

STORMWATER REPORT

STRATTON HILL

**WRIGHT ROAD
AYER, MASSACHUSETTS**



Prepared For: FOX MEADOW REALTY CORP.
129 SKYFIELDS DRIVE
GROTON, MA 01450

Prepared By: DILLIS & ROY CIVIL DESIGN GROUP, INC.
1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462

Revised: March 29th, 2024
April 25th, 2023
6083

TABLE OF CONTENTS

1.0	Project Narrative	3
1.1	<i>Project Type</i>	3
1.2	<i>Purpose and Scope</i>	3
1.3	<i>LID Measures</i>	3
1.4	<i>Site Description</i>	3
1.5	<i>Proposed Stormwater Management System</i>	5
1.6	<i>Methods of Analysis</i>	6
2.0	Stormwater Standards Compliance	6
2.1	<i>Standard 1 – Untreated Discharge</i>	6
2.2	<i>Standard 2 – Peak Rate Attenuation</i>	7
2.3	<i>Standard 3 – Recharge</i>	7
2.4	<i>Standard 4 – Water Quality</i>	8
2.5	<i>Standard 5 – Land Uses with Higher Pollutant Loads</i>	8
2.6	<i>Standard 6 – Critical Areas</i>	8
2.7	<i>Standard 7 – Redevelopment</i>	8
2.8	<i>Standard 8 – Construction Period Pollution Prevention Plan and Erosion and Sediment Control</i>	8
2.9	<i>Standard 9 – Operation and Maintenance Plan</i>	8
2.10	<i>Standard 10 – Prohibition of Illicit Discharge</i>	9
3.0	Appendices	10
	<i>Appendix A - Locus & Flood Map</i>	11
	<i>Appendix B - Checklist for Stormwater Report</i>	13
	<i>Appendix C - Soils Data</i>	14
	<i>Appendix D - Existing Conditions Hydrologic Calculations</i>	15
	<i>Appendix E - Proposed Conditions Hydrologic Calculations</i>	16
	<i>Appendix F – Stormwater Calculations</i>	17
	<i>Appendix G – Construction Period Pollution Prevention</i>	18
	<i>Appendix H - Operation and Maintenance Plan</i>	19
	<i>Appendix I - Long Term Pollution Prevention Plan</i>	20
4.0	Plans	22
	<i>Pre-development Watershed Plan</i>	23
	<i>Post-development Watershed Plan</i>	24

1.0 Project Narrative

1.1 Project Type

The applicant, Fox Meadow Realty Corp. is proposing the construction of a 17-lot subdivision under the Open Space Residential Development (OSRD) Special Regulations (Section 10.1 of the Ayer Zoning Bylaw). The existing property (referred to herein as “the site”) is located on the northerly side of Wright Road and contains Stratton Hill Road. The proposed housing development consists of 34 units in the configuration of one duplex on each lot. The proposed scope of construction also includes a private roadway, on-site parking, private driveways, stormwater management systems, new utility connections and their associated appurtenances. The proposed development is intended to be serviced by municipal water & sewer systems.

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. 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 (LID) techniques and improving the operation and maintenance of stormwater best management practices (BMP).

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

1.3 LID Measures

Care has been taken to lay out the proposed site in a manner that works with existing topography. The existing partially constructed stormwater management area along Wright Road has been utilized in the design. BMP's have been selected to manage the stormwater runoff. Stormwater from the proposed impervious surface locations is routed to infiltration basins via land flow, curb and gutter systems, or conventional storm drain systems. The stormwater basins will reduce run off rates below pre-developed rates while providing water quality pre-treatment by sediment forebays.

1.4 Site Description

As mentioned, the site is located on the northerly side of Wright Road and contains Stratton Hill Road with the lots created by the subdivision (see

Middlesex Registry of Deeds plan 829 of 2005) (Assessor's map 6, Parcels 1, 2, 3, 7, 8, and 11 through 55). The site contains a partially constructed road with a partially constructed stormwater management area & infrastructure. Freshwater wetlands subject to the protections of the Ayer Wetlands Bylaw are located to the east, north and west of Stratton Hill Road. The project site falls within the Zoning District Residence A-1. The abutting properties to the East and West are in the same district and consist of undeveloped woodlands and single-family homes on Wright Road. Directly South of the site is the Zoning District A-2 where there are more single-family homes. The North side of the property abuts the Groton town line which contains more undeveloped woodland. The site contains a ridge line from south to north bisecting the overland stormwater flows to the east & west. Design point designation for hydraulic assessment is described later in this report (Section 2.2).

The site currently has access from Stratton Hill Road which branches off Wright Road. With Long Pond to the East, the Groton town line to the North and more wooded properties to the West, the proposed southerly access presents the most practical means of entering the site.

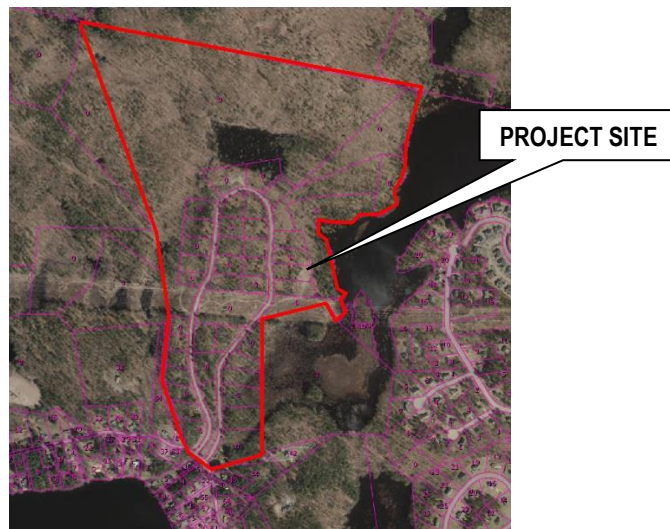


Figure 1 – Massachusetts GIS Map

The site is bisected by a cleared utility easement that contains overhead transmission lines. As noted above, portions of the site have been altered by prior construction activities. Incidentally, both analysis of vegetation and presence of hydric soils were used to determine the limits of resource areas as depicted on the attached site plans. The project site is subject to an ANRAD, DEP file #100-0445.

The site is chiefly comprised of Charlton-Hollis-Rock outcrop and Hollis-Rock outcrop soils with moderate to slightly steep slopes. The NRCS soil survey information indicates that all of the site is underlain by soils classified as belonging to Hydrologic Soil Groups A, B & D.

- Soils belonging to group A have 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.
- Soils belonging to group B have 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.
- Soils belonging to group D have 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 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.

Please refer to Appendix C within this report for further information regarding the soils on-site & existing test hole data.

Based on the most recently available Flood Insurance Rate map for the Town of Ayer, a portion of the site is located within a mapped flood area of special concern associated with Long Pond. This area would be subject to inundation during the 100-year frequency storm event, which would be considered Bordering Land Subject to Flooding. This information was obtained from the Federal Flood Insurance Rate (FIRM) Flood Plain Maps for Ayer, Massachusetts (refer to Appendix A – Flood Map). Based on site observations and topography, the Bordering Land Subject to flooding is located entirely within the identified wetland that borders Long Pond.

In accordance with regulation 310 CMR 10.59, no project may be permitted which will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species. Specified habitat sites of rare species have been identified by the Massachusetts Natural Heritage and Endangered Species Program of the Division of Fisheries and Wildlife. The Massachusetts Natural Heritage Atlas 14th Edition indicates that the entirety of the site is located within Priority Habitat PH 2029 and is sited as an Area of Critical Environmental Concern (ACEC).

1.5 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.

Deep Sump Hooded Catch Basin

Deep sump hooded catch basins are proposed to convey the runoff from the proposed paved areas and roofs to the infiltration basins. These catch basins will discharge to manholes and conventional storm drains.

Infiltration Basin

The infiltration basin is designed to reduce the runoff rates and increase the groundwater recharge rates. Sediment forebays designed at the entrance of each basin were included to decrease the velocity of flow and increase the settlement of heavy solids prior to the infiltration basin. Riprap will also be installed at the inlet of the sediment forebays and the outlet of the basins to control the overflow of stormwater into the adjacent wetlands and reduce the potential for scouring.

Grassed Swales

Proposed swales have been designed to convey the flows from the 100-year frequency event. The grass swales will receive runoff from a portion of the proposed roofs and will convey the stormwater flows to associated proposed infiltration basins.

1.6 Methods of Analysis

The 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. Watershed analysis demonstrates that natural drainage patterns drain toward the wetlands (design point). Two design points were modeled to analyze the total runoff from the site. HydroCAD 10.0 computer software was employed in this hydrologic analysis.

A comparison of pre- and post-development runoff quantities at the analysis points were performed in order to design a stormwater management system that will limit peak rates of runoff from the development to predevelopment levels for 24-hour rainfall events of 2-, 10-, 25- and 100-year return frequencies. Watershed boundaries for existing conditions are depicted on the attached Predevelopment Watershed Plan. Post-Developed watershed boundaries are indicated on the Post-development Watershed Plan.

2.0 Stormwater Standards Compliance

2.1 Standard 1 – Untreated Discharge

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

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. The following table provides a summary of peak rates of runoff related to each of these storms for the design point through which all runoff from the subject property must flow. For all rainfall events considered, the proposed stormwater management system will control runoff from the development such that corresponding peak flows at the design point will be lower than pre-developed rates. Two design points have been designated for the analysis. The site is bisected by a ridgeline that delivers overland flow to the East & to the West. The resulting Eastern design point has been designated as Design Point-A & the Western design point has been designated as Design Point-B.

Table 1: Wetland Design Point Runoff Summary

	Pre-Developed (ft³ / sec)	Post-Developed (ft³ / sec)
<i>Design Point “A”</i>		
2-Year	0.99	0.92
10-Year	7.08	3.60
25-Year	12.88	6.30
100-Year	23.61	19.40
<i>Design Point “B”</i>		
2-Year	0.42	0.09
10-Year*	4.01	2.05
25-Year	7.83	5.13
100-Year	15.90	11.42

2.3 Standard 3 – Recharge

The site is chiefly comprised of Charlton-Hollis-Rock outcrop and Hollis-Rock outcrop soils with moderate to slightly steep slopes. The NRCS soil survey information indicates that all of the site is underlain by soils classified as belonging to Hydrologic Soil Groups A, B & D. Extensive soil testing and evaluation confirms the C-horizon as a loamy sandy loam throughout the site. As such the proposed Infiltration Basin #1 has been designed with an exfiltration rate of 2.41 inches per hour. Please refer to Appendix C for the test hole data that was utilized during the design process.

Recharge calculations can be found in Appendix F.

2.4 *Standard 4 – Water Quality*

TSS removal calculations have been provided (Appendix F) showing that the proposed TSS removal efficiency from these areas will be 80% using the infiltration basins with the sediment forebay & deep sump hooded catch basin pretreatment. Two TSS calculation sheets have been provided. The sheet with a deep sump catch basin being routed into a sediment forebay shows proper pretreatment before entering the infiltration basins. The sheet with deep sump catch basin being routed into an infiltration basin shows there is enough TSS removal within the whole system.

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.

2.6 *Standard 6 –Critical Areas*

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

2.7 *Standard 7 – Redevelopment*

The proposed project does not meet the standards to be considered a Redevelopment project.

2.8 *Standard 8 – Construction Period Pollution Prevention Plan and Erosion and Sediment Control*

Since the project is subject to the filing of an Environmental Protection Agency Notice of Intent (EPA NOI), and the work will be pursuant to the NPDES Construction General Permit for disturbance to an area greater than 1 acre & proposes treated discharge to waters of U.S., a copy of the Stormwater Pollution Prevention Plan (SWPPP) will be submitted prior to construction. The SWPPP will satisfy the Standard 8 Construction Period Pollution prevention. And Erosion and Sediment Control Plan is included in the attached Site Plans.

2.9 *Standard 9 – Operation and Maintenance Plan*

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

2.10 Standard 10 – Prohibition of Illicit Discharge

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

3.0 Appendices

Appendix A - Locus & Flood Map

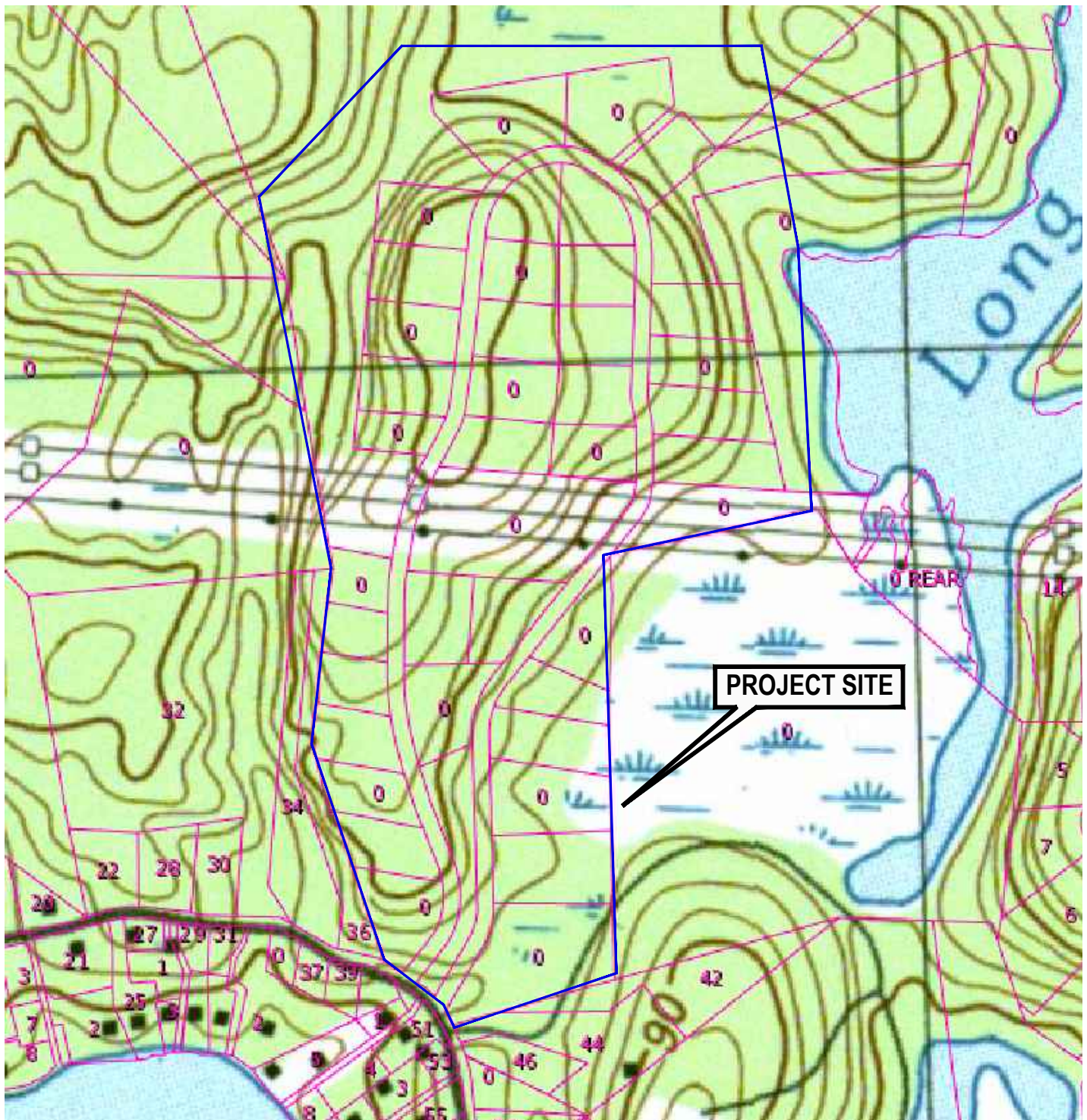


FIGURE 1 - LOCUS MAP

NOT TO SCALE

Prepared By: Dillis & Roy Civil Design Goup, Inc.
1 Main Street, Suite #1
Lunenburg, Massachusetts

DILLIS & ROY
CIVIL DESIGN GROUP

CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
1 MAIN STREET, SUITE 1 PHONE: (978) 779-6091
LUNENBURG, MA 01462 www.dillisandroy.com

References: 1988 USGS Ayer
Massachusetts Topographic Map

Prepared For: Fox Meadow Realty Corporation
129 Skyfields Drive
Groton, MA

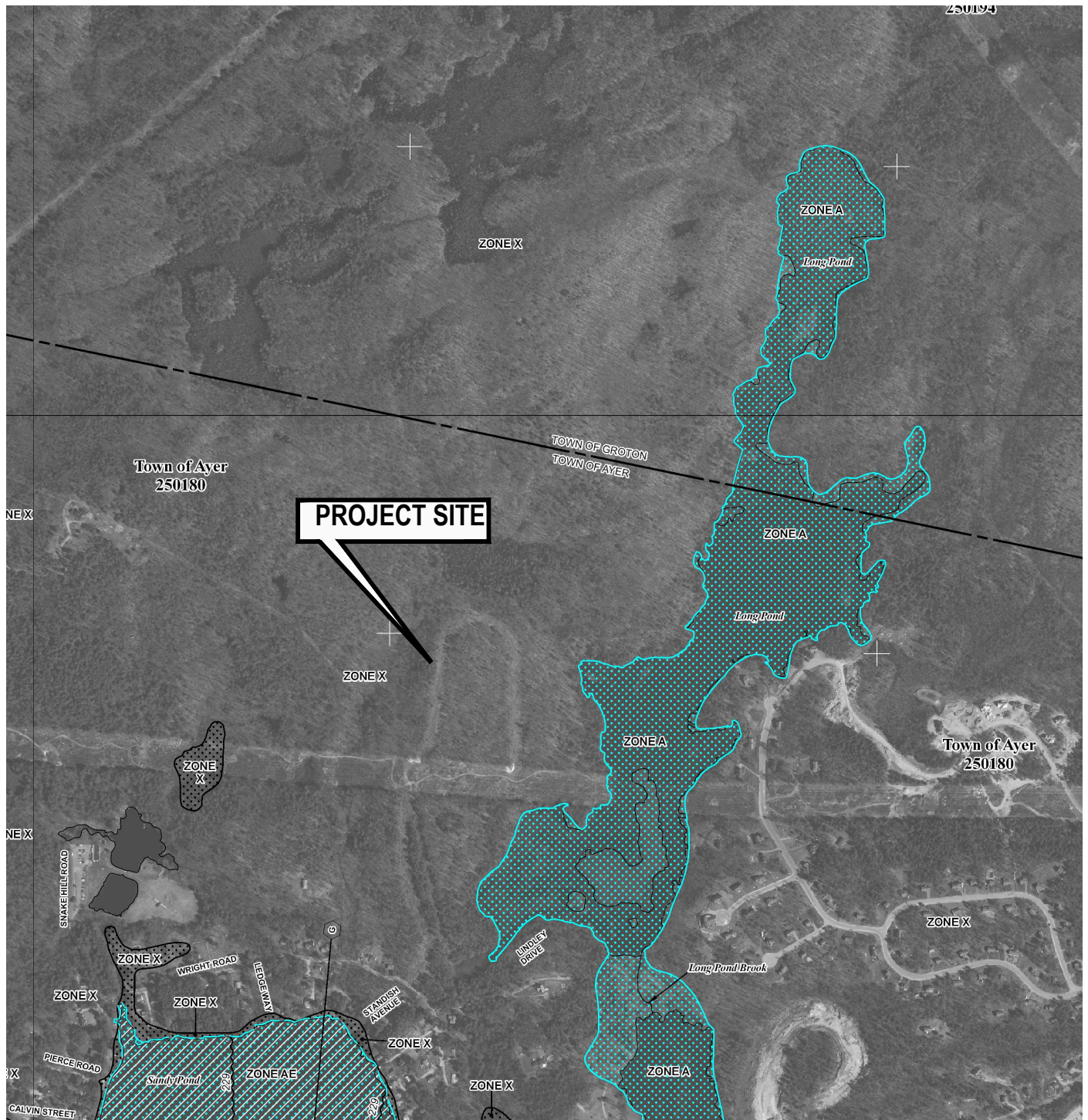


FIGURE 2 - FLOOD MAP

1"=1,000' ±

Prepared By: Dillis & Roy Civil Design Group, Inc.
1 Main Street, Suite #1
Lunenburg, Massachusetts



CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462
PHONE: (978) 779-6091
www.dillisanroy.com

References: FIRM - Flood Insurance Rate Map
Community-Panel Number: 25017C0208E

Prepared For: Fox Meadow Realty Corporation
129 Skyfields Drive
Groton, MA

Stormwater Report
Stratton Hill

March 29th, 2024
Fox Meadow Realty Corp.

Appendix B - Checklist for Stormwater Report



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 8²
- 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.

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.



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



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): Infiltration Basin

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 Field¹
- ☐ 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 for 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

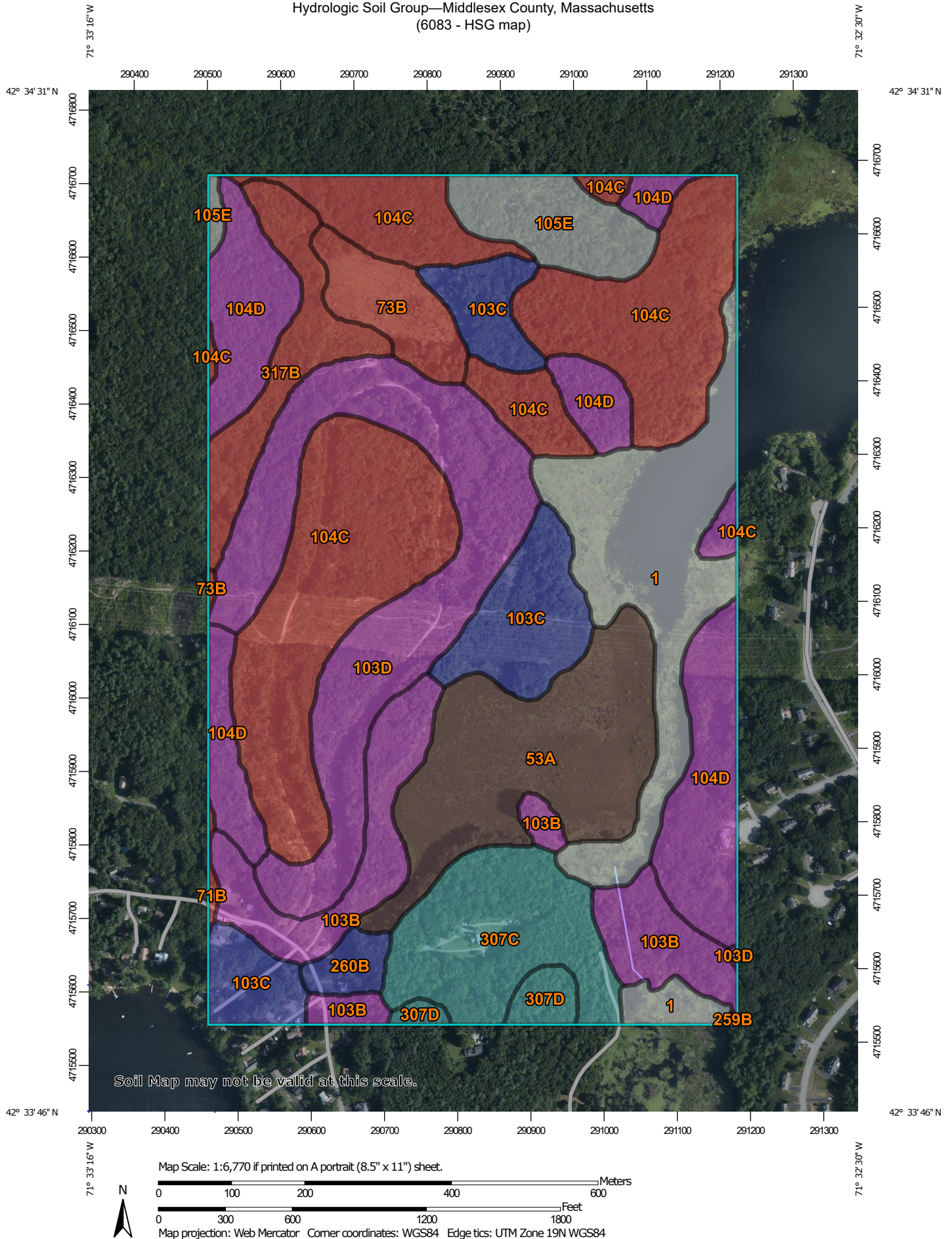
- ☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
 - ☒ Name of the stormwater management system owners;
 - ☒ Party responsible for operation and maintenance;
 - ☒ Schedule for implementation of routine and non-routine 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

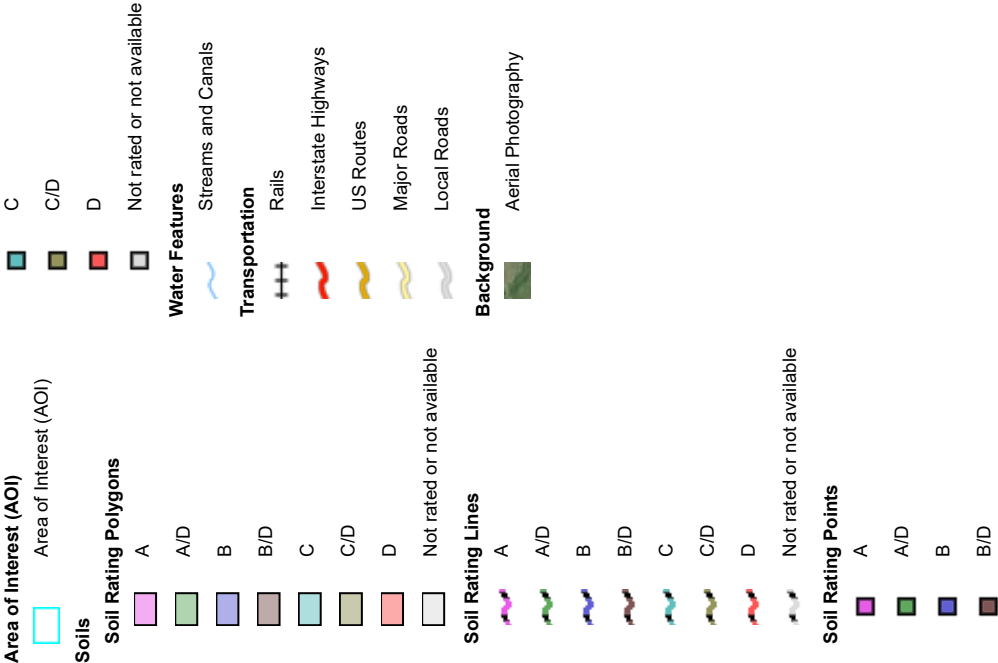
- ☐ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- ☐ An Illicit Discharge Compliance Statement is attached;
- ☒ NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.

Appendix C - Soils Data

Hydrologic Soil Group—Middlesex County, Massachusetts (6083 - HSG map)



MAP LEGEND



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: Aug 9, 2019—Sep 28, 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
1	Water		21.1	10.2%
53A	Freetown muck, ponded, 0 to 1 percent slopes	B/D	20.0	9.7%
71B	Ridgebury fine sandy loam, 3 to 8 percent slopes, extremely stony	D	0.3	0.2%
73B	Whitman fine sandy loam, 0 to 3 percent slopes, extremely stony	D	5.6	2.7%
103B	Charlton-Hollis-Rock outcrop complex, 3 to 8 percent slopes	A	15.5	7.5%
103C	Charlton-Hollis-Rock outcrop complex, 8 to 15 percent slopes	B	15.1	7.3%
103D	Charlton-Hollis-Rock outcrop complex, 15 to 25 percent slopes	A	27.1	13.1%
104C	Hollis-Rock outcrop-Charlton complex, 0 to 15 percent slopes	D	46.2	22.3%
104D	Hollis-Rock outcrop-Charlton complex, 15 to 25 percent slopes	A	23.5	11.3%
105E	Rock outcrop-Hollis complex, 3 to 35 percent slopes		7.3	3.5%
259B	Carver loamy coarse sand, 3 to 8 percent slopes	A	0.0	0.0%
260B	Sudbury fine sandy loam, 3 to 8 percent slopes	B	2.0	1.0%
307C	Paxton fine sandy loam, 8 to 15 percent slopes, extremely stony	C	13.5	6.5%
307D	Paxton fine sandy loam, 15 to 25 percent slopes, extremely stony	C	2.2	1.0%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
317B	Scituate fine sandy loam, 3 to 8 percent slopes, extremely stony	D	7.9	3.8%
Totals for Area of Interest			207.3	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

The following test hole data was obtained by R. Wilson & Associates in February of 2000. The locations of the subject test holes are depicted on the attached site plans.

Test Hole: TH200-1		ESHW Depth:	96"
Date: 02/08/00		ESHW Elevation:	281.00
Depth from Surface	Soil Horizon	Soil Texture	Soil Mottling
0"-8"	A	SL	
8"-26"	B	SL	
26"-96"	C1	LS	75% @ 96"
96"-144"	C2	SL	

Test Hole: TH200-2		ESHW Depth:	84"
Date: 02/08/00		ESHW Elevation:	280.00
Depth from Surface	Soil Horizon	Soil Texture	Soil Mottling
0"-8"	A	SL	
8"-24"	B	SL	
24"-120"	C	LS	75% @ 84"

Test Hole: TH200-3		ESHW Depth:	112"
Date: 02/08/00		ESHW Elevation:	261.67
Depth from Surface	Soil Horizon	Soil Texture	Soil Mottling
0"-10"	A	SL	
10"-26"	B	SL	
26"-144"	C	LS	75% @ 112"

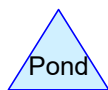
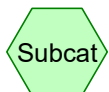
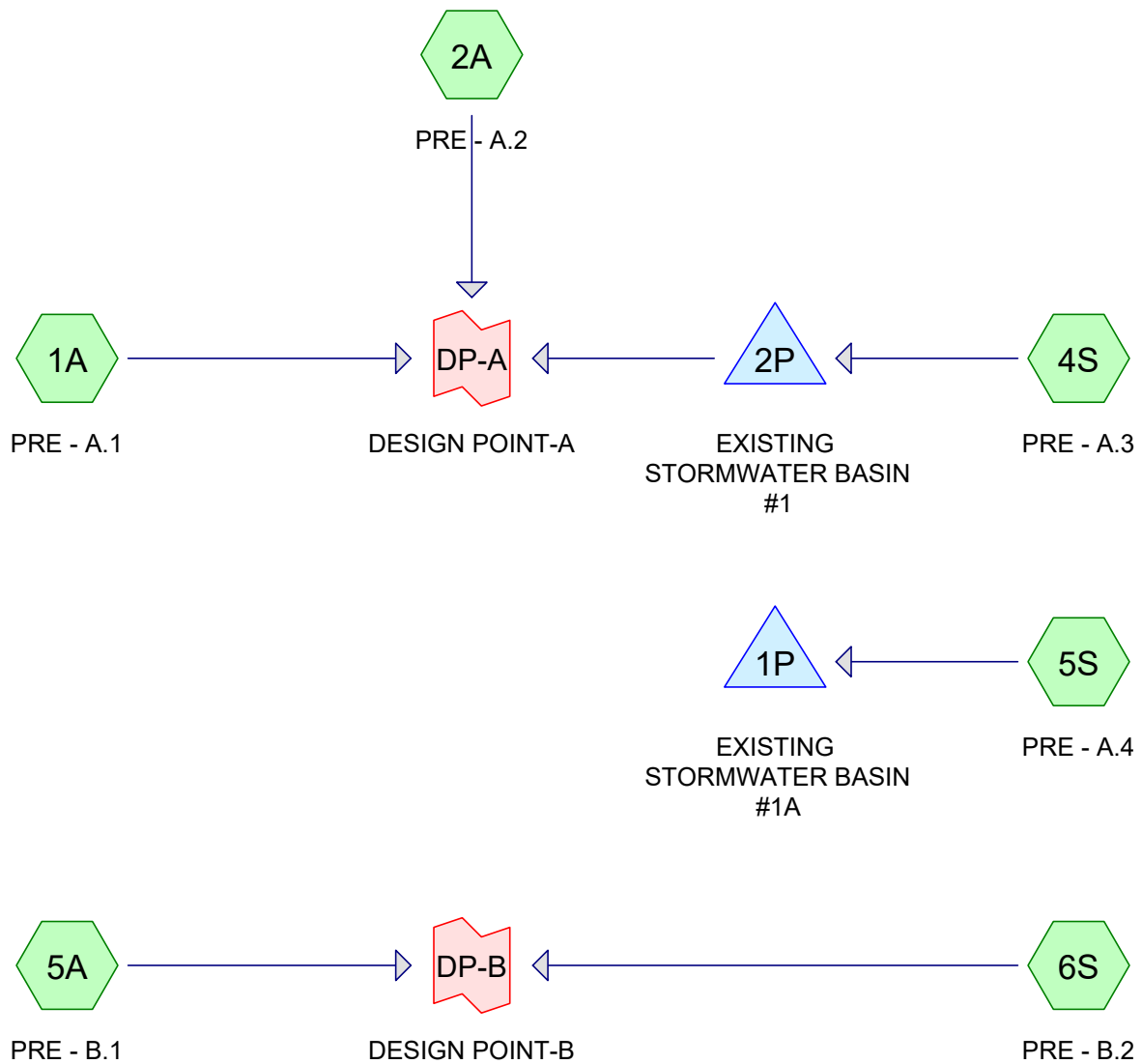
Test Hole: TH200-4		ESHW Depth:	96"
Date: 02/08/00		ESHW Elevation:	265.00
Depth from Surface	Soil Horizon	Soil Texture	Soil Mottling
0"-16"	A	SL	
16"-28"	B	SL	
28"-96"	C	LS	75% @ 96"

Test Hole: TH200-5		ESHW Depth:	84"
Date: 02/08/00		ESHW Elevation:	253.00
Depth from Surface	Soil Horizon	Soil Texture	Soil Mottling
0"-10"	A	SL	
10"-24"	B	SL	
24"-84"	C	LS	75% @ 84"

Test Hole: TH200-6		ESHW Depth:	> 132"
Date: 02/08/00		ESHW Elevation:	< 245.30
Depth from Surface	Soil Horizon	Soil Texture	Soil Mottling
0"-12"	A	SL	
12"-20"	B	SL	
20"-132"	C	LS	

Test Hole: TH200-7		ESHW Depth:	84"
Date: 02/08/00		ESHW Elevation:	243.00
Depth from Surface	Soil Horizon	Soil Texture	Soil Mottling
0"-8"	A	SL	
8"-26"	B	SL	
26"-84"	C	LS	75% @ 84"

Appendix D - Existing Conditions Hydrologic Calculations



Routing Diagram for 6083 - PRE

Prepared by Dillis & Roy Civil Design Group, Printed 3/29/2024
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

6083 - PRE

Prepared by Dillis & Roy Civil Design Group

Printed 3/29/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 2

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-year	Type III 24-hr		Default	24.00	1	3.14	2
2	10-year	Type III 24-hr		Default	24.00	1	4.84	2
3	25-year	Type III 24-hr		Default	24.00	1	5.89	2
4	100-year	Type III 24-hr		Default	24.00	1	7.52	2

6083 - PRE*Type III 24-hr 2-year Rainfall=3.14"*

Prepared by Dillis & Roy Civil Design Group

Printed 3/29/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 3

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

Subcatchment1A: PRE - A.1

Runoff Area=549,670 sf 0.00% Impervious Runoff Depth=0.23"
Flow Length=1,048' Tc=19.1 min CN=55 Runoff=0.99 cfs 0.245 af

Subcatchment2A: PRE - A.2

Runoff Area=54,074 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=375' Tc=6.4 min CN=32 Runoff=0.00 cfs 0.000 af

Subcatchment4S: PRE - A.3

Runoff Area=17,118 sf 0.00% Impervious Runoff Depth=0.00"
Tc=6.0 min CN=41 Runoff=0.00 cfs 0.000 af

Subcatchment5A: PRE - B.1

Runoff Area=243,775 sf 0.00% Impervious Runoff Depth=0.21"
Flow Length=356' Tc=6.5 min CN=54 Runoff=0.42 cfs 0.097 af

Subcatchment5S: PRE - A.4

Runoff Area=40,492 sf 0.00% Impervious Runoff Depth=0.06"
Tc=6.0 min CN=47 Runoff=0.01 cfs 0.005 af

Subcatchment6S: PRE - B.2

Runoff Area=104,272 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=391' Tc=7.9 min CN=41 Runoff=0.00 cfs 0.001 af

Pond 1P: EXISTING STORMWATER BASIN #1A Peak Elev=245.02' Storage=7 cf Inflow=0.01 cfs 0.005 af
Outflow=0.01 cfs 0.005 af

Pond 2P: EXISTING STORMWATER BASIN #1 Peak Elev=252.00' 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

Link DP-A: DESIGN POINT-A

Inflow=0.99 cfs 0.245 af
Primary=0.99 cfs 0.245 af

Link DP-B: DESIGN POINT-B

Inflow=0.42 cfs 0.098 af
Primary=0.42 cfs 0.098 af

Total Runoff Area = 23.173 ac Runoff Volume = 0.348 af Average Runoff Depth = 0.18"
100.00% Pervious = 23.173 ac 0.00% Impervious = 0.000 ac

6083 - PRE

Type III 24-hr 2-year Rainfall=3.14"

Prepared by Dillis & Roy Civil Design Group

Printed 3/29/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 4

Summary for Subcatchment 1A: PRE - A.1

Runoff = 0.99 cfs @ 12.54 hrs, Volume= 0.245 af, Depth= 0.23"
 Routed to Link DP-A : DESIGN POINT-A

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-year Rainfall=3.14"

Area (sf)	CN	Description
268,279	30	Woods, Good, HSG A
8,357	39	>75% Grass cover, Good, HSG A
1,261	96	Gravel surface, HSG A
50,538	77	Woods, Good, HSG D
205,605	80	>75% Grass cover, Good, HSG D
15,630	96	Gravel surface, HSG D
549,670	55	Weighted Average
549,670		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	50	0.0800	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.10"
3.1	130	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.8	236	0.1000	2.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.0	632	0.0900	1.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
19.1	1,048	Total			

Summary for Subcatchment 2A: PRE - A.2

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"
 Routed to Link DP-A : DESIGN POINT-A

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-year Rainfall=3.14"

Area (sf)	CN	Description
14,021	39	>75% Grass cover, Good, HSG A
40,053	30	Woods, Good, HSG A
54,074	32	Weighted Average
54,074		100.00% Pervious Area

6083 - PRE

Type III 24-hr 2-year Rainfall=3.14"

Prepared by Dillis & Roy Civil Design Group

Printed 3/29/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 5

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0800	0.25		Sheet Flow, Grass: Short n= 0.150 P2= 3.10"
0.2	46	0.0700	4.26		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
2.9	279	0.1000	1.58		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
6.4	375	Total			

Summary for Subcatchment 4S: PRE - A.3

Runoff = 0.00 cfs @ 23.32 hrs, Volume= 0.000 af, Depth= 0.00"
 Routed to Pond 2P : EXISTING STORMWATER BASIN #1

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-year Rainfall=3.14"

Area (sf)	CN	Description
15,411	39	>75% Grass cover, Good, HSG A
1,707	61	>75% Grass cover, Good, HSG B
17,118	41	Weighted Average
17,118		100.00% Pervious Area

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

Summary for Subcatchment 5A: PRE - B.1

Runoff = 0.42 cfs @ 12.38 hrs, Volume= 0.097 af, Depth= 0.21"
 Routed to Link DP-B : DESIGN POINT-B

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-year Rainfall=3.14"

Area (sf)	CN	Description
142,510	39	>75% Grass cover, Good, HSG A
27,473	61	>75% Grass cover, Good, HSG B
73,792	80	>75% Grass cover, Good, HSG D
243,775	54	Weighted Average
243,775		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0800	0.17		Sheet Flow, Grass: Dense n= 0.240 P2= 3.10"
1.7	306	0.1900	3.05		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
6.5	356	Total			

6083 - PRE

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.14"

Printed 3/29/2024

Page 6

Summary for Subcatchment 5S: PRE - A.4

Runoff = 0.01 cfs @ 14.92 hrs, Volume= 0.005 af, Depth= 0.06"
 Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=3.14"

Area (sf)	CN	Description
25,989	39	>75% Grass cover, Good, HSG A
14,503	61	>75% Grass cover, Good, HSG B
40,492	47	Weighted Average
40,492		100.00% Pervious Area

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

Summary for Subcatchment 6S: PRE - B.2

Runoff = 0.00 cfs @ 23.32 hrs, Volume= 0.001 af, Depth= 0.00"
 Routed to Link DP-B : DESIGN POINT-B

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-year Rainfall=3.14"

Area (sf)	CN	Description
98,006	39	>75% Grass cover, Good, HSG A
633	61	>75% Grass cover, Good, HSG B
5,633	80	>75% Grass cover, Good, HSG D
104,272	41	Weighted Average
104,272		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.0200	0.15		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.10"
2.2	341	0.1400	2.62		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
7.9	391	Total			

Summary for Pond 1P: EXISTING STORMWATER BASIN #1A

Inflow Area = 0.930 ac, 0.00% Impervious, Inflow Depth = 0.06" for 2-year event
 Inflow = 0.01 cfs @ 14.92 hrs, Volume= 0.005 af
 Outflow = 0.01 cfs @ 15.16 hrs, Volume= 0.005 af, Atten= 1%, Lag= 14.6 min
 Discarded = 0.01 cfs @ 15.16 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

6083 - PRE

Type III 24-hr 2-year Rainfall=3.14"

Prepared by Dillis & Roy Civil Design Group

Printed 3/29/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 7

Peak Elev= 245.02' @ 15.16 hrs Surf.Area= 385 sf Storage= 7 cf

Plug-Flow detention time= 14.4 min calculated for 0.005 af (100% of inflow)

Center-of-Mass det. time= 14.4 min (1,084.8 - 1,070.4)

Volume	Invert	Avail.Storage	Storage Description
#1	245.00'	27,041 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)
245.00	388	81.0	0	0	388
246.00	246	94.6	314	314	597
247.00	4,185	356.0	1,815	2,130	9,973
248.00	7,669	462.0	5,840	7,969	16,885
250.00	11,534	492.0	19,072	27,041	19,355

Device	Routing	Invert	Outlet Devices
#1	Discarded	245.00'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 243.00'

Discarded OutFlow Max=0.02 cfs @ 15.16 hrs HW=245.02' (Free Discharge)↑**1=Exfiltration** (Controls 0.02 cfs)**Summary for Pond 2P: EXISTING STORMWATER BASIN #1**

Inflow Area = 0.393 ac, 0.00% Impervious, Inflow Depth = 0.00" for 2-year event
 Inflow = 0.00 cfs @ 23.32 hrs, Volume= 0.000 af
 Outflow = 0.00 cfs @ 23.61 hrs, Volume= 0.000 af, Atten= 0%, Lag= 17.0 min
 Discarded = 0.00 cfs @ 23.61 hrs, Volume= 0.000 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Link DP-A : DESIGN POINT-A

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 252.00' @ 23.61 hrs Surf.Area= 1,129 sf Storage= 0 cf

Plug-Flow detention time= 17.7 min calculated for 0.000 af (100% of inflow)

Center-of-Mass det. time= 17.6 min (1,305.0 - 1,287.4)

Volume	Invert	Avail.Storage	Storage Description
#1	252.00'	19,442 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)
252.00	1,129	139.0	0	0	1,129
254.00	2,286	239.0	3,348	3,348	4,161
256.00	3,960	322.0	6,170	9,518	7,908
258.00	6,037	396.0	9,924	19,442	12,197

Device	Routing	Invert	Outlet Devices
#1	Discarded	252.00'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 243.00'

6083 - PRE

Type III 24-hr 2-year Rainfall=3.14"

Prepared by Dillis & Roy Civil Design Group

Printed 3/29/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 8

#2 Primary 258.00' **8.0' long x 12.0' breadth Broad-Crested Rectangular Weir**
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Discarded OutFlow Max=0.06 cfs @ 23.61 hrs HW=252.00' (Free Discharge)

↑1=Exfiltration (Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=252.00' (Free Discharge)

↑2=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Link DP-A: DESIGN POINT-A

Inflow Area = 14.253 ac, 0.00% Impervious, Inflow Depth = 0.21" for 2-year event
Inflow = 0.99 cfs @ 12.54 hrs, Volume= 0.245 af
Primary = 0.99 cfs @ 12.54 hrs, Volume= 0.245 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link DP-B: DESIGN POINT-B

Inflow Area = 7.990 ac, 0.00% Impervious, Inflow Depth = 0.15" for 2-year event
Inflow = 0.42 cfs @ 12.38 hrs, Volume= 0.098 af
Primary = 0.42 cfs @ 12.38 hrs, Volume= 0.098 af, Atten= 0%, Lag= 0.0 min

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

6083 - PRE

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 3/29/2024

Page 9

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

Subcatchment1A: PRE - A.1

Runoff Area=549,670 sf 0.00% Impervious Runoff Depth=0.90"
Flow Length=1,048' Tc=19.1 min CN=55 Runoff=7.08 cfs 0.948 af

Subcatchment2A: PRE - A.2

Runoff Area=54,074 sf 0.00% Impervious Runoff Depth=0.02"
Flow Length=375' Tc=6.4 min CN=32 Runoff=0.00 cfs 0.002 af

Subcatchment4S: PRE - A.3

Runoff Area=17,118 sf 0.00% Impervious Runoff Depth=0.24"
Tc=6.0 min CN=41 Runoff=0.02 cfs 0.008 af

Subcatchment5A: PRE - B.1

Runoff Area=243,775 sf 0.00% Impervious Runoff Depth=0.84"
Flow Length=356' Tc=6.5 min CN=54 Runoff=4.01 cfs 0.394 af

Subcatchment5S: PRE - A.4

Runoff Area=40,492 sf 0.00% Impervious Runoff Depth=0.48"
Tc=6.0 min CN=47 Runoff=0.22 cfs 0.037 af

Subcatchment6S: PRE - B.2

Runoff Area=104,272 sf 0.00% Impervious Runoff Depth=0.24"
Flow Length=391' Tc=7.9 min CN=41 Runoff=0.14 cfs 0.047 af

Pond 1P: EXISTING STORMWATER BASIN

Peak Elev=246.20' Storage=399 cf Inflow=0.22 cfs 0.037 af
Outflow=0.06 cfs 0.037 af

Pond 2P: EXISTING STORMWATER BASIN #1

Peak Elev=252.01' Storage=16 cf Inflow=0.02 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

Link DP-A: DESIGN POINT-A

Inflow=7.08 cfs 0.950 af
Primary=7.08 cfs 0.950 af

Link DP-B: DESIGN POINT-B

Inflow=4.01 cfs 0.441 af
Primary=4.01 cfs 0.441 af

Total Runoff Area = 23.173 ac Runoff Volume = 1.435 af Average Runoff Depth = 0.74"
100.00% Pervious = 23.173 ac 0.00% Impervious = 0.000 ac

6083 - PRE

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 3/29/2024

Page 10

Summary for Subcatchment 1A: PRE - A.1

Runoff = 7.08 cfs @ 12.33 hrs, Volume= 0.948 af, Depth= 0.90"
 Routed to Link DP-A : DESIGN POINT-A

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-year Rainfall=4.84"

Area (sf)	CN	Description
268,279	30	Woods, Good, HSG A
8,357	39	>75% Grass cover, Good, HSG A
1,261	96	Gravel surface, HSG A
50,538	77	Woods, Good, HSG D
205,605	80	>75% Grass cover, Good, HSG D
15,630	96	Gravel surface, HSG D
549,670	55	Weighted Average
549,670		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	50	0.0800	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.10"
3.1	130	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.8	236	0.1000	2.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.0	632	0.0900	1.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
19.1	1,048	Total			

Summary for Subcatchment 2A: PRE - A.2

Runoff = 0.00 cfs @ 22.00 hrs, Volume= 0.002 af, Depth= 0.02"
 Routed to Link DP-A : DESIGN POINT-A

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-year Rainfall=4.84"

Area (sf)	CN	Description
14,021	39	>75% Grass cover, Good, HSG A
40,053	30	Woods, Good, HSG A
54,074	32	Weighted Average
54,074		100.00% Pervious Area

6083 - PRE

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 3/29/2024

Page 11

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0800	0.25		Sheet Flow, Grass: Short n= 0.150 P2= 3.10"
0.2	46	0.0700	4.26		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
2.9	279	0.1000	1.58		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
6.4	375	Total			

Summary for Subcatchment 4S: PRE - A.3

Runoff = 0.02 cfs @ 12.43 hrs, Volume= 0.008 af, Depth= 0.24"
 Routed to Pond 2P : EXISTING STORMWATER BASIN #1

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-year Rainfall=4.84"

Area (sf)	CN	Description
15,411	39	>75% Grass cover, Good, HSG A
1,707	61	>75% Grass cover, Good, HSG B
17,118	41	Weighted Average
17,118		100.00% Pervious Area

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

Summary for Subcatchment 5A: PRE - B.1

Runoff = 4.01 cfs @ 12.12 hrs, Volume= 0.394 af, Depth= 0.84"
 Routed to Link DP-B : DESIGN POINT-B

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-year Rainfall=4.84"

Area (sf)	CN	Description
142,510	39	>75% Grass cover, Good, HSG A
27,473	61	>75% Grass cover, Good, HSG B
73,792	80	>75% Grass cover, Good, HSG D
243,775	54	Weighted Average
243,775		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0800	0.17		Sheet Flow, Grass: Dense n= 0.240 P2= 3.10"
1.7	306	0.1900	3.05		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
6.5	356	Total			

6083 - PRE

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 3/29/2024

Page 12

Summary for Subcatchment 5S: PRE - A.4

Runoff = 0.22 cfs @ 12.25 hrs, Volume= 0.037 af, Depth= 0.48"
 Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=4.84"

Area (sf)	CN	Description
25,989	39	>75% Grass cover, Good, HSG A
14,503	61	>75% Grass cover, Good, HSG B
40,492	47	Weighted Average
40,492		100.00% Pervious Area

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

Summary for Subcatchment 6S: PRE - B.2

Runoff = 0.14 cfs @ 12.46 hrs, Volume= 0.047 af, Depth= 0.24"
 Routed to Link DP-B : DESIGN POINT-B

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-year Rainfall=4.84"

Area (sf)	CN	Description
98,006	39	>75% Grass cover, Good, HSG A
633	61	>75% Grass cover, Good, HSG B
5,633	80	>75% Grass cover, Good, HSG D
104,272	41	Weighted Average
104,272		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.0200	0.15		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.10"
2.2	341	0.1400	2.62		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
7.9	391	Total			

Summary for Pond 1P: EXISTING STORMWATER BASIN #1A

Inflow Area = 0.930 ac, 0.00% Impervious, Inflow Depth = 0.48" for 10-year event
 Inflow = 0.22 cfs @ 12.25 hrs, Volume= 0.037 af
 Outflow = 0.06 cfs @ 13.91 hrs, Volume= 0.037 af, Atten= 73%, Lag= 99.4 min
 Discarded = 0.06 cfs @ 13.91 hrs, Volume= 0.037 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

6083 - PRE

Type III 24-hr 10-year Rainfall=4.84"

Prepared by Dillis & Roy Civil Design Group

Printed 3/29/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 13

Peak Elev= 246.20' @ 13.91 hrs Surf.Area= 642 sf Storage= 399 cf

Plug-Flow detention time= 118.2 min calculated for 0.037 af (100% of inflow)

Center-of-Mass det. time= 118.1 min (1,055.8 - 937.7)

Volume	Invert	Avail.Storage	Storage Description
#1	245.00'	27,041 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)
245.00	388	81.0	0	0	388
246.00	246	94.6	314	314	597
247.00	4,185	356.0	1,815	2,130	9,973
248.00	7,669	462.0	5,840	7,969	16,885
250.00	11,534	492.0	19,072	27,041	19,355

Device	Routing	Invert	Outlet Devices
#1	Discarded	245.00'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 243.00'

Discarded OutFlow Max=0.06 cfs @ 13.91 hrs HW=246.20' (Free Discharge)↑**1=Exfiltration** (Controls 0.06 cfs)**Summary for Pond 2P: EXISTING STORMWATER BASIN #1**

Inflow Area = 0.393 ac, 0.00% Impervious, Inflow Depth = 0.24" for 10-year event
 Inflow = 0.02 cfs @ 12.43 hrs, Volume= 0.008 af
 Outflow = 0.02 cfs @ 12.89 hrs, Volume= 0.008 af, Atten= 36%, Lag= 27.7 min
 Discarded = 0.02 cfs @ 12.89 hrs, Volume= 0.008 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Link DP-A : DESIGN POINT-A

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Peak Elev= 252.01' @ 12.89 hrs Surf.Area= 1,136 sf Storage= 16 cf

Plug-Flow detention time= 17.6 min calculated for 0.008 af (100% of inflow)

Center-of-Mass det. time= 17.6 min (1,011.2 - 993.7)

Volume	Invert	Avail.Storage	Storage Description
#1	252.00'	19,442 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)
252.00	1,129	139.0	0	0	1,129
254.00	2,286	239.0	3,348	3,348	4,161
256.00	3,960	322.0	6,170	9,518	7,908
258.00	6,037	396.0	9,924	19,442	12,197

Device	Routing	Invert	Outlet Devices
#1	Discarded	252.00'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 243.00'

6083 - PRE

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 3/29/2024

Page 14

#2 Primary 258.00' **8.0' long x 12.0' breadth Broad-Crested Rectangular Weir**
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Discarded OutFlow Max=0.06 cfs @ 12.89 hrs HW=252.01' (Free Discharge)

↑**1=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=252.00' (Free Discharge)

↑**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Link DP-A: DESIGN POINT-A

Inflow Area = 14.253 ac, 0.00% Impervious, Inflow Depth = 0.80" for 10-year event
Inflow = 7.08 cfs @ 12.33 hrs, Volume= 0.950 af
Primary = 7.08 cfs @ 12.33 hrs, Volume= 0.950 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link DP-B: DESIGN POINT-B

Inflow Area = 7.990 ac, 0.00% Impervious, Inflow Depth = 0.66" for 10-year event
Inflow = 4.01 cfs @ 12.12 hrs, Volume= 0.441 af
Primary = 4.01 cfs @ 12.12 hrs, Volume= 0.441 af, Atten= 0%, Lag= 0.0 min

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

6083 - PRE*Type III 24-hr 25-year Rainfall=5.89"*

Prepared by Dillis & Roy Civil Design Group

Printed 3/29/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 15

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

Subcatchment1A: PRE - A.1

Runoff Area=549,670 sf 0.00% Impervious Runoff Depth=1.45"
Flow Length=1,048' Tc=19.1 min CN=55 Runoff=12.88 cfs 1.530 af

Subcatchment2A: PRE - A.2

Runoff Area=54,074 sf 0.00% Impervious Runoff Depth=0.12"
Flow Length=375' Tc=6.4 min CN=32 Runoff=0.02 cfs 0.012 af

Subcatchment4S: PRE - A.3

Runoff Area=17,118 sf 0.00% Impervious Runoff Depth=0.52"
Tc=6.0 min CN=41 Runoff=0.09 cfs 0.017 af

Subcatchment5A: PRE - B.1

Runoff Area=243,775 sf 0.00% Impervious Runoff Depth=1.38"
Flow Length=356' Tc=6.5 min CN=54 Runoff=7.59 cfs 0.643 af

Subcatchment5S: PRE - A.4

Runoff Area=40,492 sf 0.00% Impervious Runoff Depth=0.89"
Tc=6.0 min CN=47 Runoff=0.64 cfs 0.069 af

Subcatchment6S: PRE - B.2

Runoff Area=104,272 sf 0.00% Impervious Runoff Depth=0.52"
Flow Length=391' Tc=7.9 min CN=41 Runoff=0.55 cfs 0.104 af

Pond 1P: EXISTING STORMWATER BASIN

Peak Elev=246.53' Storage=788 cf Inflow=0.64 cfs 0.069 af
Outflow=0.13 cfs 0.069 af

Pond 2P: EXISTING STORMWATER BASIN #1

Peak Elev=252.06' Storage=66 cf Inflow=0.09 cfs 0.017 af
Discarded=0.06 cfs 0.017 af Primary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.017 af

Link DP-A: DESIGN POINT-A

Inflow=12.88 cfs 1.542 af
Primary=12.88 cfs 1.542 af

Link DP-B: DESIGN POINT-B

Inflow=7.83 cfs 0.747 af
Primary=7.83 cfs 0.747 af

Total Runoff Area = 23.173 ac Runoff Volume = 2.375 af Average Runoff Depth = 1.23"
100.00% Pervious = 23.173 ac 0.00% Impervious = 0.000 ac

6083 - PRE

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 3/29/2024

Page 16

Summary for Subcatchment 1A: PRE - A.1

Runoff = 12.88 cfs @ 12.31 hrs, Volume= 1.530 af, Depth= 1.45"
 Routed to Link DP-A : DESIGN POINT-A

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-year Rainfall=5.89"

Area (sf)	CN	Description
268,279	30	Woods, Good, HSG A
8,357	39	>75% Grass cover, Good, HSG A
1,261	96	Gravel surface, HSG A
50,538	77	Woods, Good, HSG D
205,605	80	>75% Grass cover, Good, HSG D
15,630	96	Gravel surface, HSG D
549,670	55	Weighted Average
549,670		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	50	0.0800	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.10"
3.1	130	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.8	236	0.1000	2.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.0	632	0.0900	1.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
19.1	1,048	Total			

Summary for Subcatchment 2A: PRE - A.2

Runoff = 0.02 cfs @ 14.95 hrs, Volume= 0.012 af, Depth= 0.12"
 Routed to Link DP-A : DESIGN POINT-A

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-year Rainfall=5.89"

Area (sf)	CN	Description
14,021	39	>75% Grass cover, Good, HSG A
40,053	30	Woods, Good, HSG A
54,074	32	Weighted Average
54,074		100.00% Pervious Area

6083 - PRE

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 3/29/2024

Page 17

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0800	0.25		Sheet Flow, Grass: Short n= 0.150 P2= 3.10"
0.2	46	0.0700	4.26		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
2.9	279	0.1000	1.58		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
6.4	375	Total			

Summary for Subcatchment 4S: PRE - A.3

Runoff = 0.09 cfs @ 12.30 hrs, Volume= 0.017 af, Depth= 0.52"
 Routed to Pond 2P : EXISTING STORMWATER BASIN #1

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-year Rainfall=5.89"

Area (sf)	CN	Description
15,411	39	>75% Grass cover, Good, HSG A
1,707	61	>75% Grass cover, Good, HSG B
17,118	41	Weighted Average
17,118		100.00% Pervious Area

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

Summary for Subcatchment 5A: PRE - B.1

Runoff = 7.59 cfs @ 12.11 hrs, Volume= 0.643 af, Depth= 1.38"
 Routed to Link DP-B : DESIGN POINT-B

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-year Rainfall=5.89"

Area (sf)	CN	Description
142,510	39	>75% Grass cover, Good, HSG A
27,473	61	>75% Grass cover, Good, HSG B
73,792	80	>75% Grass cover, Good, HSG D
243,775	54	Weighted Average
243,775		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0800	0.17		Sheet Flow, Grass: Dense n= 0.240 P2= 3.10"
1.7	306	0.1900	3.05		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
6.5	356	Total			

6083 - PRE

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 3/29/2024

Page 18

Summary for Subcatchment 5S: PRE - A.4

Runoff = 0.64 cfs @ 12.12 hrs, Volume= 0.069 af, Depth= 0.89"

Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=5.89"

Area (sf)	CN	Description
25,989	39	>75% Grass cover, Good, HSG A
14,503	61	>75% Grass cover, Good, HSG B
40,492	47	Weighted Average
40,492		100.00% Pervious Area

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

Summary for Subcatchment 6S: PRE - B.2

Runoff = 0.55 cfs @ 12.33 hrs, Volume= 0.104 af, Depth= 0.52"

Routed to Link DP-B : DESIGN POINT-B

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-year Rainfall=5.89"

Area (sf)	CN	Description
98,006	39	>75% Grass cover, Good, HSG A
633	61	>75% Grass cover, Good, HSG B
5,633	80	>75% Grass cover, Good, HSG D
104,272	41	Weighted Average
104,272		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.0200	0.15		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.10"
2.2	341	0.1400	2.62		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
7.9	391	Total			

Summary for Pond 1P: EXISTING STORMWATER BASIN #1A

Inflow Area = 0.930 ac, 0.00% Impervious, Inflow Depth = 0.89" for 25-year event

Inflow = 0.64 cfs @ 12.12 hrs, Volume= 0.069 af

Outflow = 0.13 cfs @ 13.03 hrs, Volume= 0.069 af, Atten= 80%, Lag= 54.4 min

Discarded = 0.13 cfs @ 13.03 hrs, Volume= 0.069 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

6083 - PRE

Type III 24-hr 25-year Rainfall=5.89"

Prepared by Dillis & Roy Civil Design Group

Printed 3/29/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 19

Peak Elev= 246.53' @ 13.03 hrs Surf.Area= 1,754 sf Storage= 788 cf

Plug-Flow detention time= 112.3 min calculated for 0.069 af (100% of inflow)

Center-of-Mass det. time= 112.4 min (1,021.8 - 909.5)

Volume	Invert	Avail.Storage	Storage Description
#1	245.00'	27,041 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)
245.00	388	81.0	0	0	388
246.00	246	94.6	314	314	597
247.00	4,185	356.0	1,815	2,130	9,973
248.00	7,669	462.0	5,840	7,969	16,885
250.00	11,534	492.0	19,072	27,041	19,355

Device	Routing	Invert	Outlet Devices
#1	Discarded	245.00'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 243.00'

Discarded OutFlow Max=0.13 cfs @ 13.03 hrs HW=246.53' (Free Discharge)↑**1=Exfiltration** (Controls 0.13 cfs)**Summary for Pond 2P: EXISTING STORMWATER BASIN #1**

Inflow Area = 0.393 ac, 0.00% Impervious, Inflow Depth = 0.52" for 25-year event
 Inflow = 0.09 cfs @ 12.30 hrs, Volume= 0.017 af
 Outflow = 0.06 cfs @ 12.52 hrs, Volume= 0.017 af, Atten= 32%, Lag= 12.9 min
 Discarded = 0.06 cfs @ 12.52 hrs, Volume= 0.017 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Link DP-A : DESIGN POINT-A

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 252.06' @ 12.52 hrs Surf.Area= 1,157 sf Storage= 66 cf

Plug-Flow detention time= 17.6 min calculated for 0.017 af (100% of inflow)

Center-of-Mass det. time= 17.6 min (963.9 - 946.3)

Volume	Invert	Avail.Storage	Storage Description
#1	252.00'	19,442 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)
252.00	1,129	139.0	0	0	1,129
254.00	2,286	239.0	3,348	3,348	4,161
256.00	3,960	322.0	6,170	9,518	7,908
258.00	6,037	396.0	9,924	19,442	12,197

Device	Routing	Invert	Outlet Devices
#1	Discarded	252.00'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 243.00'

6083 - PRE

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 3/29/2024

Page 20

#2 Primary 258.00' **8.0' long x 12.0' breadth Broad-Crested Rectangular Weir**
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Discarded OutFlow Max=0.06 cfs @ 12.52 hrs HW=252.06' (Free Discharge)

↑**1=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=252.00' (Free Discharge)

↑**2=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Link DP-A: DESIGN POINT-A

Inflow Area = 14.253 ac, 0.00% Impervious, Inflow Depth = 1.30" for 25-year event
Inflow = 12.88 cfs @ 12.31 hrs, Volume= 1.542 af
Primary = 12.88 cfs @ 12.31 hrs, Volume= 1.542 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link DP-B: DESIGN POINT-B

Inflow Area = 7.990 ac, 0.00% Impervious, Inflow Depth = 1.12" for 25-year event
Inflow = 7.83 cfs @ 12.12 hrs, Volume= 0.747 af
Primary = 7.83 cfs @ 12.12 hrs, Volume= 0.747 af, Atten= 0%, Lag= 0.0 min

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

6083 - PRE*Type III 24-hr 100-year Rainfall=7.52"*

Prepared by Dillis & Roy Civil Design Group

Printed 3/29/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 21

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

Subcatchment1A: PRE - A.1

Runoff Area=549,670 sf 0.00% Impervious Runoff Depth=2.46"
Flow Length=1,048' Tc=19.1 min CN=55 Runoff=23.47 cfs 2.588 af

Subcatchment2A: PRE - A.2

Runoff Area=54,074 sf 0.00% Impervious Runoff Depth=0.44"
Flow Length=375' Tc=6.4 min CN=32 Runoff=0.17 cfs 0.045 af

Subcatchment4S: PRE - A.3

Runoff Area=17,118 sf 0.00% Impervious Runoff Depth=1.13"
Tc=6.0 min CN=41 Runoff=0.35 cfs 0.037 af

Subcatchment5A: PRE - B.1

Runoff Area=243,775 sf 0.00% Impervious Runoff Depth=2.36"
Flow Length=356' Tc=6.5 min CN=54 Runoff=14.13 cfs 1.101 af

Subcatchment5S: PRE - A.4

Runoff Area=40,492 sf 0.00% Impervious Runoff Depth=1.68"
Tc=6.0 min CN=47 Runoff=1.53 cfs 0.130 af

Subcatchment6S: PRE - B.2

Runoff Area=104,272 sf 0.00% Impervious Runoff Depth=1.13"
Flow Length=391' Tc=7.9 min CN=41 Runoff=1.96 cfs 0.226 af

Pond 1P: EXISTING STORMWATER BASIN

Peak Elev=246.91' Storage=1,792 cf Inflow=1.53 cfs 0.130 af
Outflow=0.25 cfs 0.130 af

Pond 2P: EXISTING STORMWATER BASIN #1

Peak Elev=252.30' Storage=365 cf Inflow=0.35 cfs 0.037 af
Discarded=0.07 cfs 0.037 af Primary=0.00 cfs 0.000 af Outflow=0.07 cfs 0.037 af

Link DP-A: DESIGN POINT-A

Inflow=23.61 cfs 2.633 af
Primary=23.61 cfs 2.633 af

Link DP-B: DESIGN POINT-B

Inflow=15.90 cfs 1.326 af
Primary=15.90 cfs 1.326 af

Total Runoff Area = 23.173 ac Runoff Volume = 4.126 af Average Runoff Depth = 2.14"
100.00% Pervious = 23.173 ac 0.00% Impervious = 0.000 ac

6083 - PRE

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dillis & Roy Civil Design Group

Printed 3/29/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 22

Summary for Subcatchment 1A: PRE - A.1

Runoff = 23.47 cfs @ 12.29 hrs, Volume= 2.588 af, Depth= 2.46"
 Routed to Link DP-A : DESIGN POINT-A

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-year Rainfall=7.52"

Area (sf)	CN	Description
268,279	30	Woods, Good, HSG A
8,357	39	>75% Grass cover, Good, HSG A
1,261	96	Gravel surface, HSG A
50,538	77	Woods, Good, HSG D
205,605	80	>75% Grass cover, Good, HSG D
15,630	96	Gravel surface, HSG D
549,670	55	Weighted Average
549,670		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	50	0.0800	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.10"
3.1	130	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.8	236	0.1000	2.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.0	632	0.0900	1.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
19.1	1,048	Total			

Summary for Subcatchment 2A: PRE - A.2

Runoff = 0.17 cfs @ 12.40 hrs, Volume= 0.045 af, Depth= 0.44"
 Routed to Link DP-A : DESIGN POINT-A

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-year Rainfall=7.52"

Area (sf)	CN	Description
14,021	39	>75% Grass cover, Good, HSG A
40,053	30	Woods, Good, HSG A
54,074	32	Weighted Average
54,074		100.00% Pervious Area

6083 - PRE

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dillis & Roy Civil Design Group

Printed 3/29/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 23

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0800	0.25		Sheet Flow, Grass: Short n= 0.150 P2= 3.10"
0.2	46	0.0700	4.26		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
2.9	279	0.1000	1.58		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
6.4	375	Total			

Summary for Subcatchment 4S: PRE - A.3

Runoff = 0.35 cfs @ 12.12 hrs, Volume= 0.037 af, Depth= 1.13"
 Routed to Pond 2P : EXISTING STORMWATER BASIN #1

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-year Rainfall=7.52"

Area (sf)	CN	Description
15,411	39	>75% Grass cover, Good, HSG A
1,707	61	>75% Grass cover, Good, HSG B
17,118	41	Weighted Average
17,118		100.00% Pervious Area

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

Summary for Subcatchment 5A: PRE - B.1

Runoff = 14.13 cfs @ 12.11 hrs, Volume= 1.101 af, Depth= 2.36"
 Routed to Link DP-B : DESIGN POINT-B

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-year Rainfall=7.52"

Area (sf)	CN	Description
142,510	39	>75% Grass cover, Good, HSG A
27,473	61	>75% Grass cover, Good, HSG B
73,792	80	>75% Grass cover, Good, HSG D
243,775	54	Weighted Average
243,775		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	50	0.0800	0.17		Sheet Flow, Grass: Dense n= 0.240 P2= 3.10"
1.7	306	0.1900	3.05		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
6.5	356	Total			

6083 - PRE

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dillis & Roy Civil Design Group

Printed 3/29/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 24

Summary for Subcatchment 5S: PRE - A.4

Runoff = 1.53 cfs @ 12.11 hrs, Volume= 0.130 af, Depth= 1.68"

Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=7.52"

Area (sf)	CN	Description
25,989	39	>75% Grass cover, Good, HSG A
14,503	61	>75% Grass cover, Good, HSG B
40,492	47	Weighted Average
40,492		100.00% Pervious Area

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

Summary for Subcatchment 6S: PRE - B.2

Runoff = 1.96 cfs @ 12.16 hrs, Volume= 0.226 af, Depth= 1.13"

Routed to Link DP-B : DESIGN POINT-B

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-year Rainfall=7.52"

Area (sf)	CN	Description
98,006	39	>75% Grass cover, Good, HSG A
633	61	>75% Grass cover, Good, HSG B
5,633	80	>75% Grass cover, Good, HSG D
104,272	41	Weighted Average
104,272		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	50	0.0200	0.15		Sheet Flow,
					Grass: Short n= 0.150 P2= 3.10"
2.2	341	0.1400	2.62		Shallow Concentrated Flow,
					Short Grass Pasture Kv= 7.0 fps
7.9	391	Total			

Summary for Pond 1P: EXISTING STORMWATER BASIN #1A

Inflow Area = 0.930 ac, 0.00% Impervious, Inflow Depth = 1.68" for 100-year event

Inflow = 1.53 cfs @ 12.11 hrs, Volume= 0.130 af

Outflow = 0.25 cfs @ 12.91 hrs, Volume= 0.130 af, Atten= 84%, Lag= 48.3 min

Discarded = 0.25 cfs @ 12.91 hrs, Volume= 0.130 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

6083 - PRE

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dillis & Roy Civil Design Group

Printed 3/29/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 25

Peak Elev= 246.91' @ 12.91 hrs Surf.Area= 3,657 sf Storage= 1,792 cf

Plug-Flow detention time= 111.7 min calculated for 0.130 af (100% of inflow)

Center-of-Mass det. time= 111.8 min (996.6 - 884.8)

Volume	Invert	Avail.Storage	Storage Description
#1	245.00'	27,041 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)
245.00	388	81.0	0	0	388
246.00	246	94.6	314	314	597
247.00	4,185	356.0	1,815	2,130	9,973
248.00	7,669	462.0	5,840	7,969	16,885
250.00	11,534	492.0	19,072	27,041	19,355

Device	Routing	Invert	Outlet Devices
#1	Discarded	245.00'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 243.00'

Discarded OutFlow Max=0.25 cfs @ 12.91 hrs HW=246.91' (Free Discharge)↑**1=Exfiltration** (Controls 0.25 cfs)**Summary for Pond 2P: EXISTING STORMWATER BASIN #1**

Inflow Area = 0.393 ac, 0.00% Impervious, Inflow Depth = 1.13" for 100-year event
 Inflow = 0.35 cfs @ 12.12 hrs, Volume= 0.037 af
 Outflow = 0.07 cfs @ 12.96 hrs, Volume= 0.037 af, Atten= 79%, Lag= 50.2 min
 Discarded = 0.07 cfs @ 12.96 hrs, Volume= 0.037 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Link DP-A : DESIGN POINT-A

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
 Peak Elev= 252.30' @ 12.96 hrs Surf.Area= 1,278 sf Storage= 365 cf

Plug-Flow detention time= 46.0 min calculated for 0.037 af (100% of inflow)

Center-of-Mass det. time= 45.9 min (955.3 - 909.4)

Volume	Invert	Avail.Storage	Storage Description
#1	252.00'	19,442 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)
252.00	1,129	139.0	0	0	1,129
254.00	2,286	239.0	3,348	3,348	4,161
256.00	3,960	322.0	6,170	9,518	7,908
258.00	6,037	396.0	9,924	19,442	12,197

Device	Routing	Invert	Outlet Devices
#1	Discarded	252.00'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 243.00'

6083 - PRE

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dillis & Roy Civil Design Group

Printed 3/29/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 26

#2 Primary 258.00' **8.0' long x 12.0' breadth Broad-Crested Rectangular Weir**
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Discarded OutFlow Max=0.07 cfs @ 12.96 hrs HW=252.30' (Free Discharge)

↑1=Exfiltration (Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=252.00' (Free Discharge)

↑2=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Summary for Link DP-A: DESIGN POINT-A

Inflow Area = 14.253 ac, 0.00% Impervious, Inflow Depth = 2.22" for 100-year event
Inflow = 23.61 cfs @ 12.29 hrs, Volume= 2.633 af
Primary = 23.61 cfs @ 12.29 hrs, Volume= 2.633 af, Atten= 0%, Lag= 0.0 min

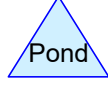
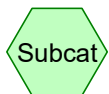
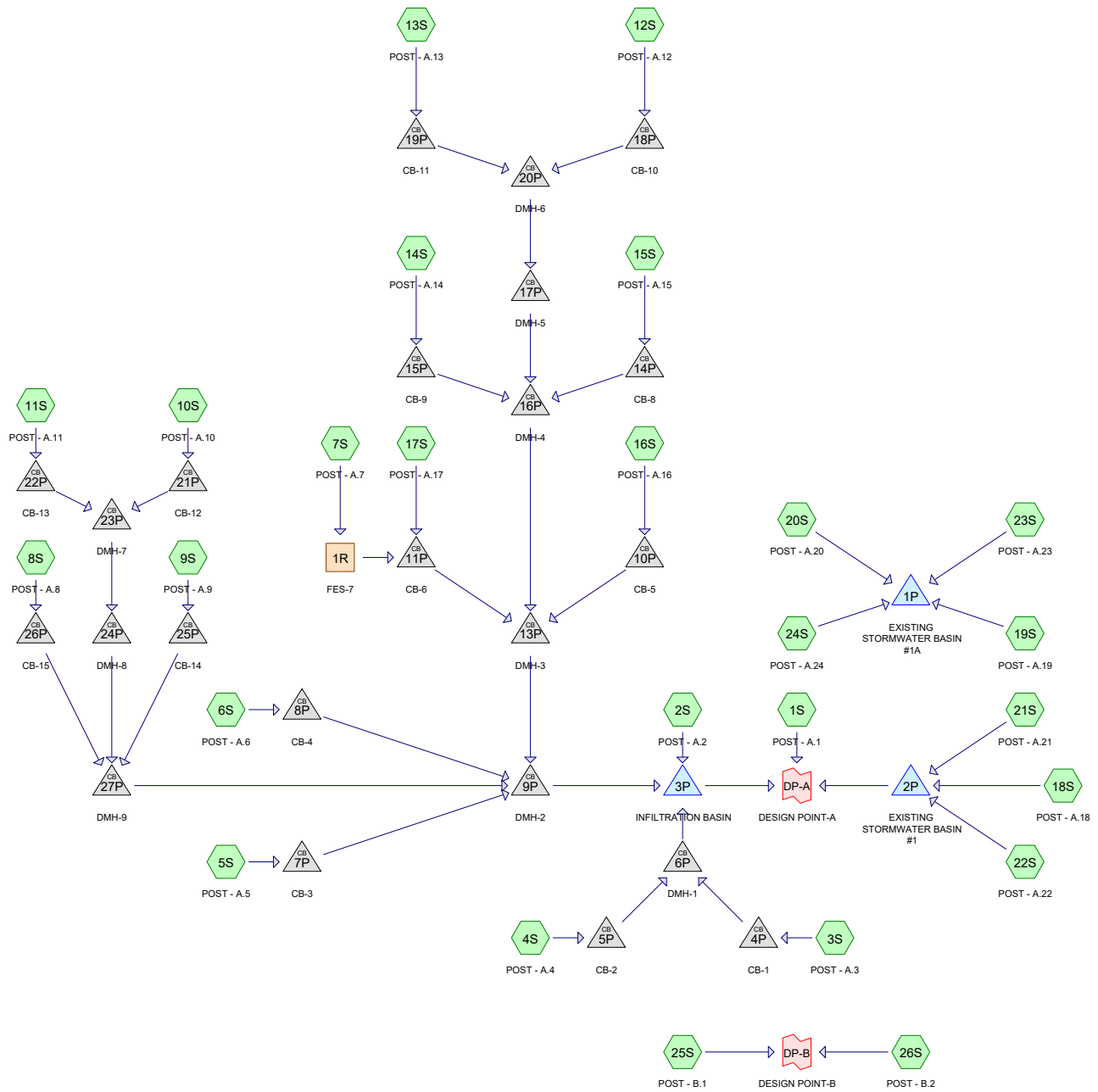
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-B: DESIGN POINT-B

Inflow Area = 7.990 ac, 0.00% Impervious, Inflow Depth = 1.99" for 100-year event
Inflow = 15.90 cfs @ 12.11 hrs, Volume= 1.326 af
Primary = 15.90 cfs @ 12.11 hrs, Volume= 1.326 af, Atten= 0%, Lag= 0.0 min

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

Appendix E - Proposed Conditions Hydrologic Calculations



Routing Diagram for 6083 - POST

Prepared by Dillis & Roy Civil Design Group, Printed 3/29/2024
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

6083 - POST

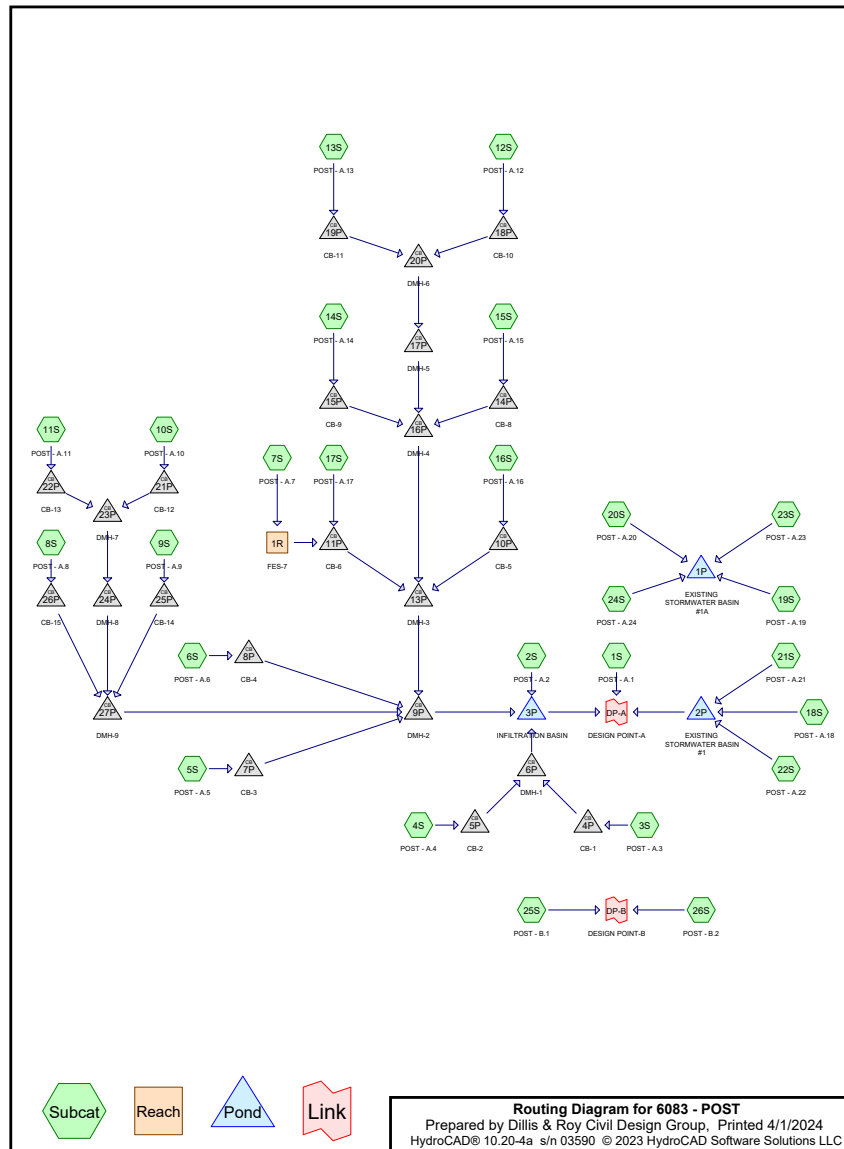
Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Printed 4/1/2024

Page 2

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-year	Type III 24-hr		Default	24.00	1	3.14	2
2	10-year	Type III 24-hr		Default	24.00	1	4.84	2
3	25-year	Type III 24-hr		Default	24.00	1	5.89	2



6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.14"

Printed 4/1/2024

Page 3

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+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: POST - A.1	Runoff Area=316,096 sf 6.83% Impervious Runoff Depth=0.10" Flow Length=1,092' Tc=18.6 min CN=49 Runoff=0.10 cfs 0.059 af
Subcatchment2S: POST - A.2	Runoff Area=20,831 sf 3.57% Impervious Runoff Depth=0.03" Tc=6.0 min UI Adjusted CN=44 Runoff=0.00 cfs 0.001 af
Subcatchment3S: POST - A.3	Runoff Area=4,031 sf 91.24% Impervious Runoff Depth=2.59" Tc=6.0 min CN=95 Runoff=0.27 cfs 0.020 af
Subcatchment4S: POST - A.4	Runoff Area=11,421 sf 26.59% Impervious Runoff Depth=1.71" Tc=6.0 min CN=85 Runoff=0.52 cfs 0.037 af
Subcatchment5S: POST - A.5	Runoff Area=35,285 sf 37.18% Impervious Runoff Depth=1.86" Tc=6.0 min CN=87 Runoff=1.77 cfs 0.126 af
Subcatchment6S: POST - A.6	Runoff Area=3,007 sf 100.00% Impervious Runoff Depth=2.91" Tc=6.0 min CN=98 Runoff=0.21 cfs 0.017 af
Subcatchment7S: POST - A.7	Runoff Area=11,175 sf 7.73% Impervious Runoff Depth=1.23" Tc=6.0 min UI Adjusted CN=78 Runoff=0.36 cfs 0.026 af
Subcatchment8S: POST - A.8	Runoff Area=41,933 sf 55.70% Impervious Runoff Depth=2.11" Tc=6.0 min CN=90 Runoff=2.36 cfs 0.170 af
Subcatchment9S: POST - A.9	Runoff Area=21,320 sf 53.63% Impervious Runoff Depth=2.11" Tc=6.0 min CN=90 Runoff=1.20 cfs 0.086 af
Subcatchment10S: POST - A.10	Runoff Area=6,936 sf 84.05% Impervious Runoff Depth=2.59" Tc=6.0 min CN=95 Runoff=0.46 cfs 0.034 af
Subcatchment11S: POST - A.11	Runoff Area=35,472 sf 56.14% Impervious Runoff Depth=2.11" Tc=6.0 min CN=90 Runoff=2.00 cfs 0.143 af
Subcatchment12S: POST - A.12	Runoff Area=46,999 sf 24.33% Impervious Runoff Depth=1.42" Flow Length=489' Tc=7.3 min CN=81 Runoff=1.71 cfs 0.128 af
Subcatchment13S: POST - A.13	Runoff Area=4,242 sf 74.78% Impervious Runoff Depth=2.11" Tc=6.0 min CN=90 Runoff=0.24 cfs 0.017 af
Subcatchment14S: POST - A.14	Runoff Area=48,993 sf 28.89% Impervious Runoff Depth=0.79" Tc=6.0 min CN=70 Runoff=0.93 cfs 0.074 af
Subcatchment15S: POST - A.15	Runoff Area=6,797 sf 100.00% Impervious Runoff Depth=2.91" Tc=6.0 min CN=98 Runoff=0.48 cfs 0.038 af
Subcatchment16S: POST - A.16	Runoff Area=2,531 sf 100.00% Impervious Runoff Depth=2.91" Tc=6.0 min CN=98 Runoff=0.18 cfs 0.014 af

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.14"

Printed 4/1/2024

Page 4

Subcatchment17S: POST - A.17	Runoff Area=20,188 sf 30.52% Impervious Runoff Depth=0.84" Tc=6.0 min CN=71 Runoff=0.41 cfs 0.033 af
Subcatchment18S: POST - A.18	Runoff Area=23,490 sf 0.00% Impervious Runoff Depth=0.03" Tc=6.0 min CN=44 Runoff=0.00 cfs 0.001 af
Subcatchment19S: POST - A.19	Runoff Area=40,490 sf 0.00% Impervious Runoff Depth=0.10" Tc=6.0 min CN=49 Runoff=0.01 cfs 0.008 af
Subcatchment20S: POST - A.20	Runoff Area=19,252 sf 0.47% Impervious Runoff Depth=0.01" Tc=6.0 min CN=42 Runoff=0.00 cfs 0.000 af
Subcatchment21S: POST - A.21	Runoff Area=3,877 sf 86.23% Impervious Runoff Depth=2.11" Tc=6.0 min CN=90 Runoff=0.22 cfs 0.016 af
Subcatchment22S: POST - A.22	Runoff Area=3,542 sf 86.73% Impervious Runoff Depth=2.11" Tc=6.0 min CN=90 Runoff=0.20 cfs 0.014 af
Subcatchment23S: POST - A.23	Runoff Area=3,630 sf 85.12% Impervious Runoff Depth=2.03" Tc=6.0 min CN=89 Runoff=0.20 cfs 0.014 af
Subcatchment24S: POST - A.24	Runoff Area=3,490 sf 84.76% Impervious Runoff Depth=2.03" Tc=6.0 min CN=89 Runoff=0.19 cfs 0.014 af
Subcatchment25S: POST - B.1	Runoff Area=207,705 sf 2.52% Impervious Runoff Depth=0.12" Tc=6.5 min CN=50 Runoff=0.09 cfs 0.046 af
Subcatchment26S: POST - B.2	Runoff Area=66,700 sf 2.97% Impervious Runoff Depth=0.02" Tc=6.0 min CN=43 Runoff=0.00 cfs 0.002 af
Reach 1R: FES-7	Avg. Flow Depth=0.12' Max Vel=6.46 fps Inflow=0.36 cfs 0.026 af 12.0" Round Pipe n=0.012 L=25.0' S=0.0820 '/ Capacity=11.05 cfs Outflow=0.36 cfs 0.026 af
Pond 1P: EXISTING STORMWATERBASIN	Peak Elev=246.27' Storage=450 cf Inflow=0.39 cfs 0.036 af Outflow=0.07 cfs 0.036 af
Pond 2P: EXISTING STORMWATERBASIN #1	Peak Elev=252.34' Storage=413 cf Inflow=0.42 cfs 0.031 af Discarded=0.07 cfs 0.031 af Primary=0.00 cfs 0.000 af Outflow=0.07 cfs 0.031 af
Pond 3P: INFILTRATIONBASIN	Peak Elev=267.23' Storage=19,446 cf Inflow=13.03 cfs 0.964 af Discarded=0.46 cfs 0.483 af Primary=0.84 cfs 0.482 af Outflow=1.30 cfs 0.964 af
Pond 4P: CB-1	Peak Elev=270.25' Inflow=0.27 cfs 0.020 af 12.0" Round Culvert n=0.012 L=11.5' S=0.0435 '/ Outflow=0.27 cfs 0.020 af
Pond 5P: CB-2	Peak Elev=270.36' Inflow=0.52 cfs 0.037 af 12.0" Round Culvert n=0.012 L=38.0' S=0.0132 '/ Outflow=0.52 cfs 0.037 af
Pond 6P: DMH-1	Peak Elev=269.85' Inflow=0.79 cfs 0.057 af 12.0" Round Culvert n=0.012 L=80.0' S=0.0175 '/ Outflow=0.79 cfs 0.057 af

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.14"

Printed 4/1/2024

Page 5

Pond 7P: CB-3	Peak Elev=278.02' Inflow=1.77 cfs 0.126 af 12.0" Round Culvert n=0.012 L=30.0' S=0.0433 '/' Outflow=1.77 cfs 0.126 af
Pond 8P: CB-4	Peak Elev=277.62' Inflow=0.21 cfs 0.017 af 12.0" Round Culvert n=0.012 L=36.0' S=0.0389 '/' Outflow=0.21 cfs 0.017 af
Pond 9P: DMH-2	Peak Elev=274.06' Inflow=12.24 cfs 0.906 af 24.0" Round Culvert n=0.012 L=89.0' S=0.0270 '/' Outflow=12.24 cfs 0.906 af
Pond 10P: CB-5	Peak Elev=278.60' Inflow=0.18 cfs 0.014 af 12.0" Round Culvert n=0.012 L=16.0' S=0.0250 '/' Outflow=0.18 cfs 0.014 af
Pond 11P: CB-6	Peak Elev=278.38' Inflow=0.78 cfs 0.059 af 15.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/' Outflow=0.78 cfs 0.059 af
Pond 13P: DMH-3	Peak Elev=276.58' Inflow=4.28 cfs 0.330 af 24.0" Round Culvert n=0.012 L=63.0' S=0.0111 '/' Outflow=4.28 cfs 0.330 af
Pond 14P: CB-8	Peak Elev=280.85' Inflow=0.48 cfs 0.038 af 12.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/' Outflow=0.48 cfs 0.038 af
Pond 15P: CB-9	Peak Elev=281.02' Inflow=0.93 cfs 0.074 af 12.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/' Outflow=0.93 cfs 0.074 af
Pond 16P: DMH-4	Peak Elev=277.72' Inflow=3.33 cfs 0.257 af 24.0" Round Culvert n=0.012 L=211.0' S=0.0052 '/' Outflow=3.33 cfs 0.257 af
Pond 17P: DMH-5	Peak Elev=282.91' Inflow=1.94 cfs 0.145 af 24.0" Round Culvert n=0.012 L=151.0' S=0.0353 '/' Outflow=1.94 cfs 0.145 af
Pond 18P: CB-10	Peak Elev=293.40' Inflow=1.71 cfs 0.128 af 15.0" Round Culvert n=0.012 L=13.0' S=0.0192 '/' Outflow=1.71 cfs 0.128 af
Pond 19P: CB-11	Peak Elev=294.44' Inflow=0.24 cfs 0.017 af 12.0" Round Culvert n=0.012 L=22.0' S=0.0659 '/' Outflow=0.24 cfs 0.017 af
Pond 20P: DMH-6	Peak Elev=290.18' Inflow=1.94 cfs 0.145 af 24.0" Round Culvert n=0.012 L=96.0' S=0.0757 '/' Outflow=1.94 cfs 0.145 af
Pond 21P: CB-12	Peak Elev=300.95' Inflow=0.46 cfs 0.034 af 12.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/' Outflow=0.46 cfs 0.034 af
Pond 22P: CB-13	Peak Elev=301.45' Inflow=2.00 cfs 0.143 af 12.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/' Outflow=2.00 cfs 0.143 af
Pond 23P: DMH-7	Peak Elev=299.93' Inflow=2.45 cfs 0.178 af 18.0" Round Culvert n=0.012 L=157.0' S=0.0618 '/' Outflow=2.45 cfs 0.178 af
Pond 24P: DMH-8	Peak Elev=289.35' Inflow=2.45 cfs 0.178 af 24.0" Round Culvert n=0.012 L=105.0' S=0.0683 '/' Outflow=2.45 cfs 0.178 af

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.14"

Printed 4/1/2024

Page 6

Pond 25P: CB-14	Peak Elev=285.17' Inflow=1.20 cfs 0.086 af 12.0" Round Culvert n=0.012 L=16.0' S=0.0250 '/' Outflow=1.20 cfs 0.086 af
Pond 26P: CB-15	Peak Elev=285.06' Inflow=2.36 cfs 0.170 af 18.0" Round Culvert n=0.012 L=16.0' S=0.0250 '/' Outflow=2.36 cfs 0.170 af
Pond 27P: DMH-9	Peak Elev=282.18' Inflow=6.02 cfs 0.433 af 24.0" Round Culvert n=0.012 L=155.0' S=0.0394 '/' Outflow=6.02 cfs 0.433 af
Link DP-A: DESIGN POINT-A	Inflow=0.92 cfs 0.541 af Primary=0.92 cfs 0.541 af
Link DP-B: DESIGN POINT-B	Inflow=0.09 cfs 0.049 af Primary=0.09 cfs 0.049 af

Total Runoff Area = 23.173 ac Runoff Volume = 1.139 af Average Runoff Depth = 0.59"
83.10% Pervious = 19.257 ac 16.90% Impervious = 3.916 ac

Summary for Subcatchment 1S: POST - A.1

Runoff = 0.10 cfs @ 13.95 hrs, Volume= 0.059 af, Depth= 0.10"
Routed to Link DP-A : DESIGN POINT-A

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-year Rainfall=3.14"

Area (sf)	CN	Description
140,372	30	Woods, Good, HSG A
11,774	98	Roofs, HSG A
9,346	98	Paved parking, HSG A
79,813	39	>75% Grass cover, Good, HSG A
28,546	77	Woods, Good, HSG D
5,734	96	Gravel surface, HSG D
40,050	80	>75% Grass cover, Good, HSG D
461	98	Unconnected pavement, HSG A
316,096	49	Weighted Average
294,515		93.17% Pervious Area
21,581		6.83% Impervious Area
461		2.14% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	50	0.0800	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.10"
3.1	130	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.8	236	0.1000	2.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.8	155	0.0800	1.41		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
2.8	354	0.0900	2.10		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.9	167	0.0900	1.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
18.6	1,092	Total			

Summary for Subcatchment 2S: POST - A.2

Runoff = 0.00 cfs @ 16.86 hrs, Volume= 0.001 af, Depth= 0.03"
Routed to Pond 3P : INFILTRATION BASIN

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-year Rainfall=3.14"

Area (sf)	CN	Adj	Description
46	80		>75% Grass cover, Good, HSG D
21	98		Unconnected pavement, HSG D
722	98		Unconnected pavement, HSG A
1,519	96		Gravel surface, HSG A
18,523	39		>75% Grass cover, Good, HSG A
20,831	45	44	Weighted Average, UI Adjusted
20,088			96.43% Pervious Area
743			3.57% Impervious Area
743			100.00% Unconnected

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

Summary for Subcatchment 3S: POST - A.3

Runoff = 0.27 cfs @ 12.08 hrs, Volume= 0.020 af, Depth= 2.59"
Routed to Pond 4P : CB-1

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-year Rainfall=3.14"

Area (sf)	CN	Description
2,245	98	Paved parking, HSG A
1,433	98	Paved parking, HSG D
117	39	>75% Grass cover, Good, HSG A
236	80	>75% Grass cover, Good, HSG D
4,031	95	Weighted Average
353		8.76% Pervious Area
3,678		91.24% Impervious Area

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

Summary for Subcatchment 4S: POST - A.4

Runoff = 0.52 cfs @ 12.09 hrs, Volume= 0.037 af, Depth= 1.71"
Routed to Pond 5P : CB-2

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-year Rainfall=3.14"

6083 - POST

Type III 24-hr 2-year Rainfall=3.14"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 9

Area (sf)	CN	Description
72	98	Paved parking, HSG A
2,965	98	Paved parking, HSG D
8,384	80	>75% Grass cover, Good, HSG D
11,421	85	Weighted Average
8,384		73.41% Pervious Area
3,037		26.59% Impervious Area

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

Summary for Subcatchment 5S: POST - A.5

Runoff = 1.77 cfs @ 12.09 hrs, Volume= 0.126 af, Depth= 1.86"
Routed to Pond 7P : CB-3

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-year Rainfall=3.14"

Area (sf)	CN	Description
4,555	98	Roofs, HSG D
8,417	98	Paved parking, HSG D
148	98	Roofs, HSG D
22,165	80	>75% Grass cover, Good, HSG D
35,285	87	Weighted Average
22,165		62.82% Pervious Area
13,120		37.18% Impervious Area

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

Summary for Subcatchment 6S: POST - A.6

Runoff = 0.21 cfs @ 12.08 hrs, Volume= 0.017 af, Depth= 2.91"
Routed to Pond 8P : CB-4

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-year Rainfall=3.14"

Area (sf)	CN	Description
380	98	Paved parking, HSG A
2,627	98	Paved parking, HSG D
3,007	98	Weighted Average
3,007		100.00% Impervious Area

6083 - POST

Type III 24-hr 2-year Rainfall=3.14"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 10

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

Summary for Subcatchment 7S: POST - A.7

Runoff = 0.36 cfs @ 12.09 hrs, Volume= 0.026 af, Depth= 1.23"
Routed to Reach 1R : FES-7

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-year Rainfall=3.14"

Area (sf)	CN	Adj	Description
9,602	80		>75% Grass cover, Good, HSG D
709	39		>75% Grass cover, Good, HSG A
822	98		Unconnected pavement, HSG D
42	98		Unconnected pavement, HSG A
11,175	79	78	Weighted Average, UI Adjusted
10,311			92.27% Pervious Area
864			7.73% Impervious Area
864			100.00% Unconnected

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

Summary for Subcatchment 8S: POST - A.8

Runoff = 2.36 cfs @ 12.09 hrs, Volume= 0.170 af, Depth= 2.11"
Routed to Pond 26P : CB-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 2-year Rainfall=3.14"

Area (sf)	CN	Description
13,692	98	Paved parking, HSG D
9,314	98	Roofs, HSG D
350	98	Roofs, HSG A
18,577	80	>75% Grass cover, Good, HSG D
41,933	90	Weighted Average
18,577		44.30% Pervious Area
23,356		55.70% Impervious Area

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

Summary for Subcatchment 9S: POST - A.9

Runoff = 1.20 cfs @ 12.09 hrs, Volume= 0.086 af, Depth= 2.11"
Routed to Pond 25P : CB-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-year Rainfall=3.14"

Area (sf)	CN	Description
457	98	Unconnected pavement, HSG D
7,135	98	Paved parking, HSG D
3,841	98	Roofs, HSG D
9,887	80	>75% Grass cover, Good, HSG D
21,320	90	Weighted Average
9,887		46.37% Pervious Area
11,433		53.63% Impervious Area
457		4.00% Unconnected

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

Summary for Subcatchment 10S: POST - A.10

Runoff = 0.46 cfs @ 12.08 hrs, Volume= 0.034 af, Depth= 2.59"
Routed to Pond 21P : CB-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-year Rainfall=3.14"

Area (sf)	CN	Description
233	98	Unconnected pavement, HSG D
3,677	98	Paved parking, HSG D
1,920	98	Roofs, HSG D
1,106	80	>75% Grass cover, Good, HSG D
6,936	95	Weighted Average
1,106		15.95% Pervious Area
5,830		84.05% Impervious Area
233		4.00% Unconnected

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

Summary for Subcatchment 11S: POST - A.11

Runoff = 2.00 cfs @ 12.09 hrs, Volume= 0.143 af, Depth= 2.11"
Routed to Pond 22P : CB-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 2-year Rainfall=3.14"

Area (sf)	CN	Description
10,185	98	Paved parking, HSG D
9,728	98	Roofs, HSG D
15,559	80	>75% Grass cover, Good, HSG D
35,472	90	Weighted Average
15,559		43.86% Pervious Area
19,913		56.14% Impervious Area

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

Summary for Subcatchment 12S: POST - A.12

Runoff = 1.71 cfs @ 12.11 hrs, Volume= 0.128 af, Depth= 1.42"
Routed to Pond 18P : CB-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-year Rainfall=3.14"

Area (sf)	CN	Description
2,757	98	Paved parking, HSG D
496	98	Unconnected pavement, HSG D
619	96	Gravel surface, HSG D
2,970	98	Roofs, HSG D
30,920	80	>75% Grass cover, Good, HSG D
1,920	98	Roofs, HSG A
3,291	98	Paved parking, HSG A
4,026	39	>75% Grass cover, Good, HSG A
46,999	81	Weighted Average
35,565		75.67% Pervious Area
11,434		24.33% Impervious Area
496		4.34% Unconnected

6083 - POST

Type III 24-hr 2-year Rainfall=3.14"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 13

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0800	0.25		Sheet Flow, Grass: Short n= 0.150 P2= 3.10"
3.8	387	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.2	52	0.0700	5.37		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.3	489	Total			

Summary for Subcatchment 13S: POST - A.13

Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.017 af, Depth= 2.11"
Routed to Pond 19P : CB-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 2-year Rainfall=3.14"

Area (sf)	CN	Description
1,489	98	Paved parking, HSG D
503	98	Unconnected pavement, HSG D
677	80	>75% Grass cover, Good, HSG D
879	98	Paved parking, HSG A
301	98	Unconnected pavement, HSG A
393	39	>75% Grass cover, Good, HSG A
4,242	90	Weighted Average
1,070		25.22% Pervious Area
3,172		74.78% Impervious Area
804		25.35% Unconnected

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

Summary for Subcatchment 14S: POST - A.14

Runoff = 0.93 cfs @ 12.10 hrs, Volume= 0.074 af, Depth= 0.79"
Routed to Pond 15P : CB-9

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-year Rainfall=3.14"

6083 - POST

Type III 24-hr 2-year Rainfall=3.14"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 14

Area (sf)	CN	Description
463	98	Unconnected pavement, HSG D
16,849	80	>75% Grass cover, Good, HSG D
3,452	98	Roofs, HSG D
5,229	98	Paved parking, HSG A
1,141	98	Unconnected pavement, HSG A
17,990	39	>75% Grass cover, Good, HSG A
3,869	98	Roofs, HSG A
48,993	70	Weighted Average
34,839		71.11% Pervious Area
14,154		28.89% Impervious Area
1,604		11.33% Unconnected

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

Summary for Subcatchment 15S: POST - A.15

Runoff = 0.48 cfs @ 12.08 hrs, Volume= 0.038 af, Depth= 2.91"
Routed to Pond 14P : CB-8

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-year Rainfall=3.14"

Area (sf)	CN	Description
4,877	98	Paved parking, HSG A
1,920	98	Roofs, HSG A
6,797	98	Weighted Average
6,797		100.00% Impervious Area

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

Summary for Subcatchment 16S: POST - A.16

Runoff = 0.18 cfs @ 12.08 hrs, Volume= 0.014 af, Depth= 2.91"
Routed to Pond 10P : CB-5

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-year Rainfall=3.14"

Area (sf)	CN	Description
2,531	98	Paved parking, HSG A
2,531		100.00% Impervious Area

6083 - POST

Type III 24-hr 2-year Rainfall=3.14"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 15

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

Summary for Subcatchment 17S: POST - A.17

Runoff = 0.41 cfs @ 12.10 hrs, Volume= 0.033 af, Depth= 0.84"
Routed to Pond 11P : CB-6

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-year Rainfall=3.14"

Area (sf)	CN	Description
7,133	80	>75% Grass cover, Good, HSG D
2,533	98	Roofs, HSG D
2,555	98	Paved parking, HSG A
1,073	98	Unconnected pavement, HSG A
6,894	39	>75% Grass cover, Good, HSG A
20,188	71	Weighted Average
14,027		69.48% Pervious Area
6,161		30.52% Impervious Area
1,073		17.42% Unconnected

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

Summary for Subcatchment 18S: POST - A.18

Runoff = 0.00 cfs @ 16.86 hrs, Volume= 0.001 af, Depth= 0.03"
Routed to Pond 2P : EXISTING STORMWATER BASIN #1

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-year Rainfall=3.14"

Area (sf)	CN	Description
1,391	96	Gravel surface, HSG A
20,392	39	>75% Grass cover, Good, HSG A
1,707	61	>75% Grass cover, Good, HSG B
23,490	44	Weighted Average
23,490		100.00% Pervious Area

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

6083 - POST

Type III 24-hr 2-year Rainfall=3.14"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 16

Summary for Subcatchment 19S: POST - A.19

Runoff = 0.01 cfs @ 13.74 hrs, Volume= 0.008 af, Depth= 0.10"
Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=3.14"

Area (sf)	CN	Description
1,529	96	Gravel surface, HSG A
24,450	39	>75% Grass cover, Good, HSG A
609	96	Gravel surface, HSG B
905	55	Woods, Good, HSG B
12,997	61	>75% Grass cover, Good, HSG B
40,490	49	Weighted Average
40,490		100.00% Pervious Area

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

Summary for Subcatchment 20S: POST - A.20

Runoff = 0.00 cfs @ 22.02 hrs, Volume= 0.000 af, Depth= 0.01"
Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=3.14"

Area (sf)	CN	Description
91	98	Unconnected roofs, HSG A
614	96	Gravel surface, HSG A
17,914	39	>75% Grass cover, Good, HSG A
633	61	>75% Grass cover, Good, HSG B
19,252	42	Weighted Average
19,161		99.53% Pervious Area
91		0.47% Impervious Area
91		100.00% Unconnected

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

Summary for Subcatchment 21S: POST - A.21

Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.016 af, Depth= 2.11"
Routed to Pond 2P : EXISTING STORMWATER BASIN #1

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-year Rainfall=3.14"

Area (sf)	CN	Description
3,343	98	Paved parking, HSG A
534	39	>75% Grass cover, Good, HSG A
3,877	90	Weighted Average
534		13.77% Pervious Area
3,343		86.23% Impervious Area

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

Summary for Subcatchment 22S: POST - A.22

Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.014 af, Depth= 2.11"
Routed to Pond 2P : EXISTING STORMWATER BASIN #1

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-year Rainfall=3.14"

Area (sf)	CN	Description
65	98	Paved parking, HSG D
3,007	98	Paved parking, HSG A
470	39	>75% Grass cover, Good, HSG A
3,542	90	Weighted Average
470		13.27% Pervious Area
3,072		86.73% Impervious Area

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

Summary for Subcatchment 23S: POST - A.23

Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.014 af, Depth= 2.03"
Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=3.14"

Area (sf)	CN	Description
3,090	98	Paved parking, HSG A
540	39	>75% Grass cover, Good, HSG A
3,630	89	Weighted Average
540		14.88% Pervious Area
3,090		85.12% 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.24

Runoff = 0.19 cfs @ 12.09 hrs, Volume= 0.014 af, Depth= 2.03"
Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=3.14"

Area (sf)	CN	Description
2,958	98	Paved parking, HSG A
532	39	>75% Grass cover, Good, HSG A
3,490	89	Weighted Average
532		15.24% Pervious Area
2,958		84.76% Impervious Area

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

Summary for Subcatchment 25S: POST - B.1

Runoff = 0.09 cfs @ 12.50 hrs, Volume= 0.046 af, Depth= 0.12"
Routed to Link DP-B : DESIGN POINT-B

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-year Rainfall=3.14"

Area (sf)	CN	Description
3,554	98	Roofs, HSG D
31,172	80	>75% Grass cover, Good, HSG D
1,688	98	Roofs, HSG A
143,818	39	>75% Grass cover, Good, HSG A
27,473	61	>75% Grass cover, Good, HSG B
207,705	50	Weighted Average
202,463		97.48% Pervious Area
5,242		2.52% Impervious Area

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

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.14"

Printed 4/1/2024

Page 19

Summary for Subcatchment 26S: POST - B.2

Runoff = 0.00 cfs @ 20.94 hrs, Volume= 0.002 af, Depth= 0.02"
Routed to Link DP-B : DESIGN POINT-B

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-year Rainfall=3.14"

Area (sf)	CN	Description
60,781	39	>75% Grass cover, Good, HSG A
737	98	Roofs, HSG A
1,247	98	Roofs, HSG D
3,935	80	>75% Grass cover, Good, HSG D
66,700	43	Weighted Average
64,716		97.03% Pervious Area
1,984		2.97% Impervious Area

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

Summary for Reach 1R: FES-7

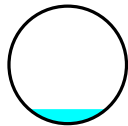
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.257 ac, 7.73% Impervious, Inflow Depth = 1.23" for 2-year event
Inflow = 0.36 cfs @ 12.09 hrs, Volume= 0.026 af
Outflow = 0.36 cfs @ 12.09 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.1 min
Routed to Pond 11P : CB-6

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 6.46 fps, Min. Travel Time= 0.1 min
Avg. Velocity= 2.43 fps, Avg. Travel Time= 0.2 min

Peak Storage= 1 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.12' , Surface Width= 0.66'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 11.05 cfs

12.0" Round Pipe
n= 0.012
Length= 25.0' Slope= 0.0820 '/'
Inlet Invert= 280.00', Outlet Invert= 277.95'

**6083 - POST**

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.14"

Printed 4/1/2024

Page 20

Summary for Pond 1P: EXISTING STORMWATER BASIN #1A

Inflow Area = 1.535 ac, 9.18% Impervious, Inflow Depth = 0.28" for 2-year event
Inflow = 0.39 cfs @ 12.09 hrs, Volume= 0.036 af
Outflow = 0.07 cfs @ 12.58 hrs, Volume= 0.036 af, Atten= 82%, Lag= 29.7 min
Discarded = 0.07 cfs @ 12.58 hrs, Volume= 0.036 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 246.27' @ 12.58 hrs Surf.Area= 829 sf Storage= 450 cf

Plug-Flow detention time= 99.7 min calculated for 0.036 af (100% of inflow)
Center-of-Mass det. time= 99.7 min (962.9 - 863.2)

Volume	Invert	Avail.Storage	Storage Description		
#1	245.00'	27,041 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)
245.00	388	81.0	0	0	388
246.00	246	94.6	314	314	597
247.00	4,185	356.0	1,815	2,130	9,973
248.00	7,669	462.0	5,840	7,969	16,885
250.00	11,534	492.0	19,072	27,041	19,355

Device	Routing	Invert	Outlet Devices
#1	Discarded	245.00'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 243.00'

Discarded OutFlow Max=0.07 cfs @ 12.58 hrs HW=246.27' (Free Discharge)
↳ **1=Exfiltration** (Controls 0.07 cfs)

Summary for Pond 2P: EXISTING STORMWATER BASIN #1

Inflow Area = 0.710 ac, 20.75% Impervious, Inflow Depth = 0.53" for 2-year event
Inflow = 0.42 cfs @ 12.09 hrs, Volume= 0.031 af
Outflow = 0.07 cfs @ 12.55 hrs, Volume= 0.031 af, Atten= 82%, Lag= 27.7 min
Discarded = 0.07 cfs @ 12.55 hrs, Volume= 0.031 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link DP-A : DESIGN POINT-A

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 252.34' @ 12.55 hrs Surf.Area= 1,298 sf Storage= 413 cf

Plug-Flow detention time= 43.3 min calculated for 0.031 af (100% of inflow)
Center-of-Mass det. time= 43.3 min (864.1 - 820.8)

Volume	Invert	Avail.Storage	Storage Description		
#1	252.00'	19,442 cf	Custom Stage Data (Irregular) Listed below (Recalc)		

6083 - POST

Type III 24-hr 2-year Rainfall=3.14"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 21

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
252.00	1,129	139.0	0	0	1,129
254.00	2,286	239.0	3,348	3,348	4,161
256.00	3,960	322.0	6,170	9,518	7,908
258.00	6,037	396.0	9,924	19,442	12,197

Device	Routing	Invert	Outlet Devices
#1	Discarded	252.00'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 243.00'
#2	Primary	257.90'	8.0' long x 12.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Discarded OutFlow Max=0.07 cfs @ 12.55 hrs HW=252.34' (Free Discharge)↳ **1=Exfiltration** (Controls 0.07 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=252.00' (Free Discharge)↳ **2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)**Summary for Pond 3P: INFILTRATION BASIN**

Inflow Area = 7.373 ac, 40.24% Impervious, Inflow Depth = 1.57" for 2-year event
Inflow = 13.03 cfs @ 12.09 hrs, Volume= 0.964 af
Outflow = 1.30 cfs @ 13.01 hrs, Volume= 0.964 af, Atten= 90%, Lag= 55.3 min
Discarded = 0.46 cfs @ 13.01 hrs, Volume= 0.483 af
Primary = 0.84 cfs @ 13.01 hrs, Volume= 0.482 af
Routed to Link DP-A : DESIGN POINT-A

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 267.23' @ 13.01 hrs Surf.Area= 6,405 sf Storage= 19,446 cf

Plug-Flow detention time= 211.3 min calculated for 0.964 af (100% of inflow)
Center-of-Mass det. time= 211.3 min (1,029.8 - 818.5)

Volume	Invert	Avail.Storage	Storage Description
#1	263.00'	87,143 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)
263.00	2,962	227.0	0	0	2,962
264.00	3,679	248.0	3,314	3,314	3,791
266.00	5,301	289.0	8,931	12,245	5,623
268.00	7,145	326.0	12,400	24,645	7,535
270.00	9,214	364.0	16,315	40,960	9,733
272.00	11,510	402.0	20,681	61,642	12,173
274.00	14,033	440.0	25,501	87,143	14,855

6083 - POST

Type III 24-hr 2-year Rainfall=3.14"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 22

Device	Routing	Invert	Outlet Devices
#1	Discarded	263.00'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 253.00' Phase-In= 0.01'
#2	Primary	263.00'	15.0" Round Culvert L= 57.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 263.00' / 262.00' S= 0.0175 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#3	Primary	273.00'	20.0' long x 12.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#4	Device 2	272.00'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Device 2	264.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#6	Device 2	267.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.46 cfs @ 13.01 hrs HW=267.23' (Free Discharge)↳ **1=Exfiltration** (Controls 0.46 cfs)**Primary OutFlow** Max=0.84 cfs @ 13.01 hrs HW=267.23' (Free Discharge)

↳ **2=Culvert** (Passes 0.84 cfs of 8.86 cfs potential flow)
↳ **4=Orifice/Grate** (Controls 0.00 cfs)
↳ **5=Orifice/Grate** (Orifice Controls 0.74 cfs @ 8.43 fps)
↳ **6=Orifice/Grate** (Orifice Controls 0.11 cfs @ 1.64 fps)
↳ **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 4P: CB-1

Inflow Area = 0.093 ac, 91.24% Impervious, Inflow Depth = 2.59" for 2-year event
Inflow = 0.27 cfs @ 12.08 hrs, Volume= 0.020 af
Outflow = 0.27 cfs @ 12.08 hrs, Volume= 0.020 af, Atten= 0%, Lag= 0.0 min
Primary = 0.27 cfs @ 12.08 hrs, Volume= 0.020 af
Routed to Pond 6P : DMH-1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 270.25' @ 12.08 hrs
Flood Elev= 274.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	270.00'	12.0" Round Culvert L= 11.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 270.00' / 269.50' S= 0.0435 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.26 cfs @ 12.08 hrs HW=270.25' (Free Discharge)↳ **1=Culvert** (Inlet Controls 0.26 cfs @ 1.71 fps)

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.14"

Printed 4/1/2024

Page 23

Summary for Pond 5P: CB-2

Inflow Area = 0.262 ac, 26.59% Impervious, Inflow Depth = 1.71" for 2-year event
Inflow = 0.52 cfs @ 12.09 hrs, Volume= 0.037 af
Outflow = 0.52 cfs @ 12.09 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.0 min
Primary = 0.52 cfs @ 12.09 hrs, Volume= 0.037 af
Routed to Pond 6P : DMH-1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 270.36' @ 12.09 hrs
Flood Elev= 274.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	270.00'	12.0" Round Culvert L= 38.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 270.00' / 269.50' S= 0.0132'/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.52 cfs @ 12.09 hrs HW=270.36' (Free Discharge)
↳ **1=Culvert** (Inlet Controls 0.52 cfs @ 2.05 fps)

Summary for Pond 6P: DMH-1

[79] Warning: Submerged Pond 4P Primary device # 1 OUTLET by 0.35'
[79] Warning: Submerged Pond 5P Primary device # 1 OUTLET by 0.35'

Inflow Area = 0.355 ac, 43.46% Impervious, Inflow Depth = 1.94" for 2-year event
Inflow = 0.79 cfs @ 12.09 hrs, Volume= 0.057 af
Outflow = 0.79 cfs @ 12.09 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.0 min
Primary = 0.79 cfs @ 12.09 hrs, Volume= 0.057 af
Routed to Pond 3P : INFILTRATION BASIN

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 269.85' @ 12.09 hrs
Flood Elev= 275.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	269.40'	12.0" Round Culvert L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 269.40' / 268.00' S= 0.0175'/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.79 cfs @ 12.09 hrs HW=269.85' (Free Discharge)
↳ **1=Culvert** (Inlet Controls 0.79 cfs @ 2.29 fps)

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.14"

Printed 4/1/2024

Page 24

Summary for Pond 7P: CB-3

Inflow Area = 0.810 ac, 37.18% Impervious, Inflow Depth = 1.86" for 2-year event
Inflow = 1.77 cfs @ 12.09 hrs, Volume= 0.126 af
Outflow = 1.77 cfs @ 12.09 hrs, Volume= 0.126 af, Atten= 0%, Lag= 0.0 min
Primary = 1.77 cfs @ 12.09 hrs, Volume= 0.126 af
Routed to Pond 9P : DMH-2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 278.02' @ 12.09 hrs
Flood Elev= 281.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.30'	12.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.30' / 276.00' S= 0.0433'/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.77 cfs @ 12.09 hrs HW=278.02' (Free Discharge)
↳ **1=Culvert** (Inlet Controls 1.77 cfs @ 2.90 fps)

Summary for Pond 8P: CB-4

Inflow Area = 0.069 ac, 100.00% Impervious, Inflow Depth = 2.91" for 2-year event
Inflow = 0.21 cfs @ 12.08 hrs, Volume= 0.017 af
Outflow = 0.21 cfs @ 12.08 hrs, Volume= 0.017 af, Atten= 0%, Lag= 0.0 min
Primary = 0.21 cfs @ 12.08 hrs, Volume= 0.017 af
Routed to Pond 9P : DMH-2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 277.62' @ 12.08 hrs
Flood Elev= 281.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.40'	12.0" Round Culvert L= 36.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.40' / 276.00' S= 0.0389'/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.21 cfs @ 12.08 hrs HW=277.62' (Free Discharge)
↳ **1=Culvert** (Inlet Controls 0.21 cfs @ 1.60 fps)

Summary for Pond 9P: DMH-2

Inflow Area = 6.540 ac, 42.75% Impervious, Inflow Depth = 1.66" for 2-year event
Inflow = 12.24 cfs @ 12.09 hrs, Volume= 0.906 af
Outflow = 12.24 cfs @ 12.09 hrs, Volume= 0.906 af, Atten= 0%, Lag= 0.0 min
Primary = 12.24 cfs @ 12.09 hrs, Volume= 0.906 af
Routed to Pond 3P : INFILTRATION BASIN

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

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.14"

Printed 4/1/2024

Page 25

Peak Elev= 274.06' @ 12.09 hrs
Flood Elev= 281.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	272.40'	24.0" Round Culvert L= 89.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 272.40' / 270.00' S= 0.0270 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=12.23 cfs @ 12.09 hrs HW=274.06' (Free Discharge)
↳ **1=Culvert** (Inlet Controls 12.23 cfs @ 4.39 fps)

Summary for Pond 10P: CB-5

Inflow Area = 0.058 ac, 100.00% Impervious, Inflow Depth = 2.91" for 2-year event
Inflow = 0.18 cfs @ 12.08 hrs, Volume= 0.014 af
Outflow = 0.18 cfs @ 12.08 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min
Primary = 0.18 cfs @ 12.08 hrs, Volume= 0.014 af
Routed to Pond 13P : DMH-3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 278.60' @ 12.08 hrs
Flood Elev= 281.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	278.40'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.40' / 278.00' S= 0.0250 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.18 cfs @ 12.08 hrs HW=278.60' (Free Discharge)
↳ **1=Culvert** (Inlet Controls 0.18 cfs @ 1.54 fps)

Summary for Pond 11P: CB-6

[62] Hint: Exceeded Reach 1R OUTLET depth by 0.31' @ 12.10 hrs

Inflow Area = 0.720 ac, 22.40% Impervious, Inflow Depth = 0.98" for 2-year event
Inflow = 0.78 cfs @ 12.10 hrs, Volume= 0.059 af
Outflow = 0.78 cfs @ 12.10 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.0 min
Primary = 0.78 cfs @ 12.10 hrs, Volume= 0.059 af
Routed to Pond 13P : DMH-3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 278.38' @ 12.10 hrs
Flood Elev= 281.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.95'	15.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.95' / 277.75' S= 0.0125 '/' Cc= 0.900

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.14"

Printed 4/1/2024

Page 26

n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.77 cfs @ 12.10 hrs HW=278.38' (Free Discharge)
↳ **1=Culvert** (Barrel Controls 0.77 cfs @ 3.06 fps)

Summary for Pond 13P: DMH-3

[79] Warning: Submerged Pond 16P Primary device # 1 OUTLET by 0.78'

Inflow Area = 3.235 ac, 32.01% Impervious, Inflow Depth = 1.22" for 2-year event
Inflow = 4.28 cfs @ 12.10 hrs, Volume= 0.330 af
Outflow = 4.28 cfs @ 12.10 hrs, Volume= 0.330 af, Atten= 0%, Lag= 0.0 min
Primary = 4.28 cfs @ 12.10 hrs, Volume= 0.330 af
Routed to Pond 9P : DMH-2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 276.58' @ 12.10 hrs
Flood Elev= 281.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	275.70'	24.0" Round Culvert L= 63.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 275.70' / 275.00' S= 0.0111 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=4.27 cfs @ 12.10 hrs HW=276.58' (Free Discharge)
↳ **1=Culvert** (Inlet Controls 4.27 cfs @ 3.20 fps)

Summary for Pond 14P: CB-8

Inflow Area = 0.156 ac, 100.00% Impervious, Inflow Depth = 2.91" for 2-year event
Inflow = 0.48 cfs @ 12.08 hrs, Volume= 0.038 af
Outflow = 0.48 cfs @ 12.08 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min
Primary = 0.48 cfs @ 12.08 hrs, Volume= 0.038 af
Routed to Pond 16P : DMH-4

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 280.85' @ 12.08 hrs
Flood Elev= 283.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	280.50'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 280.50' / 280.30' S= 0.0125 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.47 cfs @ 12.08 hrs HW=280.85' (Free Discharge)
↳ **1=Culvert** (Barrel Controls 0.47 cfs @ 2.83 fps)

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.14"

Printed 4/1/2024

Page 27

Summary for Pond 15P: CB-9

Inflow Area = 1.125 ac, 28.89% Impervious, Inflow Depth = 0.79" for 2-year event
Inflow = 0.93 cfs @ 12.10 hrs, Volume= 0.074 af
Outflow = 0.93 cfs @ 12.10 hrs, Volume= 0.074 af, Atten= 0%, Lag= 0.0 min
Primary = 0.93 cfs @ 12.10 hrs, Volume= 0.074 af
Routed to Pond 16P : DMH-4

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 281.02' @ 12.10 hrs
Flood Elev= 283.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	280.50'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 280.50' / 280.30' S= 0.0125 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.93 cfs @ 12.10 hrs HW=281.02' (Free Discharge)
↑**1=Culvert** (Barrel Controls 0.93 cfs @ 3.24 fps)

Summary for Pond 16P: DMH-4

[79] Warning: Submerged Pond 17P Primary device # 1 OUTLET by 0.72'

Inflow Area = 2.457 ac, 33.22% Impervious, Inflow Depth = 1.26" for 2-year event
Inflow = 3.33 cfs @ 12.10 hrs, Volume= 0.257 af
Outflow = 3.33 cfs @ 12.10 hrs, Volume= 0.257 af, Atten= 0%, Lag= 0.0 min
Primary = 3.33 cfs @ 12.10 hrs, Volume= 0.257 af
Routed to Pond 13P : DMH-3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 277.72' @ 12.10 hrs
Flood Elev= 283.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	276.90'	24.0" Round Culvert L= 211.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 276.90' / 275.80' S= 0.0052 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=3.32 cfs @ 12.10 hrs HW=277.72' (Free Discharge)
↑**1=Culvert** (Barrel Controls 3.32 cfs @ 4.05 fps)

Summary for Pond 17P: DMH-5

[79] Warning: Submerged Pond 20P Primary device # 1 OUTLET by 0.58'

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.14"

Printed 4/1/2024

Page 28

Inflow Area = 1.176 ac, 28.50% Impervious, Inflow Depth = 1.48" for 2-year event
Inflow = 1.94 cfs @ 12.11 hrs, Volume= 0.145 af
Outflow = 1.94 cfs @ 12.11 hrs, Volume= 0.145 af, Atten= 0%, Lag= 0.0 min
Primary = 1.94 cfs @ 12.11 hrs, Volume= 0.145 af
Routed to Pond 16P : DMH-4

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 282.91' @ 12.11 hrs
Flood Elev= 288.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	282.33'	24.0" Round Culvert L= 151.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 282.33' / 277.00' S= 0.0353 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=1.93 cfs @ 12.11 hrs HW=282.91' (Free Discharge)
↑**1=Culvert** (Inlet Controls 1.93 cfs @ 2.58 fps)

Summary for Pond 18P: CB-10

Inflow Area = 1.079 ac, 24.33% Impervious, Inflow Depth = 1.42" for 2-year event
Inflow = 1.71 cfs @ 12.11 hrs, Volume= 0.128 af
Outflow = 1.71 cfs @ 12.11 hrs, Volume= 0.128 af, Atten= 0%, Lag= 0.0 min
Primary = 1.71 cfs @ 12.11 hrs, Volume= 0.128 af
Routed to Pond 20P : DMH-6

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 293.40' @ 12.11 hrs
Flood Elev= 296.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	292.75'	15.0" Round Culvert L= 13.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 292.75' / 292.50' S= 0.0192 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.70 cfs @ 12.11 hrs HW=293.40' (Free Discharge)
↑**1=Culvert** (Barrel Controls 1.70 cfs @ 3.82 fps)

Summary for Pond 19P: CB-11

Inflow Area = 0.097 ac, 74.78% Impervious, Inflow Depth = 2.11" for 2-year event
Inflow = 0.24 cfs @ 12.09 hrs, Volume= 0.017 af
Outflow = 0.24 cfs @ 12.09 hrs, Volume= 0.017 af, Atten= 0%, Lag= 0.0 min
Primary = 0.24 cfs @ 12.09 hrs, Volume= 0.017 af
Routed to Pond 20P : DMH-6

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

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.14"

Printed 4/1/2024

Page 29

Peak Elev= 294.44' @ 12.09 hrs
Flood Elev= 297.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	294.20'	12.0" Round Culvert L= 22.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 294.20' / 292.75' S= 0.0659 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.24 cfs @ 12.09 hrs HW=294.44' (Free Discharge)
1=Culvert (Inlet Controls 0.24 cfs @ 1.66 fps)

Summary for Pond 20P: DMH-6

Inflow Area = 1.176 ac, 28.50% Impervious, Inflow Depth = 1.48" for 2-year event
Inflow = 1.94 cfs @ 12.11 hrs, Volume= 0.145 af
Outflow = 1.94 cfs @ 12.11 hrs, Volume= 0.145 af, Atten= 0%, Lag= 0.0 min
Primary = 1.94 cfs @ 12.11 hrs, Volume= 0.145 af
Routed to Pond 17P : DMH-5

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 290.18' @ 12.11 hrs
Flood Elev= 295.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	289.60'	24.0" Round Culvert L= 96.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 289.60' / 282.33' S= 0.0757 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=1.93 cfs @ 12.11 hrs HW=290.18' (Free Discharge)
1=Culvert (Inlet Controls 1.93 cfs @ 2.58 fps)

Summary for Pond 21P: CB-12

Inflow Area = 0.159 ac, 84.05% Impervious, Inflow Depth = 2.59" for 2-year event
Inflow = 0.46 cfs @ 12.08 hrs, Volume= 0.034 af
Outflow = 0.46 cfs @ 12.08 hrs, Volume= 0.034 af, Atten= 0%, Lag= 0.0 min
Primary = 0.46 cfs @ 12.08 hrs, Volume= 0.034 af
Routed to Pond 23P : DMH-7

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 300.95' @ 12.08 hrs
Flood Elev= 303.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	300.60'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 300.60' / 300.40' S= 0.0125 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.14"

Printed 4/1/2024

Page 30

Primary OutFlow Max=0.46 cfs @ 12.08 hrs HW=300.95' (Free Discharge)
1=Culvert (Barrel Controls 0.46 cfs @ 2.81 fps)

Summary for Pond 22P: CB-13

Inflow Area = 0.814 ac, 56.14% Impervious, Inflow Depth = 2.11" for 2-year event
Inflow = 2.00 cfs @ 12.09 hrs, Volume= 0.143 af
Outflow = 2.00 cfs @ 12.09 hrs, Volume= 0.143 af, Atten= 0%, Lag= 0.0 min
Primary = 2.00 cfs @ 12.09 hrs, Volume= 0.143 af
Routed to Pond 23P : DMH-7

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 301.45' @ 12.09 hrs
Flood Elev= 303.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	300.60'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 300.60' / 300.40' S= 0.0125 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.99 cfs @ 12.09 hrs HW=301.45' (Free Discharge)
1=Culvert (Barrel Controls 1.99 cfs @ 3.78 fps)

Summary for Pond 23P: DMH-7

Inflow Area = 0.974 ac, 60.70% Impervious, Inflow Depth = 2.19" for 2-year event
Inflow = 2.45 cfs @ 12.09 hrs, Volume= 0.178 af
Outflow = 2.45 cfs @ 12.09 hrs, Volume= 0.178 af, Atten= 0%, Lag= 0.0 min
Primary = 2.45 cfs @ 12.09 hrs, Volume= 0.178 af
Routed to Pond 24P : DMH-8

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 299.93' @ 12.09 hrs
Flood Elev= 303.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.20'	18.0" Round Culvert L= 157.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.20' / 289.50' S= 0.0618 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.45 cfs @ 12.09 hrs HW=299.92' (Free Discharge)
1=Culvert (Inlet Controls 2.45 cfs @ 2.90 fps)

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.14"

Printed 4/1/2024

Page 31

Summary for Pond 24P: DMH-8

Inflow Area = 0.974 ac, 60.70% Impervious, Inflow Depth = 2.19" for 2-year event
Inflow = 2.45 cfs @ 12.09 hrs, Volume= 0.178 af
Outflow = 2.45 cfs @ 12.09 hrs, Volume= 0.178 af, Atten= 0%, Lag= 0.0 min
Primary = 2.45 cfs @ 12.09 hrs, Volume= 0.178 af
Routed to Pond 27P : DMH-9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 289.35' @ 12.09 hrs
Flood Elev= 294.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	288.70'	24.0" Round Culvert L= 105.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 288.70' / 281.53' S= 0.0683 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=2.45 cfs @ 12.09 hrs HW=289.35' (Free Discharge)**1=Culvert** (Inlet Controls 2.45 cfs @ 2.75 fps)**Summary for Pond 25P: CB-14**

Inflow Area = 0.489 ac, 53.63% Impervious, Inflow Depth = 2.11" for 2-year event
Inflow = 1.20 cfs @ 12.09 hrs, Volume= 0.086 af
Outflow = 1.20 cfs @ 12.09 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.0 min
Primary = 1.20 cfs @ 12.09 hrs, Volume= 0.086 af
Routed to Pond 27P : DMH-9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 285.17' @ 12.09 hrs
Flood Elev= 287.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	284.60'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 284.60' / 284.20' S= 0.0250 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.20 cfs @ 12.09 hrs HW=285.17' (Free Discharge)**1=Culvert** (Inlet Controls 1.20 cfs @ 2.58 fps)**Summary for Pond 26P: CB-15**

Inflow Area = 0.963 ac, 55.70% Impervious, Inflow Depth = 2.11" for 2-year event
Inflow = 2.36 cfs @ 12.09 hrs, Volume= 0.170 af
Outflow = 2.36 cfs @ 12.09 hrs, Volume= 0.170 af, Atten= 0%, Lag= 0.0 min
Primary = 2.36 cfs @ 12.09 hrs, Volume= 0.170 af
Routed to Pond 27P : DMH-9

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

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 2-year Rainfall=3.14"

Printed 4/1/2024

Page 32

Peak Elev= 285.06' @ 12.09 hrs
Flood Elev= 287.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	284.35'	18.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 284.35' / 283.95' S= 0.0250 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=2.36 cfs @ 12.09 hrs HW=285.06' (Free Discharge)**1=Culvert** (Inlet Controls 2.36 cfs @ 2.87 fps)**Summary for Pond 27P: DMH-9**

[79] Warning: Submerged Pond 24P Primary device # 1 OUTLET by 0.65'

Inflow Area = 2.426 ac, 57.29% Impervious, Inflow Depth = 2.14" for 2-year event
Inflow = 6.02 cfs @ 12.09 hrs, Volume= 0.433 af
Outflow = 6.02 cfs @ 12.09 hrs, Volume= 0.433 af, Atten= 0%, Lag= 0.0 min
Primary = 6.02 cfs @ 12.09 hrs, Volume= 0.433 af
Routed to Pond 9P : DMH-2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 282.18' @ 12.09 hrs
Flood Elev= 287.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	281.11'	24.0" Round Culvert L= 155.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 281.11' / 275.00' S= 0.0394 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=6.00 cfs @ 12.09 hrs HW=282.18' (Free Discharge)**1=Culvert** (Inlet Controls 6.00 cfs @ 3.52 fps)**Summary for Link DP-A: DESIGN POINT-A**

Inflow Area = 15.339 ac, 23.53% Impervious, Inflow Depth = 0.42" for 2-year event
Inflow = 0.92 cfs @ 13.07 hrs, Volume= 0.541 af
Primary = 0.92 cfs @ 13.07 hrs, Volume= 0.541 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link DP-B: DESIGN POINT-B

Inflow Area = 6.299 ac, 2.63% Impervious, Inflow Depth = 0.09" for 2-year event
Inflow = 0.09 cfs @ 12.50 hrs, Volume= 0.049 af
Primary = 0.09 cfs @ 12.50 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min

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

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 33

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+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: POST - A.1	Runoff Area=316,096 sf 6.83% Impervious Runoff Depth=0.58" Flow Length=1,092' Tc=18.6 min CN=49 Runoff=2.01 cfs 0.349 af
Subcatchment2S: POST - A.2	Runoff Area=20,831 sf 3.57% Impervious Runoff Depth=0.35" Tc=6.0 min UI Adjusted CN=44 Runoff=0.07 cfs 0.014 af
Subcatchment3S: POST - A.3	Runoff Area=4,031 sf 91.24% Impervious Runoff Depth=4.26" Tc=6.0 min CN=95 Runoff=0.43 cfs 0.033 af
Subcatchment4S: POST - A.4	Runoff Area=11,421 sf 26.59% Impervious Runoff Depth=3.22" Tc=6.0 min CN=85 Runoff=0.98 cfs 0.070 af
Subcatchment5S: POST - A.5	Runoff Area=35,285 sf 37.18% Impervious Runoff Depth=3.42" Tc=6.0 min CN=87 Runoff=3.19 cfs 0.231 af
Subcatchment6S: POST - A.6	Runoff Area=3,007 sf 100.00% Impervious Runoff Depth=4.60" Tc=6.0 min CN=98 Runoff=0.33 cfs 0.026 af
Subcatchment7S: POST - A.7	Runoff Area=11,175 sf 7.73% Impervious Runoff Depth=2.58" Tc=6.0 min UI Adjusted CN=78 Runoff=0.78 cfs 0.055 af
Subcatchment8S: POST - A.8	Runoff Area=41,933 sf 55.70% Impervious Runoff Depth=3.72" Tc=6.0 min CN=90 Runoff=4.06 cfs 0.299 af
Subcatchment9S: POST - A.9	Runoff Area=21,320 sf 53.63% Impervious Runoff Depth=3.72" Tc=6.0 min CN=90 Runoff=2.06 cfs 0.152 af
Subcatchment10S: POST - A.10	Runoff Area=6,936 sf 84.05% Impervious Runoff Depth=4.26" Tc=6.0 min CN=95 Runoff=0.73 cfs 0.057 af
Subcatchment11S: POST - A.11	Runoff Area=35,472 sf 56.14% Impervious Runoff Depth=3.72" Tc=6.0 min CN=90 Runoff=3.44 cfs 0.253 af
Subcatchment12S: POST - A.12	Runoff Area=46,999 sf 24.33% Impervious Runoff Depth=2.84" Flow Length=489' Tc=7.3 min CN=81 Runoff=3.44 cfs 0.256 af
Subcatchment13S: POST - A.13	Runoff Area=4,242 sf 74.78% Impervious Runoff Depth=3.72" Tc=6.0 min CN=90 Runoff=0.41 cfs 0.030 af
Subcatchment14S: POST - A.14	Runoff Area=48,993 sf 28.89% Impervious Runoff Depth=1.92" Tc=6.0 min CN=70 Runoff=2.48 cfs 0.180 af
Subcatchment15S: POST - A.15	Runoff Area=6,797 sf 100.00% Impervious Runoff Depth=4.60" Tc=6.0 min CN=98 Runoff=0.74 cfs 0.060 af
Subcatchment16S: POST - A.16	Runoff Area=2,531 sf 100.00% Impervious Runoff Depth=4.60" Tc=6.0 min CN=98 Runoff=0.28 cfs 0.022 af

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 34

Subcatchment17S: POST - A.17	Runoff Area=20,188 sf 30.52% Impervious Runoff Depth=2.00" Tc=6.0 min CN=71 Runoff=1.07 cfs 0.077 af
Subcatchment18S: POST - A.18	Runoff Area=23,490 sf 0.00% Impervious Runoff Depth=0.35" Tc=6.0 min CN=44 Runoff=0.07 cfs 0.016 af
Subcatchment19S: POST - A.19	Runoff Area=40,490 sf 0.00% Impervious Runoff Depth=0.58" Tc=6.0 min CN=49 Runoff=0.33 cfs 0.045 af
Subcatchment20S: POST - A.20	Runoff Area=19,252 sf 0.47% Impervious Runoff Depth=0.27" Tc=6.0 min CN=42 Runoff=0.04 cfs 0.010 af
Subcatchment21S: POST - A.21	Runoff Area=3,877 sf 86.23% Impervious Runoff Depth=3.72" Tc=6.0 min CN=90 Runoff=0.38 cfs 0.028 af
Subcatchment22S: POST - A.22	Runoff Area=3,542 sf 86.73% Impervious Runoff Depth=3.72" Tc=6.0 min CN=90 Runoff=0.34 cfs 0.025 af
Subcatchment23S: POST - A.23	Runoff Area=3,630 sf 85.12% Impervious Runoff Depth=3.62" Tc=6.0 min CN=89 Runoff=0.34 cfs 0.025 af
Subcatchment24S: POST - A.24	Runoff Area=3,490 sf 84.76% Impervious Runoff Depth=3.62" Tc=6.0 min CN=89 Runoff=0.33 cfs 0.024 af
Subcatchment25S: POST - B.1	Runoff Area=207,705 sf 2.52% Impervious Runoff Depth=0.63" Tc=6.5 min CN=50 Runoff=2.01 cfs 0.250 af
Subcatchment26S: POST - B.2	Runoff Area=66,700 sf 2.97% Impervious Runoff Depth=0.31" Tc=6.0 min CN=43 Runoff=0.17 cfs 0.040 af
Reach 1R: FES-7	Avg. Flow Depth=0.18' Max Vel=8.11 fps Inflow=0.78 cfs 0.055 af 12.0" Round Pipe n=0.012 L=25.0' S=0.0820 '/ Capacity=11.05 cfs Outflow=0.77 cfs 0.055 af
Pond 1P: EXISTING STORMWATERBASIN	Peak Elev=246.76' Storage=1,297 cf Inflow=0.97 cfs 0.104 af Outflow=0.20 cfs 0.104 af
Pond 2P: EXISTING STORMWATERBASIN #1	Peak Elev=252.75' Storage=985 cf Inflow=0.73 cfs 0.069 af Discarded=0.09 cfs 0.069 af Primary=0.00 cfs 0.000 af Outflow=0.09 cfs 0.069 af
Pond 3P: INFILTRATIONBASIN	Peak Elev=269.72' Storage=38,397 cf Inflow=24.33 cfs 1.814 af Discarded=0.69 cfs 0.719 af Primary=1.66 cfs 1.095 af Outflow=2.35 cfs 1.814 af
Pond 4P: CB-1	Peak Elev=270.32' Inflow=0.43 cfs 0.033 af 12.0" Round Culvert n=0.012 L=11.5' S=0.0435 '/ Outflow=0.43 cfs 0.033 af
Pond 5P: CB-2	Peak Elev=270.51' Inflow=0.98 cfs 0.070 af 12.0" Round Culvert n=0.012 L=38.0' S=0.0132 '/ Outflow=0.98 cfs 0.070 af
Pond 6P: DMH-1	Peak Elev=270.03' Inflow=1.41 cfs 0.103 af 12.0" Round Culvert n=0.012 L=80.0' S=0.0175 '/ Outflow=1.41 cfs 0.103 af

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 35

Pond 7P: CB-3

Peak Elev=278.51' Inflow=3.19 cfs 0.231 af
12.0" Round Culvert n=0.012 L=30.0' S=0.0433 '/ Outflow=3.19 cfs 0.231 af

Pond 8P: CB-4

Peak Elev=277.68' Inflow=0.33 cfs 0.026 af
12.0" Round Culvert n=0.012 L=36.0' S=0.0389 '/ Outflow=0.33 cfs 0.026 af

Pond 9P: DMH-2

Peak Elev=275.69' Inflow=22.91 cfs 1.697 af
24.0" Round Culvert n=0.012 L=89.0' S=0.0270 '/ Outflow=22.91 cfs 1.697 af

Pond 10P: CB-5

Peak Elev=278.66' Inflow=0.28 cfs 0.022 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0250 '/ Outflow=0.28 cfs 0.022 af

Pond 11P: CB-6

Peak Elev=278.67' Inflow=1.84 cfs 0.132 af
15.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/ Outflow=1.84 cfs 0.132 af

Pond 13P: DMH-3

Peak Elev=277.08' Inflow=9.14 cfs 0.680 af
24.0" Round Culvert n=0.012 L=63.0' S=0.0111 '/ Outflow=9.14 cfs 0.680 af

Pond 14P: CB-8

Peak Elev=280.96' Inflow=0.74 cfs 0.060 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/ Outflow=0.74 cfs 0.060 af

Pond 15P: CB-9

Peak Elev=281.49' Inflow=2.48 cfs 0.180 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/ Outflow=2.48 cfs 0.180 af

Pond 16P: DMH-4

Peak Elev=278.15' Inflow=7.03 cfs 0.526 af
24.0" Round Culvert n=0.012 L=211.0' S=0.0052 '/ Outflow=7.03 cfs 0.526 af

Pond 17P: DMH-5

Peak Elev=283.16' Inflow=3.84 cfs 0.286 af
24.0" Round Culvert n=0.012 L=151.0' S=0.0353 '/ Outflow=3.84 cfs 0.286 af

Pond 18P: CB-10

Peak Elev=293.77' Inflow=3.44 cfs 0.256 af
15.0" Round Culvert n=0.012 L=13.0' S=0.0192 '/ Outflow=3.44 cfs 0.256 af

Pond 19P: CB-11

Peak Elev=294.52' Inflow=0.41 cfs 0.030 af
12.0" Round Culvert n=0.012 L=22.0' S=0.0659 '/ Outflow=0.41 cfs 0.030 af

Pond 20P: DMH-6

Peak Elev=290.43' Inflow=3.84 cfs 0.286 af
24.0" Round Culvert n=0.012 L=96.0' S=0.0757 '/ Outflow=3.84 cfs 0.286 af

Pond 21P: CB-12

Peak Elev=301.06' Inflow=0.73 cfs 0.057 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/ Outflow=0.73 cfs 0.057 af

Pond 22P: CB-13

Peak Elev=301.97' Inflow=3.44 cfs 0.253 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/ Outflow=3.44 cfs 0.253 af

Pond 23P: DMH-7

Peak Elev=300.19' Inflow=4.17 cfs 0.309 af
18.0" Round Culvert n=0.012 L=157.0' S=0.0618 '/ Outflow=4.17 cfs 0.309 af

Pond 24P: DMH-8

Peak Elev=289.57' Inflow=4.17 cfs 0.309 af
24.0" Round Culvert n=0.012 L=105.0' S=0.0683 '/ Outflow=4.17 cfs 0.309 af

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 36

Pond 25P: CB-14

Peak Elev=285.40' Inflow=2.06 cfs 0.152 af
12.0" Round Culvert n=0.012 L=16.0' S=0.0250 '/ Outflow=2.06 cfs 0.152 af

Pond 26P: CB-15

Peak Elev=285.32' Inflow=4.06 cfs 0.299 af
18.0" Round Culvert n=0.012 L=16.0' S=0.0250 '/ Outflow=4.06 cfs 0.299 af

Pond 27P: DMH-9

Peak Elev=282.59' Inflow=10.29 cfs 0.760 af
24.0" Round Culvert n=0.012 L=155.0' S=0.0394 '/ Outflow=10.29 cfs 0.760 af

Link DP-A: DESIGN POINT-A

Inflow=3.60 cfs 1.445 af
Primary=3.60 cfs 1.445 af

Link DP-B: DESIGN POINT-B

Inflow=2.05 cfs 0.289 af
Primary=2.05 cfs 0.289 af

Total Runoff Area = 23.173 ac Runoff Volume = 2.625 af Average Runoff Depth = 1.36"
83.10% Pervious = 19.257 ac 16.90% Impervious = 3.916 ac

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 37

Summary for Subcatchment 1S: POST - A.1

Runoff = 2.01 cfs @ 12.42 hrs, Volume= 0.349 af, Depth= 0.58"
Routed to Link DP-A : DESIGN POINT-A

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-year Rainfall=4.84"

Area (sf)	CN	Description
140,372	30	Woods, Good, HSG A
11,774	98	Roofs, HSG A
9,346	98	Paved parking, HSG A
79,813	39	>75% Grass cover, Good, HSG A
28,546	77	Woods, Good, HSG D
5,734	96	Gravel surface, HSG D
40,050	80	>75% Grass cover, Good, HSG D
461	98	Unconnected pavement, HSG A
316,096	49	Weighted Average
294,515		93.17% Pervious Area
21,581		6.83% Impervious Area
461		2.14% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	50	0.0800	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.10"
3.1	130	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.8	236	0.1000	2.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.8	155	0.0800	1.41		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
2.8	354	0.0900	2.10		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.9	167	0.0900	1.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
18.6	1,092	Total			

Summary for Subcatchment 2S: POST - A.2

Runoff = 0.07 cfs @ 12.35 hrs, Volume= 0.014 af, Depth= 0.35"
Routed to Pond 3P : INFILTRATION BASIN

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-year Rainfall=4.84"

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 38

Area (sf)	CN	Adj	Description
46	80		>75% Grass cover, Good, HSG D
21	98		Unconnected pavement, HSG D
722	98		Unconnected pavement, HSG A
1,519	96		Gravel surface, HSG A
18,523	39		>75% Grass cover, Good, HSG A
20,831	45	44	Weighted Average, UI Adjusted
20,088			96.43% Pervious Area
743			3.57% Impervious Area
743			100.00% Unconnected

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

Summary for Subcatchment 3S: POST - A.3

Runoff = 0.43 cfs @ 12.08 hrs, Volume= 0.033 af, Depth= 4.26"
Routed to Pond 4P : CB-1

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-year Rainfall=4.84"

Area (sf)	CN	Description
2,245	98	Paved parking, HSG A
1,433	98	Paved parking, HSG D
117	39	>75% Grass cover, Good, HSG A
236	80	>75% Grass cover, Good, HSG D
4,031	95	Weighted Average
353		8.76% Pervious Area
3,678		91.24% Impervious Area

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

Summary for Subcatchment 4S: POST - A.4

Runoff = 0.98 cfs @ 12.09 hrs, Volume= 0.070 af, Depth= 3.22"
Routed to Pond 5P : CB-2

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-year Rainfall=4.84"

6083 - POST

Type III 24-hr 10-year Rainfall=4.84"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 39

Area (sf)	CN	Description
72	98	Paved parking, HSG A
2,965	98	Paved parking, HSG D
8,384	80	>75% Grass cover, Good, HSG D

11,421	85	Weighted Average
8,384		73.41% Pervious Area
3,037		26.59% Impervious Area

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

Summary for Subcatchment 5S: POST - A.5

Runoff = 3.19 cfs @ 12.09 hrs, Volume= 0.231 af, Depth= 3.42"
Routed to Pond 7P : CB-3

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-year Rainfall=4.84"

Area (sf)	CN	Description
4,555	98	Roofs, HSG D
8,417	98	Paved parking, HSG D
148	98	Roofs, HSG D
22,165	80	>75% Grass cover, Good, HSG D

35,285	87	Weighted Average
22,165		62.82% Pervious Area
13,120		37.18% Impervious Area

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

Summary for Subcatchment 6S: POST - A.6

Runoff = 0.33 cfs @ 12.08 hrs, Volume= 0.026 af, Depth= 4.60"
Routed to Pond 8P : CB-4

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-year Rainfall=4.84"

Area (sf)	CN	Description
380	98	Paved parking, HSG A
2,627	98	Paved parking, HSG D
3,007	98	Weighted Average
3,007		100.00% Impervious Area

6083 - POST

Type III 24-hr 10-year Rainfall=4.84"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 40

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

Summary for Subcatchment 7S: POST - A.7

Runoff = 0.78 cfs @ 12.09 hrs, Volume= 0.055 af, Depth= 2.58"
Routed to Reach 1R : FES-7

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-year Rainfall=4.84"

Area (sf)	CN	Adj	Description
9,602	80		>75% Grass cover, Good, HSG D
709	39		>75% Grass cover, Good, HSG A
822	98		Unconnected pavement, HSG D
42	98		Unconnected pavement, HSG A

11,175	79	78	Weighted Average, UI Adjusted
10,311			92.27% Pervious Area
864			7.73% Impervious Area
864			100.00% Unconnected

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

Summary for Subcatchment 8S: POST - A.8

Runoff = 4.06 cfs @ 12.09 hrs, Volume= 0.299 af, Depth= 3.72"
Routed to Pond 26P : CB-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 10-year Rainfall=4.84"

Area (sf)	CN	Description
13,692	98	Paved parking, HSG D
9,314	98	Roofs, HSG D
350	98	Roofs, HSG A
18,577	80	>75% Grass cover, Good, HSG D
41,933	90	Weighted Average
18,577		44.30% Pervious Area
23,356		55.70% Impervious Area

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

Summary for Subcatchment 9S: POST - A.9

Runoff = 2.06 cfs @ 12.09 hrs, Volume= 0.152 af, Depth= 3.72"
Routed to Pond 25P : CB-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 10-year Rainfall=4.84"

Area (sf)	CN	Description
457	98	Unconnected pavement, HSG D
7,135	98	Paved parking, HSG D
3,841	98	Roofs, HSG D
9,887	80	>75% Grass cover, Good, HSG D
21,320	90	Weighted Average
9,887		46.37% Pervious Area
11,433		53.63% Impervious Area
457		4.00% Unconnected

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

Summary for Subcatchment 10S: POST - A.10

Runoff = 0.73 cfs @ 12.08 hrs, Volume= 0.057 af, Depth= 4.26"
Routed to Pond 21P : CB-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 10-year Rainfall=4.84"

Area (sf)	CN	Description
233	98	Unconnected pavement, HSG D
3,677	98	Paved parking, HSG D
1,920	98	Roofs, HSG D
1,106	80	>75% Grass cover, Good, HSG D
6,936	95	Weighted Average
1,106		15.95% Pervious Area
5,830		84.05% Impervious Area
233		4.00% Unconnected

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

Summary for Subcatchment 11S: POST - A.11

Runoff = 3.44 cfs @ 12.09 hrs, Volume= 0.253 af, Depth= 3.72"
Routed to Pond 22P : CB-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-year Rainfall=4.84"

Area (sf)	CN	Description
10,185	98	Paved parking, HSG D
9,728	98	Roofs, HSG D
15,559	80	>75% Grass cover, Good, HSG D
35,472	90	Weighted Average
15,559		43.86% Pervious Area
19,913		56.14% Impervious Area

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

Summary for Subcatchment 12S: POST - A.12

Runoff = 3.44 cfs @ 12.11 hrs, Volume= 0.256 af, Depth= 2.84"
Routed to Pond 18P : CB-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-year Rainfall=4.84"

Area (sf)	CN	Description
2,757	98	Paved parking, HSG D
496	98	Unconnected pavement, HSG D
619	96	Gravel surface, HSG D
2,970	98	Roofs, HSG D
30,920	80	>75% Grass cover, Good, HSG D
1,920	98	Roofs, HSG A
3,291	98	Paved parking, HSG A
4,026	39	>75% Grass cover, Good, HSG A
46,999	81	Weighted Average
35,565		75.67% Pervious Area
11,434		24.33% Impervious Area
496		4.34% Unconnected

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 43

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0800	0.25		Sheet Flow, Grass: Short n= 0.150 P2= 3.10"
3.8	387	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.2	52	0.0700	5.37		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.3	489	Total			

Summary for Subcatchment 13S: POST - A.13

Runoff = 0.41 cfs @ 12.09 hrs, Volume= 0.030 af, Depth= 3.72"
 Routed to Pond 19P : CB-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-year Rainfall=4.84"

Area (sf)	CN	Description
1,489	98	Paved parking, HSG D
503	98	Unconnected pavement, HSG D
677	80	>75% Grass cover, Good, HSG D
879	98	Paved parking, HSG A
301	98	Unconnected pavement, HSG A
393	39	>75% Grass cover, Good, HSG A
4,242	90	Weighted Average
1,070		25.22% Pervious Area
3,172		74.78% Impervious Area
804		25.35% Unconnected

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

Summary for Subcatchment 14S: POST - A.14

Runoff = 2.48 cfs @ 12.09 hrs, Volume= 0.180 af, Depth= 1.92"
 Routed to Pond 15P : CB-9

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-year Rainfall=4.84"

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 44

Area (sf)	CN	Description
463	98	Unconnected pavement, HSG D
16,849	80	>75% Grass cover, Good, HSG D
3,452	98	Roofs, HSG D
5,229	98	Paved parking, HSG A
1,141	98	Unconnected pavement, HSG A
17,990	39	>75% Grass cover, Good, HSG A
3,869	98	Roofs, HSG A
48,993	70	Weighted Average
34,839		71.11% Pervious Area
14,154		28.89% Impervious Area
1,604		11.33% Unconnected

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

Summary for Subcatchment 15S: POST - A.15

Runoff = 0.74 cfs @ 12.08 hrs, Volume= 0.060 af, Depth= 4.60"
 Routed to Pond 14P : CB-8

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-year Rainfall=4.84"

Area (sf)	CN	Description
4,877	98	Paved parking, HSG A
1,920	98	Roofs, HSG A
6,797	98	Weighted Average
6,797		100.00% Impervious Area

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

Summary for Subcatchment 16S: POST - A.16

Runoff = 0.28 cfs @ 12.08 hrs, Volume= 0.022 af, Depth= 4.60"
 Routed to Pond 10P : CB-5

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-year Rainfall=4.84"

Area (sf)	CN	Description
2,531	98	Paved parking, HSG A
2,531		100.00% Impervious Area

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 45

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

Summary for Subcatchment 17S: POST - A.17

Runoff = 1.07 cfs @ 12.09 hrs, Volume= 0.077 af, Depth= 2.00"
Routed to Pond 11P : CB-6

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-year Rainfall=4.84"

Area (sf)	CN	Description
7,133	80	>75% Grass cover, Good, HSG D
2,533	98	Roofs, HSG D
2,555	98	Paved parking, HSG A
1,073	98	Unconnected pavement, HSG A
6,894	39	>75% Grass cover, Good, HSG A
20,188	71	Weighted Average
14,027		69.48% Pervious Area
6,161		30.52% Impervious Area
1,073		17.42% Unconnected

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

Summary for Subcatchment 18S: POST - A.18

Runoff = 0.07 cfs @ 12.35 hrs, Volume= 0.016 af, Depth= 0.35"
Routed to Pond 2P : EXISTING STORMWATER BASIN #1

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-year Rainfall=4.84"

Area (sf)	CN	Description
1,391	96	Gravel surface, HSG A
20,392	39	>75% Grass cover, Good, HSG A
1,707	61	>75% Grass cover, Good, HSG B
23,490	44	Weighted Average
23,490		100.00% Pervious Area

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

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 46

Summary for Subcatchment 19S: POST - A.19

Runoff = 0.33 cfs @ 12.13 hrs, Volume= 0.045 af, Depth= 0.58"
Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=4.84"

Area (sf)	CN	Description
1,529	96	Gravel surface, HSG A
24,450	39	>75% Grass cover, Good, HSG A
609	96	Gravel surface, HSG B
905	55	Woods, Good, HSG B
12,997	61	>75% Grass cover, Good, HSG B
40,490	49	Weighted Average
40,490		100.00% Pervious Area

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

Summary for Subcatchment 20S: POST - A.20

Runoff = 0.04 cfs @ 12.40 hrs, Volume= 0.010 af, Depth= 0.27"
Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=4.84"

Area (sf)	CN	Description
91	98	Unconnected roofs, HSG A
614	96	Gravel surface, HSG A
17,914	39	>75% Grass cover, Good, HSG A
633	61	>75% Grass cover, Good, HSG B
19,252	42	Weighted Average
19,161		99.53% Pervious Area
91		0.47% Impervious Area
91		100.00% Unconnected

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

Summary for Subcatchment 21S: POST - A.21

Runoff = 0.38 cfs @ 12.09 hrs, Volume= 0.028 af, Depth= 3.72"
Routed to Pond 2P : EXISTING STORMWATER BASIN #1

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-year Rainfall=4.84"

6083 - POST

Type III 24-hr 10-year Rainfall=4.84"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 47

Area (sf)	CN	Description
3,343	98	Paved parking, HSG A
534	39	>75% Grass cover, Good, HSG A
3,877	90	Weighted Average
534		13.77% Pervious Area
3,343		86.23% Impervious Area

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

Summary for Subcatchment 22S: POST - A.22

Runoff = 0.34 cfs @ 12.09 hrs, Volume= 0.025 af, Depth= 3.72"
Routed to Pond 2P : EXISTING STORMWATER BASIN #1

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-year Rainfall=4.84"

Area (sf)	CN	Description
65	98	Paved parking, HSG D
3,007	98	Paved parking, HSG A
470	39	>75% Grass cover, Good, HSG A
3,542	90	Weighted Average
470		13.27% Pervious Area
3,072		86.73% Impervious Area

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

Summary for Subcatchment 23S: POST - A.23

Runoff = 0.34 cfs @ 12.09 hrs, Volume= 0.025 af, Depth= 3.62"
Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=4.84"

Area (sf)	CN	Description
3,090	98	Paved parking, HSG A
540	39	>75% Grass cover, Good, HSG A
3,630	89	Weighted Average
540		14.88% Pervious Area
3,090		85.12% Impervious Area

6083 - POST

Type III 24-hr 10-year Rainfall=4.84"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 48

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

Summary for Subcatchment 24S: POST - A.24

Runoff = 0.33 cfs @ 12.09 hrs, Volume= 0.024 af, Depth= 3.62"
Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=4.84"

Area (sf)	CN	Description
2,958	98	Paved parking, HSG A
532	39	>75% Grass cover, Good, HSG A
3,490	89	Weighted Average
532		15.24% Pervious Area
2,958		84.76% Impervious Area

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

Summary for Subcatchment 25S: POST - B.1

Runoff = 2.01 cfs @ 12.13 hrs, Volume= 0.250 af, Depth= 0.63"
Routed to Link DP-B : DESIGN POINT-B

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-year Rainfall=4.84"

Area (sf)	CN	Description
3,554	98	Roofs, HSG D
31,172	80	>75% Grass cover, Good, HSG D
1,688	98	Roofs, HSG A
143,818	39	>75% Grass cover, Good, HSG A
27,473	61	>75% Grass cover, Good, HSG B
207,705	50	Weighted Average
202,463		97.48% Pervious Area
5,242		2.52% Impervious Area

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

Summary for Subcatchment 26S: POST - B.2

Runoff = 0.17 cfs @ 12.37 hrs, Volume= 0.040 af, Depth= 0.31"
Routed to Link DP-B : DESIGN POINT-B

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-year Rainfall=4.84"

Area (sf)	CN	Description
60,781	39	>75% Grass cover, Good, HSG A
737	98	Roofs, HSG A
1,247	98	Roofs, HSG D
3,935	80	>75% Grass cover, Good, HSG D
66,700	43	Weighted Average
64,716		97.03% Pervious Area
1,984		2.97% Impervious Area

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

Summary for Reach 1R: FES-7

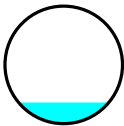
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.257 ac, 7.73% Impervious, Inflow Depth = 2.58" for 10-year event
Inflow = 0.78 cfs @ 12.09 hrs, Volume= 0.055 af
Outflow = 0.77 cfs @ 12.09 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.1 min
Routed to Pond 11P : CB-6

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 8.11 fps, Min. Travel Time= 0.1 min
Avg. Velocity= 2.87 fps, Avg. Travel Time= 0.1 min

Peak Storage= 2 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.18' , Surface Width= 0.77'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 11.05 cfs

12.0" Round Pipe
n= 0.012
Length= 25.0' Slope= 0.0820 '/'
Inlet Invert= 280.00', Outlet Invert= 277.95'



Summary for Pond 1P: EXISTING STORMWATER BASIN #1A

Inflow Area = 1.535 ac, 9.18% Impervious, Inflow Depth = 0.81" for 10-year event
Inflow = 0.97 cfs @ 12.10 hrs, Volume= 0.104 af
Outflow = 0.20 cfs @ 12.81 hrs, Volume= 0.104 af, Atten= 80%, Lag= 42.7 min
Discarded = 0.20 cfs @ 12.81 hrs, Volume= 0.104 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 246.76' @ 12.81 hrs Surf.Area= 2,802 sf Storage= 1,297 cf

Plug-Flow detention time= 106.7 min calculated for 0.104 af (100% of inflow)
Center-of-Mass det. time= 106.7 min (975.8 - 869.1)

Volume	Invert	Avail.Storage	Storage Description		
#1	245.00'	27,041 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)
245.00	388	81.0	0	0	388
246.00	246	94.6	314	314	597
247.00	4,185	356.0	1,815	2,130	9,973
248.00	7,669	462.0	5,840	7,969	16,885
250.00	11,534	492.0	19,072	27,041	19,355

Device	Routing	Invert	Outlet Devices
#1	Discarded	245.00'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 243.00'

Discarded OutFlow Max=0.20 cfs @ 12.81 hrs HW=246.76' (Free Discharge)
1=Exfiltration (Controls 0.20 cfs)

Summary for Pond 2P: EXISTING STORMWATER BASIN #1

Inflow Area = 0.710 ac, 20.75% Impervious, Inflow Depth = 1.16" for 10-year event
Inflow = 0.73 cfs @ 12.09 hrs, Volume= 0.069 af
Outflow = 0.09 cfs @ 13.05 hrs, Volume= 0.069 af, Atten= 88%, Lag= 57.5 min
Discarded = 0.09 cfs @ 13.05 hrs, Volume= 0.069 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link DP-A : DESIGN POINT-A

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 252.75' @ 13.05 hrs Surf.Area= 1,515 sf Storage= 985 cf

Plug-Flow detention time= 101.7 min calculated for 0.069 af (100% of inflow)
Center-of-Mass det. time= 101.7 min (932.5 - 830.8)

Volume	Invert	Avail.Storage	Storage Description		
#1	252.00'	19,442 cf	Custom Stage Data (Irregular) Listed below (Recalc)		

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 51

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
252.00	1,129	139.0	0	0	1,129
254.00	2,286	239.0	3,348	3,348	4,161
256.00	3,960	322.0	6,170	9,518	7,908
258.00	6,037	396.0	9,924	19,442	12,197

Device	Routing	Invert	Outlet Devices
#1	Discarded	252.00'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 243.00'
#2	Primary	257.90'	8.0' long x 12.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Discarded OutFlow Max=0.09 cfs @ 13.05 hrs HW=252.75' (Free Discharge)↳ **1=Exfiltration** (Controls 0.09 cfs)**Primary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=252.00' (Free Discharge)↳ **2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)**Summary for Pond 3P: INFILTRATION BASIN**

[81] Warning: Exceeded Pond 6P by 0.15' @ 13.08 hrs

Inflow Area = 7.373 ac, 40.24% Impervious, Inflow Depth = 2.95" for 10-year event
 Inflow = 24.33 cfs @ 12.09 hrs, Volume= 1.814 af
 Outflow = 2.35 cfs @ 13.00 hrs, Volume= 1.814 af, Atten= 90%, Lag= 54.4 min
 Discarded = 0.69 cfs @ 13.00 hrs, Volume= 0.719 af
 Primary = 1.66 cfs @ 13.00 hrs, Volume= 1.095 af
 Routed to Link DP-A : DESIGN POINT-A

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 269.72' @ 13.00 hrs Surf.Area= 8,905 sf Storage= 38,397 cf

Plug-Flow detention time= 231.9 min calculated for 1.814 af (100% of inflow)
 Center-of-Mass det. time= 232.0 min (1,036.8 - 804.8)

Volume	Invert	Avail.Storage	Storage Description		
#1	263.00'	87,143 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)
263.00	2,962	227.0	0	0	2,962
264.00	3,679	248.0	3,314	3,314	3,791
266.00	5,301	289.0	8,931	12,245	5,623
268.00	7,145	326.0	12,400	24,645	7,535
270.00	9,214	364.0	16,315	40,960	9,733
272.00	11,510	402.0	20,681	61,642	12,173
274.00	14,033	440.0	25,501	87,143	14,855

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 52

Device	Routing	Invert	Outlet Devices
#1	Discarded	263.00'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 253.00' Phase-In= 0.01'
#2	Primary	263.00'	15.0" Round Culvert L= 57.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 263.00' / 262.00' S= 0.0175 '/' Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#3	Primary	273.00'	20.0' long x 12.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
#4	Device 2	272.00'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Device 2	264.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#6	Device 2	267.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.69 cfs @ 13.00 hrs HW=269.72' (Free Discharge)↳ **1=Exfiltration** (Controls 0.69 cfs)**Primary OutFlow** Max=1.66 cfs @ 13.00 hrs HW=269.72' (Free Discharge)

↳ **2=Culvert** (Passes 1.66 cfs of 11.51 cfs potential flow)
 ↳ **4=Orifice/Grate** (Controls 0.00 cfs)
 ↳ **5=Orifice/Grate** (Orifice Controls 0.99 cfs @ 11.34 fps)
 ↳ **6=Orifice/Grate** (Orifice Controls 0.67 cfs @ 7.69 fps)
 ↳ **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 4P: CB-1

Inflow Area = 0.093 ac, 91.24% Impervious, Inflow Depth = 4.26" for 10-year event
 Inflow = 0.43 cfs @ 12.08 hrs, Volume= 0.033 af
 Outflow = 0.43 cfs @ 12.08 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.43 cfs @ 12.08 hrs, Volume= 0.033 af
 Routed to Pond 6P : DMH-1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
 Peak Elev= 270.32' @ 12.08 hrs
 Flood Elev= 274.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	270.00'	12.0" Round Culvert L= 11.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 270.00' / 269.50' S= 0.0435 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.42 cfs @ 12.08 hrs HW=270.32' (Free Discharge)↳ **1=Culvert** (Inlet Controls 0.42 cfs @ 1.93 fps)

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 53

Summary for Pond 5P: CB-2

Inflow Area = 0.262 ac, 26.59% Impervious, Inflow Depth = 3.22" for 10-year event
Inflow = 0.98 cfs @ 12.09 hrs, Volume= 0.070 af
Outflow = 0.98 cfs @ 12.09 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.0 min
Primary = 0.98 cfs @ 12.09 hrs, Volume= 0.070 af
Routed to Pond 6P : DMH-1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 270.51' @ 12.09 hrs
Flood Elev= 274.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	270.00'	12.0" Round Culvert L= 38.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 270.00' / 269.50' S= 0.0132'/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.98 cfs @ 12.09 hrs HW=270.51' (Free Discharge)
1=Culvert (Inlet Controls 0.98 cfs @ 2.43 fps)

Summary for Pond 6P: DMH-1

[79] Warning: Submerged Pond 4P Primary device # 1 INLET by 0.03'
[79] Warning: Submerged Pond 5P Primary device # 1 INLET by 0.03'

Inflow Area = 0.355 ac, 43.46% Impervious, Inflow Depth = 3.49" for 10-year event
Inflow = 1.41 cfs @ 12.09 hrs, Volume= 0.103 af
Outflow = 1.41 cfs @ 12.09 hrs, Volume= 0.103 af, Atten= 0%, Lag= 0.0 min
Primary = 1.41 cfs @ 12.09 hrs, Volume= 0.103 af
Routed to Pond 3P : INFILTRATION BASIN

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 270.03' @ 12.09 hrs
Flood Elev= 275.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	269.40'	12.0" Round Culvert L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 269.40' / 268.00' S= 0.0175'/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.40 cfs @ 12.09 hrs HW=270.03' (Free Discharge)
1=Culvert (Inlet Controls 1.40 cfs @ 2.70 fps)

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 54

Summary for Pond 7P: CB-3

Inflow Area = 0.810 ac, 37.18% Impervious, Inflow Depth = 3.42" for 10-year event
Inflow = 3.19 cfs @ 12.09 hrs, Volume= 0.231 af
Outflow = 3.19 cfs @ 12.09 hrs, Volume= 0.231 af, Atten= 0%, Lag= 0.0 min
Primary = 3.19 cfs @ 12.09 hrs, Volume= 0.231 af
Routed to Pond 9P : DMH-2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 278.51' @ 12.09 hrs
Flood Elev= 281.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.30'	12.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.30' / 276.00' S= 0.0433'/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.19 cfs @ 12.09 hrs HW=278.51' (Free Discharge)
1=Culvert (Inlet Controls 3.19 cfs @ 4.06 fps)

Summary for Pond 8P: CB-4

Inflow Area = 0.069 ac, 100.00% Impervious, Inflow Depth = 4.60" for 10-year event
Inflow = 0.33 cfs @ 12.08 hrs, Volume= 0.026 af
Outflow = 0.33 cfs @ 12.08 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.0 min
Primary = 0.33 cfs @ 12.08 hrs, Volume= 0.026 af
Routed to Pond 9P : DMH-2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 277.68' @ 12.08 hrs
Flood Elev= 281.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.40'	12.0" Round Culvert L= 36.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.40' / 276.00' S= 0.0389'/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.33 cfs @ 12.08 hrs HW=277.68' (Free Discharge)
1=Culvert (Inlet Controls 0.33 cfs @ 1.80 fps)

Summary for Pond 9P: DMH-2

[79] Warning: Submerged Pond 13P Primary device # 1 OUTLET by 0.69'
[79] Warning: Submerged Pond 27P Primary device # 1 OUTLET by 0.69'

6083 - POST

Type III 24-hr 10-year Rainfall=4.84"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 55

Inflow Area = 6.540 ac, 42.75% Impervious, Inflow Depth = 3.11" for 10-year event
Inflow = 22.91 cfs @ 12.09 hrs, Volume= 1.697 af
Outflow = 22.91 cfs @ 12.09 hrs, Volume= 1.697 af, Atten= 0%, Lag= 0.0 min
Primary = 22.91 cfs @ 12.09 hrs, Volume= 1.697 af
Routed to Pond 3P : INFILTRATION BASIN

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 275.69' @ 12.09 hrs
Flood Elev= 281.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	272.40'	24.0" Round Culvert L= 89.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 272.40' / 270.00' S= 0.0270 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=22.90 cfs @ 12.09 hrs HW=275.69' (Free Discharge)
↑**1=Culvert** (Inlet Controls 22.90 cfs @ 7.29 fps)

Summary for Pond 10P: CB-5

Inflow Area = 0.058 ac, 100.00% Impervious, Inflow Depth = 4.60" for 10-year event
Inflow = 0.28 cfs @ 12.08 hrs, Volume= 0.022 af
Outflow = 0.28 cfs @ 12.08 hrs, Volume= 0.022 af, Atten= 0%, Lag= 0.0 min
Primary = 0.28 cfs @ 12.08 hrs, Volume= 0.022 af
Routed to Pond 13P : DMH-3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 278.66' @ 12.08 hrs
Flood Elev= 281.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	278.40'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.40' / 278.00' S= 0.0250 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.27 cfs @ 12.08 hrs HW=278.66' (Free Discharge)
↑**1=Culvert** (Inlet Controls 0.27 cfs @ 1.72 fps)

Summary for Pond 11P: CB-6

[62] Hint: Exceeded Reach 1R OUTLET depth by 0.54' @ 12.09 hrs

Inflow Area = 0.720 ac, 22.40% Impervious, Inflow Depth = 2.20" for 10-year event
Inflow = 1.84 cfs @ 12.09 hrs, Volume= 0.132 af
Outflow = 1.84 cfs @ 12.09 hrs, Volume= 0.132 af, Atten= 0%, Lag= 0.0 min
Primary = 1.84 cfs @ 12.09 hrs, Volume= 0.132 af
Routed to Pond 13P : DMH-3

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

6083 - POST

Type III 24-hr 10-year Rainfall=4.84"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 56

Peak Elev= 278.67' @ 12.09 hrs
Flood Elev= 281.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.95'	15.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.95' / 277.75' S= 0.0125 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.84 cfs @ 12.09 hrs HW=278.67' (Free Discharge)
↑**1=Culvert** (Barrel Controls 1.84 cfs @ 3.62 fps)

Summary for Pond 13P: DMH-3

[79] Warning: Submerged Pond 16P Primary device # 1 INLET by 0.17'

Inflow Area = 3.235 ac, 32.01% Impervious, Inflow Depth = 2.52" for 10-year event
Inflow = 9.14 cfs @ 12.10 hrs, Volume= 0.680 af
Outflow = 9.14 cfs @ 12.10 hrs, Volume= 0.680 af, Atten= 0%, Lag= 0.0 min
Primary = 9.14 cfs @ 12.10 hrs, Volume= 0.680 af
Routed to Pond 9P : DMH-2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 277.08' @ 12.10 hrs
Flood Elev= 281.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	275.70'	24.0" Round Culvert L= 63.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 275.70' / 275.00' S= 0.0111 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=9.13 cfs @ 12.10 hrs HW=277.07' (Free Discharge)
↑**1=Culvert** (Barrel Controls 9.13 cfs @ 5.59 fps)

Summary for Pond 14P: CB-8

Inflow Area = 0.156 ac, 100.00% Impervious, Inflow Depth = 4.60" for 10-year event
Inflow = 0.74 cfs @ 12.08 hrs, Volume= 0.060 af
Outflow = 0.74 cfs @ 12.08 hrs, Volume= 0.060 af, Atten= 0%, Lag= 0.0 min
Primary = 0.74 cfs @ 12.08 hrs, Volume= 0.060 af
Routed to Pond 16P : DMH-4

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 280.96' @ 12.08 hrs
Flood Elev= 283.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	280.50'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 280.50' / 280.30' S= 0.0125 '/ Cc= 0.900

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 57

n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.74 cfs @ 12.08 hrs HW=280.96' (Free Discharge)
↳ **1=Culvert** (Barrel Controls 0.74 cfs @ 3.09 fps)

Summary for Pond 15P: CB-9

Inflow Area = 1.125 ac, 28.89% Impervious, Inflow Depth = 1.92" for 10-year event
Inflow = 2.48 cfs @ 12.09 hrs, Volume= 0.180 af
Outflow = 2.48 cfs @ 12.09 hrs, Volume= 0.180 af, Atten= 0%, Lag= 0.0 min
Primary = 2.48 cfs @ 12.09 hrs, Volume= 0.180 af
Routed to Pond 16P : DMH-4

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 281.49' @ 12.09 hrs
Flood Elev= 283.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	280.50'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 280.50' / 280.30' S= 0.0125 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.47 cfs @ 12.09 hrs HW=281.49' (Free Discharge)
↳ **1=Culvert** (Barrel Controls 2.47 cfs @ 3.96 fps)

Summary for Pond 16P: DMH-4

[79] Warning: Submerged Pond 17P Primary device # 1 OUTLET by 1.15'

Inflow Area = 2.457 ac, 33.22% Impervious, Inflow Depth = 2.57" for 10-year event
Inflow = 7.03 cfs @ 12.10 hrs, Volume= 0.526 af
Outflow = 7.03 cfs @ 12.10 hrs, Volume= 0.526 af, Atten= 0%, Lag= 0.0 min
Primary = 7.03 cfs @ 12.10 hrs, Volume= 0.526 af
Routed to Pond 13P : DMH-3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 278.15' @ 12.10 hrs
Flood Elev= 283.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	276.90'	24.0" Round Culvert L= 211.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 276.90' / 275.80' S= 0.0052 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=7.02 cfs @ 12.10 hrs HW=278.15' (Free Discharge)
↳ **1=Culvert** (Barrel Controls 7.02 cfs @ 4.85 fps)

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 58

Summary for Pond 17P: DMH-5

[79] Warning: Submerged Pond 20P Primary device # 1 OUTLET by 0.83'

Inflow Area = 1.176 ac, 28.50% Impervious, Inflow Depth = 2.92" for 10-year event
Inflow = 3.84 cfs @ 12.10 hrs, Volume= 0.286 af
Outflow = 3.84 cfs @ 12.10 hrs, Volume= 0.286 af, Atten= 0%, Lag= 0.0 min
Primary = 3.84 cfs @ 12.10 hrs, Volume= 0.286 af
Routed to Pond 16P : DMH-4

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 283.16' @ 12.10 hrs
Flood Elev= 288.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	282.33'	24.0" Round Culvert L= 151.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 282.33' / 277.00' S= 0.0353 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=3.83 cfs @ 12.10 hrs HW=283.16' (Free Discharge)
↳ **1=Culvert** (Inlet Controls 3.83 cfs @ 3.10 fps)

Summary for Pond 18P: CB-10

Inflow Area = 1.079 ac, 24.33% Impervious, Inflow Depth = 2.84" for 10-year event
Inflow = 3.44 cfs @ 12.11 hrs, Volume= 0.256 af
Outflow = 3.44 cfs @ 12.11 hrs, Volume= 0.256 af, Atten= 0%, Lag= 0.0 min
Primary = 3.44 cfs @ 12.11 hrs, Volume= 0.256 af
Routed to Pond 20P : DMH-6

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 293.77' @ 12.11 hrs
Flood Elev= 296.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	292.75'	15.0" Round Culvert L= 13.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 292.75' / 292.50' S= 0.0192 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=3.43 cfs @ 12.11 hrs HW=293.77' (Free Discharge)
↳ **1=Culvert** (Barrel Controls 3.43 cfs @ 4.35 fps)

Summary for Pond 19P: CB-11

Inflow Area = 0.097 ac, 74.78% Impervious, Inflow Depth = 3.72" for 10-year event
Inflow = 0.41 cfs @ 12.09 hrs, Volume= 0.030 af
Outflow = 0.41 cfs @ 12.09 hrs, Volume= 0.030 af, Atten= 0%, Lag= 0.0 min
Primary = 0.41 cfs @ 12.09 hrs, Volume= 0.030 af
Routed to Pond 20P : DMH-6

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 59

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 294.52' @ 12.09 hrs
Flood Elev= 297.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	294.20'	12.0" Round Culvert L= 22.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 294.20' / 292.75' S= 0.0659 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.41 cfs @ 12.09 hrs HW=294.52' (Free Discharge)
↳ **1=Culvert** (Inlet Controls 0.41 cfs @ 1.92 fps)

Summary for Pond 20P: DMH-6

Inflow Area = 1.176 ac, 28.50% Impervious, Inflow Depth = 2.92" for 10-year event
Inflow = 3.84 cfs @ 12.10 hrs, Volume= 0.286 af
Outflow = 3.84 cfs @ 12.10 hrs, Volume= 0.286 af, Atten= 0%, Lag= 0.0 min
Primary = 3.84 cfs @ 12.10 hrs, Volume= 0.286 af
Routed to Pond 17P : DMH-5

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 290.43' @ 12.10 hrs
Flood Elev= 295.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	289.60'	24.0" Round Culvert L= 96.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 289.60' / 282.33' S= 0.0757 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=3.83 cfs @ 12.10 hrs HW=290.43' (Free Discharge)
↳ **1=Culvert** (Inlet Controls 3.83 cfs @ 3.10 fps)

Summary for Pond 21P: CB-12

Inflow Area = 0.159 ac, 84.05% Impervious, Inflow Depth = 4.26" for 10-year event
Inflow = 0.73 cfs @ 12.08 hrs, Volume= 0.057 af
Outflow = 0.73 cfs @ 12.08 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.0 min
Primary = 0.73 cfs @ 12.08 hrs, Volume= 0.057 af
Routed to Pond 23P : DMH-7

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 301.06' @ 12.08 hrs
Flood Elev= 303.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	300.60'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 300.60' / 300.40' S= 0.0125 '/' Cc= 0.900

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 60

n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.73 cfs @ 12.08 hrs HW=301.05' (Free Discharge)
↳ **1=Culvert** (Barrel Controls 0.73 cfs @ 3.09 fps)

Summary for Pond 22P: CB-13

Inflow Area = 0.814 ac, 56.14% Impervious, Inflow Depth = 3.72" for 10-year event
Inflow = 3.44 cfs @ 12.09 hrs, Volume= 0.253 af
Outflow = 3.44 cfs @ 12.09 hrs, Volume= 0.253 af, Atten= 0%, Lag= 0.0 min
Primary = 3.44 cfs @ 12.09 hrs, Volume= 0.253 af
Routed to Pond 23P : DMH-7

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 301.97' @ 12.09 hrs
Flood Elev= 303.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	300.60'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 300.60' / 300.40' S= 0.0125 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.43 cfs @ 12.09 hrs HW=301.97' (Free Discharge)
↳ **1=Culvert** (Barrel Controls 3.43 cfs @ 4.37 fps)

Summary for Pond 23P: DMH-7

Inflow Area = 0.974 ac, 60.70% Impervious, Inflow Depth = 3.81" for 10-year event
Inflow = 4.17 cfs @ 12.08 hrs, Volume= 0.309 af
Outflow = 4.17 cfs @ 12.08 hrs, Volume= 0.309 af, Atten= 0%, Lag= 0.0 min
Primary = 4.17 cfs @ 12.08 hrs, Volume= 0.309 af
Routed to Pond 24P : DMH-8

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 300.19' @ 12.08 hrs
Flood Elev= 303.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.20'	18.0" Round Culvert L= 157.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.20' / 289.50' S= 0.0618 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.16 cfs @ 12.08 hrs HW=300.19' (Free Discharge)
↳ **1=Culvert** (Inlet Controls 4.16 cfs @ 3.38 fps)

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 61

Summary for Pond 24P: DMH-8

[79] Warning: Submerged Pond 23P Primary device # 1 OUTLET by 0.07'

Inflow Area = 0.974 ac, 60.70% Impervious, Inflow Depth = 3.81" for 10-year event
Inflow = 4.17 cfs @ 12.08 hrs, Volume= 0.309 af
Outflow = 4.17 cfs @ 12.08 hrs, Volume= 0.309 af, Atten= 0%, Lag= 0.0 min
Primary = 4.17 cfs @ 12.08 hrs, Volume= 0.309 af
Routed to Pond 27P : DMH-9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 289.57' @ 12.08 hrs
Flood Elev= 294.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	288.70'	24.0" Round Culvert L= 105.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 288.70' / 281.53' S= 0.0683 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=4.16 cfs @ 12.08 hrs HW=289.57' (Free Discharge)
1=Culvert (Inlet Controls 4.16 cfs @ 3.17 fps)

Summary for Pond 25P: CB-14

Inflow Area = 0.489 ac, 53.63% Impervious, Inflow Depth = 3.72" for 10-year event
Inflow = 2.06 cfs @ 12.09 hrs, Volume= 0.152 af
Outflow = 2.06 cfs @ 12.09 hrs, Volume= 0.152 af, Atten= 0%, Lag= 0.0 min
Primary = 2.06 cfs @ 12.09 hrs, Volume= 0.152 af
Routed to Pond 27P : DMH-9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 285.40' @ 12.09 hrs
Flood Elev= 287.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	284.60'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 284.60' / 284.20' S= 0.0250 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.06 cfs @ 12.09 hrs HW=285.40' (Free Discharge)
1=Culvert (Inlet Controls 2.06 cfs @ 3.05 fps)

Summary for Pond 26P: CB-15

Inflow Area = 0.963 ac, 55.70% Impervious, Inflow Depth = 3.72" for 10-year event
Inflow = 4.06 cfs @ 12.09 hrs, Volume= 0.299 af
Outflow = 4.06 cfs @ 12.09 hrs, Volume= 0.299 af, Atten= 0%, Lag= 0.0 min
Primary = 4.06 cfs @ 12.09 hrs, Volume= 0.299 af
Routed to Pond 27P : DMH-9

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 10-year Rainfall=4.84"

Printed 4/1/2024

Page 62

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 285.32' @ 12.09 hrs
Flood Elev= 287.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	284.35'	18.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 284.35' / 283.95' S= 0.0250 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.05 cfs @ 12.09 hrs HW=285.32' (Free Discharge)
1=Culvert (Inlet Controls 4.05 cfs @ 3.35 fps)

Summary for Pond 27P: DMH-9

[79] Warning: Submerged Pond 24P Primary device # 1 OUTLET by 1.06'

Inflow Area = 2.426 ac, 57.29% Impervious, Inflow Depth = 3.76" for 10-year event
Inflow = 10.29 cfs @ 12.09 hrs, Volume= 0.760 af
Outflow = 10.29 cfs @ 12.09 hrs, Volume= 0.760 af, Atten= 0%, Lag= 0.0 min
Primary = 10.29 cfs @ 12.09 hrs, Volume= 0.760 af
Routed to Pond 9P : DMH-2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 282.59' @ 12.09 hrs
Flood Elev= 287.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	281.11'	24.0" Round Culvert L= 155.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 281.11' / 275.00' S= 0.0394 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=10.27 cfs @ 12.09 hrs HW=282.59' (Free Discharge)
1=Culvert (Inlet Controls 10.27 cfs @ 4.14 fps)

Summary for Link DP-A: DESIGN POINT-A

Inflow Area = 15.339 ac, 23.53% Impervious, Inflow Depth = 1.13" for 10-year event
Inflow = 3.60 cfs @ 12.45 hrs, Volume= 1.445 af
Primary = 3.60 cfs @ 12.45 hrs, Volume= 1.445 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link DP-B: DESIGN POINT-B

Inflow Area = 6.299 ac, 2.63% Impervious, Inflow Depth = 0.55" for 10-year event
Inflow = 2.05 cfs @ 12.14 hrs, Volume= 0.289 af
Primary = 2.05 cfs @ 12.14 hrs, Volume= 0.289 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+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: POST - A.1	Runoff Area=316,096 sf 6.83% Impervious Runoff Depth=1.02" Flow Length=1,092' Tc=18.6 min CN=49 Runoff=4.49 cfs 0.617 af
Subcatchment2S: POST - A.2	Runoff Area=20,831 sf 3.57% Impervious Runoff Depth=0.70" Tc=6.0 min UI Adjusted CN=44 Runoff=0.20 cfs 0.028 af
Subcatchment3S: POST - A.3	Runoff Area=4,031 sf 91.24% Impervious Runoff Depth=5.30" Tc=6.0 min CN=95 Runoff=0.52 cfs 0.041 af
Subcatchment4S: POST - A.4	Runoff Area=11,421 sf 26.59% Impervious Runoff Depth=4.20" Tc=6.0 min CN=85 Runoff=1.27 cfs 0.092 af
Subcatchment5S: POST - A.5	Runoff Area=35,285 sf 37.18% Impervious Runoff Depth=4.41" Tc=6.0 min CN=87 Runoff=4.08 cfs 0.298 af
Subcatchment6S: POST - A.6	Runoff Area=3,007 sf 100.00% Impervious Runoff Depth=5.65" Tc=6.0 min CN=98 Runoff=0.40 cfs 0.033 af
Subcatchment7S: POST - A.7	Runoff Area=11,175 sf 7.73% Impervious Runoff Depth=3.48" Tc=6.0 min UI Adjusted CN=78 Runoff=1.05 cfs 0.074 af
Subcatchment8S: POST - A.8	Runoff Area=41,933 sf 55.70% Impervious Runoff Depth=4.74" Tc=6.0 min CN=90 Runoff=5.10 cfs 0.380 af
Subcatchment9S: POST - A.9	Runoff Area=21,320 sf 53.63% Impervious Runoff Depth=4.74" Tc=6.0 min CN=90 Runoff=2.60 cfs 0.193 af
Subcatchment10S: POST - A.10	Runoff Area=6,936 sf 84.05% Impervious Runoff Depth=5.30" Tc=6.0 min CN=95 Runoff=0.90 cfs 0.070 af
Subcatchment11S: POST - A.11	Runoff Area=35,472 sf 56.14% Impervious Runoff Depth=4.74" Tc=6.0 min CN=90 Runoff=4.32 cfs 0.322 af
Subcatchment12S: POST - A.12	Runoff Area=46,999 sf 24.33% Impervious Runoff Depth=3.78" Flow Length=489' Tc=7.3 min CN=81 Runoff=4.55 cfs 0.340 af
Subcatchment13S: POST - A.13	Runoff Area=4,242 sf 74.78% Impervious Runoff Depth=4.74" Tc=6.0 min CN=90 Runoff=0.52 cfs 0.038 af
Subcatchment14S: POST - A.14	Runoff Area=48,993 sf 28.89% Impervious Runoff Depth=2.72" Tc=6.0 min CN=70 Runoff=3.56 cfs 0.255 af
Subcatchment15S: POST - A.15	Runoff Area=6,797 sf 100.00% Impervious Runoff Depth=5.65" Tc=6.0 min CN=98 Runoff=0.90 cfs 0.073 af
Subcatchment16S: POST - A.16	Runoff Area=2,531 sf 100.00% Impervious Runoff Depth=5.65" Tc=6.0 min CN=98 Runoff=0.34 cfs 0.027 af

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 65

Subcatchment17S: POST - A.17	Runoff Area=20,188 sf 30.52% Impervious Runoff Depth=2.81" Tc=6.0 min CN=71 Runoff=1.52 cfs 0.109 af
Subcatchment18S: POST - A.18	Runoff Area=23,490 sf 0.00% Impervious Runoff Depth=0.70" Tc=6.0 min CN=44 Runoff=0.23 cfs 0.031 af
Subcatchment19S: POST - A.19	Runoff Area=40,490 sf 0.00% Impervious Runoff Depth=1.02" Tc=6.0 min CN=49 Runoff=0.83 cfs 0.079 af
Subcatchment20S: POST - A.20	Runoff Area=19,252 sf 0.47% Impervious Runoff Depth=0.58" Tc=6.0 min CN=42 Runoff=0.12 cfs 0.021 af
Subcatchment21S: POST - A.21	Runoff Area=3,877 sf 86.23% Impervious Runoff Depth=4.74" Tc=6.0 min CN=90 Runoff=0.47 cfs 0.035 af
Subcatchment22S: POST - A.22	Runoff Area=3,542 sf 86.73% Impervious Runoff Depth=4.74" Tc=6.0 min CN=90 Runoff=0.43 cfs 0.032 af
Subcatchment23S: POST - A.23	Runoff Area=3,630 sf 85.12% Impervious Runoff Depth=4.63" Tc=6.0 min CN=89 Runoff=0.43 cfs 0.032 af
Subcatchment24S: POST - A.24	Runoff Area=3,490 sf 84.76% Impervious Runoff Depth=4.63" Tc=6.0 min CN=89 Runoff=0.42 cfs 0.031 af
Subcatchment25S: POST - B.1	Runoff Area=207,705 sf 2.52% Impervious Runoff Depth=1.09" Tc=6.5 min CN=50 Runoff=4.63 cfs 0.433 af
Subcatchment26S: POST - B.2	Runoff Area=66,700 sf 2.97% Impervious Runoff Depth=0.64" Tc=6.0 min CN=43 Runoff=0.53 cfs 0.081 af
Reach 1R: FES-7	Avg. Flow Depth=0.21' Max Vel=8.86 fps Inflow=1.05 cfs 0.074 af 12.0" Round Pipe n=0.012 L=25.0' S=0.0820 '/ Outflow=1.05 cfs 0.074 af
Pond 1P: EXISTING STORMWATERBASIN	Peak Elev=247.03' Storage=2,265 cf Inflow=1.75 cfs 0.163 af Outflow=0.29 cfs 0.163 af
Pond 2P: EXISTING STORMWATERBASIN	Peak Elev=253.12' Storage=1,593 cf Inflow=1.10 cfs 0.099 af Discarded=0.11 cfs 0.099 af Primary=0.00 cfs 0.000 af Outflow=0.11 cfs 0.099 af
Pond 3P: INFILTRATIONBASIN	Peak Elev=271.10' Storage=51,814 cf Inflow=31.69 cfs 2.373 af Discarded=0.84 cfs 0.888 af Primary=1.94 cfs 1.485 af Outflow=2.78 cfs 2.373 af
Pond 4P: CB-1	Peak Elev=270.36' Inflow=0.52 cfs 0.041 af 12.0" Round Culvert n=0.012 L=11.5' S=0.0435 '/ Outflow=0.52 cfs 0.041 af
Pond 5P: CB-2	Peak Elev=270.59' Inflow=1.27 cfs 0.092 af 12.0" Round Culvert n=0.012 L=38.0' S=0.0132 '/ Outflow=1.27 cfs 0.092 af
Pond 6P: DMH-1	Peak Elev=270.13' Inflow=1.79 cfs 0.133 af 12.0" Round Culvert n=0.012 L=80.0' S=0.0175 '/ Outflow=1.79 cfs 0.133 af

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 66

Pond 7P: CB-3	Peak Elev=278.96' Inflow=4.08 cfs 0.298 af 12.0" Round Culvert n=0.012 L=30.0' S=0.0433 '/ Outflow=4.08 cfs 0.298 af
Pond 8P: CB-4	Peak Elev=277.71' Inflow=0.40 cfs 0.033 af 12.0" Round Culvert n=0.012 L=36.0' S=0.0389 '/ Outflow=0.40 cfs 0.033 af
Pond 9P: DMH-2	Peak Elev=277.26' Inflow=29.73 cfs 2.213 af 24.0" Round Culvert n=0.012 L=89.0' S=0.0270 '/ Outflow=29.73 cfs 2.213 af
Pond 10P: CB-5	Peak Elev=278.68' Inflow=0.34 cfs 0.027 af 12.0" Round Culvert n=0.012 L=16.0' S=0.0250 '/ Outflow=0.34 cfs 0.027 af
Pond 11P: CB-6	Peak Elev=278.83' Inflow=2.57 cfs 0.183 af 15.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/ Outflow=2.57 cfs 0.183 af
Pond 13P: DMH-3	Peak Elev=277.39' Inflow=12.39 cfs 0.917 af 24.0" Round Culvert n=0.012 L=63.0' S=0.0111 '/ Outflow=12.39 cfs 0.917 af
Pond 14P: CB-8	Peak Elev=281.01' Inflow=0.90 cfs 0.073 af 12.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/ Outflow=0.90 cfs 0.073 af
Pond 15P: CB-9	Peak Elev=281.92' Inflow=3.56 cfs 0.255 af 12.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/ Outflow=3.56 cfs 0.255 af
Pond 16P: DMH-4	Peak Elev=278.41' Inflow=9.49 cfs 0.707 af 24.0" Round Culvert n=0.012 L=211.0' S=0.0052 '/ Outflow=9.49 cfs 0.707 af
Pond 17P: DMH-5	Peak Elev=283.30' Inflow=5.05 cfs 0.379 af 24.0" Round Culvert n=0.012 L=151.0' S=0.0353 '/ Outflow=5.05 cfs 0.379 af
Pond 18P: CB-10	Peak Elev=294.00' Inflow=4.55 cfs 0.340 af 15.0" Round Culvert n=0.012 L=13.0' S=0.0192 '/ Outflow=4.55 cfs 0.340 af
Pond 19P: CB-11	Peak Elev=294.56' Inflow=0.52 cfs 0.038 af 12.0" Round Culvert n=0.012 L=22.0' S=0.0659 '/ Outflow=0.52 cfs 0.038 af
Pond 20P: DMH-6	Peak Elev=290.57' Inflow=5.05 cfs 0.379 af 24.0" Round Culvert n=0.012 L=96.0' S=0.0757 '/ Outflow=5.05 cfs 0.379 af
Pond 21P: CB-12	Peak Elev=301.11' Inflow=0.90 cfs 0.070 af 12.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/ Outflow=0.90 cfs 0.070 af
Pond 22P: CB-13	Peak Elev=302.40' Inflow=4.32 cfs 0.322 af 12.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/ Outflow=4.32 cfs 0.322 af
Pond 23P: DMH-7	Peak Elev=300.34' Inflow=5.22 cfs 0.392 af 18.0" Round Culvert n=0.012 L=157.0' S=0.0618 '/ Outflow=5.22 cfs 0.392 af
Pond 24P: DMH-8	Peak Elev=289.69' Inflow=5.22 cfs 0.392 af 24.0" Round Culvert n=0.012 L=105.0' S=0.0683 '/ Outflow=5.22 cfs 0.392 af

Pond 25P: CB-14

Peak Elev=285.56' Inflow=2.60 cfs 0.193 af

12.0" Round Culvert n=0.012 L=16.0' S=0.0250 '/ Outflow=2.60 cfs 0.193 af

Pond 26P: CB-15

Peak Elev=285.47' Inflow=5.10 cfs 0.380 af

18.0" Round Culvert n=0.012 L=16.0' S=0.0250 '/ Outflow=5.10 cfs 0.380 af

Pond 27P: DMH-9

Peak Elev=282.84' Inflow=12.92 cfs 0.965 af

24.0" Round Culvert n=0.012 L=155.0' S=0.0394 '/ Outflow=12.92 cfs 0.965 af

Link DP-A: DESIGN POINT-A

Inflow=6.30 cfs 2.102 af

Primary=6.30 cfs 2.102 af

Link DP-B: DESIGN POINT-B

Inflow=5.13 cfs 0.514 af

Primary=5.13 cfs 0.514 af

Total Runoff Area = 23.173 ac Runoff Volume = 3.766 af Average Runoff Depth = 1.95"

83.10% Pervious = 19.257 ac 16.90% Impervious = 3.916 ac

Summary for Subcatchment 1S: POST - A.1

Runoff = 4.49 cfs @ 12.33 hrs, Volume= 0.617 af, Depth= 1.02"

Routed to Link DP-A : DESIGN POINT-A

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-year Rainfall=5.89"

Area (sf)	CN	Description
140,372	30	Woods, Good, HSG A
11,774	98	Roofs, HSG A
9,346	98	Paved parking, HSG A
79,813	39	>75% Grass cover, Good, HSG A
28,546	77	Woods, Good, HSG D
5,734	96	Gravel surface, HSG D
40,050	80	>75% Grass cover, Good, HSG D
461	98	Unconnected pavement, HSG A
316,096	49	Weighted Average
294,515		93.17% Pervious Area
21,581		6.83% Impervious Area
461		2.14% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	50	0.0800	0.12		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.10"
3.1	130	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.8	236	0.1000	2.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.8	155	0.0800	1.41		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
2.8	354	0.0900	2.10		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.9	167	0.0900	1.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
18.6	1,092	Total			

Summary for Subcatchment 2S: POST - A.2

Runoff = 0.20 cfs @ 12.13 hrs, Volume= 0.028 af, Depth= 0.70"

Routed to Pond 3P : INFILTRATION BASIN

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-year Rainfall=5.89"

6083 - POST

Type III 24-hr 25-year Rainfall=5.89"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 69

Area (sf)	CN	Adj	Description
46	80		>75% Grass cover, Good, HSG D
21	98		Unconnected pavement, HSG D
722	98		Unconnected pavement, HSG A
1,519	96		Gravel surface, HSG A
18,523	39		>75% Grass cover, Good, HSG A
20,831	45	44	Weighted Average, UI Adjusted
20,088			96.43% Pervious Area
743			3.57% Impervious Area
743			100.00% Unconnected

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

Summary for Subcatchment 3S: POST - A.3

Runoff = 0.52 cfs @ 12.08 hrs, Volume= 0.041 af, Depth= 5.30"
Routed to Pond 4P : CB-1

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-year Rainfall=5.89"

Area (sf)	CN	Description
2,245	98	Paved parking, HSG A
1,433	98	Paved parking, HSG D
117	39	>75% Grass cover, Good, HSG A
236	80	>75% Grass cover, Good, HSG D
4,031	95	Weighted Average
353		8.76% Pervious Area
3,678		91.24% Impervious Area

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

Summary for Subcatchment 4S: POST - A.4

Runoff = 1.27 cfs @ 12.09 hrs, Volume= 0.092 af, Depth= 4.20"
Routed to Pond 5P : CB-2

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-year Rainfall=5.89"

6083 - POST

Type III 24-hr 25-year Rainfall=5.89"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 70

Area (sf)	CN	Description
72	98	Paved parking, HSG A
2,965	98	Paved parking, HSG D
8,384	80	>75% Grass cover, Good, HSG D
11,421	85	Weighted Average
8,384		73.41% Pervious Area
3,037		26.59% Impervious Area

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

Summary for Subcatchment 5S: POST - A.5

Runoff = 4.08 cfs @ 12.09 hrs, Volume= 0.298 af, Depth= 4.41"
Routed to Pond 7P : CB-3

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-year Rainfall=5.89"

Area (sf)	CN	Description
4,555	98	Roofs, HSG D
8,417	98	Paved parking, HSG D
148	98	Roofs, HSG D
22,165	80	>75% Grass cover, Good, HSG D
35,285	87	Weighted Average
22,165		62.82% Pervious Area
13,120		37.18% Impervious Area

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

Summary for Subcatchment 6S: POST - A.6

Runoff = 0.40 cfs @ 12.08 hrs, Volume= 0.033 af, Depth= 5.65"
Routed to Pond 8P : CB-4

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-year Rainfall=5.89"

Area (sf)	CN	Description
380	98	Paved parking, HSG A
2,627	98	Paved parking, HSG D
3,007	98	Weighted Average
3,007		100.00% Impervious Area

6083 - POST

Type III 24-hr 25-year Rainfall=5.89"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 71

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

Summary for Subcatchment 7S: POST - A.7

Runoff = 1.05 cfs @ 12.09 hrs, Volume= 0.074 af, Depth= 3.48"
Routed to Reach 1R : FES-7

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-year Rainfall=5.89"

Area (sf)	CN	Adj	Description
9,602	80		>75% Grass cover, Good, HSG D
709	39		>75% Grass cover, Good, HSG A
822	98		Unconnected pavement, HSG D
42	98		Unconnected pavement, HSG A
11,175	79	78	Weighted Average, UI Adjusted
10,311			92.27% Pervious Area
864			7.73% Impervious Area
864			100.00% Unconnected

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

Summary for Subcatchment 8S: POST - A.8

Runoff = 5.10 cfs @ 12.08 hrs, Volume= 0.380 af, Depth= 4.74"
Routed to Pond 26P : CB-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-year Rainfall=5.89"

Area (sf)	CN	Description
13,692	98	Paved parking, HSG D
9,314	98	Roofs, HSG D
350	98	Roofs, HSG A
18,577	80	>75% Grass cover, Good, HSG D
41,933	90	Weighted Average
18,577		44.30% Pervious Area
23,356		55.70% Impervious Area

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

6083 - POST

Type III 24-hr 25-year Rainfall=5.89"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 72

Summary for Subcatchment 9S: POST - A.9

Runoff = 2.60 cfs @ 12.08 hrs, Volume= 0.193 af, Depth= 4.74"
Routed to Pond 25P : CB-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-year Rainfall=5.89"

Area (sf)	CN	Description
457	98	Unconnected pavement, HSG D
7,135	98	Paved parking, HSG D
3,841	98	Roofs, HSG D
9,887	80	>75% Grass cover, Good, HSG D
21,320	90	Weighted Average
9,887		46.37% Pervious Area
11,433		53.63% Impervious Area
457		4.00% Unconnected

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

Summary for Subcatchment 10S: POST - A.10

Runoff = 0.90 cfs @ 12.08 hrs, Volume= 0.070 af, Depth= 5.30"
Routed to Pond 21P : CB-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 25-year Rainfall=5.89"

Area (sf)	CN	Description
233	98	Unconnected pavement, HSG D
3,677	98	Paved parking, HSG D
1,920	98	Roofs, HSG D
1,106	80	>75% Grass cover, Good, HSG D
6,936	95	Weighted Average
1,106		15.95% Pervious Area
5,830		84.05% Impervious Area
233		4.00% Unconnected

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

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 73

Summary for Subcatchment 11S: POST - A.11

Runoff = 4.32 cfs @ 12.08 hrs, Volume= 0.322 af, Depth= 4.74"
 Routed to Pond 22P : CB-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 25-year Rainfall=5.89"

Area (sf)	CN	Description
10,185	98	Paved parking, HSG D
9,728	98	Roofs, HSG D
15,559	80	>75% Grass cover, Good, HSG D
35,472	90	Weighted Average
15,559		43.86% Pervious Area
19,913		56.14% Impervious Area

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

Summary for Subcatchment 12S: POST - A.12

Runoff = 4.55 cfs @ 12.10 hrs, Volume= 0.340 af, Depth= 3.78"
 Routed to Pond 18P : CB-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 25-year Rainfall=5.89"

Area (sf)	CN	Description
2,757	98	Paved parking, HSG D
496	98	Unconnected pavement, HSG D
619	96	Gravel surface, HSG D
2,970	98	Roofs, HSG D
30,920	80	>75% Grass cover, Good, HSG D
1,920	98	Roofs, HSG A
3,291	98	Paved parking, HSG A
4,026	39	>75% Grass cover, Good, HSG A
46,999	81	Weighted Average
35,565		75.67% Pervious Area
11,434		24.33% Impervious Area
496		4.34% Unconnected

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 74

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	50	0.0800	0.25		Sheet Flow, Grass: Short n= 0.150 P2= 3.10"
3.8	387	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.2	52	0.0700	5.37		Shallow Concentrated Flow, Paved Kv= 20.3 fps
7.3	489	Total			

Summary for Subcatchment 13S: POST - A.13

Runoff = 0.52 cfs @ 12.08 hrs, Volume= 0.038 af, Depth= 4.74"
 Routed to Pond 19P : CB-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 25-year Rainfall=5.89"

Area (sf)	CN	Description
1,489	98	Paved parking, HSG D
503	98	Unconnected pavement, HSG D
677	80	>75% Grass cover, Good, HSG D
879	98	Paved parking, HSG A
301	98	Unconnected pavement, HSG A
393	39	>75% Grass cover, Good, HSG A
4,242	90	Weighted Average
1,070		25.22% Pervious Area
3,172		74.78% Impervious Area
804		25.35% Unconnected

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

Summary for Subcatchment 14S: POST - A.14

Runoff = 3.56 cfs @ 12.09 hrs, Volume= 0.255 af, Depth= 2.72"
 Routed to Pond 15P : CB-9

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-year Rainfall=5.89"

6083 - POST

Type III 24-hr 25-year Rainfall=5.89"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 75

Area (sf)	CN	Description
463	98	Unconnected pavement, HSG D
16,849	80	>75% Grass cover, Good, HSG D
3,452	98	Roofs, HSG D
5,229	98	Paved parking, HSG A
1,141	98	Unconnected pavement, HSG A
17,990	39	>75% Grass cover, Good, HSG A
3,869	98	Roofs, HSG A
48,993	70	Weighted Average
34,839		71.11% Pervious Area
14,154		28.89% Impervious Area
1,604		11.33% Unconnected

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

Summary for Subcatchment 15S: POST - A.15

Runoff = 0.90 cfs @ 12.08 hrs, Volume= 0.073 af, Depth= 5.65"
 Routed to Pond 14P : CB-8

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-year Rainfall=5.89"

Area (sf)	CN	Description
4,877	98	Paved parking, HSG A
1,920	98	Roofs, HSG A
6,797	98	Weighted Average
6,797		100.00% Impervious Area

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

Summary for Subcatchment 16S: POST - A.16

Runoff = 0.34 cfs @ 12.08 hrs, Volume= 0.027 af, Depth= 5.65"
 Routed to Pond 10P : CB-5

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-year Rainfall=5.89"

Area (sf)	CN	Description
2,531	98	Paved parking, HSG A
2,531		100.00% Impervious Area

6083 - POST

Type III 24-hr 25-year Rainfall=5.89"

Prepared by Dillis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 76

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

Summary for Subcatchment 17S: POST - A.17

Runoff = 1.52 cfs @ 12.09 hrs, Volume= 0.109 af, Depth= 2.81"
 Routed to Pond 11P : CB-6

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-year Rainfall=5.89"

Area (sf)	CN	Description
7,133	80	>75% Grass cover, Good, HSG D
2,533	98	Roofs, HSG D
2,555	98	Paved parking, HSG A
1,073	98	Unconnected pavement, HSG A
6,894	39	>75% Grass cover, Good, HSG A
20,188	71	Weighted Average
14,027		69.48% Pervious Area
6,161		30.52% Impervious Area
1,073		17.42% Unconnected

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

Summary for Subcatchment 18S: POST - A.18

Runoff = 0.23 cfs @ 12.13 hrs, Volume= 0.031 af, Depth= 0.70"
 Routed to Pond 2P : EXISTING STORMWATER BASIN #1

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-year Rainfall=5.89"

Area (sf)	CN	Description
1,391	96	Gravel surface, HSG A
20,392	39	>75% Grass cover, Good, HSG A
1,707	61	>75% Grass cover, Good, HSG B
23,490	44	Weighted Average
23,490		100.00% Pervious Area

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

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 77

Summary for Subcatchment 19S: POST - A.19

Runoff = 0.83 cfs @ 12.11 hrs, Volume= 0.079 af, Depth= 1.02"
Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=5.89"

Area (sf)	CN	Description
1,529	96	Gravel surface, HSG A
24,450	39	>75% Grass cover, Good, HSG A
609	96	Gravel surface, HSG B
905	55	Woods, Good, HSG B
12,997	61	>75% Grass cover, Good, HSG B
40,490	49	Weighted Average
40,490		100.00% Pervious Area

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

Summary for Subcatchment 20S: POST - A.20

Runoff = 0.12 cfs @ 12.27 hrs, Volume= 0.021 af, Depth= 0.58"
Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=5.89"

Area (sf)	CN	Description
91	98	Unconnected roofs, HSG A
614	96	Gravel surface, HSG A
17,914	39	>75% Grass cover, Good, HSG A
633	61	>75% Grass cover, Good, HSG B
19,252	42	Weighted Average
19,161		99.53% Pervious Area
91		0.47% Impervious Area
91		100.00% Unconnected

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

Summary for Subcatchment 21S: POST - A.21

Runoff = 0.47 cfs @ 12.08 hrs, Volume= 0.035 af, Depth= 4.74"
Routed to Pond 2P : EXISTING STORMWATER BASIN #1

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-year Rainfall=5.89"

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 78

Area (sf)	CN	Description
3,343	98	Paved parking, HSG A
534	39	>75% Grass cover, Good, HSG A
3,877	90	Weighted Average
534		13.77% Pervious Area
3,343		86.23% Impervious Area

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

Summary for Subcatchment 22S: POST - A.22

Runoff = 0.43 cfs @ 12.08 hrs, Volume= 0.032 af, Depth= 4.74"
Routed to Pond 2P : EXISTING STORMWATER BASIN #1

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-year Rainfall=5.89"

Area (sf)	CN	Description
65	98	Paved parking, HSG D
3,007	98	Paved parking, HSG A
470	39	>75% Grass cover, Good, HSG A
3,542	90	Weighted Average
470		13.27% Pervious Area
3,072		86.73% Impervious Area

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

Summary for Subcatchment 23S: POST - A.23

Runoff = 0.43 cfs @ 12.08 hrs, Volume= 0.032 af, Depth= 4.63"
Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=5.89"

Area (sf)	CN	Description
3,090	98	Paved parking, HSG A
540	39	>75% Grass cover, Good, HSG A
3,630	89	Weighted Average
540		14.88% Pervious Area
3,090		85.12% Impervious Area

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 79

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

Summary for Subcatchment 24S: POST - A.24

Runoff = 0.42 cfs @ 12.08 hrs, Volume= 0.031 af, Depth= 4.63"
Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=5.89"

Area (sf)	CN	Description
2,958	98	Paved parking, HSG A
532	39	>75% Grass cover, Good, HSG A
3,490	89	Weighted Average
532		15.24% Pervious Area
2,958		84.76% Impervious Area

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

Summary for Subcatchment 25S: POST - B.1

Runoff = 4.63 cfs @ 12.12 hrs, Volume= 0.433 af, Depth= 1.09"
Routed to Link DP-B : DESIGN POINT-B

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-year Rainfall=5.89"

Area (sf)	CN	Description
3,554	98	Roofs, HSG D
31,172	80	>75% Grass cover, Good, HSG D
1,688	98	Roofs, HSG A
143,818	39	>75% Grass cover, Good, HSG A
27,473	61	>75% Grass cover, Good, HSG B
207,705	50	Weighted Average
202,463		97.48% Pervious Area
5,242		2.52% Impervious Area

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

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 80

Summary for Subcatchment 26S: POST - B.2

Runoff = 0.53 cfs @ 12.14 hrs, Volume= 0.081 af, Depth= 0.64"
Routed to Link DP-B : DESIGN POINT-B

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-year Rainfall=5.89"

Area (sf)	CN	Description
60,781	39	>75% Grass cover, Good, HSG A
737	98	Roofs, HSG A
1,247	98	Roofs, HSG D
3,935	80	>75% Grass cover, Good, HSG D
66,700	43	Weighted Average
64,716		97.03% Pervious Area
1,984		2.97% Impervious Area

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

Summary for Reach 1R: FES-7

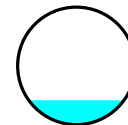
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 0.257 ac, 7.73% Impervious, Inflow Depth = 3.48" for 25-year event
Inflow = 1.05 cfs @ 12.09 hrs, Volume= 0.074 af
Outflow = 1.05 cfs @ 12.09 hrs, Volume= 0.074 af, Atten= 0%, Lag= 0.1 min
Routed to Pond 11P : CB-6

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 8.86 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.06 fps, Avg. Travel Time= 0.1 min

Peak Storage= 3 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.21' , Surface Width= 0.81'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 11.05 cfs

12.0" Round Pipe
n= 0.012
Length= 25.0' Slope= 0.0820 '
Inlet Invert= 280.00', Outlet Invert= 277.95'



6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 81

Summary for Pond 1P: EXISTING STORMWATER BASIN #1A

Inflow Area = 1.535 ac, 9.18% Impervious, Inflow Depth = 1.28" for 25-year event
Inflow = 1.75 cfs @ 12.10 hrs, Volume= 0.163 af
Outflow = 0.29 cfs @ 12.89 hrs, Volume= 0.163 af, Atten= 83%, Lag= 46.9 min
Discarded = 0.29 cfs @ 12.89 hrs, Volume= 0.163 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 247.03' @ 12.89 hrs Surf.Area= 4,280 sf Storage= 2,265 cf

Plug-Flow detention time= 111.2 min calculated for 0.163 af (100% of inflow)
Center-of-Mass det. time= 111.2 min (973.5 - 862.3)

Volume	Invert	Avail.Storage	Storage Description
#1	245.00'	27,041 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)
245.00	388	81.0	0	0	388
246.00	246	94.6	314	314	597
247.00	4,185	356.0	1,815	2,130	9,973
248.00	7,669	462.0	5,840	7,969	16,885
250.00	11,534	492.0	19,072	27,041	19,355

Device	Routing	Invert	Outlet Devices
#1	Discarded	245.00'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 243.00'

Discarded OutFlow Max=0.29 cfs @ 12.89 hrs HW=247.03' (Free Discharge)
↳ **1=Exfiltration** (Controls 0.29 cfs)

Summary for Pond 2P: EXISTING STORMWATER BASIN #1

Inflow Area = 0.710 ac, 20.75% Impervious, Inflow Depth = 1.67" for 25-year event
Inflow = 1.10 cfs @ 12.10 hrs, Volume= 0.099 af
Outflow = 0.11 cfs @ 13.70 hrs, Volume= 0.099 af, Atten= 90%, Lag= 96.2 min
Discarded = 0.11 cfs @ 13.70 hrs, Volume= 0.099 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link DP-A : DESIGN POINT-A

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 253.12' @ 13.70 hrs Surf.Area= 1,729 sf Storage= 1,593 cf

Plug-Flow detention time= 154.9 min calculated for 0.099 af (100% of inflow)
Center-of-Mass det. time= 154.9 min (984.7 - 829.8)

Volume	Invert	Avail.Storage	Storage Description
#1	252.00'	19,442 cf	Custom Stage Data (Irregular) Listed below (Recalc)

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 82

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
252.00	1,129	139.0	0	0	1,129
254.00	2,286	239.0	3,348	3,348	4,161
256.00	3,960	322.0	6,170	9,518	7,908
258.00	6,037	396.0	9,924	19,442	12,197

Device	Routing	Invert	Outlet Devices
#1	Discarded	252.00'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 243.00'
#2	Primary	257.90'	8.0' long x 12.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Discarded OutFlow Max=0.11 cfs @ 13.70 hrs HW=253.12' (Free Discharge)
↳ **1=Exfiltration** (Controls 0.11 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=252.00' (Free Discharge)
↳ **2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 3P: INFILTRATION BASIN

[81] Warning: Exceeded Pond 6P by 1.52' @ 13.13 hrs
[79] Warning: Submerged Pond 9P Primary device # 1 OUTLET by 1.10'

Inflow Area = 7.373 ac, 40.24% Impervious, Inflow Depth = 3.86" for 25-year event
Inflow = 31.69 cfs @ 12.09 hrs, Volume= 2.373 af
Outflow = 2.78 cfs @ 13.07 hrs, Volume= 2.373 af, Atten= 91%, Lag= 58.7 min
Discarded = 0.84 cfs @ 13.07 hrs, Volume= 0.888 af
Primary = 1.94 cfs @ 13.07 hrs, Volume= 1.485 af
Routed to Link DP-A : DESIGN POINT-A

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 271.10' @ 13.07 hrs Surf.Area= 10,451 sf Storage= 51,814 cf

Plug-Flow detention time= 253.6 min calculated for 2.373 af (100% of inflow)
Center-of-Mass det. time= 253.6 min (1,052.5 - 798.8)

Volume	Invert	Avail.Storage	Storage Description
#1	263.00'	87,143 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)
263.00	2,962	227.0	0	0	2,962
264.00	3,679	248.0	3,314	3,314	3,791
266.00	5,301	289.0	8,931	12,245	5,623
268.00	7,145	326.0	12,400	24,645	7,535
270.00	9,214	364.0	16,315	40,960	9,733
272.00	11,510	402.0	20,681	61,642	12,173
274.00	14,033	440.0	25,501	87,143	14,855

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 83

Device	Routing	Invert	Outlet Devices
#1	Discarded	263.00'	2.410 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 253.00' Phase-In= 0.01'
#2	Primary	263.00'	15.0" Round Culvert L= 57.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 263.00' / 262.00' S= 0.0175 '/ Cc= 0.900 n= 0.013, Flow Area= 1.23 sf
#3	Primary	273.00'	20.0' long x 12.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64 48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Device 2	264.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#6	Device 2	267.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.84 cfs @ 13.07 hrs HW=271.10' (Free Discharge)↳ **1=Exfiltration** (Controls 0.84 cfs)**Primary OutFlow** Max=1.94 cfs @ 13.07 hrs HW=271.10' (Free Discharge)↳ **2=Culvert** (Passes 1.94 cfs of 12.76 cfs potential flow)↳ **4=Orifice/Grate** (Controls 0.00 cfs)↳ **5=Orifice/Grate** (Orifice Controls 1.11 cfs @ 12.68 fps)↳ **6=Orifice/Grate** (Orifice Controls 0.83 cfs @ 9.55 fps)↳ **3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)**Summary for Pond 4P: CB-1**

Inflow Area = 0.093 ac, 91.24% Impervious, Inflow Depth = 5.30" for 25-year event
Inflow = 0.52 cfs @ 12.08 hrs, Volume= 0.041 af
Outflow = 0.52 cfs @ 12.08 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min
Primary = 0.52 cfs @ 12.08 hrs, Volume= 0.041 af
Routed to Pond 6P : DMH-1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 270.36' @ 12.08 hrs
Flood Elev= 274.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	270.00'	12.0" Round Culvert L= 11.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 270.00' / 269.50' S= 0.0435 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.52 cfs @ 12.08 hrs HW=270.36' (Free Discharge)↳ **1=Culvert** (Inlet Controls 0.52 cfs @ 2.05 fps)**6083 - POST**

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 84

Summary for Pond 5P: CB-2

Inflow Area = 0.262 ac, 26.59% Impervious, Inflow Depth = 4.20" for 25-year event
Inflow = 1.27 cfs @ 12.09 hrs, Volume= 0.092 af
Outflow = 1.27 cfs @ 12.09 hrs, Volume= 0.092 af, Atten= 0%, Lag= 0.0 min
Primary = 1.27 cfs @ 12.09 hrs, Volume= 0.092 af
Routed to Pond 6P : DMH-1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 270.59' @ 12.09 hrs
Flood Elev= 274.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	270.00'	12.0" Round Culvert L= 38.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 270.00' / 269.50' S= 0.0132 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.26 cfs @ 12.09 hrs HW=270.59' (Free Discharge)↳ **1=Culvert** (Inlet Controls 1.26 cfs @ 2.62 fps)**Summary for Pond 6P: DMH-1**

[79] Warning: Submerged Pond 4P Primary device # 1 INLET by 0.13'

[79] Warning: Submerged Pond 5P Primary device # 1 INLET by 0.13'

Inflow Area = 0.355 ac, 43.46% Impervious, Inflow Depth = 4.49" for 25-year event
Inflow = 1.79 cfs @ 12.09 hrs, Volume= 0.133 af
Outflow = 1.79 cfs @ 12.09 hrs, Volume= 0.133 af, Atten= 0%, Lag= 0.0 min
Primary = 1.79 cfs @ 12.09 hrs, Volume= 0.133 af
Routed to Pond 3P : INFILTRATION BASIN

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 270.13' @ 12.09 hrs
Flood Elev= 275.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	269.40'	12.0" Round Culvert L= 80.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 269.40' / 268.00' S= 0.0175 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.79 cfs @ 12.09 hrs HW=270.13' (Free Discharge)↳ **1=Culvert** (Inlet Controls 1.79 cfs @ 2.91 fps)

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 85

Summary for Pond 7P: CB-3

Inflow Area = 0.810 ac, 37.18% Impervious, Inflow Depth = 4.41" for 25-year event
Inflow = 4.08 cfs @ 12.09 hrs, Volume= 0.298 af
Outflow = 4.08 cfs @ 12.09 hrs, Volume= 0.298 af, Atten= 0%, Lag= 0.0 min
Primary = 4.08 cfs @ 12.09 hrs, Volume= 0.298 af
Routed to Pond 9P : DMH-2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 278.96' @ 12.09 hrs
Flood Elev= 281.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.30'	12.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.30' / 276.00' S= 0.0433'/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=4.07 cfs @ 12.09 hrs HW=278.96' (Free Discharge)
↑**1=Culvert** (Inlet Controls 4.07 cfs @ 5.18 fps)

Summary for Pond 8P: CB-4

Inflow Area = 0.069 ac, 100.00% Impervious, Inflow Depth = 5.65" for 25-year event
Inflow = 0.40 cfs @ 12.08 hrs, Volume= 0.033 af
Outflow = 0.40 cfs @ 12.08 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min
Primary = 0.40 cfs @ 12.08 hrs, Volume= 0.033 af
Routed to Pond 9P : DMH-2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 277.71' @ 12.08 hrs
Flood Elev= 281.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.40'	12.0" Round Culvert L= 36.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.40' / 276.00' S= 0.0389'/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.40 cfs @ 12.08 hrs HW=277.71' (Free Discharge)
↑**1=Culvert** (Inlet Controls 0.40 cfs @ 1.90 fps)

Summary for Pond 9P: DMH-2

[79] Warning: Submerged Pond 7P Primary device # 1 OUTLET by 1.26'
[79] Warning: Submerged Pond 8P Primary device # 1 OUTLET by 1.26'
[79] Warning: Submerged Pond 13P Primary device # 1 INLET by 1.56'
[79] Warning: Submerged Pond 27P Primary device # 1 OUTLET by 2.26'

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 86

Inflow Area = 6.540 ac, 42.75% Impervious, Inflow Depth = 4.06" for 25-year event
Inflow = 29.73 cfs @ 12.09 hrs, Volume= 2.213 af
Outflow = 29.73 cfs @ 12.09 hrs, Volume= 2.213 af, Atten= 0%, Lag= 0.0 min
Primary = 29.73 cfs @ 12.09 hrs, Volume= 2.213 af
Routed to Pond 3P : INFILTRATION BASIN

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 277.26' @ 12.09 hrs
Flood Elev= 281.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	272.40'	24.0" Round Culvert L= 89.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 272.40' / 270.00' S= 0.0270'/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=29.70 cfs @ 12.09 hrs HW=277.26' (Free Discharge)
↑**1=Culvert** (Inlet Controls 29.70 cfs @ 9.46 fps)

Summary for Pond 10P: CB-5

Inflow Area = 0.058 ac, 100.00% Impervious, Inflow Depth = 5.65" for 25-year event
Inflow = 0.34 cfs @ 12.08 hrs, Volume= 0.027 af
Outflow = 0.34 cfs @ 12.08 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.0 min
Primary = 0.34 cfs @ 12.08 hrs, Volume= 0.027 af
Routed to Pond 13P : DMH-3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 278.68' @ 12.08 hrs
Flood Elev= 281.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	278.40'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 278.40' / 278.00' S= 0.0250'/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.33 cfs @ 12.08 hrs HW=278.68' (Free Discharge)
↑**1=Culvert** (Inlet Controls 0.33 cfs @ 1.82 fps)

Summary for Pond 11P: CB-6

[62] Hint: Exceeded Reach 1R OUTLET depth by 0.68' @ 12.09 hrs

Inflow Area = 0.720 ac, 22.40% Impervious, Inflow Depth = 3.05" for 25-year event
Inflow = 2.57 cfs @ 12.09 hrs, Volume= 0.183 af
Outflow = 2.57 cfs @ 12.09 hrs, Volume= 0.183 af, Atten= 0%, Lag= 0.0 min
Primary = 2.57 cfs @ 12.09 hrs, Volume= 0.183 af
Routed to Pond 13P : DMH-3

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

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 87

Peak Elev= 278.83' @ 12.09 hrs
Flood Elev= 281.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	277.95'	15.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 277.95' / 277.75' S= 0.0125 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.57 cfs @ 12.09 hrs HW=278.83' (Free Discharge)
↑**1=Culvert** (Barrel Controls 2.57 cfs @ 3.88 fps)

Summary for Pond 13P: DMH-3

[79] Warning: Submerged Pond 16P Primary device # 1 INLET by 0.48'

Inflow Area = 3.235 ac, 32.01% Impervious, Inflow Depth = 3.40" for 25-year event
Inflow = 12.39 cfs @ 12.09 hrs, Volume= 0.917 af
Outflow = 12.39 cfs @ 12.09 hrs, Volume= 0.917 af, Atten= 0%, Lag= 0.0 min
Primary = 12.39 cfs @ 12.09 hrs, Volume= 0.917 af
Routed to Pond 9P : DMH-2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 277.39' @ 12.09 hrs
Flood Elev= 281.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	275.70'	24.0" Round Culvert L= 63.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 275.70' / 275.00' S= 0.0111 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=12.36 cfs @ 12.09 hrs HW=277.38' (Free Discharge)
↑**1=Culvert** (Barrel Controls 12.36 cfs @ 5.92 fps)

Summary for Pond 14P: CB-8

Inflow Area = 0.156 ac, 100.00% Impervious, Inflow Depth = 5.65" for 25-year event
Inflow = 0.90 cfs @ 12.08 hrs, Volume= 0.073 af
Outflow = 0.90 cfs @ 12.08 hrs, Volume= 0.073 af, Atten= 0%, Lag= 0.0 min
Primary = 0.90 cfs @ 12.08 hrs, Volume= 0.073 af
Routed to Pond 16P : DMH-4

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 281.01' @ 12.08 hrs
Flood Elev= 283.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	280.50'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 280.50' / 280.30' S= 0.0125 '/' Cc= 0.900

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 88

n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.90 cfs @ 12.08 hrs HW=281.01' (Free Discharge)
↑**1=Culvert** (Barrel Controls 0.90 cfs @ 3.22 fps)

Summary for Pond 15P: CB-9

Inflow Area = 1.125 ac, 28.89% Impervious, Inflow Depth = 2.72" for 25-year event
Inflow = 3.56 cfs @ 12.09 hrs, Volume= 0.255 af
Outflow = 3.56 cfs @ 12.09 hrs, Volume= 0.255 af, Atten= 0%, Lag= 0.0 min
Primary = 3.56 cfs @ 12.09 hrs, Volume= 0.255 af
Routed to Pond 16P : DMH-4

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 281.92' @ 12.09 hrs
Flood Elev= 283.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	280.50'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 280.50' / 280.30' S= 0.0125 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.56 cfs @ 12.09 hrs HW=281.92' (Free Discharge)
↑**1=Culvert** (Barrel Controls 3.56 cfs @ 4.53 fps)

Summary for Pond 16P: DMH-4

[79] Warning: Submerged Pond 17P Primary device # 1 OUTLET by 1.40'

Inflow Area = 2.457 ac, 33.22% Impervious, Inflow Depth = 3.45" for 25-year event
Inflow = 9.49 cfs @ 12.10 hrs, Volume= 0.707 af
Outflow = 9.49 cfs @ 12.10 hrs, Volume= 0.707 af, Atten= 0%, Lag= 0.0 min
Primary = 9.49 cfs @ 12.10 hrs, Volume= 0.707 af
Routed to Pond 13P : DMH-3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 278.41' @ 12.10 hrs
Flood Elev= 283.70'

Device	Routing	Invert	Outlet Devices
#1	Primary	276.90'	24.0" Round Culvert L= 211.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 276.90' / 275.80' S= 0.0052 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=9.47 cfs @ 12.10 hrs HW=278.40' (Free Discharge)
↑**1=Culvert** (Barrel Controls 9.47 cfs @ 5.19 fps)

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 89

Summary for Pond 17P: DMH-5

[79] Warning: Submerged Pond 20P Primary device # 1 OUTLET by 0.97'

Inflow Area = 1.176 ac, 28.50% Impervious, Inflow Depth = 3.86" for 25-year event
Inflow = 5.05 cfs @ 12.10 hrs, Volume= 0.379 af
Outflow = 5.05 cfs @ 12.10 hrs, Volume= 0.379 af, Atten= 0%, Lag= 0.0 min
Primary = 5.05 cfs @ 12.10 hrs, Volume= 0.379 af
Routed to Pond 16P : DMH-4

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 283.30' @ 12.10 hrs
Flood Elev= 288.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	282.33'	24.0" Round Culvert L= 151.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 282.33' / 277.00' S= 0.0353 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.05 cfs @ 12.10 hrs HW=283.30' (Free Discharge)
1=Culvert (Inlet Controls 5.05 cfs @ 3.35 fps)

Summary for Pond 18P: CB-10

Inflow Area = 1.079 ac, 24.33% Impervious, Inflow Depth = 3.78" for 25-year event
Inflow = 4.55 cfs @ 12.10 hrs, Volume= 0.340 af
Outflow = 4.55 cfs @ 12.10 hrs, Volume= 0.340 af, Atten= 0%, Lag= 0.0 min
Primary = 4.55 cfs @ 12.10 hrs, Volume= 0.340 af
Routed to Pond 20P : DMH-6

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 294.00' @ 12.10 hrs
Flood Elev= 296.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	292.75'	15.0" Round Culvert L= 13.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 292.75' / 292.50' S= 0.0192 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=4.54 cfs @ 12.10 hrs HW=294.00' (Free Discharge)
1=Culvert (Barrel Controls 4.54 cfs @ 4.61 fps)

Summary for Pond 19P: CB-11

Inflow Area = 0.097 ac, 74.78% Impervious, Inflow Depth = 4.74" for 25-year event
Inflow = 0.52 cfs @ 12.08 hrs, Volume= 0.038 af
Outflow = 0.52 cfs @ 12.08 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min
Primary = 0.52 cfs @ 12.08 hrs, Volume= 0.038 af
Routed to Pond 20P : DMH-6

6083 - POST

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 90

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 294.56' @ 12.08 hrs
Flood Elev= 297.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	294.20'	12.0" Round Culvert L= 22.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 294.20' / 292.75' S= 0.0659 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.52 cfs @ 12.08 hrs HW=294.56' (Free Discharge)
1=Culvert (Inlet Controls 0.52 cfs @ 2.04 fps)

Summary for Pond 20P: DMH-6

Inflow Area = 1.176 ac, 28.50% Impervious, Inflow Depth = 3.86" for 25-year event
Inflow = 5.05 cfs @ 12.10 hrs, Volume= 0.379 af
Outflow = 5.05 cfs @ 12.10 hrs, Volume= 0.379 af, Atten= 0%, Lag= 0.0 min
Primary = 5.05 cfs @ 12.10 hrs, Volume= 0.379 af
Routed to Pond 17P : DMH-5

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 290.57' @ 12.10 hrs
Flood Elev= 295.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	289.60'	24.0" Round Culvert L= 96.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 289.60' / 282.33' S= 0.0757 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.05 cfs @ 12.10 hrs HW=290.57' (Free Discharge)
1=Culvert (Inlet Controls 5.05 cfs @ 3.35 fps)

Summary for Pond 21P: CB-12

Inflow Area = 0.159 ac, 84.05% Impervious, Inflow Depth = 5.30" for 25-year event
Inflow = 0.90 cfs @ 12.08 hrs, Volume= 0.070 af
Outflow = 0.90 cfs @ 12.08 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.0 min
Primary = 0.90 cfs @ 12.08 hrs, Volume= 0.070 af
Routed to Pond 23P : DMH-7

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 301.11' @ 12.08 hrs
Flood Elev= 303.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	300.60'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 300.60' / 300.40' S= 0.0125 '/' Cc= 0.900

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 91

n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.90 cfs @ 12.08 hrs HW=301.11' (Free Discharge)**1=Culvert** (Barrel Controls 0.90 cfs @ 3.22 fps)**Summary for Pond 22P: CB-13**

Inflow Area = 0.814 ac, 56.14% Impervious, Inflow Depth = 4.74" for 25-year event
Inflow = 4.32 cfs @ 12.08 hrs, Volume= 0.322 af
Outflow = 4.32 cfs @ 12.08 hrs, Volume= 0.322 af, Atten= 0%, Lag= 0.0 min
Primary = 4.32 cfs @ 12.08 hrs, Volume= 0.322 af
Routed to Pond 23P : DMH-7

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

Peak Elev= 302.40' @ 12.08 hrs

Flood Elev= 303.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	300.60'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 300.60' / 300.40' S= 0.0125 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=4.31 cfs @ 12.08 hrs HW=302.40' (Free Discharge)**1=Culvert** (Inlet Controls 4.31 cfs @ 5.49 fps)**Summary for Pond 23P: DMH-7**

Inflow Area = 0.974 ac, 60.70% Impervious, Inflow Depth = 4.83" for 25-year event
Inflow = 5.22 cfs @ 12.08 hrs, Volume= 0.392 af
Outflow = 5.22 cfs @ 12.08 hrs, Volume= 0.392 af, Atten= 0%, Lag= 0.0 min
Primary = 5.22 cfs @ 12.08 hrs, Volume= 0.392 af
Routed to Pond 24P : DMH-8

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

Peak Elev= 300.34' @ 12.08 hrs

Flood Elev= 303.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	299.20'	18.0" Round Culvert L= 157.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 299.20' / 289.50' S= 0.0618 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=5.21 cfs @ 12.08 hrs HW=300.34' (Free Discharge)**1=Culvert** (Inlet Controls 5.21 cfs @ 3.63 fps)**6083 - POST**

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 25-year Rainfall=5.89"

Printed 4/1/2024

Page 92

Summary for Pond 24P: DMH-8

[79] Warning: Submerged Pond 23P Primary device # 1 OUTLET by 0.19'

Inflow Area = 0.974 ac, 60.70% Impervious, Inflow Depth = 4.83" for 25-year event
Inflow = 5.22 cfs @ 12.08 hrs, Volume= 0.392 af
Outflow = 5.22 cfs @ 12.08 hrs, Volume= 0.392 af, Atten= 0%, Lag= 0.0 min
Primary = 5.22 cfs @ 12.08 hrs, Volume= 0.392 af
Routed to Pond 27P : DMH-9

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

Peak Elev= 289.69' @ 12.08 hrs

Flood Elev= 294.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	288.70'	24.0" Round Culvert L= 105.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 288.70' / 281.53' S= 0.0683 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.21 cfs @ 12.08 hrs HW=289.69' (Free Discharge)**1=Culvert** (Inlet Controls 5.21 cfs @ 3.38 fps)**Summary for Pond 25P: CB-14**

Inflow Area = 0.489 ac, 53.63% Impervious, Inflow Depth = 4.74" for 25-year event
Inflow = 2.60 cfs @ 12.08 hrs, Volume= 0.193 af
Outflow = 2.60 cfs @ 12.08 hrs, Volume= 0.193 af, Atten= 0%, Lag= 0.0 min
Primary = 2.60 cfs @ 12.08 hrs, Volume= 0.193 af
Routed to Pond 27P : DMH-9

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

Peak Elev= 285.56' @ 12.08 hrs

Flood Elev= 287.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	284.60'	12.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 284.60' / 284.20' S= 0.0250 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.59 cfs @ 12.08 hrs HW=285.56' (Free Discharge)**1=Culvert** (Inlet Controls 2.59 cfs @ 3.34 fps)**Summary for Pond 26P: CB-15**

Inflow Area = 0.963 ac, 55.70% Impervious, Inflow Depth = 4.74" for 25-year event
Inflow = 5.10 cfs @ 12.08 hrs, Volume= 0.380 af
Outflow = 5.10 cfs @ 12.08 hrs, Volume= 0.380 af, Atten= 0%, Lag= 0.0 min
Primary = 5.10 cfs @ 12.08 hrs, Volume= 0.380 af
Routed to Pond 27P : DMH-9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 285.47' @ 12.08 hrs
Flood Elev= 287.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	284.35'	18.0" Round Culvert L= 16.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 284.35' / 283.95' S= 0.0250 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=5.09 cfs @ 12.08 hrs HW=285.47' (Free Discharge)
1=Culvert (Inlet Controls 5.09 cfs @ 3.60 fps)

Summary for Pond 27P: DMH-9

[79] Warning: Submerged Pond 24P Primary device # 1 OUTLET by 1.31'

Inflow Area = 2.426 ac, 57.29% Impervious, Inflow Depth = 4.78" for 25-year event
Inflow = 12.92 cfs @ 12.08 hrs, Volume= 0.965 af
Outflow = 12.92 cfs @ 12.08 hrs, Volume= 0.965 af, Atten= 0%, Lag= 0.0 min
Primary = 12.92 cfs @ 12.08 hrs, Volume= 0.965 af
Routed to Pond 9P : DMH-2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 282.84' @ 12.08 hrs
Flood Elev= 287.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	281.11'	24.0" Round Culvert L= 155.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 281.11' / 275.00' S= 0.0394 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=12.90 cfs @ 12.08 hrs HW=282.84' (Free Discharge)
1=Culvert (Inlet Controls 12.90 cfs @ 4.47 fps)

Summary for Link DP-A: DESIGN POINT-A

Inflow Area = 15.339 ac, 23.53% Impervious, Inflow Depth = 1.64" for 25-year event
Inflow = 6.30 cfs @ 12.34 hrs, Volume= 2.102 af
Primary = 6.30 cfs @ 12.34 hrs, Volume= 2.102 af, Atten= 0%, Lag= 0.0 min

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

Summary for Link DP-B: DESIGN POINT-B

Inflow Area = 6.299 ac, 2.63% Impervious, Inflow Depth = 0.98" for 25-year event
Inflow = 5.13 cfs @ 12.12 hrs, Volume= 0.514 af
Primary = 5.13 cfs @ 12.12 hrs, Volume= 0.514 af, Atten= 0%, Lag= 0.0 min

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

6083 - POST*Type III 24-hr 100-year Rainfall=7.52"*

Prepared by Diljis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 3

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+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: POST - A.1	Runoff Area=316,096 sf 6.33% Impervious Runoff Depth=1.87" Flow Length=1,092' Tc=18.6 min CN=49 Runoff=9.65 cfs 1.129 af
Subcatchment 2S: POST - A.2	Runoff Area=20,831 sf 3.57% Impervious Runoff Depth=1.40" Tc=6.0 min UI Adjusted CN=44 Runoff=0.61 cfs 0.056 af
Subcatchment 3S: POST - A.3	Runoff Area=4,031 sf 91.24% Impervious Runoff Depth=6.92" Tc=6.0 min CN=95 Runoff=0.67 cfs 0.053 af
Subcatchment 4S: POST - A.4	Runoff Area=11,421 sf 26.59% Impervious Runoff Depth=5.75" Tc=6.0 min CN=85 Runoff=1.71 cfs 0.126 af
Subcatchment 5S: POST - A.5	Runoff Area=35,285 sf 37.18% Impervious Runoff Depth=5.98" Tc=6.0 min CN=87 Runoff=5.44 cfs 0.404 af
Subcatchment 6S: POST - A.6	Runoff Area=3,007 sf 100.00% Impervious Runoff Depth=7.28" Tc=6.0 min CN=98 Runoff=0.51 cfs 0.042 af
Subcatchment 7S: POST - A.7	Runoff Area=11,175 sf 7.73% Impervious Runoff Depth=4.95" Tc=6.0 min UI Adjusted CN=78 Runoff=1.48 cfs 0.106 af
Subcatchment 8S: POST - A.8	Runoff Area=41,933 sf 55.70% Impervious Runoff Depth=6.33" Tc=6.0 min CN=90 Runoff=6.71 cfs 0.508 af
Subcatchment 9S: POST - A.9	Runoff Area=21,320 sf 53.63% Impervious Runoff Depth=6.33" Tc=6.0 min CN=90 Runoff=3.41 cfs 0.258 af
Subcatchment 10S: POST - A.10	Runoff Area=6,936 sf 84.05% Impervious Runoff Depth=6.92" Tc=6.0 min CN=95 Runoff=1.16 cfs 0.092 af
Subcatchment 11S: POST - A.11	Runoff Area=35,472 sf 56.14% Impervious Runoff Depth=6.33" Tc=6.0 min CN=90 Runoff=5.68 cfs 0.430 af
Subcatchment 12S: POST - A.12	Runoff Area=46,999 sf 24.33% Impervious Runoff Depth=5.29" Flow Length=489' Tc=7.3 min CN=81 Runoff=6.30 cfs 0.476 af
Subcatchment 13S: POST - A.13	Runoff Area=4,242 sf 74.78% Impervious Runoff Depth=6.33" Tc=6.0 min CN=90 Runoff=0.68 cfs 0.051 af
Subcatchment 14S: POST - A.14	Runoff Area=48,993 sf 28.89% Impervious Runoff Depth=4.05" Tc=6.0 min CN=70 Runoff=5.35 cfs 0.380 af
Subcatchment 15S: POST - A.15	Runoff Area=6,797 sf 100.00% Impervious Runoff Depth=7.28" Tc=6.0 min CN=98 Runoff=1.15 cfs 0.095 af
Subcatchment 16S: POST - A.16	Runoff Area=2,531 sf 100.00% Impervious Runoff Depth=7.28" Tc=6.0 min CN=98 Runoff=0.43 cfs 0.035 af

6083 - POST*Type III 24-hr 100-year Rainfall=7.52"*

Prepared by Diljis & Roy Civil Design Group

Printed 4/1/2024

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Page 4

Subcatchment 17S: POST - A.17	Runoff Area=20,188 sf 30.52% Impervious Runoff Depth=4.17" Tc=6.0 min CN=71 Runoff=2.26 cfs 0.161 af
Subcatchment 18S: POST - A.18	Runoff Area=23,490 sf 0.00% Impervious Runoff Depth=1.40" Tc=6.0 min CN=44 Runoff=0.69 cfs 0.063 af
Subcatchment 19S: POST - A.19	Runoff Area=40,490 sf 0.00% Impervious Runoff Depth=1.87" Tc=6.0 min CN=49 Runoff=1.80 cfs 0.145 af
Subcatchment 20S: POST - A.20	Runoff Area=19,252 sf 0.47% Impervious Runoff Depth=1.22" Tc=6.0 min CN=42 Runoff=0.45 cfs 0.045 af
Subcatchment 21S: POST - A.21	Runoff Area=3,877 sf 86.23% Impervious Runoff Depth=6.33" Tc=6.0 min CN=90 Runoff=0.62 cfs 0.047 af
Subcatchment 22S: POST - A.22	Runoff Area=3,542 sf 86.73% Impervious Runoff Depth=6.33" Tc=6.0 min CN=90 Runoff=0.57 cfs 0.043 af
Subcatchment 23S: POST - A.23	Runoff Area=3,630 sf 85.12% Impervious Runoff Depth=6.22" Tc=6.0 min CN=89 Runoff=0.57 cfs 0.043 af
Subcatchment 24S: POST - A.24	Runoff Area=3,490 sf 84.76% Impervious Runoff Depth=6.22" Tc=6.0 min CN=89 Runoff=0.55 cfs 0.042 af
Subcatchment 25S: POST - B.1	Runoff Area=207,705 sf 2.52% Impervious Runoff Depth=1.96" Tc=6.5 min CN=50 Runoff=9.67 cfs 0.780 af
Subcatchment 26S: POST - B.2	Runoff Area=66,700 sf 2.97% Impervious Runoff Depth=1.31" Tc=6.0 min CN=43 Runoff=1.75 cfs 0.167 af
Reach 1R: FES-7	Avg. Flow Depth=0.25' Max Vel=9.79 fps Inflow=1.48 cfs 0.106 af 12.0" Round Pipe n=0.012 L=25.0' S=0.0820 7' Capacity=11.05 cfs Outflow=1.48 cfs 0.106 af
Pond 1P: EXISTING STORMWATER BASIN	Peak Elev=247.47' Storage=4,468 cf Inflow=3.35 cfs 0.274 af Outflow=0.41 cfs 0.027 af
Pond 2P: EXISTING STORMWATER BASIN	Peak Elev=253.77' Storage=2,849 cf Inflow=1.85 cfs 0.153 af Discarded=0.14 cfs 0.153 af Primary=0.00 cfs 0.000 af Outflow=0.14 cfs 0.153 af
Pond 3P: INFILTRATION BASIN	Peak Elev=272.31' Storage=65,228 cf Inflow=43.41 cfs 3.272 af Discarded=0.97 cfs 1.076 af Primary=11.14 cfs 2.197 af Outflow=12.12 cfs 3.272 af
Pond 4P: CB-1	Peak Elev=270.41' Inflow=0.67 cfs 0.053 af 12.0" Round Culvert n=0.012 L=11.5' S=0.0435 7' Outflow=0.67 cfs 0.053 af
Pond 5P: CB-2	Peak Elev=270.71' Inflow=1.71 cfs 0.126 af 12.0" Round Culvert n=0.012 L=38.0' S=0.0132 7' Outflow=1.71 cfs 0.126 af
Pond 6P: DMH-1	Peak Elev=270.29' Inflow=2.39 cfs 0.179 af 12.0" Round Culvert n=0.012 L=80.0' S=0.0175 7' Outflow=2.39 cfs 0.179 af

6083 - POST*Type III 24-hr 100-year Rainfall=7.52"*Prepared by Diljis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 5

Pond 7P: CB-3	Peak Elev=279.87' Inflow=5.44 cfs 0.404 af 12.0" Round Culvert n=0.012 L=30.0' S=0.0433 '/' Outflow=5.44 cfs 0.404 af
Pond 8P: CB-4	Peak Elev=277.76' Inflow=0.51 cfs 0.042 af 12.0" Round Culvert n=0.012 L=36.0' S=0.0389 '/' Outflow=0.51 cfs 0.042 af
Pond 9P: DMH-2	Peak Elev=280.55' Inflow=40.44 cfs 3.038 af 24.0" Round Culvert n=0.012 L=89.0' S=0.0270 '/' Outflow=40.44 cfs 3.038 af
Pond 10P: CB-5	Peak Elev=278.72' Inflow=0.43 cfs 0.035 af 12.0" Round Culvert n=0.012 L=16.0' S=0.0250 '/' Outflow=0.43 cfs 0.035 af
Pond 11P: CB-6	Peak Elev=279.08' Inflow=3.74 cfs 0.267 af 15.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/' Outflow=3.74 cfs 0.267 af
Pond 13P: DMH-3	Peak Elev=278.05' Inflow=17.58 cfs 1.304 af 24.0" Round Culvert n=0.012 L=63.0' S=0.0111 '/' Outflow=17.58 cfs 1.304 af
Pond 14P: CB-8	Peak Elev=281.10' Inflow=1.15 cfs 0.095 af 12.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/' Outflow=1.15 cfs 0.095 af
Pond 15P: CB-9	Peak Elev=283.00' Inflow=5.35 cfs 0.380 af 12.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/' Outflow=5.35 cfs 0.380 af
Pond 16P: DMH-4	Peak Elev=278.81' Inflow=13.42 cfs 1.002 af 24.0" Round Culvert n=0.012 L=211.0' S=0.0052 '/' Outflow=13.42 cfs 1.002 af
Pond 17P: DMH-5	Peak Elev=283.49' Inflow=6.96 cfs 0.527 af 24.0" Round Culvert n=0.012 L=151.0' S=0.0353 '/' Outflow=6.96 cfs 0.527 af
Pond 18P: CB-10	Peak Elev=294.51' Inflow=6.30 cfs 0.476 af 15.0" Round Culvert n=0.012 L=13.0' S=0.0192 '/' Outflow=6.30 cfs 0.476 af
Pond 19P: CB-11	Peak Elev=294.62' Inflow=0.68 cfs 0.051 af 12.0" Round Culvert n=0.012 L=22.0' S=0.0659 '/' Outflow=0.68 cfs 0.051 af
Pond 20P: DMH-6	Peak Elev=290.76' Inflow=6.96 cfs 0.527 af 24.0" Round Culvert n=0.012 L=96.0' S=0.0757 '/' Outflow=6.96 cfs 0.527 af
Pond 21P: CB-12	Peak Elev=301.20' Inflow=1.16 cfs 0.092 af 12.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/' Outflow=1.16 cfs 0.092 af
Pond 22P: CB-13	Peak Elev=303.35' Inflow=5.68 cfs 0.430 af 12.0" Round Culvert n=0.012 L=16.0' S=0.0125 '/' Outflow=5.68 cfs 0.430 af
Pond 23P: DMH-7	Peak Elev=300.59' Inflow=6.84 cfs 0.522 af 18.0" Round Culvert n=0.012 L=157.0' S=0.0618 '/' Outflow=6.84 cfs 0.522 af
Pond 24P: DMH-8	Peak Elev=289.85' Inflow=6.84 cfs 0.522 af 24.0" Round Culvert n=0.012 L=105.0' S=0.0683 '/' Outflow=6.84 cfs 0.522 af

6083 - POST*Type III 24-hr 100-year Rainfall=7.52"*Prepared by Diljis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 6

Pond 25P: CB-14	Peak Elev=285.91' Inflow=3.41 cfs 0.258 af 12.0" Round Culvert n=0.012 L=16.0' S=0.0250 '/' Outflow=3.41 cfs 0.258 af
Pond 26P: CB-15	Peak Elev=285.71' Inflow=6.71 cfs 0.508 af 18.0" Round Culvert n=0.012 L=16.0' S=0.0250 '/' Outflow=6.71 cfs 0.508 af
Pond 27P: DMH-9	Peak Elev=283.37' Inflow=16.96 cfs 1.288 af 24.0" Round Culvert n=0.012 L=155.0' S=0.0394 '/' Outflow=16.96 cfs 1.288 af
Link DP-A: DESIGN POINT-A	Inflow=19.40 cfs 3.325 af Primary=19.40 cfs 3.325 af
Link DP-B: DESIGN POINT-B	Inflow=11.42 cfs 0.947 af Primary=11.42 cfs 0.947 af
Total Runoff Area = 23.173 ac Runoff Volume = 5.775 af Average Runoff Depth = 2.99"	
83.10% Pervious = 19.257 ac 16.90% Impervious = 3.916 ac	

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Diljis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 7

Summary for Subcatchment 1S: POST - A.1

Runoff = 9.65 cfs @ 12.30 hrs, Volume= 1.129 af, Depth= 1.87"
Routed to Link DP-A : DESIGN POINT-A

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-year Rainfall=7.52"

Area (sf)	CN	Description
140,372	30	Woods, Good, HSG A
11,774	98	Roots, HSG A
9,346	98	Paved parking, HSG A
79,813	39	>75% Grass cover, Good, HSG A
28,546	77	Woods, Good, HSG D
5,734	96	Gravel surface, HSG D
40,050	80	>75% Grass cover, Good, HSG D
461	98	Unconnected pavement, HSG A

316,096 49 Weighted Average
294,515 93.17% Pervious Area
21,581 6.83% Impervious Area
461 2.14% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2	50	0.0800	0.12		Sheet Flow, Woods: Light underbrush, n= 0.400 P2= 3.10"
3.1	130	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.8	236	0.1000	2.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.8	155	0.0800	1.41		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
2.8	354	0.0900	2.10		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.9	167	0.0900	1.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
18.6	1,092	Total			

Summary for Subcatchment 2S: POST - A.2

Runoff = 0.61 cfs @ 12.11 hrs, Volume= 0.056 af, Depth= 1.40"
Routed to Pond 3P : INFILTRATION BASIN

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-year Rainfall=7.52"

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Diljis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 8

Summary for Subcatchment 4S: POST - A.4

Runoff = 1.71 cfs @ 12.09 hrs, Volume= 0.126 af, Depth= 5.75"
Routed to Pond 5P : CB-2

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-year Rainfall=7.52"

Area (sf)	CN	Adj	Description
46	80		>75% Grass cover, Good, HSG D
21	98		Unconnected pavement, HSG D
722	98		Unconnected pavement, HSG A
1,519	96		Gravel surface, HSG A
18,523	39		>75% Grass cover, Good, HSG A
20,831	45	44	Weighted Average, UI Adjusted
20,088			96.43% Pervious Area
743			3.57% Impervious Area
743			100.00% Unconnected

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

Summary for Subcatchment 3S: POST - A.3

Runoff = 0.67 cfs @ 12.08 hrs, Volume= 0.053 af, Depth= 6.92"
Routed to Pond 4P : CB-1

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-year Rainfall=7.52"

Area (sf)		CN	Description		
2,245	98		Paved parking, HSG A		
1,433	98		Paved parking, HSG D		
117	39		>75% Grass cover, Good, HSG A		
236	80		>75% Grass cover, Good, HSG D		
4,031	95		Weighted Average		
353			8.76% Pervious Area		
3,678			91.24% Impervious Area		
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dililis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 9

Area (sf)				
CN	Description			
72	98	Paved parking, HSG A		
2,965	98	Paved parking, HSG D		
8,384	80	>75% Grass cover. Good, HSG D		
11,421	85	Weighted Average		
8,384		73.41% Pervious Area		
3,037		26.59% Impervious Area		
Tc Length (min)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0				Direct Entry,

Direct Entry,

Summary for Subcatchment 55: POST - A.5

Runoff = 5.44 cfs @ 12.08 hrs, Volume= 0.404 af, Depth= 5.98"
Routed to Pond 7P : CB-3

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-year Rainfall=7.52"

Area (sf)	CN	Description		
4,555	98	Roofs, HSG D		
8,417	98	Paved parking, HSG D		
148	98	Roofs, HSG D		
22,165	80	>75% Grass cover, Good, HSG D		
35,285	87	Weighted Average		
22,165		62.82% Pervious Area		
13,120		37.18% Impervious Area		
Tc Length (min)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0				Direct Entry,

Direct Entry,

Summary for Subcatchment 65: POST - A.6

Runoff = 0.51 cfs @ 12.08 hrs, Volume= 0.042 af, Depth= 7.28"
Routed to Pond 8P : CB-4

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-year Rainfall=7.52"

Area (sf)	CN	Description
380	98	Paved parking, HSG A
2,627	98	Paved parking, HSG D
3,007	98	Weighted Average
3,007		100.00% Impervious Area

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dililis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 10

Tc Length (min)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0				

Direct Entry,

Summary for Subcatchment 75: POST - A.7

Runoff = 1.48 cfs @ 12.09 hrs, Volume= 0.106 af, Depth= 4.95"
Routed to Reach 1R : FES-7

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-year Rainfall=7.52"

Area (sf)	CN	Adj	Description	
9,602	80		>75% Grass cover, Good, HSG D	
709	39		>75% Grass cover, Good, HSG A	
822	98		Unconnected pavement, HSG D	
42	98		Unconnected pavement, HSG A	
11,175	79	78	Weighted Average, UI Adjusted	
10,311			92.27% Pervious Area	
864			7.73% Impervious Area	
864			100.00% Unconnected	
Tc Length (min)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0				Direct Entry,

Direct Entry,

Summary for Subcatchment 85: POST - A.8

Runoff = 6.71 cfs @ 12.08 hrs, Volume= 0.508 af, Depth= 6.33"
Routed to Pond 26P : CB-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-year Rainfall=7.52"

Area (sf)	CN	Description		
13,692	98	Paved parking, HSG D		
9,314	98	Roofs, HSG D		
350	98	Roofs, HSG A		
18,577	80	>75% Grass cover, Good, HSG D		
41,933	90	Weighted Average		
18,577		44.30% Pervious Area		
23,356		55.70% Impervious Area		
Tc Length (min)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0				Direct Entry,

Direct Entry,

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 11

Summary for Subcatchment 9S: POST - A.9

Runoff = 3.41 cfs @ 12.08 hrs, Volume= 0.258 af, Depth= 6.33"
Routed to Pond 25P : CB-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 100-year Rainfall=7.52"

Area (sf)		CN	Description		
457	98	Unconnected pavement, HSG D			
7,135	98	Paved parking, HSG D			
3,841	98	Roofs, HSG D			
9,887	80	>75% Grass cover, Good, HSG D			
21,320	90	Weighted Average			
9,887		46.37% Pervious Area			
11,433		53.63% Impervious Area			
457		4.00% Unconnected			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 10S: POST - A.10

Runoff = 1.16 cfs @ 12.08 hrs, Volume= 0.092 af, Depth= 6.92"
Routed to Pond 21P : CB-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 100-year Rainfall=7.52"

Area (sf)	CN	Description			
233	98	Unconnected pavement, HSG D			
3,677	98	Paved parking, HSG D			
1,920	98	Roofs, HSG D			
1,106	80	>75% Grass cover, Good, HSG D			
6,936	95	Weighted Average			
1,106		15.95% Pervious Area			
5,830		84.05% Impervious Area			
233		4.00% Unconnected			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 12

Summary for Subcatchment 11S: POST - A.11

Runoff = 5.68 cfs @ 12.08 hrs, Volume= 0.430 af, Depth= 6.33"
Routed to Pond 22P : CB-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 100-year Rainfall=7.52"

Area (sf)		CN	Description		
10,185	98		Paved parking, HSG D		
9,728	98		Roofs, HSG D		
15,559	80		>75% Grass cover, Good, HSG D		
35,472	90		Weighted Average		
15,559			43.86% Pervious Area		
19,913			56.14% Impervious Area		
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 12S: POST - A.12

Summary for Subcatchment 12S: POST - A.12

Runoff = 6.30 cfs @ 12.10 hrs, Volume= 0.476 af, Depth= 5.29"
Routed to Pond 18P : CB-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-year Rainfall=7.52"

Area (sf)	CN	Description
2,757	98	Paved parking, HSG D
496	98	Unconnected pavement, HSG D
619	96	Gravel surface, HSG D
2,970	98	Roofs, HSG D
30,920	80	>75% Grass cover, Good, HSG D
1,920	98	Roofs, HSG A
3,291	98	Paved parking, HSG A
4,026	39	>75% Grass cover, Good, HSG A
46,999	81	Weighted Average
35,565		75.67% Pervious Area
11,434		24.33% Impervious Area
496		4.34% Unconnected

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dililis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 13

Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
3.3	50	0.0800	0.25		Sheet Flow, Grass: Short n= 0.150 P2= 3.10"
3.8	387	0.0600	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.2	52	0.0700	5.37		Shallow Concentrated Flow, Paved Kv= 20.3 fps

7.3 489 Total

Summary for Subcatchment 13S: POST - A.13

Runoff = 0.68 cfs @ 12.08 hrs, Volume= 0.051 af, Depth= 6.33"
Routed to Pond 19P : CB-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 100-year Rainfall=7.52"

Area (sf)					CN	Description
Tc (min)	1,489	98	Paved parking, HSG D			
	503	98	Unconnected pavement, HSG D			
	677	80	>75% Grass cover, Good, HSG D			
	879	98	Paved parking, HSG A			
	301	98	Unconnected pavement, HSG A			
	393	39	>75% Grass cover, Good, HSG A			
	4,242	90	Weighted Average			
Slope (ft/ft)	1,070	25.22%	Pervious Area			
	3,172	74.78%	Impervious Area			
	804	25.35%	Unconnected			
Direct Entry,						

Summary for Subcatchment 14S: POST - A.14

Runoff = 5.35 cfs @ 12.09 hrs, Volume= 0.380 af, Depth= 4.05"
Routed to Pond 15P : CB-9

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-year Rainfall=7.52"

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dililis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 14

Area (sf)	CN	Description
463	98	Unconnected pavement, HSG D
16,849	80	>75% Grass cover, Good, HSG D
3,452	98	Roots, HSG D
5,229	98	Paved parking, HSG A
1,141	98	Unconnected pavement, HSG A
17,990	39	>75% Grass cover, Good, HSG A
3,869	98	Roots, HSG A
48,993	70	Weighted Average
34,839		71.11% Pervious Area
14,154		28.89% Impervious Area
1,604		11.33% Unconnected

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

Summary for Subcatchment 15S: POST - A.15

Runoff = 1.15 cfs @ 12.08 hrs, Volume= 0.095 af, Depth= 7.28"
Routed to Pond 14P : CB-8

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-year Rainfall=7.52"

Area (sf)	CN	Description			
4,877	98	Paved parking, HSG A			
1,920	98	Roots, HSG A			
6,797	98	Weighted Average			
6,797		100.00% Impervious Area			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description

Summary for Subcatchment 16S: POST - A.16

Runoff = 0.43 cfs @ 12.08 hrs, Volume= 0.035 af, Depth= 7.28"
Routed to Pond 10P : CB-5

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-year Rainfall=7.52"

Area (sf)	CN	Description
2,531	98	Paved parking, HSG A
2,531		100.00% Impervious Area

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dililis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 15

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

Summary for Subcatchment 17S: POST - A.17

Runoff = 2.26 cfs @ 12.09 hrs, Volume= 0.161 af, Depth= 4.17"
Routed to Pond 1P : CB-6

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-year Rainfall=7.52"

Area (sf)	CN	Description
7,133	80	>75% Grass cover, Good, HSG D
2,533	98	Roofs, HSG D
2,555	98	Paved parking, HSG A
1,073	98	Unconnected pavement, HSG A
6,894	39	>75% Grass cover, Good, HSG A
20,188	71	Weighted Average
14,027		69.48% Pervious Area
6,161		30.52% Impervious Area
1,073		17.42% Unconnected

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

Summary for Subcatchment 18S: POST - A.18

Runoff = 0.69 cfs @ 12.11 hrs, Volume= 0.063 af, Depth= 1.40"
Routed to Pond 2P : EXISTING STORMWATER BASIN #1

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-year Rainfall=7.52"

Area (sf)					CN	Description
1,391					96	Gravel surface, HSG A
20,392					39	>75% Grass cover, Good, HSG A
1,707					61	>75% Grass cover, Good, HSG B
23,490					44	Weighted Average
23,490					100.00% Pervious Area	
Tc	Length	Slope	Velocity	Capacity	Description	
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)		
6.0					Direct Entry,	

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dililis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 16

Summary for Subcatchment 19S: POST - A.19

Runoff = 1.80 cfs @ 12.10 hrs, Volume= 0.145 af, Depth= 1.87"
Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=7.52"

Area (sf)	CN	Description
1,529	96	Gravel surface, HSG A
24,450	39	>75% Grass cover, Good, HSG A
609	96	Gravel surface, HSG B
905	55	Woods, Good, HSG B
12,997	61	>75% Grass cover, Good, HSG B
40,490	49	Weighted Average
		100.00% Pervious Area
40,490		

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

Summary for Subcatchment 20S: POST - A.20

Runoff = 0.45 cfs @ 12.11 hrs, Volume= 0.045 af, Depth= 1.22"
Routed to Pond 1P : EXISTING STORMWATER BASIN #1A

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-year Rainfall=7.52"

Area (sf)	CN	Description
91	98	Unconnected roofs, HSG A
614	96	Gravel surface, HSG A
17,914	39	>75% Grass cover, Good, HSG A
633	61	>75% Grass cover, Good, HSG B
19,252	42	Weighted Average
19,161		99.53% Pervious Area
91		0.47% Impervious Area
91		100.00% Unconnected

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

Summary for Subcatchment 21S: POST - A.21

Runoff = 0.62 cfs @ 12.08 hrs, Volume= 0.047 af, Depth= 6.33"
Routed to Pond 2P : EXISTING STORMWATER BASIN #1

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-year Rainfall=7.52"

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dililis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 17

Area (sf)		CN	Description	
3,343	98	Paved parking, HSG A		
534	39	>75% Grass cover, Good, HSG A		
3,877	90	Weighted Average		
534		13.77% Pervious Area		
3,343		86.23% Impervious Area		
Tc Length (min)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0				Direct Entry,

Summary for Subcatchment 225: POST - A.22

Runoff = 0.57 cfs @ 12.08 hrs, Volume= 0.043 af, Depth= 6.33"
Routed to Pond 2P : EXISTING STORMWATER BASIN #1
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-year Rainfall=7.52"

Area (sf)				
CN	Description			
65	98	Paved parking, HSG D		
3,007	98	Paved parking, HSG A		
470	39	>75% Grass cover, Good, HSG A		
3,542	90	Weighted Average		
470		13.27% Pervious Area		
3,072		86.73% Impervious Area		
Tc Length (min)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0				Direct Entry,

Summary for Subcatchment 235: POST - A.23

Runoff = 0.57 cfs @ 12.08 hrs, Volume= 0.043 af, Depth= 6.22"
Routed to Pond 1P : EXISTING STORMWATER BASIN #1A
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-year Rainfall=7.52"

Area (sf)	CN	Description
3,090	98	Paved parking, HSG A
540	39	>75% Grass cover, Good, HSG A
3,630	89	Weighted Average
540		14.88% Pervious Area
3,090		85.12% Impervious Area

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dililis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 18

Tc Length (min)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0				Direct Entry,
Summary for Subcatchment 245: POST - A.24				
Runoff = 0.55 cfs @ 12.08 hrs, Volume= 0.042 af, Depth= 6.22"				
Routed to Pond 1P : EXISTING STORMWATER BASIN #1A				
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-year Rainfall=7.52"				

Area (sf)		CN	Description		
2,958	98	Paved parking, HSG A			
532	39	>75% Grass cover, Good, HSG A			
3,490	89	Weighted Average			
532		15.24% Pervious Area			
2,958		84.76% Impervious Area			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Subcatchment 255: POST - B.1

Runoff = 9.67 cfs @ 12.11 hrs, Volume= 0.780 af, Depth= 1.96"
Routed to Link DP-B : DESIGN POINT-B
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-year Rainfall=7.52"

Area (sf)	CN	Description		
3,554	98	Roofs, HSG D		
31,172	80	>75% Grass cover, Good, HSG D		
1,688	98	Roofs, HSG A		
143,818	39	>75% Grass cover, Good, HSG A		
27,473	61	>75% Grass cover, Good, HSG B		
207,705	50	Weighted Average		
202,463		97.48% Pervious Area		
5,242		2.52% Impervious Area		
Tc Length (min)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description

6083 - POST

Summary for Subcatchment 26S: POST - B.2

Runoff = 1.75 cfs @ 12.11 hrs, Volume= 0.167 af, Depth= 1.31"
Routed to Link DP-B : DESIGN POINT-B
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-year Rainfall=7.52"

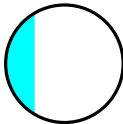
Area (sf)	CN	Description			
60,781	39	>75% Grass cover, Good, HSG A			
737	98	Roofs, HSG A			
1,247	98	Roofs, HSG D			
3,935	80	>75% Grass cover, Good, HSG D			
66,700	43	Weighted Average			
64,716		97.03% Pervious Area			
1,984		2.97% Impervious Area			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Summary for Reach 1R: FES-7

Inflow Area = 0.257 ac, 7.73% Impervious, Inflow Depth = 4.95" for 100-year event
Inflow = 1.48 cfs @ 12.09 hrs, Volume= 0.106 af
Outflow = 1.48 cfs @ 12.09 hrs, Volume= 0.106 af, Atten= 0%, Lag= 0.1 min
Routed to Pond 11P : CB-6

Routing by Stor-Ind+Trans method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 9.79 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 3.31 fps, Avg. Travel Time= 0.1 min

Peak Storage= 4 cf @ 12.09 hrs
Average Depth at Peak Storage= 0.25', Surface Width= 0.86'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 11.05 cfs
12.0" Round Pipe
n= 0.012
Length= 25.0' Slope= 0.0820 '/'
Inlet Invert= 280.00', Outlet Invert= 277.95'



6083 - POST

Summary for Pond 1P: EXISTING STORMWATER BASIN #1A

Inflow Area = 1.535 ac, 9.18% Impervious, Inflow Depth = 2.14" for 100-year event
Inflow = 3.35 cfs @ 12.10 hrs, Volume= 0.274 af
Outflow = 0.41 cfs @ 13.06 hrs, Volume= 0.274 af Atten= 88%, Lag= 57.6 min
Discarded = 0.41 cfs @ 13.06 hrs, Volume= 0.274 af
Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 247.47 @ 13.06 hrs Surf Area= 5,708 sf Storage= 4,468 cf
Plug-Flow detention time= 140.6 min calculated for 0.274 af (100% of inflow)
Center-of-Mass det. time= 140.6 min (993.1 - 852.5)

Volume	Invert	Avail. Storage	Storage Description			
#1	245.00'	27,041 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)	
245.00	388	81.0	0	0	388	
246.00	246	94.6	314	314	597	
247.00	4,185	356.0	1,815	2,130	9,973	
248.00	7,669	462.0	5,840	7,969	16,885	
250.00	11,534	492.0	19,072	27,041	19,355	
Device	Routing	Invert	Outlet Devices			

Device Routing Invert Outlet Devices
#1 Discarded 245.00' 2,410 in/hr Exfiltration over Surface area
Conductivity to Groundwater Elevation = 243.00'

Discarded Outflow Max=0.41 cfs @ 13.06 hrs HW=247.47' (Free Discharge)
L-1=Exfiltration (Controls 0.41 cfs)

Summary for Pond 2P: EXISTING STORMWATER BASIN #1

Inflow Area = 0.710 ac, 20.75% Impervious, Inflow Depth = 2.58" for 100-year event
Inflow = 1.85 cfs @ 12.09 hrs, Volume= 0.153 af
Outflow = 0.14 cfs @ 14.22 hrs, Volume= 0.153 af Atten= 93%, Lag= 127.3 min
Discarded = 0.14 cfs @ 14.22 hrs, Volume= 0.153 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link DP-A : DESIGN POINT-A

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 253.77 @ 14.22 hrs Surf Area= 2,135 sf Storage= 2,849 cf
Plug-Flow detention time= 235.8 min calculated for 0.153 af (100% of inflow)
Center-of-Mass det. time= 235.8 min (1,062.2 - 826.4)

Volume	Invert	Avail Storage	Storage Description
#1	252.00'	19,442 cf	Custom Stage Data (irregular), listed below (Recalc)

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dilits & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 21

Elevation (feet)	Surf Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	WetArea (sq-ft)
252.00	1,129	139.0	0	0	1,129
254.00	2,286	239.0	3,348	3,348	4,161
256.00	3,960	322.0	6,170	9,518	7,908
258.00	6,037	396.0	9,924	19,442	12,197

Device Routing Invert 252.00' 2,410 in/hr Exfiltration over Surface area

#1 Discarded
Conductivity to Groundwater Elevation = 243.00'
#2 Primary 257.90' 8.0' long x 12.0' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64

Discarded OutFlow Max=0.14 cfs @ 14.22 hrs HW=253.77' (Free Discharge)
1=Exfiltration (Controls 0.14 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=252.00' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 3P: INFILTRATION BASIN

Inflow Area = 7.373 ac, 40.24% Impervious, Inflow Depth = 5.33" for 100-year event
Inflow = 43.41 cfs @ 12.09 hrs, Volume= 3,272 af
Outflow = 12.12 cfs @ 12.44 hrs, Volume= 3,272 af, Atten= 72%, Lag= 21.4 min
Discarded = 0.97 cfs @ 12.44 hrs, Volume= 1,076 af
Primary = 11.14 cfs @ 12.44 hrs, Volume= 2,197 af
Routed to Link DP-A : DESIGN POINT-A

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 272.31' @ 12.44 hrs Surf.Area= 11,881 sf Storage= 65,228 cf

Plug-Flow detention time= 247.8 min calculated for 3,272 af (100% of inflow)
Center-of-Mass det. time= 247.8 min (1,039.5 - 791.7)

Volume Invert 87,143 cf Avail.Storage Storage Description Custom Stage Data (Irregular) Listed below (Recalc)

#1	263.00'	Surf Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	WetArea (sq-ft)
Elevation (feet)	263.00	2,962	227.0	0	0	2,962
264.00	3,679	248.0	3,314	3,314	3,314	3,791
266.00	5,301	289.0	8,931	12,245	5,623	5,623
268.00	7,145	326.0	12,400	24,645	7,535	7,535
270.00	9,214	364.0	16,315	40,960	9,733	9,733
272.00	11,510	402.0	20,681	61,642	12,173	12,173
274.00	14,033	440.0	25,501	87,143	14,855	14,855

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dilits & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 22

Device Routing Invert 263.00' 2,410 in/hr Exfiltration over Surface area

#1 Discarded
Conductivity to Groundwater Elevation = 253.00' Phase-In= 0.01'
#2 Primary 263.00' 15.0" Round Culvert
L= 57.0' CPP, projecting, no headwall, Ke= 0.900
Inlet / Outlet Invert= 263.00' / 262.00' S= 0.0175' /' Cc= 0.900
n= 0.013, Flow Area= 1.23 sf

#3 Primary 273.00' 20.0' long x 12.0' breadth Broad-Crested Rectangular Weir
Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
Coef. (English) 2.57 2.62 2.70 2.67 2.66 2.67 2.66 2.64
48.0" x 48.0" Horiz. Orifice/Grate C= 0.600
Limited to weir flow at low heads

#5 Device 2 264.00' 4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#6 Device 2 267.00' 4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.97 cfs @ 12.44 hrs HW=272.31' (Free Discharge)
1=Exfiltration (Controls 0.97 cfs)

Primary OutFlow Max=11.03 cfs @ 12.44 hrs HW=272.31' (Free Discharge)

2=Culvert (Passes 11.03 cfs of 13.74 cfs potential flow)
3=Orifice/Grate (Weir Controls 8.88 cfs @ 1.81 fps)
4=Orifice/Grate (Orifice Controls 1.20 cfs @ 13.74 fps)
5=Orifice/Grate (Orifice Controls 0.95 cfs @ 10.92 fps)
6=Orifice/Grate (Orifice Controls 0.95 cfs @ 10.92 fps)
3=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: CB-1

Inflow Area = 0.093 ac, 91.24% Impervious, Inflow Depth = 6.92" for 100-year event
Inflow = 0.67 cfs @ 12.08 hrs, Volume= 0.053 af
Outflow = 0.67 cfs @ 12.08 hrs, Volume= 0.053 af, Atten= 0%, Lag= 0.0 min
Primary = 0.67 cfs @ 12.08 hrs, Volume= 0.053 af
Routed to Pond 6P : DMH-1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 270.41' @ 12.08 hrs
Flood Elev= 274.00'

Device Routing Invert 270.00' 12.0" Round Culvert

#1 Primary 270.00' 12.0" Round Culvert
L= 11.5' CPP, square edge headwall, Ke= 0.500
Inlet / Outlet Invert= 270.00' / 269.50' S= 0.0435' /' Cc= 0.900
n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.67 cfs @ 12.08 hrs HW=270.41' (Free Discharge)

1=Culvert (Inlet Controls 0.67 cfs @ 2.19 fps)

6083 - POST

Summary for Pond 5P: CB-2

Inflow Area = 0.262 ac, 26.59% Impervious, Inflow Depth = 5.75" for 100-year event
Inflow = 1.71 cfs @ 12.09 hrs, Volume= 0.126 af
Outflow = 1.71 cfs @ 12.09 hrs, Volume= 0.126 af, Atten= 0%, Lag= 0.0 min
Primary = 1.71 cfs @ 12.09 hrs, Volume= 0.126 af
Routed to Pond 6P : DMH-1

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 270.71' @ 12.09 hrs
Flood Elev= 274.00'

Device Routing Invert Outlet Devices

#1	Primary	270.00'	12.0" Round Culvert
L= 38.0' CPP, square edge headwall, Ke= 0.500			
Inlet / Outlet Invert= 270.00' / 269.50' S= 0.0132' /' Cc= 0.900			
n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf			

Primary OutFlow Max=1.71 cfs @ 12.09 hrs HW=270.71' (Free Discharge)
1=Culvert (Inlet Controls 1.71 cfs @ 2.87 fps)

Summary for Pond 6P: DMH-1

Inflow Area = 0.355 ac, 43.46% Impervious, Inflow Depth = 6.06" for 100-year event
Inflow = 2.39 cfs @ 12.08 hrs, Volume= 0.179 af
Outflow = 2.39 cfs @ 12.08 hrs, Volume= 0.179 af, Atten= 0%, Lag= 0.0 min
Primary = 2.39 cfs @ 12.08 hrs, Volume= 0.179 af
Routed to Pond 3P : INFILTRATION BASIN

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 270.29' @ 12.08 hrs
Flood Elev= 275.25'

Device Routing Invert Outlet Devices

#1	Primary	269.40'	12.0" Round Culvert
L= 80.0' CPP, square edge headwall, Ke= 0.500			
Inlet / Outlet Invert= 269.40' / 268.00' S= 0.0175' /' Cc= 0.900			
n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf			

Primary OutFlow Max=2.38 cfs @ 12.08 hrs HW=270.29' (Free Discharge)
1=Culvert (Inlet Controls 2.38 cfs @ 3.22 fps)

Summary for Pond 7P: CB-3

Inflow Area = 0.810 ac, 37.18% Impervious, Inflow Depth = 5.98" for 100-year event
Inflow = 5.44 cfs @ 12.08 hrs, Volume= 0.404 af
Outflow = 5.44 cfs @ 12.08 hrs, Volume= 0.404 af, Atten= 0%, Lag= 0.0 min
Primary = 5.44 cfs @ 12.08 hrs, Volume= 0.404 af
Routed to Pond 9P : DMH-2

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

6083 - POST

Peak Elev= 279.87' @ 12.08 hrs
Flood Elev= 281.30'

Device Routing Invert Outlet Devices

#1	Primary	277.30'	12.0" Round Culvert
L= 30.0' CPP, square edge headwall, Ke= 0.500			
Inlet / Outlet Invert= 277.30' / 276.00' S= 0.0433' /' Cc= 0.900			
n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf			

Primary OutFlow Max=5.43 cfs @ 12.08 hrs HW=279.86' (Free Discharge)
1=Culvert (Inlet Controls 5.43 cfs @ 6.92 fps)

Summary for Pond 8P: CB-4

Inflow Area = 0.069 ac, 100.00% Impervious, Inflow Depth = 7.28" for 100-year event
Inflow = 0.51 cfs @ 12.08 hrs, Volume= 0.042 af
Outflow = 0.51 cfs @ 12.08 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min
Primary = 0.51 cfs @ 12.08 hrs, Volume= 0.042 af
Routed to Pond 9P : DMH-2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 277.76' @ 12.08 hrs
Flood Elev= 281.40'

Device Routing Invert Outlet Devices

#1	Primary	277.40'	12.0" Round Culvert
L= 36.0' CPP, square edge headwall, Ke= 0.500			
Inlet / Outlet Invert= 277.40' / 276.00' S= 0.0389' /' Cc= 0.900			
n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf			

Primary OutFlow Max=0.51 cfs @ 12.08 hrs HW=277.76' (Free Discharge)
1=Culvert (Inlet Controls 0.51 cfs @ 2.03 fps)

Summary for Pond 9P: DMH-2

Inflow Area = 6.540 ac, 42.75% Impervious, Inflow Depth = 5.57" for 100-year event
Inflow = 40.44 cfs @ 12.09 hrs, Volume= 3.038 af
Outflow = 40.44 cfs @ 12.09 hrs, Volume= 3.038 af, Atten= 0%, Lag= 0.0 min
Primary = 40.44 cfs @ 12.09 hrs, Volume= 3.038 af
Routed to Pond 3P : INFILTRATION BASIN

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 280.55' @ 12.09 hrs
Flood Elev= 281.00'

Device Routing Invert Outlet Devices

#1	Primary	272.40'	24.0" Round Culvert
L= 89.0' CPP, square edge headwall, Ke= 0.500			
Inlet / Outlet Invert= 272.40' / 270.00' S= 0.0270' /' Cc= 0.900			
n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf			

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dililis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 25

Primary OutFlow Max=40.39 cfs @ 12.09 hrs HW=280.53' (Free Discharge)
1-Culvert (Inlet Controls 40.39 cfs @ 12.86 fps)

Summary for Pond 10P: CB-5

Inflow Area = 0.056 ac, 100.00% Impervious, Inflow Depth = 7.28" for 100-year event
Inflow = 0.43 cfs @ 12.08 hrs, Volume= 0.035 af
Outflow = 0.43 cfs @ 12.08 hrs, Volume= 0.035 af, Atten= 0%, Lag= 0.0 min
Primary = 0.43 cfs @ 12.08 hrs, Volume= 0.035 af
Routed to Pond 13P : DMH-3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 278.72' @ 12.08 hrs
Flood Elev= 281.40'

Device Routing Invert Outlet Devices

#1	Primary	278.40'	12.0" Round Culvert
L= 16.0' CPP, square edge headwall, Ke= 0.500			
Inlet / Outlet Invert= 278.40' / 278.00' S= 0.0250 ' /' Cc= 0.900			
n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf			

Primary OutFlow Max=0.43 cfs @ 12.08 hrs HW=278.72' (Free Discharge)
1-Culvert (Inlet Controls 0.43 cfs @ 1.94 fps)

Summary for Pond 11P: CB-6

Inflow Area = 0.720 ac, 22.40% Impervious, Inflow Depth = 4.44" for 100-year event
Inflow = 3.74 cfs @ 12.09 hrs, Volume= 0.267 af
Outflow = 3.74 cfs @ 12.09 hrs, Volume= 0.267 af, Atten= 0%, Lag= 0.0 min
Primary = 3.74 cfs @ 12.09 hrs, Volume= 0.267 af
Routed to Pond 13P : DMH-3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 279.08' @ 12.09 hrs
Flood Elev= 281.40'

Device Routing Invert Outlet Devices

#1	Primary	277.95'	15.0" Round Culvert
L= 16.0' CPP, square edge headwall, Ke= 0.500			
Inlet / Outlet Invert= 277.95' / 277.75' S= 0.0125 ' /' Cc= 0.900			
n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf			

Primary OutFlow Max=3.74 cfs @ 12.09 hrs HW=279.08' (Free Discharge)
1-Culvert (Barrel Controls 3.74 cfs @ 4.21 fps)

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dililis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 26

Summary for Pond 13P: DMH-3

Inflow Area = 3.235 ac, 32.01% Impervious, Inflow Depth = 4.84" for 100-year event
Inflow = 17.58 cfs @ 12.09 hrs, Volume= 1.304 af
Outflow = 17.58 cfs @ 12.09 hrs, Volume= 1.304 af, Atten= 0%, Lag= 0.0 min
Primary = 17.58 cfs @ 12.09 hrs, Volume= 1.304 af
Routed to Pond 9P : DMH-2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 278.05' @ 12.09 hrs
Flood Elev= 281.00'

Device Routing Invert Outlet Devices

#1	Primary	275.70'	24.0" Round Culvert
L= 63.0' CPP, square edge headwall, Ke= 0.500			
Inlet / Outlet Invert= 275.70' / 275.00' S= 0.0111 ' /' Cc= 0.900			
n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf			

Primary OutFlow Max=17.56 cfs @ 12.09 hrs HW=278.05' (Free Discharge)
1-Culvert (Inlet Controls 17.56 cfs @ 5.59 fps)

Summary for Pond 14P: CB-8

Inflow Area = 0.156 ac, 100.00% Impervious, Inflow Depth = 7.28" for 100-year event
Inflow = 1.15 cfs @ 12.08 hrs, Volume= 0.095 af
Outflow = 1.15 cfs @ 12.08 hrs, Volume= 0.095 af, Atten= 0%, Lag= 0.0 min
Primary = 1.15 cfs @ 12.08 hrs, Volume= 0.095 af
Routed to Pond 16P : DMH-4

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 281.10' @ 12.08 hrs
Flood Elev= 283.50'

Device Routing Invert Outlet Devices

#1	Primary	280.50'	12.0" Round Culvert
L= 16.0' CPP, square edge headwall, Ke= 0.500			
Inlet / Outlet Invert= 280.50' / 280.30' S= 0.0125 ' /' Cc= 0.900			
n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf			

Primary OutFlow Max=1.15 cfs @ 12.08 hrs HW=281.10' (Free Discharge)
1-Culvert (Barrel Controls 1.15 cfs @ 3.38 fps)

Summary for Pond 15P: CB-9

Inflow Area = 1.125 ac, 28.89% Impervious, Inflow Depth = 4.05" for 100-year event
Inflow = 5.35 cfs @ 12.09 hrs, Volume= 0.380 af
Outflow = 5.35 cfs @ 12.09 hrs, Volume= 0.380 af, Atten= 0%, Lag= 0.0 min
Primary = 5.35 cfs @ 12.09 hrs, Volume= 0.380 af
Routed to Pond 16P : DMH-4

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

6083 - POST

Peak Elev= 283.00' @ 12.09 hrs
Flood Elev= 283.50'

Device Routing Invert Outlet Devices

#1 Primary 280.50' 12.0" Round Culvert
L= 16.0' CPP, square edge headwall, Ke= 0.500
Inlet / Outlet Invert= 280.50' / 280.30' S= 0.0125 ' /' Cc= 0.900
n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=5.35 cfs @ 12.09 hrs HW=283.00' (Free Discharge)
1=Culvert (Inlet Controls 5.35 cfs @ 6.81 fps)

Summary for Pond 16P: DMH-4

Inflow Area = 2.457 ac, 33.22% Impervious, Inflow Depth = 4.89" for 100-year event
Inflow = 13.42 cfs @ 12.09 hrs, Volume= 1.002 af
Outflow = 13.42 cfs @ 12.09 hrs, Volume= 1.002 af, Atten= 0%, Lag= 0.0 min
Primary = 13.42 cfs @ 12.09 hrs, Volume= 1.002 af
Routed to Pond 13P : DMH-3

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 278.81' @ 12.09 hrs
Flood Elev= 283.70'

Device Routing Invert Outlet Devices

#1 Primary 276.90' 24.0" Round Culvert
L= 211.0' CPP, square edge headwall, Ke= 0.500
Inlet / Outlet Invert= 276.90' / 275.80' S= 0.0052 ' /' Cc= 0.900
n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=13.40 cfs @ 12.09 hrs, HW=278.81' (Free Discharge)
1=Culvert (Barrel Controls 13.40 cfs @ 5.57 fps)

Summary for Pond 17P: DMH-5

Inflow Area = 1.176 ac, 28.50% Impervious, Inflow Depth = 5.38" for 100-year event
Inflow = 6.96 cfs @ 12.10 hrs, Volume= 0.527 af
Outflow = 6.96 cfs @ 12.10 hrs, Volume= 0.527 af, Atten= 0%, Lag= 0.0 min
Primary = 6.96 cfs @ 12.10 hrs, Volume= 0.527 af
Routed to Pond 16P : DMH-4

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 283.49' @ 12.10 hrs
Flood Elev= 288.50'

Device Routing Invert Outlet Devices

#1 Primary 282.33' 24.0" Round Culvert
L= 151.0' CPP, square edge headwall, Ke= 0.500
Inlet / Outlet Invert= 282.33' / 277.00' S= 0.0353 ' /' Cc= 0.900
n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf

6083 - POST

Primary OutFlow Max=6.95 cfs @ 12.10 hrs HW=283.49' (Free Discharge)
1=Culvert (Inlet Controls 6.95 cfs @ 3.67 fps)

Summary for Pond 18P: CB-10

Inflow Area = 1.079 ac, 24.33% Impervious, Inflow Depth = 5.29" for 100-year event
Inflow = 6.30 cfs @ 12.10 hrs, Volume= 0.476 af
Outflow = 6.30 cfs @ 12.10 hrs, Volume= 0.476 af, Atten= 0%, Lag= 0.0 min
Primary = 6.30 cfs @ 12.10 hrs, Volume= 0.476 af
Routed to Pond 20P : DMH-6

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 294.51' @ 12.10 hrs
Flood Elev= 296.00'

Device Routing Invert Outlet Devices

#1 Primary 292.75' 15.0" Round Culvert
L= 13.0' CPP, square edge headwall, Ke= 0.500
Inlet / Outlet Invert= 292.75' / 292.50' S= 0.0192 ' /' Cc= 0.900
n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=6.29 cfs @ 12.10 hrs HW=294.51' (Free Discharge)
1=Culvert (Inlet Controls 6.29 cfs @ 5.12 fps)

Summary for Pond 19P: CB-11

Inflow Area = 0.097 ac, 74.78% Impervious, Inflow Depth = 6.33" for 100-year event
Inflow = 0.68 cfs @ 12.08 hrs, Volume= 0.051 af
Outflow = 0.68 cfs @ 12.08 hrs, Volume= 0.051 af, Atten= 0%, Lag= 0.0 min
Primary = 0.68 cfs @ 12.08 hrs, Volume= 0.051 af
Routed to Pond 20P : DMH-6

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 294.62' @ 12.08 hrs
Flood Elev= 297.20'

Device Routing Invert Outlet Devices

#1 Primary 294.20' 12.0" Round Culvert
L= 22.0' CPP, square edge headwall, Ke= 0.500
Inlet / Outlet Invert= 294.20' / 292.75' S= 0.0659 ' /' Cc= 0.900
n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.68 cfs @ 12.08 hrs HW=294.62' (Free Discharge)
1=Culvert (Inlet Controls 0.68 cfs @ 2.19 fps)

6083 - POST

Summary for Pond 20P: DMH-6

Inflow Area = 1.176 ac, 28.50% Impervious, Inflow Depth = 5.38" for 100-year event
Inflow = 6.96 cfs @ 12.10 hrs, Volume= 0.527 af
Outflow = 6.96 cfs @ 12.10 hrs, Volume= 0.527 af, Atten= 0%, Lag= 0.0 min
Primary = 6.96 cfs @ 12.10 hrs, Volume= 0.527 af
Routed to Pond 17P : DMH-5

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 290.76' @ 12.10 hrs
Flood Elev= 295.80'

Device Routing Invert Outlet Devices

#1	Primary	289.60'	24.0" Round Culvert
L= 96.0' CPP, square edge headwall, Ke= 0.500			
Inlet / Outlet Invert= 289.60' / 282.33' S= 0.0757 1' Cc= 0.900			
n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf			

Primary OutFlow Max=6.95 cfs @ 12.10 hrs HW=290.76' (Free Discharge)
1=Culvert (Inlet Controls 6.95 cfs @ 3.67 fps)

Summary for Pond 21P: CB-12

Inflow Area = 0.159 ac, 84.05% Impervious, Inflow Depth = 6.92" for 100-year event
Inflow = 1.16 cfs @ 12.08 hrs, Volume= 0.092 af
Outflow = 1.16 cfs @ 12.08 hrs, Volume= 0.092 af, Atten= 0%, Lag= 0.0 min
Primary = 1.16 cfs @ 12.08 hrs, Volume= 0.092 af
Routed to Pond 23P : DMH-7

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 301.20' @ 12.08 hrs
Flood Elev= 303.60'

Device Routing Invert Outlet Devices

#1	Primary	300.60'	12.0" Round Culvert
L= 16.0' CPP, square edge headwall, Ke= 0.500			
Inlet / Outlet Invert= 300.60' / 300.40' S= 0.0125 1' Cc= 0.900			
n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf			

Primary OutFlow Max=1.16 cfs @ 12.08 hrs HW=301.20' (Free Discharge)
1=Culvert (Barrel Controls 1.16 cfs @ 3.38 fps)

Summary for Pond 22P: CB-13

Inflow Area = 0.814 ac, 56.14% Impervious, Inflow Depth = 6.33" for 100-year event
Inflow = 5.68 cfs @ 12.08 hrs, Volume= 0.430 af
Outflow = 5.68 cfs @ 12.08 hrs, Volume= 0.430 af, Atten= 0%, Lag= 0.0 min
Primary = 5.68 cfs @ 12.08 hrs, Volume= 0.430 af
Routed to Pond 23P : DMH-7

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

6083 - POST

Peak Elev= 303.35' @ 12.08 hrs
Flood Elev= 303.60'

Device Routing Invert Outlet Devices

#1	Primary	300.60'	12.0" Round Culvert
L= 16.0' CPP, square edge headwall, Ke= 0.500			
Inlet / Outlet Invert= 300.60' / 300.40' S= 0.0125 1' Cc= 0.900			
n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf			

Primary OutFlow Max=5.67 cfs @ 12.08 hrs HW=303.34' (Free Discharge)
1=Culvert (Inlet Controls 5.67 cfs @ 7.21 fps)

Summary for Pond 23P: DMH-7

Inflow Area = 0.974 ac, 60.70% Impervious, Inflow Depth = 6.43" for 100-year event
Inflow = 6.84 cfs @ 12.08 hrs, Volume= 0.522 af
Outflow = 6.84 cfs @ 12.08 hrs, Volume= 0.522 af, Atten= 0%, Lag= 0.0 min
Primary = 6.84 cfs @ 12.08 hrs, Volume= 0.522 af
Routed to Pond 24P : DMH-8

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 300.59' @ 12.08 hrs
Flood Elev= 303.60'

Device Routing Invert Outlet Devices

#1	Primary	299.20'	18.0" Round Culvert
L= 157.0' CPP, square edge headwall, Ke= 0.500			
Inlet / Outlet Invert= 299.20' / 289.50' S= 0.0618 1' Cc= 0.900			
n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf			

Primary OutFlow Max=6.83 cfs @ 12.08 hrs HW=300.58' (Free Discharge)
1=Culvert (Inlet Controls 6.83 cfs @ 4.01 fps)

Summary for Pond 24P: DMH-8

Inflow Area = 0.974 ac, 60.70% Impervious, Inflow Depth = 6.43" for 100-year event
Inflow = 6.84 cfs @ 12.08 hrs, Volume= 0.522 af
Outflow = 6.84 cfs @ 12.08 hrs, Volume= 0.522 af, Atten= 0%, Lag= 0.0 min
Primary = 6.84 cfs @ 12.08 hrs, Volume= 0.522 af
Routed to Pond 27P : DMH-9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 289.85' @ 12.08 hrs
Flood Elev= 294.50'

Device Routing Invert Outlet Devices

#1	Primary	288.70'	24.0" Round Culvert
L= 105.0' CPP, square edge headwall, Ke= 0.500			
Inlet / Outlet Invert= 288.70' / 281.53' S= 0.0683 1' Cc= 0.900			
n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf			

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 31

Primary OutFlow Max=6.82 cfs @ 12.08 hrs HW=289.85' (Free Discharge)
└─1-Culvert (Inlet Controls 6.82 cfs @ 3.65 fps)

Summary for Pond 25P: CB-14

Inflow Area = 0.489 ac, 53.63% Impervious, Inflow Depth = 6.33" for 100-year event
Inflow = 3.41 cfs @ 12.08 hrs, Volume= 0.258 af
Outflow = 3.41 cfs @ 12.08 hrs, Volume= 0.258 af, Atten= 0%, Lag= 0.0 min
Primary = 3.41 cfs @ 12.08 hrs, Volume= 0.258 af
Routed to Pond 27P : DMH-9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 285.91' @ 12.08 hrs
Flood Elev= 287.60'

Device Routing Invert Outlet Devices

#1	Primary	284.60'	12.0" Round Culvert
L= 16.0' CPP, square edge headwall, Ke= 0.500			
Inlet / Outlet Invert= 284.60' / 284.20' S= 0.0250'/' Cc= 0.900			
n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf			

Primary OutFlow Max=3.41 cfs @ 12.08 hrs HW=285.91' (Free Discharge)
└─1-Culvert (Inlet Controls 3.41 cfs @ 4.34 fps)

Summary for Pond 26P: CB-15

Inflow Area = 0.963 ac, 55.70% Impervious, Inflow Depth = 6.33" for 100-year event
Inflow = 6.71 cfs @ 12.08 hrs, Volume= 0.508 af
Outflow = 6.71 cfs @ 12.08 hrs, Volume= 0.508 af, Atten= 0%, Lag= 0.0 min
Primary = 6.71 cfs @ 12.08 hrs, Volume= 0.508 af
Routed to Pond 27P : DMH-9

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 285.71' @ 12.08 hrs
Flood Elev= 287.60'

Device Routing Invert Outlet Devices

#1	Primary	284.35'	18.0" Round Culvert
L= 16.0' CPP, square edge headwall, Ke= 0.500			
Inlet / Outlet Invert= 284.35' / 283.95' S= 0.0250'/' Cc= 0.900			
n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf			

Primary OutFlow Max=6.70 cfs @ 12.08 hrs HW=285.71' (Free Discharge)
└─1-Culvert (Inlet Controls 6.70 cfs @ 3.97 fps)

6083 - POST

Type III 24-hr 100-year Rainfall=7.52"

Prepared by Dillis & Roy Civil Design Group
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC
Printed 4/1/2024
Page 32

Summary for Pond 27P: DMH-9

Inflow Area = 2.426 ac, 57.29% Impervious, Inflow Depth = 6.37" for 100-year event
Inflow = 16.96 cfs @ 12.08 hrs, Volume= 1.288 af
Outflow = 16.96 cfs @ 12.08 hrs, Volume= 1.288 af, Atten= 0%, Lag= 0.0 min
Primary = 16.96 cfs @ 12.08 hrs, Volume= 1.288 af
Routed to Pond 9P : DMH-2

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 283.37' @ 12.08 hrs
Flood Elev= 287.20'

Device Routing Invert Outlet Devices

#1	Primary	281.11'	24.0" Round Culvert
L= 155.0' CPP, square edge headwall, Ke= 0.500			
Inlet / Outlet Invert= 281.11' / 275.00' S= 0.0394'/' Cc= 0.900			
n= 0.012 Corrugated PP, smooth interior, Flow Area= 3.14 sf			

Primary OutFlow Max=16.93 cfs @ 12.08 hrs HW=283.36' (Free Discharge)
└─1-Culvert (Inlet Controls 16.93 cfs @ 5.39 fps)

Summary for Link DP-A: DESIGN POINT-A

Inflow Area = 15.339 ac, 23.53% Impervious, Inflow Depth = 2.60" for 100-year event
Inflow = 19.40 cfs @ 12.42 hrs, Volume= 3.325 af
Primary = 19.40 cfs @ 12.42 hrs, Volume= 3.325 af, Atten= 0%, Lag= 0.0 min
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Link DP-B: DESIGN POINT-B

Inflow Area = 6.299 ac, 2.63% Impervious, Inflow Depth = 1.80" for 100-year event
Inflow = 11.42 cfs @ 12.11 hrs, Volume= 0.947 af
Primary = 11.42 cfs @ 12.11 hrs, Volume= 0.947 af, Atten= 0%, Lag= 0.0 min
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Appendix F – Stormwater Calculations

INSTRUCTIONS:

Version 1, Automated: Mar. 4, 2008

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.

Location: TSS removal with pretreatment calculation.

**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)
Deep Sump and Hooded Catch Basin	0.25	1.00	0.25	0.75
Sediment Forebay	0.25	0.75	0.19	0.56
	0.00	0.56	0.00	0.56
	0.00	0.56	0.00	0.56
	0.00	0.56	0.00	0.56

Total TSS Removal =

44%

**Separate Form needs to be
Completed for Each Outlet or
BMP Train**

Project: Stratton Hill
Prepared By: RPV
Date: 29-Mar-24

*Equals remaining load from previous BMP (E)
which enters the BMP

INSTRUCTIONS:

Version 1, Automated: Mar. 4, 2008

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.

Location: TSS removal for overall site.

**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)
Deep Sump and Hooded Catch Basin	0.25	1.00	0.25	0.75
Infiltration Basin	0.80	0.75	0.60	0.15
	0.00	0.15	0.00	0.15
	0.00	0.15	0.00	0.15
	0.00	0.15	0.00	0.15

Total TSS Removal =

85%

**Separate Form needs to be
Completed for Each Outlet or
BMP Train**

Project: Stratton Hill
Prepared By: RPV
Date: 29-Mar-24

*Equals remaining load from previous BMP (E)
which enters the BMP

Existing Stormwater Basin #1

Stormwater Recharge Calculations

CALCULATIONS

Recharge Volume, Rv:

$$R_v = A_c \times F$$

Hydrologic Soil Group	Impervious Area (Ac) ¹	Target Depth (F)	Recharge Volume (Rv) Ac-feet
A	0.146	0.6	0.007
D	0.001		
Total	0.147		0.007

Total Recharge Volume Required = 0.007 Ac-ft

Total Recharge Volume Required (Rv) = 318 C.ft

*Recharge Vol. Provided (from Exist. Basin 1) = 18,844.0 C.ft

Required Sediment Forebay vol, Fv:

$$F_v = A_c (cu. ft) \times 0.1 inch \text{ of impervious area}$$

¹ Imp. area captured by ponds, Ap = 0.147 Ac

Required Sediment Forebay vol, Fv= 53 C.ft

Sediment Forebay Volume Provided = 1,395 C.ft

Drawdown Calculations

CALCULATIONS

Proposed Infiltration Area Calculations:

$$Drawdown = \frac{R_v}{(Rawls Rate)(Bottom Area)}$$

Drawdown Calculations:

Soil Texture: 2 Loamy Sand

² Bottom Surface Area (A): 111 SF

Rawls Rate: 2.41 in/hr

Total Recharge Volume Required = 318 C.ft

Drawdown: 14.26 hr

Drawdown is less than 72 Hours as Required

NOTES:

Input Values

¹ = Refer to Proposed Conditions HydroCAD modeling report

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

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

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 100-year Rainfall=7.52"

Printed 3/26/2024

Stage-Area-Storage for Pond 2P: EXISTING STORMWATER BASIN #1 (continued)

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
257.20	5,154	14,970	257.72	5,720	17,796
257.21	5,164	15,022	257.73	5,731	17,853
257.22	5,175	15,073	257.74	5,742	17,911
257.23	5,186	15,125	257.75	5,754	17,968
257.24	5,196	15,177	257.76	5,765	18,026
257.25	5,207	15,229	257.77	5,776	18,083
257.26	5,218	15,281	257.78	5,787	18,141
257.27	5,228	15,333	257.79	5,798	18,199
257.28	5,239	15,386	257.80	5,810	18,257
257.29	5,250	15,438	257.81	5,821	18,315
257.30	5,260	15,491	257.82	5,832	18,374
257.31	5,271	15,543	257.83	5,843	18,432
257.32	5,282	15,596	257.84	5,855	18,490
257.33	5,293	15,649	257.85	5,866	18,549
257.34	5,303	15,702	257.86	5,877	18,608
257.35	5,314	15,755	257.87	5,889	18,667
257.36	5,325	15,808	257.88	5,900	18,726
257.37	5,336	15,862	257.89	5,911	18,785
257.38	5,346	15,915	257.90	5,923	18,844
257.39	5,357	15,969	257.91	5,934	18,903
257.40	5,368	16,022	257.92	5,946	18,962
257.41	5,379	16,076	257.93	5,957	19,022
257.42	5,390	16,130	257.94	5,968	19,082
257.43	5,401	16,184	257.95	5,980	19,141
257.44	5,411	16,238	257.96	5,991	19,201
257.45	5,422	16,292	257.97	6,003	19,261
257.46	5,433	16,346	257.98	6,014	19,321
257.47	5,444	16,401	257.99	6,026	19,381
257.48	5,455	16,455	258.00	6,037	19,442
257.49	5,466	16,510			
257.50	5,477	16,564			
257.51	5,488	16,619			
257.52	5,499	16,674			
257.53	5,510	16,729			
257.54	5,521	16,784			
257.55	5,532	16,840			
257.56	5,543	16,895			
257.57	5,554	16,951			
257.58	5,565	17,006			
257.59	5,576	17,062			
257.60	5,587	17,118			
257.61	5,598	17,174			
257.62	5,609	17,230			
257.63	5,620	17,286			
257.64	5,631	17,342			
257.65	5,642	17,398			
257.66	5,653	17,455			
257.67	5,664	17,511			
257.68	5,675	17,568			
257.69	5,686	17,625			
257.70	5,698	17,682			
257.71	5,709	17,739			

18,844 CF OF STORAGE
BELOW THE LOWEST
OUTLET

Infiltration Basin #1-A

Stormwater Recharge Calculations

CALCULATIONS

Recharge Volume, Rv:

$$R_v = A_c \times F$$

Hydrologic Soil Group	Impervious Area (Ac) ¹	Target Depth (F)	Recharge Volume (Rv) Ac-feet
A	0.141	0.6	0.007
D		0.1	0.000
Total	0.141		0.007

Total Recharge Volume Required = 0.007 Ac-ft

Total Recharge Volume Required (Rv) = 307 C.ft

*Recharge Vol. Provided (from Exist Basin 1A) = 27,041.0 C.ft

Required Sediment Forebay vol, Fv:

$$F_v = A_c (cu. ft) \times 0.1 inch \text{ of impervious area}$$

¹ Imp. area captured by ponds, Ap = 0.141 Ac

Required Sediment Forebay vol, Fv= 51 C.ft

Sediment Forebay Volume Provided = Water Quality Unit C.ft

Drawdown Calculations

CALCULATIONS

Proposed Infiltration Area Calculations:

$$Drawdown = \frac{R_v}{(Rawls Rate)(Bottom Area)}$$

Drawdown Calculations:

Soil Texture: 2 Loamy Sand

² Bottom Surface Area (A): 2,451 SF

Rawls Rate: 2.41 in/hr

Total Recharge Volume Required = 307 C.ft

Drawdown: 0.62 hr

Drawdown is less than 72 Hours as Required

NOTES:

Input Values

¹ = Refer to Proposed Conditions HydroCAD modeling report

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

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

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 100-year Rainfall=7.52"

Printed 3/26/2024

Stage-Area-Storage for Pond 1P: EXISTING STORMWATER BASIN #1A

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
245.00	388	0	247.60	6,150	5,211
245.05	380	19	247.65	6,330	5,523
245.10	372	38	247.70	6,514	5,844
245.15	365	56	247.75	6,700	6,175
245.20	357	74	247.80	6,888	6,514
245.25	349	92	247.85	7,080	6,863
245.30	342	109	247.90	7,273	7,222
245.35	335	126	247.95	7,470	7,591
245.40	327	143	248.00	7,669	7,969
245.45	320	159	248.05	7,756	8,355
245.50	313	175	248.10	7,844	8,745
245.55	306	190	248.15	7,932	9,139
245.60	299	206	248.20	8,020	9,538
245.65	292	220	248.25	8,109	9,941
245.70	285	235	248.30	8,199	10,349
245.75	278	249	248.35	8,289	10,761
245.80	272	263	248.40	8,379	11,178
245.85	265	276	248.45	8,470	11,599
245.90	259	289	248.50	8,562	12,025
245.95	252	302	248.55	8,654	12,455
246.00	246	314	248.60	8,746	12,890
246.05	329	329	248.65	8,839	13,330
246.10	424	347	248.70	8,932	13,774
246.15	531	371	248.75	9,026	14,223
246.20	650	401	248.80	9,121	14,677
246.25	780	436	248.85	9,216	15,135
246.30	923	479	248.90	9,311	15,598
246.35	1,078	529	248.95	9,407	16,066
246.40	1,245	587	249.00	9,503	16,539
246.45	1,424	654	249.05	9,600	17,017
246.50	1,615	730	249.10	9,697	17,499
246.55	1,818	815	249.15	9,795	17,986
246.60	2,033	912	249.20	9,894	18,479
246.65	2,260	1,019	249.25	9,993	18,976
246.70	2,499	1,138	249.30	10,092	19,478
246.75	2,750	1,269	249.35	10,192	19,985
246.80	3,013	1,413	249.40	10,292	20,497
246.85	3,288	1,570	249.45	10,393	21,014
246.90	3,575	1,742	249.50	10,494	21,536
246.95	3,874	1,928	249.55	10,596	22,064
247.00	4,185	2,130	249.60	10,698	22,596
247.05	4,334	2,343	249.65	10,801	23,133
247.10	4,486	2,563	249.70	10,904	23,676
247.15	4,641	2,791	249.75	11,008	24,224
247.20	4,798	3,027	249.80	11,112	24,777
247.25	4,958	3,271	249.85	11,217	25,335
247.30	5,120	3,523	249.90	11,322	25,898
247.35	5,285	3,783	249.95	11,428	26,467
247.40	5,453	4,052	250.00	11,534	27,041
247.45	5,623	4,328			
247.50	5,796	4,614			
247.55	5,972	4,908			

27,041 CF OF STORAGE
BELOW THE LOWEST
OUTLET

Infiltration Basin

Stormwater Recharge Calculations

CALCULATIONS

Recharge Volume, Rv:

$$R_v = A_c \times F$$

Hydrologic Soil Group	Impervious Area (Ac) ¹	Target Depth (F)	Recharge Volume (Rv) Ac-feet
A	0.766	0.6	0.038
D	2.200	0.1	0.018
Total	2.966		0.057

Total Recharge Volume Required = 0.057 Ac-ft

Total Recharge Volume Required (Rv) = 2,467 C.ft

*Recharge Vol. Provided (from Infil. Basin) = 3,314.0 C.ft

Required Sediment Forebay vol, Fv:

$$F_v = A_c (cu. ft) \times 0.1 inch \text{ of impervious area}$$

¹ Imp. area captured by ponds, Ap = 2.966 Ac

Required Sediment Forebay vol, Fv= 1,077 C.ft

Sediment Forebay Volume Provided = 1,199.0 C.ft

Drawdown Calculations

CALCULATIONS

Proposed Infiltration Area Calculations:

$$Drawdown = \frac{R_v}{(Rawls \ Rate)(Bottom \ Area)}$$

Drawdown Calculations:

Soil Texture: 2 Loamy Sand

² Bottom Surface Area (A): 2,962 SF

Rawls Rate: 2.41 in/hr

Total Recharge Volume Required = 2,467 C.ft

Drawdown: 4.15 hr

Drawdown is less than 72 Hours as Required

NOTES:

Input Values

¹ = Refer to Proposed Conditions HydroCAD modeling report

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

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

6083 - POST

Prepared by Dillis & Roy Civil Design Group

HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Type III 24-hr 100-year Rainfall=7.52"

Printed 3/26/2024

Stage-Area-Storage for Pond 3P: INFILTRATION BASIN

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
263.00	2,962	0	273.40	13,250	78,959
263.20	3,099	606	273.60	13,508	81,635
263.40	3,239	1,240	273.80	13,769	84,363
263.60	3,383	1,902	274.00	14,033	87,143
263.80	3,529	2,593			
264.00	3,679	3,314			
264.20	3,828	4,065			
264.40	3,980	4,845			
264.60	4,135	5,657			
264.80	4,292	6,499			
265.00	4,453	7,374			
265.20	4,617	8,281			
265.40	4,783	9,221			
265.60	4,953	10,194			
265.80	5,126	11,202			
266.00	5,301	12,245			
266.20	5,473	13,322			
266.40	5,648	14,434			
266.60	5,825	15,581			
266.80	6,006	16,765			
267.00	6,189	17,984			
267.20	6,374	19,240			
267.40	6,563	20,534			
267.60	6,754	21,866			
267.80	6,948	23,236			
268.00	7,145	24,645			
268.20	7,340	26,093			
268.40	7,538	27,581			
268.60	7,738	29,109			
268.80	7,941	30,677			
269.00	8,147	32,285			
269.20	8,355	33,935			
269.40	8,566	35,627			
269.60	8,779	37,362			
269.80	8,995	39,139			
270.00	9,214	40,960			
270.20	9,432	42,825			
270.40	9,653	44,733			
270.60	9,876	46,686			
270.80	10,102	48,684			
271.00	10,330	50,727			
271.20	10,561	52,816			
271.40	10,794	54,952			
271.60	11,030	57,134			
271.80	11,269	59,364			
272.00	11,510	61,642			
272.20	11,751	63,968			
272.40	11,995	66,342			
272.60	12,241	68,766			
272.80	12,489	71,239			
273.00	12,740	73,762			
273.20	12,994	76,335			

3,314 CF OF STORAGE
BELOW THE LOWEST
OUTLET

Adjusted Recharge/WQV Calcs

Stormwater Recharge Calculations

Capture Area Adjustment, R_{vadj}:

$$R_{vadj} = \frac{A_t}{A_p} \times R_v$$

¹ Imp. area captured by ponds, A _p =	3.255	Ac
Total impervious area on site, A _T =	3.916	Ac
Recharge volume required, R _v =	8,529	C.ft
Capture Rate=	83%	OK
Capture Area Adjustment Factor=	1.20	
Adjusted Recharge Volume Required R _{vadj} =	10,261	C.ft
¹ Total Recharge Volume Provided =	49,199.0	C.ft

NOTES:

Input Values

¹ = Sum of Recharge Vol. Provided from Infil. Basin 1, Infil. Basin 2 & 3

Water Quality Calculations

CALCULATIONS

Water Quality Calculation:

$$V_{WQ} = D_{WQ}(ft) \times A_T(ft^2)$$

Water Quality Depth =	1	in
Water Quality Depth , D _{wq} =	0.08	ft.
Total impervious area on site, A _T =	3.916	Ac.
A _T =	170,581	ft ²
Required Water Quality Volume, V _{wq} =	14,215	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



NOAA Atlas 14, Volume 10, Version 3
 Location name: Ayer, Massachusetts, USA*
 Latitude: 42.5682°, Longitude: -71.551°
 Elevation: 309 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps_&_aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.326 (0.257-0.409)	0.385 (0.304-0.484)	0.482 (0.378-0.607)	0.563 (0.440-0.714)	0.675 (0.509-0.888)	0.758 (0.561-1.02)	0.846 (0.606-1.17)	0.947 (0.640-1.34)	1.09 (0.710-1.59)	1.22 (0.770-1.80)
10-min	0.462 (0.364-0.579)	0.546 (0.430-0.686)	0.684 (0.537-0.861)	0.798 (0.623-1.01)	0.956 (0.722-1.26)	1.07 (0.794-1.44)	1.20 (0.859-1.66)	1.34 (0.907-1.89)	1.55 (1.01-2.25)	1.72 (1.09-2.55)
15-min	0.543 (0.429-0.681)	0.642 (0.506-0.807)	0.804 (0.631-1.01)	0.939 (0.733-1.19)	1.12 (0.849-1.48)	1.26 (0.933-1.70)	1.41 (1.01-1.96)	1.58 (1.07-2.22)	1.82 (1.18-2.65)	2.03 (1.28-3.00)
30-min	0.737 (0.582-0.925)	0.873 (0.688-1.10)	1.09 (0.859-1.38)	1.28 (0.997-1.62)	1.53 (1.16-2.01)	1.72 (1.27-2.30)	1.92 (1.38-2.66)	2.15 (1.45-3.03)	2.48 (1.61-3.61)	2.76 (1.75-4.08)
60-min	0.932 (0.735-1.17)	1.10 (0.869-1.38)	1.38 (1.09-1.74)	1.62 (1.26-2.04)	1.93 (1.46-2.54)	2.17 (1.61-2.92)	2.43 (1.74-3.37)	2.72 (1.84-3.83)	3.14 (2.04-4.56)	3.49 (2.21-5.16)
2-hr	1.17 (0.931-1.46)	1.41 (1.12-1.75)	1.80 (1.42-2.25)	2.12 (1.67-2.66)	2.56 (1.95-3.36)	2.90 (2.16-3.87)	3.25 (2.36-4.51)	3.68 (2.49-5.15)	4.32 (2.81-6.23)	4.87 (3.09-7.14)
3-hr	1.34 (1.07-1.66)	1.62 (1.30-2.01)	2.09 (1.66-2.60)	2.47 (1.95-3.09)	3.00 (2.30-3.92)	3.40 (2.55-4.53)	3.82 (2.79-5.29)	4.34 (2.95-6.05)	5.13 (3.34-7.37)	5.81 (3.70-8.49)
6-hr	1.70 (1.37-2.09)	2.07 (1.67-2.55)	2.68 (2.15-3.30)	3.18 (2.53-3.94)	3.87 (2.98-5.02)	4.38 (3.31-5.81)	4.94 (3.63-6.80)	5.62 (3.84-7.78)	6.67 (4.37-9.52)	7.58 (4.84-11.0)
12-hr	2.15 (1.74-2.62)	2.61 (2.12-3.19)	3.37 (2.72-4.13)	4.00 (3.21-4.92)	4.87 (3.78-6.26)	5.51 (4.18-7.24)	6.21 (4.58-8.47)	7.06 (4.84-9.69)	8.36 (5.49-11.8)	9.47 (6.06-13.6)
24-hr	2.58 (2.11-3.12)	3.14 (2.57-3.81)	4.07 (3.31-4.94)	4.84 (3.91-5.90)	5.89 (4.60-7.52)	6.67 (5.10-8.70)	7.52 (5.58-10.2)	8.55 (5.90-11.6)	10.1 (6.68-14.2)	11.5 (7.38-16.4)
2-day	2.94 (2.42-3.52)	3.60 (2.97-4.33)	4.69 (3.85-5.66)	5.60 (4.57-6.78)	6.85 (5.39-8.68)	7.77 (5.98-10.1)	8.77 (6.55-11.8)	10.0 (6.92-13.5)	11.9 (7.87-16.6)	13.5 (8.71-19.1)
3-day	3.21 (2.66-3.84)	3.93 (3.25-4.70)	5.10 (4.20-6.11)	6.07 (4.97-7.31)	7.40 (5.85-9.33)	8.39 (6.48-10.8)	9.46 (7.08-12.7)	10.8 (7.48-14.5)	12.8 (8.47-17.7)	14.5 (9.36-20.4)
4-day	3.47 (2.89-4.13)	4.21 (3.50-5.02)	5.42 (4.49-6.48)	6.43 (5.29-7.73)	7.82 (6.19-9.81)	8.84 (6.84-11.3)	9.95 (7.46-13.2)	11.3 (7.86-15.1)	13.3 (8.86-18.4)	15.1 (9.76-21.2)
7-day	4.17 (3.50-4.94)	4.96 (4.15-5.87)	6.24 (5.20-7.41)	7.30 (6.04-8.71)	8.76 (6.98-10.9)	9.85 (7.65-12.5)	11.0 (8.26-14.5)	12.4 (8.66-16.5)	14.4 (9.62-19.8)	16.1 (10.5-22.5)
10-day	4.84 (4.08-5.71)	5.65 (4.75-6.67)	6.97 (5.84-8.25)	8.07 (6.71-9.59)	9.58 (7.64-11.8)	10.7 (8.33-13.5)	11.9 (8.92-15.5)	13.3 (9.31-17.6)	15.2 (10.2-20.8)	16.9 (11.0-23.5)
20-day	6.85 (5.82-8.01)	7.72 (6.54-9.03)	9.13 (7.71-10.7)	10.3 (8.64-12.2)	11.9 (9.57-14.5)	13.2 (10.3-16.3)	14.4 (10.8-18.4)	15.7 (11.1-20.6)	17.5 (11.8-23.7)	18.8 (12.3-26.0)
30-day	8.52 (7.27-9.91)	9.44 (8.04-11.0)	10.9 (9.27-12.8)	12.2 (10.2-14.3)	13.9 (11.2-16.8)	15.2 (11.9-18.7)	16.5 (12.3-20.8)	17.8 (12.6-23.2)	19.4 (13.1-26.1)	20.6 (13.4-28.2)
45-day	10.6 (9.09-12.3)	11.6 (9.91-13.4)	13.2 (11.2-15.3)	14.5 (12.3-16.9)	16.3 (13.2-19.6)	17.7 (13.9-21.6)	19.1 (14.3-23.9)	20.3 (14.5-26.4)	21.8 (14.8-29.3)	22.9 (15.0-31.2)
60-day	12.3 (10.6-14.2)	13.4 (11.5-15.4)	15.0 (12.9-17.4)	16.4 (14.0-19.1)	18.4 (14.9-21.9)	19.9 (15.6-24.1)	21.3 (15.9-26.4)	22.5 (16.1-29.1)	24.0 (16.3-32.0)	24.9 (16.4-34.0)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

Appendix G – Construction Period Pollution Prevention

The project is covered under the National Pollutant Discharge Elimination System (NPDES) Construction General Permit, which will be submitted in place of the Construction Period Pollution Prevention Plan, prior to any land disturbance.

Appendix H - Operation and Maintenance Plan

STORMWATER OPERATION & MAINTENANCE MANUAL

STRATTON HILL

**WRIGHT ROAD
AYER, MASSACHUSETTS**

Prepared For: FOX MEADOW REALTY CORP.
129 SKYFIELDS DRIVE
GROTON, MA 01450

Prepared By: DILLIS & ROY CIVIL DESIGN GROUP, INC.
1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462

REVISED: March 29th, 2024

April 25th, 2023

6083

TABLE OF CONTENTS:

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

The proposed stormwater management system was designed to reduce the peak rate of stormwater leaving the site, promote groundwater recharge, and increase the water quality. Runoff from the proposed development will be conveyed and treated using sedimentation forebays & infiltration basins.

Infiltration Basin with Sediment Forebay

Three infiltration basins with sediment forebays will treat the runoff. The volumes of the infiltration basins were designed to reduce runoff rates up to the 100-year storm event, infiltrate the required recharge volume and sized to handle the appropriate water quality volume. The basins are combined with sediment forebays. The sediment forebays are designed to reduce the velocity of flow which will increase the settlement of heavy solids before emptying to the basins. Riprap will also be installed at the inlet of the sediment forebays to reduce the potential for scouring.

Deep Sump Hooded Catch Basins

Deep sump hooded catch basins are proposed to convey the runoff from the proposed roadway & roofs to the infiltration basins. These catch basins will discharge to manholes and conventional storm drains.

Drain Manholes

Drain manholes are proposed to route stormwater from the deep sump hooded catch basins to the downgradient stormwater management devices (infiltration basins).

HydroStorm HS5

HydroStorm pretreatment units are proposed upgradient of infiltration basin #1 to provide pretreatment of stormwater associated with stormwater runoff from the proposed road. Stormwater will be routed to the HydroStorm by catch basins & culverts and then discharged via a culvert to the proposed infiltration basin.

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.

Street Sweeping

Street sweeping should be performed at least semiannually. For most effective results, sweeping should be performed 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.

Drain Manholes

Manholes shall be inspected semi-annually for signs of wear, settling, cracking or other fatigue. Manhole casting should be inspected for signs of root intrusion, or significant water infiltration. Manhole sumps should be checked for silt /sediment buildup and cleaned as necessary. Cleaning should be performed by a vacuum truck. Manholes should be resealed as required and outlets should be inspected incidentally with all structure inspections.

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.

Deep Sump Catch Basins

Deep sump catch basins shall be inspected at least semi-annually for signs of wear, settling, cracking or other fatigue. Catch basin castings should be inspected for signs of root intrusion, or significant water infiltration. Catch basin sump should be check for silt/sediment buildup and cleaned as necessary. Cleaning should be performed by a vacuum truck. Catch basins should be resealed as required and outlets should be inspected incidentally with all structure inspections.

Infiltration Basins

Infiltration basins are stormwater runoff impoundments that are constructed over permeable soils and require pretreatment from sediment forebays. Runoff from the design storm is stored until it exfiltrates through the soil of the basin floor. The basins were located to capture most of the runoff from the impervious areas of the site. Each infiltration basin shall be inspected after every major storm event for the first (3) months of operation to ensure that the outlet control devices are working

as designed. Each infiltration basin shall be inspected twice a year following the first (3) months of operation.

Infiltration basins are prone to clogging and failure if proper maintenance is not scheduled. The basin should be inspected at least twice per year or after a major storm event to ensure that the basin is operating as intended. The outlet structures should be inspected for clogging or overflow release velocities that are causing scouring or erosion. The upper stage, side slopes, embankments and emergency spillway should be mowed twice a year.

Sediment forebay

A sediment forebay is required as a pretreatment device prior to discharging stormwater to the extended dry 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 resodding. Maintain grass at a height of 4-6 inches.

Stone Rip Rap

The proposed swales have been designed with angular stone riprap. The stone riprap will be placed approximately 1-foot deep over Tencate Mirafi filter fabric.

Rip Rap should be inspected periodically for signs of failure. Such signs would include, undermining, high velocity wear (displacement of stones downstream), sliding, settlement, siltation, etc. Riprap should be repaired immediately upon the observation of such conditions mentioned.

Periodically, rip rap should be cleaned of silt. Siltation will be most prevalent in low velocity areas (such as directly up-stream of outlet control structures). Silt and sediment should be removed from these areas by hand.

Grass Swales

Swales should be checked for scouring, sloughing, erosion and/or accumulation of silt. The vegetation helps reduce velocity of runoff, which helps to maintain the swale, and encourages the sedimentation filtrations prior to exfiltration. Grass should be mowed and kept below 6 inches. Debris and trash should be removed as encountered.

HydroStorm HS5

Maintenance of the HydroStorm system shall be performed by a vacuum truck. The HydroStorm unit shall be inspected for evidence of sediment build-up within the treatment unit. Maintenance of the unit shall occur when the sediment depth within the treatment unit has reached 8-inches. Oil shall be removed from the oil inspection/cleanout port and sediment shall be removed through the riser pipe. Sludge from the bottom of the unit shall be removed using a vacuum truck. Inlet & outlet pipes shall be inspected concurrently with all routine inspections for signs of clogging, cracking, or deterioration.

Stormwater System & General Site Inspection Requirements:

The proposed project is subject to the Inspection & Reporting requirements defined by NPDES MS4. A NPDES Permit application and a Stormwater Pollution Prevention Plan (SWPPP) will be prepared and submitted prior to the commencement of construction, detailing the required inspection requirements during the construction process.

O&M Schedule

O&M Task		Monthly	Quarterly	Spring	Fall	2-years	As-required
1.	Infiltration Basin						
<i>Each infiltration basin shall be inspected after every major storm event (7.8" of rain or more within a 24-hour timespan) for the first (3) months of operation.</i>							
	<i>Inspection</i>			X	X		X
	<i>Mowing</i>	3-4 times during the growing season					
	<i>Remove Debris</i>			X	X		X
	<i>Remove Sediment</i>						X
	<i>Re-seed</i>						X
2.	Sediment Forebay						
	<i>Inspection</i>	X		X	X		X
	<i>Mowing</i>	3-4 times during the growing season					
	<i>Remove Debris</i>		X				X
	<i>Remove Sediment</i>		X				X
	<i>Re-seed</i>						X
3.	Stone Rip Rap						
	<i>Inspection</i>			X			
	<i>Remove Debris</i>			X			X
	<i>Remove Silt/Sediment</i>					X	X
	<i>Repair</i>						X
4.	Storm drain Lines						
	<i>Inspection</i>			X			X
	<i>Clean</i>						X
5.	Catch basins						
	<i>Inspection</i>			X	X		
	<i>Remove Debris</i>						X
	<i>Remove Silt/Sediment</i>						X
6.	Grass Swales						
	<i>Inspection</i>			X			X
	<i>Clean</i>			X			X
7.	Drain Manholes						
	<i>Inspect Rims</i>						
	<i>Inspect inside/inlet and outlet pipes</i>			X	X		
	<i>Remove sediment</i>					X	X

O&M Task		Monthly	Quarterly	Spring	Fall	2-years	As-required
8.	HydroStorm HS5						
	<i>Inspect</i>			x	x		x
	<i>Remove Silt/Sediment/Oil</i>						x
	<i>Inspect inside/inlet and outlet pipes</i>			x	x		x

Annual Estimated Operations & Maintenance Budget - \$2000

An estimated operations & maintenance budget has been approximated by the following:

- **1 operator / inspector per site visit**
- **Four times a year at \$125.00 per hour**

APPENDIX A

Stormwater Management System Owners/Operators

Stormwater Management System Owners/Operators

1. Stormwater Management System Owners: Fox Meadow Realty Corp
2. Current and future operators: Fox Meadow Realty Corp
3. Emergency contact information: Fox Meadow Realty Corp
4. Financial Responsible Party: Fox Meadow Realty Corp
5. Routine Maintenance: Fox Meadow Realty Corp
6. O&M activities: Fox Meadow Realty Corp
7. Record keeping Fox Meadow Realty Corp

Appendix I - Long Term Pollution Prevention Plan

LONG TERM POLLUTION PREVENTION PLAN

STRATTON HILL

**WRIGHT ROAD
AYER, MASSACHUSETTS**

Prepared For: FOX MEADOW REALTY CORP.
129 SKYFIELDS DRIVE
GROTON, MA 01450

Prepared By: DILLIS & ROY CIVIL DESIGN GROUP, INC.
1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462

Revised: March 29th, 2024
April 25th, 2023
6083

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 development consists of the construction of a 34-unit Open Space Residential Development (OSRD) on the northerly side of Wright Road in Ayer.

The layout of the development including the roadways and the locations of buildings and stormwater systems have been carefully planned to minimize disturbance to the existing land and natural features. The stormwater management system has been designed in accordance with the Massachusetts Stormwater Regulations to provide pretreatment of the stormwater prior to discharge to the resource areas.

2.0 Spill Prevention Plan

No hazardous materials other than normal and common household 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 home 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.

Implementation of the stormwater operation and maintenance plan is critical in order for the site to function as designed, and for the protection of the downstream areas from the potential for scour and erosion.

Special care should be paid to the protection and maintenance of the existing and proposed catch basins that support the drainage system. Refer to the O&M Plan for specific instructions.

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

The roadway and driveways are designed to comply with the Town of Ayer Standards. It is expected that snow plowing practices and procedures will be used similar to those currently employed by Ayer residents.

5.2 Street Sweeping

The streets should be swept as needed to reduce the potential for silt build up in the drainage pipes and sump catch basins.

6.0 Waste Management

6.1 Septic Systems

On-site portable restrooms will be used during construction. The portable restrooms will be cleaned and maintained on a regular basis and disposal will be performed weekly or as required with a private or public waste removal company.

All portable restrooms will be removed after construction.

6.2 Solid Waste

It is expected that the homeowners will contact directly with a private or public waste removal company.

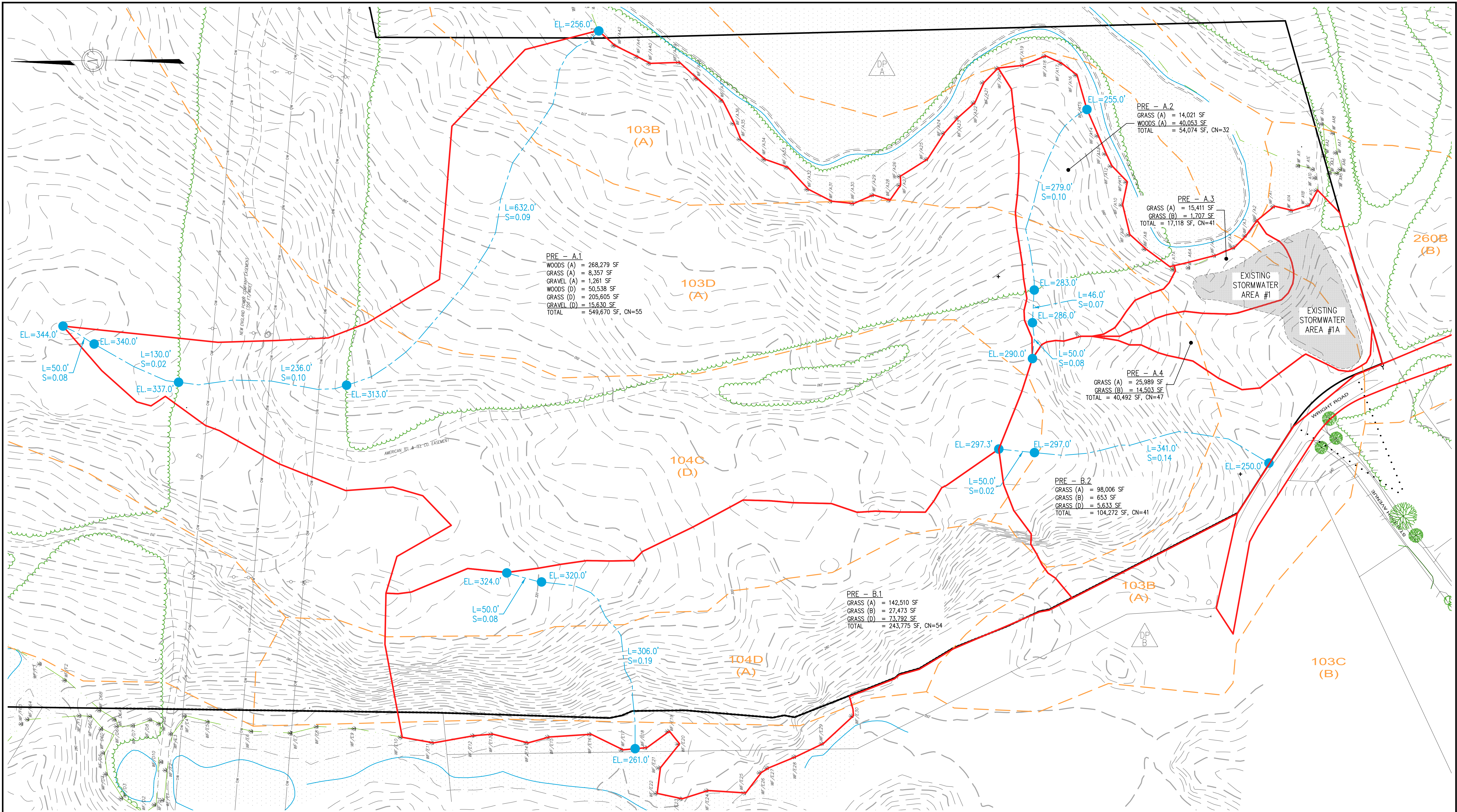
A dumpster will be located on the site during construction. This area will be the primary area for the on-site storage of solid waste prior to pick-up by a waste management company.

Stormwater Report
Stratton Hill

March 29th, 2024
Fox Meadow Realty Corp.

4.0 Plans

Pre-development Watershed Plan



PRE - A.1
WOODS (A) = 268,279 SF
GRASS (A) = 8,357 SF
GRAVEL (A) = 1,261 SF
WOODS (D) = 50,538 SF
GRASS (D) = 205,605 SF
GRAVEL (D) = 15,630 SF
TOTAL = 549,670 SF, CN=55

PRE - A.2
GRASS (A) = 14,021 SF
WOODS (A) = 40,053 SF
TOTAL = 54,074 SF, CN=32

PRE - A.3
GRASS (A) = 15,411 SF
GRASS (B) = 1,707 SF
TOTAL = 17,118 SF, CN=41

PRE - A.4
GRASS (A) = 25,989 SF
GRASS (B) = 14,503 SF
TOTAL = 40,492 SF, CN=47

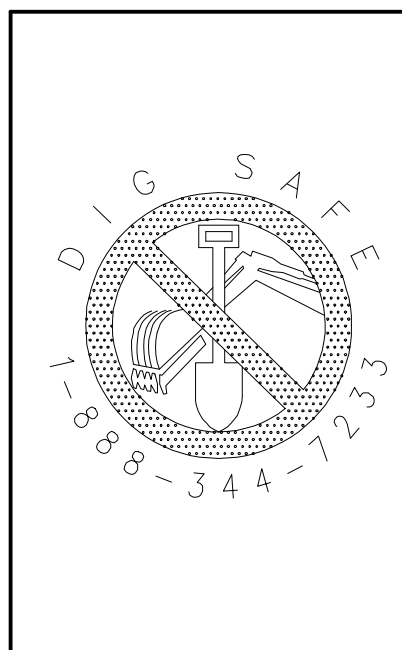
PRE - B.2
GRASS (A) = 98,006 SF
GRASS (B) = 653 SF
GRASS (D) = 5,633 SF
TOTAL = 104,272 SF, CN=41

PRE - B.1
GRASS (A) = 142,510 SF
GRASS (B) = 27,473 SF
GRASS (D) = 73,792 SF
TOTAL = 243,775 SF, CN=54

RESERVED FOR REGISTRY USE

APPROVAL REQUIRED UNDER
THE SUBDIVISION CONTROL LAW
AYER PLANNING BOARD

BEING A MAJORITY
DATE APPROVED: _____
DATE ENDORSED: _____



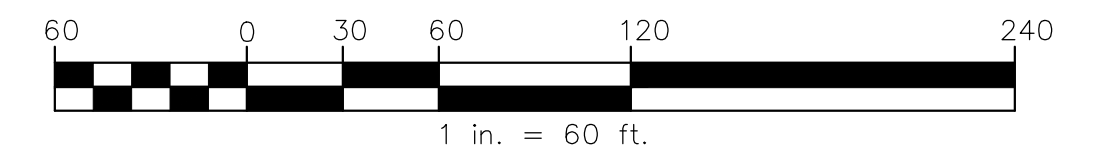
DILLIS & ROY
CIVIL DESIGN GROUP

CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
1 MAIN STREET, SUITE 1 LUNENBURG, MA 01462
PHONE: (978) 779-6091
www.dillisoroy.com

PLAN REVISIONS

NO.	DATE:	DESCRIPTION:	BY:

DEFINITIVE SUBDIVISION PLAN
AYER, MASSACHUSETTS
PRE-DEVELOPED DRAINAGE MAP
STRATTON HILL



DESIGN BY: RPV/FMM	DRAWN BY: RPV	CHECKED BY: FMM	SHEET NO. DRN
DATE: 2/15/2024	JOB NUMBER: 6083	DRAWING NO. 6083-POST	

Post-development Watershed Plan
