 0.002 af

Pond 38P: Yard Drain #11 Peak Elev=248.02' Inflow=0.17 cfs 0.019 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0290 '/' Outflow=0.17 cfs 0.019 af

Pond 39P: Rain Garden #5 Peak Elev=235.68' Storage=511 cf Inflow=0.46 cfs 0.047 af
Discarded=0.04 cfs 0.035 af Primary=0.20 cfs 0.012 af Outflow=0.24 cfs 0.047 af

Pond 40P: DMH-3 Peak Elev=225.36' Inflow=0.62 cfs 0.062 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 '/' Outflow=0.62 cfs 0.062 af

Pond 41P: Yard Drain #12 Peak Elev=235.07' Inflow=0.09 cfs 0.009 af
12.0" Round Culvert n=0.013 L=44.0' S=0.0659 '/' Outflow=0.09 cfs 0.009 af

Pond 42P: Infiltration Basin #5 Peak Elev=226.95' Storage=867 cf Inflow=0.62 cfs 0.048 af
Discarded=0.09 cfs 0.048 af Primary=0.00 cfs 0.000 af Outflow=0.09 cfs 0.048 af

Pond 43P: Subsurface Infiltration #1 Peak Elev=235.15' Storage=0.002 af Inflow=0.23 cfs 0.038 af
Outflow=0.09 cfs 0.038 af

Pond 44P: Level Spreader #4 Peak Elev=224.90' Storage=761 cf Inflow=0.54 cfs 0.051 af
Discarded=0.06 cfs 0.049 af Primary=0.02 cfs 0.001 af Outflow=0.08 cfs 0.051 af

Pond 45P: Yard Drain #10 Peak Elev=228.15' Inflow=0.62 cfs 0.050 af
12.0" Round Culvert n=0.013 L=36.0' S=0.0750 '/' Outflow=0.62 cfs 0.050 af

Pond 46P: Yard Drain #1 Peak Elev=237.11' Inflow=0.18 cfs 0.021 af
12.0" Round Culvert n=0.013 L=65.0' S=0.0100 '/' Outflow=0.18 cfs 0.021 af

Pond 47P: Infiltration Basin #6 Peak Elev=279.45' Storage=510 cf Inflow=0.22 cfs 0.063 af
Discarded=0.08 cfs 0.063 af Primary=0.00 cfs 0.000 af Outflow=0.08 cfs 0.063 af

Pond 48P: Infiltration basin #1 Peak Elev=235.36' Storage=264 cf Inflow=0.18 cfs 0.031 af
Discarded=0.05 cfs 0.031 af Primary=0.00 cfs 0.000 af Outflow=0.05 cfs 0.031 af

Pond 49P: Yard Drain #8 Peak Elev=250.07' Inflow=0.24 cfs 0.020 af
12.0" Round Culvert n=0.013 L=100.0' S=0.0380 '/' Outflow=0.24 cfs 0.020 af

Pond 50P: Level Spreader #2 Peak Elev=218.51' Storage=846 cf Inflow=0.68 cfs 0.058 af
Discarded=0.08 cfs 0.058 af Primary=0.00 cfs 0.000 af Outflow=0.08 cfs 0.058 af

Pond 51P: Yard Drain #2 Peak Elev=247.99' Inflow=0.03 cfs 0.021 af
12.0" Round Culvert n=0.013 L=86.0' S=0.0105 '/' Outflow=0.03 cfs 0.021 af

Pond 52P: Level Spreader #1 Peak Elev=235.42' Storage=65 cf Inflow=0.06 cfs 0.015 af
Discarded=0.02 cfs 0.015 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.015 af

Pond 53P: Yard Drain #3 Peak Elev=246.99' Inflow=0.03 cfs 0.021 af
12.0" Round Culvert n=0.013 L=125.0' S=0.0312 '/' Outflow=0.03 cfs 0.021 af

Pond 54P: Yard Drain #4 Peak Elev=242.99' Inflow=0.03 cfs 0.021 af
12.0" Round Culvert n=0.013 L=115.0' S=0.0189 '/' Outflow=0.03 cfs 0.021 af

Pond 55P: Yard Drain #5 Peak Elev=240.72' Inflow=0.03 cfs 0.021 af
12.0" Round Culvert n=0.013 L=72.0' S=0.0500 '/' Outflow=0.03 cfs 0.021 af

Pond 56P: DMH-1 Peak Elev=237.16' Inflow=0.23 cfs 0.038 af
12.0" Round Culvert n=0.013 L=9.0' S=0.0200 '/' Outflow=0.23 cfs 0.038 af

Pond 57P: Yard Drain #6 Peak Elev=240.23' Inflow=0.23 cfs 0.017 af
12.0" Round Culvert n=0.013 L=32.0' S=0.0928 '/' Outflow=0.23 cfs 0.017 af

Pond 58P: Rain Garden #3 Peak Elev=230.70' Storage=172 cf Inflow=0.09 cfs 0.016 af
Discarded=0.02 cfs 0.016 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.016 af

Pond 59P: Level Spreader #5 Peak Elev=285.92' Storage=0.005 af Inflow=0.17 cfs 0.020 af
Discarded=0.03 cfs 0.020 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.020 af

Pond 60P: Level Spreader #5 Peak Elev=297.31' Storage=0.001 af Inflow=0.05 cfs 0.008 af
Discarded=0.02 cfs 0.008 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.008 af

Pond 61P: Rain Garden #4 Peak Elev=242.53' Storage=494 cf Inflow=0.37 cfs 0.047 af
Discarded=0.07 cfs 0.047 af Primary=0.00 cfs 0.000 af Outflow=0.07 cfs 0.047 af

Link 13L: DP-A Inflow=0.45 cfs 0.087 af
Primary=0.45 cfs 0.087 af

Link 14L: DP-B Inflow=0.04 cfs 0.028 af
Primary=0.04 cfs 0.028 af

Link 15L: DP-C Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Link 16L: DP-D Inflow=0.00 cfs 0.003 af
Primary=0.00 cfs 0.003 af

Link 17L: DP-E Inflow=0.02 cfs 0.011 af
Primary=0.02 cfs 0.011 af

Total Runoff Area = 40.441 ac Runoff Volume = 1.032 af Average Runoff Depth = 0.31"
94.67% Pervious = 38.287 ac 5.33% Impervious = 2.154 ac

Summary for Subcatchment 11S: POST-B.1

Runoff = 0.04 cfs @ 15.10 hrs, Volume= 0.028 af, Depth= 0.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
67,412	39	>75% Grass cover, Good, HSG A
657	80	>75% Grass cover, Good, HSG D
97,838	30	Woods, Good, HSG A
15,432	77	Woods, Good, HSG D
1,818	98	Paved parking, HSG A
183,157	38	Weighted Average
181,339		99.01% Pervious Area
1,818		0.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	50	0.3200	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
4.5	338	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.4	144	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.8	532	Total			

Summary for Subcatchment 17S: POST-D.1

Runoff = 0.00 cfs @ 15.38 hrs, Volume= 0.003 af, Depth= 0.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

	Area (sf)	CN	Description
*	20,455	30	Woods, Fair, HSG A
	3,685	79	Woods, Fair, HSG D
	24,140	37	Weighted Average
	24,140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	50	0.3200	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
3.1	219	0.0550	1.17		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.0	269	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 18S: POST-C.1

Runoff = 0.00 cfs @ 24.01 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
28,202	39	>75% Grass cover, Good, HSG A
106,995	30	Woods, Good, HSG A
273	98	Paved parking, HSG A
135,470	32	Weighted Average
135,197		99.80% Pervious Area
273		0.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	50	0.3200	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
3.1	219	0.0550	1.17		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.0	269	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 19S: POST-A.2

Runoff = 0.03 cfs @ 12.40 hrs, Volume= 0.008 af, Depth= 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
16,433	39	>75% Grass cover, Good, HSG A
1,452	98	Paved parking, HSG A
17,885	44	Weighted Average
16,433		91.88% Pervious Area
1,452		8.12% Impervious Area

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

Summary for Subcatchment 20S: POST-A.3

Runoff = 0.27 cfs @ 12.35 hrs, Volume= 0.058 af, Depth= 0.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
31,027	39	>75% Grass cover, Good, HSG A
13,820	61	>75% Grass cover, Good, HSG B
18,769	30	Woods, Good, HSG A
31,325	55	Woods, Good, HSG B
94,941	46	Weighted Average
94,941		100.00% Pervious Area

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

Summary for Subcatchment 21S: POST-A.4

Runoff = 0.68 cfs @ 12.10 hrs, Volume= 0.058 af, Depth= 0.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
20,979	61	>75% Grass cover, Good, HSG B
11,538	55	Woods, Good, HSG B
32,517	59	Weighted Average
32,517		100.00% Pervious Area

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

Summary for Subcatchment 22S: POST-A.1

Runoff = 0.03 cfs @ 14.54 hrs, Volume= 0.021 af, Depth= 0.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
83,471	39	>75% Grass cover, Good, HSG A
1,448	98	Paved parking, HSG A
84,919	40	Weighted Average
83,471		98.29% Pervious Area
1,448		1.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 23S: POST-A.5

Runoff = 0.34 cfs @ 12.10 hrs, Volume= 0.027 af, Depth= 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
1,396	39	>75% Grass cover, Good, HSG A
10,511	61	>75% Grass cover, Good, HSG B
1,024	98	Paved parking, HSG B
12,931	62	Weighted Average
11,907		92.08% Pervious Area
1,024		7.92% Impervious Area

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

Summary for Subcatchment 24S: POST-A.6

Runoff = 0.03 cfs @ 12.47 hrs, Volume= 0.012 af, Depth= 0.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
33,489	39	>75% Grass cover, Good, HSG A
394	61	>75% Grass cover, Good, HSG B
1,469	98	Paved parking, HSG A
35,352	42	Weighted Average
33,883		95.84% Pervious Area
1,469		4.16% Impervious Area

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

Summary for Subcatchment 25S: POST-A.7

Runoff = 0.08 cfs @ 12.35 hrs, Volume= 0.016 af, Depth= 0.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
20,683	39	>75% Grass cover, Good, HSG A
4,318	61	>75% Grass cover, Good, HSG B
1,419	98	Paved parking, HSG A
26,420	46	Weighted Average
25,001		94.63% Pervious Area
1,419		5.37% Impervious Area

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

Summary for Subcatchment 26S: POST-A.8

Runoff = 0.43 cfs @ 12.10 hrs, Volume= 0.032 af, Depth= 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
353	39	>75% Grass cover, Good, HSG A
10,269	61	>75% Grass cover, Good, HSG B
1,766	98	Paved parking, HSG B
12,388	66	Weighted Average
10,622		85.74% Pervious Area
1,766		14.26% Impervious Area

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

Summary for Subcatchment 27S: POST-B.2

Runoff = 0.08 cfs @ 14.82 hrs, Volume= 0.052 af, Depth= 0.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
81,446	39	>75% Grass cover, Good, HSG A
150,988	30	Woods, Good, HSG A
26,576	77	Woods, Good, HSG D
5,948	98	Paved parking, HSG A
264,958	39	Weighted Average
259,010		97.76% Pervious Area
5,948		2.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	50	0.3200	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
4.5	338	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.4	144	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.8	532	Total			

Summary for Subcatchment 28S: POST-A.9

Runoff = 0.24 cfs @ 12.31 hrs, Volume= 0.043 af, Depth= 0.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
10,827	39	>75% Grass cover, Good, HSG A
12,873	61	>75% Grass cover, Good, HSG B
11,770	30	Woods, Good, HSG A
21,708	55	Woods, Good, HSG B
57,178	48	Weighted Average
57,178		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.2200	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
0.1	16	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.3	196	0.1380	2.60		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.2	262	Total			

Summary for Subcatchment 29S: POST-C.2

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
53,944	30	Woods, Good, HSG A
53,944		100.00% Pervious Area

Summary for Subcatchment 30S: POST-A.10

Runoff = 0.30 cfs @ 12.12 hrs, Volume= 0.028 af, Depth= 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
10,710	39	>75% Grass cover, Good, HSG A
3,029	61	>75% Grass cover, Good, HSG B
2,191	98	Paved parking, HSG B
2,064	98	Paved parking, HSG A
17,994	57	Weighted Average
13,739		76.35% Pervious Area
4,255		23.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	50	0.2000	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
1.5	240	0.1500	2.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.5	290	Total			

Summary for Subcatchment 31S: POST-A.5A

Runoff = 0.39 cfs @ 12.11 hrs, Volume= 0.036 af, Depth= 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
1,396	30	Woods, Good, HSG A
14,294	61	>75% Grass cover, Good, HSG B
7,011	55	Woods, Good, HSG B
22,701	57	Weighted Average
22,701		100.00% Pervious Area

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

Summary for Subcatchment 32S: POST-A.6c

Runoff = 0.22 cfs @ 12.17 hrs, Volume= 0.019 af, Depth= 1.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
912	39	>75% Grass cover, Good, HSG A
1,958	61	>75% Grass cover, Good, HSG B
242	98	Paved parking, HSG A
2,084	98	Paved parking, HSG B
5,196	74	Weighted Average
2,870		55.23% Pervious Area
2,326		44.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 33S: POST-A.6d

Runoff = 0.38 cfs @ 12.19 hrs, Volume= 0.036 af, Depth= 1.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
4,343	39	>75% Grass cover, Good, HSG A
5,809	61	>75% Grass cover, Good, HSG B
4,328	98	Paved parking, HSG B
14,480	65	Weighted Average
10,152		70.11% Pervious Area
4,328		29.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 34S: POST-A.6e

Runoff = 0.26 cfs @ 12.21 hrs, Volume= 0.029 af, Depth= 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
4,505	39	>75% Grass cover, Good, HSG A
13,446	61	>75% Grass cover, Good, HSG B
619	98	Paved parking, HSG B
18,570	57	Weighted Average
17,951		96.67% Pervious Area
619		3.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 35S: POST-A.11

Runoff = 0.57 cfs @ 12.11 hrs, Volume= 0.055 af, Depth= 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
26,573	39	>75% Grass cover, Good, HSG A
10,473	98	Paved parking, HSG B
37,046	56	Weighted Average
26,573		71.73% Pervious Area
10,473		28.27% Impervious Area

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

Summary for Subcatchment 36S: POST-A.4b

Runoff = 0.00 cfs @ 14.78 hrs, Volume= 0.002 af, Depth= 0.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
10,993	39	>75% Grass cover, Good, HSG A
10,993		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	50	0.2800	0.42		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
1.4	191	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	30	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	217	0.1200	2.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.0	488	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 37S: POST-A.6a

Runoff = 0.17 cfs @ 12.21 hrs, Volume= 0.019 af, Depth= 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
8,058	39	>75% Grass cover, Good, HSG A
437	61	>75% Grass cover, Good, HSG B
3,038	98	Paved parking, HSG A
572	98	Paved parking, HSG B
12,105	57	Weighted Average
8,495		70.18% Pervious Area
3,610		29.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 38S: POST-A.4c

Runoff = 0.62 cfs @ 12.10 hrs, Volume= 0.054 af, Depth= 0.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
27,058	61	>75% Grass cover, Good, HSG B
2,595	39	>75% Grass cover, Good, HSG A
301	98	Paved parking, HSG A
29,954	59	Weighted Average
29,653		99.00% Pervious Area
301		1.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	50	0.2800	0.42		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
1.4	191	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	30	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	217	0.1200	2.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.0	488	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 39S: POST-A.4d

Runoff = 0.62 cfs @ 12.10 hrs, Volume= 0.050 af, Depth= 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
17,806	61	>75% Grass cover, Good, HSG B
3,080	39	>75% Grass cover, Good, HSG A
1,089	98	Paved parking, HSG A
1,563	98	Paved parking, HSG B
23,538	62	Weighted Average
20,886		88.73% Pervious Area
2,652		11.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	50	0.2800	0.42		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
1.4	191	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	30	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	217	0.1200	2.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.0	488	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 40S: POST-A.6b

Runoff = 0.09 cfs @ 12.19 hrs, Volume= 0.009 af, Depth= 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
2,300	39	>75% Grass cover, Good, HSG A
557	61	>75% Grass cover, Good, HSG B
125	98	Paved parking, HSG A
1,418	98	Paved parking, HSG B
4,400	62	Weighted Average
2,857		64.93% Pervious Area
1,543		35.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 41S: POST-E.1

Runoff = 0.02 cfs @ 16.79 hrs, Volume= 0.011 af, Depth= 0.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
69,446	30	Woods, Good, HSG A
52,643	39	>75% Grass cover, Good, HSG A
10,523	55	Woods, Good, HSG B
374	61	>75% Grass cover, Good, HSG B
1,846	98	Paved parking, HSG A
134,832	36	Weighted Average
132,986		98.63% Pervious Area
1,846		1.37% Impervious Area

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

Summary for Subcatchment 42S: POST-E.2

Runoff = 0.04 cfs @ 12.40 hrs, Volume= 0.010 af, Depth= 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
698	30	Woods, Good, HSG A
18,874	39	>75% Grass cover, Good, HSG A
1,898	98	Paved parking, HSG A
21,470	44	Weighted Average
19,572		91.16% Pervious Area
1,898		8.84% Impervious Area

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

Summary for Subcatchment 43S: POST-E.4

Runoff = 0.13 cfs @ 12.43 hrs, Volume= 0.042 af, Depth= 0.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
39,211	30	Woods, Good, HSG A
27,679	39	>75% Grass cover, Good, HSG A
4,738	98	Paved parking, HSG A
29,214	55	Woods, Good, HSG B
1,702	61	>75% Grass cover, Good, HSG B
102,544	43	Weighted Average
97,806		95.38% Pervious Area
4,738		4.62% Impervious Area

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

Summary for Subcatchment 44S: POST-A.1a

Runoff = 0.03 cfs @ 12.43 hrs, Volume= 0.010 af, Depth= 0.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
20,478	39	>75% Grass cover, Good, HSG A
2,137	98	Paved parking, HSG A
2,832	30	Woods, Good, HSG A
25,447	43	Weighted Average
23,310		91.60% Pervious Area
2,137		8.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 45S: POST-A.1b

Runoff = 0.18 cfs @ 12.12 hrs, Volume= 0.021 af, Depth= 0.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
13,048	39	>75% Grass cover, Good, HSG A
4,234	98	Paved parking, HSG A
17,282	53	Weighted Average
13,048		75.50% Pervious Area
4,234		24.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 46S: POST-A.12

Runoff = 0.54 cfs @ 12.12 hrs, Volume= 0.051 af, Depth= 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
6,230	39	>75% Grass cover, Good, HSG A
25,605	61	>75% Grass cover, Good, HSG B
229	98	Paved parking, HSG B
32,064	57	Weighted Average
31,835		99.29% Pervious Area
229		0.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	50	0.2000	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
1.5	240	0.1500	2.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.5	290	Total			

Summary for Subcatchment 47S: POST-A.1c

Runoff = 0.23 cfs @ 12.09 hrs, Volume= 0.017 af, Depth= 1.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
2,385	39	>75% Grass cover, Good, HSG A
2,732	98	Paved parking, HSG A
5,117	71	Weighted Average
2,385		46.61% Pervious Area
2,732		53.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 48S: POST-A.3b

Runoff = 0.24 cfs @ 12.10 hrs, Volume= 0.020 af, Depth= 0.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
7,524	39	>75% Grass cover, Good, HSG A
3,834	98	Paved parking, HSG A
11,358	59	Weighted Average
7,524		66.24% Pervious Area
3,834		33.76% Impervious Area

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

Summary for Subcatchment 49S: POST-E.3

Runoff = 0.13 cfs @ 12.10 hrs, Volume= 0.010 af, Depth= 1.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
2,717	39	>75% Grass cover, Good, HSG A
1,862	98	Paved parking, HSG A
4,579	63	Weighted Average
2,717		59.34% Pervious Area
1,862		40.66% Impervious Area

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

Summary for Subcatchment 50S: POST-A.3c

Runoff = 0.00 cfs @ 14.78 hrs, Volume= 0.002 af, Depth= 0.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
12,606	39	>75% Grass cover, Good, HSG A
12,606		100.00% Pervious Area

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

Summary for Subcatchment 51S: POST-A.3d

Runoff = 0.06 cfs @ 12.38 hrs, Volume= 0.015 af, Depth= 0.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
24,178	39	>75% Grass cover, Good, HSG A
2,805	98	Paved parking, HSG A
26,983	45	Weighted Average
24,178		89.60% Pervious Area
2,805		10.40% Impervious Area

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

Summary for Subcatchment 53S: POST-A.3e

Runoff = 0.09 cfs @ 12.30 hrs, Volume= 0.016 af, Depth= 0.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
12,681	39	>75% Grass cover, Good, HSG A
8,075	61	>75% Grass cover, Good, HSG B
20,756	48	Weighted Average
20,756		100.00% Pervious Area

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

Summary for Subcatchment 54S: POST-E.5

Runoff = 0.05 cfs @ 12.22 hrs, Volume= 0.008 af, Depth= 0.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
2,123	30	Woods, Good, HSG A
4,293	39	>75% Grass cover, Good, HSG A
1,962	98	Paved parking, HSG A
8,378	51	Weighted Average
6,416		76.58% Pervious Area
1,962		23.42% Impervious Area

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

Summary for Subcatchment 58S: POST-A.1d

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
26,666	30	Woods, Good, HSG A
26,666		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 59S: POST-A.3a

Runoff = 0.39 cfs @ 12.11 hrs, Volume= 0.034 af, Depth= 0.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
13,704	39	>75% Grass cover, Good, HSG A
6,676	98	Paved parking, HSG A
20,380	58	Weighted Average
13,704		67.24% Pervious Area
6,676		32.76% Impervious Area

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

Summary for Subcatchment 60S: POST-A.4a

Runoff = 0.37 cfs @ 12.13 hrs, Volume= 0.045 af, Depth= 0.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
29,986	39	>75% Grass cover, Good, HSG A
3,287	61	>75% Grass cover, Good, HSG B
8,088	98	Paved parking, HSG A
41,361	52	Weighted Average
33,273		80.45% Pervious Area
8,088		19.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	50	0.2800	0.42		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
1.4	191	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	30	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	217	0.1200	2.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.0	488	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 61S: POST-E.5

Runoff = 0.17 cfs @ 12.12 hrs, Volume= 0.020 af, Depth= 0.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.45"

Area (sf)	CN	Description
12,550	39	>75% Grass cover, Good, HSG A
4,074	98	Paved parking, HSG A
16,624	53	Weighted Average
12,550		75.49% Pervious Area
4,074		24.51% Impervious Area

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

Summary for Pond 17P: Rain Garden #2

Inflow Area = 2.279 ac, 22.60% Impervious, Inflow Depth = 0.59" for 10-yr event
Inflow = 1.20 cfs @ 12.11 hrs, Volume= 0.112 af
Outflow = 0.21 cfs @ 12.94 hrs, Volume= 0.112 af, Atten= 82%, Lag= 50.2 min
Discarded = 0.07 cfs @ 12.94 hrs, Volume= 0.087 af
Primary = 0.15 cfs @ 12.94 hrs, Volume= 0.025 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 246.15' @ 12.94 hrs Surf.Area= 1,196 sf Storage= 1,603 cf
Flood Elev= 248.00' Surf.Area= 1,797 sf Storage= 2,865 cf

Plug-Flow detention time= 247.8 min calculated for 0.112 af (100% of inflow)
Center-of-Mass det. time= 247.9 min (1,147.0 - 899.1)

Volume	Invert	Avail.Storage	Storage Description
#1	244.00'	2,865 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
244.00	407	85.0	0	0	407
245.00	689	104.0	542	542	708
246.00	1,102	138.0	887	1,429	1,374
247.00	1,797	202.0	1,435	2,865	3,114

Device	Routing	Invert	Outlet Devices
#1	Discarded	244.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 212.00'
#2	Device 3	246.00'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	243.50'	**12.0" Round Culvert** L= 150.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 243.50' / 242.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.07 cfs @ 12.94 hrs HW=246.15' (Free Discharge)
└**1=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.14 cfs @ 12.94 hrs HW=246.15' (Free Discharge)
└**3=Culvert** (Passes 0.14 cfs of 4.35 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.14 cfs @ 1.32 fps)

Summary for Pond 18P: Infiltration Basin #7

Inflow Area = 6.083 ac, 2.24% Impervious, Inflow Depth = 0.10" for 10-yr event
Inflow = 0.08 cfs @ 14.82 hrs, Volume= 0.052 af
Outflow = 0.08 cfs @ 14.98 hrs, Volume= 0.052 af, Atten= 0%, Lag= 9.6 min
Discarded = 0.08 cfs @ 14.98 hrs, Volume= 0.052 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 237.02' @ 14.98 hrs Surf.Area= 1,758 sf Storage= 43 cf
Flood Elev= 240.00' Surf.Area= 4,106 sf Storage= 8,627 cf

Plug-Flow detention time= 8.7 min calculated for 0.052 af (100% of inflow)
Center-of-Mass det. time= 8.7 min (1,071.5 - 1,062.8)

Volume	Invert	Avail.Storage	Storage Description
#1	237.00'	8,627 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
237.00	1,741	234.0	0	0	1,741
238.00	2,471	252.0	2,095	2,095	2,478
239.00	3,260	271.0	2,856	4,952	3,311
240.00	4,106	291.0	3,675	8,627	4,249

Device	Routing	Invert	Outlet Devices
#1	Discarded	237.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 236.00'

#2 Primary 239.50' **20.0' long x 5.0' breadth Broad-Crested Rectangular Weir**
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.10 cfs @ 14.98 hrs HW=237.02' (Free Discharge)
└**1=Exfiltration** (Controls 0.10 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=237.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 19P: Infiltration Basin #8

Inflow Area = 3.110 ac, 0.20% Impervious, Inflow Depth = 0.00" for 10-yr event
Inflow = 0.00 cfs @ 24.01 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 24.06 hrs, Volume= 0.000 af, Atten= 21%, Lag= 2.9 min
Discarded = 0.00 cfs @ 24.06 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 261.00' @ 24.06 hrs Surf.Area= 2,049 sf Storage= 8 cf
Flood Elev= 295.00' Surf.Area= 3,949 sf Storage= 8,862 cf

Plug-Flow detention time= 83.6 min calculated for 0.000 af (100% of inflow)
Center-of-Mass det. time= 83.7 min (1,436.8 - 1,353.1)

Volume	Invert	Avail.Storage	Storage Description
#1	261.00'	8,862 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
261.00	2,047	182.0	0	0	2,047
262.00	2,623	202.0	2,329	2,329	2,688
263.00	3,258	221.0	2,935	5,264	3,361
264.00	3,949	240.0	3,598	8,862	4,095

Device	Routing	Invert	Outlet Devices
#1	Discarded	261.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 259.00'
#2	Primary	263.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.11 cfs @ 24.06 hrs HW=261.00' (Free Discharge)
└**1=Exfiltration** (Controls 0.11 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=261.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 20P: Yard Drain #14

Inflow Area = 1.313 ac, 0.00% Impervious, Inflow Depth = 0.00" for 10-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 232.67' @ 0.00 hrs
Flood Elev= 257.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	232.67'	**12.0" Round Culvert** L= 71.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 232.67' / 231.96' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=232.67' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)

Summary for Pond 21P: Rain Garden #7

Inflow Area = 1.313 ac, 0.00% Impervious, Inflow Depth = 0.40" for 10-yr event
Inflow = 0.24 cfs @ 12.31 hrs, Volume= 0.043 af
Outflow = 0.05 cfs @ 15.07 hrs, Volume= 0.043 af, Atten= 77%, Lag= 166.1 min
Discarded = 0.05 cfs @ 15.07 hrs, Volume= 0.043 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 234.67' @ 15.07 hrs Surf.Area= 888 sf Storage= 518 cf
Flood Elev= 295.00' Surf.Area= 1,938 sf Storage= 3,728 cf

Plug-Flow detention time= 150.4 min calculated for 0.043 af (100% of inflow)
Center-of-Mass det. time= 150.2 min (1,096.0 - 945.8)

Volume	Invert	Avail.Storage	Storage Description
#1	234.00'	3,728 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
234.00	665	104.0	0	0	665
235.00	1,010	126.0	832	832	1,084
236.00	1,435	149.0	1,216	2,048	1,606
237.00	1,938	172.0	1,680	3,728	2,215

Device	Routing	Invert	Outlet Devices
#1	Discarded	234.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 228.00'
#2	Device 3	236.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	233.50'	**12.0" Round Culvert** L= 73.0' CPP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 233.50' / 232.77' S= 0.0100 '/' Cc= 0.900
n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.05 cfs @ 15.07 hrs HW=234.67' (Free Discharge)
└**1=Exfiltration** (Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=234.00' (Free Discharge)
└**3=Culvert** (Passes 0.00 cfs of 0.75 cfs potential flow)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 22P: Level Spreader #3

Inflow Area =	0.521 ac,	0.00% Impervious,	Inflow Depth =	0.83"	for 10-yr event
Inflow =	0.39 cfs @	12.11 hrs,	Volume=	0.036 af	
Outflow =	0.06 cfs @	13.08 hrs,	Volume=	0.036 af,	Atten= 84%, Lag= 58.2 min
Discarded =	0.06 cfs @	13.08 hrs,	Volume=	0.036 af	
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 227.94' @ 13.08 hrs Surf.Area= 0.021 ac Storage= 0.010 af
Flood Elev= 230.00' Surf.Area= 0.021 ac Storage= 0.032 af

Plug-Flow detention time= 68.1 min calculated for 0.036 af (100% of inflow)
Center-of-Mass det. time= 68.1 min (964.2 - 896.1)

Volume	Invert	Avail.Storage	Storage Description
#1	227.00'	0.032 af	**3.00'W x 310.00'L x 3.00'H Prismatoid** 0.064 af Overall x 50.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	229.75'	**200.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	227.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 222.00' Phase-In= 0.10'

Discarded OutFlow Max=0.06 cfs @ 13.08 hrs HW=227.94' (Free Discharge)
└**2=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=227.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 23P: YD-15

Inflow Area =	0.688 ac,	1.00% Impervious,	Inflow Depth =	0.94"	for 10-yr event
Inflow =	0.62 cfs @	12.10 hrs,	Volume=	0.054 af	
Outflow =	0.62 cfs @	12.10 hrs,	Volume=	0.054 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.62 cfs @	12.10 hrs,	Volume=	0.054 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 221.25' @ 12.10 hrs
Flood Elev= 223.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	220.80'	**12.0" Round Culvert** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 220.80' / 220.60' S= 0.0400 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.62 cfs @ 12.10 hrs HW=221.25' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.62 cfs @ 1.81 fps)

Summary for Pond 24P: Subsurface Infiltration #2

Inflow Area =	3.005 ac,	11.98% Impervious,	Inflow Depth =	0.46"	for 10-yr event
Inflow =	1.25 cfs @	12.10 hrs,	Volume=	0.115 af	
Outflow =	0.34 cfs @	12.71 hrs,	Volume=	0.115 af,	Atten= 73%, Lag= 36.4 min
Discarded =	0.34 cfs @	12.71 hrs,	Volume=	0.115 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 218.54' @ 12.71 hrs Surf.Area= 0.110 ac Storage= 0.026 af

Plug-Flow detention time= 25.0 min calculated for 0.115 af (100% of inflow)
Center-of-Mass det. time= 25.0 min (898.8 - 873.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	218.00'	0.091 af	**54.67'W x 87.50'L x 3.54'H Field A** 0.389 af Overall - 0.161 af Embedded = 0.228 af x 40.0% Voids
#2A	218.50'	0.161 af	**Cultec R-330XLHD** x 132 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 11 rows
		0.252 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	218.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 216.00'

Discarded OutFlow Max=0.34 cfs @ 12.71 hrs HW=218.54' (Free Discharge)
└**1=Exfiltration** (Controls 0.34 cfs)

Summary for Pond 25P: DMH-2

Inflow Area =	1.202 ac,	15.45% Impervious,	Inflow Depth =	0.00"	for 10-yr event
Inflow =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	
Outflow =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 227.50' @ 0.00 hrs
Flood Elev= 230.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	227.50'	**12.0" Round Culvert** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 227.50' / 227.40' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=227.50' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)

Summary for Pond 26P: YD-16

Inflow Area = 0.493 ac, 8.84% Impervious, Inflow Depth = 0.25" for 10-yr event
Inflow = 0.04 cfs @ 12.40 hrs, Volume= 0.010 af
Outflow = 0.04 cfs @ 12.40 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min
Primary = 0.04 cfs @ 12.40 hrs, Volume= 0.010 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 285.40' @ 12.40 hrs
Flood Elev= 287.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	285.30'	**12.0" Round Culvert** L= 56.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 285.30' / 284.18' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.04 cfs @ 12.40 hrs HW=285.40' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.04 cfs @ 0.86 fps)

Summary for Pond 27P: Rain Garden #1

Inflow Area = 0.411 ac, 8.12% Impervious, Inflow Depth = 0.25" for 10-yr event
Inflow = 0.03 cfs @ 12.40 hrs, Volume= 0.008 af
Outflow = 0.01 cfs @ 15.88 hrs, Volume= 0.008 af, Atten= 69%, Lag= 208.4 min
Discarded = 0.01 cfs @ 15.88 hrs, Volume= 0.008 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 246.84' @ 15.88 hrs Surf.Area= 171 sf Storage= 91 cf
Flood Elev= 249.00' Surf.Area= 789 sf Storage= 1,042 cf

Plug-Flow detention time= 125.9 min calculated for 0.008 af (100% of inflow)
Center-of-Mass det. time= 126.0 min (1,108.3 - 982.4)

Volume	Invert	Avail.Storage	Storage Description
#1	246.00'	1,042 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
246.00	57	32.5	0	0	57
247.00	201	56.4	122	122	232
248.00	441	85.0	313	435	561
249.00	789	119.0	607	1,042	1,123

Device	Routing	Invert	Outlet Devices
#1	Discarded	246.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 212.00'
#2	Device 3	248.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	246.00'	**12.0" Round Culvert** L= 56.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 246.00' / 244.50' S= 0.0268 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.01 cfs @ 15.88 hrs HW=246.84' (Free Discharge)
└**1=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=246.00' (Free Discharge)
└**3=Culvert** (Controls 0.00 cfs)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 28P: Infiltration Basin #2

Inflow Area = 2.279 ac, 22.60% Impervious, Inflow Depth = 0.13" for 10-yr event
Inflow = 0.15 cfs @ 12.94 hrs, Volume= 0.025 af
Outflow = 0.11 cfs @ 13.56 hrs, Volume= 0.025 af, Atten= 26%, Lag= 36.8 min
Discarded = 0.11 cfs @ 13.56 hrs, Volume= 0.025 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 240.07' @ 13.56 hrs Surf.Area= 1,885 sf Storage= 137 cf
Flood Elev= 246.00' Surf.Area= 5,174 sf Storage= 13,642 cf

Plug-Flow detention time= 18.4 min calculated for 0.025 af (100% of inflow)
Center-of-Mass det. time= 18.4 min (868.0 - 849.5)

Volume	Invert	Avail.Storage	Storage Description
#1	240.00'	13,642 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
240.00	1,835	233.0	0	0	1,835
241.00	2,573	254.0	2,194	2,194	2,684
242.00	3,368	274.0	2,962	5,155	3,565
243.00	4,232	294.0	3,792	8,947	4,513
244.00	5,174	315.0	4,695	13,642	5,575

Device	Routing	Invert	Outlet Devices
#1	Discarded	240.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 236.00'
#2	Primary	243.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.11 cfs @ 13.56 hrs HW=240.07' (Free Discharge)
└**1=Exfiltration** (Controls 0.11 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=240.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 29P: YD-17

Inflow Area = 0.598 ac, 14.43% Impervious, Inflow Depth = 0.41" for 10-yr event
Inflow = 0.13 cfs @ 12.10 hrs, Volume= 0.020 af
Outflow = 0.13 cfs @ 12.10 hrs, Volume= 0.020 af, Atten= 0%, Lag= 0.0 min
Primary = 0.13 cfs @ 12.10 hrs, Volume= 0.020 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 284.28' @ 12.10 hrs
Flood Elev= 287.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	284.08'	**12.0" Round Culvert** L= 166.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 284.08' / 281.59' S= 0.0150 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.13 cfs @ 12.10 hrs HW=284.28' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.13 cfs @ 1.19 fps)

Summary for Pond 30P: Infiltration Basin #4

Inflow Area = 1.418 ac, 4.68% Impervious, Inflow Depth = 0.24" for 10-yr event
Inflow = 0.10 cfs @ 12.41 hrs, Volume= 0.029 af
Outflow = 0.04 cfs @ 14.66 hrs, Volume= 0.029 af, Atten= 57%, Lag= 134.9 min
Discarded = 0.04 cfs @ 14.66 hrs, Volume= 0.029 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 236.20' @ 14.66 hrs Surf.Area= 745 sf Storage= 139 cf
Flood Elev= 241.00' Surf.Area= 3,125 sf Storage= 8,911 cf

Plug-Flow detention time= 33.0 min calculated for 0.029 af (100% of inflow)
Center-of-Mass det. time= 33.0 min (1,014.9 - 981.9)

Volume	Invert	Avail.Storage	Storage Description
#1	236.00'	8,911 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
236.00	678	116.0	0	0	678
237.00	1,054	135.0	859	859	1,078
238.00	1,487	154.0	1,264	2,123	1,538
239.00	1,976	173.0	1,726	3,849	2,059
240.00	2,522	191.0	2,243	6,093	2,611
241.00	3,125	210.0	2,818	8,911	3,250

Device	Routing	Invert	Outlet Devices
#1	Discarded	236.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 228.00'
#2	Device 3	238.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	235.50'	**12.0" Round Culvert** L= 91.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 235.50' / 230.20' S= 0.0582 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#4	Primary	240.50'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.04 cfs @ 14.66 hrs HW=236.20' (Free Discharge)
└**1=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=236.00' (Free Discharge)
└**3=Culvert** (Passes 0.00 cfs of 0.75 cfs potential flow)
└**2=Orifice/Grate** (Controls 0.00 cfs)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 31P: Rain Garden #6

Inflow Area = 1.597 ac, 2.54% Impervious, Inflow Depth = 0.24" for 10-yr event
Inflow = 0.43 cfs @ 12.10 hrs, Volume= 0.032 af
Outflow = 0.28 cfs @ 12.20 hrs, Volume= 0.032 af, Atten= 35%, Lag= 6.4 min
Discarded = 0.03 cfs @ 12.20 hrs, Volume= 0.020 af
Primary = 0.25 cfs @ 12.20 hrs, Volume= 0.012 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 230.77' @ 12.20 hrs Surf.Area= 421 sf Storage= 254 cf
Flood Elev= 233.00' Surf.Area= 1,148 sf Storage= 1,932 cf

Plug-Flow detention time= 51.6 min calculated for 0.032 af (100% of inflow)
Center-of-Mass det. time= 51.6 min (917.1 - 865.5)

Volume	Invert	Avail.Storage	Storage Description
#1	230.00'	3,369 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
230.00	242	63.2	0	0	242
231.00	483	87.0	356	356	536
232.00	773	106.0	622	978	844
233.00	1,148	128.0	954	1,932	1,270
234.00	1,747	162.0	1,437	3,369	2,068

Device	Routing	Invert	Outlet Devices
#1	Discarded	230.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 228.00' Phase-In= 0.01'
#2	Primary	233.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	230.50'	**12.0" Round Culvert** L= 80.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 230.50' / 228.50' S= 0.0250 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.03 cfs @ 12.20 hrs HW=230.77' (Free Discharge)
└**1=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.25 cfs @ 12.20 hrs HW=230.77' (Free Discharge)
├**2=Orifice/Grate** (Controls 0.00 cfs)
└**3=Culvert** (Inlet Controls 0.25 cfs @ 1.41 fps)

Summary for Pond 32P: Infiltration Basin #3

Inflow Area =	2.065 ac,	8.20% Impervious,	Inflow Depth =	0.34"	for 10-yr event
Inflow =	0.56 cfs @	12.19 hrs,	Volume=	0.058 af	
Outflow =	0.16 cfs @	12.70 hrs,	Volume=	0.058 af,	Atten= 71%, Lag= 30.2 min
Discarded =	0.16 cfs @	12.70 hrs,	Volume=	0.058 af	
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 228.21' @ 12.70 hrs Surf.Area= 2,811 sf Storage= 564 cf
Flood Elev= 231.00' Surf.Area= 5,349 sf Storage= 11,854 cf

Plug-Flow detention time= 25.4 min calculated for 0.058 af (100% of inflow)
Center-of-Mass det. time= 25.4 min (907.0 - 881.6)

Volume	Invert	Avail.Storage	Storage Description
#1	228.00'	11,854 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
228.00	2,646	272.0	0	0	2,646
229.00	3,491	291.0	3,059	3,059	3,543
230.00	4,392	310.0	3,933	6,992	4,500
231.00	5,349	329.0	4,863	11,854	5,517

Device	Routing	Invert	Outlet Devices
#1	Discarded	228.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 224.00'
#2	Primary	229.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.16 cfs @ 12.70 hrs HW=228.21' (Free Discharge)
└**1=Exfiltration** (Controls 0.16 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=228.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 33P: Yard Drain #18

Inflow Area =	1.638 ac,	9.47% Impervious,	Inflow Depth =	0.21"	for 10-yr event
Inflow =	0.31 cfs @	12.18 hrs,	Volume=	0.029 af	
Outflow =	0.31 cfs @	12.18 hrs,	Volume=	0.029 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.31 cfs @	12.18 hrs,	Volume=	0.029 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 230.41' @ 12.18 hrs
Flood Elev= 232.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	230.10'	**12.0" Round Culvert** L= 66.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 230.10' / 229.40' S= 0.0106 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.31 cfs @ 12.18 hrs HW=230.41' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.31 cfs @ 1.50 fps)

Summary for Pond 35P: Yard Drain #13

Inflow Area =	0.119 ac,	44.77% Impervious,	Inflow Depth =	1.93"	for 10-yr event
Inflow =	0.22 cfs @	12.17 hrs,	Volume=	0.019 af	
Outflow =	0.22 cfs @	12.17 hrs,	Volume=	0.019 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.22 cfs @	12.17 hrs,	Volume=	0.019 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 230.66' @ 12.17 hrs
Flood Elev= 232.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	230.40'	**12.0" Round Culvert** L= 18.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 230.40' / 230.20' S= 0.0111 '/' Cc= 0.900

n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.22 cfs @ 12.17 hrs HW=230.66' (Free Discharge)
1=Culvert (Inlet Controls 0.22 cfs @ 1.36 fps)

Summary for Pond 36P: Yard Drain #7

Inflow Area = 0.850 ac, 28.27% Impervious, Inflow Depth = 0.77" for 10-yr event
Inflow = 0.57 cfs @ 12.11 hrs, Volume= 0.055 af
Outflow = 0.57 cfs @ 12.11 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min
Primary = 0.57 cfs @ 12.11 hrs, Volume= 0.055 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 247.23' @ 12.11 hrs
Flood Elev= 249.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	246.80'	**12.0" Round Culvert** L= 71.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 246.80' / 245.74' S= 0.0149 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.57 cfs @ 12.11 hrs HW=247.23' (Free Discharge)
1=Culvert (Inlet Controls 0.57 cfs @ 1.77 fps)

Summary for Pond 37P: Yard Drain #9

Inflow Area = 0.252 ac, 0.00% Impervious, Inflow Depth = 0.10" for 10-yr event
Inflow = 0.00 cfs @ 14.78 hrs, Volume= 0.002 af
Outflow = 0.00 cfs @ 14.78 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 14.78 hrs, Volume= 0.002 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 245.53' @ 14.78 hrs
Flood Elev= 248.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	245.50'	**12.0" Round Culvert** L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 245.50' / 244.50' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 14.78 hrs HW=245.53' (Free Discharge)
1=Culvert (Inlet Controls 0.00 cfs @ 0.47 fps)

Summary for Pond 38P: Yard Drain #11

Inflow Area = 0.278 ac, 29.82% Impervious, Inflow Depth = 0.83" for 10-yr event
Inflow = 0.17 cfs @ 12.21 hrs, Volume= 0.019 af
Outflow = 0.17 cfs @ 12.21 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min
Primary = 0.17 cfs @ 12.21 hrs, Volume= 0.019 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 248.02' @ 12.21 hrs
Flood Elev= 249.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	247.80'	**12.0" Round Culvert** L= 71.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 247.80' / 245.74' S= 0.0290 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.17 cfs @ 12.21 hrs HW=248.02' (Free Discharge)
1=Culvert (Inlet Controls 0.17 cfs @ 1.27 fps)

Summary for Pond 39P: Rain Garden #5

Inflow Area = 0.575 ac, 18.51% Impervious, Inflow Depth = 0.97" for 10-yr event
Inflow = 0.46 cfs @ 12.12 hrs, Volume= 0.047 af
Outflow = 0.24 cfs @ 12.46 hrs, Volume= 0.047 af, Atten= 48%, Lag= 20.4 min
Discarded = 0.04 cfs @ 12.46 hrs, Volume= 0.035 af
Primary = 0.20 cfs @ 12.46 hrs, Volume= 0.012 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 235.68' @ 12.46 hrs Surf.Area= 493 sf Storage= 511 cf
Flood Elev= 236.00' Surf.Area= 580 sf Storage= 684 cf

Plug-Flow detention time= 129.8 min calculated for 0.047 af (100% of inflow)
Center-of-Mass det. time= 129.8 min (1,017.6 - 887.8)

Volume	Invert	Avail.Storage	Storage Description
#1	234.00'	684 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
234.00	144	51.0	0	0	144
235.00	334	73.0	232	232	370
236.00	580	91.0	451	684	619

Device	Routing	Invert	Outlet Devices
#1	Discarded	234.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 232.00'
#2	Device 3	235.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	232.00'	**15.0" Round Culvert** L= 130.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 232.00' / 225.00' S= 0.0538 '/' Cc= 0.900

n= 0.013, Flow Area= 1.23 sf

Discarded OutFlow Max=0.04 cfs @ 12.46 hrs HW=235.68' (Free Discharge)
└─**1=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.20 cfs @ 12.46 hrs HW=235.68' (Free Discharge)
└─**3=Culvert** (Passes 0.20 cfs of 8.15 cfs potential flow)
└─**2=Orifice/Grate** (Orifice Controls 0.20 cfs @ 1.44 fps)

Summary for Pond 40P: DMH-3

Inflow Area = 1.115 ac, 15.00% Impervious, Inflow Depth = 0.67" for 10-yr event
Inflow = 0.62 cfs @ 12.10 hrs, Volume= 0.062 af
Outflow = 0.62 cfs @ 12.10 hrs, Volume= 0.062 af, Atten= 0%, Lag= 0.0 min
Primary = 0.62 cfs @ 12.10 hrs, Volume= 0.062 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 225.36' @ 12.10 hrs
Flood Elev= 229.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	224.90'	**12.0" Round Culvert** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 224.90' / 224.80' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.62 cfs @ 12.10 hrs HW=225.36' (Free Discharge)
└─**1=Culvert** (Barrel Controls 0.62 cfs @ 2.56 fps)

Summary for Pond 41P: Yard Drain #12

Inflow Area = 0.101 ac, 35.07% Impervious, Inflow Depth = 1.11" for 10-yr event
Inflow = 0.09 cfs @ 12.19 hrs, Volume= 0.009 af
Outflow = 0.09 cfs @ 12.19 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min
Primary = 0.09 cfs @ 12.19 hrs, Volume= 0.009 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 235.07' @ 12.19 hrs
Flood Elev= 237.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	234.90'	**12.0" Round Culvert** L= 44.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 234.90' / 232.00' S= 0.0659 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.09 cfs @ 12.19 hrs HW=235.07' (Free Discharge)
└─**1=Culvert** (Inlet Controls 0.09 cfs @ 1.09 fps)

Summary for Pond 42P: Infiltration Basin #5

Inflow Area = 1.929 ac, 7.25% Impervious, Inflow Depth = 0.30" for 10-yr event
Inflow = 0.62 cfs @ 12.19 hrs, Volume= 0.048 af
Outflow = 0.09 cfs @ 13.11 hrs, Volume= 0.048 af, Atten= 85%, Lag= 54.8 min
Discarded = 0.09 cfs @ 13.11 hrs, Volume= 0.048 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 226.95' @ 13.11 hrs Surf.Area= 1,317 sf Storage= 867 cf
Flood Elev= 229.00' Surf.Area= 3,122 sf Storage= 5,125 cf

Plug-Flow detention time= 107.9 min calculated for 0.048 af (100% of inflow)
Center-of-Mass det. time= 107.9 min (954.8 - 846.9)

Volume	Invert	Avail.Storage	Storage Description
#1	226.00'	5,125 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
226.00	561	96.0	0	0	561
227.00	1,365	167.0	934	934	2,053
228.00	1,979	216.0	1,663	2,596	3,558
229.00	3,122	277.0	2,529	5,125	5,964

Device	Routing	Invert	Outlet Devices
#1	Discarded	226.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 223.54'
#2	Primary	228.50'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.09 cfs @ 13.11 hrs HW=226.95' (Free Discharge)
└─**1=Exfiltration** (Controls 0.09 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=226.00' (Free Discharge)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 43P: Subsurface Infiltration #1

Inflow Area = 2.067 ac, 4.64% Impervious, Inflow Depth = 0.22" for 10-yr event
Inflow = 0.23 cfs @ 12.09 hrs, Volume= 0.038 af
Outflow = 0.09 cfs @ 12.36 hrs, Volume= 0.038 af, Atten= 59%, Lag= 16.2 min
Discarded = 0.09 cfs @ 12.36 hrs, Volume= 0.038 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 235.15' @ 12.36 hrs Surf.Area= 0.039 ac Storage= 0.002 af

Plug-Flow detention time= 6.0 min calculated for 0.038 af (100% of inflow)

Center-of-Mass det. time= 6.0 min (961.7 - 955.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	235.00'	0.033 af	**20.83'W x 80.50'L x 3.54'H Field A** 0.136 af Overall - 0.054 af Embedded = 0.083 af x 40.0% Voids
#2A	235.50'	0.054 af	**Cultec R-330XLHD** x 44 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 4 rows
		0.087 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	235.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 222.80'

Discarded OutFlow Max=0.09 cfs @ 12.36 hrs HW=235.15' (Free Discharge)
└**1=Exfiltration** (Controls 0.09 cfs)

Summary for Pond 44P: Level Spreader #4

Inflow Area = 0.736 ac, 0.71% Impervious, Inflow Depth = 0.83" for 10-yr event
Inflow = 0.54 cfs @ 12.12 hrs, Volume= 0.051 af
Outflow = 0.08 cfs @ 13.30 hrs, Volume= 0.051 af, Atten= 85%, Lag= 71.1 min
Discarded = 0.06 cfs @ 13.30 hrs, Volume= 0.049 af
Primary = 0.02 cfs @ 13.30 hrs, Volume= 0.001 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 224.90' @ 13.30 hrs Surf.Area= 525 sf Storage= 761 cf
Flood Elev= 225.00' Surf.Area= 525 sf Storage= 788 cf

Plug-Flow detention time= 161.5 min calculated for 0.051 af (100% of inflow)
Center-of-Mass det. time= 161.5 min (1,058.0 - 896.6)

Volume	Invert	Avail.Storage	Storage Description
#1	222.00'	788 cf	**3.00'W x 175.00'L x 3.00'H Prismatoid** 1,575 cf Overall x 50.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	224.90'	**150.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	222.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 219.00' Phase-In= 0.01'

Discarded OutFlow Max=0.06 cfs @ 13.30 hrs HW=224.90' (Free Discharge)
└**2=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.01 cfs @ 13.30 hrs HW=224.90' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.01 cfs @ 0.07 fps)

Summary for Pond 45P: Yard Drain #10

Inflow Area = 0.540 ac, 11.27% Impervious, Inflow Depth = 1.11" for 10-yr event
Inflow = 0.62 cfs @ 12.10 hrs, Volume= 0.050 af
Outflow = 0.62 cfs @ 12.10 hrs, Volume= 0.050 af, Atten= 0%, Lag= 0.0 min
Primary = 0.62 cfs @ 12.10 hrs, Volume= 0.050 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 228.15' @ 12.10 hrs
Flood Elev= 230.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	227.70'	**12.0" Round Culvert** L= 36.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 227.70' / 225.00' S= 0.0750 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.62 cfs @ 12.10 hrs HW=228.15' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.62 cfs @ 1.81 fps)

Summary for Pond 46P: Yard Drain #1

Inflow Area = 0.397 ac, 24.50% Impervious, Inflow Depth = 0.62" for 10-yr event
Inflow = 0.18 cfs @ 12.12 hrs, Volume= 0.021 af
Outflow = 0.18 cfs @ 12.12 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.0 min
Primary = 0.18 cfs @ 12.12 hrs, Volume= 0.021 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 237.11' @ 12.12 hrs
Flood Elev= 239.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	236.90'	**12.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 236.90' / 236.25' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.18 cfs @ 12.12 hrs HW=237.11' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.18 cfs @ 2.28 fps)

Summary for Pond 47P: Infiltration Basin #6

Inflow Area = 2.952 ac, 6.61% Impervious, Inflow Depth = 0.25" for 10-yr event
Inflow = 0.22 cfs @ 12.40 hrs, Volume= 0.063 af
Outflow = 0.08 cfs @ 15.54 hrs, Volume= 0.063 af, Atten= 65%, Lag= 188.2 min
Discarded = 0.08 cfs @ 15.54 hrs, Volume= 0.063 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 279.45' @ 15.54 hrs Surf.Area= 1,196 sf Storage= 510 cf
Flood Elev= 283.00' Surf.Area= 2,844 sf Storage= 7,353 cf

Plug-Flow detention time= 70.5 min calculated for 0.063 af (100% of inflow)
Center-of-Mass det. time= 70.5 min (1,043.2 - 972.7)

Volume	Invert	Avail.Storage	Storage Description
#1	279.00'	7,353 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
279.00	1,058	153.0	0	0	1,058
280.00	1,373	169.0	1,212	1,212	1,498
281.00	1,777	206.0	1,571	2,783	2,618
282.00	2,270	248.0	2,018	4,801	4,153
283.00	2,844	268.0	2,552	7,353	5,013

Device	Routing	Invert	Outlet Devices
#1	Discarded	279.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 276.00'
#2	Primary	282.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.08 cfs @ 15.54 hrs HW=279.45' (Free Discharge)
└**1=Exfiltration** (Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=279.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 48P: Infiltration basin #1

Inflow Area = 0.981 ac, 14.91% Impervious, Inflow Depth = 0.38" for 10-yr event
Inflow = 0.18 cfs @ 12.12 hrs, Volume= 0.031 af
Outflow = 0.05 cfs @ 14.00 hrs, Volume= 0.031 af, Atten= 75%, Lag= 112.6 min
Discarded = 0.05 cfs @ 14.00 hrs, Volume= 0.031 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 235.36' @ 14.00 hrs Surf.Area= 798 sf Storage= 264 cf
Flood Elev= 238.00' Surf.Area= 2,137 sf Storage= 3,986 cf

Plug-Flow detention time= 57.7 min calculated for 0.031 af (100% of inflow)
Center-of-Mass det. time= 57.7 min (999.1 - 941.4)

Volume	Invert	Avail.Storage	Storage Description
#1	235.00'	3,986 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
235.00	670	115.0	0	0	670
236.00	1,054	137.0	855	855	1,129
237.00	1,552	172.0	1,295	2,150	2,003
238.00	2,137	202.0	1,837	3,986	2,915

Device	Routing	Invert	Outlet Devices
#1	Discarded	235.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 220.00'
#2	Primary	237.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.05 cfs @ 14.00 hrs HW=235.36' (Free Discharge)
└**1=Exfiltration** (Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 49P: Yard Drain #8

Inflow Area = 0.261 ac, 33.76% Impervious, Inflow Depth = 0.94" for 10-yr event
Inflow = 0.24 cfs @ 12.10 hrs, Volume= 0.020 af
Outflow = 0.24 cfs @ 12.10 hrs, Volume= 0.020 af, Atten= 0%, Lag= 0.0 min
Primary = 0.24 cfs @ 12.10 hrs, Volume= 0.020 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 250.07' @ 12.10 hrs
Flood Elev= 252.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	249.80'	**12.0" Round Culvert** L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 249.80' / 246.00' S= 0.0380 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.24 cfs @ 12.10 hrs HW=250.07' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.24 cfs @ 1.39 fps)

Summary for Pond 50P: Level Spreader #2

Inflow Area = 0.746 ac, 0.00% Impervious, Inflow Depth = 0.94" for 10-yr event
Inflow = 0.68 cfs @ 12.10 hrs, Volume= 0.058 af
Outflow = 0.08 cfs @ 13.55 hrs, Volume= 0.058 af, Atten= 87%, Lag= 86.6 min
Discarded = 0.08 cfs @ 13.55 hrs, Volume= 0.058 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 218.51' @ 13.55 hrs Surf.Area= 675 sf Storage= 846 cf
Flood Elev= 219.00' Surf.Area= 675 sf Storage= 1,013 cf

Plug-Flow detention time= 117.5 min calculated for 0.058 af (100% of inflow)
Center-of-Mass det. time= 117.5 min (1,005.8 - 888.3)

Volume	Invert	Avail.Storage	Storage Description
#1	216.00'	1,013 cf	**3.00'W x 225.00'L x 3.00'H Prismatoid** 2,025 cf Overall x 50.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	218.75'	**190.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	216.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 214.00' Phase-In= 0.01'

Discarded OutFlow Max=0.08 cfs @ 13.55 hrs HW=218.51' (Free Discharge)
└**2=Exfiltration** (Controls 0.08 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=216.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 51P: Yard Drain #2

Inflow Area = 1.949 ac, 1.71% Impervious, Inflow Depth = 0.13" for 10-yr event
Inflow = 0.03 cfs @ 14.54 hrs, Volume= 0.021 af
Outflow = 0.03 cfs @ 14.54 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.0 min
Primary = 0.03 cfs @ 14.54 hrs, Volume= 0.021 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 247.99' @ 14.54 hrs
Flood Elev= 252.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	247.90'	**12.0" Round Culvert** L= 86.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 247.90' / 247.00' S= 0.0105 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.03 cfs @ 14.54 hrs HW=247.99' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.03 cfs @ 1.42 fps)

Summary for Pond 52P: Level Spreader #1

Inflow Area = 0.619 ac, 10.40% Impervious, Inflow Depth = 0.28" for 10-yr event
Inflow = 0.06 cfs @ 12.38 hrs, Volume= 0.015 af
Outflow = 0.02 cfs @ 13.76 hrs, Volume= 0.015 af, Atten= 60%, Lag= 83.1 min
Discarded = 0.02 cfs @ 13.76 hrs, Volume= 0.015 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 235.42' @ 13.76 hrs Surf.Area= 390 sf Storage= 65 cf
Flood Elev= 239.00' Surf.Area= 390 sf Storage= 468 cf

Plug-Flow detention time= 25.3 min calculated for 0.015 af (100% of inflow)
Center-of-Mass det. time= 25.2 min (997.0 - 971.8)

Volume	Invert	Avail.Storage	Storage Description
#1	235.00'	468 cf	**3.00'W x 130.00'L x 3.00'H Prismatoid** 1,170 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	237.40'	**120.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	235.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 232.00' Phase-In= 0.10'

Discarded OutFlow Max=0.02 cfs @ 13.76 hrs HW=235.42' (Free Discharge)
└**2=Exfiltration** (Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 53P: Yard Drain #3

Inflow Area = 1.949 ac, 1.71% Impervious, Inflow Depth = 0.13" for 10-yr event
Inflow = 0.03 cfs @ 14.54 hrs, Volume= 0.021 af
Outflow = 0.03 cfs @ 14.54 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.0 min
Primary = 0.03 cfs @ 14.54 hrs, Volume= 0.021 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 246.99' @ 14.54 hrs
Flood Elev= 251.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	246.90'	**12.0" Round Culvert**

L= 125.0' CPP, square edge headwall, Ke= 0.500
Inlet / Outlet Invert= 246.90' / 243.00' S= 0.0312 '/' Cc= 0.900
n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.03 cfs @ 14.54 hrs HW=246.99' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.03 cfs @ 1.00 fps)

Summary for Pond 54P: Yard Drain #4

Inflow Area = 1.949 ac, 1.71% Impervious, Inflow Depth = 0.13" for 10-yr event
Inflow = 0.03 cfs @ 14.54 hrs, Volume= 0.021 af
Outflow = 0.03 cfs @ 14.54 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.0 min
Primary = 0.03 cfs @ 14.54 hrs, Volume= 0.021 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 242.99' @ 14.54 hrs
Flood Elev= 247.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	242.90'	**12.0" Round Culvert** L= 115.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 242.90' / 240.73' S= 0.0189 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.03 cfs @ 14.54 hrs HW=242.99' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.03 cfs @ 1.00 fps)

Summary for Pond 55P: Yard Drain #5

Inflow Area = 1.949 ac, 1.71% Impervious, Inflow Depth = 0.13" for 10-yr event
Inflow = 0.03 cfs @ 14.54 hrs, Volume= 0.021 af
Outflow = 0.03 cfs @ 14.54 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.0 min
Primary = 0.03 cfs @ 14.54 hrs, Volume= 0.021 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 240.72' @ 14.54 hrs
Flood Elev= 245.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	240.63'	**12.0" Round Culvert** L= 72.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.63' / 237.03' S= 0.0500 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.03 cfs @ 14.54 hrs HW=240.72' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.03 cfs @ 1.00 fps)

Summary for Pond 56P: DMH-1

Inflow Area = 2.067 ac, 4.64% Impervious, Inflow Depth = 0.22" for 10-yr event
Inflow = 0.23 cfs @ 12.09 hrs, Volume= 0.038 af
Outflow = 0.23 cfs @ 12.09 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min
Primary = 0.23 cfs @ 12.09 hrs, Volume= 0.038 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 237.16' @ 12.09 hrs
Flood Elev= 241.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	236.93'	**12.0" Round Culvert** L= 9.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 236.93' / 236.75' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.23 cfs @ 12.09 hrs HW=237.16' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.23 cfs @ 1.64 fps)

Summary for Pond 57P: Yard Drain #6

Inflow Area = 0.117 ac, 53.39% Impervious, Inflow Depth = 1.71" for 10-yr event
Inflow = 0.23 cfs @ 12.09 hrs, Volume= 0.017 af
Outflow = 0.23 cfs @ 12.09 hrs, Volume= 0.017 af, Atten= 0%, Lag= 0.0 min
Primary = 0.23 cfs @ 12.09 hrs, Volume= 0.017 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 240.23' @ 12.09 hrs
Flood Elev= 247.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	240.00'	**12.0" Round Culvert** L= 32.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.00' / 237.03' S= 0.0928 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.23 cfs @ 12.09 hrs HW=240.23' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.23 cfs @ 1.64 fps)

Summary for Pond 58P: Rain Garden #3

Inflow Area = 0.476 ac, 0.00% Impervious, Inflow Depth = 0.40" for 10-yr event
Inflow = 0.09 cfs @ 12.30 hrs, Volume= 0.016 af
Outflow = 0.02 cfs @ 14.97 hrs, Volume= 0.016 af, Atten= 76%, Lag= 160.4 min
Discarded = 0.02 cfs @ 14.97 hrs, Volume= 0.016 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 230.70' @ 14.97 hrs Surf.Area= 319 sf Storage= 172 cf
Flood Elev= 233.00' Surf.Area= 1,035 sf Storage= 1,661 cf

Plug-Flow detention time= 102.8 min calculated for 0.016 af (100% of inflow)
Center-of-Mass det. time= 102.8 min (1,048.4 - 945.6)

Volume	Invert	Avail.Storage	Storage Description
#1	230.00'	1,661 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
230.00	181	57.0	0	0	181
231.00	392	83.0	280	280	479
232.00	680	109.0	529	809	888
233.00	1,035	128.0	851	1,661	1,265

Device	Routing	Invert	Outlet Devices
#1	Discarded	230.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 226.00'
#2	Primary	232.50'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.02 cfs @ 14.97 hrs HW=230.70' (Free Discharge)
└**1=Exfiltration** (Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=230.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 59P: Level Spreader #5

Inflow Area = 0.382 ac, 24.51% Impervious, Inflow Depth = 0.62" for 10-yr event
Inflow = 0.17 cfs @ 12.12 hrs, Volume= 0.020 af
Outflow = 0.03 cfs @ 13.50 hrs, Volume= 0.020 af, Atten= 82%, Lag= 82.7 min
Discarded = 0.03 cfs @ 13.50 hrs, Volume= 0.020 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 285.92' @ 13.50 hrs Surf.Area= 0.013 ac Storage= 0.005 af
Flood Elev= 288.00' Surf.Area= 0.013 ac Storage= 0.015 af

Plug-Flow detention time= 60.9 min calculated for 0.020 af (100% of inflow)
Center-of-Mass det. time= 60.9 min (975.4 - 914.4)

Volume	Invert	Avail.Storage	Storage Description
#1	285.00'	0.015 af	**2.50'W x 225.00'L x 3.00'H Prismatoid** 0.039 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	287.90'	**225.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	285.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 222.00' Phase-In= 0.10'

Discarded OutFlow Max=0.03 cfs @ 13.50 hrs HW=285.92' (Free Discharge)
└**2=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=285.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 60P: Level Spreader #5

Inflow Area = 0.192 ac, 23.42% Impervious, Inflow Depth = 0.53" for 10-yr event
Inflow = 0.05 cfs @ 12.22 hrs, Volume= 0.008 af
Outflow = 0.02 cfs @ 12.67 hrs, Volume= 0.008 af, Atten= 56%, Lag= 27.4 min
Discarded = 0.02 cfs @ 12.67 hrs, Volume= 0.008 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 297.31' @ 12.67 hrs Surf.Area= 0.009 ac Storage= 0.001 af
Flood Elev= 300.00' Surf.Area= 0.009 ac Storage= 0.011 af

Plug-Flow detention time= 17.1 min calculated for 0.008 af (100% of inflow)
Center-of-Mass det. time= 17.1 min (946.3 - 929.2)

Volume	Invert	Avail.Storage	Storage Description
#1	297.00'	0.011 af	**2.50'W x 160.00'L x 3.00'H Prismatoid** 0.028 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	299.90'	**225.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	297.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 293.00' Phase-In= 0.10'

Discarded OutFlow Max=0.02 cfs @ 12.67 hrs HW=297.31' (Free Discharge)
└**2=Exfiltration** (Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=297.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 61P: Rain Garden #4

Inflow Area = 1.202 ac, 15.45% Impervious, Inflow Depth = 0.47" for 10-yr event
Inflow = 0.37 cfs @ 12.13 hrs, Volume= 0.047 af
Outflow = 0.07 cfs @ 13.82 hrs, Volume= 0.047 af, Atten= 81%, Lag= 101.6 min
Discarded = 0.07 cfs @ 13.82 hrs, Volume= 0.047 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 242.53' @ 13.82 hrs Surf.Area= 1,031 sf Storage= 494 cf
Flood Elev= 245.00' Surf.Area= 2,237 sf Storage= 4,441 cf

Plug-Flow detention time= 74.6 min calculated for 0.047 af (100% of inflow)
Center-of-Mass det. time= 74.6 min (1,000.8 - 926.1)

Volume	Invert	Avail.Storage	Storage Description
#1	242.00'	4,441 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
242.00	827	122.0	0	0	827
243.00	1,228	146.0	1,021	1,021	1,356
244.00	1,700	169.0	1,458	2,479	1,954
245.00	2,237	189.0	1,962	4,441	2,551

Device	Routing	Invert	Outlet Devices
#1	Discarded	242.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 240.00'
#2	Device 3	244.70'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	241.70'	**15.0" Round Culvert** L= 140.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 241.70' / 227.75' S= 0.0996 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Discarded OutFlow Max=0.07 cfs @ 13.82 hrs HW=242.53' (Free Discharge)
└**1=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=242.00' (Free Discharge)
└**3=Culvert** (Passes 0.00 cfs of 0.33 cfs potential flow)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Link 13L: DP-A

Inflow Area = 11.629 ac, 8.58% Impervious, Inflow Depth = 0.09" for 10-yr event
Inflow = 0.45 cfs @ 12.30 hrs, Volume= 0.087 af
Primary = 0.45 cfs @ 12.30 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 14L: DP-B

Inflow Area = 10.287 ac, 1.73% Impervious, Inflow Depth = 0.03" for 10-yr event
Inflow = 0.04 cfs @ 15.10 hrs, Volume= 0.028 af
Primary = 0.04 cfs @ 15.10 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 15L: DP-C

Inflow Area = 4.348 ac, 0.14% Impervious, Inflow Depth = 0.00" for 10-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 16L: DP-D

Inflow Area = 0.554 ac, 0.00% Impervious, Inflow Depth = 0.06" for 10-yr event
Inflow = 0.00 cfs @ 15.38 hrs, Volume= 0.003 af
Primary = 0.00 cfs @ 15.38 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 17L: DP-E

Inflow Area = 6.621 ac, 5.68% Impervious, Inflow Depth = 0.02" for 10-yr event
Inflow = 0.02 cfs @ 16.79 hrs, Volume= 0.011 af
Primary = 0.02 cfs @ 16.79 hrs, Volume= 0.011 af, Atten= 0%, Lag= 0.0 min

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

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 11S: POST-B.1 Runoff Area=183,157 sf 0.99% Impervious Runoff Depth=0.21"
Flow Length=532' Tc=9.8 min CN=38 Runoff=0.15 cfs 0.072 af

Subcatchment 17S: POST-D.1 Runoff Area=24,140 sf 0.00% Impervious Runoff Depth=0.17"
Flow Length=269' Tc=6.0 min CN=37 Runoff=0.01 cfs 0.008 af

Subcatchment 18S: POST-C.1 Runoff Area=135,470 sf 0.20% Impervious Runoff Depth=0.04"
Flow Length=269' Tc=6.0 min CN=32 Runoff=0.01 cfs 0.011 af

Subcatchment 19S: POST-A.2 Runoff Area=17,885 sf 8.12% Impervious Runoff Depth=0.46"
Tc=6.0 min CN=44 Runoff=0.08 cfs 0.016 af

Subcatchment 20S: POST-A.3 Runoff Area=94,941 sf 0.00% Impervious Runoff Depth=0.56"
Tc=6.0 min CN=46 Runoff=0.66 cfs 0.101 af

Subcatchment 21S: POST-A.4 Runoff Area=32,517 sf 0.00% Impervious Runoff Depth=1.35"
Tc=6.0 min CN=59 Runoff=1.06 cfs 0.084 af

Subcatchment 22S: POST-A.1 Runoff Area=84,919 sf 1.71% Impervious Runoff Depth=0.28"
Flow Length=320' Tc=6.0 min CN=40 Runoff=0.16 cfs 0.046 af

Subcatchment 23S: POST-A.5 Runoff Area=12,931 sf 7.92% Impervious Runoff Depth=1.56"
Tc=6.0 min CN=62 Runoff=0.51 cfs 0.039 af

Subcatchment 24S: POST-A.6 Runoff Area=35,352 sf 4.16% Impervious Runoff Depth=0.37"
Tc=6.0 min CN=42 Runoff=0.11 cfs 0.025 af

Subcatchment 25S: POST-A.7 Runoff Area=26,420 sf 5.37% Impervious Runoff Depth=0.56"
Tc=6.0 min CN=46 Runoff=0.18 cfs 0.028 af

Subcatchment 26S: POST-A.8 Runoff Area=12,388 sf 14.26% Impervious Runoff Depth=1.87"
Tc=6.0 min CN=66 Runoff=0.60 cfs 0.044 af

Subcatchment 27S: POST-B.2 Runoff Area=264,958 sf 2.24% Impervious Runoff Depth=0.24"
Flow Length=532' Tc=9.8 min CN=39 Runoff=0.34 cfs 0.123 af

Subcatchment 28S: POST-A.9 Runoff Area=57,178 sf 0.00% Impervious Runoff Depth=0.66"
Flow Length=262' Tc=6.2 min CN=48 Runoff=0.58 cfs 0.073 af

Subcatchment 29S: POST-C.2 Runoff Area=53,944 sf 0.00% Impervious Runoff Depth=0.01"
Tc=0.0 min CN=30 Runoff=0.00 cfs 0.001 af

Subcatchment 30S: POST-A.10 Runoff Area=17,994 sf 23.65% Impervious Runoff Depth=1.21"
Flow Length=290' Tc=6.5 min CN=57 Runoff=0.50 cfs 0.042 af

Subcatchment 31S: POST-A.5A Runoff Area=22,701 sf 0.00% Impervious Runoff Depth=1.21"
Tc=6.0 min CN=57 Runoff=0.64 cfs 0.053 af

Subcatchment 32S: POST-A.6c Runoff Area=5,196 sf 44.77% Impervious Runoff Depth=2.52"
Flow Length=730' Tc=12.4 min CN=74 Runoff=0.29 cfs 0.025 af

Subcatchment 33S: POST-A.6d Runoff Area=14,480 sf 29.89% Impervious Runoff Depth=1.79"
Flow Length=730' Tc=12.4 min CN=65 Runoff=0.54 cfs 0.050 af

Subcatchment 34S: POST-A.6e Runoff Area=18,570 sf 3.33% Impervious Runoff Depth=1.21"
Flow Length=730' Tc=12.4 min CN=57 Runoff=0.42 cfs 0.043 af

Subcatchment 35S: POST-A.11 Runoff Area=37,046 sf 28.27% Impervious Runoff Depth=1.15"
Tc=6.0 min CN=56 Runoff=0.97 cfs 0.081 af

Subcatchment 36S: POST-A.4b Runoff Area=10,993 sf 0.00% Impervious Runoff Depth=0.24"
Flow Length=488' Tc=6.0 min CN=39 Runoff=0.01 cfs 0.005 af

Subcatchment 37S: POST-A.6a Runoff Area=12,105 sf 29.82% Impervious Runoff Depth=1.21"
Flow Length=730' Tc=12.4 min CN=57 Runoff=0.27 cfs 0.028 af

Subcatchment 38S: POST-A.4c Runoff Area=29,954 sf 1.00% Impervious Runoff Depth=1.35"
Flow Length=488' Tc=6.0 min CN=59 Runoff=0.97 cfs 0.077 af

Subcatchment 39S: POST-A.4d Runoff Area=23,538 sf 11.27% Impervious Runoff Depth=1.56"
Flow Length=488' Tc=6.0 min CN=62 Runoff=0.92 cfs 0.070 af

Subcatchment 40S: POST-A.6b Runoff Area=4,400 sf 35.07% Impervious Runoff Depth=1.56"
Flow Length=730' Tc=12.4 min CN=62 Runoff=0.14 cfs 0.013 af

Subcatchment 41S: POST-E.1 Runoff Area=134,832 sf 1.37% Impervious Runoff Depth=0.14"
Tc=10.0 min CN=36 Runoff=0.06 cfs 0.036 af

Subcatchment 42S: POST-E.2 Runoff Area=21,470 sf 8.84% Impervious Runoff Depth=0.46"
Tc=6.0 min CN=44 Runoff=0.10 cfs 0.019 af

Subcatchment 43S: POST-E.4 Runoff Area=102,544 sf 4.62% Impervious Runoff Depth=0.41"
Tc=6.0 min CN=43 Runoff=0.40 cfs 0.081 af

Subcatchment 44S: POST-A.1a Runoff Area=25,447 sf 8.40% Impervious Runoff Depth=0.41"
Flow Length=320' Tc=6.0 min CN=43 Runoff=0.10 cfs 0.020 af

Subcatchment 45S: POST-A.1b Runoff Area=17,282 sf 24.50% Impervious Runoff Depth=0.95"
Flow Length=320' Tc=6.0 min CN=53 Runoff=0.34 cfs 0.032 af

Subcatchment 46S: POST-A.12 Runoff Area=32,064 sf 0.71% Impervious Runoff Depth=1.21"
Flow Length=290' Tc=6.5 min CN=57 Runoff=0.89 cfs 0.074 af

Subcatchment 47S: POST-A.1c Runoff Area=5,117 sf 53.39% Impervious Runoff Depth=2.27"
Flow Length=320' Tc=6.0 min CN=71 Runoff=0.31 cfs 0.022 af

Subcatchment 48S: POST-A.3b Runoff Area=11,358 sf 33.76% Impervious Runoff Depth=1.35"
Tc=6.0 min CN=59 Runoff=0.37 cfs 0.029 af

Subcatchment 49S: POST-E.3 Runoff Area=4,579 sf 40.66% Impervious Runoff Depth=1.64"
Tc=6.0 min CN=63 Runoff=0.19 cfs 0.014 af

Subcatchment 50S: POST-A.3c Runoff Area=12,606 sf 0.00% Impervious Runoff Depth=0.24"
Tc=6.0 min CN=39 Runoff=0.02 cfs 0.006 af

Subcatchment 51S: POST-A.3d Runoff Area=26,983 sf 10.40% Impervious Runoff Depth=0.51"
Tc=6.0 min CN=45 Runoff=0.15 cfs 0.026 af

Subcatchment 53S: POST-A.3e Runoff Area=20,756 sf 0.00% Impervious Runoff Depth=0.66"
Tc=6.0 min CN=48 Runoff=0.21 cfs 0.026 af

Subcatchment 54S: POST-E.5 Runoff Area=8,378 sf 23.42% Impervious Runoff Depth=0.83"
Tc=10.0 min CN=51 Runoff=0.11 cfs 0.013 af

Subcatchment 58S: POST-A.1d Runoff Area=26,666 sf 0.00% Impervious Runoff Depth=0.01"
Flow Length=320' Tc=6.0 min CN=30 Runoff=0.00 cfs 0.001 af

Subcatchment 59S: POST-A.3a Runoff Area=20,380 sf 32.76% Impervious Runoff Depth=1.28"
Tc=6.0 min CN=58 Runoff=0.62 cfs 0.050 af

Subcatchment 60S: POST-A.4a Runoff Area=41,361 sf 19.55% Impervious Runoff Depth=0.89"
Flow Length=488' Tc=6.0 min CN=52 Runoff=0.74 cfs 0.071 af

Subcatchment 61S: POST-E.5 Runoff Area=16,624 sf 24.51% Impervious Runoff Depth=0.95"
Tc=6.0 min CN=53 Runoff=0.33 cfs 0.030 af

Pond 17P: Rain Garden #2 Peak Elev=246.35' Storage=1,860 cf Inflow=1.95 cfs 0.166 af
Discarded=0.08 cfs 0.096 af Primary=0.76 cfs 0.070 af Outflow=0.84 cfs 0.166 af

Pond 18P: Infiltration Basin #7 Peak Elev=237.45' Storage=845 cf Inflow=0.34 cfs 0.123 af
Discarded=0.16 cfs 0.123 af Primary=0.00 cfs 0.000 af Outflow=0.16 cfs 0.123 af

Pond 19P: Infiltration Basin #8 Peak Elev=261.03' Storage=66 cf Inflow=0.01 cfs 0.011 af
Discarded=0.01 cfs 0.011 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.011 af

Pond 20P: Yard Drain #14 Peak Elev=232.67' Inflow=0.00 cfs 0.000 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0100 '/' Outflow=0.00 cfs 0.000 af

Pond 21P: Rain Garden #7 Peak Elev=235.31' Storage=1,160 cf Inflow=0.58 cfs 0.073 af
Discarded=0.07 cfs 0.073 af Primary=0.00 cfs 0.000 af Outflow=0.07 cfs 0.073 af

Pond 22P: Level Spreader #3 Peak Elev=228.76' Storage=0.019 af Inflow=0.64 cfs 0.053 af
Discarded=0.07 cfs 0.053 af Primary=0.00 cfs 0.000 af Outflow=0.07 cfs 0.053 af

Pond 23P: YD-15 Peak Elev=221.38' Inflow=0.97 cfs 0.077 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0400 '/' Outflow=0.97 cfs 0.077 af

Pond 24P: Subsurface Infiltration #2 Peak Elev=218.84' Storage=0.054 af Inflow=1.90 cfs 0.175 af
Outflow=0.38 cfs 0.175 af

Pond 25P: DMH-2 Peak Elev=227.50' Inflow=0.00 cfs 0.000 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 '/' Outflow=0.00 cfs 0.000 af

Pond 26P: YD-16 Peak Elev=285.47' Inflow=0.10 cfs 0.019 af
12.0" Round Culvert n=0.013 L=56.0' S=0.0200 '/' Outflow=0.10 cfs 0.019 af

Pond 27P: Rain Garden #1 Peak Elev=247.42' Storage=224 cf Inflow=0.08 cfs 0.016 af
Discarded=0.02 cfs 0.016 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.016 af

Pond 28P: Infiltration Basin #2 Peak Elev=240.58' Storage=1,178 cf Inflow=0.76 cfs 0.070 af
Discarded=0.14 cfs 0.070 af Primary=0.00 cfs 0.000 af Outflow=0.14 cfs 0.070 af

Pond 29P: YD-17 Peak Elev=284.36' Inflow=0.26 cfs 0.033 af
12.0" Round Culvert n=0.013 L=166.0' S=0.0150 '/' Outflow=0.26 cfs 0.033 af

Pond 30P: Infiltration Basin #4 Peak Elev=236.80' Storage=659 cf Inflow=0.28 cfs 0.053 af
Discarded=0.06 cfs 0.053 af Primary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.053 af

Pond 31P: Rain Garden #6 Peak Elev=230.88' Storage=298 cf Inflow=0.60 cfs 0.044 af
Discarded=0.03 cfs 0.023 af Primary=0.45 cfs 0.021 af Outflow=0.48 cfs 0.044 af

Pond 32P: Infiltration Basin #3 Peak Elev=228.36' Storage=1,003 cf Inflow=0.84 cfs 0.081 af
Discarded=0.18 cfs 0.081 af Primary=0.00 cfs 0.000 af Outflow=0.18 cfs 0.081 af

Pond 33P: Yard Drain #18 Peak Elev=230.47' Inflow=0.42 cfs 0.038 af
12.0" Round Culvert n=0.013 L=66.0' S=0.0106 '/' Outflow=0.42 cfs 0.038 af

Pond 35P: Yard Drain #13 Peak Elev=230.70' Inflow=0.29 cfs 0.025 af
12.0" Round Culvert n=0.013 L=18.0' S=0.0111 '/' Outflow=0.29 cfs 0.025 af

Pond 36P: Yard Drain #7 Peak Elev=247.38' Inflow=0.97 cfs 0.081 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0149 '/' Outflow=0.97 cfs 0.081 af

Pond 37P: Yard Drain #9 Peak Elev=245.56' Inflow=0.01 cfs 0.005 af
12.0" Round Culvert n=0.013 L=50.0' S=0.0200 '/' Outflow=0.01 cfs 0.005 af

Pond 38P: Yard Drain #11 Peak Elev=248.09' Inflow=0.27 cfs 0.028 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0290 '/' Outflow=0.27 cfs 0.028 af

Pond 39P: Rain Garden #5 Peak Elev=235.77' Storage=560 cf Inflow=0.71 cfs 0.067 af
Discarded=0.04 cfs 0.039 af Primary=0.47 cfs 0.027 af Outflow=0.51 cfs 0.067 af

Pond 40P: DMH-3 Peak Elev=225.51' Inflow=0.97 cfs 0.098 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 '/' Outflow=0.97 cfs 0.098 af

Pond 41P: Yard Drain #12 Peak Elev=235.10' Inflow=0.14 cfs 0.013 af
12.0" Round Culvert n=0.013 L=44.0' S=0.0659 '/' Outflow=0.14 cfs 0.013 af

Pond 42P: Infiltration Basin #5 Peak Elev=227.32' Storage=1,396 cf Inflow=0.98 cfs 0.071 af
Discarded=0.12 cfs 0.071 af Primary=0.00 cfs 0.000 af Outflow=0.12 cfs 0.071 af

Pond 43P: Subsurface Infiltration #1 Peak Elev=235.58' Storage=0.010 af Inflow=0.31 cfs 0.068 af
Outflow=0.10 cfs 0.068 af

Pond 44P: Level Spreader #4 Peak Elev=224.91' Storage=764 cf Inflow=0.89 cfs 0.074 af
Discarded=0.06 cfs 0.056 af Primary=0.46 cfs 0.018 af Outflow=0.52 cfs 0.074 af

Pond 45P: Yard Drain #10 Peak Elev=228.26' Inflow=0.92 cfs 0.070 af
12.0" Round Culvert n=0.013 L=36.0' S=0.0750 '/' Outflow=0.92 cfs 0.070 af

Pond 46P: Yard Drain #1 Peak Elev=237.19' Inflow=0.34 cfs 0.032 af
12.0" Round Culvert n=0.013 L=65.0' S=0.0100 '/' Outflow=0.34 cfs 0.032 af

Pond 47P: Infiltration Basin #6 Peak Elev=280.30' Storage=1,637 cf Inflow=0.60 cfs 0.114 af
Discarded=0.11 cfs 0.114 af Primary=0.00 cfs 0.000 af Outflow=0.11 cfs 0.114 af

Pond 48P: Infiltration basin #1 Peak Elev=235.87' Storage=721 cf Inflow=0.39 cfs 0.052 af
Discarded=0.06 cfs 0.052 af Primary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.052 af

Pond 49P: Yard Drain #8 Peak Elev=250.14' Inflow=0.37 cfs 0.029 af
12.0" Round Culvert n=0.013 L=100.0' S=0.0380 '/' Outflow=0.37 cfs 0.029 af

Pond 50P: Level Spreader #2 Peak Elev=218.76' Storage=931 cf Inflow=1.06 cfs 0.084 af
Discarded=0.09 cfs 0.071 af Primary=0.48 cfs 0.013 af Outflow=0.57 cfs 0.084 af

Pond 51P: Yard Drain #2 Peak Elev=248.10' Inflow=0.16 cfs 0.046 af
12.0" Round Culvert n=0.013 L=86.0' S=0.0105 '/' Outflow=0.16 cfs 0.046 af

Pond 52P: Level Spreader #1 Peak Elev=236.79' Storage=279 cf Inflow=0.15 cfs 0.026 af
Discarded=0.03 cfs 0.026 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.026 af

Pond 53P: Yard Drain #3 Peak Elev=247.09' Inflow=0.16 cfs 0.046 af
12.0" Round Culvert n=0.013 L=125.0' S=0.0312 '/' Outflow=0.16 cfs 0.046 af

Pond 54P: Yard Drain #4 Peak Elev=243.09' Inflow=0.16 cfs 0.046 af
12.0" Round Culvert n=0.013 L=115.0' S=0.0189 '/' Outflow=0.16 cfs 0.046 af

Pond 55P: Yard Drain #5 Peak Elev=240.82' Inflow=0.16 cfs 0.046 af
12.0" Round Culvert n=0.013 L=72.0' S=0.0500 '/' Outflow=0.16 cfs 0.046 af

Pond 56P: DMH-1 Peak Elev=237.20' Inflow=0.31 cfs 0.068 af
12.0" Round Culvert n=0.013 L=9.0' S=0.0200 '/' Outflow=0.31 cfs 0.068 af

Pond 57P: Yard Drain #6 Peak Elev=240.27' Inflow=0.31 cfs 0.022 af
12.0" Round Culvert n=0.013 L=32.0' S=0.0928 '/' Outflow=0.31 cfs 0.022 af

Pond 58P: Rain Garden #3 Peak Elev=231.24' Storage=382 cf Inflow=0.21 cfs 0.026 af
Discarded=0.03 cfs 0.026 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.026 af

Pond 59P: Level Spreader #5 Peak Elev=287.17' Storage=0.011 af Inflow=0.33 cfs 0.030 af
Discarded=0.03 cfs 0.030 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.030 af

Pond 60P: Level Spreader #5 Peak Elev=297.84' Storage=0.003 af Inflow=0.11 cfs 0.013 af
Discarded=0.03 cfs 0.013 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.013 af

Pond 61P: Rain Garden #4 Peak Elev=243.03' Storage=1,057 cf Inflow=0.74 cfs 0.076 af
Discarded=0.10 cfs 0.076 af Primary=0.00 cfs 0.000 af Outflow=0.10 cfs 0.076 af

Link 13L: DP-A Inflow=1.84 cfs 0.175 af
Primary=1.84 cfs 0.175 af

Link 14L: DP-B Inflow=0.15 cfs 0.072 af
Primary=0.15 cfs 0.072 af

Link 15L: DP-C Inflow=0.00 cfs 0.001 af
Primary=0.00 cfs 0.001 af

Link 16L: DP-D Inflow=0.01 cfs 0.008 af
Primary=0.01 cfs 0.008 af

Link 17L: DP-E Inflow=0.06 cfs 0.036 af
Primary=0.06 cfs 0.036 af

Total Runoff Area = 40.441 ac Runoff Volume = 1.707 af Average Runoff Depth = 0.51"
94.67% Pervious = 38.287 ac 5.33% Impervious = 2.154 ac

Summary for Subcatchment 11S: POST-B.1

Runoff = 0.15 cfs @ 12.54 hrs, Volume= 0.072 af, Depth= 0.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
67,412	39	>75% Grass cover, Good, HSG A
657	80	>75% Grass cover, Good, HSG D
97,838	30	Woods, Good, HSG A
15,432	77	Woods, Good, HSG D
1,818	98	Paved parking, HSG A
183,157	38	Weighted Average
181,339		99.01% Pervious Area
1,818		0.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	50	0.3200	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
4.5	338	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.4	144	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.8	532	Total			

Summary for Subcatchment 17S: POST-D.1

Runoff = 0.01 cfs @ 13.70 hrs, Volume= 0.008 af, Depth= 0.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

	Area (sf)	CN	Description
*	20,455	30	Woods, Fair, HSG A
	3,685	79	Woods, Fair, HSG D
	24,140	37	Weighted Average
	24,140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	50	0.3200	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
3.1	219	0.0550	1.17		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.0	269	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 18S: POST-C.1

Runoff = 0.01 cfs @ 16.98 hrs, Volume= 0.011 af, Depth= 0.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
28,202	39	>75% Grass cover, Good, HSG A
106,995	30	Woods, Good, HSG A
273	98	Paved parking, HSG A
135,470	32	Weighted Average
135,197		99.80% Pervious Area
273		0.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	50	0.3200	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
3.1	219	0.0550	1.17		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.0	269	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 19S: POST-A.2

Runoff = 0.08 cfs @ 12.30 hrs, Volume= 0.016 af, Depth= 0.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
16,433	39	>75% Grass cover, Good, HSG A
1,452	98	Paved parking, HSG A
17,885	44	Weighted Average
16,433		91.88% Pervious Area
1,452		8.12% Impervious Area

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

Summary for Subcatchment 20S: POST-A.3

Runoff = 0.66 cfs @ 12.14 hrs, Volume= 0.101 af, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
31,027	39	>75% Grass cover, Good, HSG A
13,820	61	>75% Grass cover, Good, HSG B
18,769	30	Woods, Good, HSG A
31,325	55	Woods, Good, HSG B
94,941	46	Weighted Average
94,941		100.00% Pervious Area

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

Summary for Subcatchment 21S: POST-A.4

Runoff = 1.06 cfs @ 12.10 hrs, Volume= 0.084 af, Depth= 1.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
20,979	61	>75% Grass cover, Good, HSG B
11,538	55	Woods, Good, HSG B
32,517	59	Weighted Average
32,517		100.00% Pervious Area

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

Summary for Subcatchment 22S: POST-A.1

Runoff = 0.16 cfs @ 12.41 hrs, Volume= 0.046 af, Depth= 0.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
83,471	39	>75% Grass cover, Good, HSG A
1,448	98	Paved parking, HSG A
84,919	40	Weighted Average
83,471		98.29% Pervious Area
1,448		1.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 23S: POST-A.5

Runoff = 0.51 cfs @ 12.10 hrs, Volume= 0.039 af, Depth= 1.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
1,396	39	>75% Grass cover, Good, HSG A
10,511	61	>75% Grass cover, Good, HSG B
1,024	98	Paved parking, HSG B
12,931	62	Weighted Average
11,907		92.08% Pervious Area
1,024		7.92% Impervious Area

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

Summary for Subcatchment 24S: POST-A.6

Runoff = 0.11 cfs @ 12.35 hrs, Volume= 0.025 af, Depth= 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
33,489	39	>75% Grass cover, Good, HSG A
394	61	>75% Grass cover, Good, HSG B
1,469	98	Paved parking, HSG A
35,352	42	Weighted Average
33,883		95.84% Pervious Area
1,469		4.16% Impervious Area

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

Summary for Subcatchment 25S: POST-A.7

Runoff = 0.18 cfs @ 12.14 hrs, Volume= 0.028 af, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
20,683	39	>75% Grass cover, Good, HSG A
4,318	61	>75% Grass cover, Good, HSG B
1,419	98	Paved parking, HSG A
26,420	46	Weighted Average
25,001		94.63% Pervious Area
1,419		5.37% Impervious Area

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

Summary for Subcatchment 26S: POST-A.8

Runoff = 0.60 cfs @ 12.09 hrs, Volume= 0.044 af, Depth= 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
353	39	>75% Grass cover, Good, HSG A
10,269	61	>75% Grass cover, Good, HSG B
1,766	98	Paved parking, HSG B
12,388	66	Weighted Average
10,622		85.74% Pervious Area
1,766		14.26% Impervious Area

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

Summary for Subcatchment 27S: POST-B.2

Runoff = 0.34 cfs @ 12.50 hrs, Volume= 0.123 af, Depth= 0.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
81,446	39	>75% Grass cover, Good, HSG A
150,988	30	Woods, Good, HSG A
26,576	77	Woods, Good, HSG D
5,948	98	Paved parking, HSG A
264,958	39	Weighted Average
259,010		97.76% Pervious Area
5,948		2.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	50	0.3200	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
4.5	338	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.4	144	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.8	532	Total			

Summary for Subcatchment 28S: POST-A.9

Runoff = 0.58 cfs @ 12.13 hrs, Volume= 0.073 af, Depth= 0.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
10,827	39	>75% Grass cover, Good, HSG A
12,873	61	>75% Grass cover, Good, HSG B
11,770	30	Woods, Good, HSG A
21,708	55	Woods, Good, HSG B
57,178	48	Weighted Average
57,178		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.2200	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
0.1	16	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.3	196	0.1380	2.60		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.2	262	Total			

Summary for Subcatchment 29S: POST-C.2

Runoff = 0.00 cfs @ 22.53 hrs, Volume= 0.001 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
53,944	30	Woods, Good, HSG A
53,944		100.00% Pervious Area

Summary for Subcatchment 30S: POST-A.10

Runoff = 0.50 cfs @ 12.11 hrs, Volume= 0.042 af, Depth= 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
10,710	39	>75% Grass cover, Good, HSG A
3,029	61	>75% Grass cover, Good, HSG B
2,191	98	Paved parking, HSG B
2,064	98	Paved parking, HSG A
17,994	57	Weighted Average
13,739		76.35% Pervious Area
4,255		23.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	50	0.2000	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
1.5	240	0.1500	2.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.5	290	Total			

Summary for Subcatchment 31S: POST-A.5A

Runoff = 0.64 cfs @ 12.10 hrs, Volume= 0.053 af, Depth= 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
1,396	30	Woods, Good, HSG A
14,294	61	>75% Grass cover, Good, HSG B
7,011	55	Woods, Good, HSG B
22,701	57	Weighted Average
22,701		100.00% Pervious Area

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

Summary for Subcatchment 32S: POST-A.6c

Runoff = 0.29 cfs @ 12.17 hrs, Volume= 0.025 af, Depth= 2.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
912	39	>75% Grass cover, Good, HSG A
1,958	61	>75% Grass cover, Good, HSG B
242	98	Paved parking, HSG A
2,084	98	Paved parking, HSG B
5,196	74	Weighted Average
2,870		55.23% Pervious Area
2,326		44.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 33S: POST-A.6d

Runoff = 0.54 cfs @ 12.18 hrs, Volume= 0.050 af, Depth= 1.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
4,343	39	>75% Grass cover, Good, HSG A
5,809	61	>75% Grass cover, Good, HSG B
4,328	98	Paved parking, HSG B
14,480	65	Weighted Average
10,152		70.11% Pervious Area
4,328		29.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 34S: POST-A.6e

Runoff = 0.42 cfs @ 12.19 hrs, Volume= 0.043 af, Depth= 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
4,505	39	>75% Grass cover, Good, HSG A
13,446	61	>75% Grass cover, Good, HSG B
619	98	Paved parking, HSG B
18,570	57	Weighted Average
17,951		96.67% Pervious Area
619		3.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 35S: POST-A.11

Runoff = 0.97 cfs @ 12.10 hrs, Volume= 0.081 af, Depth= 1.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
26,573	39	>75% Grass cover, Good, HSG A
10,473	98	Paved parking, HSG B
37,046	56	Weighted Average
26,573		71.73% Pervious Area
10,473		28.27% Impervious Area

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

Summary for Subcatchment 36S: POST-A.4b

Runoff = 0.01 cfs @ 12.44 hrs, Volume= 0.005 af, Depth= 0.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
10,993	39	>75% Grass cover, Good, HSG A
10,993		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	50	0.2800	0.42		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
1.4	191	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	30	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	217	0.1200	2.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.0	488	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 37S: POST-A.6a

Runoff = 0.27 cfs @ 12.19 hrs, Volume= 0.028 af, Depth= 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
8,058	39	>75% Grass cover, Good, HSG A
437	61	>75% Grass cover, Good, HSG B
3,038	98	Paved parking, HSG A
572	98	Paved parking, HSG B
12,105	57	Weighted Average
8,495		70.18% Pervious Area
3,610		29.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 38S: POST-A.4c

Runoff = 0.97 cfs @ 12.10 hrs, Volume= 0.077 af, Depth= 1.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
27,058	61	>75% Grass cover, Good, HSG B
2,595	39	>75% Grass cover, Good, HSG A
301	98	Paved parking, HSG A
29,954	59	Weighted Average
29,653		99.00% Pervious Area
301		1.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	50	0.2800	0.42		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
1.4	191	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	30	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	217	0.1200	2.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.0	488	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 39S: POST-A.4d

Runoff = 0.92 cfs @ 12.10 hrs, Volume= 0.070 af, Depth= 1.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
17,806	61	>75% Grass cover, Good, HSG B
3,080	39	>75% Grass cover, Good, HSG A
1,089	98	Paved parking, HSG A
1,563	98	Paved parking, HSG B
23,538	62	Weighted Average
20,886		88.73% Pervious Area
2,652		11.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	50	0.2800	0.42		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
1.4	191	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	30	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	217	0.1200	2.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.0	488	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 40S: POST-A.6b

Runoff = 0.14 cfs @ 12.19 hrs, Volume= 0.013 af, Depth= 1.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
2,300	39	>75% Grass cover, Good, HSG A
557	61	>75% Grass cover, Good, HSG B
125	98	Paved parking, HSG A
1,418	98	Paved parking, HSG B
4,400	62	Weighted Average
2,857		64.93% Pervious Area
1,543		35.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 41S: POST-E.1

Runoff = 0.06 cfs @ 14.68 hrs, Volume= 0.036 af, Depth= 0.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
69,446	30	Woods, Good, HSG A
52,643	39	>75% Grass cover, Good, HSG A
10,523	55	Woods, Good, HSG B
374	61	>75% Grass cover, Good, HSG B
1,846	98	Paved parking, HSG A
134,832	36	Weighted Average
132,986		98.63% Pervious Area
1,846		1.37% Impervious Area

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

Summary for Subcatchment 42S: POST-E.2

Runoff = 0.10 cfs @ 12.30 hrs, Volume= 0.019 af, Depth= 0.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
698	30	Woods, Good, HSG A
18,874	39	>75% Grass cover, Good, HSG A
1,898	98	Paved parking, HSG A
21,470	44	Weighted Average
19,572		91.16% Pervious Area
1,898		8.84% Impervious Area

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

Summary for Subcatchment 43S: POST-E.4

Runoff = 0.40 cfs @ 12.33 hrs, Volume= 0.081 af, Depth= 0.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
39,211	30	Woods, Good, HSG A
27,679	39	>75% Grass cover, Good, HSG A
4,738	98	Paved parking, HSG A
29,214	55	Woods, Good, HSG B
1,702	61	>75% Grass cover, Good, HSG B
102,544	43	Weighted Average
97,806		95.38% Pervious Area
4,738		4.62% Impervious Area

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

Summary for Subcatchment 44S: POST-A.1a

Runoff = 0.10 cfs @ 12.33 hrs, Volume= 0.020 af, Depth= 0.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
20,478	39	>75% Grass cover, Good, HSG A
2,137	98	Paved parking, HSG A
2,832	30	Woods, Good, HSG A
25,447	43	Weighted Average
23,310		91.60% Pervious Area
2,137		8.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 45S: POST-A.1b

Runoff = 0.34 cfs @ 12.11 hrs, Volume= 0.032 af, Depth= 0.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
13,048	39	>75% Grass cover, Good, HSG A
4,234	98	Paved parking, HSG A
17,282	53	Weighted Average
13,048		75.50% Pervious Area
4,234		24.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 46S: POST-A.12

Runoff = 0.89 cfs @ 12.11 hrs, Volume= 0.074 af, Depth= 1.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
6,230	39	>75% Grass cover, Good, HSG A
25,605	61	>75% Grass cover, Good, HSG B
229	98	Paved parking, HSG B
32,064	57	Weighted Average
31,835		99.29% Pervious Area
229		0.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	50	0.2000	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
1.5	240	0.1500	2.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.5	290	Total			

Summary for Subcatchment 47S: POST-A.1c

Runoff = 0.31 cfs @ 12.09 hrs, Volume= 0.022 af, Depth= 2.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
2,385	39	>75% Grass cover, Good, HSG A
2,732	98	Paved parking, HSG A
5,117	71	Weighted Average
2,385		46.61% Pervious Area
2,732		53.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 48S: POST-A.3b

Runoff = 0.37 cfs @ 12.10 hrs, Volume= 0.029 af, Depth= 1.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
7,524	39	>75% Grass cover, Good, HSG A
3,834	98	Paved parking, HSG A
11,358	59	Weighted Average
7,524		66.24% Pervious Area
3,834		33.76% Impervious Area

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

Summary for Subcatchment 49S: POST-E.3

Runoff = 0.19 cfs @ 12.10 hrs, Volume= 0.014 af, Depth= 1.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
2,717	39	>75% Grass cover, Good, HSG A
1,862	98	Paved parking, HSG A
4,579	63	Weighted Average
2,717		59.34% Pervious Area
1,862		40.66% Impervious Area

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

Summary for Subcatchment 50S: POST-A.3c

Runoff = 0.02 cfs @ 12.44 hrs, Volume= 0.006 af, Depth= 0.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
12,606	39	>75% Grass cover, Good, HSG A
12,606		100.00% Pervious Area

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

Summary for Subcatchment 51S: POST-A.3d

Runoff = 0.15 cfs @ 12.28 hrs, Volume= 0.026 af, Depth= 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
24,178	39	>75% Grass cover, Good, HSG A
2,805	98	Paved parking, HSG A
26,983	45	Weighted Average
24,178		89.60% Pervious Area
2,805		10.40% Impervious Area

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

Summary for Subcatchment 53S: POST-A.3e

Runoff = 0.21 cfs @ 12.13 hrs, Volume= 0.026 af, Depth= 0.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
12,681	39	>75% Grass cover, Good, HSG A
8,075	61	>75% Grass cover, Good, HSG B
20,756	48	Weighted Average
20,756		100.00% Pervious Area

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

Summary for Subcatchment 54S: POST-E.5

Runoff = 0.11 cfs @ 12.18 hrs, Volume= 0.013 af, Depth= 0.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
2,123	30	Woods, Good, HSG A
4,293	39	>75% Grass cover, Good, HSG A
1,962	98	Paved parking, HSG A
8,378	51	Weighted Average
6,416		76.58% Pervious Area
1,962		23.42% Impervious Area

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

Summary for Subcatchment 58S: POST-A.1d

Runoff = 0.00 cfs @ 22.62 hrs, Volume= 0.001 af, Depth= 0.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
26,666	30	Woods, Good, HSG A
26,666		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 59S: POST-A.3a

Runoff = 0.62 cfs @ 12.10 hrs, Volume= 0.050 af, Depth= 1.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
13,704	39	>75% Grass cover, Good, HSG A
6,676	98	Paved parking, HSG A
20,380	58	Weighted Average
13,704		67.24% Pervious Area
6,676		32.76% Impervious Area

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

Summary for Subcatchment 60S: POST-A.4a

Runoff = 0.74 cfs @ 12.11 hrs, Volume= 0.071 af, Depth= 0.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
29,986	39	>75% Grass cover, Good, HSG A
3,287	61	>75% Grass cover, Good, HSG B
8,088	98	Paved parking, HSG A
41,361	52	Weighted Average
33,273		80.45% Pervious Area
8,088		19.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	50	0.2800	0.42		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
1.4	191	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	30	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	217	0.1200	2.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.0	488	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 61S: POST-E.5

Runoff = 0.33 cfs @ 12.11 hrs, Volume= 0.030 af, Depth= 0.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-yr Rainfall=5.20"

Area (sf)	CN	Description
12,550	39	>75% Grass cover, Good, HSG A
4,074	98	Paved parking, HSG A
16,624	53	Weighted Average
12,550		75.49% Pervious Area
4,074		24.51% Impervious Area

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

Summary for Pond 17P: Rain Garden #2

Inflow Area = 2.279 ac, 22.60% Impervious, Inflow Depth = 0.88" for 25-yr event
Inflow = 1.95 cfs @ 12.10 hrs, Volume= 0.166 af
Outflow = 0.84 cfs @ 12.42 hrs, Volume= 0.166 af, Atten= 57%, Lag= 19.3 min
Discarded = 0.08 cfs @ 12.42 hrs, Volume= 0.096 af
Primary = 0.76 cfs @ 12.42 hrs, Volume= 0.070 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 246.35' @ 12.42 hrs Surf.Area= 1,329 sf Storage= 1,860 cf
Flood Elev= 248.00' Surf.Area= 1,797 sf Storage= 2,865 cf

Plug-Flow detention time= 189.4 min calculated for 0.166 af (100% of inflow)
Center-of-Mass det. time= 189.4 min (1,075.0 - 885.6)

Volume	Invert	Avail.Storage	Storage Description
#1	244.00'	2,865 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
244.00	407	85.0	0	0	407
245.00	689	104.0	542	542	708
246.00	1,102	138.0	887	1,429	1,374
247.00	1,797	202.0	1,435	2,865	3,114

Device	Routing	Invert	Outlet Devices
#1	Discarded	244.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 212.00'
#2	Device 3	246.00'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	243.50'	**12.0" Round Culvert** L= 150.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 243.50' / 242.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.08 cfs @ 12.42 hrs HW=246.35' (Free Discharge)
└─**1=Exfiltration** (Controls 0.08 cfs)

Primary OutFlow Max=0.76 cfs @ 12.42 hrs HW=246.35' (Free Discharge)
└─**3=Culvert** (Passes 0.76 cfs of 4.49 cfs potential flow)
  └─**2=Orifice/Grate** (Orifice Controls 0.76 cfs @ 2.03 fps)

Summary for Pond 18P: Infiltration Basin #7

Inflow Area = 6.083 ac, 2.24% Impervious, Inflow Depth = 0.24" for 25-yr event
Inflow = 0.34 cfs @ 12.50 hrs, Volume= 0.123 af
Outflow = 0.16 cfs @ 15.63 hrs, Volume= 0.123 af, Atten= 52%, Lag= 187.7 min
Discarded = 0.16 cfs @ 15.63 hrs, Volume= 0.123 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 237.45' @ 15.63 hrs Surf.Area= 2,051 sf Storage= 845 cf
Flood Elev= 240.00' Surf.Area= 4,106 sf Storage= 8,627 cf

Plug-Flow detention time= 57.6 min calculated for 0.123 af (100% of inflow)
Center-of-Mass det. time= 57.6 min (1,058.4 - 1,000.8)

Volume	Invert	Avail.Storage	Storage Description
#1	237.00'	8,627 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
237.00	1,741	234.0	0	0	1,741
238.00	2,471	252.0	2,095	2,095	2,478
239.00	3,260	271.0	2,856	4,952	3,311
240.00	4,106	291.0	3,675	8,627	4,249

Device	Routing	Invert	Outlet Devices
#1	Discarded	237.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 236.00'

#2	Primary	239.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.16 cfs @ 15.63 hrs HW=237.45' (Free Discharge)
└─**1=Exfiltration** (Controls 0.16 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=237.00' (Free Discharge)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 19P: Infiltration Basin #8

Inflow Area = 3.110 ac, 0.20% Impervious, Inflow Depth = 0.04" for 25-yr event
Inflow = 0.01 cfs @ 16.98 hrs, Volume= 0.011 af
Outflow = 0.01 cfs @ 20.90 hrs, Volume= 0.011 af, Atten= 8%, Lag= 235.5 min
Discarded = 0.01 cfs @ 20.90 hrs, Volume= 0.011 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 261.03' @ 20.90 hrs Surf.Area= 2,064 sf Storage= 66 cf
Flood Elev= 295.00' Surf.Area= 3,949 sf Storage= 8,862 cf

Plug-Flow detention time= 83.8 min calculated for 0.011 af (100% of inflow)
Center-of-Mass det. time= 83.7 min (1,241.7 - 1,158.0)

Volume	Invert	Avail.Storage	Storage Description
#1	261.00'	8,862 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
261.00	2,047	182.0	0	0	2,047
262.00	2,623	202.0	2,329	2,329	2,688
263.00	3,258	221.0	2,935	5,264	3,361
264.00	3,949	240.0	3,598	8,862	4,095

Device	Routing	Invert	Outlet Devices
#1	Discarded	261.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 259.00'
#2	Primary	263.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.12 cfs @ 20.90 hrs HW=261.03' (Free Discharge)
└─**1=Exfiltration** (Controls 0.12 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=261.00' (Free Discharge)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 20P: Yard Drain #14

Inflow Area =	1.313 ac,	0.00% Impervious,	Inflow Depth =	0.00"	for 25-yr event
Inflow =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	
Outflow =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 232.67' @ 0.00 hrs
Flood Elev= 257.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	232.67'	**12.0" Round Culvert** L= 71.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 232.67' / 231.96' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=232.67' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)

Summary for Pond 21P: Rain Garden #7

Inflow Area =	1.313 ac,	0.00% Impervious,	Inflow Depth =	0.66"	for 25-yr event
Inflow =	0.58 cfs @	12.13 hrs,	Volume=	0.073 af	
Outflow =	0.07 cfs @	15.48 hrs,	Volume=	0.073 af,	Atten= 87%, Lag= 200.8 min
Discarded =	0.07 cfs @	15.48 hrs,	Volume=	0.073 af	
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 235.31' @ 15.48 hrs Surf.Area= 1,133 sf Storage= 1,160 cf
Flood Elev= 295.00' Surf.Area= 1,938 sf Storage= 3,728 cf

Plug-Flow detention time= 213.4 min calculated for 0.073 af (100% of inflow)
Center-of-Mass det. time= 213.5 min (1,134.1 - 920.6)

Volume	Invert	Avail.Storage	Storage Description
#1	234.00'	3,728 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
234.00	665	104.0	0	0	665
235.00	1,010	126.0	832	832	1,084
236.00	1,435	149.0	1,216	2,048	1,606
237.00	1,938	172.0	1,680	3,728	2,215

Device	Routing	Invert	Outlet Devices
#1	Discarded	234.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 228.00'
#2	Device 3	236.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	233.50'	**12.0" Round Culvert** L= 73.0' CPP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 233.50' / 232.77' S= 0.0100 '/' Cc= 0.900
n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.07 cfs @ 15.48 hrs HW=235.31' (Free Discharge)
└**1=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=234.00' (Free Discharge)
└**3=Culvert** (Passes 0.00 cfs of 0.75 cfs potential flow)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 22P: Level Spreader #3

Inflow Area =	0.521 ac,	0.00% Impervious,	Inflow Depth =	1.21"	for 25-yr event
Inflow =	0.64 cfs @	12.10 hrs,	Volume=	0.053 af	
Outflow =	0.07 cfs @	13.75 hrs,	Volume=	0.053 af,	Atten= 89%, Lag= 98.9 min
Discarded =	0.07 cfs @	13.75 hrs,	Volume=	0.053 af	
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 228.76' @ 13.75 hrs Surf.Area= 0.021 ac Storage= 0.019 af
Flood Elev= 230.00' Surf.Area= 0.021 ac Storage= 0.032 af

Plug-Flow detention time= 125.3 min calculated for 0.053 af (100% of inflow)
Center-of-Mass det. time= 125.3 min (1,007.3 - 882.0)

Volume	Invert	Avail.Storage	Storage Description
#1	227.00'	0.032 af	**3.00'W x 310.00'L x 3.00'H Prismatoid** 0.064 af Overall x 50.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	229.75'	**200.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	227.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 222.00' Phase-In= 0.10'

Discarded OutFlow Max=0.07 cfs @ 13.75 hrs HW=228.76' (Free Discharge)
└**2=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=227.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 23P: YD-15

Inflow Area =	0.688 ac,	1.00% Impervious,	Inflow Depth =	1.35"	for 25-yr event
Inflow =	0.97 cfs @	12.10 hrs,	Volume=	0.077 af	
Outflow =	0.97 cfs @	12.10 hrs,	Volume=	0.077 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.97 cfs @	12.10 hrs,	Volume=	0.077 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 221.38' @ 12.10 hrs
Flood Elev= 223.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	220.80'	**12.0" Round Culvert** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 220.80' / 220.60' S= 0.0400 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.97 cfs @ 12.10 hrs HW=221.38' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.97 cfs @ 2.05 fps)

Summary for Pond 24P: Subsurface Infiltration #2

Inflow Area = 3.005 ac, 11.98% Impervious, Inflow Depth = 0.70" for 25-yr event
Inflow = 1.90 cfs @ 12.10 hrs, Volume= 0.175 af
Outflow = 0.38 cfs @ 12.91 hrs, Volume= 0.175 af, Atten= 80%, Lag= 48.8 min
Discarded = 0.38 cfs @ 12.91 hrs, Volume= 0.175 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 218.84' @ 12.91 hrs Surf.Area= 0.110 ac Storage= 0.054 af

Plug-Flow detention time= 55.4 min calculated for 0.175 af (100% of inflow)
Center-of-Mass det. time= 55.4 min (913.7 - 858.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	218.00'	0.091 af	**54.67'W x 87.50'L x 3.54'H Field A** 0.389 af Overall - 0.161 af Embedded = 0.228 af x 40.0% Voids
#2A	218.50'	0.161 af	**Cultec R-330XLHD** x 132 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 11 rows
		0.252 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	218.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 216.00'

Discarded OutFlow Max=0.38 cfs @ 12.91 hrs HW=218.84' (Free Discharge)
└**1=Exfiltration** (Controls 0.38 cfs)

Summary for Pond 25P: DMH-2

Inflow Area = 1.202 ac, 15.45% Impervious, Inflow Depth = 0.00" for 25-yr event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 227.50' @ 0.00 hrs
Flood Elev= 230.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	227.50'	**12.0" Round Culvert** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 227.50' / 227.40' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=227.50' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)

Summary for Pond 26P: YD-16

Inflow Area = 0.493 ac, 8.84% Impervious, Inflow Depth = 0.46" for 25-yr event
Inflow = 0.10 cfs @ 12.30 hrs, Volume= 0.019 af
Outflow = 0.10 cfs @ 12.30 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min
Primary = 0.10 cfs @ 12.30 hrs, Volume= 0.019 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 285.47' @ 12.30 hrs
Flood Elev= 287.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	285.30'	**12.0" Round Culvert** L= 56.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 285.30' / 284.18' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.10 cfs @ 12.30 hrs HW=285.47' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.10 cfs @ 1.12 fps)

Summary for Pond 27P: Rain Garden #1

Inflow Area = 0.411 ac, 8.12% Impervious, Inflow Depth = 0.46" for 25-yr event
Inflow = 0.08 cfs @ 12.30 hrs, Volume= 0.016 af
Outflow = 0.02 cfs @ 15.72 hrs, Volume= 0.016 af, Atten= 80%, Lag= 205.0 min
Discarded = 0.02 cfs @ 15.72 hrs, Volume= 0.016 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 247.42' @ 15.72 hrs Surf.Area= 290 sf Storage= 224 cf
Flood Elev= 249.00' Surf.Area= 789 sf Storage= 1,042 cf

Plug-Flow detention time= 189.0 min calculated for 0.016 af (100% of inflow)
Center-of-Mass det. time= 189.0 min (1,135.6 - 946.6)

Volume	Invert	Avail.Storage	Storage Description
#1	246.00'	1,042 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
246.00	57	32.5	0	0	57
247.00	201	56.4	122	122	232
248.00	441	85.0	313	435	561
249.00	789	119.0	607	1,042	1,123

Device	Routing	Invert	Outlet Devices
#1	Discarded	246.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 212.00'
#2	Device 3	248.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	246.00'	**12.0" Round Culvert** L= 56.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 246.00' / 244.50' S= 0.0268 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.02 cfs @ 15.72 hrs HW=247.42' (Free Discharge)
└**1=Exfiltration** (Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=246.00' (Free Discharge)
└**3=Culvert** (Controls 0.00 cfs)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 28P: Infiltration Basin #2

Inflow Area = 2.279 ac, 22.60% Impervious, Inflow Depth = 0.37" for 25-yr event
Inflow = 0.76 cfs @ 12.42 hrs, Volume= 0.070 af
Outflow = 0.14 cfs @ 14.08 hrs, Volume= 0.070 af, Atten= 81%, Lag= 99.6 min
Discarded = 0.14 cfs @ 14.08 hrs, Volume= 0.070 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 240.58' @ 14.08 hrs Surf.Area= 2,247 sf Storage= 1,178 cf
Flood Elev= 246.00' Surf.Area= 5,174 sf Storage= 13,642 cf

Plug-Flow detention time= 100.6 min calculated for 0.070 af (100% of inflow)
Center-of-Mass det. time= 100.6 min (929.8 - 829.2)

Volume	Invert	Avail.Storage	Storage Description
#1	240.00'	13,642 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
240.00	1,835	233.0	0	0	1,835
241.00	2,573	254.0	2,194	2,194	2,684
242.00	3,368	274.0	2,962	5,155	3,565
243.00	4,232	294.0	3,792	8,947	4,513
244.00	5,174	315.0	4,695	13,642	5,575

Device	Routing	Invert	Outlet Devices
#1	Discarded	240.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 236.00'
#2	Primary	243.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.14 cfs @ 14.08 hrs HW=240.58' (Free Discharge)
└**1=Exfiltration** (Controls 0.14 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=240.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 29P: YD-17

Inflow Area = 0.598 ac, 14.43% Impervious, Inflow Depth = 0.67" for 25-yr event
Inflow = 0.26 cfs @ 12.12 hrs, Volume= 0.033 af
Outflow = 0.26 cfs @ 12.12 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min
Primary = 0.26 cfs @ 12.12 hrs, Volume= 0.033 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 284.36' @ 12.12 hrs
Flood Elev= 287.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	284.08'	**12.0" Round Culvert** L= 166.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 284.08' / 281.59' S= 0.0150 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.25 cfs @ 12.12 hrs HW=284.36' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.25 cfs @ 1.42 fps)

Summary for Pond 30P: Infiltration Basin #4

Inflow Area = 1.418 ac, 4.68% Impervious, Inflow Depth = 0.45" for 25-yr event
Inflow = 0.28 cfs @ 12.31 hrs, Volume= 0.053 af
Outflow = 0.06 cfs @ 15.55 hrs, Volume= 0.053 af, Atten= 79%, Lag= 194.7 min
Discarded = 0.06 cfs @ 15.55 hrs, Volume= 0.053 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 236.80' @ 15.55 hrs Surf.Area= 973 sf Storage= 659 cf
Flood Elev= 241.00' Surf.Area= 3,125 sf Storage= 8,911 cf

Plug-Flow detention time= 134.6 min calculated for 0.053 af (100% of inflow)
Center-of-Mass det. time= 134.6 min (1,081.6 - 947.1)

Volume	Invert	Avail.Storage	Storage Description
#1	236.00'	8,911 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
236.00	678	116.0	0	0	678
237.00	1,054	135.0	859	859	1,078
238.00	1,487	154.0	1,264	2,123	1,538
239.00	1,976	173.0	1,726	3,849	2,059
240.00	2,522	191.0	2,243	6,093	2,611
241.00	3,125	210.0	2,818	8,911	3,250

Device	Routing	Invert	Outlet Devices
#1	Discarded	236.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 228.00'
#2	Device 3	238.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	235.50'	**12.0" Round Culvert** L= 91.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 235.50' / 230.20' S= 0.0582 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#4	Primary	240.50'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.06 cfs @ 15.55 hrs HW=236.80' (Free Discharge)
└─**1=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=236.00' (Free Discharge)
├─**3=Culvert** (Passes 0.00 cfs of 0.75 cfs potential flow)
│ └─**2=Orifice/Grate** (Controls 0.00 cfs)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 31P: Rain Garden #6

Inflow Area = 1.597 ac, 2.54% Impervious, Inflow Depth = 0.33" for 25-yr event
Inflow = 0.60 cfs @ 12.09 hrs, Volume= 0.044 af
Outflow = 0.48 cfs @ 12.16 hrs, Volume= 0.044 af, Atten= 20%, Lag= 3.7 min
Discarded = 0.03 cfs @ 12.16 hrs, Volume= 0.023 af
Primary = 0.45 cfs @ 12.16 hrs, Volume= 0.021 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 230.88' @ 12.16 hrs Surf.Area= 449 sf Storage= 298 cf
Flood Elev= 233.00' Surf.Area= 1,148 sf Storage= 1,932 cf

Plug-Flow detention time= 46.2 min calculated for 0.044 af (100% of inflow)
Center-of-Mass det. time= 46.3 min (902.1 - 855.8)

Volume	Invert	Avail.Storage	Storage Description
#1	230.00'	3,369 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
230.00	242	63.2	0	0	242
231.00	483	87.0	356	356	536
232.00	773	106.0	622	978	844
233.00	1,148	128.0	954	1,932	1,270
234.00	1,747	162.0	1,437	3,369	2,068

Device	Routing	Invert	Outlet Devices
#1	Discarded	230.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 228.00' Phase-In= 0.01'
#2	Primary	233.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	230.50'	**12.0" Round Culvert** L= 80.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 230.50' / 228.50' S= 0.0250 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.03 cfs @ 12.16 hrs HW=230.88' (Free Discharge)
└─**1=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.45 cfs @ 12.16 hrs HW=230.88' (Free Discharge)
├─**2=Orifice/Grate** (Controls 0.00 cfs)
└─**3=Culvert** (Inlet Controls 0.45 cfs @ 1.65 fps)

Summary for Pond 32P: Infiltration Basin #3

Inflow Area = 2.065 ac, 8.20% Impervious, Inflow Depth = 0.47" for 25-yr event
Inflow = 0.84 cfs @ 12.19 hrs, Volume= 0.081 af
Outflow = 0.18 cfs @ 12.83 hrs, Volume= 0.081 af, Atten= 79%, Lag= 38.7 min
Discarded = 0.18 cfs @ 12.83 hrs, Volume= 0.081 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 228.36' @ 12.83 hrs Surf.Area= 2,936 sf Storage= 1,003 cf
Flood Elev= 231.00' Surf.Area= 5,349 sf Storage= 11,854 cf

Plug-Flow detention time= 46.6 min calculated for 0.081 af (100% of inflow)
Center-of-Mass det. time= 46.6 min (917.7 - 871.1)

Volume	Invert	Avail.Storage	Storage Description
#1	228.00'	11,854 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
228.00	2,646	272.0	0	0	2,646
229.00	3,491	291.0	3,059	3,059	3,543
230.00	4,392	310.0	3,933	6,992	4,500
231.00	5,349	329.0	4,863	11,854	5,517

Device	Routing	Invert	Outlet Devices
#1	Discarded	228.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 224.00'
#2	Primary	229.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.18 cfs @ 12.83 hrs HW=228.36' (Free Discharge)
└**1=Exfiltration** (Controls 0.18 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=228.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 33P: Yard Drain #18

Inflow Area = 1.638 ac, 9.47% Impervious, Inflow Depth = 0.28" for 25-yr event
Inflow = 0.42 cfs @ 12.18 hrs, Volume= 0.038 af
Outflow = 0.42 cfs @ 12.18 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min
Primary = 0.42 cfs @ 12.18 hrs, Volume= 0.038 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 230.47' @ 12.18 hrs
Flood Elev= 232.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	230.10'	**12.0" Round Culvert** L= 66.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 230.10' / 229.40' S= 0.0106 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.42 cfs @ 12.18 hrs HW=230.47' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.42 cfs @ 1.63 fps)

Summary for Pond 35P: Yard Drain #13

Inflow Area = 0.119 ac, 44.77% Impervious, Inflow Depth = 2.52" for 25-yr event
Inflow = 0.29 cfs @ 12.17 hrs, Volume= 0.025 af
Outflow = 0.29 cfs @ 12.17 hrs, Volume= 0.025 af, Atten= 0%, Lag= 0.0 min
Primary = 0.29 cfs @ 12.17 hrs, Volume= 0.025 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 230.70' @ 12.17 hrs
Flood Elev= 232.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	230.40'	**12.0" Round Culvert** L= 18.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 230.40' / 230.20' S= 0.0111 '/' Cc= 0.900

n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.28 cfs @ 12.17 hrs HW=230.70' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.28 cfs @ 1.46 fps)

Summary for Pond 36P: Yard Drain #7

Inflow Area = 0.850 ac, 28.27% Impervious, Inflow Depth = 1.15" for 25-yr event
Inflow = 0.97 cfs @ 12.10 hrs, Volume= 0.081 af
Outflow = 0.97 cfs @ 12.10 hrs, Volume= 0.081 af, Atten= 0%, Lag= 0.0 min
Primary = 0.97 cfs @ 12.10 hrs, Volume= 0.081 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 247.38' @ 12.10 hrs
Flood Elev= 249.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	246.80'	**12.0" Round Culvert** L= 71.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 246.80' / 245.74' S= 0.0149 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.96 cfs @ 12.10 hrs HW=247.38' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.96 cfs @ 2.04 fps)

Summary for Pond 37P: Yard Drain #9

Inflow Area = 0.252 ac, 0.00% Impervious, Inflow Depth = 0.24" for 25-yr event
Inflow = 0.01 cfs @ 12.44 hrs, Volume= 0.005 af
Outflow = 0.01 cfs @ 12.44 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min
Primary = 0.01 cfs @ 12.44 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 245.56' @ 12.44 hrs
Flood Elev= 248.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	245.50'	**12.0" Round Culvert** L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 245.50' / 244.50' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.01 cfs @ 12.44 hrs HW=245.56' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.01 cfs @ 0.68 fps)

Summary for Pond 38P: Yard Drain #11

Inflow Area = 0.278 ac, 29.82% Impervious, Inflow Depth = 1.21" for 25-yr event
Inflow = 0.27 cfs @ 12.19 hrs, Volume= 0.028 af
Outflow = 0.27 cfs @ 12.19 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min
Primary = 0.27 cfs @ 12.19 hrs, Volume= 0.028 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 248.09' @ 12.19 hrs
Flood Elev= 249.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	247.80'	**12.0" Round Culvert** L= 71.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 247.80' / 245.74' S= 0.0290 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.27 cfs @ 12.19 hrs HW=248.09' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.27 cfs @ 1.45 fps)

Summary for Pond 39P: Rain Garden #5

Inflow Area = 0.575 ac, 18.51% Impervious, Inflow Depth = 1.39" for 25-yr event
Inflow = 0.71 cfs @ 12.12 hrs, Volume= 0.067 af
Outflow = 0.51 cfs @ 12.28 hrs, Volume= 0.067 af, Atten= 28%, Lag= 9.9 min
Discarded = 0.04 cfs @ 12.28 hrs, Volume= 0.039 af
Primary = 0.47 cfs @ 12.28 hrs, Volume= 0.027 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 235.77' @ 12.28 hrs Surf.Area= 519 sf Storage= 560 cf
Flood Elev= 236.00' Surf.Area= 580 sf Storage= 684 cf

Plug-Flow detention time= 105.6 min calculated for 0.067 af (100% of inflow)
Center-of-Mass det. time= 105.5 min (981.2 - 875.6)

Volume	Invert	Avail.Storage	Storage Description
#1	234.00'	684 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
234.00	144	51.0	0	0	144
235.00	334	73.0	232	232	370
236.00	580	91.0	451	684	619

Device	Routing	Invert	Outlet Devices
#1	Discarded	234.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 232.00'
#2	Device 3	235.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	232.00'	**15.0" Round Culvert** L= 130.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 232.00' / 225.00' S= 0.0538 '/' Cc= 0.900

n= 0.013, Flow Area= 1.23 sf

Discarded OutFlow Max=0.04 cfs @ 12.28 hrs HW=235.77' (Free Discharge)
└**1=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.46 cfs @ 12.28 hrs HW=235.77' (Free Discharge)
└**3=Culvert** (Passes 0.46 cfs of 8.28 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.46 cfs @ 1.78 fps)

Summary for Pond 40P: DMH-3

Inflow Area = 1.115 ac, 15.00% Impervious, Inflow Depth = 1.05" for 25-yr event
Inflow = 0.97 cfs @ 12.25 hrs, Volume= 0.098 af
Outflow = 0.97 cfs @ 12.25 hrs, Volume= 0.098 af, Atten= 0%, Lag= 0.0 min
Primary = 0.97 cfs @ 12.25 hrs, Volume= 0.098 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 225.51' @ 12.25 hrs
Flood Elev= 229.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	224.90'	**12.0" Round Culvert** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 224.90' / 224.80' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.97 cfs @ 12.25 hrs HW=225.51' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.97 cfs @ 2.80 fps)

Summary for Pond 41P: Yard Drain #12

Inflow Area = 0.101 ac, 35.07% Impervious, Inflow Depth = 1.56" for 25-yr event
Inflow = 0.14 cfs @ 12.19 hrs, Volume= 0.013 af
Outflow = 0.14 cfs @ 12.19 hrs, Volume= 0.013 af, Atten= 0%, Lag= 0.0 min
Primary = 0.14 cfs @ 12.19 hrs, Volume= 0.013 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 235.10' @ 12.19 hrs
Flood Elev= 237.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	234.90'	**12.0" Round Culvert** L= 44.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 234.90' / 232.00' S= 0.0659 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.14 cfs @ 12.19 hrs HW=235.10' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.14 cfs @ 1.21 fps)

Summary for Pond 42P: Infiltration Basin #5

Inflow Area = 1.929 ac, 7.25% Impervious, Inflow Depth = 0.44" for 25-yr event
Inflow = 0.98 cfs @ 12.17 hrs, Volume= 0.071 af
Outflow = 0.12 cfs @ 13.20 hrs, Volume= 0.071 af, Atten= 88%, Lag= 61.9 min
Discarded = 0.12 cfs @ 13.20 hrs, Volume= 0.071 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 227.32' @ 13.20 hrs Surf.Area= 1,548 sf Storage= 1,396 cf
Flood Elev= 229.00' Surf.Area= 3,122 sf Storage= 5,125 cf

Plug-Flow detention time= 143.1 min calculated for 0.071 af (100% of inflow)
Center-of-Mass det. time= 143.0 min (978.8 - 835.8)

Volume	Invert	Avail.Storage	Storage Description
#1	226.00'	5,125 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
226.00	561	96.0	0	0	561
227.00	1,365	167.0	934	934	2,053
228.00	1,979	216.0	1,663	2,596	3,558
229.00	3,122	277.0	2,529	5,125	5,964

Device	Routing	Invert	Outlet Devices
#1	Discarded	226.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 223.54'
#2	Primary	228.50'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.12 cfs @ 13.20 hrs HW=227.32' (Free Discharge)
└**1=Exfiltration** (Controls 0.12 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=226.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 43P: Subsurface Infiltration #1

Inflow Area = 2.067 ac, 4.64% Impervious, Inflow Depth = 0.39" for 25-yr event
Inflow = 0.31 cfs @ 12.09 hrs, Volume= 0.068 af
Outflow = 0.10 cfs @ 13.94 hrs, Volume= 0.068 af, Atten= 68%, Lag= 111.1 min
Discarded = 0.10 cfs @ 13.94 hrs, Volume= 0.068 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 235.58' @ 13.94 hrs Surf.Area= 0.039 ac Storage= 0.010 af

Plug-Flow detention time= 40.2 min calculated for 0.068 af (100% of inflow)

Center-of-Mass det. time= 40.2 min (978.6 - 938.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	235.00'	0.033 af	**20.83'W x 80.50'L x 3.54'H Field A** 0.136 af Overall - 0.054 af Embedded = 0.083 af x 40.0% Voids
#2A	235.50'	0.054 af	**Cultec R-330XLHD** x 44 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 4 rows
		0.087 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	235.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 222.80'

Discarded OutFlow Max=0.10 cfs @ 13.94 hrs HW=235.58' (Free Discharge)
└**1=Exfiltration** (Controls 0.10 cfs)

Summary for Pond 44P: Level Spreader #4

Inflow Area = 0.736 ac, 0.71% Impervious, Inflow Depth = 1.21" for 25-yr event
Inflow = 0.89 cfs @ 12.11 hrs, Volume= 0.074 af
Outflow = 0.52 cfs @ 12.29 hrs, Volume= 0.074 af, Atten= 42%, Lag= 10.9 min
Discarded = 0.06 cfs @ 12.29 hrs, Volume= 0.056 af
Primary = 0.46 cfs @ 12.29 hrs, Volume= 0.018 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 224.91' @ 12.29 hrs Surf.Area= 525 sf Storage= 764 cf
Flood Elev= 225.00' Surf.Area= 525 sf Storage= 788 cf

Plug-Flow detention time= 133.9 min calculated for 0.074 af (100% of inflow)
Center-of-Mass det. time= 133.5 min (1,016.0 - 882.5)

Volume	Invert	Avail.Storage	Storage Description
#1	222.00'	788 cf	**3.00'W x 175.00'L x 3.00'H Prismatoid** 1,575 cf Overall x 50.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	224.90'	**150.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	222.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 219.00' Phase-In= 0.01'

Discarded OutFlow Max=0.06 cfs @ 12.29 hrs HW=224.91' (Free Discharge)
└**2=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.44 cfs @ 12.29 hrs HW=224.91' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.44 cfs @ 0.28 fps)

Summary for Pond 45P: Yard Drain #10

Inflow Area = 0.540 ac, 11.27% Impervious, Inflow Depth = 1.56" for 25-yr event
Inflow = 0.92 cfs @ 12.10 hrs, Volume= 0.070 af
Outflow = 0.92 cfs @ 12.10 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.0 min
Primary = 0.92 cfs @ 12.10 hrs, Volume= 0.070 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 228.26' @ 12.10 hrs
Flood Elev= 230.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	227.70'	**12.0" Round Culvert** L= 36.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 227.70' / 225.00' S= 0.0750 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.92 cfs @ 12.10 hrs HW=228.26' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.92 cfs @ 2.02 fps)

Summary for Pond 46P: Yard Drain #1

Inflow Area = 0.397 ac, 24.50% Impervious, Inflow Depth = 0.95" for 25-yr event
Inflow = 0.34 cfs @ 12.11 hrs, Volume= 0.032 af
Outflow = 0.34 cfs @ 12.11 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min
Primary = 0.34 cfs @ 12.11 hrs, Volume= 0.032 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 237.19' @ 12.11 hrs
Flood Elev= 239.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	236.90'	**12.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 236.90' / 236.25' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.34 cfs @ 12.11 hrs HW=237.19' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.34 cfs @ 2.70 fps)

Summary for Pond 47P: Infiltration Basin #6

Inflow Area = 2.952 ac, 6.61% Impervious, Inflow Depth = 0.46" for 25-yr event
Inflow = 0.60 cfs @ 12.30 hrs, Volume= 0.114 af
Outflow = 0.11 cfs @ 15.85 hrs, Volume= 0.114 af, Atten= 81%, Lag= 213.0 min
Discarded = 0.11 cfs @ 15.85 hrs, Volume= 0.114 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 280.30' @ 15.85 hrs Surf.Area= 1,488 sf Storage= 1,637 cf
Flood Elev= 283.00' Surf.Area= 2,844 sf Storage= 7,353 cf

Plug-Flow detention time= 186.3 min calculated for 0.114 af (100% of inflow)
Center-of-Mass det. time= 186.3 min (1,128.2 - 942.0)

Volume	Invert	Avail.Storage	Storage Description
#1	279.00'	7,353 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
279.00	1,058	153.0	0	0	1,058
280.00	1,373	169.0	1,212	1,212	1,498
281.00	1,777	206.0	1,571	2,783	2,618
282.00	2,270	248.0	2,018	4,801	4,153
283.00	2,844	268.0	2,552	7,353	5,013

Device	Routing	Invert	Outlet Devices
#1	Discarded	279.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 276.00'
#2	Primary	282.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.11 cfs @ 15.85 hrs HW=280.30' (Free Discharge)
└**1=Exfiltration** (Controls 0.11 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=279.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 48P: Infiltration basin #1

Inflow Area = 0.981 ac, 14.91% Impervious, Inflow Depth = 0.63" for 25-yr event
Inflow = 0.39 cfs @ 12.13 hrs, Volume= 0.052 af
Outflow = 0.06 cfs @ 15.04 hrs, Volume= 0.052 af, Atten= 85%, Lag= 174.6 min
Discarded = 0.06 cfs @ 15.04 hrs, Volume= 0.052 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 235.87' @ 15.04 hrs Surf.Area= 999 sf Storage= 721 cf
Flood Elev= 238.00' Surf.Area= 2,137 sf Storage= 3,986 cf

Plug-Flow detention time= 146.1 min calculated for 0.052 af (100% of inflow)
Center-of-Mass det. time= 146.1 min (1,065.3 - 919.2)

Volume	Invert	Avail.Storage	Storage Description
#1	235.00'	3,986 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
235.00	670	115.0	0	0	670
236.00	1,054	137.0	855	855	1,129
237.00	1,552	172.0	1,295	2,150	2,003
238.00	2,137	202.0	1,837	3,986	2,915

Device	Routing	Invert	Outlet Devices
#1	Discarded	235.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 220.00'
#2	Primary	237.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.06 cfs @ 15.04 hrs HW=235.87' (Free Discharge)
└**1=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 49P: Yard Drain #8

Inflow Area = 0.261 ac, 33.76% Impervious, Inflow Depth = 1.35" for 25-yr event
Inflow = 0.37 cfs @ 12.10 hrs, Volume= 0.029 af
Outflow = 0.37 cfs @ 12.10 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min
Primary = 0.37 cfs @ 12.10 hrs, Volume= 0.029 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 250.14' @ 12.10 hrs
Flood Elev= 252.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	249.80'	**12.0" Round Culvert** L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 249.80' / 246.00' S= 0.0380 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.37 cfs @ 12.10 hrs HW=250.14' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.37 cfs @ 1.57 fps)

Summary for Pond 50P: Level Spreader #2

Inflow Area = 0.746 ac, 0.00% Impervious, Inflow Depth = 1.35" for 25-yr event
Inflow = 1.06 cfs @ 12.10 hrs, Volume= 0.084 af
Outflow = 0.57 cfs @ 12.30 hrs, Volume= 0.084 af, Atten= 46%, Lag= 12.0 min
Discarded = 0.09 cfs @ 12.30 hrs, Volume= 0.071 af
Primary = 0.48 cfs @ 12.30 hrs, Volume= 0.013 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 218.76' @ 12.30 hrs Surf.Area= 675 sf Storage= 931 cf
Flood Elev= 219.00' Surf.Area= 675 sf Storage= 1,013 cf

Plug-Flow detention time= 111.4 min calculated for 0.084 af (100% of inflow)
Center-of-Mass det. time= 111.3 min (986.9 - 875.6)

Volume	Invert	Avail.Storage	Storage Description
#1	216.00'	1,013 cf	**3.00'W x 225.00'L x 3.00'H Prismatoid** 2,025 cf Overall x 50.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	218.75'	**190.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	216.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 214.00' Phase-In= 0.01'

Discarded OutFlow Max=0.09 cfs @ 12.30 hrs HW=218.76' (Free Discharge)
└**2=Exfiltration** (Controls 0.09 cfs)

Primary OutFlow Max=0.46 cfs @ 12.30 hrs HW=218.76' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.46 cfs @ 0.26 fps)

Summary for Pond 51P: Yard Drain #2

Inflow Area = 1.949 ac, 1.71% Impervious, Inflow Depth = 0.28" for 25-yr event
Inflow = 0.16 cfs @ 12.41 hrs, Volume= 0.046 af
Outflow = 0.16 cfs @ 12.41 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min
Primary = 0.16 cfs @ 12.41 hrs, Volume= 0.046 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 248.10' @ 12.41 hrs
Flood Elev= 252.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	247.90'	**12.0" Round Culvert** L= 86.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 247.90' / 247.00' S= 0.0105 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.16 cfs @ 12.41 hrs HW=248.10' (Free Discharge)
1=Culvert (Barrel Controls 0.16 cfs @ 2.26 fps)

Summary for Pond 52P: Level Spreader #1

Inflow Area = 0.619 ac, 10.40% Impervious, Inflow Depth = 0.51" for 25-yr event
Inflow = 0.15 cfs @ 12.28 hrs, Volume= 0.026 af
Outflow = 0.03 cfs @ 14.66 hrs, Volume= 0.026 af, Atten= 77%, Lag= 143.2 min
Discarded = 0.03 cfs @ 14.66 hrs, Volume= 0.026 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 236.79' @ 14.66 hrs Surf.Area= 390 sf Storage= 279 cf
Flood Elev= 239.00' Surf.Area= 390 sf Storage= 468 cf

Plug-Flow detention time= 91.0 min calculated for 0.026 af (100% of inflow)
Center-of-Mass det. time= 91.0 min (1,030.2 - 939.2)

Volume	Invert	Avail.Storage	Storage Description
#1	235.00'	468 cf	**3.00'W x 130.00'L x 3.00'H Prismatoid** 1,170 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	237.40'	**120.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	235.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 232.00' Phase-In= 0.10'

Discarded OutFlow Max=0.03 cfs @ 14.66 hrs HW=236.79' (Free Discharge)
2=Exfiltration (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' (Free Discharge)
1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 53P: Yard Drain #3

Inflow Area = 1.949 ac, 1.71% Impervious, Inflow Depth = 0.28" for 25-yr event
Inflow = 0.16 cfs @ 12.41 hrs, Volume= 0.046 af
Outflow = 0.16 cfs @ 12.41 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min
Primary = 0.16 cfs @ 12.41 hrs, Volume= 0.046 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 247.09' @ 12.41 hrs
Flood Elev= 251.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	246.90'	**12.0" Round Culvert**

L= 125.0' CPP, square edge headwall, Ke= 0.500
Inlet / Outlet Invert= 246.90' / 243.00' S= 0.0312 '/' Cc= 0.900
n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.16 cfs @ 12.41 hrs HW=247.09' (Free Discharge)
1=Culvert (Inlet Controls 0.16 cfs @ 1.50 fps)

Summary for Pond 54P: Yard Drain #4

Inflow Area = 1.949 ac, 1.71% Impervious, Inflow Depth = 0.28" for 25-yr event
Inflow = 0.16 cfs @ 12.41 hrs, Volume= 0.046 af
Outflow = 0.16 cfs @ 12.41 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min
Primary = 0.16 cfs @ 12.41 hrs, Volume= 0.046 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 243.09' @ 12.41 hrs
Flood Elev= 247.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	242.90'	**12.0" Round Culvert** L= 115.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 242.90' / 240.73' S= 0.0189 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.16 cfs @ 12.41 hrs HW=243.09' (Free Discharge)
1=Culvert (Inlet Controls 0.16 cfs @ 1.50 fps)

Summary for Pond 55P: Yard Drain #5

Inflow Area = 1.949 ac, 1.71% Impervious, Inflow Depth = 0.28" for 25-yr event
Inflow = 0.16 cfs @ 12.41 hrs, Volume= 0.046 af
Outflow = 0.16 cfs @ 12.41 hrs, Volume= 0.046 af, Atten= 0%, Lag= 0.0 min
Primary = 0.16 cfs @ 12.41 hrs, Volume= 0.046 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 240.82' @ 12.41 hrs
Flood Elev= 245.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	240.63'	**12.0" Round Culvert** L= 72.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.63' / 237.03' S= 0.0500 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.16 cfs @ 12.41 hrs HW=240.82' (Free Discharge)
1=Culvert (Inlet Controls 0.16 cfs @ 1.50 fps)

Summary for Pond 56P: DMH-1

Inflow Area = 2.067 ac, 4.64% Impervious, Inflow Depth = 0.39" for 25-yr event
Inflow = 0.31 cfs @ 12.09 hrs, Volume= 0.068 af
Outflow = 0.31 cfs @ 12.09 hrs, Volume= 0.068 af, Atten= 0%, Lag= 0.0 min
Primary = 0.31 cfs @ 12.09 hrs, Volume= 0.068 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 237.20' @ 12.09 hrs
Flood Elev= 241.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	236.93'	**12.0" Round Culvert** L= 9.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 236.93' / 236.75' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.31 cfs @ 12.09 hrs HW=237.20' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.31 cfs @ 1.78 fps)

Summary for Pond 57P: Yard Drain #6

Inflow Area = 0.117 ac, 53.39% Impervious, Inflow Depth = 2.27" for 25-yr event
Inflow = 0.31 cfs @ 12.09 hrs, Volume= 0.022 af
Outflow = 0.31 cfs @ 12.09 hrs, Volume= 0.022 af, Atten= 0%, Lag= 0.0 min
Primary = 0.31 cfs @ 12.09 hrs, Volume= 0.022 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 240.27' @ 12.09 hrs
Flood Elev= 247.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	240.00'	**12.0" Round Culvert** L= 32.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.00' / 237.03' S= 0.0928 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.30 cfs @ 12.09 hrs HW=240.27' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.30 cfs @ 1.77 fps)

Summary for Pond 58P: Rain Garden #3

Inflow Area = 0.476 ac, 0.00% Impervious, Inflow Depth = 0.66" for 25-yr event
Inflow = 0.21 cfs @ 12.13 hrs, Volume= 0.026 af
Outflow = 0.03 cfs @ 14.99 hrs, Volume= 0.026 af, Atten= 86%, Lag= 171.9 min
Discarded = 0.03 cfs @ 14.99 hrs, Volume= 0.026 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 231.24' @ 14.99 hrs Surf.Area= 454 sf Storage= 382 cf
Flood Elev= 233.00' Surf.Area= 1,035 sf Storage= 1,661 cf

Plug-Flow detention time= 166.8 min calculated for 0.026 af (100% of inflow)
Center-of-Mass det. time= 166.8 min (1,087.2 - 920.4)

Volume	Invert	Avail.Storage	Storage Description
#1	230.00'	1,661 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
230.00	181	57.0	0	0	181
231.00	392	83.0	280	280	479
232.00	680	109.0	529	809	888
233.00	1,035	128.0	851	1,661	1,265

Device	Routing	Invert	Outlet Devices
#1	Discarded	230.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 226.00'
#2	Primary	232.50'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.03 cfs @ 14.99 hrs HW=231.24' (Free Discharge)
└**1=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=230.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 59P: Level Spreader #5

Inflow Area = 0.382 ac, 24.51% Impervious, Inflow Depth = 0.95" for 25-yr event
Inflow = 0.33 cfs @ 12.11 hrs, Volume= 0.030 af
Outflow = 0.03 cfs @ 14.87 hrs, Volume= 0.030 af, Atten= 90%, Lag= 165.4 min
Discarded = 0.03 cfs @ 14.87 hrs, Volume= 0.030 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 287.17' @ 14.87 hrs Surf.Area= 0.013 ac Storage= 0.011 af
Flood Elev= 288.00' Surf.Area= 0.013 ac Storage= 0.015 af

Plug-Flow detention time= 162.5 min calculated for 0.030 af (100% of inflow)
Center-of-Mass det. time= 162.5 min (1,059.2 - 896.7)

Volume	Invert	Avail.Storage	Storage Description
#1	285.00'	0.015 af	**2.50'W x 225.00'L x 3.00'H Prismatoid** 0.039 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	287.90'	**225.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	285.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 222.00' Phase-In= 0.10'

Discarded OutFlow Max=0.03 cfs @ 14.87 hrs HW=287.17' (Free Discharge)
└**2=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=285.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 60P: Level Spreader #5

Inflow Area = 0.192 ac, 23.42% Impervious, Inflow Depth = 0.83" for 25-yr event
Inflow = 0.11 cfs @ 12.18 hrs, Volume= 0.013 af
Outflow = 0.03 cfs @ 12.99 hrs, Volume= 0.013 af, Atten= 76%, Lag= 48.9 min
Discarded = 0.03 cfs @ 12.99 hrs, Volume= 0.013 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 297.84' @ 12.99 hrs Surf.Area= 0.009 ac Storage= 0.003 af
Flood Elev= 300.00' Surf.Area= 0.009 ac Storage= 0.011 af

Plug-Flow detention time= 44.0 min calculated for 0.013 af (100% of inflow)
Center-of-Mass det. time= 44.0 min (953.0 - 909.0)

Volume	Invert	Avail.Storage	Storage Description
#1	297.00'	0.011 af	**2.50'W x 160.00'L x 3.00'H Prismatoid** 0.028 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	299.90'	**225.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	297.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 293.00' Phase-In= 0.10'

Discarded OutFlow Max=0.03 cfs @ 12.99 hrs HW=297.84' (Free Discharge)
└**2=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=297.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 61P: Rain Garden #4

Inflow Area = 1.202 ac, 15.45% Impervious, Inflow Depth = 0.76" for 25-yr event
Inflow = 0.74 cfs @ 12.11 hrs, Volume= 0.076 af
Outflow = 0.10 cfs @ 14.11 hrs, Volume= 0.076 af, Atten= 87%, Lag= 119.9 min
Discarded = 0.10 cfs @ 14.11 hrs, Volume= 0.076 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 243.03' @ 14.11 hrs Surf.Area= 1,241 sf Storage= 1,057 cf
Flood Elev= 245.00' Surf.Area= 2,237 sf Storage= 4,441 cf

Plug-Flow detention time= 132.0 min calculated for 0.076 af (100% of inflow)
Center-of-Mass det. time= 132.0 min (1,039.4 - 907.4)

Volume	Invert	Avail.Storage	Storage Description
#1	242.00'	4,441 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
242.00	827	122.0	0	0	827
243.00	1,228	146.0	1,021	1,021	1,356
244.00	1,700	169.0	1,458	2,479	1,954
245.00	2,237	189.0	1,962	4,441	2,551

Device	Routing	Invert	Outlet Devices
#1	Discarded	242.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 240.00'
#2	Device 3	244.70'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	241.70'	**15.0" Round Culvert** L= 140.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 241.70' / 227.75' S= 0.0996 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Discarded OutFlow Max=0.10 cfs @ 14.11 hrs HW=243.03' (Free Discharge)
└**1=Exfiltration** (Controls 0.10 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=242.00' (Free Discharge)
└**3=Culvert** (Passes 0.00 cfs of 0.33 cfs potential flow)
└**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Link 13L: DP-A

Inflow Area = 11.629 ac, 8.58% Impervious, Inflow Depth = 0.18" for 25-yr event
Inflow = 1.84 cfs @ 12.30 hrs, Volume= 0.175 af
Primary = 1.84 cfs @ 12.30 hrs, Volume= 0.175 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 14L: DP-B

Inflow Area = 10.287 ac, 1.73% Impervious, Inflow Depth = 0.08" for 25-yr event
Inflow = 0.15 cfs @ 12.54 hrs, Volume= 0.072 af
Primary = 0.15 cfs @ 12.54 hrs, Volume= 0.072 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 15L: DP-C

Inflow Area = 4.348 ac, 0.14% Impervious, Inflow Depth = 0.00" for 25-yr event
Inflow = 0.00 cfs @ 22.53 hrs, Volume= 0.001 af
Primary = 0.00 cfs @ 22.53 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 16L: DP-D

Inflow Area = 0.554 ac, 0.00% Impervious, Inflow Depth = 0.17" for 25-yr event
Inflow = 0.01 cfs @ 13.70 hrs, Volume= 0.008 af
Primary = 0.01 cfs @ 13.70 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 17L: DP-E

Inflow Area = 6.621 ac, 5.68% Impervious, Inflow Depth = 0.07" for 25-yr event
Inflow = 0.06 cfs @ 14.68 hrs, Volume= 0.036 af
Primary = 0.06 cfs @ 14.68 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min

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

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

Subcatchment 11S: POST-B.1 Runoff Area=183,157 sf 0.99% Impervious Runoff Depth=0.70"
Flow Length=532' Tc=9.8 min CN=38 Runoff=1.38 cfs 0.244 af

Subcatchment 17S: POST-D.1 Runoff Area=24,140 sf 0.00% Impervious Runoff Depth=0.63"
Flow Length=269' Tc=6.0 min CN=37 Runoff=0.16 cfs 0.029 af

Subcatchment 18S: POST-C.1 Runoff Area=135,470 sf 0.20% Impervious Runoff Depth=0.32"
Flow Length=269' Tc=6.0 min CN=32 Runoff=0.23 cfs 0.082 af

Subcatchment 19S: POST-A.2 Runoff Area=17,885 sf 8.12% Impervious Runoff Depth=1.15"
Tc=6.0 min CN=44 Runoff=0.40 cfs 0.040 af

Subcatchment 20S: POST-A.3 Runoff Area=94,941 sf 0.00% Impervious Runoff Depth=1.32"
Tc=6.0 min CN=46 Runoff=2.64 cfs 0.240 af

Subcatchment 21S: POST-A.4 Runoff Area=32,517 sf 0.00% Impervious Runoff Depth=2.51"
Tc=6.0 min CN=59 Runoff=2.12 cfs 0.156 af

Subcatchment 22S: POST-A.1 Runoff Area=84,919 sf 1.71% Impervious Runoff Depth=0.84"
Flow Length=320' Tc=6.0 min CN=40 Runoff=1.03 cfs 0.137 af

Subcatchment 23S: POST-A.5 Runoff Area=12,931 sf 7.92% Impervious Runoff Depth=2.80"
Tc=6.0 min CN=62 Runoff=0.96 cfs 0.069 af

Subcatchment 24S: POST-A.6 Runoff Area=35,352 sf 4.16% Impervious Runoff Depth=1.00"
Tc=6.0 min CN=42 Runoff=0.61 cfs 0.067 af

Subcatchment 25S: POST-A.7 Runoff Area=26,420 sf 5.37% Impervious Runoff Depth=1.32"
Tc=6.0 min CN=46 Runoff=0.74 cfs 0.067 af

Subcatchment 26S: POST-A.8 Runoff Area=12,388 sf 14.26% Impervious Runoff Depth=3.20"
Tc=6.0 min CN=66 Runoff=1.06 cfs 0.076 af

Subcatchment 27S: POST-B.2 Runoff Area=264,958 sf 2.24% Impervious Runoff Depth=0.77"
Flow Length=532' Tc=9.8 min CN=39 Runoff=2.35 cfs 0.389 af

Subcatchment 28S: POST-A.9 Runoff Area=57,178 sf 0.00% Impervious Runoff Depth=1.49"
Flow Length=262' Tc=6.2 min CN=48 Runoff=1.89 cfs 0.163 af

Subcatchment 29S: POST-C.2 Runoff Area=53,944 sf 0.00% Impervious Runoff Depth=0.21"
Tc=0.0 min CN=30 Runoff=0.04 cfs 0.022 af

Subcatchment 30S: POST-A.10 Runoff Area=17,994 sf 23.65% Impervious Runoff Depth=2.31"
Flow Length=290' Tc=6.5 min CN=57 Runoff=1.05 cfs 0.080 af

Subcatchment 31S: POST-A.5A Runoff Area=22,701 sf 0.00% Impervious Runoff Depth=2.31"
Tc=6.0 min CN=57 Runoff=1.34 cfs 0.100 af

Subcatchment 32S: POST-A.6c Runoff Area=5,196 sf 44.77% Impervious Runoff Depth=4.04"
Flow Length=730' Tc=12.4 min CN=74 Runoff=0.46 cfs 0.040 af

Subcatchment 33S: POST-A.6d Runoff Area=14,480 sf 29.89% Impervious Runoff Depth=3.10"
Flow Length=730' Tc=12.4 min CN=65 Runoff=0.97 cfs 0.086 af

Subcatchment 34S: POST-A.6e Runoff Area=18,570 sf 3.33% Impervious Runoff Depth=2.31"
Flow Length=730' Tc=12.4 min CN=57 Runoff=0.89 cfs 0.082 af

Subcatchment 35S: POST-A.11 Runoff Area=37,046 sf 28.27% Impervious Runoff Depth=2.22"
Tc=6.0 min CN=56 Runoff=2.09 cfs 0.157 af

Subcatchment 36S: POST-A.4b Runoff Area=10,993 sf 0.00% Impervious Runoff Depth=0.77"
Flow Length=488' Tc=6.0 min CN=39 Runoff=0.11 cfs 0.016 af

Subcatchment 37S: POST-A.6a Runoff Area=12,105 sf 29.82% Impervious Runoff Depth=2.31"
Flow Length=730' Tc=12.4 min CN=57 Runoff=0.58 cfs 0.054 af

Subcatchment 38S: POST-A.4c Runoff Area=29,954 sf 1.00% Impervious Runoff Depth=2.51"
Flow Length=488' Tc=6.0 min CN=59 Runoff=1.95 cfs 0.144 af

Subcatchment 39S: POST-A.4d Runoff Area=23,538 sf 11.27% Impervious Runoff Depth=2.80"
Flow Length=488' Tc=6.0 min CN=62 Runoff=1.74 cfs 0.126 af

Subcatchment 40S: POST-A.6b Runoff Area=4,400 sf 35.07% Impervious Runoff Depth=2.80"
Flow Length=730' Tc=12.4 min CN=62 Runoff=0.26 cfs 0.024 af

Subcatchment 41S: POST-E.1 Runoff Area=134,832 sf 1.37% Impervious Runoff Depth=0.56"
Tc=10.0 min CN=36 Runoff=0.70 cfs 0.144 af

Subcatchment 42S: POST-E.2 Runoff Area=21,470 sf 8.84% Impervious Runoff Depth=1.15"
Tc=6.0 min CN=44 Runoff=0.48 cfs 0.047 af

Subcatchment 43S: POST-E.4 Runoff Area=102,544 sf 4.62% Impervious Runoff Depth=1.07"
Tc=6.0 min CN=43 Runoff=2.02 cfs 0.211 af

Subcatchment 44S: POST-A.1a Runoff Area=25,447 sf 8.40% Impervious Runoff Depth=1.07"
Flow Length=320' Tc=6.0 min CN=43 Runoff=0.50 cfs 0.052 af

Subcatchment 45S: POST-A.1b Runoff Area=17,282 sf 24.50% Impervious Runoff Depth=1.94"
Flow Length=320' Tc=6.0 min CN=53 Runoff=0.82 cfs 0.064 af

Subcatchment 46S: POST-A.12 Runoff Area=32,064 sf 0.71% Impervious Runoff Depth=2.31"
Flow Length=290' Tc=6.5 min CN=57 Runoff=1.87 cfs 0.142 af

Subcatchment 47S: POST-A.1c Runoff Area=5,117 sf 53.39% Impervious Runoff Depth=3.72"
Flow Length=320' Tc=6.0 min CN=71 Runoff=0.51 cfs 0.036 af

Subcatchment 48S: POST-A.3b Runoff Area=11,358 sf 33.76% Impervious Runoff Depth=2.51"
Tc=6.0 min CN=59 Runoff=0.74 cfs 0.054 af

Subcatchment 49S: POST-E.3 Runoff Area=4,579 sf 40.66% Impervious Runoff Depth=2.90"
Tc=6.0 min CN=63 Runoff=0.35 cfs 0.025 af

Subcatchment 50S: POST-A.3c Runoff Area=12,606 sf 0.00% Impervious Runoff Depth=0.77"
Tc=6.0 min CN=39 Runoff=0.12 cfs 0.019 af

Subcatchment 51S: POST-A.3d Runoff Area=26,983 sf 10.40% Impervious Runoff Depth=1.24"
Tc=6.0 min CN=45 Runoff=0.68 cfs 0.064 af

Subcatchment 53S: POST-A.3e Runoff Area=20,756 sf 0.00% Impervious Runoff Depth=1.49"
Tc=6.0 min CN=48 Runoff=0.69 cfs 0.059 af

Subcatchment 54S: POST-E.5 Runoff Area=8,378 sf 23.42% Impervious Runoff Depth=1.76"
Tc=10.0 min CN=51 Runoff=0.30 cfs 0.028 af

Subcatchment 58S: POST-A.1d Runoff Area=26,666 sf 0.00% Impervious Runoff Depth=0.21"
Flow Length=320' Tc=6.0 min CN=30 Runoff=0.02 cfs 0.011 af

Subcatchment 59S: POST-A.3a Runoff Area=20,380 sf 32.76% Impervious Runoff Depth=2.41"
Tc=6.0 min CN=58 Runoff=1.27 cfs 0.094 af

Subcatchment 60S: POST-A.4a Runoff Area=41,361 sf 19.55% Impervious Runoff Depth=1.85"
Flow Length=488' Tc=6.0 min CN=52 Runoff=1.85 cfs 0.146 af

Subcatchment 61S: POST-E.5 Runoff Area=16,624 sf 24.51% Impervious Runoff Depth=1.94"
Tc=6.0 min CN=53 Runoff=0.79 cfs 0.062 af

Pond 17P: Rain Garden #2 Peak Elev=246.74' Storage=2,427 cf Inflow=4.20 cfs 0.325 af
Discarded=0.09 cfs 0.106 af Primary=3.11 cfs 0.219 af Outflow=3.21 cfs 0.325 af

Pond 18P: Infiltration Basin #7 Peak Elev=239.14' Storage=5,409 cf Inflow=2.35 cfs 0.389 af
Discarded=0.45 cfs 0.389 af Primary=0.00 cfs 0.000 af Outflow=0.45 cfs 0.389 af

Pond 19P: Infiltration Basin #8 Peak Elev=261.28' Storage=585 cf Inflow=0.23 cfs 0.082 af
Discarded=0.12 cfs 0.082 af Primary=0.00 cfs 0.000 af Outflow=0.12 cfs 0.082 af

Pond 20P: Yard Drain #14 Peak Elev=232.82' Inflow=0.12 cfs 0.016 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0100 '/' Outflow=0.12 cfs 0.016 af

Pond 21P: Rain Garden #7 Peak Elev=236.54' Storage=2,895 cf Inflow=1.89 cfs 0.163 af
Discarded=0.12 cfs 0.147 af Primary=0.12 cfs 0.016 af Outflow=0.24 cfs 0.163 af

Pond 22P: Level Spreader #3 Peak Elev=229.76' Storage=0.029 af Inflow=1.34 cfs 0.100 af
Discarded=0.08 cfs 0.081 af Primary=0.70 cfs 0.020 af Outflow=0.78 cfs 0.100 af

Pond 23P: YD-15 Peak Elev=221.72' Inflow=1.95 cfs 0.144 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0400 '/' Outflow=1.95 cfs 0.144 af

Pond 24P: Subsurface Infiltration #2 Peak Elev=219.81' Storage=0.143 af Inflow=4.81 cfs 0.345 af
Outflow=0.51 cfs 0.345 af

Pond 25P: DMH-2 Peak Elev=227.50' Inflow=0.00 cfs 0.000 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 '/' Outflow=0.00 cfs 0.000 af

Pond 26P: YD-16 Peak Elev=285.69' Inflow=0.48 cfs 0.047 af
12.0" Round Culvert n=0.013 L=56.0' S=0.0200 '/' Outflow=0.48 cfs 0.047 af

Pond 27P: Rain Garden #1 Peak Elev=248.53' Storage=715 cf Inflow=0.40 cfs 0.040 af
Discarded=0.04 cfs 0.038 af Primary=0.01 cfs 0.001 af Outflow=0.05 cfs 0.040 af

Pond 28P: Infiltration Basin #2 Peak Elev=241.94' Storage=4,950 cf Inflow=3.11 cfs 0.219 af
Discarded=0.25 cfs 0.219 af Primary=0.00 cfs 0.000 af Outflow=0.25 cfs 0.219 af

Pond 29P: YD-17 Peak Elev=284.61' Inflow=0.83 cfs 0.073 af
12.0" Round Culvert n=0.013 L=166.0' S=0.0150 '/' Outflow=0.83 cfs 0.073 af

Pond 30P: Infiltration Basin #4 Peak Elev=238.34' Storage=2,657 cf Inflow=1.34 cfs 0.134 af
Discarded=0.11 cfs 0.134 af Primary=0.00 cfs 0.000 af Outflow=0.11 cfs 0.134 af

Pond 31P: Rain Garden #6 Peak Elev=231.06' Storage=384 cf Inflow=1.06 cfs 0.092 af
Discarded=0.04 cfs 0.029 af Primary=0.90 cfs 0.063 af Outflow=0.94 cfs 0.092 af

Pond 32P: Infiltration Basin #3 Peak Elev=228.80' Storage=2,364 cf Inflow=1.61 cfs 0.146 af
Discarded=0.22 cfs 0.146 af Primary=0.00 cfs 0.000 af Outflow=0.22 cfs 0.146 af

Pond 33P: Yard Drain #18 Peak Elev=230.59' Inflow=0.72 cfs 0.064 af
12.0" Round Culvert n=0.013 L=66.0' S=0.0106 '/' Outflow=0.72 cfs 0.064 af

Pond 35P: Yard Drain #13 Peak Elev=230.78' Inflow=0.46 cfs 0.040 af
12.0" Round Culvert n=0.013 L=18.0' S=0.0111 '/' Outflow=0.46 cfs 0.040 af

Pond 36P: Yard Drain #7 Peak Elev=247.78' Inflow=2.09 cfs 0.157 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0149 '/' Outflow=2.09 cfs 0.157 af

Pond 37P: Yard Drain #9 Peak Elev=245.68' Inflow=0.11 cfs 0.016 af
12.0" Round Culvert n=0.013 L=50.0' S=0.0200 '/' Outflow=0.11 cfs 0.016 af

Pond 38P: Yard Drain #11 Peak Elev=248.23' Inflow=0.58 cfs 0.054 af
12.0" Round Culvert n=0.013 L=71.0' S=0.0290 '/' Outflow=0.58 cfs 0.054 af

Pond 39P: Rain Garden #5 Peak Elev=235.97' Storage=664 cf Inflow=1.41 cfs 0.123 af
Discarded=0.05 cfs 0.047 af Primary=1.29 cfs 0.075 af Outflow=1.34 cfs 0.123 af

Pond 40P: DMH-3 Peak Elev=226.34' Inflow=2.89 cfs 0.202 af
12.0" Round Culvert n=0.013 L=5.0' S=0.0200 '/' Outflow=2.89 cfs 0.202 af

Pond 41P: Yard Drain #12 Peak Elev=235.18' Inflow=0.26 cfs 0.024 af
12.0" Round Culvert n=0.013 L=44.0' S=0.0659 '/' Outflow=0.26 cfs 0.024 af

Pond 42P: Infiltration Basin #5 Peak Elev=228.29' Storage=3,209 cf Inflow=1.84 cfs 0.149 af
Discarded=0.19 cfs 0.149 af Primary=0.00 cfs 0.000 af Outflow=0.19 cfs 0.149 af

Pond 43P: Subsurface Infiltration #1 Peak Elev=238.04' Storage=0.079 af Inflow=1.50 cfs 0.173 af
Outflow=0.12 cfs 0.173 af

Pond 44P: Level Spreader #4 Peak Elev=224.92' Storage=768 cf Inflow=1.87 cfs 0.142 af
Discarded=0.06 cfs 0.069 af Primary=1.81 cfs 0.072 af Outflow=1.86 cfs 0.141 af

Pond 45P: Yard Drain #10 Peak Elev=228.54' Inflow=1.74 cfs 0.126 af
12.0" Round Culvert n=0.013 L=36.0' S=0.0750 '/' Outflow=1.74 cfs 0.126 af

Pond 46P: Yard Drain #1 Peak Elev=237.37' Inflow=0.82 cfs 0.064 af
12.0" Round Culvert n=0.013 L=65.0' S=0.0100 '/' Outflow=0.82 cfs 0.064 af

Pond 47P: Infiltration Basin #6 Peak Elev=282.36' Storage=5,659 cf Inflow=2.85 cfs 0.284 af
Discarded=0.23 cfs 0.284 af Primary=0.00 cfs 0.000 af Outflow=0.23 cfs 0.284 af

Pond 48P: Infiltration basin #1 Peak Elev=237.12' Storage=2,333 cf Inflow=1.32 cfs 0.116 af
Discarded=0.10 cfs 0.116 af Primary=0.00 cfs 0.000 af Outflow=0.10 cfs 0.116 af

Pond 49P: Yard Drain #8 Peak Elev=250.30' Inflow=0.74 cfs 0.054 af
12.0" Round Culvert n=0.013 L=100.0' S=0.0380 '/' Outflow=0.74 cfs 0.054 af

Pond 50P: Level Spreader #2 Peak Elev=218.77' Storage=936 cf Inflow=2.12 cfs 0.156 af
Discarded=0.09 cfs 0.089 af Primary=2.03 cfs 0.066 af Outflow=2.12 cfs 0.155 af

Pond 51P: Yard Drain #2 Peak Elev=248.43' Inflow=1.03 cfs 0.137 af
12.0" Round Culvert n=0.013 L=86.0' S=0.0105 '/' Outflow=1.03 cfs 0.137 af

Pond 52P: Level Spreader #1 Peak Elev=237.41' Storage=376 cf Inflow=0.68 cfs 0.064 af
Discarded=0.04 cfs 0.040 af Primary=0.55 cfs 0.024 af Outflow=0.59 cfs 0.064 af

Pond 53P: Yard Drain #3 Peak Elev=247.43' Inflow=1.03 cfs 0.137 af
12.0" Round Culvert n=0.013 L=125.0' S=0.0312 '/' Outflow=1.03 cfs 0.137 af

Pond 54P: Yard Drain #4 Peak Elev=243.43' Inflow=1.03 cfs 0.137 af
12.0" Round Culvert n=0.013 L=115.0' S=0.0189 '/' Outflow=1.03 cfs 0.137 af

Pond 55P: Yard Drain #5 Peak Elev=241.16' Inflow=1.03 cfs 0.137 af
12.0" Round Culvert n=0.013 L=72.0' S=0.0500 '/' Outflow=1.03 cfs 0.137 af

Pond 56P: DMH-1 Peak Elev=237.63' Inflow=1.50 cfs 0.173 af
12.0" Round Culvert n=0.013 L=9.0' S=0.0200 '/' Outflow=1.50 cfs 0.173 af

Pond 57P: Yard Drain #6 Peak Elev=240.36' Inflow=0.51 cfs 0.036 af
12.0" Round Culvert n=0.013 L=32.0' S=0.0928 '/' Outflow=0.51 cfs 0.036 af

Pond 58P: Rain Garden #3 Peak Elev=232.41' Storage=1,112 cf Inflow=0.69 cfs 0.059 af
Discarded=0.06 cfs 0.059 af Primary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.059 af

Pond 59P: Level Spreader #5 Peak Elev=287.91' Storage=0.015 af Inflow=0.79 cfs 0.062 af
Discarded=0.03 cfs 0.042 af Primary=0.59 cfs 0.020 af Outflow=0.62 cfs 0.062 af

Pond 60P: Level Spreader #5 Peak Elev=299.80' Storage=0.010 af Inflow=0.30 cfs 0.028 af
Discarded=0.04 cfs 0.028 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.028 af

Pond 61P: Rain Garden #4 Peak Elev=244.27' Storage=2,948 cf Inflow=1.94 cfs 0.162 af
Discarded=0.18 cfs 0.162 af Primary=0.00 cfs 0.000 af Outflow=0.18 cfs 0.162 af

Link 13L: DP-A Inflow=7.51 cfs 0.512 af
Primary=7.51 cfs 0.512 af

Link 14L: DP-B Inflow=1.38 cfs 0.244 af
Primary=1.38 cfs 0.244 af

Link 15L: DP-C Inflow=0.04 cfs 0.022 af
Primary=0.04 cfs 0.022 af

Link 16L: DP-D Inflow=0.16 cfs 0.029 af
Primary=0.16 cfs 0.029 af

Link 17L: DP-E Inflow=1.14 cfs 0.164 af
Primary=1.14 cfs 0.164 af

Total Runoff Area = 40.441 ac Runoff Volume = 3.948 af Average Runoff Depth = 1.17"
94.67% Pervious = 38.287 ac 5.33% Impervious = 2.154 ac

Summary for Subcatchment 11S: POST-B.1

Runoff = 1.38 cfs @ 12.34 hrs, Volume= 0.244 af, Depth= 0.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
67,412	39	>75% Grass cover, Good, HSG A
657	80	>75% Grass cover, Good, HSG D
97,838	30	Woods, Good, HSG A
15,432	77	Woods, Good, HSG D
1,818	98	Paved parking, HSG A
183,157	38	Weighted Average
181,339		99.01% Pervious Area
1,818		0.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	50	0.3200	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
4.5	338	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.4	144	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.8	532	Total			

Summary for Subcatchment 17S: POST-D.1

Runoff = 0.16 cfs @ 12.30 hrs, Volume= 0.029 af, Depth= 0.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
* 20,455	30	Woods, Fair, HSG A
3,685	79	Woods, Fair, HSG D
24,140	37	Weighted Average
24,140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	50	0.3200	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
3.1	219	0.0550	1.17		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.0	269	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 18S: POST-C.1

Runoff = 0.23 cfs @ 12.45 hrs, Volume= 0.082 af, Depth= 0.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
28,202	39	>75% Grass cover, Good, HSG A
106,995	30	Woods, Good, HSG A
273	98	Paved parking, HSG A
135,470	32	Weighted Average
135,197		99.80% Pervious Area
273		0.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	50	0.3200	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
3.1	219	0.0550	1.17		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
5.0	269	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 19S: POST-A.2

Runoff = 0.40 cfs @ 12.11 hrs, Volume= 0.040 af, Depth= 1.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
16,433	39	>75% Grass cover, Good, HSG A
1,452	98	Paved parking, HSG A
17,885	44	Weighted Average
16,433		91.88% Pervious Area
1,452		8.12% Impervious Area

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

Summary for Subcatchment 20S: POST-A.3

Runoff = 2.64 cfs @ 12.11 hrs, Volume= 0.240 af, Depth= 1.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
31,027	39	>75% Grass cover, Good, HSG A
13,820	61	>75% Grass cover, Good, HSG B
18,769	30	Woods, Good, HSG A
31,325	55	Woods, Good, HSG B
94,941	46	Weighted Average
94,941		100.00% Pervious Area

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

Summary for Subcatchment 21S: POST-A.4

Runoff = 2.12 cfs @ 12.09 hrs, Volume= 0.156 af, Depth= 2.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
20,979	61	>75% Grass cover, Good, HSG B
11,538	55	Woods, Good, HSG B
32,517	59	Weighted Average
32,517		100.00% Pervious Area

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

Summary for Subcatchment 22S: POST-A.1

Runoff = 1.03 cfs @ 12.13 hrs, Volume= 0.137 af, Depth= 0.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
83,471	39	>75% Grass cover, Good, HSG A
1,448	98	Paved parking, HSG A
84,919	40	Weighted Average
83,471		98.29% Pervious Area
1,448		1.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 23S: POST-A.5

Runoff = 0.96 cfs @ 12.09 hrs, Volume= 0.069 af, Depth= 2.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
1,396	39	>75% Grass cover, Good, HSG A
10,511	61	>75% Grass cover, Good, HSG B
1,024	98	Paved parking, HSG B
12,931	62	Weighted Average
11,907		92.08% Pervious Area
1,024		7.92% Impervious Area

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

Summary for Subcatchment 24S: POST-A.6

Runoff = 0.61 cfs @ 12.12 hrs, Volume= 0.067 af, Depth= 1.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
33,489	39	>75% Grass cover, Good, HSG A
394	61	>75% Grass cover, Good, HSG B
1,469	98	Paved parking, HSG A
35,352	42	Weighted Average
33,883		95.84% Pervious Area
1,469		4.16% Impervious Area

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

Summary for Subcatchment 25S: POST-A.7

Runoff = 0.74 cfs @ 12.11 hrs, Volume= 0.067 af, Depth= 1.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
20,683	39	>75% Grass cover, Good, HSG A
4,318	61	>75% Grass cover, Good, HSG B
1,419	98	Paved parking, HSG A
26,420	46	Weighted Average
25,001		94.63% Pervious Area
1,419		5.37% Impervious Area

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

Summary for Subcatchment 26S: POST-A.8

Runoff = 1.06 cfs @ 12.09 hrs, Volume= 0.076 af, Depth= 3.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
353	39	>75% Grass cover, Good, HSG A
10,269	61	>75% Grass cover, Good, HSG B
1,766	98	Paved parking, HSG B
12,388	66	Weighted Average
10,622		85.74% Pervious Area
1,766		14.26% Impervious Area

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

Summary for Subcatchment 27S: POST-B.2

Runoff = 2.35 cfs @ 12.27 hrs, Volume= 0.389 af, Depth= 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
81,446	39	>75% Grass cover, Good, HSG A
150,988	30	Woods, Good, HSG A
26,576	77	Woods, Good, HSG D
5,948	98	Paved parking, HSG A
264,958	39	Weighted Average
259,010		97.76% Pervious Area
5,948		2.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	50	0.3200	0.44		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
4.5	338	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.4	144	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.8	532	Total			

Summary for Subcatchment 28S: POST-A.9

Runoff = 1.89 cfs @ 12.11 hrs, Volume= 0.163 af, Depth= 1.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
10,827	39	>75% Grass cover, Good, HSG A
12,873	61	>75% Grass cover, Good, HSG B
11,770	30	Woods, Good, HSG A
21,708	55	Woods, Good, HSG B
57,178	48	Weighted Average
57,178		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.2200	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
0.1	16	0.2200	2.35		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.3	196	0.1380	2.60		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.2	262	Total			

Summary for Subcatchment 29S: POST-C.2

Runoff = 0.04 cfs @ 13.67 hrs, Volume= 0.022 af, Depth= 0.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
53,944	30	Woods, Good, HSG A
53,944		100.00% Pervious Area

Summary for Subcatchment 30S: POST-A.10

Runoff = 1.05 cfs @ 12.10 hrs, Volume= 0.080 af, Depth= 2.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
10,710	39	>75% Grass cover, Good, HSG A
3,029	61	>75% Grass cover, Good, HSG B
2,191	98	Paved parking, HSG B
2,064	98	Paved parking, HSG A
17,994	57	Weighted Average
13,739		76.35% Pervious Area
4,255		23.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	50	0.2000	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
1.5	240	0.1500	2.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.5	290	Total			

Summary for Subcatchment 31S: POST-A.5A

Runoff = 1.34 cfs @ 12.10 hrs, Volume= 0.100 af, Depth= 2.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
1,396	30	Woods, Good, HSG A
14,294	61	>75% Grass cover, Good, HSG B
7,011	55	Woods, Good, HSG B
22,701	57	Weighted Average
22,701		100.00% Pervious Area

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

Summary for Subcatchment 32S: POST-A.6c

Runoff = 0.46 cfs @ 12.17 hrs, Volume= 0.040 af, Depth= 4.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
912	39	>75% Grass cover, Good, HSG A
1,958	61	>75% Grass cover, Good, HSG B
242	98	Paved parking, HSG A
2,084	98	Paved parking, HSG B
5,196	74	Weighted Average
2,870		55.23% Pervious Area
2,326		44.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 33S: POST-A.6d

Runoff = 0.97 cfs @ 12.17 hrs, Volume= 0.086 af, Depth= 3.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
4,343	39	>75% Grass cover, Good, HSG A
5,809	61	>75% Grass cover, Good, HSG B
4,328	98	Paved parking, HSG B
14,480	65	Weighted Average
10,152		70.11% Pervious Area
4,328		29.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 34S: POST-A.6e

Runoff = 0.89 cfs @ 12.18 hrs, Volume= 0.082 af, Depth= 2.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
4,505	39	>75% Grass cover, Good, HSG A
13,446	61	>75% Grass cover, Good, HSG B
619	98	Paved parking, HSG B
18,570	57	Weighted Average
17,951		96.67% Pervious Area
619		3.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 35S: POST-A.11

Runoff = 2.09 cfs @ 12.10 hrs, Volume= 0.157 af, Depth= 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
26,573	39	>75% Grass cover, Good, HSG A
10,473	98	Paved parking, HSG B
37,046	56	Weighted Average
26,573		71.73% Pervious Area
10,473		28.27% Impervious Area

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

Summary for Subcatchment 36S: POST-A.4b

Runoff = 0.11 cfs @ 12.14 hrs, Volume= 0.016 af, Depth= 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
10,993	39	>75% Grass cover, Good, HSG A
10,993		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	50	0.2800	0.42		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
1.4	191	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	30	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	217	0.1200	2.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.0	488	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 37S: POST-A.6a

Runoff = 0.58 cfs @ 12.18 hrs, Volume= 0.054 af, Depth= 2.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
8,058	39	>75% Grass cover, Good, HSG A
437	61	>75% Grass cover, Good, HSG B
3,038	98	Paved parking, HSG A
572	98	Paved parking, HSG B
12,105	57	Weighted Average
8,495		70.18% Pervious Area
3,610		29.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 38S: POST-A.4c

Runoff = 1.95 cfs @ 12.09 hrs, Volume= 0.144 af, Depth= 2.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
27,058	61	>75% Grass cover, Good, HSG B
2,595	39	>75% Grass cover, Good, HSG A
301	98	Paved parking, HSG A
29,954	59	Weighted Average
29,653		99.00% Pervious Area
301		1.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	50	0.2800	0.42		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
1.4	191	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	30	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	217	0.1200	2.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.0	488	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 39S: POST-A.4d

Runoff = 1.74 cfs @ 12.09 hrs, Volume= 0.126 af, Depth= 2.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
17,806	61	>75% Grass cover, Good, HSG B
3,080	39	>75% Grass cover, Good, HSG A
1,089	98	Paved parking, HSG A
1,563	98	Paved parking, HSG B
23,538	62	Weighted Average
20,886		88.73% Pervious Area
2,652		11.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	50	0.2800	0.42		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
1.4	191	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	30	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	217	0.1200	2.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.0	488	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 40S: POST-A.6b

Runoff = 0.26 cfs @ 12.18 hrs, Volume= 0.024 af, Depth= 2.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
2,300	39	>75% Grass cover, Good, HSG A
557	61	>75% Grass cover, Good, HSG B
125	98	Paved parking, HSG A
1,418	98	Paved parking, HSG B
4,400	62	Weighted Average
2,857		64.93% Pervious Area
1,543		35.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	50	0.2000	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
5.6	527	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
4.5	153	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	730	Total			

Summary for Subcatchment 41S: POST-E.1

Runoff = 0.70 cfs @ 12.39 hrs, Volume= 0.144 af, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
69,446	30	Woods, Good, HSG A
52,643	39	>75% Grass cover, Good, HSG A
10,523	55	Woods, Good, HSG B
374	61	>75% Grass cover, Good, HSG B
1,846	98	Paved parking, HSG A
134,832	36	Weighted Average
132,986		98.63% Pervious Area
1,846		1.37% Impervious Area

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

Summary for Subcatchment 42S: POST-E.2

Runoff = 0.48 cfs @ 12.11 hrs, Volume= 0.047 af, Depth= 1.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
698	30	Woods, Good, HSG A
18,874	39	>75% Grass cover, Good, HSG A
1,898	98	Paved parking, HSG A
21,470	44	Weighted Average
19,572		91.16% Pervious Area
1,898		8.84% Impervious Area

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

Summary for Subcatchment 43S: POST-E.4

Runoff = 2.02 cfs @ 12.12 hrs, Volume= 0.211 af, Depth= 1.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
39,211	30	Woods, Good, HSG A
27,679	39	>75% Grass cover, Good, HSG A
4,738	98	Paved parking, HSG A
29,214	55	Woods, Good, HSG B
1,702	61	>75% Grass cover, Good, HSG B
102,544	43	Weighted Average
97,806		95.38% Pervious Area
4,738		4.62% Impervious Area

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

Summary for Subcatchment 44S: POST-A.1a

Runoff = 0.50 cfs @ 12.12 hrs, Volume= 0.052 af, Depth= 1.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
20,478	39	>75% Grass cover, Good, HSG A
2,137	98	Paved parking, HSG A
2,832	30	Woods, Good, HSG A
25,447	43	Weighted Average
23,310		91.60% Pervious Area
2,137		8.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 45S: POST-A.1b

Runoff = 0.82 cfs @ 12.10 hrs, Volume= 0.064 af, Depth= 1.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
13,048	39	>75% Grass cover, Good, HSG A
4,234	98	Paved parking, HSG A
17,282	53	Weighted Average
13,048		75.50% Pervious Area
4,234		24.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 46S: POST-A.12

Runoff = 1.87 cfs @ 12.10 hrs, Volume= 0.142 af, Depth= 2.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
6,230	39	>75% Grass cover, Good, HSG A
25,605	61	>75% Grass cover, Good, HSG B
229	98	Paved parking, HSG B
32,064	57	Weighted Average
31,835		99.29% Pervious Area
229		0.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	50	0.2000	0.17		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.05"
1.5	240	0.1500	2.71		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
6.5	290	Total			

Summary for Subcatchment 47S: POST-A.1c

Runoff = 0.51 cfs @ 12.09 hrs, Volume= 0.036 af, Depth= 3.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
2,385	39	>75% Grass cover, Good, HSG A
2,732	98	Paved parking, HSG A
5,117	71	Weighted Average
2,385		46.61% Pervious Area
2,732		53.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 48S: POST-A.3b

Runoff = 0.74 cfs @ 12.09 hrs, Volume= 0.054 af, Depth= 2.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
7,524	39	>75% Grass cover, Good, HSG A
3,834	98	Paved parking, HSG A
11,358	59	Weighted Average
7,524		66.24% Pervious Area
3,834		33.76% Impervious Area

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

Summary for Subcatchment 49S: POST-E.3

Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.025 af, Depth= 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
2,717	39	>75% Grass cover, Good, HSG A
1,862	98	Paved parking, HSG A
4,579	63	Weighted Average
2,717		59.34% Pervious Area
1,862		40.66% Impervious Area

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

Summary for Subcatchment 50S: POST-A.3c

Runoff = 0.12 cfs @ 12.14 hrs, Volume= 0.019 af, Depth= 0.77"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
12,606	39	>75% Grass cover, Good, HSG A
12,606		100.00% Pervious Area

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

Summary for Subcatchment 51S: POST-A.3d

Runoff = 0.68 cfs @ 12.11 hrs, Volume= 0.064 af, Depth= 1.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
24,178	39	>75% Grass cover, Good, HSG A
2,805	98	Paved parking, HSG A
26,983	45	Weighted Average
24,178		89.60% Pervious Area
2,805		10.40% Impervious Area

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

Summary for Subcatchment 53S: POST-A.3e

Runoff = 0.69 cfs @ 12.10 hrs, Volume= 0.059 af, Depth= 1.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
12,681	39	>75% Grass cover, Good, HSG A
8,075	61	>75% Grass cover, Good, HSG B
20,756	48	Weighted Average
20,756		100.00% Pervious Area

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

Summary for Subcatchment 54S: POST-E.5

Runoff = 0.30 cfs @ 12.16 hrs, Volume= 0.028 af, Depth= 1.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
2,123	30	Woods, Good, HSG A
4,293	39	>75% Grass cover, Good, HSG A
1,962	98	Paved parking, HSG A
8,378	51	Weighted Average
6,416		76.58% Pervious Area
1,962		23.42% Impervious Area

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

Summary for Subcatchment 58S: POST-A.1d

Runoff = 0.02 cfs @ 13.78 hrs, Volume= 0.011 af, Depth= 0.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
26,666	30	Woods, Good, HSG A
26,666		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0540	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
0.5	74	0.1090	2.31		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	97	0.0870	5.99		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.7	99	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.4	320	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 59S: POST-A.3a

Runoff = 1.27 cfs @ 12.09 hrs, Volume= 0.094 af, Depth= 2.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
13,704	39	>75% Grass cover, Good, HSG A
6,676	98	Paved parking, HSG A
20,380	58	Weighted Average
13,704		67.24% Pervious Area
6,676		32.76% Impervious Area

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

Summary for Subcatchment 60S: POST-A.4a

Runoff = 1.85 cfs @ 12.10 hrs, Volume= 0.146 af, Depth= 1.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
29,986	39	>75% Grass cover, Good, HSG A
3,287	61	>75% Grass cover, Good, HSG B
8,088	98	Paved parking, HSG A
41,361	52	Weighted Average
33,273		80.45% Pervious Area
8,088		19.55% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.0	50	0.2800	0.42		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.05"
1.4	191	0.1000	2.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	30	0.1000	6.42		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	217	0.1200	2.42		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.0	488	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 61S: POST-E.5

Runoff = 0.79 cfs @ 12.10 hrs, Volume= 0.062 af, Depth= 1.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-yr Rainfall=7.00"

Area (sf)	CN	Description
12,550	39	>75% Grass cover, Good, HSG A
4,074	98	Paved parking, HSG A
16,624	53	Weighted Average
12,550		75.49% Pervious Area
4,074		24.51% Impervious Area

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

Summary for Pond 17P: Rain Garden #2

Inflow Area = 2.279 ac, 22.60% Impervious, Inflow Depth = 1.71" for 100-yr event
Inflow = 4.20 cfs @ 12.10 hrs, Volume= 0.325 af
Outflow = 3.21 cfs @ 12.17 hrs, Volume= 0.325 af, Atten= 24%, Lag= 4.3 min
Discarded = 0.09 cfs @ 12.17 hrs, Volume= 0.106 af
Primary = 3.11 cfs @ 12.17 hrs, Volume= 0.219 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 246.74' @ 12.17 hrs Surf.Area= 1,602 sf Storage= 2,427 cf
Flood Elev= 248.00' Surf.Area= 1,797 sf Storage= 2,865 cf

Plug-Flow detention time= 108.7 min calculated for 0.325 af (100% of inflow)
Center-of-Mass det. time= 108.7 min (973.3 - 864.7)

Volume	Invert	Avail.Storage	Storage Description
#1	244.00'	2,865 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
244.00	407	85.0	0	0	407
245.00	689	104.0	542	542	708
246.00	1,102	138.0	887	1,429	1,374
247.00	1,797	202.0	1,435	2,865	3,114

Device	Routing	Invert	Outlet Devices
#1	Discarded	244.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 212.00'
#2	Device 3	246.00'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	243.50'	**12.0" Round Culvert** L= 150.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 243.50' / 242.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.09 cfs @ 12.17 hrs HW=246.74' (Free Discharge)
└**1=Exfiltration** (Controls 0.09 cfs)

Primary OutFlow Max=3.11 cfs @ 12.17 hrs HW=246.74' (Free Discharge)
└**3=Culvert** (Passes 3.11 cfs of 4.74 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 3.11 cfs @ 2.93 fps)

Summary for Pond 18P: Infiltration Basin #7

Inflow Area = 6.083 ac, 2.24% Impervious, Inflow Depth = 0.77" for 100-yr event
Inflow = 2.35 cfs @ 12.27 hrs, Volume= 0.389 af
Outflow = 0.45 cfs @ 15.20 hrs, Volume= 0.389 af, Atten= 81%, Lag= 175.5 min
Discarded = 0.45 cfs @ 15.20 hrs, Volume= 0.389 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 239.14' @ 15.20 hrs Surf.Area= 3,371 sf Storage= 5,409 cf
Flood Elev= 240.00' Surf.Area= 4,106 sf Storage= 8,627 cf

Plug-Flow detention time= 167.3 min calculated for 0.389 af (100% of inflow)
Center-of-Mass det. time= 167.3 min (1,101.6 - 934.3)

Volume	Invert	Avail.Storage	Storage Description
#1	237.00'	8,627 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
237.00	1,741	234.0	0	0	1,741
238.00	2,471	252.0	2,095	2,095	2,478
239.00	3,260	271.0	2,856	4,952	3,311
240.00	4,106	291.0	3,675	8,627	4,249

Device	Routing	Invert	Outlet Devices
#1	Discarded	237.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 236.00'

#2 Primary 239.50' **20.0' long x 5.0' breadth Broad-Crested Rectangular Weir**
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.45 cfs @ 15.20 hrs HW=239.14' (Free Discharge)
└**1=Exfiltration** (Controls 0.45 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=237.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 19P: Infiltration Basin #8

Inflow Area = 3.110 ac, 0.20% Impervious, Inflow Depth = 0.32" for 100-yr event
Inflow = 0.23 cfs @ 12.45 hrs, Volume= 0.082 af
Outflow = 0.12 cfs @ 15.18 hrs, Volume= 0.082 af, Atten= 48%, Lag= 163.9 min
Discarded = 0.12 cfs @ 15.18 hrs, Volume= 0.082 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 261.28' @ 15.18 hrs Surf.Area= 2,199 sf Storage= 585 cf
Flood Elev= 295.00' Surf.Area= 3,949 sf Storage= 8,862 cf

Plug-Flow detention time= 83.7 min calculated for 0.082 af (100% of inflow)
Center-of-Mass det. time= 83.7 min (1,083.9 - 1,000.2)

Volume	Invert	Avail.Storage	Storage Description
#1	261.00'	8,862 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
261.00	2,047	182.0	0	0	2,047
262.00	2,623	202.0	2,329	2,329	2,688
263.00	3,258	221.0	2,935	5,264	3,361
264.00	3,949	240.0	3,598	8,862	4,095

Device	Routing	Invert	Outlet Devices
#1	Discarded	261.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 259.00'
#2	Primary	263.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.14 cfs @ 15.18 hrs HW=261.28' (Free Discharge)
└**1=Exfiltration** (Controls 0.14 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=261.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 20P: Yard Drain #14

Inflow Area = 1.313 ac, 0.00% Impervious, Inflow Depth = 0.15" for 100-yr event
Inflow = 0.12 cfs @ 13.48 hrs, Volume= 0.016 af
Outflow = 0.12 cfs @ 13.48 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min
Primary = 0.12 cfs @ 13.48 hrs, Volume= 0.016 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 232.82' @ 13.48 hrs
Flood Elev= 257.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	232.67'	**12.0" Round Culvert** L= 71.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 232.67' / 231.96' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.07 cfs @ 13.48 hrs HW=232.82' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.07 cfs @ 1.03 fps)

Summary for Pond 21P: Rain Garden #7

Inflow Area = 1.313 ac, 0.00% Impervious, Inflow Depth = 1.49" for 100-yr event
Inflow = 1.89 cfs @ 12.11 hrs, Volume= 0.163 af
Outflow = 0.24 cfs @ 13.48 hrs, Volume= 0.163 af, Atten= 87%, Lag= 82.5 min
Discarded = 0.12 cfs @ 13.48 hrs, Volume= 0.147 af
Primary = 0.12 cfs @ 13.48 hrs, Volume= 0.016 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 236.54' @ 13.48 hrs Surf.Area= 1,698 sf Storage= 2,895 cf
Flood Elev= 295.00' Surf.Area= 1,938 sf Storage= 3,728 cf

Plug-Flow detention time= 300.6 min calculated for 0.163 af (100% of inflow)
Center-of-Mass det. time= 300.5 min (1,188.2 - 887.7)

Volume	Invert	Avail.Storage	Storage Description
#1	234.00'	3,728 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
234.00	665	104.0	0	0	665
235.00	1,010	126.0	832	832	1,084
236.00	1,435	149.0	1,216	2,048	1,606
237.00	1,938	172.0	1,680	3,728	2,215

Device	Routing	Invert	Outlet Devices
#1	Discarded	234.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 228.00'
#2	Device 3	236.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	233.50'	**12.0" Round Culvert** L= 73.0' CPP, projecting, no headwall, Ke= 0.900

Inlet / Outlet Invert= 233.50' / 232.77' S= 0.0100 '/' Cc= 0.900
n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.12 cfs @ 13.48 hrs HW=236.54' (Free Discharge)
└**1=Exfiltration** (Controls 0.12 cfs)

Primary OutFlow Max=0.01 cfs @ 13.48 hrs HW=236.54' (Free Discharge)
└**3=Culvert** (Passes 0.01 cfs of 4.76 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.01 cfs @ 0.69 fps)

Summary for Pond 22P: Level Spreader #3

Inflow Area =	0.521 ac,	0.00% Impervious,	Inflow Depth =	2.31"	for 100-yr event
Inflow =	1.34 cfs @	12.10 hrs,	Volume=	0.100 af	
Outflow =	0.78 cfs @	12.29 hrs,	Volume=	0.100 af,	Atten= 42%, Lag= 11.9 min
Discarded =	0.08 cfs @	12.29 hrs,	Volume=	0.081 af	
Primary =	0.70 cfs @	12.29 hrs,	Volume=	0.020 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 229.76' @ 12.29 hrs Surf.Area= 0.021 ac Storage= 0.029 af
Flood Elev= 230.00' Surf.Area= 0.021 ac Storage= 0.032 af

Plug-Flow detention time= 156.4 min calculated for 0.100 af (100% of inflow)
Center-of-Mass det. time= 156.4 min (1,017.3 - 860.9)

Volume	Invert	Avail.Storage	Storage Description
#1	227.00'	0.032 af	**3.00'W x 310.00'L x 3.00'H Prismatoid** 0.064 af Overall x 50.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	229.75'	**200.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	227.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 222.00' Phase-In= 0.10'

Discarded OutFlow Max=0.08 cfs @ 12.29 hrs HW=229.76' (Free Discharge)
└**2=Exfiltration** (Controls 0.08 cfs)

Primary OutFlow Max=0.59 cfs @ 12.29 hrs HW=229.76' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.59 cfs @ 0.28 fps)

Summary for Pond 23P: YD-15

Inflow Area =	0.688 ac,	1.00% Impervious,	Inflow Depth =	2.51"	for 100-yr event
Inflow =	1.95 cfs @	12.09 hrs,	Volume=	0.144 af	
Outflow =	1.95 cfs @	12.09 hrs,	Volume=	0.144 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.95 cfs @	12.09 hrs,	Volume=	0.144 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 221.72' @ 12.09 hrs
Flood Elev= 223.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	220.80'	**12.0" Round Culvert** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 220.80' / 220.60' S= 0.0400 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.95 cfs @ 12.09 hrs HW=221.72' (Free Discharge)
└**1=Culvert** (Inlet Controls 1.95 cfs @ 2.58 fps)

Summary for Pond 24P: Subsurface Infiltration #2

Inflow Area =	3.005 ac,	11.98% Impervious,	Inflow Depth =	1.38"	for 100-yr event
Inflow =	4.81 cfs @	12.11 hrs,	Volume=	0.345 af	
Outflow =	0.51 cfs @	13.25 hrs,	Volume=	0.345 af,	Atten= 89%, Lag= 68.5 min
Discarded =	0.51 cfs @	13.25 hrs,	Volume=	0.345 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 219.81' @ 13.25 hrs Surf.Area= 0.110 ac Storage= 0.143 af

Plug-Flow detention time= 132.1 min calculated for 0.345 af (100% of inflow)
Center-of-Mass det. time= 132.1 min (971.5 - 839.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	218.00'	0.091 af	**54.67'W x 87.50'L x 3.54'H Field A** 0.389 af Overall - 0.161 af Embedded = 0.228 af x 40.0% Voids
#2A	218.50'	0.161 af	**Cultec R-330XLHD** x 132 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 11 rows
		0.252 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	218.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 216.00'

Discarded OutFlow Max=0.51 cfs @ 13.25 hrs HW=219.81' (Free Discharge)
└**1=Exfiltration** (Controls 0.51 cfs)

Summary for Pond 25P: DMH-2

Inflow Area =	1.202 ac,	15.45% Impervious,	Inflow Depth =	0.00"	for 100-yr event
Inflow =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	
Outflow =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 227.50' @ 0.00 hrs
Flood Elev= 230.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	227.50'	**12.0" Round Culvert** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 227.50' / 227.40' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=227.50' (Free Discharge)
└**1=Culvert** (Controls 0.00 cfs)

Summary for Pond 26P: YD-16

Inflow Area = 0.493 ac, 8.84% Impervious, Inflow Depth = 1.15" for 100-yr event
Inflow = 0.48 cfs @ 12.11 hrs, Volume= 0.047 af
Outflow = 0.48 cfs @ 12.11 hrs, Volume= 0.047 af, Atten= 0%, Lag= 0.0 min
Primary = 0.48 cfs @ 12.11 hrs, Volume= 0.047 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 285.69' @ 12.11 hrs
Flood Elev= 287.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	285.30'	**12.0" Round Culvert** L= 56.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 285.30' / 284.18' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.48 cfs @ 12.11 hrs HW=285.69' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.48 cfs @ 1.68 fps)

Summary for Pond 27P: Rain Garden #1

Inflow Area = 0.411 ac, 8.12% Impervious, Inflow Depth = 1.15" for 100-yr event
Inflow = 0.40 cfs @ 12.11 hrs, Volume= 0.040 af
Outflow = 0.05 cfs @ 14.70 hrs, Volume= 0.040 af, Atten= 89%, Lag= 155.1 min
Discarded = 0.04 cfs @ 14.70 hrs, Volume= 0.038 af
Primary = 0.01 cfs @ 14.70 hrs, Volume= 0.001 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 248.53' @ 14.70 hrs Surf.Area= 614 sf Storage= 715 cf
Flood Elev= 249.00' Surf.Area= 789 sf Storage= 1,042 cf

Plug-Flow detention time= 280.1 min calculated for 0.040 af (100% of inflow)
Center-of-Mass det. time= 280.2 min (1,183.7 - 903.5)

Volume	Invert	Avail.Storage	Storage Description
#1	246.00'	1,042 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
246.00	57	32.5	0	0	57
247.00	201	56.4	122	122	232
248.00	441	85.0	313	435	561
249.00	789	119.0	607	1,042	1,123

Device	Routing	Invert	Outlet Devices
#1	Discarded	246.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 212.00'
#2	Device 3	248.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	246.00'	**12.0" Round Culvert** L= 56.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 246.00' / 244.50' S= 0.0268 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.04 cfs @ 14.70 hrs HW=248.53' (Free Discharge)
└**1=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.01 cfs @ 14.70 hrs HW=248.53' (Free Discharge)
└**3=Culvert** (Passes 0.01 cfs of 4.26 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.01 cfs @ 0.62 fps)

Summary for Pond 28P: Infiltration Basin #2

Inflow Area = 2.279 ac, 22.60% Impervious, Inflow Depth = 1.15" for 100-yr event
Inflow = 3.11 cfs @ 12.17 hrs, Volume= 0.219 af
Outflow = 0.25 cfs @ 14.71 hrs, Volume= 0.219 af, Atten= 92%, Lag= 152.3 min
Discarded = 0.25 cfs @ 14.71 hrs, Volume= 0.219 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 241.94' @ 14.71 hrs Surf.Area= 3,316 sf Storage= 4,950 cf
Flood Elev= 246.00' Surf.Area= 5,174 sf Storage= 13,642 cf

Plug-Flow detention time= 251.2 min calculated for 0.219 af (100% of inflow)
Center-of-Mass det. time= 251.1 min (1,086.9 - 835.7)

Volume	Invert	Avail.Storage	Storage Description
#1	240.00'	13,642 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
240.00	1,835	233.0	0	0	1,835
241.00	2,573	254.0	2,194	2,194	2,684
242.00	3,368	274.0	2,962	5,155	3,565
243.00	4,232	294.0	3,792	8,947	4,513
244.00	5,174	315.0	4,695	13,642	5,575

Device	Routing	Invert	Outlet Devices
#1	Discarded	240.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 236.00'
#2	Primary	243.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.25 cfs @ 14.71 hrs HW=241.94' (Free Discharge)
└**1=Exfiltration** (Controls 0.25 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=240.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 29P: YD-17

Inflow Area = 0.598 ac, 14.43% Impervious, Inflow Depth = 1.46" for 100-yr event
Inflow = 0.83 cfs @ 12.10 hrs, Volume= 0.073 af
Outflow = 0.83 cfs @ 12.10 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.0 min
Primary = 0.83 cfs @ 12.10 hrs, Volume= 0.073 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 284.61' @ 12.10 hrs
Flood Elev= 287.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	284.08'	**12.0" Round Culvert** L= 166.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 284.08' / 281.59' S= 0.0150 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.82 cfs @ 12.10 hrs HW=284.61' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.82 cfs @ 1.95 fps)

Summary for Pond 30P: Infiltration Basin #4

Inflow Area = 1.418 ac, 4.68% Impervious, Inflow Depth = 1.13" for 100-yr event
Inflow = 1.34 cfs @ 12.11 hrs, Volume= 0.134 af
Outflow = 0.11 cfs @ 15.90 hrs, Volume= 0.134 af, Atten= 92%, Lag= 227.3 min
Discarded = 0.11 cfs @ 15.90 hrs, Volume= 0.134 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 238.34' @ 15.90 hrs Surf.Area= 1,646 sf Storage= 2,657 cf
Flood Elev= 241.00' Surf.Area= 3,125 sf Storage= 8,911 cf

Plug-Flow detention time= 321.6 min calculated for 0.134 af (100% of inflow)
Center-of-Mass det. time= 321.6 min (1,225.8 - 904.1)

Volume	Invert	Avail.Storage	Storage Description
#1	236.00'	8,911 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
236.00	678	116.0	0	0	678
237.00	1,054	135.0	859	859	1,078
238.00	1,487	154.0	1,264	2,123	1,538
239.00	1,976	173.0	1,726	3,849	2,059
240.00	2,522	191.0	2,243	6,093	2,611
241.00	3,125	210.0	2,818	8,911	3,250

Device	Routing	Invert	Outlet Devices
#1	Discarded	236.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 228.00'
#2	Device 3	238.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	235.50'	**12.0" Round Culvert** L= 91.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 235.50' / 230.20' S= 0.0582 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#4	Primary	240.50'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.11 cfs @ 15.90 hrs HW=238.34' (Free Discharge)
└**1=Exfiltration** (Controls 0.11 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=236.00' (Free Discharge)
├**3=Culvert** (Passes 0.00 cfs of 0.75 cfs potential flow)
│└**2=Orifice/Grate** (Controls 0.00 cfs)
└**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 31P: Rain Garden #6

Inflow Area = 1.597 ac, 2.54% Impervious, Inflow Depth = 0.69" for 100-yr event
Inflow = 1.06 cfs @ 12.09 hrs, Volume= 0.092 af
Outflow = 0.94 cfs @ 12.13 hrs, Volume= 0.092 af, Atten= 11%, Lag= 2.6 min
Discarded = 0.04 cfs @ 12.13 hrs, Volume= 0.029 af
Primary = 0.90 cfs @ 12.13 hrs, Volume= 0.063 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 231.06' @ 12.13 hrs Surf.Area= 498 sf Storage= 384 cf
Flood Elev= 233.00' Surf.Area= 1,148 sf Storage= 1,932 cf

Plug-Flow detention time= 32.5 min calculated for 0.092 af (100% of inflow)
Center-of-Mass det. time= 32.5 min (873.7 - 841.2)

Volume	Invert	Avail.Storage	Storage Description
#1	230.00'	3,369 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
230.00	242	63.2	0	0	242
231.00	483	87.0	356	356	536
232.00	773	106.0	622	978	844
233.00	1,148	128.0	954	1,932	1,270
234.00	1,747	162.0	1,437	3,369	2,068

Device	Routing	Invert	Outlet Devices
#1	Discarded	230.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 228.00' Phase-In= 0.01'
#2	Primary	233.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	230.50'	**12.0" Round Culvert** L= 80.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 230.50' / 228.50' S= 0.0250 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Discarded OutFlow Max=0.04 cfs @ 12.13 hrs HW=231.06' (Free Discharge)
└**1=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.90 cfs @ 12.13 hrs HW=231.06' (Free Discharge)
├**2=Orifice/Grate** (Controls 0.00 cfs)
└**3=Culvert** (Inlet Controls 0.90 cfs @ 2.01 fps)

Summary for Pond 32P: Infiltration Basin #3

Inflow Area =	2.065 ac,	8.20% Impervious,	Inflow Depth =	0.85"	for 100-yr event
Inflow =	1.61 cfs @	12.18 hrs,	Volume=	0.146 af	
Outflow =	0.22 cfs @	13.15 hrs,	Volume=	0.146 af,	Atten= 86%, Lag= 58.3 min
Discarded =	0.22 cfs @	13.15 hrs,	Volume=	0.146 af	
Primary =	0.00 cfs @	0.00 hrs,	Volume=	0.000 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 228.80' @ 13.15 hrs Surf.Area= 3,309 sf Storage= 2,364 cf
Flood Elev= 231.00' Surf.Area= 5,349 sf Storage= 11,854 cf

Plug-Flow detention time= 107.6 min calculated for 0.146 af (100% of inflow)
Center-of-Mass det. time= 107.6 min (961.7 - 854.2)

Volume	Invert	Avail.Storage	Storage Description
#1	228.00'	11,854 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
228.00	2,646	272.0	0	0	2,646
229.00	3,491	291.0	3,059	3,059	3,543
230.00	4,392	310.0	3,933	6,992	4,500
231.00	5,349	329.0	4,863	11,854	5,517

Device	Routing	Invert	Outlet Devices
#1	Discarded	228.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 224.00'
#2	Primary	229.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.22 cfs @ 13.15 hrs HW=228.80' (Free Discharge)
└**1=Exfiltration** (Controls 0.22 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=228.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 33P: Yard Drain #18

Inflow Area =	1.638 ac,	9.47% Impervious,	Inflow Depth =	0.47"	for 100-yr event
Inflow =	0.72 cfs @	12.17 hrs,	Volume=	0.064 af	
Outflow =	0.72 cfs @	12.17 hrs,	Volume=	0.064 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.72 cfs @	12.17 hrs,	Volume=	0.064 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 230.59' @ 12.17 hrs
Flood Elev= 232.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	230.10'	**12.0" Round Culvert** L= 66.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 230.10' / 229.40' S= 0.0106 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.72 cfs @ 12.17 hrs HW=230.59' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.72 cfs @ 1.88 fps)

Summary for Pond 35P: Yard Drain #13

Inflow Area =	0.119 ac,	44.77% Impervious,	Inflow Depth =	4.04"	for 100-yr event
Inflow =	0.46 cfs @	12.17 hrs,	Volume=	0.040 af	
Outflow =	0.46 cfs @	12.17 hrs,	Volume=	0.040 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.46 cfs @	12.17 hrs,	Volume=	0.040 af	

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 230.78' @ 12.17 hrs
Flood Elev= 232.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	230.40'	**12.0" Round Culvert** L= 18.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 230.40' / 230.20' S= 0.0111 '/' Cc= 0.900

n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.46 cfs @ 12.17 hrs HW=230.78' (Free Discharge)
1=Culvert (Inlet Controls 0.46 cfs @ 1.66 fps)

Summary for Pond 36P: Yard Drain #7

Inflow Area = 0.850 ac, 28.27% Impervious, Inflow Depth = 2.22" for 100-yr event
Inflow = 2.09 cfs @ 12.10 hrs, Volume= 0.157 af
Outflow = 2.09 cfs @ 12.10 hrs, Volume= 0.157 af, Atten= 0%, Lag= 0.0 min
Primary = 2.09 cfs @ 12.10 hrs, Volume= 0.157 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 247.78' @ 12.10 hrs
Flood Elev= 249.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	246.80'	**12.0" Round Culvert** L= 71.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 246.80' / 245.74' S= 0.0149 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.08 cfs @ 12.10 hrs HW=247.78' (Free Discharge)
1=Culvert (Inlet Controls 2.08 cfs @ 2.66 fps)

Summary for Pond 37P: Yard Drain #9

Inflow Area = 0.252 ac, 0.00% Impervious, Inflow Depth = 0.77" for 100-yr event
Inflow = 0.11 cfs @ 12.14 hrs, Volume= 0.016 af
Outflow = 0.11 cfs @ 12.14 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min
Primary = 0.11 cfs @ 12.14 hrs, Volume= 0.016 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 245.68' @ 12.14 hrs
Flood Elev= 248.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	245.50'	**12.0" Round Culvert** L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 245.50' / 244.50' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.11 cfs @ 12.14 hrs HW=245.68' (Free Discharge)
1=Culvert (Inlet Controls 0.11 cfs @ 1.14 fps)

Summary for Pond 38P: Yard Drain #11

Inflow Area = 0.278 ac, 29.82% Impervious, Inflow Depth = 2.31" for 100-yr event
Inflow = 0.58 cfs @ 12.18 hrs, Volume= 0.054 af
Outflow = 0.58 cfs @ 12.18 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min
Primary = 0.58 cfs @ 12.18 hrs, Volume= 0.054 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 248.23' @ 12.18 hrs
Flood Elev= 249.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	247.80'	**12.0" Round Culvert** L= 71.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 247.80' / 245.74' S= 0.0290 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.58 cfs @ 12.18 hrs HW=248.23' (Free Discharge)
1=Culvert (Inlet Controls 0.58 cfs @ 1.77 fps)

Summary for Pond 39P: Rain Garden #5

Inflow Area = 0.575 ac, 18.51% Impervious, Inflow Depth = 2.57" for 100-yr event
Inflow = 1.41 cfs @ 12.11 hrs, Volume= 0.123 af
Outflow = 1.34 cfs @ 12.15 hrs, Volume= 0.123 af, Atten= 5%, Lag= 2.2 min
Discarded = 0.05 cfs @ 12.15 hrs, Volume= 0.047 af
Primary = 1.29 cfs @ 12.15 hrs, Volume= 0.075 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 235.97' @ 12.15 hrs Surf.Area= 570 sf Storage= 664 cf
Flood Elev= 236.00' Surf.Area= 580 sf Storage= 684 cf

Plug-Flow detention time= 71.9 min calculated for 0.123 af (100% of inflow)
Center-of-Mass det. time= 71.9 min (928.6 - 856.7)

Volume	Invert	Avail.Storage	Storage Description
#1	234.00'	684 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
234.00	144	51.0	0	0	144
235.00	334	73.0	232	232	370
236.00	580	91.0	451	684	619

Device	Routing	Invert	Outlet Devices
#1	Discarded	234.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 232.00'
#2	Device 3	235.50'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	232.00'	**15.0" Round Culvert** L= 130.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 232.00' / 225.00' S= 0.0538 '/' Cc= 0.900

n= 0.013, Flow Area= 1.23 sf

Discarded OutFlow Max=0.05 cfs @ 12.15 hrs HW=235.97' (Free Discharge)
└**1=Exfiltration** (Controls 0.05 cfs)

Primary OutFlow Max=1.29 cfs @ 12.15 hrs HW=235.97' (Free Discharge)
└**3=Culvert** (Passes 1.29 cfs of 8.53 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 1.29 cfs @ 2.32 fps)

Summary for Pond 40P: DMH-3

Inflow Area = 1.115 ac, 15.00% Impervious, Inflow Depth = 2.17" for 100-yr event
Inflow = 2.89 cfs @ 12.11 hrs, Volume= 0.202 af
Outflow = 2.89 cfs @ 12.11 hrs, Volume= 0.202 af, Atten= 0%, Lag= 0.0 min
Primary = 2.89 cfs @ 12.11 hrs, Volume= 0.202 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 226.34' @ 12.11 hrs
Flood Elev= 229.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	224.90'	**12.0" Round Culvert** L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 224.90' / 224.80' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.89 cfs @ 12.11 hrs HW=226.34' (Free Discharge)
└**1=Culvert** (Inlet Controls 2.89 cfs @ 3.68 fps)

Summary for Pond 41P: Yard Drain #12

Inflow Area = 0.101 ac, 35.07% Impervious, Inflow Depth = 2.80" for 100-yr event
Inflow = 0.26 cfs @ 12.18 hrs, Volume= 0.024 af
Outflow = 0.26 cfs @ 12.18 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min
Primary = 0.26 cfs @ 12.18 hrs, Volume= 0.024 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 235.18' @ 12.18 hrs
Flood Elev= 237.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	234.90'	**12.0" Round Culvert** L= 44.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 234.90' / 232.00' S= 0.0659 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.26 cfs @ 12.18 hrs HW=235.18' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.26 cfs @ 1.43 fps)

Summary for Pond 42P: Infiltration Basin #5

Inflow Area = 1.929 ac, 7.25% Impervious, Inflow Depth = 0.93" for 100-yr event
Inflow = 1.84 cfs @ 12.15 hrs, Volume= 0.149 af
Outflow = 0.19 cfs @ 14.45 hrs, Volume= 0.149 af, Atten= 90%, Lag= 138.1 min
Discarded = 0.19 cfs @ 14.45 hrs, Volume= 0.149 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 228.29' @ 14.45 hrs Surf.Area= 2,281 sf Storage= 3,209 cf
Flood Elev= 229.00' Surf.Area= 3,122 sf Storage= 5,125 cf

Plug-Flow detention time= 221.3 min calculated for 0.149 af (100% of inflow)
Center-of-Mass det. time= 221.3 min (1,046.9 - 825.5)

Volume	Invert	Avail.Storage	Storage Description
#1	226.00'	5,125 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
226.00	561	96.0	0	0	561
227.00	1,365	167.0	934	934	2,053
228.00	1,979	216.0	1,663	2,596	3,558
229.00	3,122	277.0	2,529	5,125	5,964

Device	Routing	Invert	Outlet Devices
#1	Discarded	226.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 223.54'
#2	Primary	228.50'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.19 cfs @ 14.45 hrs HW=228.29' (Free Discharge)
└**1=Exfiltration** (Controls 0.19 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=226.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 43P: Subsurface Infiltration #1

Inflow Area = 2.067 ac, 4.64% Impervious, Inflow Depth = 1.01" for 100-yr event
Inflow = 1.50 cfs @ 12.12 hrs, Volume= 0.173 af
Outflow = 0.12 cfs @ 16.81 hrs, Volume= 0.173 af, Atten= 92%, Lag= 281.6 min
Discarded = 0.12 cfs @ 16.81 hrs, Volume= 0.173 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 238.04' @ 16.81 hrs Surf.Area= 0.039 ac Storage= 0.079 af

Plug-Flow detention time= 343.2 min calculated for 0.173 af (100% of inflow)

Center-of-Mass det. time= 343.2 min (1,247.4 - 904.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	235.00'	0.033 af	**20.83'W x 80.50'L x 3.54'H Field A** 0.136 af Overall - 0.054 af Embedded = 0.083 af x 40.0% Voids
#2A	235.50'	0.054 af	**Cultec R-330XLHD** x 44 Inside #1 Effective Size= 47.8"W x 30.0"H => 7.45 sf x 7.00'L = 52.2 cf Overall Size= 52.0"W x 30.5"H x 8.50'L with 1.50' Overlap Row Length Adjustment= +1.50' x 7.45 sf x 4 rows
		0.087 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	235.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 222.80'

Discarded OutFlow Max=0.12 cfs @ 16.81 hrs HW=238.04' (Free Discharge)
└**1=Exfiltration** (Controls 0.12 cfs)

Summary for Pond 44P: Level Spreader #4

Inflow Area = 0.736 ac, 0.71% Impervious, Inflow Depth = 2.31" for 100-yr event
Inflow = 1.87 cfs @ 12.10 hrs, Volume= 0.142 af
Outflow = 1.86 cfs @ 12.10 hrs, Volume= 0.141 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.06 cfs @ 12.10 hrs, Volume= 0.069 af
Primary = 1.81 cfs @ 12.10 hrs, Volume= 0.072 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 224.92' @ 12.10 hrs Surf.Area= 525 sf Storage= 768 cf
Flood Elev= 225.00' Surf.Area= 525 sf Storage= 788 cf

Plug-Flow detention time= 93.5 min calculated for 0.141 af (100% of inflow)
Center-of-Mass det. time= 91.9 min (953.2 - 861.4)

Volume	Invert	Avail.Storage	Storage Description
#1	222.00'	788 cf	**3.00'W x 175.00'L x 3.00'H Prismatoid** 1,575 cf Overall x 50.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	224.90'	**150.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	222.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 219.00' Phase-In= 0.01'

Discarded OutFlow Max=0.06 cfs @ 12.10 hrs HW=224.92' (Free Discharge)
└**2=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=1.58 cfs @ 12.10 hrs HW=224.92' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 1.58 cfs @ 0.42 fps)

Summary for Pond 45P: Yard Drain #10

Inflow Area = 0.540 ac, 11.27% Impervious, Inflow Depth = 2.80" for 100-yr event
Inflow = 1.74 cfs @ 12.09 hrs, Volume= 0.126 af
Outflow = 1.74 cfs @ 12.09 hrs, Volume= 0.126 af, Atten= 0%, Lag= 0.0 min
Primary = 1.74 cfs @ 12.09 hrs, Volume= 0.126 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 228.54' @ 12.09 hrs
Flood Elev= 230.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	227.70'	**12.0" Round Culvert** L= 36.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 227.70' / 225.00' S= 0.0750 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.74 cfs @ 12.09 hrs HW=228.54' (Free Discharge)
└**1=Culvert** (Inlet Controls 1.74 cfs @ 2.46 fps)

Summary for Pond 46P: Yard Drain #1

Inflow Area = 0.397 ac, 24.50% Impervious, Inflow Depth = 1.94" for 100-yr event
Inflow = 0.82 cfs @ 12.10 hrs, Volume= 0.064 af
Outflow = 0.82 cfs @ 12.10 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min
Primary = 0.82 cfs @ 12.10 hrs, Volume= 0.064 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 237.37' @ 12.10 hrs
Flood Elev= 239.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	236.90'	**12.0" Round Culvert** L= 65.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 236.90' / 236.25' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.82 cfs @ 12.10 hrs HW=237.37' (Free Discharge)
└**1=Culvert** (Barrel Controls 0.82 cfs @ 3.36 fps)

Summary for Pond 47P: Infiltration Basin #6

Inflow Area = 2.952 ac, 6.61% Impervious, Inflow Depth = 1.15" for 100-yr event
Inflow = 2.85 cfs @ 12.11 hrs, Volume= 0.284 af
Outflow = 0.23 cfs @ 15.87 hrs, Volume= 0.284 af, Atten= 92%, Lag= 225.3 min
Discarded = 0.23 cfs @ 15.87 hrs, Volume= 0.284 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 282.36' @ 15.87 hrs Surf.Area= 2,470 sf Storage= 5,659 cf
Flood Elev= 283.00' Surf.Area= 2,844 sf Storage= 7,353 cf

Plug-Flow detention time= 335.3 min calculated for 0.284 af (100% of inflow)
Center-of-Mass det. time= 335.3 min (1,237.2 - 901.8)

Volume	Invert	Avail.Storage	Storage Description
#1	279.00'	7,353 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
279.00	1,058	153.0	0	0	1,058
280.00	1,373	169.0	1,212	1,212	1,498
281.00	1,777	206.0	1,571	2,783	2,618
282.00	2,270	248.0	2,018	4,801	4,153
283.00	2,844	268.0	2,552	7,353	5,013

Device	Routing	Invert	Outlet Devices
#1	Discarded	279.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 276.00'
#2	Primary	282.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.23 cfs @ 15.87 hrs HW=282.36' (Free Discharge)
└**1=Exfiltration** (Controls 0.23 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=279.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 48P: Infiltration basin #1

Inflow Area = 0.981 ac, 14.91% Impervious, Inflow Depth = 1.42" for 100-yr event
Inflow = 1.32 cfs @ 12.11 hrs, Volume= 0.116 af
Outflow = 0.10 cfs @ 15.55 hrs, Volume= 0.116 af, Atten= 93%, Lag= 206.7 min
Discarded = 0.10 cfs @ 15.55 hrs, Volume= 0.116 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 237.12' @ 15.55 hrs Surf.Area= 1,615 sf Storage= 2,333 cf
Flood Elev= 238.00' Surf.Area= 2,137 sf Storage= 3,986 cf

Plug-Flow detention time= 307.8 min calculated for 0.116 af (100% of inflow)
Center-of-Mass det. time= 307.8 min (1,195.9 - 888.1)

Volume	Invert	Avail.Storage	Storage Description
#1	235.00'	3,986 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
235.00	670	115.0	0	0	670
236.00	1,054	137.0	855	855	1,129
237.00	1,552	172.0	1,295	2,150	2,003
238.00	2,137	202.0	1,837	3,986	2,915

Device	Routing	Invert	Outlet Devices
#1	Discarded	235.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 220.00'
#2	Primary	237.50'	**20.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.10 cfs @ 15.55 hrs HW=237.12' (Free Discharge)
└**1=Exfiltration** (Controls 0.10 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=235.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 49P: Yard Drain #8

Inflow Area = 0.261 ac, 33.76% Impervious, Inflow Depth = 2.51" for 100-yr event
Inflow = 0.74 cfs @ 12.09 hrs, Volume= 0.054 af
Outflow = 0.74 cfs @ 12.09 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min
Primary = 0.74 cfs @ 12.09 hrs, Volume= 0.054 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 250.30' @ 12.09 hrs
Flood Elev= 252.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	249.80'	**12.0" Round Culvert** L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 249.80' / 246.00' S= 0.0380 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.74 cfs @ 12.09 hrs HW=250.30' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.74 cfs @ 1.89 fps)

Summary for Pond 50P: Level Spreader #2

Inflow Area = 0.746 ac, 0.00% Impervious, Inflow Depth = 2.51" for 100-yr event
Inflow = 2.12 cfs @ 12.09 hrs, Volume= 0.156 af
Outflow = 2.12 cfs @ 12.10 hrs, Volume= 0.155 af, Atten= 0%, Lag= 0.1 min
Discarded = 0.09 cfs @ 12.10 hrs, Volume= 0.089 af
Primary = 2.03 cfs @ 12.10 hrs, Volume= 0.066 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 218.77' @ 12.10 hrs Surf.Area= 675 sf Storage= 936 cf
Flood Elev= 219.00' Surf.Area= 675 sf Storage= 1,013 cf

Plug-Flow detention time= 83.6 min calculated for 0.155 af (100% of inflow)
Center-of-Mass det. time= 81.9 min (937.8 - 855.9)

Volume	Invert	Avail.Storage	Storage Description
#1	216.00'	1,013 cf	**3.00'W x 225.00'L x 3.00'H Prismatoid** 2,025 cf Overall x 50.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	218.75'	**190.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	216.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 214.00' Phase-In= 0.01'

Discarded OutFlow Max=0.09 cfs @ 12.10 hrs HW=218.77' (Free Discharge)
└**2=Exfiltration** (Controls 0.09 cfs)

Primary OutFlow Max=1.74 cfs @ 12.10 hrs HW=218.77' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 1.74 cfs @ 0.40 fps)

Summary for Pond 51P: Yard Drain #2

Inflow Area = 1.949 ac, 1.71% Impervious, Inflow Depth = 0.84" for 100-yr event
Inflow = 1.03 cfs @ 12.13 hrs, Volume= 0.137 af
Outflow = 1.03 cfs @ 12.13 hrs, Volume= 0.137 af, Atten= 0%, Lag= 0.0 min
Primary = 1.03 cfs @ 12.13 hrs, Volume= 0.137 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 248.43' @ 12.13 hrs
Flood Elev= 252.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	247.90'	**12.0" Round Culvert** L= 86.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 247.90' / 247.00' S= 0.0105 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.03 cfs @ 12.13 hrs HW=248.43' (Free Discharge)
└**1=Culvert** (Inlet Controls 1.03 cfs @ 2.47 fps)

Summary for Pond 52P: Level Spreader #1

Inflow Area = 0.619 ac, 10.40% Impervious, Inflow Depth = 1.24" for 100-yr event
Inflow = 0.68 cfs @ 12.11 hrs, Volume= 0.064 af
Outflow = 0.59 cfs @ 12.19 hrs, Volume= 0.064 af, Atten= 13%, Lag= 5.0 min
Discarded = 0.04 cfs @ 12.19 hrs, Volume= 0.040 af
Primary = 0.55 cfs @ 12.19 hrs, Volume= 0.024 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 237.41' @ 12.19 hrs Surf.Area= 390 sf Storage= 376 cf
Flood Elev= 239.00' Surf.Area= 390 sf Storage= 468 cf

Plug-Flow detention time= 85.1 min calculated for 0.064 af (100% of inflow)
Center-of-Mass det. time= 84.5 min (983.6 - 899.1)

Volume	Invert	Avail.Storage	Storage Description
#1	235.00'	468 cf	**3.00'W x 130.00'L x 3.00'H Prismatoid** 1,170 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	237.40'	**120.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	235.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 232.00' Phase-In= 0.10'

Discarded OutFlow Max=0.04 cfs @ 12.19 hrs HW=237.41' (Free Discharge)
└**2=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.22 cfs @ 12.19 hrs HW=237.41' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.22 cfs @ 0.24 fps)

Summary for Pond 53P: Yard Drain #3

Inflow Area = 1.949 ac, 1.71% Impervious, Inflow Depth = 0.84" for 100-yr event
Inflow = 1.03 cfs @ 12.13 hrs, Volume= 0.137 af
Outflow = 1.03 cfs @ 12.13 hrs, Volume= 0.137 af, Atten= 0%, Lag= 0.0 min
Primary = 1.03 cfs @ 12.13 hrs, Volume= 0.137 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 247.43' @ 12.13 hrs
Flood Elev= 251.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	246.90'	**12.0" Round Culvert**

L= 125.0' CPP, square edge headwall, Ke= 0.500
Inlet / Outlet Invert= 246.90' / 243.00' S= 0.0312 '/' Cc= 0.900
n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.03 cfs @ 12.13 hrs HW=247.43' (Free Discharge)
└**1=Culvert** (Inlet Controls 1.03 cfs @ 2.47 fps)

Summary for Pond 54P: Yard Drain #4

Inflow Area = 1.949 ac, 1.71% Impervious, Inflow Depth = 0.84" for 100-yr event
Inflow = 1.03 cfs @ 12.13 hrs, Volume= 0.137 af
Outflow = 1.03 cfs @ 12.13 hrs, Volume= 0.137 af, Atten= 0%, Lag= 0.0 min
Primary = 1.03 cfs @ 12.13 hrs, Volume= 0.137 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 243.43' @ 12.13 hrs
Flood Elev= 247.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	242.90'	**12.0" Round Culvert** L= 115.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 242.90' / 240.73' S= 0.0189 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.03 cfs @ 12.13 hrs HW=243.43' (Free Discharge)
└**1=Culvert** (Inlet Controls 1.03 cfs @ 2.47 fps)

Summary for Pond 55P: Yard Drain #5

Inflow Area = 1.949 ac, 1.71% Impervious, Inflow Depth = 0.84" for 100-yr event
Inflow = 1.03 cfs @ 12.13 hrs, Volume= 0.137 af
Outflow = 1.03 cfs @ 12.13 hrs, Volume= 0.137 af, Atten= 0%, Lag= 0.0 min
Primary = 1.03 cfs @ 12.13 hrs, Volume= 0.137 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 241.16' @ 12.13 hrs
Flood Elev= 245.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	240.63'	**12.0" Round Culvert** L= 72.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.63' / 237.03' S= 0.0500 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.03 cfs @ 12.13 hrs HW=241.16' (Free Discharge)
└**1=Culvert** (Inlet Controls 1.03 cfs @ 2.47 fps)

Summary for Pond 56P: DMH-1

Inflow Area = 2.067 ac, 4.64% Impervious, Inflow Depth = 1.01" for 100-yr event
Inflow = 1.50 cfs @ 12.12 hrs, Volume= 0.173 af
Outflow = 1.50 cfs @ 12.12 hrs, Volume= 0.173 af, Atten= 0%, Lag= 0.0 min
Primary = 1.50 cfs @ 12.12 hrs, Volume= 0.173 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 237.63' @ 12.12 hrs
Flood Elev= 241.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	236.93'	**12.0" Round Culvert** L= 9.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 236.93' / 236.75' S= 0.0200 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=1.50 cfs @ 12.12 hrs HW=237.63' (Free Discharge)
└**1=Culvert** (Barrel Controls 1.50 cfs @ 3.59 fps)

Summary for Pond 57P: Yard Drain #6

Inflow Area = 0.117 ac, 53.39% Impervious, Inflow Depth = 3.72" for 100-yr event
Inflow = 0.51 cfs @ 12.09 hrs, Volume= 0.036 af
Outflow = 0.51 cfs @ 12.09 hrs, Volume= 0.036 af, Atten= 0%, Lag= 0.0 min
Primary = 0.51 cfs @ 12.09 hrs, Volume= 0.036 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 240.36' @ 12.09 hrs
Flood Elev= 247.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	240.00'	**12.0" Round Culvert** L= 32.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.00' / 237.03' S= 0.0928 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=0.51 cfs @ 12.09 hrs HW=240.36' (Free Discharge)
└**1=Culvert** (Inlet Controls 0.51 cfs @ 2.03 fps)

Summary for Pond 58P: Rain Garden #3

Inflow Area = 0.476 ac, 0.00% Impervious, Inflow Depth = 1.49" for 100-yr event
Inflow = 0.69 cfs @ 12.10 hrs, Volume= 0.059 af
Outflow = 0.06 cfs @ 14.95 hrs, Volume= 0.059 af, Atten= 91%, Lag= 170.8 min
Discarded = 0.06 cfs @ 14.95 hrs, Volume= 0.059 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 232.41' @ 14.95 hrs Surf.Area= 815 sf Storage= 1,112 cf
Flood Elev= 233.00' Surf.Area= 1,035 sf Storage= 1,661 cf

Plug-Flow detention time= 260.5 min calculated for 0.059 af (100% of inflow)
Center-of-Mass det. time= 260.5 min (1,148.0 - 887.5)

Volume	Invert	Avail.Storage	Storage Description
#1	230.00'	1,661 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
230.00	181	57.0	0	0	181
231.00	392	83.0	280	280	479
232.00	680	109.0	529	809	888
233.00	1,035	128.0	851	1,661	1,265

Device	Routing	Invert	Outlet Devices
#1	Discarded	230.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 226.00'
#2	Primary	232.50'	**10.0' long x 3.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 Coef. (English) 2.44 2.58 2.68 2.67 2.65 2.64 2.64 2.68 2.68 2.72 2.81 2.92 2.97 3.07 3.32

Discarded OutFlow Max=0.06 cfs @ 14.95 hrs HW=232.41' (Free Discharge)
└**1=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=230.00' (Free Discharge)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 59P: Level Spreader #5

Inflow Area = 0.382 ac, 24.51% Impervious, Inflow Depth = 1.94" for 100-yr event
Inflow = 0.79 cfs @ 12.10 hrs, Volume= 0.062 af
Outflow = 0.62 cfs @ 12.24 hrs, Volume= 0.062 af, Atten= 21%, Lag= 8.7 min
Discarded = 0.03 cfs @ 12.24 hrs, Volume= 0.042 af
Primary = 0.59 cfs @ 12.24 hrs, Volume= 0.020 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 287.91' @ 12.24 hrs Surf.Area= 0.013 ac Storage= 0.015 af
Flood Elev= 288.00' Surf.Area= 0.013 ac Storage= 0.015 af

Plug-Flow detention time= 166.4 min calculated for 0.062 af (100% of inflow)
Center-of-Mass det. time= 167.4 min (1,039.0 - 871.7)

Volume	Invert	Avail.Storage	Storage Description
#1	285.00'	0.015 af	**2.50'W x 225.00'L x 3.00'H Prismatoid** 0.039 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	287.90'	**225.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	285.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 222.00' Phase-In= 0.10'

Discarded OutFlow Max=0.03 cfs @ 12.24 hrs HW=287.91' (Free Discharge)
└**2=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.48 cfs @ 12.24 hrs HW=287.91' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.48 cfs @ 0.25 fps)

Summary for Pond 60P: Level Spreader #5

Inflow Area = 0.192 ac, 23.42% Impervious, Inflow Depth = 1.76" for 100-yr event
Inflow = 0.30 cfs @ 12.16 hrs, Volume= 0.028 af
Outflow = 0.04 cfs @ 13.72 hrs, Volume= 0.028 af, Atten= 88%, Lag= 93.8 min
Discarded = 0.04 cfs @ 13.72 hrs, Volume= 0.028 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 299.80' @ 13.72 hrs Surf.Area= 0.009 ac Storage= 0.010 af
Flood Elev= 300.00' Surf.Area= 0.009 ac Storage= 0.011 af

Plug-Flow detention time= 133.0 min calculated for 0.028 af (100% of inflow)
Center-of-Mass det. time= 132.9 min (1,014.3 - 881.3)

Volume	Invert	Avail.Storage	Storage Description
#1	297.00'	0.011 af	**2.50'W x 160.00'L x 3.00'H Prismatoid** 0.028 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Primary	299.90'	**225.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Discarded	297.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 293.00' Phase-In= 0.10'

Discarded OutFlow Max=0.04 cfs @ 13.72 hrs HW=299.80' (Free Discharge)
└**2=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=297.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 61P: Rain Garden #4

Inflow Area = 1.202 ac, 15.45% Impervious, Inflow Depth = 1.62" for 100-yr event
Inflow = 1.94 cfs @ 12.10 hrs, Volume= 0.162 af
Outflow = 0.18 cfs @ 14.41 hrs, Volume= 0.162 af, Atten= 91%, Lag= 138.2 min
Discarded = 0.18 cfs @ 14.41 hrs, Volume= 0.162 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 244.27' @ 14.41 hrs Surf.Area= 1,835 sf Storage= 2,948 cf
Flood Elev= 245.00' Surf.Area= 2,237 sf Storage= 4,441 cf

Plug-Flow detention time= 225.0 min calculated for 0.162 af (100% of inflow)
Center-of-Mass det. time= 225.1 min (1,105.2 - 880.2)

Volume	Invert	Avail.Storage	Storage Description
#1	242.00'	4,441 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
242.00	827	122.0	0	0	827
243.00	1,228	146.0	1,021	1,021	1,356
244.00	1,700	169.0	1,458	2,479	1,954
245.00	2,237	189.0	1,962	4,441	2,551

Device	Routing	Invert	Outlet Devices
#1	Discarded	242.00'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 240.00'
#2	Device 3	244.70'	**24.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Primary	241.70'	**15.0" Round Culvert** L= 140.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 241.70' / 227.75' S= 0.0996 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf

Discarded OutFlow Max=0.18 cfs @ 14.41 hrs HW=244.27' (Free Discharge)
└─**1=Exfiltration** (Controls 0.18 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=242.00' (Free Discharge)
└─**3=Culvert** (Passes 0.00 cfs of 0.33 cfs potential flow)
└─**2=Orifice/Grate** (Controls 0.00 cfs)

Summary for Link 13L: DP-A

Inflow Area = 11.629 ac, 8.58% Impervious, Inflow Depth = 0.53" for 100-yr event
Inflow = 7.51 cfs @ 12.10 hrs, Volume= 0.512 af
Primary = 7.51 cfs @ 12.10 hrs, Volume= 0.512 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 14L: DP-B

Inflow Area = 10.287 ac, 1.73% Impervious, Inflow Depth = 0.28" for 100-yr event
Inflow = 1.38 cfs @ 12.34 hrs, Volume= 0.244 af
Primary = 1.38 cfs @ 12.34 hrs, Volume= 0.244 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 15L: DP-C

Inflow Area = 4.348 ac, 0.14% Impervious, Inflow Depth = 0.06" for 100-yr event
Inflow = 0.04 cfs @ 13.67 hrs, Volume= 0.022 af
Primary = 0.04 cfs @ 13.67 hrs, Volume= 0.022 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 16L: DP-D

Inflow Area = 0.554 ac, 0.00% Impervious, Inflow Depth = 0.63" for 100-yr event
Inflow = 0.16 cfs @ 12.30 hrs, Volume= 0.029 af
Primary = 0.16 cfs @ 12.30 hrs, Volume= 0.029 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link 17L: DP-E

Inflow Area = 6.621 ac, 5.68% Impervious, Inflow Depth = 0.30" for 100-yr event
Inflow = 1.14 cfs @ 12.24 hrs, Volume= 0.164 af
Primary = 1.14 cfs @ 12.24 hrs, Volume= 0.164 af, Atten= 0%, Lag= 0.0 min

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

APPENDIX F

Recharge Volume / Water Quality Volume / TSS Removal / Mounding Calculations

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Infiltration Basin #1

Stormwater Recharge Calculations

CALCULATIONS

Recharge Volume, Rv:

$R_v = A_C x F$

Hydrologic Soil Group	Impervious Area (Ac) [1]	Target Depth (F)	Recharge Volume (Rv) Ac-feet
A	0.146	0.6	0.007
Total	**0.146**		**0.007**

Total Recharge Volume Required = 0.007 Ac-ft
Total Recharge Volume Required (Rv) = 318 C.ft
Recharge Vol. Provided (from Infil. Basin) = 2,108.0

REFERENCES

Table 2.3.2: Recharge Target Depth by Hydrologic Soil Group

NRCS Hydrologic Soil Group	Approx. Soil Texture	Target Depth Factor (F)
A	sand	0.6 inch
B	loam	0.35 inch
C	silty loam	0.25 inch
D	clay	0.1 inch

Required Sediment Forebay vol, Fv:

$F_v = A_C(cu.ft)x0.1inch$ of impervious area

[1] Imp. area captured by ponds, Ap = 0.146 Ac
Required Sediment Forebay vol, Fv= 53 C.ft

Sediment Volume Provided = 63 C.ft

Drawdown Calculations

CALCULATIONS

Proposed Infiltration Area Calculations:

$$Drawdown = \frac{R_V}{(Rawls\ Rate)(Bottom\ Area)}$$

REFERENCES

Table 2.3.3: 1982 Rawls Rates

Texture Class	NRCS Hydrologic Soil Group	Infiltration Rate
1 Sand	A	8.27 in/hr
2 Loamy Sand	A	2.41 in/hr
3 Sandy Loam	B	1.02 in/hr
4 Loam	B	0.52 in/hr
5 Silt Loam	C	0.27 in/hr
6 Sandy Clay Loam	C	0.17 in/hr
7 Clay Loam	D	0.09 in/hr
8 Silty Clay Loam	D	0.06 in/hr
9 Sandy Clay	D	0.05 in/hr
10 Silty Clay	D	0.04 in/hr
11 Clay	D	0.02 in/hr

Drawdown Calculations:

Soil Texture: 2 Loamy Sand

Bottom Surface Area (A): 398 SF
Rawls Rate: 2.41 in/hr
Total Recharge Volume Provided= 2,108 C.ft
Drawdown: 26.37 hr
Drawdown is less than 72 Hours as Required

NOTES:

Input Values

[1] = Refer to Proposed Conditions HydroCAD modeling report

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Infiltration Basin #2

Stormwater Recharge Calculations

CALCULATIONS

Recharge Volume, Rv:

$R_v = A_C x F$

Hydrologic Soil Group	Impervious Area (Ac) [1]	Target Depth (F)	Recharge Volume (Rv) Ac-feet
A	0.275	0.6	0.014
B	0.240	0.35	0.007
Total	**0.515**		**0.021**

Total Recharge Volume Required = 0.021 Ac-ft
Total Recharge Volume Required (Rv) = 904 C.ft
Recharge Vol. Provided (from Infil. Basin) = 4,931.0

REFERENCES

Table 2.3.2: Recharge Target Depth by Hydrologic Soil Group

NRCS Hydrologic Soil Group	Approx. Soil Texture	Target Depth Factor (F)
A	sand	0.6 inch
B	loam	0.35 inch
C	silty loam	0.25 inch
D	clay	0.1 inch

Required Sediment Forebay vol, Fv:

$F_v = A_C(cu.ft)x0.1inch$ of impervious area

[1] Imp. area captured by ponds, Ap = 0.515 Ac
Required Sediment Forebay vol, Fv= 187 C.ft

Sediment Volume Provided = 210 C.ft

Drawdown Calculations

CALCULATIONS

Proposed Infiltration Area Calculations:

$$Drawdown = \frac{R_V}{(Rawls\ Rate)(Bottom\ Area)}$$

REFERENCES

Table 2.3.3: 1982 Rawls Rates

Texture Class	NRCS Hydrologic Soil Group	Infiltration Rate
1 Sand	A	8.27 in/hr
2 Loamy Sand	A	2.41 in/hr
3 Sandy Loam	B	1.02 in/hr
4 Loam	B	0.52 in/hr
5 Silt Loam	C	0.27 in/hr
6 Sandy Clay Loam	C	0.17 in/hr
7 Clay Loam	D	0.09 in/hr
8 Silty Clay Loam	D	0.06 in/hr
9 Sandy Clay	D	0.05 in/hr
10 Silty Clay	D	0.04 in/hr
11 Clay	D	0.02 in/hr

Drawdown Calculations:

Soil Texture: 2 Loamy Sand

Bottom Surface Area (A): 1,835 SF
Rawls Rate: 2.41 in/hr
Total Recharge Volume Provided = 4,931 C.ft
Drawdown: 13.38 hr
Drawdown is less than 72 Hours as Required

NOTES:

Input Values

[1] = Refer to Proposed Conditions HydroCAD modeling report

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Infiltration Basin #3

Stormwater Recharge Calculations

CALCULATIONS

Recharge Volume, Rv:

$R_v = A_C x F$

Hydrologic Soil Group	Impervious Area (Ac) [1]	Target Depth (F)	Recharge Volume (Rv) Ac-feet
A	0.008	0.6	0.000
B	0.121	0.35	0.004
Total	**0.129**		**0.004**

Total Recharge Volume Required = 0.004 Ac-ft
Total Recharge Volume Required (Rv) = 171 C.ft
Recharge Vol. Provided (from Infil. Basin) = 2,661.0

REFERENCES

Table 2.3.2: Recharge Target Depth by Hydrologic Soil Group

NRCS Hydrologic Soil Group	Approx. Soil Texture	Target Depth Factor (F)
A	sand	0.6 inch
B	loam	0.35 inch
C	silty loam	0.25 inch
D	clay	0.1 inch

Required Sediment Forebay vol, Fv:

$F_v = A_C(cu.ft)x0.1inch$ of impervious area

[1] Imp. area captured by ponds, Ap = 0.129 Ac
Required Sediment Forebay vol, Fv= 47 C.ft

Sediment Volume Provided = 531 C.ft

Drawdown Calculations

CALCULATIONS

Proposed Infiltration Area Calculations:

$$Drawdown = \frac{R_V}{(Rawls\ Rate)(Bottom\ Area)}$$

REFERENCES

Table 2.3.3: 1982 Rawls Rates

Texture Class	NRCS Hydrologic Soil Group	Infiltration Rate
1 Sand	A	8.27 in/hr
2 Loamy Sand	A	2.41 in/hr
3 Sandy Loam	B	1.02 in/hr
4 Loam	B	0.52 in/hr
5 Silt Loam	C	0.27 in/hr
6 Sandy Clay Loam	C	0.17 in/hr
7 Clay Loam	D	0.09 in/hr
8 Silty Clay Loam	D	0.06 in/hr
9 Sandy Clay	D	0.05 in/hr
10 Silty Clay	D	0.04 in/hr
11 Clay	D	0.02 in/hr

Drawdown Calculations:

Soil Texture: 2 Loamy Sand

Bottom Surface Area (A): 1,219 SF
Rawls Rate: 2.41 in/hr
Total Recharge Volume Provided = 2,661 C.ft
Drawdown: 10.87 hr
Drawdown is less than 72 Hours as Required

NOTES:

Input Values

[1] = Refer to Proposed Conditions HydroCAD modeling report

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Infiltration Basin #5

Stormwater Recharge Calculations

CALCULATIONS

Recharge Volume, Rv:

$R_v = A_C x F$

Hydrologic Soil Group	Impervious Area (Ac) [1]	Target Depth (F)	Recharge Volume (Rv) Ac-feet
B	0.099	0.35	0.003
Total	0.099		0.003

Total Recharge Volume Required = 0.003 Ac-ft
Total Recharge Volume Required (Rv) = 126 C.ft
Recharge Vol. Provided (from Infil. Basin) = 1,539.0

REFERENCES

Table 2.3.2: Recharge Target Depth by Hydrologic Soil Group

NRCS Hydrologic Soil Group	Approx. Soil Texture	Target Depth Factor (F)
A	sand	0.6 inch
B	loam	0.35 inch
C	silty loam	0.25 inch
D	clay	0.1 inch

Required Sediment Forebay vol, Fv:

$F_v = A_C(cu.ft)x0.1inch$ of impervious area

[1] Imp. area captured by ponds, Ap = 0.099 Ac
Required Sediment Forebay vol, Fv= 36 C.ft

Sediment Volume Provided = 58 C.ft

Drawdown Calculations

CALCULATIONS

Proposed Infiltration Area Calculations:

$$Drawdown = \frac{R_V}{(Rawls\ Rate)(Bottom\ Area)}$$

REFERENCES

Table 2.3.3: 1982 Rawls Rates

Texture Class	NRCS Hydrologic Soil Group	Infiltration Rate
1 Sand	A	8.27 in/hr
2 Loamy Sand	A	2.41 in/hr
3 Sandy Loam	B	1.02 in/hr
4 Loam	B	0.52 in/hr
5 Silt Loam	C	0.27 in/hr
6 Sandy Clay Loam	C	0.17 in/hr
7 Clay Loam	D	0.09 in/hr
8 Silty Clay Loam	D	0.06 in/hr
9 Sandy Clay	D	0.05 in/hr
10 Silty Clay	D	0.04 in/hr
11 Clay	D	0.02 in/hr

Drawdown Calculations:

Soil Texture: 2 Loamy Sand

Bottom Surface Area (A): 185 SF
Rawls Rate: 2.41 in/hr
Total Recharge Volume Provided = 1,539 C.ft
Drawdown: 41.42 hr
Drawdown is less than 72 Hours as Required

NOTES:

Input Values

[1] = Refer to Proposed Conditions HydroCAD modeling report

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Infiltration Basin #5

Stormwater Recharge Calculations

CALCULATIONS

Recharge Volume, Rv:

$R_v = A_C x F$

Hydrologic Soil Group	Impervious Area (Ac) [1]	Target Depth (F)	Recharge Volume (Rv) Ac-feet
B	0.195	0.35	0.006
Total	**0.195**		**0.006**

Total Recharge Volume Required = 0.006 Ac-ft
Total Recharge Volume Required (Rv) = 248 C.ft
Recharge Vol. Provided (from Infil. Basin) = 2,812.0

REFERENCES

Table 2.3.2: Recharge Target Depth by Hydrologic Soil Group

NRCS Hydrologic Soil Group	Approx. Soil Texture	Target Depth Factor (F)
A	sand	0.6 inch
B	loam	0.35 inch
C	silty loam	0.25 inch
D	clay	0.1 inch

Required Sediment Forebay vol, Fv:

$F_v = A_C(cu.ft)x0.1inch$ of impervious area

[1] Imp. area captured by ponds, Ap = 0.195 Ac
Required Sediment Forebay vol, Fv= 71 C.ft

Sediment Volume Provided = 342 **C.ft**

Drawdown Calculations

CALCULATIONS

Proposed Infiltration Area Calculations:

$$Drawdown = \frac{R_V}{(Rawls\ Rate)(Bottom\ Area)}$$

REFERENCES

Table 2.3.3: 1982 Rawls Rates

Texture Class	NRCS Hydrologic Soil Group	Infiltration Rate
1 Sand	A	8.27 in/hr
2 Loamy Sand	A	2.41 in/hr
3 Sandy Loam	B	1.02 in/hr
4 Loam	B	0.52 in/hr
5 Silt Loam	C	0.27 in/hr
6 Sandy Clay Loam	C	0.17 in/hr
7 Clay Loam	D	0.09 in/hr
8 Silty Clay Loam	D	0.06 in/hr
9 Sandy Clay	D	0.05 in/hr
10 Silty Clay	D	0.04 in/hr
11 Clay	D	0.02 in/hr

Drawdown Calculations:

Soil Texture: 2 Loamy Sand

Bottom Surface Area (A): 1,058 SF
Rawls Rate: 2.41 in/hr
Total Recharge Volume Provided = 2,812 C.ft
Drawdown: 13.23 hr
Drawdown is less than 72 Hours as Required

NOTES:

Input Values

[1] = Refer to Proposed Conditions HydroCAD modeling report

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Subsurface Infiltration Area #1

Stormwater Recharge Calculations

CALCULATIONS

Recharge Volume, Rv:

$R_v = A_C x F$

Hydrologic Soil Group	Impervious Area (Ac) [1]	Target Depth (F)	Recharge Volume (Rv) Ac-feet
A	0.096	0.6	0.005
Total	0.096		0.005

*See "POST B" subcatchment

Total Recharge Volume Required = 0.005 Ac-ft
Total Recharge Volume Required (Rv) = 209 C.ft
Recharge Vol. Provided (from Infil. Area 1) = 3,397.0 C.ft

REFERENCES

Table 2.3.2: Recharge Target Depth by Hydrologic Soil Group

NRCS Hydrologic Soil Group	Approx. Soil Texture	Target Depth Factor (F)
A	sand	0.6 inch
B	loam	0.35 inch
C	silty loam	0.25 inch
D	clay	0.1 inch

Required Sediment Forebay vol, Fv:

$F_v = A_C(cu.ft)x0.1inch$ of impervious area

[1] Imp. area captured by ponds, Ap = 0.096 Ac
Required Sediment Forebay vol, Fv= 35 C.ft

Sediment Volume Provided = 52 C.ft

*Isolator Row

Drawdown Calculations

CALCULATIONS

Proposed Infiltration Area Calculations:

$$Drawdown = \frac{R_V}{(Rawls\ Rate)(Bottom\ Area)}$$

REFERENCES

Table 2.3.3: 1982 Rawls Rates

Texture Class	NRCS Hydrologic Soil Group	Infiltration Rate
1 Sand	A	8.27 in/hr
2 Loamy Sand	A	2.41 in/hr
3 Sandy Loam	B	1.02 in/hr
4 Loam	B	0.52 in/hr
5 Silt Loam	C	0.27 in/hr
6 Sandy Clay Loam	C	0.17 in/hr
7 Clay Loam	D	0.09 in/hr
8 Silty Clay Loam	D	0.06 in/hr
9 Sandy Clay	D	0.05 in/hr
10 Silty Clay	D	0.04 in/hr
11 Clay	D	0.02 in/hr

Drawdown Calculations:

Soil Texture: 2 Loamy Sand

Bottom Surface Area (A): 1,677 SF
Rawls Rate: 2.41 in/hr
Total Recharge Volume Provided = 3,397 C.ft
Drawdown: 10.09 hr
Drawdown is less than 72 Hours as Required

NOTES:

Input Values

[1] = Refer to Proposed Conditions HydroCAD modeling report

Maple Avenue
Groton, MA

February 10, 2021
5454

Subsurface Infiltration Area #2

Stormwater Recharge Calculations

CALCULATIONS

Recharge Volume, Rv:

$R_v = A_C x F$

Hydrologic Soil Group	Impervious Area (Ac) [1]	Target Depth (F)	Recharge Volume (Rv) Ac-feet
A	0.287	0.6	0.014
B	0.073	0.35	0.002
Total	**0.360**		**0.016**

*See "POST B" subcatchment

Total Recharge Volume Required = 0.016 Ac-ft
Total Recharge Volume Required (Rv) = 718 C.ft
Recharge Vol. Provided (from Infil. Area 1) = 6,447.0 C.ft

REFERENCES

Table 2.3.2: Recharge Target Depth by Hydrologic Soil Group

NRCS Hydrologic Soil Group	Approx. Soil Texture	Target Depth Factor (F)
A	sand	0.6 inch
B	loam	0.35 inch
C	silty loam	0.25 inch
D	clay	0.1 inch

Required Sediment Forebay vol, Fv:

$F_v = A_C(cu.ft)x0.1inch$ of impervious area

[1] Imp. area captured by ponds, Ap = 0.360 Ac
Required Sediment Forebay vol, Fv= 131 C.ft

Sediment Volume Provided = 157 C.ft

Drawdown Calculations

CALCULATIONS

Proposed Infiltration Area Calculations:

$$Drawdown = \frac{R_V}{(Rawls\ Rate)(Bottom\ Area)}$$

REFERENCES

Table 2.3.3: 1982 Rawls Rates

Texture Class	NRCS Hydrologic Soil Group	Infiltration Rate
1 Sand	A	8.27 in/hr
2 Loamy Sand	A	2.41 in/hr
3 Sandy Loam	B	1.02 in/hr
4 Loam	B	0.52 in/hr
5 Silt Loam	C	0.27 in/hr
6 Sandy Clay Loam	C	0.17 in/hr
7 Clay Loam	D	0.09 in/hr
8 Silty Clay Loam	D	0.06 in/hr
9 Sandy Clay	D	0.05 in/hr
10 Silty Clay	D	0.04 in/hr
11 Clay	D	0.02 in/hr

Drawdown Calculations:

Soil Texture: 2 Loamy Sand

Bottom Surface Area (A): 4,784 SF
Rawls Rate: 2.41 in/hr
Total Recharge Volume Provided = 6,447 C.ft
Drawdown: 6.71 hr
Drawdown is less than 72 Hours as Required

NOTES:

Input Values

[1] = Refer to Proposed Conditions HydroCAD modeling report

Maple Avenue
Groton, MA

February 10, 2021
5454

Adjusted Recharge/WQV Calcs

Stormwater Recharge Calculations

Capture Area Adjustment, Rvadj:

$$R_v adj = \frac{A_t}{A_p} x R_v$$

[1] Imp. area captured by ponds, Ap =	1.41	Ac
[1] Total impervious area on site, AT =	2.150	Ac
Recharge volume required, Rv =	4,683	C.ft
Capture Rate=	66%	OK
Capture Area Adjustment Factor=	1.52	
Adjusted Recharge Volume Required Rvadj =	**7,140**	**C.ft**
[1] Total Recharge Volume Provided =	**23,895.0**	**C.ft**

NOTES:

Input Values

[1] = Sum of Recharge Vol. Provided from Infil. Area 1, Infil. Area 2, Infil. Area 3 and Infil. Basin

Water Quality Calculations

CALCULATIONS

Water Quality Calculation:

$$V_{WQ} = D_{WQ}(ft) x\ A_T(ft^2)$$

Water Quality Depth =	1	in
Water Quality Depth , DWQ =	**0.08**	**ft.**
Total impervious area on site, AT =	2.150	Ac.
A_T =	**93,654**	**ft^2**
Required Water Quality Volume, VWQ =	**7,805**	**C.ft.**

REFERENCES

1 inch depth
Zone II discharges
IWPA discharges
Critical Area
Runoff from LUHPPL
Infiltration rate >2.4 inches/hour
1/2 inch depth
Discharge to other ares
8 inch
9 inch
10 inch
11 inch

INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Version 1, Automated: Mar. 4, 2008

Location: Maple Avenue - Groton, MA

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Rain Garden	0.90	1.00	0.90	0.10
	0.00	0.10	0.00	0.10
	0.00	0.10	0.00	0.10
	0.00	0.10	0.00	0.10
	0.00	0.10	0.00	0.10

Total TSS Removal = 90%

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: 5454-Maple Realty Trust
Prepared By: RWP
Date: 10-Feb-21

*Equals remaining load from previous BMP (E) which enters the BMP

INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Version 1, Automated: Mar. 4, 2008

Location: Maple Avenue - Groton, Massachusetts

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Rain Garden	0.90	1.00	0.90	0.10
Sediment Forebay	0.25	0.10	0.03	0.08
	0.00	0.08	0.00	0.08
	0.00	0.08	0.00	0.08
	0.00	0.08	0.00	0.08

Total TSS Removal = 93%

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: 5454-Maple Realty Trust
Prepared By: RWP
Date: 10-Feb-21

*Equals remaining load from previous BMP (E) which enters the BMP

INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Version 1, Automated: Mar. 4, 2008

Location: Maple Avenue - Groton, Massachusetts

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Rain Garden	0.90	1.00	0.90	0.10
Sediment Forebay	0.25	0.10	0.03	0.08
Infiltration Basin	0.80	0.08	0.06	0.02
	0.00	0.02	0.00	0.02
	0.00	0.02	0.00	0.02

Total TSS Removal = 99%

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: 5454-Maple Realty Trust
Prepared By: RWP
Date: 10-Feb-21

*Equals remaining load from previous BMP (E) which enters the BMP

INFIL #1

MOUNDSOLV WIZARD
GROUNDWATER MOUNDING ANALYSIS
FOR A SLOPING WATER-TABLE AQUIFER
ZLOTNIK ET AL. (2017) SOLUTION

Site Description

Aquifer Data

Horizontal hydraulic conductivity, *K*	4.82 ft/d
Specific yield, *Sy*	0.26
Initial saturated thickness, h_0	10 ft
Maximum allowable water-table rise, σ	0.16 ft
Dip, *i*	0.02 ft/ft
Slope rotation from x axis, γ	0°

Recharge Area Data

X coordinate at center, *X*	0 ft
Y coordinate at center, *Y*	0 ft
Dimension along x* axis, *L*	46 ft
Dimension along y* axis, *W*	46 ft
Rotation from slope direction, ϕ	0°
Recharge rate, *Q*	1077 gal/d
Infiltration rate, *q*	0.06804 ft/d

Solution Method

Zlotnik et al. (2017) transient solution (linearization method 1)

Monitoring Points at Elapsed Time, t = 3 d

x (ft)	y (ft)	s (ft)	h (ft)
0	0	0.4148	10.41
1	1	0.4141	10.43

A 0.43' rise in the Groundwater table does not reach the bottom of Infiltration Area #1. (Groundwater Separation = 2.57 feet)

Time Series Data

Center of recharge area, x=0 ft, y=0 ft

t (d)	s (ft)	h (ft)
0	0	10
0.008747766162	0.002289	10
0.01968247386	0.005151	10.01
0.03335085849	0.008728	10.01
0.05043633928	0.0132	10.01
0.07179319026	0.01879	10.02

0.09848925398	0.02577	10.03
0.1318593336	0.0345	10.03
0.1735719332	0.04536	10.05
0.2257126827	0.0588	10.06
0.2908886195	0.07521	10.08
0.3723585406	0.09494	10.09
0.4741959418	0.1182	10.12
0.6014926935	0.145	10.14
0.760613633	0.1752	10.18
0.9595148074	0.2088	10.21
1.208141275	0.2453	10.25
1.51892436	0.2845	10.28
1.907403217	0.326	10.33
2.393001787	0.3696	10.37
3	0.4148	10.41

Monitoring point 1, x=1 ft, y=1 ft

t (d)	s (ft)	h (ft)
0	0	10.02
0.008747766162	0.002289	10.02
0.01968247386	0.005151	10.03
0.03335085849	0.008728	10.03
0.05043633928	0.0132	10.03
0.07179319026	0.01879	10.04
0.09848925398	0.02577	10.05
0.1318593336	0.0345	10.05
0.1735719332	0.04536	10.07
0.2257126827	0.05878	10.08
0.2908886195	0.07517	10.1
0.3723585406	0.09486	10.11
0.4741959418	0.118	10.14
0.6014926935	0.1448	10.16
0.760613633	0.175	10.19
0.9595148074	0.2084	10.23
1.208141275	0.2449	10.26
1.51892436	0.284	10.3
1.907403217	0.3255	10.35
2.393001787	0.3689	10.39
3	0.4141	10.43

Profile Data at Elapsed Time, t = 3 d

Axes of recharge area (x, y*) are aligned with axes of mapping coordinate system (x, y)*

Profile Along X Axis*

x* (ft)	s (ft)	h (ft)	z (ft)
-46	0.07175	9.152	-0.92
-44.16	0.08045	9.197	-0.8832
-42.32	0.09005	9.244	-0.8464
-40.48	0.1006	9.291	-0.8096
-38.64	0.1123	9.339	-0.7728
-36.8	0.1251	9.389	-0.736
-34.96	0.1392	9.44	-0.6992
-33.12	0.1546	9.492	-0.6624
-31.28	0.1714	9.546	-0.6256
-29.44	0.1899	9.601	-0.5888
-27.6	0.21	9.658	-0.552
-25.76	0.2319	9.717	-0.5152
-23.92	0.2557	9.777	-0.4784
-22.08	0.2809	9.839	-0.4416
-20.24	0.3041	9.899	-0.4048
-18.4	0.3247	9.957	-0.368
-16.56	0.343	10.01	-0.3312
-14.72	0.359	10.06	-0.2944
-12.88	0.3728	10.12	-0.2576
-11.04	0.3846	10.16	-0.2208
-9.2	0.3943	10.21	-0.184
-7.36	0.4021	10.25	-0.1472
-5.52	0.408	10.3	-0.1104
-3.68	0.412	10.34	-0.0736
-1.84	0.4143	10.38	-0.0368
0	0.4148	10.41	0
1.84	0.4135	10.45	0.0368
3.68	0.4105	10.48	0.0736
5.52	0.4057	10.52	0.1104
7.36	0.399	10.55	0.1472
9.2	0.3905	10.57	0.184
11.04	0.3801	10.6	0.2208
12.88	0.3677	10.63	0.2576
14.72	0.3533	10.65	0.2944
16.56	0.3368	10.67	0.3312
18.4	0.318	10.69	0.368
20.24	0.297	10.7	0.4048
22.08	0.2735	10.72	0.4416

23.92	0.2481	10.73	0.4784
25.76	0.2242	10.74	0.5152
27.6	0.2023	10.75	0.552
29.44	0.1823	10.77	0.5888
31.28	0.1641	10.79	0.6256
33.12	0.1474	10.81	0.6624
34.96	0.1323	10.83	0.6992
36.8	0.1185	10.85	0.736
38.64	0.106	10.88	0.7728
40.48	0.09465	10.9	0.8096
42.32	0.08441	10.93	0.8464
44.16	0.07515	10.96	0.8832
46	0.0668	10.99	0.92

Profile Along Y* Axis

y* (ft)	s (ft)	h (ft)	z (ft)
-46	0.06923	10.07	0
-44.16	0.07775	10.08	0
-42.32	0.08718	10.09	0
-40.48	0.0976	10.1	0
-38.64	0.1091	10.11	0
-36.8	0.1217	10.12	0
-34.96	0.1357	10.14	0
-33.12	0.1509	10.15	0
-31.28	0.1677	10.17	0
-29.44	0.1861	10.19	0
-27.6	0.2061	10.21	0
-25.76	0.228	10.23	0
-23.92	0.2519	10.25	0
-22.08	0.2772	10.28	0
-20.24	0.3005	10.3	0
-18.4	0.3214	10.32	0
-16.56	0.3399	10.34	0
-14.72	0.3562	10.36	0
-12.88	0.3703	10.37	0
-11.04	0.3823	10.38	0
-9.2	0.3924	10.39	0
-7.36	0.4005	10.4	0
-5.52	0.4068	10.41	0
-3.68	0.4113	10.41	0
-1.84	0.4139	10.41	0

0	0.4148	10.41	0
1.84	0.4139	10.41	0
3.68	0.4113	10.41	0
5.52	0.4068	10.41	0
7.36	0.4005	10.4	0
9.2	0.3924	10.39	0
11.04	0.3823	10.38	0
12.88	0.3703	10.37	0
14.72	0.3562	10.36	0
16.56	0.3399	10.34	0
18.4	0.3214	10.32	0
20.24	0.3005	10.3	0
22.08	0.2772	10.28	0
23.92	0.2519	10.25	0
25.76	0.228	10.23	0
27.6	0.2061	10.21	0
29.44	0.1861	10.19	0
31.28	0.1677	10.17	0
33.12	0.1509	10.15	0
34.96	0.1357	10.14	0
36.8	0.1217	10.12	0
38.64	0.1091	10.11	0
40.48	0.0976	10.1	0
42.32	0.08718	10.09	0
44.16	0.07775	10.08	0
46	0.06923	10.07	0

Notation

h is water-table elevation above datum[1]
h_0 is aquifer saturated thickness prior to mounding
i is dip of aquifer
K is horizontal hydraulic conductivity
L is dimension of recharge area parallel to x* axis
q is infiltration rate (=Q/L×W)
Q is recharge rate
s is water-table rise (height of mound) above static water table
Sy is specific yield
t is time since start of recharge
t_0 is time when recharge stops
W is dimension of recharge area parallel to y* axis
x, y are mapping Cartesian coordinate axes
x*, y* are recharge area Cartesian coordinate axes
z is elevation above datum[1]
γ is angle between x axis and dip direction
ϕ is angle between dip direction and x* axis of recharge area

σ is maximum acceptable water-table rise

[1]*Elevation datum is the base of aquifer beneath the center of recharge area*

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INFIL #2

MOUNDSOLV WIZARD
GROUNDWATER MOUNDING ANALYSIS
FOR A SLOPING WATER-TABLE AQUIFER
ZLOTNIK ET AL. (2017) SOLUTION

Site Description

Aquifer Data

Horizontal hydraulic conductivity, K	4.82 ft/d
Specific yield, Sy	0.26
Initial saturated thickness, h_0	10 ft
Maximum allowable water-table rise, σ	0.16 ft
Dip, i	0.13 ft/ft
Slope rotation from x axis, γ	0°

Recharge Area Data

X coordinate at center, X	0 ft
Y coordinate at center, Y	0 ft
Dimension along x* axis, L	72 ft
Dimension along y* axis, W	72 ft
Rotation from slope direction, ϕ	0°
Recharge rate, Q	2693 gal/d
Infiltration rate, q	0.06944 ft/d

Solution Method

Zlotnik et al. (2017) transient solution (linearization method 1)

Monitoring Points at Elapsed Time, t = 3 d

x (ft)	y (ft)	s (ft)	h (ft)
0	0	0.6159	10.62
1	1	0.6143	10.74

A 0.43' rise in the Groundwater table does not reach the bottom of Infiltration Area #2. (Groundwater Separation = 2.57 feet)

Time Series Data

Center of recharge area, x=0 ft, y=0 ft

t (d)	s (ft)	h (ft)
0	0	10
0.008747766162	0.002336	10
0.01968247386	0.005257	10.01
0.03335085849	0.008908	10.01
0.05043633928	0.01347	10.01
0.07179319026	0.01918	10.02

0.09848925398	0.02631	10.03
0.1318593336	0.03522	10.04
0.1735719332	0.04636	10.05
0.2257126827	0.06029	10.06
0.2908886195	0.07768	10.08
0.3723585406	0.09939	10.1
0.4741959418	0.1264	10.13
0.6014926935	0.1596	10.16
0.760613633	0.2001	10.2
0.9595148074	0.2486	10.25
1.208141275	0.3056	10.31
1.51892436	0.3711	10.37
1.907403217	0.4451	10.45
2.393001787	0.527	10.53
3	0.6159	10.62

Monitoring point 1, x=1 ft, y=1 ft

t (d)	s (ft)	h (ft)
0	0	10.13
0.008747766162	0.002336	10.13
0.01968247386	0.005257	10.14
0.03335085849	0.008908	10.14
0.05043633928	0.01347	10.14
0.07179319026	0.01918	10.15
0.09848925398	0.02631	10.16
0.1318593336	0.03522	10.17
0.1735719332	0.04636	10.18
0.2257126827	0.06029	10.19
0.2908886195	0.07768	10.21
0.3723585406	0.09938	10.23
0.4741959418	0.1263	10.26
0.6014926935	0.1596	10.29
0.760613633	0.2	10.33
0.9595148074	0.2484	10.38
1.208141275	0.3052	10.44
1.51892436	0.3706	10.5
1.907403217	0.4443	10.57
2.393001787	0.5257	10.66
3	0.6143	10.74

Profile Data at Elapsed Time, t = 3 d

Axes of recharge area (x, y*) are aligned with axes of mapping coordinate system (x, y)*

Profile Along X Axis*

x* (ft)	s (ft)	h (ft)	z (ft)
-72	0.05502	0.695	-9.36
-69.12	0.06598	1.08	-8.986
-66.24	0.07875	1.468	-8.611
-63.36	0.09355	1.857	-8.237
-60.48	0.1106	2.248	-7.862
-57.6	0.1302	2.642	-7.488
-54.72	0.1526	3.039	-7.114
-51.84	0.178	3.439	-6.739
-48.96	0.2068	3.842	-6.365
-46.08	0.2392	4.249	-5.99
-43.2	0.2755	4.659	-5.616
-40.32	0.316	5.074	-5.242
-37.44	0.3609	5.494	-4.867
-34.56	0.4091	5.916	-4.493
-31.68	0.4519	6.334	-4.118
-28.8	0.4886	6.745	-3.744
-25.92	0.5197	7.15	-3.37
-23.04	0.5457	7.551	-2.995
-20.16	0.5672	7.946	-2.621
-17.28	0.5844	8.338	-2.246
-14.4	0.5978	8.726	-1.872
-11.52	0.6077	9.11	-1.498
-8.64	0.6143	9.491	-1.123
-5.76	0.6178	9.869	-0.7488
-2.88	0.6183	10.24	-0.3744
0	0.6159	10.62	0
2.88	0.6107	10.99	0.3744
5.76	0.6026	11.35	0.7488
8.64	0.5916	11.71	1.123
11.52	0.5775	12.08	1.498
14.4	0.5603	12.43	1.872
17.28	0.5398	12.79	2.246
20.16	0.5158	13.14	2.621
23.04	0.488	13.48	2.995
25.92	0.4562	13.83	3.37
28.8	0.4202	14.16	3.744
31.68	0.3798	14.5	4.118
34.56	0.3346	14.83	4.493

37.44	0.2859	15.15	4.867
40.32	0.2421	15.48	5.242
43.2	0.2042	15.82	5.616
46.08	0.1715	16.16	5.99
48.96	0.1434	16.51	6.365
51.84	0.1194	16.86	6.739
54.72	0.09896	17.21	7.114
57.6	0.08166	17.57	7.488
60.48	0.06708	17.93	7.862
63.36	0.05485	18.29	8.237
66.24	0.04464	18.66	8.611
69.12	0.03616	19.02	8.986
72	0.02914	19.39	9.36

Profile Along Y* Axis

y* (ft)	s (ft)	h (ft)	z (ft)
-72	0.04021	10.04	0
-69.12	0.04904	10.05	0
-66.24	0.05952	10.06	0
-63.36	0.0719	10.07	0
-60.48	0.08645	10.09	0
-57.6	0.1035	10.1	0
-54.72	0.1233	10.12	0
-51.84	0.1462	10.15	0
-48.96	0.1727	10.17	0
-46.08	0.203	10.2	0
-43.2	0.2377	10.24	0
-40.32	0.2771	10.28	0
-37.44	0.3217	10.32	0
-34.56	0.3704	10.37	0
-31.68	0.4147	10.41	0
-28.8	0.4535	10.45	0
-25.92	0.4872	10.49	0
-23.04	0.5163	10.52	0
-20.16	0.5411	10.54	0
-17.28	0.5618	10.56	0
-14.4	0.5789	10.58	0
-11.52	0.5925	10.59	0
-8.64	0.6029	10.6	0
-5.76	0.6102	10.61	0
-2.88	0.6145	10.61	0

0	0.6159	10.62	0
2.88	0.6145	10.61	0
5.76	0.6102	10.61	0
8.64	0.6029	10.6	0
11.52	0.5925	10.59	0
14.4	0.5789	10.58	0
17.28	0.5618	10.56	0
20.16	0.5411	10.54	0
23.04	0.5163	10.52	0
25.92	0.4872	10.49	0
28.8	0.4535	10.45	0
31.68	0.4147	10.41	0
34.56	0.3704	10.37	0
37.44	0.3217	10.32	0
40.32	0.2771	10.28	0
43.2	0.2377	10.24	0
46.08	0.203	10.2	0
48.96	0.1727	10.17	0
51.84	0.1462	10.15	0
54.72	0.1233	10.12	0
57.6	0.1035	10.1	0
60.48	0.08645	10.09	0
63.36	0.0719	10.07	0
66.24	0.05952	10.06	0
69.12	0.04904	10.05	0
72	0.04021	10.04	0

Notation

h is water-table elevation above datum[1]
h_0 is aquifer saturated thickness prior to mounding
i is dip of aquifer
K is horizontal hydraulic conductivity
L is dimension of recharge area parallel to x* axis
q is infiltration rate (=Q/L×W)
Q is recharge rate
s is water-table rise (height of mound) above static water table
Sy is specific yield
t is time since start of recharge
t_0 is time when recharge stops
W is dimension of recharge area parallel to y* axis
x, y are mapping Cartesian coordinate axes
x*, y* are recharge area Cartesian coordinate axes
z is elevation above datum[1]
γ is angle between x axis and dip direction
ϕ is angle between dip direction and x* axis of recharge area

σ is maximum acceptable water-table rise

[1]*Elevation datum is the base of aquifer beneath the center of recharge area*

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INFIL #3

MOUNDSOLV WIZARD
GROUNDWATER MOUNDING ANALYSIS
FOR A SLOPING WATER-TABLE AQUIFER
ZLOTNIK ET AL. (2017) SOLUTION

Site Description

Aquifer Data

Horizontal hydraulic conductivity, K	4.82 ft/d
Specific yield, Sy	0.26
Initial saturated thickness, h_0	10 ft
Maximum allowable water-table rise, σ	0.16 ft
Dip, i	0.05 ft/ft
Slope rotation from x axis, γ	0°

Recharge Area Data

X coordinate at center, X	0 ft
Y coordinate at center, Y	0 ft
Dimension along x* axis, L	73 ft
Dimension along y* axis, W	73 ft
Rotation from slope direction, ϕ	0°
Recharge rate, Q	2370 gal/d
Infiltration rate, q	0.05945 ft/d

Solution Method

Zlotnik et al. (2017) transient solution (linearization method 1)

Monitoring Points at Elapsed Time, t = 3 d

x (ft)	y (ft)	s (ft)	h (ft)
0	0	0.5343	10.53
1	1	0.5336	10.58

A 0.58' rise in the Groundwater table does not reach the bottom of Infiltration Area #3. (Groundwater Separation = 6.42 feet)

Time Series Data

Center of recharge area, x=0 ft, y=0 ft

t (d)	s (ft)	h (ft)
0	0	10
0.008747766162	0.002	10
0.01968247386	0.004501	10
0.03335085849	0.007626	10.01
0.05043633928	0.01153	10.01
0.07179319026	0.01642	10.02

0.09848925398	0.02252	10.02
0.1318593336	0.03015	10.03
0.1735719332	0.03969	10.04
0.2257126827	0.05161	10.05
0.2908886195	0.06651	10.07
0.3723585406	0.0851	10.09
0.4741959418	0.1082	10.11
0.6014926935	0.1367	10.14
0.760613633	0.1716	10.17
0.9595148074	0.2134	10.21
1.208141275	0.2627	10.26
1.51892436	0.3196	10.32
1.907403217	0.3842	10.38
2.393001787	0.4559	10.46
3	0.5343	10.53

Monitoring point 1, x=1 ft, y=1 ft

t (d)	s (ft)	h (ft)
0	0	10.05
0.008747766162	0.002	10.05
0.01968247386	0.004501	10.05
0.03335085849	0.007626	10.06
0.05043633928	0.01153	10.06
0.07179319026	0.01642	10.07
0.09848925398	0.02252	10.07
0.1318593336	0.03015	10.08
0.1735719332	0.03969	10.09
0.2257126827	0.05161	10.1
0.2908886195	0.06651	10.12
0.3723585406	0.0851	10.14
0.4741959418	0.1082	10.16
0.6014926935	0.1367	10.19
0.760613633	0.1715	10.22
0.9595148074	0.2133	10.26
1.208141275	0.2625	10.31
1.51892436	0.3194	10.37
1.907403217	0.3838	10.43
2.393001787	0.4554	10.51
3	0.5336	10.58

Profile Data at Elapsed Time, t = 3 d

Axes of recharge area (x, y*) are aligned with axes of mapping coordinate system (x, y)*

Profile Along X Axis*

x* (ft)	s (ft)	h (ft)	z (ft)
-73	0.03817	6.388	-3.65
-70.08	0.04639	6.542	-3.504
-67.16	0.05611	6.698	-3.358
-64.24	0.06753	6.856	-3.212
-61.32	0.08089	7.015	-3.066
-58.4	0.09643	7.176	-2.92
-55.48	0.1144	7.34	-2.774
-52.56	0.1351	7.507	-2.628
-49.64	0.1589	7.677	-2.482
-46.72	0.186	7.85	-2.336
-43.8	0.2168	8.027	-2.19
-40.88	0.2516	8.208	-2.044
-37.96	0.2907	8.393	-1.898
-35.04	0.3331	8.581	-1.752
-32.12	0.3713	8.765	-1.606
-29.2	0.4045	8.945	-1.46
-26.28	0.4331	9.119	-1.314
-23.36	0.4574	9.289	-1.168
-20.44	0.4779	9.456	-1.022
-17.52	0.4948	9.619	-0.876
-14.6	0.5084	9.778	-0.73
-11.68	0.519	9.935	-0.584
-8.76	0.5268	10.09	-0.438
-5.84	0.5318	10.24	-0.292
-2.92	0.5343	10.39	-0.146
0	0.5343	10.53	0
2.92	0.5318	10.68	0.146
5.84	0.5268	10.82	0.292
8.76	0.5192	10.96	0.438
11.68	0.509	11.09	0.584
14.6	0.496	11.23	0.73
17.52	0.4799	11.36	0.876
20.44	0.4608	11.48	1.022
23.36	0.4382	11.61	1.168
26.28	0.4119	11.73	1.314
29.2	0.3817	11.84	1.46
32.12	0.3472	11.95	1.606
35.04	0.3082	12.06	1.752

37.96	0.2656	12.16	1.898
40.88	0.227	12.27	2.044
43.8	0.1931	12.38	2.19
46.72	0.1635	12.5	2.336
49.64	0.1379	12.62	2.482
52.56	0.1158	12.74	2.628
55.48	0.09674	12.87	2.774
58.4	0.08047	13	2.92
61.32	0.06662	13.13	3.066
64.24	0.0549	13.27	3.212
67.16	0.04501	13.4	3.358
70.08	0.03673	13.54	3.504
73	0.02982	13.68	3.65

Profile Along Y* Axis

y* (ft)	s (ft)	h (ft)	z (ft)
-73	0.03376	10.03	0
-70.08	0.04131	10.04	0
-67.16	0.05029	10.05	0
-64.24	0.06092	10.06	0
-61.32	0.07345	10.07	0
-58.4	0.08813	10.09	0
-55.48	0.1053	10.11	0
-52.56	0.1251	10.13	0
-49.64	0.1481	10.15	0
-46.72	0.1745	10.17	0
-43.8	0.2047	10.2	0
-40.88	0.239	10.24	0
-37.96	0.2779	10.28	0
-35.04	0.3205	10.32	0
-32.12	0.3591	10.36	0
-29.2	0.393	10.39	0
-26.28	0.4224	10.42	0
-23.36	0.4477	10.45	0
-20.44	0.4693	10.47	0
-17.52	0.4873	10.49	0
-14.6	0.5022	10.5	0
-11.68	0.514	10.51	0
-8.76	0.523	10.52	0
-5.84	0.5293	10.53	0
-2.92	0.5331	10.53	0

0	0.5343	10.53	0
2.92	0.5331	10.53	0
5.84	0.5293	10.53	0
8.76	0.523	10.52	0
11.68	0.514	10.51	0
14.6	0.5022	10.5	0
17.52	0.4873	10.49	0
20.44	0.4693	10.47	0
23.36	0.4477	10.45	0
26.28	0.4224	10.42	0
29.2	0.393	10.39	0
32.12	0.3591	10.36	0
35.04	0.3205	10.32	0
37.96	0.2779	10.28	0
40.88	0.239	10.24	0
43.8	0.2047	10.2	0
46.72	0.1745	10.17	0
49.64	0.1481	10.15	0
52.56	0.1251	10.13	0
55.48	0.1053	10.11	0
58.4	0.08813	10.09	0
61.32	0.07345	10.07	0
64.24	0.06092	10.06	0
67.16	0.05029	10.05	0
70.08	0.04131	10.04	0
73	0.03376	10.03	0

Notation

h is water-table elevation above datum[1]
h_0 is aquifer saturated thickness prior to mounding
i is dip of aquifer
K is horizontal hydraulic conductivity
L is dimension of recharge area parallel to x* axis
q is infiltration rate (=Q/L×W)
Q is recharge rate
s is water-table rise (height of mound) above static water table
Sy is specific yield
t is time since start of recharge
t_0 is time when recharge stops
W is dimension of recharge area parallel to y* axis
x, y are mapping Cartesian coordinate axes
x*, y* are recharge area Cartesian coordinate axes
z is elevation above datum[1]
γ is angle between x axis and dip direction
ϕ is angle between dip direction and x* axis of recharge area

σ is maximum acceptable water-table rise

[1]*Elevation datum is the base of aquifer beneath the center of recharge area*

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INFIL #5

MOUNDSOLV WIZARD
GROUNDWATER MOUNDING ANALYSIS
FOR A SLOPING WATER-TABLE AQUIFER
ZLOTNIK ET AL. (2017) SOLUTION

Site Description

Aquifer Data

Horizontal hydraulic conductivity, *K*	4.82 ft/d
Specific yield, *Sy*	0.26
Initial saturated thickness, h_0	10 ft
Maximum allowable water-table rise, σ	0.16 ft
Dip, *i*	0.06 ft/ft
Slope rotation from x axis, γ	0°

Recharge Area Data

X coordinate at center, *X*	0 ft
Y coordinate at center, *Y*	0 ft
Dimension along x* axis, *L*	56 ft
Dimension along y* axis, *W*	56 ft
Rotation from slope direction, ϕ	0°
Recharge rate, *Q*	2047 gal/d
Infiltration rate, *q*	0.08726 ft/d

Solution Method

Zlotnik et al. (2017) transient solution (linearization method 1)

Monitoring Points at Elapsed Time, t = 3 d

x (ft)	y (ft)	s (ft)	h (ft)
0	0	0.6403	10.64
1	1	0.6388	10.7

A 0.70' rise in the Groundwater table does not reach the bottom of Infiltration Area #5. (Groundwater Separation = 1.96 feet)

Time Series Data

Center of recharge area, x=0 ft, y=0 ft

t (d)	s (ft)	h (ft)
0	0	10
0.008747766162	0.002936	10
0.01968247386	0.006606	10.01
0.03335085849	0.01119	10.01
0.05043633928	0.01693	10.02
0.07179319026	0.02409	10.02

0.09848925398	0.03305	10.03
0.1318593336	0.04425	10.04
0.1735719332	0.05825	10.06
0.2257126827	0.0757	10.08
0.2908886195	0.09739	10.1
0.3723585406	0.1241	10.12
0.4741959418	0.1565	10.16
0.6014926935	0.1953	10.2
0.760613633	0.2407	10.24
0.9595148074	0.2927	10.29
1.208141275	0.3512	10.35
1.51892436	0.4158	10.42
1.907403217	0.486	10.49
2.393001787	0.561	10.56
3	0.6403	10.64

Monitoring point 1, x=1 ft, y=1 ft

t (d)	s (ft)	h (ft)
0	0	10.06
0.008747766162	0.002936	10.06
0.01968247386	0.006606	10.07
0.03335085849	0.01119	10.07
0.05043633928	0.01693	10.08
0.07179319026	0.02409	10.08
0.09848925398	0.03305	10.09
0.1318593336	0.04425	10.1
0.1735719332	0.05824	10.12
0.2257126827	0.0757	10.14
0.2908886195	0.09737	10.16
0.3723585406	0.124	10.18
0.4741959418	0.1565	10.22
0.6014926935	0.1951	10.26
0.760613633	0.2404	10.3
0.9595148074	0.2923	10.35
1.208141275	0.3507	10.41
1.51892436	0.4151	10.48
1.907403217	0.485	10.55
2.393001787	0.5598	10.62
3	0.6388	10.7

Profile Data at Elapsed Time, t = 3 d

Axes of recharge area (x, y*) are aligned with axes of mapping coordinate system (x, y)*

Profile Along X Axis*

x* (ft)	s (ft)	h (ft)	z (ft)
-56	0.08455	6.725	-3.36
-53.76	0.09724	6.872	-3.226
-51.52	0.1115	7.02	-3.091
-49.28	0.1276	7.171	-2.957
-47.04	0.1456	7.323	-2.822
-44.8	0.1657	7.478	-2.688
-42.56	0.1881	7.635	-2.554
-40.32	0.213	7.794	-2.419
-38.08	0.2407	7.956	-2.285
-35.84	0.2713	8.121	-2.15
-33.6	0.305	8.289	-2.016
-31.36	0.342	8.46	-1.882
-29.12	0.3827	8.635	-1.747
-26.88	0.426	8.813	-1.613
-24.64	0.4654	8.987	-1.478
-22.4	0.5001	9.156	-1.344
-20.16	0.5304	9.321	-1.21
-17.92	0.5565	9.481	-1.075
-15.68	0.5788	9.638	-0.9408
-13.44	0.5973	9.791	-0.8064
-11.2	0.6124	9.94	-0.672
-8.96	0.6241	10.09	-0.5376
-6.72	0.6327	10.23	-0.4032
-4.48	0.6382	10.37	-0.2688
-2.24	0.6407	10.51	-0.1344
0	0.6403	10.64	0
2.24	0.6369	10.77	0.1344
4.48	0.6307	10.9	0.2688
6.72	0.6215	11.02	0.4032
8.96	0.6094	11.15	0.5376
11.2	0.5941	11.27	0.672
13.44	0.5757	11.38	0.8064
15.68	0.554	11.49	0.9408
17.92	0.5289	11.6	1.075
20.16	0.5002	11.71	1.21
22.4	0.4677	11.81	1.344
24.64	0.4312	11.91	1.478
26.88	0.3906	12	1.613

29.12	0.3466	12.09	1.747
31.36	0.306	12.19	1.882
33.6	0.2695	12.29	2.016
35.84	0.2368	12.39	2.15
38.08	0.2075	12.49	2.285
40.32	0.1815	12.6	2.419
42.56	0.1583	12.71	2.554
44.8	0.1377	12.83	2.688
47.04	0.1195	12.94	2.822
49.28	0.1034	13.06	2.957
51.52	0.08931	13.18	3.091
53.76	0.07691	13.3	3.226
56	0.06605	13.43	3.36

Profile Along Y Axis*

y* (ft)	s (ft)	h (ft)	z (ft)
-56	0.07476	10.07	0
-53.76	0.08651	10.09	0
-51.52	0.09984	10.1	0
-49.28	0.1149	10.11	0
-47.04	0.1319	10.13	0
-44.8	0.1511	10.15	0
-42.56	0.1726	10.17	0
-40.32	0.1967	10.2	0
-38.08	0.2236	10.22	0
-35.84	0.2535	10.25	0
-33.6	0.2867	10.29	0
-31.36	0.3236	10.32	0
-29.12	0.3643	10.36	0
-26.88	0.4079	10.41	0
-24.64	0.448	10.45	0
-22.4	0.4837	10.48	0
-20.16	0.5151	10.52	0
-17.92	0.5426	10.54	0
-15.68	0.5663	10.57	0
-13.44	0.5864	10.59	0
-11.2	0.6032	10.6	0
-8.96	0.6167	10.62	0
-6.72	0.6271	10.63	0
-4.48	0.6344	10.63	0
-2.24	0.6388	10.64	0

0	0.6403	10.64	0
2.24	0.6388	10.64	0
4.48	0.6344	10.63	0
6.72	0.6271	10.63	0
8.96	0.6167	10.62	0
11.2	0.6032	10.6	0
13.44	0.5864	10.59	0
15.68	0.5663	10.57	0
17.92	0.5426	10.54	0
20.16	0.5151	10.52	0
22.4	0.4837	10.48	0
24.64	0.448	10.45	0
26.88	0.4079	10.41	0
29.12	0.3643	10.36	0
31.36	0.3236	10.32	0
33.6	0.2867	10.29	0
35.84	0.2535	10.25	0
38.08	0.2236	10.22	0
40.32	0.1967	10.2	0
42.56	0.1726	10.17	0
44.8	0.1511	10.15	0
47.04	0.1319	10.13	0
49.28	0.1149	10.11	0
51.52	0.09984	10.1	0
53.76	0.08651	10.09	0
56	0.07476	10.07	0

Notation

h is water-table elevation above datum[1]
h_0 is aquifer saturated thickness prior to mounding
i is dip of aquifer
K is horizontal hydraulic conductivity
L is dimension of recharge area parallel to x* axis
q is infiltration rate (=Q/L×W)
Q is recharge rate
s is water-table rise (height of mound) above static water table
Sy is specific yield
t is time since start of recharge
t_0 is time when recharge stops
W is dimension of recharge area parallel to y* axis
x, y are mapping Cartesian coordinate axes
x*, y* are recharge area Cartesian coordinate axes
z is elevation above datum[1]
γ is angle between x axis and dip direction
ϕ is angle between dip direction and x* axis of recharge area

σ is maximum acceptable water-table rise

[1]*Elevation datum is the base of aquifer beneath the center of recharge area*

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INFIL #6

MOUNDSOLV WIZARD
GROUNDWATER MOUNDING ANALYSIS
FOR A SLOPING WATER-TABLE AQUIFER
ZLOTNIK ET AL. (2017) SOLUTION

Site Description

Aquifer Data

Horizontal hydraulic conductivity, K	4.82 ft/d
Specific yield, Sy	0.26
Initial saturated thickness, h_0	10 ft
Maximum allowable water-table rise, σ	0.16 ft
Dip, i	0.02 ft/ft
Slope rotation from x axis, γ	0°

Recharge Area Data

X coordinate at center, X	0 ft
Y coordinate at center, Y	0 ft
Dimension along x* axis, L	53 ft
Dimension along y* axis, W	53 ft
Rotation from slope direction, ϕ	0°
Recharge rate, Q	2477 gal/d
Infiltration rate, q	0.1179 ft/d

Solution Method

Zlotnik et al. (2017) transient solution (linearization method 1)

Monitoring Points at Elapsed Time, t = 3 d

x (ft)	y (ft)	s (ft)	h (ft)
0	0	0.8243	10.82
1	1	0.8231	10.84

A 0.84' rise in the Groundwater table does not reach the bottom of Infiltration Area #6. (Groundwater Separation = 0.16 feet)

Time Series Data

Center of recharge area, x=0 ft, y=0 ft

t (d)	s (ft)	h (ft)
0	0	10
0.008747766162	0.003966	10
0.01968247386	0.008924	10.01
0.03335085849	0.01512	10.02
0.05043633928	0.02287	10.02
0.07179319026	0.03255	10.03

0.09848925398	0.04465	10.04
0.1318593336	0.05978	10.06
0.1735719332	0.07868	10.08
0.2257126827	0.1022	10.1
0.2908886195	0.1314	10.13
0.3723585406	0.167	10.17
0.4741959418	0.2101	10.21
0.6014926935	0.261	10.26
0.760613633	0.3201	10.32
0.9595148074	0.3871	10.39
1.208141275	0.4619	10.46
1.51892436	0.5437	10.54
1.907403217	0.6318	10.63
2.393001787	0.7256	10.73
3	0.8243	10.82

Monitoring point 1, x=1 ft, y=1 ft

t (d)	s (ft)	h (ft)
0	0	10.02
0.008747766162	0.003966	10.02
0.01968247386	0.008924	10.03
0.03335085849	0.01512	10.04
0.05043633928	0.02287	10.04
0.07179319026	0.03255	10.05
0.09848925398	0.04465	10.06
0.1318593336	0.05978	10.08
0.1735719332	0.07867	10.1
0.2257126827	0.1022	10.12
0.2908886195	0.1313	10.15
0.3723585406	0.167	10.19
0.4741959418	0.21	10.23
0.6014926935	0.2608	10.28
0.760613633	0.3197	10.34
0.9595148074	0.3867	10.41
1.208141275	0.4613	10.48
1.51892436	0.5429	10.56
1.907403217	0.6309	10.65
2.393001787	0.7246	10.74
3	0.8231	10.84

Profile Data at Elapsed Time, t = 3 d

Axes of recharge area (x, y*) are aligned with axes of mapping coordinate system (x, y)*

Profile Along X* Axis

x* (ft)	s (ft)	h (ft)	z (ft)
-53	0.1116	9.052	-1.06
-50.88	0.1277	9.11	-1.018
-48.76	0.1458	9.171	-0.9752
-46.64	0.166	9.233	-0.9328
-44.52	0.1887	9.298	-0.8904
-42.4	0.2139	9.366	-0.848
-40.28	0.2421	9.436	-0.8056
-38.16	0.2733	9.51	-0.7632
-36.04	0.3079	9.587	-0.7208
-33.92	0.3461	9.668	-0.6784
-31.8	0.3883	9.752	-0.636
-29.68	0.4347	9.841	-0.5936
-27.56	0.4856	9.934	-0.5512
-25.44	0.5399	10.03	-0.5088
-23.32	0.5897	10.12	-0.4664
-21.2	0.6339	10.21	-0.424
-19.08	0.6728	10.29	-0.3816
-16.96	0.7068	10.37	-0.3392
-14.84	0.736	10.44	-0.2968
-12.72	0.7608	10.51	-0.2544
-10.6	0.7812	10.57	-0.212
-8.48	0.7976	10.63	-0.1696
-6.36	0.8099	10.68	-0.1272
-4.24	0.8185	10.73	-0.0848
-2.12	0.8232	10.78	-0.0424
0	0.8243	10.82	0
2.12	0.8216	10.86	0.0424
4.24	0.8153	10.9	0.0848
6.36	0.8052	10.93	0.1272
8.48	0.7913	10.96	0.1696
10.6	0.7735	10.99	0.212
12.72	0.7516	11.01	0.2544
14.84	0.7255	11.02	0.2968
16.96	0.695	11.03	0.3392
19.08	0.66	11.04	0.3816
21.2	0.6201	11.04	0.424
23.32	0.5751	11.04	0.4664
25.44	0.5248	11.03	0.5088

27.56	0.4702	11.02	0.5512
29.68	0.4193	11.01	0.5936
31.8	0.3731	11.01	0.636
33.92	0.3312	11.01	0.6784
36.04	0.2935	11.01	0.7208
38.16	0.2595	11.02	0.7632
40.28	0.2289	11.03	0.8056
42.4	0.2016	11.05	0.848
44.52	0.1771	11.07	0.8904
46.64	0.1552	11.09	0.9328
48.76	0.1357	11.11	0.9752
50.88	0.1184	11.14	1.018
53	0.1031	11.16	1.06

Profile Along Y* Axis

y* (ft)	s (ft)	h (ft)	z (ft)
-53	0.1072	10.11	0
-50.88	0.123	10.12	0
-48.76	0.1407	10.14	0
-46.64	0.1605	10.16	0
-44.52	0.1828	10.18	0
-42.4	0.2077	10.21	0
-40.28	0.2354	10.24	0
-38.16	0.2663	10.27	0
-36.04	0.3006	10.3	0
-33.92	0.3386	10.34	0
-31.8	0.3806	10.38	0
-29.68	0.4269	10.43	0
-27.56	0.4778	10.48	0
-25.44	0.5323	10.53	0
-23.32	0.5823	10.58	0
-21.2	0.6269	10.63	0
-19.08	0.6664	10.67	0
-16.96	0.7009	10.7	0
-14.84	0.7307	10.73	0
-12.72	0.7562	10.76	0
-10.6	0.7773	10.78	0
-8.48	0.7944	10.79	0
-6.36	0.8075	10.81	0
-4.24	0.8169	10.82	0
-2.12	0.8224	10.82	0

0	0.8243	10.82	0
2.12	0.8224	10.82	0
4.24	0.8169	10.82	0
6.36	0.8075	10.81	0
8.48	0.7944	10.79	0
10.6	0.7773	10.78	0
12.72	0.7562	10.76	0
14.84	0.7307	10.73	0
16.96	0.7009	10.7	0
19.08	0.6664	10.67	0
21.2	0.6269	10.63	0
23.32	0.5823	10.58	0
25.44	0.5323	10.53	0
27.56	0.4778	10.48	0
29.68	0.4269	10.43	0
31.8	0.3806	10.38	0
33.92	0.3386	10.34	0
36.04	0.3006	10.3	0
38.16	0.2663	10.27	0
40.28	0.2354	10.24	0
42.4	0.2077	10.21	0
44.52	0.1828	10.18	0
46.64	0.1605	10.16	0
48.76	0.1407	10.14	0
50.88	0.123	10.12	0
53	0.1072	10.11	0

Notation

h is water-table elevation above datum[1]
h_0 is aquifer saturated thickness prior to mounding
i is dip of aquifer
K is horizontal hydraulic conductivity
L is dimension of recharge area parallel to x* axis
q is infiltration rate (=Q/L×W)
Q is recharge rate
s is water-table rise (height of mound) above static water table
Sy is specific yield
t is time since start of recharge
t_0 is time when recharge stops
W is dimension of recharge area parallel to y* axis
x, y are mapping Cartesian coordinate axes
x*, y* are recharge area Cartesian coordinate axes
z is elevation above datum[1]
γ is angle between x axis and dip direction
ϕ is angle between dip direction and x* axis of recharge area

σ is maximum acceptable water-table rise

[1]*Elevation datum is the base of aquifer beneath the center of recharge area*

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SUB SURFACE #1

MOUNDSOLV WIZARD
GROUNDWATER MOUNDING ANALYSIS
FOR A SLOPING WATER-TABLE AQUIFER
ZLOTNIK ET AL. (2017) SOLUTION

Site Description

Aquifer Data

Horizontal hydraulic conductivity, K	4.82 ft/d
Specific yield, Sy	0.26
Initial saturated thickness, h_0	10 ft
Maximum allowable water-table rise, σ	0.16 ft
Dip, i	0.09 ft/ft
Slope rotation from x axis, γ	0°

Recharge Area Data

X coordinate at center, X	0 ft
Y coordinate at center, Y	0 ft
Dimension along x* axis, L	81 ft
Dimension along y* axis, W	21 ft
Rotation from slope direction, ϕ	0°
Recharge rate, Q	1293 gal/d
Infiltration rate, q	0.1016 ft/d

Solution Method

Zlotnik et al. (2017) transient solution (linearization method 1)

Monitoring Points at Elapsed Time, t = 3 d

x (ft)	y (ft)	s (ft)	h (ft)
0	0	0.4498	10.45
1	1	0.4485	10.54

A 0.54' rise in the Groundwater table does not reach the bottom of Subsurface Infil. Area #1. (Groundwater Separation = 1.66 feet)

Time Series Data

Center of recharge area, x=0 ft, y=0 ft

t (d)	s (ft)	h (ft)
0	0	10
0.008747766162	0.003419	10
0.01968247386	0.007692	10.01
0.03335085849	0.01303	10.01
0.05043633928	0.01965	10.02
0.07179319026	0.02777	10.03

0.09848925398	0.03756	10.04
0.1318593336	0.04919	10.05
0.1735719332	0.06284	10.06
0.2257126827	0.0787	10.08
0.2908886195	0.09697	10.1
0.3723585406	0.1179	10.12
0.4741959418	0.1417	10.14
0.6014926935	0.1686	10.17
0.760613633	0.1989	10.2
0.9595148074	0.2326	10.23
1.208141275	0.2697	10.27
1.51892436	0.3103	10.31
1.907403217	0.354	10.35
2.393001787	0.4006	10.4
3	0.4498	10.45

Monitoring point 1, x=1 ft, y=1 ft

t (d)	s (ft)	h (ft)
0	0	10.09
0.008747766162	0.003419	10.09
0.01968247386	0.007692	10.1
0.03335085849	0.01303	10.1
0.05043633928	0.01964	10.11
0.07179319026	0.02772	10.12
0.09848925398	0.03747	10.13
0.1318593336	0.04905	10.14
0.1735719332	0.06264	10.15
0.2257126827	0.07844	10.17
0.2908886195	0.09664	10.19
0.3723585406	0.1175	10.21
0.4741959418	0.1412	10.23
0.6014926935	0.1681	10.26
0.760613633	0.1983	10.29
0.9595148074	0.2319	10.32
1.208141275	0.269	10.36
1.51892436	0.3094	10.4
1.907403217	0.353	10.44
2.393001787	0.3995	10.49
3	0.4485	10.54

Profile Data at Elapsed Time, t = 3 d

Axes of recharge area (x, y*) are aligned with axes of mapping coordinate system (x, y)*

Profile Along X Axis*

x* (ft)	s (ft)	h (ft)	z (ft)
-81	0.02017	2.73	-7.29
-77.76	0.02526	3.027	-6.998
-74.52	0.03147	3.325	-6.707
-71.28	0.03901	3.624	-6.415
-68.04	0.04813	3.925	-6.124
-64.8	0.05913	4.227	-5.832
-61.56	0.07236	4.532	-5.54
-58.32	0.08826	4.839	-5.249
-55.08	0.1074	5.15	-4.957
-51.84	0.1303	5.465	-4.666
-48.6	0.1581	5.784	-4.374
-45.36	0.1918	6.109	-4.082
-42.12	0.233	6.442	-3.791
-38.88	0.2807	6.782	-3.499
-35.64	0.3206	7.113	-3.208
-32.4	0.3521	7.436	-2.916
-29.16	0.3772	7.753	-2.624
-25.92	0.397	8.064	-2.333
-22.68	0.4127	8.372	-2.041
-19.44	0.425	8.675	-1.75
-16.2	0.4345	8.976	-1.458
-12.96	0.4415	9.275	-1.166
-9.72	0.4463	9.572	-0.8748
-6.48	0.4492	9.866	-0.5832
-3.24	0.4504	10.16	-0.2916
0	0.4498	10.45	0
3.24	0.4476	10.74	0.2916
6.48	0.4436	11.03	0.5832
9.72	0.4378	11.31	0.8748
12.96	0.43	11.6	1.166
16.2	0.4201	11.88	1.458
19.44	0.4076	12.16	1.75
22.68	0.3923	12.43	2.041
25.92	0.3737	12.71	2.333
29.16	0.351	12.98	2.624
32.4	0.3234	13.24	2.916
35.64	0.2897	13.5	3.208
38.88	0.2485	13.75	3.499

42.12	0.2007	13.99	3.791
45.36	0.1606	14.24	4.082
48.6	0.1287	14.5	4.374
51.84	0.1032	14.77	4.666
55.08	0.08274	15.04	4.957
58.32	0.06619	15.31	5.249
61.56	0.05283	15.59	5.54
64.8	0.04202	15.87	5.832
68.04	0.0333	16.16	6.124
71.28	0.02628	16.44	6.415
74.52	0.02064	16.73	6.707
77.76	0.01613	17.01	6.998
81	0.01254	17.3	7.29

Profile Along Y* Axis

y* (ft)	s (ft)	h (ft)	z (ft)
-81	0.003442	10	0
-77.76	0.004584	10	0
-74.52	0.006059	10.01	0
-71.28	0.00795	10.01	0
-68.04	0.01035	10.01	0
-64.8	0.01339	10.01	0
-61.56	0.01718	10.02	0
-58.32	0.0219	10.02	0
-55.08	0.02772	10.03	0
-51.84	0.03483	10.03	0
-48.6	0.04348	10.04	0
-45.36	0.05391	10.05	0
-42.12	0.06639	10.07	0
-38.88	0.08124	10.08	0
-35.64	0.09876	10.1	0
-32.4	0.1193	10.12	0
-29.16	0.1432	10.14	0
-25.92	0.1708	10.17	0
-22.68	0.2026	10.2	0
-19.44	0.2388	10.24	0
-16.2	0.2798	10.28	0
-12.96	0.3258	10.33	0
-9.72	0.3767	10.38	0
-6.48	0.4174	10.42	0
-3.24	0.4417	10.44	0

0	0.4498	10.45	0
3.24	0.4417	10.44	0
6.48	0.4174	10.42	0
9.72	0.3767	10.38	0
12.96	0.3258	10.33	0
16.2	0.2798	10.28	0
19.44	0.2388	10.24	0
22.68	0.2026	10.2	0
25.92	0.1708	10.17	0
29.16	0.1432	10.14	0
32.4	0.1193	10.12	0
35.64	0.09876	10.1	0
38.88	0.08124	10.08	0
42.12	0.06639	10.07	0
45.36	0.05391	10.05	0
48.6	0.04348	10.04	0
51.84	0.03483	10.03	0
55.08	0.02772	10.03	0
58.32	0.0219	10.02	0
61.56	0.01718	10.02	0
64.8	0.01339	10.01	0
68.04	0.01035	10.01	0
71.28	0.00795	10.01	0
74.52	0.006059	10.01	0
77.76	0.004584	10	0
81	0.003442	10	0

Notation

h is water-table elevation above datum[1]
h_0 is aquifer saturated thickness prior to mounding
i is dip of aquifer
K is horizontal hydraulic conductivity
L is dimension of recharge area parallel to x* axis
q is infiltration rate (=Q/L×W)
Q is recharge rate
s is water-table rise (height of mound) above static water table
Sy is specific yield
t is time since start of recharge
t_0 is time when recharge stops
W is dimension of recharge area parallel to y* axis
x, y are mapping Cartesian coordinate axes
x*, y* are recharge area Cartesian coordinate axes
z is elevation above datum[1]
γ is angle between x axis and dip direction
ϕ is angle between dip direction and x* axis of recharge area

σ is maximum acceptable water-table rise

[1]*Elevation datum is the base of aquifer beneath the center of recharge area*

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SUB SURFACE #2

MOUNDSOLV WIZARD
GROUNDWATER MOUNDING ANALYSIS
FOR A SLOPING WATER-TABLE AQUIFER
ZLOTNIK ET AL. (2017) SOLUTION

Site Description

Aquifer Data

Horizontal hydraulic conductivity, *K*	4.82 ft/d
Specific yield, *Sy*	0.26
Initial saturated thickness, h_0	10 ft
Maximum allowable water-table rise, σ	0.16 ft
Dip, *i*	0.2 ft/ft
Slope rotation from x axis, γ	0°

Recharge Area Data

X coordinate at center, *X*	0 ft
Y coordinate at center, *Y*	0 ft
Dimension along x* axis, *L*	87.5 ft
Dimension along y* axis, *W*	54.5 ft
Rotation from slope direction, ϕ	0°
Recharge rate, *Q*	5493 gal/d
Infiltration rate, *q*	0.154 ft/d

Solution Method

Zlotnik et al. (2017) transient solution (linearization method 1)

Monitoring Points at Elapsed Time, t = 3 d

x (ft)	y (ft)	s (ft)	h (ft)
0	0	1.283	11.28
1	1	1.279	11.48

A 1.48' rise in the Groundwater table does not reach the bottom of Subsurface Infil. Area #2. (Groundwater Separation = 0.52 feet at lower chambers)

Time Series Data

Center of recharge area, x=0 ft, y=0 ft

t (d)	s (ft)	h (ft)
0	0	10
0.008747766162	0.005181	10.01
0.01968247386	0.01166	10.01
0.03335085849	0.01975	10.02
0.05043633928	0.02987	10.03
0.07179319026	0.04252	10.04

0.09848925398	0.05833	10.06
0.1318593336	0.07809	10.08
0.1735719332	0.1028	10.1
0.2257126827	0.1336	10.13
0.2908886195	0.172	10.17
0.3723585406	0.2196	10.22
0.4741959418	0.278	10.28
0.6014926935	0.3492	10.35
0.760613633	0.4348	10.43
0.9595148074	0.536	10.54
1.208141275	0.6537	10.65
1.51892436	0.7881	10.79
1.907403217	0.9387	10.94
2.393001787	1.104	11.1
3	1.283	11.28

Monitoring point 1, x=1 ft, y=1 ft

t (d)	s (ft)	h (ft)
0	0	10.2
0.008747766162	0.005181	10.21
0.01968247386	0.01166	10.21
0.03335085849	0.01975	10.22
0.05043633928	0.02987	10.23
0.07179319026	0.04252	10.24
0.09848925398	0.05833	10.26
0.1318593336	0.07809	10.28
0.1735719332	0.1028	10.3
0.2257126827	0.1336	10.33
0.2908886195	0.172	10.37
0.3723585406	0.2195	10.42
0.4741959418	0.278	10.48
0.6014926935	0.3491	10.55
0.760613633	0.4345	10.63
0.9595148074	0.5355	10.74
1.208141275	0.6529	10.85
1.51892436	0.7869	10.99
1.907403217	0.9369	11.14
2.393001787	1.102	11.3
3	1.279	11.48

Profile Data at Elapsed Time, t = 3 d

Axes of recharge area (x, y*) are aligned with axes of mapping coordinate system (x, y)*

Profile Along X Axis*

x* (ft)	s (ft)	h (ft)	z (ft)
-88	0.07064	-7.529	-17.6
-84.48	0.08894	-6.807	-16.9
-80.96	0.1112	-6.081	-16.19
-77.44	0.1381	-5.35	-15.49
-73.92	0.1703	-4.614	-14.78
-70.4	0.2087	-3.871	-14.08
-66.88	0.2541	-3.122	-13.38
-63.36	0.3076	-2.364	-12.67
-59.84	0.37	-1.598	-11.97
-56.32	0.4426	-0.8214	-11.26
-52.8	0.5265	-0.03353	-10.56
-49.28	0.6227	0.7667	-9.856
-45.76	0.7324	1.58	-9.152
-42.24	0.8531	2.405	-8.448
-38.72	0.9575	3.213	-7.744
-35.2	1.042	4.002	-7.04
-31.68	1.11	4.774	-6.336
-28.16	1.164	5.532	-5.632
-24.64	1.207	6.279	-4.928
-21.12	1.239	7.015	-4.224
-17.6	1.263	7.743	-3.52
-14.08	1.279	8.463	-2.816
-10.56	1.288	9.176	-2.112
-7.04	1.292	9.884	-1.408
-3.52	1.29	10.59	-0.704
0	1.283	11.28	0
3.52	1.27	11.97	0.704
7.04	1.252	12.66	1.408
10.56	1.228	13.34	2.112
14.08	1.198	14.01	2.816
17.6	1.16	14.68	3.52
21.12	1.115	15.34	4.224
24.64	1.061	15.99	4.928
28.16	0.9981	16.63	5.632
31.68	0.9243	17.26	6.336
35.2	0.8388	17.88	7.04
38.72	0.7406	18.48	7.744
42.24	0.6285	19.08	8.448

45.76	0.5078	19.66	9.152
49.28	0.4055	20.26	9.856
52.8	0.322	20.88	10.56
56.32	0.2542	21.52	11.26
59.84	0.1995	22.17	11.97
63.36	0.1557	22.83	12.67
66.88	0.1207	23.5	13.38
70.4	0.09304	24.17	14.08
73.92	0.07125	24.86	14.78
77.44	0.05419	25.54	15.49
80.96	0.04094	26.23	16.19
84.48	0.03071	26.93	16.9
88	0.02287	27.62	17.6

Profile Along Y Axis*

y* (ft)	s (ft)	h (ft)	z (ft)
-88	0.01436	10.01	0
-84.48	0.01928	10.02	0
-80.96	0.02568	10.03	0
-77.44	0.03392	10.03	0
-73.92	0.04446	10.04	0
-70.4	0.0578	10.06	0
-66.88	0.07456	10.07	0
-63.36	0.09544	10.1	0
-59.84	0.1212	10.12	0
-56.32	0.1529	10.15	0
-52.8	0.1914	10.19	0
-49.28	0.2378	10.24	0
-45.76	0.2934	10.29	0
-42.24	0.3595	10.36	0
-38.72	0.4375	10.44	0
-35.2	0.5287	10.53	0
-31.68	0.6347	10.63	0
-28.16	0.7569	10.76	0
-24.64	0.8858	10.89	0
-21.12	0.9956	11	0
-17.6	1.086	11.09	0
-14.08	1.158	11.16	0
-10.56	1.214	11.21	0
-7.04	1.252	11.25	0
-3.52	1.275	11.28	0

0	1.283	11.28	0
3.52	1.275	11.28	0
7.04	1.252	11.25	0
10.56	1.214	11.21	0
14.08	1.158	11.16	0
17.6	1.086	11.09	0
21.12	0.9956	11	0
24.64	0.8858	10.89	0
28.16	0.7569	10.76	0
31.68	0.6347	10.63	0
35.2	0.5287	10.53	0
38.72	0.4375	10.44	0
42.24	0.3595	10.36	0
45.76	0.2934	10.29	0
49.28	0.2378	10.24	0
52.8	0.1914	10.19	0
56.32	0.1529	10.15	0
59.84	0.1212	10.12	0
63.36	0.09544	10.1	0
66.88	0.07456	10.07	0
70.4	0.0578	10.06	0
73.92	0.04446	10.04	0
77.44	0.03392	10.03	0
80.96	0.02568	10.03	0
84.48	0.01928	10.02	0
88	0.01436	10.01	0

Notation

h is water-table elevation above datum[1]
h_0 is aquifer saturated thickness prior to mounding
i is dip of aquifer
K is horizontal hydraulic conductivity
L is dimension of recharge area parallel to x* axis
q is infiltration rate (=Q/L×W)
Q is recharge rate
s is water-table rise (height of mound) above static water table
Sy is specific yield
t is time since start of recharge
t_0 is time when recharge stops
W is dimension of recharge area parallel to y* axis
x, y are mapping Cartesian coordinate axes
x*, y* are recharge area Cartesian coordinate axes
z is elevation above datum[1]
γ is angle between x axis and dip direction
ϕ is angle between dip direction and x* axis of recharge area

σ is maximum acceptable water-table rise

[1]*Elevation datum is the base of aquifer beneath the center of recharge area*

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APPENDIX G

Operation and Maintenance Plan

STORMWATER OPERATION & MAINTENANCE MANUAL

FOR

"HAYES WOODS"
MAPLE AVENUE

IN

GROTON,
MASSACHUSETTS

PREPARED BY: DILLIS & ROY
CIVIL DESIGN GROUP, INC.
1 Main Street, Suite 1
Lunenburg, MA 01462

PREPARED FOR: MAPLE REALTY TRUST
P.O. Box #381
Groton, Massachusetts

FEBRUARY 10TH, 2021

CDG PROJECT # **5454**

DILLIS & ROY
CIVIL DESIGN GROUP
CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS

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1.0 Project Narrative

1.1 Overview of Drainage System
1.2 Routine Operation & Maintenance Tasks
1.3 O&M Schedule

2.0 Appendices

Appendix A – Stormwater Management System Owners/Operators

1.0 Project Narrative

1.1 Proposed Stormwater Management System

Runoff from the proposed development will be conveyed and treated through a combination of Best Management Practices (BMP's). The following is a brief discussion of each conveyance and treatment BMP proposed.

Yard Drains

Yard drains are proposed to convey the runoff from the proposed roadway to the subsurface infiltration system. These catch basins will discharge to drain manholes, Rain Gardens, or Infiltration Basins.

Infiltration Basin with Sediment Forebay

Multiple infiltration basins will collect runoff from pavement and grassed areas. Each basin has been designed to accommodate the runoff associated with the 100-year storm event. Pretreatment is provided using a sediment forebay within the basin. The sediment forebay is designed to reduce the velocity of flow which will increased the settlement of heavy solids before emptying into the basin.

Subsurface Infiltration Area

Two subsurface infiltration systems are included on site. Cultec stormwater chambers (Model 330XLHD) will be installed to collect the runoff from portions of pavement. A drainage manhole will be installed with a weir to direct flow into the first row of chambers. The infiltration system will provide recharge for groundwater and has been designed to accommodate the runoff associated with the 100-year storm event.

Rain Garden

Several Rain Gardens are proposed to capture runoff via sheet flow and yard drains from a portion of the pavement. The runoff captured by the Rain Garden will percolate through the soil media which will act as filter. Any excess runoff that does not percolate through the soil media will flow into an outlet structure and will be routed to either an Infiltration Basin or Subsurface Infiltration Area.

1.2 Operation & Maintenance Tasks

The following activities should be performed routinely to allow for proper functioning of the stormwater system. The following are guidelines referring to each major component of the stormwater management system.

1.2.1 Street Sweeping

Street sweeping should be preformed at least semi annually. For most effective results, sweeping should be preformed by a vacuum style truck in the early spring before spring rain events can wash silt and sediment into the stormwater system. Silt and sediment should be disposed of in accordance with local, state and federal guidelines for hazardous waste.

1.2.2 Drain Manholes

Drain manholes should be inspected semi-annually for signs of wear, settling, cracking or other fatigue. Sump areas should be checked for silt/sediment buildup and cleaned as necessary. Cleaning should be performed by a vacuum truck. Covers should be resealed as required and outlets should be inspected incidentally with all structure inspections.

1.2.3 Yard Drains

Yard drains shall be inspected semi-annually for signs of wear, settling, cracking or other fatigue. Sump areas should be checked for silt/sediment buildup and cleaned as necessary. Cleaning should be performed by a vacuum truck. Nyloplast covers should be resealed as required and outlets should be inspected incidentally with all structure inspections.

1.2.4 Storm Drain Lines

Storm drainage inlets and outlets should be inspected incidentally with all structure inspections. Evidence of debris intrusion or excessive siltation or sedimentation could result in the need to clean a storm drain line. Flushing or jetting should be performed as required. All flushing and jetting should be performed in the direction away from any outlet devices. A vacuum truck should be used at the opposite end of the flushing or jetting to remove any silt or sediment that is cleaned from the storm drain.

1.2.5 Infiltration Basin

The infiltration basins should be monitored and maintained regularly to ensure no obstructions in the system are present. The basin should be

monitored for the buildup of sedimentation. If the depth of sedimentation begins to impair the basins ability to infiltrate water, the basin will need to be cleaned out. Other maintenance will include checking the inlets for debris.

The riprap used for the spillway and sediment forebay should be inspected regularly for sediment build up, clogging or other unwanted materials such as trash. The riprap should be cleaned as required.

1.2.6 Sediment Forebay

A sediment forebay is required as a pretreatment device prior to discharging stormwater to the extended detention basin. It will provide pretreatment by slowing stormwater runoff and increasing settlement of the sediment. The sediment forebay should be inspected monthly and cleaned of accumulated sediment on a quarterly basis. After sediment removal, repair any damaged vegetation by reseeding or re-sodding. Maintain grass at a height of 4-6 inches.

1.2.7 Rain Garden

Rain Gardens are utilized to collect runoff from sections of pavement before the stormwater is discharged to the groundwater. The rain garden should be monitored and maintained regularly to prevent the buildup of sedimentation. If the depth of sedimentation begins to impair the rain garden's ability to infiltrate water, the garden will need to be cleaned out.

The riprap used for the spillway and sediment forebay should be inspected regularly for sediment build up, clogging or other unwanted materials such as trash. The riprap should be cleaned as required. Outlet and inlet structures should be inspected coincidently when the Rain Gardens are inspected.

1.2.8 Subsurface Infiltration System

The subsurface infiltration systems should be monitored and maintained regularly to ensure no obstructions in the system are present. Any depressions noticed in the areas could indicate that the system has collapsed and should be inspected immediately. The systems are equipped with inspection ports to monitor the buildup of sedimentation. If the depth of sedimentation is in excess of the manufacturer's guidelines, the systems will need to be cleaned out with high pressure water. The high-pressure water should be used on one end and a vacuum truck will be used on the opposite end to remove any silt or sediment that is cleaned from the chambers. Other maintenance will include checking the inlets and outlets for debris, survey the surrounding area for depressions and confirm noun

authorized modifications have been performed to the system. See Appendix A for the Cultec Operation and Maintenance Guidelines.

Infiltration structures should be inspected on a routine basis (at least semiannually) and after a major storm event. Important items to examine include: differential settlement, cracking, erosion, leakage or tree growth on the embankment (basins), the condition of the riprap in the inlet and pilot channels (basins), sediment accumulation and the density of grass. Site design should be reevaluated should clogging occur to determine the factors responsible for the problem.

These inspections should be used to determine the effectiveness of the regular maintenance schedule as well as to determine the timing of corrective maintenance procedures.

Buffers, side slopes, and basin floors should be mowed at least twice a year. A routine should be developed for the removal of trash and debris. Grading and landscaping around facility inlets shall be designed to facilitate mowing, trimming, removal and other general maintenance. Grass clippings and accumulated organic matter must be removed to prevent the formation of an impervious organic layer or mat. Trees, shrubs and other vegetative cover also require periodic maintenance such as fertilizing, pruning and pest control to maintain healthy growth.

For basin, annual tilling operations maintain infiltration capacity. These tilled areas should be revegetated immediately to prevent erosion. Deep tilling can be used to break up clogged surface layers followed by regrading and leveling. Sand or organic matter can be tilled into the basin floor to promote a restored infiltration capacity. Sediment removal procedures should not be undertaken until the basin is thoroughly dry. The top layer should be removed by light equipment to prevent compaction. The remaining soil can be retiled, and disturbed vegetation replanted.

O&M Schedule

O&M Task		Monthly	Quarterly	Spring	Fall	2-years	As-required
1.	**Street Sweeping**			x	x		
2.	**Drain Manholes**						
	Inspect Rims			x	x		
	Inspect inside/inlet and outlet pipes					x	
	Remove sediment					x	x
3.	**Storm drain Lines**						
	Inspection			x			x
	Clean						x
4.	**Yard Drains**						
	Inspect Rims			x	x		
	Inspect inside/inlet and outlet pipes					x	
	Remove sediment					x	x
5.	**Infiltration Basin/Sed. forebay**						
	Inspected	x					
	Remove Debris						x
	Remove Silt/Sediment					x	x
	Clean						x
6.	***Rain Garden***						
	Inspected	x					
	Remove Debris						x
	Remove Silt/Sediment					x	x
	Clean						x
7.	**Subsurface Infiltration Area**						
	Inspected	x					
	Remove Silt/Sediment						x
	Clean						x

APPENDIX A

Stormwater Management System Owners/Operators

1.	Stormwater Management System Owners:	To be determined
2.	Current and future operators:	To be determined
3.	Emergency contact information:	To be determined
4.	Change of trustee:	To be determined
5.	Financial Responsible Party:	To be determined
6.	Routine Maintenance:	To be determined
7.	O&M activities:	To be determined
8.	Record keeping	To be determined

APPENDIX H

Long Term Pollution Prevention Plan

LONG-TERM POLLUTION PREVENTION PLAN

FOR

"HAYES WOODS"
MAPLE AVENUE

IN

GROTON,
MASSACHUSETTS

PREPARED BY: DILLIS & ROY
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P.O. Box #381
Groton, MA 01450

FEBRUARY 10TH, 2021

CDG PROJECT # **5454**

DILLIS & ROY
CIVIL DESIGN GROUP
CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS

1.0 Summary

This Long-Term Pollution Prevention Plan (LTPPP) has been prepared by Dillis & Roy Civil Design Group, Inc. pursuant to the Massachusetts Stormwater Regulations. The proposed project includes the development of 19 single-family homes with associated driveways and a road. The project is being proposed pursuant to the Flexible Subdivision Special Permit.

The layout of the proposed site has been carefully planned to reduce the amount of stormwater leaving the site. The stormwater management system has been designed in accordance with the Massachusetts Stormwater Regulations to provide pretreatment of the stormwater prior to discharge.

2.0 Spill Prevention Plan

No hazardous materials other than normal cleaning items are expected to be stored on site after the construction period has ended.

It is expected that normal DEP notification procedures would be triggered for major spills such as heating oil or propane and natural gas leaks.

3.0 Stormwater System O&M

A Stormwater Operation & Maintenance plan has been prepared for the proposed stormwater management system. Refer to this document for details pertaining to the required inspections, routine maintenance and operation details.

4.0 Fertilizers, herbicides and pesticides

Application of fertilizer, herbicides and pesticides shall be performed in a manner consistent with the industry standards for the application.

No application of chemicals is to be performed within the stormwater management areas on the site.

5.0 Snow/Salt Management

5.1 Snow Plowing

It is expected that the site will be plowed by a private contractor. Refer to the Erosion Control Plans for snow storage locations

5.2 Salt/Sand Usage

It is expected that sanding and salting will be performed on an infrequent basis

during times when unusually icy conditions persist for periods of time.

5.3 Street Sweeping

The Stormwater Operation & Maintenance Plan calls for the road and parking areas to be swept in the spring, after the threat of winter precipitation has passed, and in the fall.

6.0 Waste Management

6.1 Solid Waste

A dumpster will be located on the site during construction. This area will be the primary area for the on-site storage of solid waste prior to pick-up by a waste management company.